# FreeBSD kernel WLAN code Reference Manual

Generated by Doxygen 1.4.7

Sat Feb 24 17:51:42 2007

# Contents

# Chapter 1

# FreeBSD kernel WLAN code Main Page

**IMPORTANT:** This API documentation may contain both functions which are public and functions that are for internal use only. Since we have not reviewed every part of the documentation yet, *some internal functions are not marked as such*. Until we finish reviewing the API documentation and add appropriate comments to functions which are only for internal use, you should take this into account. In case you want to use a function of this kernel subsystem in another kernel subsystem you should search for precedence of use outside this subsystem. If the function is not used outside this subsystem you should ask on the mailinglists about it, else you risk breaking something.

# Chapter 2

# FreeBSD kernel WLAN code Directory Hierarchy

## 2.1 FreeBSD kernel WLAN code Directories

This directory hierarchy is sorted roughly, but not completely, alphabetically:

# Chapter 3

# FreeBSD kernel WLAN code Data Structure Index

## 3.1 FreeBSD kernel WLAN code Data Structures

Here are the data structures with brief descriptions:

# Chapter 4

# FreeBSD kernel WLAN code File Index

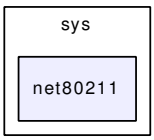
## 4.1 FreeBSD kernel WLAN code File List

Here is a list of all files with brief descriptions:

# Chapter 5

# FreeBSD kernel WLAN code Directory Documentation

## 5.1 /usr/src/sys/net80211/ Directory Reference

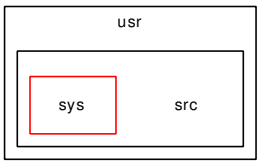



### Files

- file _ieee80211.h
- file ieee80211.c
- file ieee80211.h
- file ieee80211_acl.c
- file ieee80211_amrr.c
- file ieee80211_amrr.h
- file ieee80211_crypto.c
- file ieee80211_crypto.h
- file ieee80211_crypto_ccmp.c
- file ieee80211_crypto_none.c
- file ieee80211_crypto_tkip.c
- file ieee80211_crypto_wep.c
- file ieee80211_freebsd.c
- file ieee80211_freebsd.h
- file ieee80211_input.c
- file ieee80211_ioctl.c
- file ieee80211_ioctl.h
- file ieee80211_node.c
- file ieee80211_node.h
- file ieee80211_output.c

- file ieee80211_proto.c
- file ieee80211_proto.h
- file ieee80211_radiotap.h
- file ieee80211_var.h
- file ieee80211_xauth.c

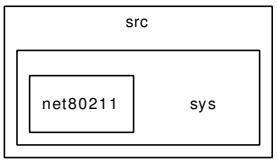
## 5.2 /usr/src/ Directory Reference




### Directories

- directory sys

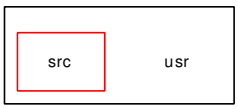
## 5.3 /usr/src/sys/ Directory Reference




### Directories

- directory net80211

## 5.4 /usr/ Directory Reference




### Directories

- directory src

# Chapter 6

# FreeBSD kernel WLAN code Data Structure Documentation

## 6.1 acl Struct Reference

### 6.1.1 Detailed Description

Definition at line 70 of file ieee80211_acl.c.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_acl.c

## 6.2 aclstate Struct Reference

### Data Fields

- acl_lock_t as_lock
- int as_policy
- int as_nacls

### 6.2.1 Detailed Description

Definition at line 75 of file ieee80211_acl.c.

### 6.2.2 Field Documentation

#### 6.2.2.1 acl_lock_t aclstate::as_lock

Definition at line 76 of file ieee80211_acl.c.

#### 6.2.2.2 int aclstate::as_nacls

Definition at line 78 of file ieee80211_acl.c.

Referenced by _acl_free(), acl_add(), and acl_getioctl().

#### 6.2.2.3 int aclstate::as_policy

Definition at line 77 of file ieee80211_acl.c.

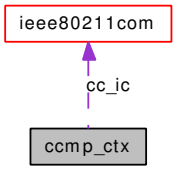
Referenced by acl_attach(), acl_check(), acl_getioctl(), acl_getpolicy(), and acl_setpolicy().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_acl.c

## 6.3 ccmp_ctx Struct Reference

Collaboration diagram for ccmp_ctx:




### Data Fields

- ieee80211com * cc_ic
- rijndael_ctx cc_aes

### 6.3.1 Detailed Description

Definition at line 61 of file ieee80211_crypto_ccmp.c.

### 6.3.2 Field Documentation

#### 6.3.2.1 rijndael_ctx ccmp_ctx::cc_aes

Definition at line 63 of file ieee80211_crypto_ccmp.c.

Referenced by ccmp_decrypt(), ccmp_encrypt(), and ccmp_setkey().

#### 6.3.2.2 struct ieee80211com* ccmp_ctx::cc_ic

Definition at line 62 of file ieee80211_crypto_ccmp.c.

Referenced by ccmp_attach(), ccmp_decap(), ccmp_decrypt(), ccmp_encap(), ccmp_encrypt(), and ccmp_setkey().

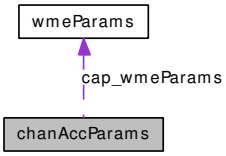
The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_crypto_ccmp.c

## 6.4 chanAccParams Struct Reference

`#include <ieee80211_proto.h>`

Collaboration diagram for chanAccParams:




### Data Fields

- u_int8_t cap_info
- wmeParams cap_wmeParams [WME_NUM_AC]

### 6.4.1 Detailed Description

Definition at line 200 of file ieee80211_proto.h.

### 6.4.2 Field Documentation

#### 6.4.2.1 u_int8_t chanAccParams::cap_info

Definition at line 201 of file ieee80211_proto.h.

Referenced by ieee80211_add_wme_param(), and ieee80211_parse_wmeparams().

#### 6.4.2.2 struct wmeParams chanAccParams::cap_wmeParams[WME_NUM_AC]

Definition at line 202 of file ieee80211_proto.h.

Referenced by ieee80211_add_wme_param(), ieee80211_classify(), ieee80211_encap(), ieee80211_ioctl_getwmeparam(), ieee80211_ioctl_setwmeparam(), ieee80211_parse_wmeparams(), ieee80211_wme_initparams(), and ieee80211_wme_updateparams_locked().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_proto.h

# 6.5 ieee80211_aclator Struct Reference

`#include <ieee80211_proto.h>`

## Data Fields

- const char * iac_name
- int(* iac_attach )(struct ieee80211com *)
- void(* iac_detach )(struct ieee80211com *)
- int(* iac_check )(struct ieee80211com *, const u_int8_t mac[IEEE80211_ADDR_LEN])
- int(* iac_add )(struct ieee80211com *, const u_int8_t mac[IEEE80211_ADDR_LEN])
- int(* iac_remove )(struct ieee80211com *, const u_int8_t mac[IEEE80211_ADDR_LEN])
- int(* iac_flush )(struct ieee80211com *)
- int(* iac_setpolicy )(struct ieee80211com *, int)
- int(* iac_getpolicy )(struct ieee80211com *)
- int(* iac_setioctl )(struct ieee80211com *, struct ieee80211req *)
- int(* iac_getioctl )(struct ieee80211com *, struct ieee80211req *)

### 6.5.1 Detailed Description

Definition at line 158 of file ieee80211_proto.h.

### 6.5.2 Field Documentation

#### 6.5.2.1 int(* ieee80211_aclator::iac_add)(struct ieee80211com *, const u_int8_t mac[IEEE80211_ADDR_LEN])

Referenced by ieee80211_ioctl_macmac().

#### 6.5.2.2 int(* ieee80211_aclator::iac_attach)(struct ieee80211com *)

Referenced by ieee80211_ioctl_macmac(), and ieee80211_ioctl_setmaccmd().

#### 6.5.2.3 int(* ieee80211_aclator::iac_check)(struct ieee80211com *, const u_int8_t mac[IEEE80211_ADDR_LEN])

Referenced by ieee80211_recv_mgmt().

#### 6.5.2.4 void(* ieee80211_aclator::iac_detach)(struct ieee80211com *)

Referenced by ieee80211_ioctl_setmaccmd(), and ieee80211_proto_detach().

#### 6.5.2.5 int(* ieee80211_aclator::iac_flush)(struct ieee80211com *)

Referenced by ieee80211_ioctl_setmaccmd().

#### 6.5.2.6 int(∗ ieee80211_aclator::iac_getioctl)(struct ieee80211com ∗, struct ieee80211req ∗)

Referenced by ieee80211_ioctl_getmaccmd().

#### 6.5.2.7 int(∗ ieee80211_aclator::iac_getpolicy)(struct ieee80211com ∗)

#### 6.5.2.8 const char∗ ieee80211_aclator::iac_name

Definition at line 159 of file ieee80211_proto.h.

Referenced by ieee80211_aclator_get(), ieee80211_aclator_register(), and ieee80211_aclator_-unregister().

#### 6.5.2.9 int(∗ ieee80211_aclator::iac_remove)(struct ieee80211com ∗, const u_int8_t mac[IEEE80211_ADDR_LEN])

Referenced by ieee80211_ioctl_macmac().

#### 6.5.2.10 int(∗ ieee80211_aclator::iac_setioctl)(struct ieee80211com ∗, struct ieee80211req ∗)

Referenced by ieee80211_ioctl_setmaccmd().

#### 6.5.2.11 int(∗ ieee80211_aclator::iac_setpolicy)(struct ieee80211com ∗, int)

Referenced by ieee80211_ioctl_setmaccmd().

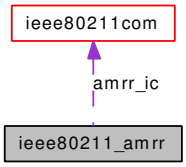
The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_proto.h

## 6.6 ieee80211_amrr Struct Reference

`#include <ieee80211_amrr.h>`

Collaboration diagram for ieee80211_amrr:




### Data Fields

- u_int amrr_min_success_threshold
- u_int amrr_max_success_threshold
- ieee80211com * amrr_ic

### 6.6.1 Detailed Description

Definition at line 37 of file ieee80211_amrr.h.

### 6.6.2 Field Documentation

#### 6.6.2.1 struct ieee80211com* ieee80211_amrr::amrr_ic

Definition at line 40 of file ieee80211_amrr.h.

Referenced by ieee80211_amrr_choose(), and ieee80211_amrr_init().

#### 6.6.2.2 u_int ieee80211_amrr::amrr_max_success_threshold

Definition at line 39 of file ieee80211_amrr.h.

Referenced by ieee80211_amrr_choose(), and ieee80211_amrr_init().

#### 6.6.2.3 u_int ieee80211_amrr::amrr_min_success_threshold

Definition at line 38 of file ieee80211_amrr.h.

Referenced by ieee80211_amrr_choose(), ieee80211_amrr_init(), and ieee80211_amrr_node_init().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_amrr.h

## 6.7 ieee80211_amrr_node Struct Reference

`#include <ieee80211_amrr.h>`

### Data Fields

- u_int amn_success
- u_int amn_recovery
- u_int amn_success_threshold
- u_int amn_txcnt
- u_int amn_retrycnt

### 6.7.1 Detailed Description

Definition at line 49 of file ieee80211_amrr.h.

### 6.7.2 Field Documentation

#### 6.7.2.1 u_int ieee80211_amrr_node::amn_recovery

Definition at line 51 of file ieee80211_amrr.h.

Referenced by ieee80211_amrr_choose(), and ieee80211_amrr_node_init().

#### 6.7.2.2 u_int ieee80211_amrr_node::amn_retrycnt

Definition at line 54 of file ieee80211_amrr.h.

Referenced by ieee80211_amrr_choose(), and ieee80211_amrr_node_init().

#### 6.7.2.3 u_int ieee80211_amrr_node::amn_success

Definition at line 50 of file ieee80211_amrr.h.

Referenced by ieee80211_amrr_choose(), and ieee80211_amrr_node_init().

#### 6.7.2.4 u_int ieee80211_amrr_node::amn_success_threshold

Definition at line 52 of file ieee80211_amrr.h.

Referenced by ieee80211_amrr_choose(), and ieee80211_amrr_node_init().

#### 6.7.2.5 u_int ieee80211_amrr_node::amn_txcnt

Definition at line 53 of file ieee80211_amrr.h.

Referenced by ieee80211_amrr_choose(), and ieee80211_amrr_node_init().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_amrr.h

# 6.8 ieee80211_authenticator Struct Reference

`#include <ieee80211_proto.h>`

## Data Fields

- const char * ia_name
- int(* ia_attach )(struct ieee80211com *)
- void(* ia_detach )(struct ieee80211com *)
- void(* ia_node_join )(struct ieee80211com *, struct ieee80211_node *)
- void(* ia_node_leave )(struct ieee80211com *, struct ieee80211_node *)

### 6.8.1 Detailed Description

Definition at line 138 of file ieee80211_proto.h.

### 6.8.2 Field Documentation

#### 6.8.2.1 int(* ieee80211_authenticator::ia_attach)(struct ieee80211com *)

#### 6.8.2.2 void(* ieee80211_authenticator::ia_detach)(struct ieee80211com *)

Referenced by ieee80211_newstate(), and ieee80211_proto_detach().

#### 6.8.2.3 const char* ieee80211_authenticator::ia_name

Definition at line 139 of file ieee80211_proto.h.

#### 6.8.2.4 void(* ieee80211_authenticator::ia_node_join)(struct ieee80211com *, struct ieee80211_node *)

#### 6.8.2.5 void(* ieee80211_authenticator::ia_node_leave)(struct ieee80211com *, struct ieee80211_node *)

Referenced by ieee80211_free_allnodes_locked(), and ieee80211_node_leave().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_proto.h

## 6.9 ieee80211_beacon_offsets Struct Reference

`#include <ieee80211_proto.h>`

### Data Fields

- u_int16_t * bo_caps
- u_int8_t * bo_tim
- u_int8_t * bo_wme
- u_int8_t * bo_trailer
- u_int16_t bo_tim_len
- u_int16_t bo_trailer_len
- u_int8_t * bo_erp

### 6.9.1 Detailed Description

Definition at line 239 of file ieee80211_proto.h.

### 6.9.2 Field Documentation

#### 6.9.2.1 u_int16_t* ieee80211_beacon_offsets::bo_caps

Definition at line 240 of file ieee80211_proto.h.

Referenced by ieee80211_beacon_alloc(), and ieee80211_beacon_update().

#### 6.9.2.2 u_int8_t* ieee80211_beacon_offsets::bo_erp

Definition at line 246 of file ieee80211_proto.h.

Referenced by ieee80211_beacon_alloc(), and ieee80211_beacon_update().

#### 6.9.2.3 u_int8_t* ieee80211_beacon_offsets::bo_tim

Definition at line 241 of file ieee80211_proto.h.

Referenced by ieee80211_beacon_alloc(), and ieee80211_beacon_update().

#### 6.9.2.4 u_int16_t ieee80211_beacon_offsets::bo_tim_len

Definition at line 244 of file ieee80211_proto.h.

Referenced by ieee80211_beacon_alloc(), and ieee80211_beacon_update().

#### 6.9.2.5 u_int8_t* ieee80211_beacon_offsets::bo_trailer

Definition at line 243 of file ieee80211_proto.h.

Referenced by ieee80211_beacon_alloc(), and ieee80211_beacon_update().

#### 6.9.2.6 u_int16_t ieee80211_beacon_offsets::bo_trailer_len

Definition at line 245 of file ieee80211_proto.h.

Referenced by ieee80211_beacon_alloc(), and ieee80211_beacon_update().

#### 6.9.2.7 u_int8_t* ieee80211_beacon_offsets::bo_wme

Definition at line 242 of file ieee80211_proto.h.

Referenced by ieee80211_beacon_alloc(), and ieee80211_beacon_update().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_proto.h

## 6.10 ieee80211_bpf_params Struct Reference

`#include <ieee80211_freebsd.h>`

### Data Fields

- uint8_t ibp_vers
- uint8_t ibp_len
- uint8_t ibp_flags
- uint8_t ibp_pri
- uint8_t ibp_try0
- uint8_t ibp_rate0
- uint8_t ibp_power
- uint8_t ibp_ctsrate
- uint8_t ibp_try1
- uint8_t ibp_rate1
- uint8_t ibp_try2
- uint8_t ibp_rate2
- uint8_t ibp_try3
- uint8_t ibp_rate3

### 6.10.1 Detailed Description

Definition at line 242 of file ieee80211_freebsd.h.

### 6.10.2 Field Documentation

#### 6.10.2.1 uint8_t ieee80211_bpf_params::ibp_ctsrate

Definition at line 258 of file ieee80211_freebsd.h.

#### 6.10.2.2 uint8_t ieee80211_bpf_params::ibp_flags

Definition at line 246 of file ieee80211_freebsd.h.

#### 6.10.2.3 uint8_t ieee80211_bpf_params::ibp_len

Definition at line 245 of file ieee80211_freebsd.h.

#### 6.10.2.4 uint8_t ieee80211_bpf_params::ibp_power

Definition at line 257 of file ieee80211_freebsd.h.

#### 6.10.2.5 uint8_t ieee80211_bpf_params::ibp_pri

Definition at line 254 of file ieee80211_freebsd.h.

#### 6.10.2.6 uint8_t ieee80211_bpf_params::ibp_rate0

Definition at line 256 of file ieee80211_freebsd.h.

#### 6.10.2.7 uint8_t ieee80211_bpf_params::ibp_rate1

Definition at line 260 of file ieee80211_freebsd.h.

#### 6.10.2.8 uint8_t ieee80211_bpf_params::ibp_rate2

Definition at line 262 of file ieee80211_freebsd.h.

#### 6.10.2.9 uint8_t ieee80211_bpf_params::ibp_rate3

Definition at line 264 of file ieee80211_freebsd.h.

#### 6.10.2.10 uint8_t ieee80211_bpf_params::ibp_try0

Definition at line 255 of file ieee80211_freebsd.h.

#### 6.10.2.11 uint8_t ieee80211_bpf_params::ibp_try1

Definition at line 259 of file ieee80211_freebsd.h.

#### 6.10.2.12 uint8_t ieee80211_bpf_params::ibp_try2

Definition at line 261 of file ieee80211_freebsd.h.

#### 6.10.2.13 uint8_t ieee80211_bpf_params::ibp_try3

Definition at line 263 of file ieee80211_freebsd.h.

#### 6.10.2.14 uint8_t ieee80211_bpf_params::ibp_vers

Definition at line 243 of file ieee80211_freebsd.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_freebsd.h

## 6.11 ieee80211_channel Struct Reference

`#include <_ieee80211.h>`

### Data Fields

- u_int16_t ic_freq
- u_int16_t ic_flags

### 6.11.1 Detailed Description

Definition at line 105 of file _ieee80211.h.

### 6.11.2 Field Documentation

#### 6.11.2.1 u_int16_t ieee80211_channel::ic_flags

Definition at line 107 of file _ieee80211.h.

Referenced by get_scan_result(), get_sta_info(), ieee80211_chan2ieee(), ieee80211_chan2mode(), ieee80211_chan_init(), ieee80211_dump_node(), ieee80211_node_leave_11g(), ieee80211_probe_curchan(), and ieee80211_setmode().

#### 6.11.2.2 u_int16_t ieee80211_channel::ic_freq

Definition at line 106 of file _ieee80211.h.

Referenced by get_scan_result(), get_sta_info(), ieee80211_chan2ieee(), ieee80211_chan_init(), ieee80211_dump_node(), ieee80211_ioctl_getchaninfo(), and ieee80211_node_leave_11g().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/_ieee80211.h

## 6.12 ieee80211_cipher Struct Reference

`#include <ieee80211_crypto.h>`

### Data Fields

- const char * ic_name
- u_int ic_cipher
- u_int ic_header
- u_int ic_trailer
- u_int ic_miclen
- void *(* ic_attach )(struct ieee80211com *, struct ieee80211_key *)
- void(* ic_detach )(struct ieee80211_key *)
- int(* ic_setkey )(struct ieee80211_key *)
- int(* ic_encap )(struct ieee80211_key *, struct mbuf *, u_int8_t keyid)
- int(* ic_decap )(struct ieee80211_key *, struct mbuf *, int)
- int(* ic_enmic )(struct ieee80211_key *, struct mbuf *, int)
- int(* ic_demic )(struct ieee80211_key *, struct mbuf *, int)

### 6.12.1 Detailed Description

Definition at line 155 of file ieee80211_crypto.h.

### 6.12.2 Field Documentation

#### 6.12.2.1 void*(* ieee80211_cipher::ic_attach)(struct ieee80211com *, struct ieee80211_key *)

Referenced by cipher_attach(), ieee80211_crypto_newkey(), and ieee80211_crypto_resetkey().

#### 6.12.2.2 u_int ieee80211_cipher::ic_cipher

Definition at line 157 of file ieee80211_crypto.h.

Referenced by ieee80211_crypto_register(), ieee80211_crypto_unregister(), ieee80211_ioctl_getkey(), and ieee80211_notify_replay_failure().

#### 6.12.2.3 int(* ieee80211_cipher::ic_decap)(struct ieee80211_key *, struct mbuf *, int)

Referenced by ieee80211_crypto_decap().

#### 6.12.2.4 int(* ieee80211_cipher::ic_demic)(struct ieee80211_key *, struct mbuf *, int)

Referenced by ieee80211_crypto_demic().

#### 6.12.2.5 void(* ieee80211_cipher::ic_detach)(struct ieee80211_key *)

Referenced by cipher_detach().

#### 6.12.2.6 int(∗ ieee80211_cipher::ic_encap)(struct ieee80211_key ∗, struct mbuf ∗, u_int8_t keyid)

Referenced by ieee80211_crypto_encap().

#### 6.12.2.7 int(∗ ieee80211_cipher::ic_enmic)(struct ieee80211_key ∗, struct mbuf ∗, int)

Referenced by ieee80211_crypto_enmic().

#### 6.12.2.8 u_int ieee80211_cipher::ic_header

Definition at line 158 of file ieee80211_crypto.h.

Referenced by ccmp_decap(), ccmp_decrypt(), ccmp_encap(), ccmp_encrypt(), ieee80211_crypto_-decap(), ieee80211_mbuf_adjust(), tkip_decap(), tkip_decrypt(), tkip_encap(), tkip_encrypt(), wep_-decap(), wep_decrypt(), wep_encap(), and wep_encrypt().

#### 6.12.2.9 u_int ieee80211_cipher::ic_miclen

Definition at line 160 of file ieee80211_crypto.h.

Referenced by ieee80211_crypto_demic(), ieee80211_crypto_enmic(), tkip_demic(), and tkip_enmic().

#### 6.12.2.10 const char∗ ieee80211_cipher::ic_name

Definition at line 156 of file ieee80211_crypto.h.

Referenced by _ieee80211_crypto_delkey(), ieee80211_crypto_decap(), ieee80211_crypto_newkey(), ieee80211_crypto_register(), ieee80211_crypto_setkey(), ieee80211_crypto_unregister(), and ieee80211_-notify_replay_failure().

#### 6.12.2.11 int(∗ ieee80211_cipher::ic_setkey)(struct ieee80211_key ∗)

Referenced by ieee80211_crypto_setkey().

#### 6.12.2.12 u_int ieee80211_cipher::ic_trailer

Definition at line 159 of file ieee80211_crypto.h.

Referenced by ccmp_decap(), ccmp_decrypt(), ccmp_encrypt(), tkip_decap(), tkip_decrypt(), wep_-decap(), and wep_decrypt().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_crypto.h

## 6.13 ieee80211_country_ie Struct Reference

`#include <ieee80211.h>`

### Data Fields

- u_int8_t ie
- u_int8_t len
- u_int8_t cc [3]
- struct {
  u_int8_t schan
  u_int8_t nchan
  u_int8_t maxtxpwr
  } band [4]

### 6.13.1 Detailed Description

Definition at line 423 of file ieee80211.h.

### 6.13.2 Field Documentation

#### 6.13.2.1 struct { ... } ieee80211_country_ie::band[4]

#### 6.13.2.2 u_int8_t ieee80211_country_ie::cc[3]

Definition at line 426 of file ieee80211.h.

#### 6.13.2.3 u_int8_t ieee80211_country_ie::ie

Definition at line 424 of file ieee80211.h.

#### 6.13.2.4 u_int8_t ieee80211_country_ie::len

Definition at line 425 of file ieee80211.h.

#### 6.13.2.5 u_int8_t ieee80211_country_ie::maxtxpwr

Definition at line 430 of file ieee80211.h.

#### 6.13.2.6 u_int8_t ieee80211_country_ie::nchan

Definition at line 429 of file ieee80211.h.

#### 6.13.2.7 u_int8_t ieee80211_country_ie::schan

Definition at line 428 of file ieee80211.h.

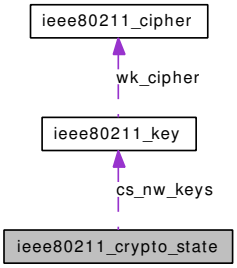
The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211.h

## 6.14 ieee80211_crypto_state Struct Reference

`#include <ieee80211_crypto.h>`

Collaboration diagram for ieee80211_crypto_state:




### Data Fields

- ieee80211_key cs_nw_keys [IEEE80211_WEP_NKID]
- ieee80211_keyix cs_def_txkey
- u_int16_t cs_max_keyix
- int(∗ cs_key_alloc )(struct ieee80211com ∗, const struct ieee80211_key ∗, ieee80211_keyix ∗, ieee80211_keyix ∗)
- int(∗ cs_key_delete )(struct ieee80211com ∗, const struct ieee80211_key ∗)
- int(∗ cs_key_set )(struct ieee80211com ∗, const struct ieee80211_key ∗, const u_int8_t mac[IEEE80211_ADDR_LEN])
- void(∗ cs_key_update_begin )(struct ieee80211com ∗)
- void(∗ cs_key_update_end )(struct ieee80211com ∗)

### 6.14.1 Detailed Description

Definition at line 122 of file ieee80211_crypto.h.

### 6.14.2 Field Documentation

#### 6.14.2.1 ieee80211_keyix ieee80211_crypto_state::cs_def_txkey

Definition at line 124 of file ieee80211_crypto.h.

Referenced by ieee80211_crypto_attach().

#### 6.14.2.2 int(∗ ieee80211_crypto_state::cs_key_alloc)(struct ieee80211com ∗, const struct ieee80211_key ∗, ieee80211_keyix ∗, ieee80211_keyix ∗)

Referenced by dev_key_alloc(), and ieee80211_crypto_attach().

#### 6.14.2.3 int(∗ ieee80211_crypto_state::cs_key_delete)(struct ieee80211com ∗, const struct ieee80211_key ∗)

Referenced by dev_key_delete(), and ieee80211_crypto_attach().

#### 6.14.2.4 int(∗ ieee80211_crypto_state::cs_key_set)(struct ieee80211com ∗, const struct ieee80211_key ∗, const u_int8_t mac[IEEE80211_ADDR_LEN])

Referenced by dev_key_set(), and ieee80211_crypto_attach().

#### 6.14.2.5 void(∗ ieee80211_crypto_state::cs_key_update_begin)(struct ieee80211com ∗)

Referenced by ieee80211_crypto_attach(), and ieee80211_key_update_begin().

#### 6.14.2.6 void(∗ ieee80211_crypto_state::cs_key_update_end)(struct ieee80211com ∗)

Referenced by ieee80211_crypto_attach(), and ieee80211_key_update_end().

#### 6.14.2.7 u_int16_t ieee80211_crypto_state::cs_max_keyix

Definition at line 125 of file ieee80211_crypto.h.

Referenced by ieee80211_crypto_attach(), and ieee80211_node_lateattach().

#### 6.14.2.8 struct ieee80211_key ieee80211_crypto_state::cs_nw_keys[IEEE80211_WEP_NKID]

Definition at line 123 of file ieee80211_crypto.h.

Referenced by ieee80211_crypto_attach().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_crypto.h

# 6.15 ieee80211_frame Struct Reference

`#include <ieee80211.h>`

## Data Fields

- u_int8_t i_fc [2]
- u_int8_t i_dur [2]
- u_int8_t i_addr1 [IEEE80211_ADDR_LEN]
- u_int8_t i_addr2 [IEEE80211_ADDR_LEN]
- u_int8_t i_addr3 [IEEE80211_ADDR_LEN]
- u_int8_t i_seq [2]

### 6.15.1 Detailed Description

Definition at line 60 of file ieee80211.h.

### 6.15.2 Field Documentation

#### 6.15.2.1 u_int8_t ieee80211_frame::i_addr1[IEEE80211_ADDR_LEN]

Definition at line 63 of file ieee80211.h.

Referenced by ccmp_init_blocks(), ieee80211_beacon_alloc(), ieee80211_crypto_decap(), ieee80211_crypto_encap(), ieee80211_defrag(), ieee80211_dump_pkt(), ieee80211_encap(), ieee80211_input(), ieee80211_mgmt_output(), ieee80211_notify_michael_failure(), ieee80211_notify_replay_failure(), ieee80211_output(), ieee80211_send_probereq(), ieee80211_send_setup(), and none_encap().

#### 6.15.2.2 u_int8_t ieee80211_frame::i_addr2[IEEE80211_ADDR_LEN]

Definition at line 64 of file ieee80211.h.

Referenced by ccmp_decap(), ccmp_decrypt(), ccmp_init_blocks(), ieee80211_add_neighbor(), ieee80211_add_scan(), ieee80211_auth_open(), ieee80211_auth_shared(), ieee80211_beacon_alloc(), ieee80211_crypto_decap(), ieee80211_defrag(), ieee80211_dump_pkt(), ieee80211_encap(), ieee80211_input(), ieee80211_notify_michael_failure(), ieee80211_notify_replay_failure(), ieee80211_recv_mgmt(), ieee80211_send_setup(), none_decap(), tkip_decap(), tkip_decrypt(), tkip_encap(), tkip_encrypt(), and wep_decap().

#### 6.15.2.3 u_int8_t ieee80211_frame::i_addr3[IEEE80211_ADDR_LEN]

Definition at line 65 of file ieee80211.h.

Referenced by ieee80211_add_scan(), ieee80211_beacon_alloc(), ieee80211_dump_pkt(), ieee80211_encap(), ieee80211_init_neighbor(), ieee80211_input(), ieee80211_output(), ieee80211_recv_mgmt(), and ieee80211_send_setup().

#### 6.15.2.4 u_int8_t ieee80211_frame::i_dur[2]

Definition at line 62 of file ieee80211.h.

Referenced by ieee80211_beacon_alloc(), ieee80211_encap(), and ieee80211_send_setup().

#### 6.15.2.5 u_int8_t ieee80211_frame::i_fc[2]

Definition at line 61 of file ieee80211.h.

Referenced by ccmp_init_blocks(), ieee80211_anyhdrsize(), ieee80211_auth_open(), ieee80211_auth_shared(), ieee80211_beacon_alloc(), ieee80211_defrag(), ieee80211_dump_pkt(), ieee80211_encap(), ieee80211_hdrsize(), ieee80211_input(), ieee80211_mgmt_output(), ieee80211_output(), ieee80211_recv_mgmt(), ieee80211_send_nulldata(), and ieee80211_send_setup().

#### 6.15.2.6 u_int8_t ieee80211_frame::i_seq[2]

Definition at line 66 of file ieee80211.h.

Referenced by ccmp_init_blocks(), ieee80211_beacon_alloc(), ieee80211_defrag(), ieee80211_encap(), ieee80211_input(), and ieee80211_send_setup().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211.h

# 6.16 ieee80211_frame_ack Struct Reference

`#include <ieee80211.h>`

## Data Fields

- u_int8_t i_fc [2]
- u_int8_t i_dur [2]
- u_int8_t i_ra [IEEE80211_ADDR_LEN]

## 6.16.1 Detailed Description

Definition at line 315 of file ieee80211.h.

## 6.16.2 Field Documentation

### 6.16.2.1 u_int8_t ieee80211_frame_ack::i_dur[2]

Definition at line 317 of file ieee80211.h.

### 6.16.2.2 u_int8_t ieee80211_frame_ack::i_fc[2]

Definition at line 316 of file ieee80211.h.

### 6.16.2.3 u_int8_t ieee80211_frame_ack::i_ra[IEEE80211_ADDR_LEN]

Definition at line 318 of file ieee80211.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211.h

## 6.17 ieee80211_frame_addr4 Struct Reference

`#include <ieee80211.h>`

### Data Fields

- u_int8_t i_fc [2]
- u_int8_t i_dur [2]
- u_int8_t i_addr1 [IEEE80211_ADDR_LEN]
- u_int8_t i_addr2 [IEEE80211_ADDR_LEN]
- u_int8_t i_addr3 [IEEE80211_ADDR_LEN]
- u_int8_t i_seq [2]
- u_int8_t i_addr4 [IEEE80211_ADDR_LEN]

### 6.17.1 Detailed Description

Definition at line 87 of file ieee80211.h.

### 6.17.2 Field Documentation

#### 6.17.2.1 u_int8_t ieee80211_frame_addr4::i_addr1[IEEE80211_ADDR_LEN]

Definition at line 90 of file ieee80211.h.

Referenced by michael_mic_hdr().

#### 6.17.2.2 u_int8_t ieee80211_frame_addr4::i_addr2[IEEE80211_ADDR_LEN]

Definition at line 91 of file ieee80211.h.

Referenced by michael_mic_hdr().

#### 6.17.2.3 u_int8_t ieee80211_frame_addr4::i_addr3[IEEE80211_ADDR_LEN]

Definition at line 92 of file ieee80211.h.

Referenced by michael_mic_hdr().

#### 6.17.2.4 u_int8_t ieee80211_frame_addr4::i_addr4[IEEE80211_ADDR_LEN]

Definition at line 94 of file ieee80211.h.

Referenced by michael_mic_hdr().

#### 6.17.2.5 u_int8_t ieee80211_frame_addr4::i_dur[2]

Definition at line 89 of file ieee80211.h.

#### 6.17.2.6 u_int8_t ieee80211_frame_addr4::i_fc[2]

Definition at line 88 of file ieee80211.h.

Referenced by michael_mic_hdr().

#### 6.17.2.7 u_int8_t ieee80211_frame_addr4::i_seq[2]

Definition at line 93 of file ieee80211.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211.h

## 6.18 ieee80211_frame_cfend Struct Reference

`#include <ieee80211.h>`

### Data Fields

- u_int8_t i_fc [2]
- u_int8_t i_dur [2]
- u_int8_t i_ra [IEEE80211_ADDR_LEN]
- u_int8_t i_bssid [IEEE80211_ADDR_LEN]

### 6.18.1 Detailed Description

Definition at line 330 of file ieee80211.h.

### 6.18.2 Field Documentation

#### 6.18.2.1 u_int8_t ieee80211_frame_cfend::i_bssid[IEEE80211_ADDR_LEN]

Definition at line 334 of file ieee80211.h.

#### 6.18.2.2 u_int8_t ieee80211_frame_cfend::i_dur[2]

Definition at line 332 of file ieee80211.h.

#### 6.18.2.3 u_int8_t ieee80211_frame_cfend::i_fc[2]

Definition at line 331 of file ieee80211.h.

#### 6.18.2.4 u_int8_t ieee80211_frame_cfend::i_ra[IEEE80211_ADDR_LEN]

Definition at line 333 of file ieee80211.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211.h

# 6.19 ieee80211_frame_cts Struct Reference

`#include <ieee80211.h>`

## Data Fields

- u_int8_t i_fc [2]
- u_int8_t i_dur [2]
- u_int8_t i_ra [IEEE80211_ADDR_LEN]

## 6.19.1 Detailed Description

Definition at line 308 of file ieee80211.h.

## 6.19.2 Field Documentation

### 6.19.2.1 u_int8_t ieee80211_frame_cts::i_dur[2]

Definition at line 310 of file ieee80211.h.

### 6.19.2.2 u_int8_t ieee80211_frame_cts::i_fc[2]

Definition at line 309 of file ieee80211.h.

### 6.19.2.3 u_int8_t ieee80211_frame_cts::i_ra[IEEE80211_ADDR_LEN]

Definition at line 311 of file ieee80211.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211.h

## 6.20 ieee80211_frame_min Struct Reference

`#include <ieee80211.h>`

### Data Fields

- u_int8_t i_fc [2]
- u_int8_t i_dur [2]
- u_int8_t i_addr1 [IEEE80211_ADDR_LEN]
- u_int8_t i_addr2 [IEEE80211_ADDR_LEN]

### 6.20.1 Detailed Description

Definition at line 292 of file ieee80211.h.

### 6.20.2 Field Documentation

#### 6.20.2.1 u_int8_t ieee80211_frame_min::i_addr1[IEEE80211_ADDR_LEN]

Definition at line 295 of file ieee80211.h.

Referenced by ieee80211_find_rxnode().

#### 6.20.2.2 u_int8_t ieee80211_frame_min::i_addr2[IEEE80211_ADDR_LEN]

Definition at line 296 of file ieee80211.h.

Referenced by ieee80211_find_rxnode(), and ieee80211_recv_pspoll().

#### 6.20.2.3 u_int8_t ieee80211_frame_min::i_dur[2]

Definition at line 294 of file ieee80211.h.

Referenced by ieee80211_recv_pspoll().

#### 6.20.2.4 u_int8_t ieee80211_frame_min::i_fc[2]

Definition at line 293 of file ieee80211.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211.h

# 6.21 ieee80211_frame_pspoll Struct Reference

`#include <ieee80211.h>`

## Data Fields

- u_int8_t i_fc [2]
- u_int8_t i_aid [2]
- u_int8_t i_bssid [IEEE80211_ADDR_LEN]
- u_int8_t i_ta [IEEE80211_ADDR_LEN]

### 6.21.1 Detailed Description

Definition at line 322 of file ieee80211.h.

### 6.21.2 Field Documentation

#### 6.21.2.1 u_int8_t ieee80211_frame_pspoll::i_aid[2]

Definition at line 324 of file ieee80211.h.

#### 6.21.2.2 u_int8_t ieee80211_frame_pspoll::i_bssid[IEEE80211_ADDR_LEN]

Definition at line 325 of file ieee80211.h.

#### 6.21.2.3 u_int8_t ieee80211_frame_pspoll::i_fc[2]

Definition at line 323 of file ieee80211.h.

#### 6.21.2.4 u_int8_t ieee80211_frame_pspoll::i_ta[IEEE80211_ADDR_LEN]

Definition at line 326 of file ieee80211.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211.h

## 6.22 ieee80211_frame_rts Struct Reference

`#include <ieee80211.h>`

### Data Fields

- u_int8_t i_fc [2]
- u_int8_t i_dur [2]
- u_int8_t i_ra [IEEE80211_ADDR_LEN]
- u_int8_t i_ta [IEEE80211_ADDR_LEN]

### 6.22.1 Detailed Description

Definition at line 300 of file ieee80211.h.

### 6.22.2 Field Documentation

#### 6.22.2.1 u_int8_t ieee80211_frame_rts::i_dur[2]

Definition at line 302 of file ieee80211.h.

#### 6.22.2.2 u_int8_t ieee80211_frame_rts::i_fc[2]

Definition at line 301 of file ieee80211.h.

#### 6.22.2.3 u_int8_t ieee80211_frame_rts::i_ra[IEEE80211_ADDR_LEN]

Definition at line 303 of file ieee80211.h.

#### 6.22.2.4 u_int8_t ieee80211_frame_rts::i_ta[IEEE80211_ADDR_LEN]

Definition at line 304 of file ieee80211.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211.h

# 6.23 ieee80211_ie_wpa Struct Reference

`#include <ieee80211.h>`

## Data Fields

- u_int8_t wpa_id
- u_int8_t wpa_len
- u_int8_t wpa_oui [3]
- u_int8_t wpa_type
- u_int16_t wpa_version
- u_int32_t wpa_mcipher [1]
- u_int16_t wpa_uciphercnt
- u_int32_t wpa_uciphers [8]
- u_int16_t wpa_authselcnt
- u_int32_t wpa_authsels [8]
- u_int16_t wpa_caps
- u_int16_t wpa_pmkidcnt
- u_int16_t wpa_pmkids [8]

### 6.23.1 Detailed Description

Definition at line 375 of file ieee80211.h.

### 6.23.2 Field Documentation

#### 6.23.2.1 u_int16_t ieee80211_ie_wpa::wpa_authselcnt

Definition at line 384 of file ieee80211.h.

#### 6.23.2.2 u_int32_t ieee80211_ie_wpa::wpa_authsels[8]

Definition at line 385 of file ieee80211.h.

#### 6.23.2.3 u_int16_t ieee80211_ie_wpa::wpa_caps

Definition at line 386 of file ieee80211.h.

#### 6.23.2.4 u_int8_t ieee80211_ie_wpa::wpa_id

Definition at line 376 of file ieee80211.h.

#### 6.23.2.5 u_int8_t ieee80211_ie_wpa::wpa_len

Definition at line 377 of file ieee80211.h.

#### 6.23.2.6 u_int32_t ieee80211_ie_wpa::wpa_mcipher[1]

Definition at line 381 of file ieee80211.h.

#### 6.23.2.7 u_int8_t ieee80211_ie_wpa::wpa_oui[3]

Definition at line 378 of file ieee80211.h.

#### 6.23.2.8 u_int16_t ieee80211_ie_wpa::wpa_pmkidcnt

Definition at line 387 of file ieee80211.h.

#### 6.23.2.9 u_int16_t ieee80211_ie_wpa::wpa_pmkids[8]

Definition at line 388 of file ieee80211.h.

#### 6.23.2.10 u_int8_t ieee80211_ie_wpa::wpa_type

Definition at line 379 of file ieee80211.h.

#### 6.23.2.11 u_int16_t ieee80211_ie_wpa::wpa_uciphercnt

Definition at line 382 of file ieee80211.h.

#### 6.23.2.12 u_int32_t ieee80211_ie_wpa::wpa_uciphers[8]

Definition at line 383 of file ieee80211.h.

#### 6.23.2.13 u_int16_t ieee80211_ie_wpa::wpa_version

Definition at line 380 of file ieee80211.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211.h

# 6.24 ieee80211_join_event Struct Reference

`#include <ieee80211_freebsd.h>`

## Data Fields

- uint8_t iev_addr [6]

### 6.24.1 Detailed Description

Definition at line 199 of file ieee80211_freebsd.h.

### 6.24.2 Field Documentation

#### 6.24.2.1 uint8_t ieee80211_join_event::iev_addr[6]

Definition at line 200 of file ieee80211_freebsd.h.

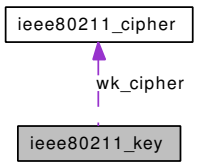
The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_freebsd.h

## 6.25 ieee80211_key Struct Reference

`#include <ieee80211_crypto.h>`

Collaboration diagram for ieee80211_key:




### Data Fields

- u_int8_t wk_keylen
- u_int8_t wk_pad
- u_int16_t wk_flags
- ieee80211_keyix wk_keyix
- ieee80211_keyix wk_rxkeyix
- u_int8_t wk_key [IEEE80211_KEYBUF_SIZE+IEEE80211_MICBUF_SIZE]
- u_int64_t wk_keyrsc
- u_int64_t wk_keytsc
- ieee80211_cipher * wk_cipher
- void * wk_private

### 6.25.1 Detailed Description

Definition at line 71 of file ieee80211_crypto.h.

### 6.25.2 Field Documentation

#### 6.25.2.1 struct ieee80211_cipher* ieee80211_key::wk_cipher

Definition at line 87 of file ieee80211_crypto.h.

Referenced by _ieee80211_crypto_delkey(), cipher_attach(), cipher_detach(), ieee80211_crypto_-decap(), ieee80211_crypto_demic(), ieee80211_crypto_encap(), ieee80211_crypto_enmic(), ieee80211_-crypto_newkey(), ieee80211_crypto_resetkey(), ieee80211_crypto_setkey(), ieee80211_ioctl_getkey(), ieee80211_mbuf_adjust(), and ieee80211_notify_replay_failure().

#### 6.25.2.2 u_int16_t ieee80211_key::wk_flags

Definition at line 74 of file ieee80211_crypto.h.

Referenced by _ieee80211_crypto_delkey(), ccmp_decap(), ccmp_encap(), ccmp_setkey(), ieee80211_-crypto_newkey(), ieee80211_crypto_resetkey(), ieee80211_crypto_setkey(), ieee80211_ioctl_getkey(), ieee80211_mbuf_adjust(), null_key_alloc(), tkip_decap(), tkip_demic(), tkip_encap(), tkip_enmic(), wep_decap(), and wep_encap().

#### 6.25.2.3 u_int8_t ieee80211_key::wk_key[IEEE80211_KEYBUF_SIZE+IEEE80211_MICBUF_SIZE]

Definition at line 82 of file ieee80211_crypto.h.

Referenced by ccmp_setkey(), ieee80211_ioctl_getkey(), ieee80211_ioctl_set80211(), ieee80211_ioctl_setkey(), tkip_decrypt(), tkip_encrypt(), wep_decrypt(), and wep_encrypt().

#### 6.25.2.4 ieee80211_keyix ieee80211_key::wk_keyix

Definition at line 80 of file ieee80211_crypto.h.

Referenced by _ieee80211_crypto_delkey(), ieee80211_crypto_newkey(), ieee80211_crypto_resetkey(), ieee80211_crypto_setkey(), ieee80211_ioctl_getkey(), ieee80211_ioctl_set80211(), ieee80211_ioctl_setkey(), ieee80211_notify_replay_failure(), and tkip_demic().

#### 6.25.2.5 u_int8_t ieee80211_key::wk_keylen

Definition at line 72 of file ieee80211_crypto.h.

Referenced by _ieee80211_crypto_delkey(), ccmp_setkey(), ieee80211_crypto_setkey(), ieee80211_ioctl_getkey(), ieee80211_ioctl_set80211(), ieee80211_ioctl_setkey(), tkip_setkey(), wep_decrypt(), wep_encrypt(), and wep_setkey().

#### 6.25.2.6 u_int64_t ieee80211_key::wk_keyrsc

Definition at line 85 of file ieee80211_crypto.h.

Referenced by _ieee80211_crypto_delkey(), ccmp_decap(), ieee80211_crypto_setkey(), ieee80211_ioctl_getkey(), ieee80211_ioctl_setkey(), ieee80211_notify_replay_failure(), tkip_decap(), tkip_decrypt(), and tkip_demic().

#### 6.25.2.7 u_int64_t ieee80211_key::wk_keytsc

Definition at line 86 of file ieee80211_crypto.h.

Referenced by _ieee80211_crypto_delkey(), ccmp_encap(), ccmp_encrypt(), ieee80211_crypto_setkey(), ieee80211_ioctl_getkey(), ieee80211_ioctl_setkey(), tkip_encap(), tkip_encrypt(), and tkip_setkey().

#### 6.25.2.8 u_int8_t ieee80211_key::wk_pad

Definition at line 73 of file ieee80211_crypto.h.

#### 6.25.2.9 void* ieee80211_key::wk_private

Definition at line 88 of file ieee80211_crypto.h.

Referenced by ccmp_decap(), ccmp_decrypt(), ccmp_detach(), ccmp_encap(), ccmp_encrypt(), ccmp_setkey(), ieee80211_crypto_newkey(), ieee80211_crypto_resetkey(), none_decap(), none_demic(), none_encap(), none_enmic(), tkip_decap(), tkip_demic(), tkip_detach(), tkip_encap(), tkip_enmic(), tkip_setkey(), wep_decap(), wep_decrypt(), wep_detach(), wep_encap(), and wep_encrypt().

#### 6.25.2.10 ieee80211_keyix ieee80211_key::wk_rxkeyix

Definition at line 81 of file ieee80211_crypto.h.

Referenced by ieee80211_crypto_newkey(), ieee80211_crypto_resetkey(), ieee80211_find_rxnode_withkey(), ieee80211_free_node(), ieee80211_node_delucastkey(), ieee80211_notify_replay_failure(), node_reclaim(), and tkip_demic().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_crypto.h

# 6.26 ieee80211_leave_event Struct Reference

`#include <ieee80211_freebsd.h>`

## Data Fields

- uint8_t iev_addr [6]

### 6.26.1 Detailed Description

Definition at line 203 of file ieee80211_freebsd.h.

### 6.26.2 Field Documentation

#### 6.26.2.1 uint8_t ieee80211_leave_event::iev_addr[6]

Definition at line 204 of file ieee80211_freebsd.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_freebsd.h

# 6.27 ieee80211_michael_event Struct Reference

`#include <ieee80211_freebsd.h>`

## Data Fields

- uint8_t iev_src [6]
- uint8_t iev_dst [6]
- uint8_t iev_cipher
- uint8_t iev_keyix

### 6.27.1 Detailed Description

Definition at line 216 of file ieee80211_freebsd.h.

### 6.27.2 Field Documentation

#### 6.27.2.1 uint8_t ieee80211_michael_event::iev_cipher

Definition at line 219 of file ieee80211_freebsd.h.

Referenced by ieee80211_notify_michael_failure().

#### 6.27.2.2 uint8_t ieee80211_michael_event::iev_dst[6]

Definition at line 218 of file ieee80211_freebsd.h.

Referenced by ieee80211_notify_michael_failure().

#### 6.27.2.3 uint8_t ieee80211_michael_event::iev_keyix

Definition at line 220 of file ieee80211_freebsd.h.

Referenced by ieee80211_notify_michael_failure().

#### 6.27.2.4 uint8_t ieee80211_michael_event::iev_src[6]

Definition at line 217 of file ieee80211_freebsd.h.

Referenced by ieee80211_notify_michael_failure().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_freebsd.h

# 6.28 ieee80211_mnf Struct Reference

`#include <ieee80211.h>`

## Data Fields

- u_int8_t mnf_category
- u_int8_t mnf_action
- u_int8_t mnf_dialog
- u_int8_t mnf_status

### 6.28.1 Detailed Description

Definition at line 279 of file ieee80211.h.

### 6.28.2 Field Documentation

#### 6.28.2.1 u_int8_t ieee80211_mnf::mnf_action

Definition at line 281 of file ieee80211.h.

#### 6.28.2.2 u_int8_t ieee80211_mnf::mnf_category

Definition at line 280 of file ieee80211.h.

#### 6.28.2.3 u_int8_t ieee80211_mnf::mnf_dialog

Definition at line 282 of file ieee80211.h.

#### 6.28.2.4 u_int8_t ieee80211_mnf::mnf_status

Definition at line 283 of file ieee80211.h.

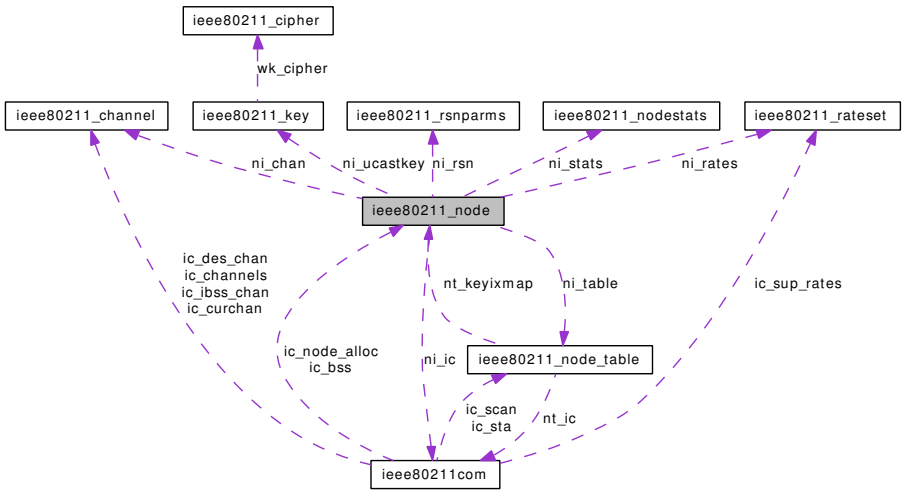
The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211.h

## 6.29 ieee80211_node Struct Reference

`#include <ieee80211_node.h>`

Collaboration diagram for ieee80211_node:




### Public Member Functions

- TAILQ_ENTRY (ieee80211_node) ni_list
- LIST_ENTRY (ieee80211_node) ni_hash

### Data Fields

- ieee80211com ∗ ni_ic
- ieee80211_node_table ∗ ni_table
- u_int ni_refcnt
- u_int ni_scangen
- u_int8_t ni_authmode
- u_int16_t ni_flags
- u_int16_t ni_associd
- u_int16_t ni_txpower
- u_int16_t ni_vlan
- u_int32_t ∗ ni_challenge
- u_int8_t ∗ ni_wpa_ie
- u_int8_t ∗ ni_wme_ie
- u_int16_t ni_txseqs [17]
- u_int16_t ni_rxseqs [17]
- u_int32_t ni_rxfragstamp
- mbuf ∗ ni_rxfrag [3]
- ieee80211_rsnparms ni_rsn
- ieee80211_key ni_ucastkey
- u_int32_t ni_rstamp
- u_int8_t ni_rssi

- u_int8_t ni_macaddr [IEEE80211_ADDR_LEN]
- u_int8_t ni_bssid [IEEE80211_ADDR_LEN]
- union {
  u_int8_t data [8]
  u_int64_t tsf
  } ni_tstamp

- u_int16_t ni_intval
- u_int16_t ni_capinfo
- u_int8_t ni_esslen
- u_int8_t ni_essid [IEEE80211_NWID_LEN]
- ieee80211_rateset ni_rates
- ieee80211_channel * ni_chan
- u_int16_t ni_fhdwell
- u_int8_t ni_fhindex
- u_int8_t ni_erp
- u_int16_t ni_timoff
- u_int8_t ni_dtim_period
- u_int8_t ni_dtim_count
- int ni_fails
- short ni_inact
- short ni_inact_reload
- int ni_txrate
- ifqueue ni_savedq
- ieee80211_nodestats ni_stats

## 6.29.1 Detailed Description

Definition at line 89 of file ieee80211_node.h.

## 6.29.2 Member Function Documentation

### 6.29.2.1 ieee80211_node::LIST_ENTRY (ieee80211_node)

### 6.29.2.2 ieee80211_node::TAILQ_ENTRY (ieee80211_node)

## 6.29.3 Field Documentation

### 6.29.3.1 u_int8_t ieee80211_node::data[8]

Definition at line 127 of file ieee80211_node.h.

Referenced by ieee80211_add_scan(), ieee80211_init_neighbor(), and ieee80211_recv_mgmt().

### 6.29.3.2 u_int16_t ieee80211_node::ni_associd

Definition at line 104 of file ieee80211_node.h.

Referenced by _ieee80211_free_node(), domlme(), get_sta_info(), get_sta_space(), ieee80211_dump_node(), ieee80211_find_txnode(), ieee80211_free_allnodes_locked(), ieee80211_getrssi(), ieee80211_input(), ieee80211_node_join(), ieee80211_node_leave(), ieee80211_recv_mgmt(), ieee80211_recv_pspoll(), ieee80211_set_tim(), ieee80211_timeout_stations(), and sta_disassoc().

#### 6.29.3.3 u_int8_t ieee80211_node::ni_authmode

Definition at line 96 of file ieee80211_node.h.

Referenced by copy_bss(), get_sta_info(), ieee80211_add_scan(), ieee80211_auth_open(), ieee80211_auth_shared(), ieee80211_cfgset(), ieee80211_dump_node(), ieee80211_dup_bss(), ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), ieee80211_newstate(), ieee80211_node_lateattach(), ieee80211_send_mgmt(), and ieee80211_setup_node().

#### 6.29.3.4 u_int8_t ieee80211_node::ni_bssid[IEEE80211_ADDR_LEN]

Definition at line 123 of file ieee80211_node.h.

Referenced by get_scan_result(), ieee80211_add_scan(), ieee80211_beacon_alloc(), ieee80211_beacon_miss(), ieee80211_cfgget(), ieee80211_create_ibss(), ieee80211_dump_node(), ieee80211_dup_bss(), ieee80211_encap(), ieee80211_ibss_merge(), ieee80211_init_neighbor(), ieee80211_input(), ieee80211_ioctl_delkey(), ieee80211_ioctl_get80211(), ieee80211_ioctl_setkey(), ieee80211_match_bss(), ieee80211_mgmt_output(), ieee80211_newstate(), ieee80211_notify_node_join(), ieee80211_recv_mgmt(), ieee80211_send_mgmt(), ieee80211_send_nulldata(), ieee80211_tmp_node(), wi_read_ap_result(), and wi_read_prism2_result().

#### 6.29.3.5 u_int16_t ieee80211_node::ni_capinfo

Definition at line 131 of file ieee80211_node.h.

Referenced by get_scan_result(), get_sta_info(), ieee80211_add_scan(), ieee80211_create_ibss(), ieee80211_dump_node(), ieee80211_getrssi(), ieee80211_init_neighbor(), ieee80211_match_bss(), ieee80211_node_compare(), ieee80211_node_join_11g(), ieee80211_node_leave_11g(), ieee80211_recv_mgmt(), wi_read_ap_result(), and wi_read_prism2_result().

#### 6.29.3.6 u_int32_t* ieee80211_node::ni_challenge

Definition at line 107 of file ieee80211_node.h.

Referenced by alloc_challenge(), ieee80211_auth_open(), ieee80211_auth_shared(), ieee80211_mgmt_output(), ieee80211_recv_mgmt(), and ieee80211_send_mgmt().

#### 6.29.3.7 struct ieee80211_channel* ieee80211_node::ni_chan

Definition at line 135 of file ieee80211_node.h.

Referenced by get_scan_result(), get_sta_info(), ieee80211_add_scan(), ieee80211_beacon_alloc(), ieee80211_beacon_update(), ieee80211_dump_node(), ieee80211_dup_bss(), ieee80211_end_scan(), ieee80211_find_node_with_channel(), ieee80211_fix_rate(), ieee80211_init_neighbor(), ieee80211_ioctl_set80211(), ieee80211_match_bss(), ieee80211_node_compare(), ieee80211_node_join(), ieee80211_node_leave(), ieee80211_node_leave_11g(), ieee80211_recv_mgmt(), ieee80211_set_chan(), ieee80211_setup_node(), ieee80211_sta_join(), ieee80211_tmp_node(), wi_read_ap_result(), and wi_read_prism2_result().

#### 6.29.3.8 u_int8_t ieee80211_node::ni_dtim_count

Definition at line 141 of file ieee80211_node.h.

Referenced by ieee80211_add_scan(), and ieee80211_recv_mgmt().

#### 6.29.3.9 u_int8_t ieee80211_node::ni_dtim_period

Definition at line 140 of file ieee80211_node.h.

Referenced by ieee80211_add_scan(), and ieee80211_recv_mgmt().

#### 6.29.3.10 u_int8_t ieee80211_node::ni_erp

Definition at line 138 of file ieee80211_node.h.

Referenced by get_scan_result(), get_sta_info(), ieee80211_add_scan(), ieee80211_init_neighbor(), and ieee80211_recv_mgmt().

#### 6.29.3.11 u_int8_t ieee80211_node::ni_essid[IEEE80211_NWID_LEN]

Definition at line 133 of file ieee80211_node.h.

Referenced by get_scan_result(), ieee80211_add_scan(), ieee80211_beacon_alloc(), ieee80211_beacon_miss(), ieee80211_cfgget(), ieee80211_create_ibss(), ieee80211_dump_node(), ieee80211_init_neighbor(), ieee80211_ioctl_get80211(), ieee80211_match_bss(), ieee80211_send_mgmt(), wi_read_ap_result(), and wi_read_prism2_result().

#### 6.29.3.12 u_int8_t ieee80211_node::ni_esslen

Definition at line 132 of file ieee80211_node.h.

Referenced by get_scan_result(), ieee80211_add_scan(), ieee80211_beacon_alloc(), ieee80211_beacon_miss(), ieee80211_cfgget(), ieee80211_create_ibss(), ieee80211_dump_node(), ieee80211_init_neighbor(), ieee80211_ioctl_get80211(), ieee80211_match_bss(), ieee80211_newstate(), ieee80211_send_mgmt(), wi_read_ap_result(), and wi_read_prism2_result().

#### 6.29.3.13 int ieee80211_node::ni_fails

Definition at line 144 of file ieee80211_node.h.

Referenced by ieee80211_auth_shared(), ieee80211_dump_node(), ieee80211_match_bss(), ieee80211_newstate(), ieee80211_node_compare(), and ieee80211_recv_mgmt().

#### 6.29.3.14 u_int16_t ieee80211_node::ni_fhdwell

Definition at line 136 of file ieee80211_node.h.

Referenced by ieee80211_add_scan(), ieee80211_create_ibss(), ieee80211_init_neighbor(), ieee80211_recv_mgmt(), and ieee80211_send_mgmt().

#### 6.29.3.15 u_int8_t ieee80211_node::ni_fhindex

Definition at line 137 of file ieee80211_node.h.

Referenced by ieee80211_add_scan(), ieee80211_create_ibss(), ieee80211_init_neighbor(), ieee80211_recv_mgmt(), and ieee80211_send_mgmt().

#### 6.29.3.16 u_int16_t ieee80211_node::ni_flags

Definition at line 97 of file ieee80211_node.h.

Referenced by get_sta_info(), ieee80211_auth_open(), ieee80211_auth_shared(), ieee80211_-classify(), ieee80211_dump_node(), ieee80211_encap(), ieee80211_input(), ieee80211_node_-authorize(), ieee80211_node_is_authorized(), ieee80211_node_join_11g(), ieee80211_node_leave_11g(), ieee80211_node_pwrsave(), ieee80211_node_unauthorize(), ieee80211_output(), ieee80211_recv_-mgmt(), ieee80211_send_nulldata(), ieee80211_timeout_stations(), ieee80211_wme_updateparams_-locked(), and node_cleanup().

#### 6.29.3.17 struct ieee80211com* ieee80211_node::ni_ic

Definition at line 90 of file ieee80211_node.h.

Referenced by _ieee80211_free_node(), domlme(), get_scan_result(), get_sta_info(), get_sta_space(), ieee80211_deliver_l2uf(), ieee80211_find_rxnode_withkey(), ieee80211_fix_rate(), ieee80211_free_-node(), ieee80211_ibss_merge(), ieee80211_init_neighbor(), ieee80211_node_authorize(), ieee80211_-node_delucastkey(), ieee80211_node_pwrsave(), ieee80211_raw_xmit(), ieee80211_send_nulldata(), ieee80211_send_probereq(), ieee80211_set_tim(), ieee80211_setup_node(), ieee80211_setup_rates(), ieee80211_tmp_node(), node_cleanup(), node_free(), node_reclaim(), wi_read_ap_result(), wi_read_-prism2_result(), and wi_read_sigcache().

#### 6.29.3.18 short ieee80211_node::ni_inact

Definition at line 145 of file ieee80211_node.h.

Referenced by get_sta_info(), ieee80211_dump_node(), ieee80211_input(), ieee80211_setup_node(), ieee80211_timeout_scan_candidates(), and ieee80211_timeout_stations().

#### 6.29.3.19 short ieee80211_node::ni_inact_reload

Definition at line 146 of file ieee80211_node.h.

Referenced by ieee80211_input(), ieee80211_node_authorize(), and ieee80211_setup_node().

#### 6.29.3.20 u_int16_t ieee80211_node::ni_intval

Definition at line 130 of file ieee80211_node.h.

Referenced by get_scan_result(), ieee80211_add_scan(), ieee80211_beacon_alloc(), ieee80211_-cfgget(), ieee80211_create_ibss(), ieee80211_dump_node(), ieee80211_init_neighbor(), ieee80211_-ioctl_get80211(), ieee80211_newstate(), ieee80211_pwrsave(), ieee80211_recv_mgmt(), ieee80211_-send_mgmt(), wi_read_ap_result(), and wi_read_prism2_result().

#### 6.29.3.21 u_int8_t ieee80211_node::ni_macaddr[IEEE80211_ADDR_LEN]

Definition at line 122 of file ieee80211_node.h.

Referenced by _ieee80211_find_node(), _ieee80211_free_node(), alloc_challenge(), get_sta_info(), ieee80211_auth_open(), ieee80211_auth_shared(), ieee80211_deliver_l2uf(), ieee80211_dump_node(), ieee80211_find_node_with_channel(), ieee80211_find_node_with_ssid(), ieee80211_find_rxnode_-withkey(), ieee80211_free_node(), ieee80211_init_neighbor(), ieee80211_input(), ieee80211_ioctl_-

getkey(), ieee80211_ioctl_setkey(), ieee80211_match_bss(), ieee80211_mgmt_output(), ieee80211_-node_delucastkey(), ieee80211_node_join_11g(), ieee80211_node_leave(), ieee80211_node_leave_-11g(), ieee80211_node_pwrsave(), ieee80211_notify_node_join(), ieee80211_notify_node_leave(), ieee80211_pwrsave(), ieee80211_recv_mgmt(), ieee80211_recv_pspoll(), ieee80211_send_mgmt(), ieee80211_send_nulldata(), ieee80211_send_probereq(), ieee80211_setup_node(), ieee80211_setup_-rates(), ieee80211_timeout_scan_candidates(), ieee80211_tmp_node(), node_cleanup(), node_reclaim(), wi_read_ap_result(), and wi_read_sigcache().

#### 6.29.3.22 struct ieee80211_rateset ieee80211_node::ni_rates

Definition at line 134 of file ieee80211_node.h.

Referenced by get_scan_result(), get_sta_info(), ieee80211_amrr_choose(), ieee80211_beacon_alloc(), ieee80211_cfgget(), ieee80211_create_ibss(), ieee80211_fakeup_adhoc_node(), ieee80211_fix_rate(), ieee80211_media_status(), ieee80211_newstate(), ieee80211_next_scan(), ieee80211_node_join_11g(), ieee80211_send_mgmt(), ieee80211_set_chan(), ieee80211_setup_rates(), maxrate(), wi_read_ap_-result(), and wi_read_prism2_result().

#### 6.29.3.23 u_int ieee80211_node::ni_refcnt

Definition at line 94 of file ieee80211_node.h.

Referenced by ieee80211_node_dectestref().

#### 6.29.3.24 struct ieee80211_rsnparms ieee80211_node::ni_rsn

Definition at line 114 of file ieee80211_node.h.

Referenced by copy_bss(), ieee80211_add_scan(), ieee80211_dup_bss(), ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), ieee80211_node_lateattach(), ieee80211_recv_mgmt(), ieee80211_setup_-rsn_ie(), and ieee80211_setup_wpa_ie().

#### 6.29.3.25 u_int8_t ieee80211_node::ni_rssi

Definition at line 119 of file ieee80211_node.h.

Referenced by ieee80211_add_scan(), ieee80211_auth_shared(), ieee80211_dump_node(), ieee80211_-input(), ieee80211_match_bss(), ieee80211_recv_mgmt(), and node_getrssi().

#### 6.29.3.26 u_int32_t ieee80211_node::ni_rstamp

Definition at line 118 of file ieee80211_node.h.

Referenced by ieee80211_add_scan(), ieee80211_auth_shared(), ieee80211_dump_node(), ieee80211_-input(), and ieee80211_recv_mgmt().

#### 6.29.3.27 struct mbuf* ieee80211_node::ni_rxfrag[3]

Definition at line 113 of file ieee80211_node.h.

Referenced by ieee80211_defrag(), ieee80211_timeout_scan_candidates(), and ieee80211_timeout_-stations().

#### 6.29.3.28 u_int32_t ieee80211_node::ni_rxfragstamp

Definition at line 112 of file ieee80211_node.h.

Referenced by ieee80211_defrag(), ieee80211_dump_node(), ieee80211_timeout_scan_candidates(), and ieee80211_timeout_stations().

#### 6.29.3.29 u_int16_t ieee80211_node::ni_rxseqs[17]

Definition at line 111 of file ieee80211_node.h.

Referenced by get_sta_info(), ieee80211_dump_node(), and ieee80211_input().

#### 6.29.3.30 struct ifqueue ieee80211_node::ni_savedq

Definition at line 148 of file ieee80211_node.h.

Referenced by ieee80211_pwrsave().

#### 6.29.3.31 u_int ieee80211_node::ni_scangen

Definition at line 95 of file ieee80211_node.h.

Referenced by ieee80211_add_scan(), ieee80211_dump_node(), ieee80211_iterate_nodes(), and ieee80211_timeout_stations().

#### 6.29.3.32 struct ieee80211_nodestats ieee80211_node::ni_stats

Definition at line 149 of file ieee80211_node.h.

Referenced by ieee80211_ioctl_getstastats(), and ieee80211_ioctl_setstastats().

#### 6.29.3.33 struct ieee80211_node_table* ieee80211_node::ni_table

Definition at line 91 of file ieee80211_node.h.

Referenced by _ieee80211_free_node(), ieee80211_defrag(), ieee80211_free_node(), ieee80211_node_-leave(), ieee80211_setup_node(), ieee80211_tmp_node(), and node_reclaim().

#### 6.29.3.34 u_int16_t ieee80211_node::ni_timoff

Definition at line 139 of file ieee80211_node.h.

Referenced by ieee80211_add_scan(), and ieee80211_init_neighbor().

#### 6.29.3.35 union { ... } ieee80211_node::ni_tstamp

Referenced by ieee80211_add_scan(), ieee80211_init_neighbor(), and ieee80211_recv_mgmt().

#### 6.29.3.36 u_int16_t ieee80211_node::ni_txpower

Definition at line 105 of file ieee80211_node.h.

Referenced by copy_bss(), get_sta_info(), ieee80211_add_scan(), ieee80211_dump_node(), ieee80211_dup_bss(), ieee80211_ioctl_get80211(), ieee80211_ioctl_getstatxpow(), ieee80211_ioctl_setstatxpow(), ieee80211_setup_node(), and ieee80211_tmp_node().

#### 6.29.3.37 int ieee80211_node::ni_txrate

Definition at line 147 of file ieee80211_node.h.

Referenced by get_sta_info(), ieee80211_amrr_choose(), ieee80211_cfgget(), ieee80211_dump_node(), ieee80211_media_status(), ieee80211_newstate(), and wi_read_prism2_result().

#### 6.29.3.38 u_int16_t ieee80211_node::ni_txseqs[17]

Definition at line 110 of file ieee80211_node.h.

Referenced by get_sta_info(), ieee80211_dump_node(), ieee80211_encap(), and ieee80211_send_setup().

#### 6.29.3.39 struct ieee80211_key ieee80211_node::ni_ucastkey

Definition at line 115 of file ieee80211_node.h.

Referenced by ieee80211_crypto_decap(), ieee80211_crypto_encap(), ieee80211_crypto_getucastkey(), ieee80211_encap(), ieee80211_find_rxnode_withkey(), ieee80211_free_node(), ieee80211_ioctl_getkey(), ieee80211_ioctl_setkey(), ieee80211_node_delucastkey(), ieee80211_setup_node(), ieee80211_tmp_node(), and node_reclaim().

#### 6.29.3.40 u_int16_t ieee80211_node::ni_vlan

Definition at line 106 of file ieee80211_node.h.

Referenced by copy_bss(), get_sta_info(), ieee80211_add_scan(), ieee80211_classify(), ieee80211_deliver_data(), ieee80211_dump_node(), and ieee80211_dup_bss().

#### 6.29.3.41 u_int8_t* ieee80211_node::ni_wme_ie

Definition at line 109 of file ieee80211_node.h.

Referenced by get_scan_result(), get_sta_info(), ieee80211_add_scan(), ieee80211_init_neighbor(), ieee80211_recv_mgmt(), node_free(), scan_space(), and sta_space().

#### 6.29.3.42 u_int8_t* ieee80211_node::ni_wpa_ie

Definition at line 108 of file ieee80211_node.h.

Referenced by get_scan_result(), get_sta_info(), ieee80211_add_scan(), ieee80211_init_neighbor(), ieee80211_ioctl_getwpaie(), ieee80211_recv_mgmt(), node_free(), scan_space(), and sta_space().

#### 6.29.3.43 u_int64_t ieee80211_node::tsf

Definition at line 128 of file ieee80211_node.h.

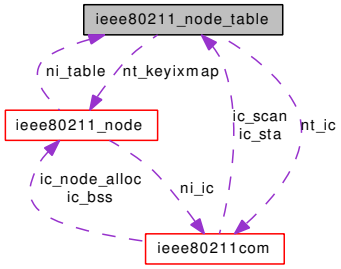
The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_node.h

# 6.30 ieee80211_node_table Struct Reference

`#include <ieee80211_node.h>`

Collaboration diagram for ieee80211_node_table:




## Public Member Functions

- TAILQ_HEAD (, ieee80211_node) nt_node
- LIST_HEAD (, ieee80211_node) nt_hash[IEEE80211_NODE_HASHSIZE]

## Data Fields

- ieee80211com * nt_ic
- ieee80211_node_lock_t nt_nodelock
- const char * nt_name
- ieee80211_scan_lock_t nt_scanlock
- u_int nt_scangen
- int nt_inact_timer
- int nt_inact_init
- ieee80211_node ** nt_keyixmap
- int nt_keyixmax
- void(* nt_timeout )(struct ieee80211_node_table *)

### 6.30.1 Detailed Description

Definition at line 205 of file ieee80211_node.h.

### 6.30.2 Member Function Documentation

#### 6.30.2.1 ieee80211_node_table::LIST_HEAD (ieee80211_node)

#### 6.30.2.2 ieee80211_node_table::TAILQ_HEAD (ieee80211_node)

### 6.30.3 Field Documentation

#### 6.30.3.1 struct ieee80211com* ieee80211_node_table::nt_ic

Definition at line 206 of file ieee80211_node.h.

Referenced by _ieee80211_find_node(), ieee80211_alloc_node(), ieee80211_dup_bss(), ieee80211_-fakeup_adhoc_node(), ieee80211_find_node_with_channel(), ieee80211_find_node_with_ssid(), ieee80211_free_allnodes_locked(), ieee80211_node_table_cleanup(), ieee80211_node_table_init(), ieee80211_node_table_reset(), ieee80211_setup_node(), ieee80211_timeout_scan_candidates(), and ieee80211_timeout_stations().

#### 6.30.3.2 int ieee80211_node_table::nt_inact_init

Definition at line 214 of file ieee80211_node.h.

Referenced by ieee80211_create_ibss(), ieee80211_node_table_init(), ieee80211_setup_node(), and ieee80211_sta_join().

#### 6.30.3.3 int ieee80211_node_table::nt_inact_timer

Definition at line 213 of file ieee80211_node.h.

Referenced by ieee80211_node_table_reset(), ieee80211_timeout_scan_candidates(), ieee80211_-timeout_stations(), and ieee80211_watchdog().

#### 6.30.3.4 struct ieee80211_node** ieee80211_node_table::nt_keyixmap

Definition at line 215 of file ieee80211_node.h.

Referenced by ieee80211_find_rxnode_withkey(), ieee80211_node_table_cleanup(), ieee80211_node_-table_init(), and node_reclaim().

#### 6.30.3.5 int ieee80211_node_table::nt_keyixmax

Definition at line 216 of file ieee80211_node.h.

Referenced by ieee80211_free_node(), ieee80211_node_table_cleanup(), and ieee80211_node_table_-init().

#### 6.30.3.6 const char* ieee80211_node_table::nt_name

Definition at line 210 of file ieee80211_node.h.

Referenced by _ieee80211_free_node(), ieee80211_create_ibss(), ieee80211_free_allnodes_locked(), ieee80211_node_table_cleanup(), ieee80211_node_table_init(), ieee80211_node_table_reset(), ieee80211_setup_node(), ieee80211_sta_join(), ieee80211_timeout_stations(), and node_reclaim().

#### 6.30.3.7 ieee80211_node_lock_t ieee80211_node_table::nt_nodelock

Definition at line 207 of file ieee80211_node.h.

#### 6.30.3.8 u_int ieee80211_node_table::nt_scangen

Definition at line 212 of file ieee80211_node.h.

Referenced by ieee80211_add_scan(), ieee80211_begin_scan(), ieee80211_iterate_nodes(), ieee80211_-node_table_init(), and ieee80211_timeout_stations().

#### 6.30.3.9 ieee80211_scan_lock_t ieee80211_node_table::nt_scanlock

Definition at line 211 of file ieee80211_node.h.

#### 6.30.3.10 void(∗ ieee80211_node_table::nt_timeout)(struct ieee80211_node_table ∗)

Referenced by ieee80211_node_table_init(), and ieee80211_watchdog().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_node.h

## 6.31 ieee80211_nodestats Struct Reference

`#include <ieee80211_ioctl.h>`

### Data Fields

- u_int32_t ns_rx_data
- u_int32_t ns_rx_mgmt
- u_int32_t ns_rx_ctrl
- u_int32_t ns_rx_ucast
- u_int32_t ns_rx_mcast
- u_int64_t ns_rx_bytes
- u_int64_t ns_rx_beacons
- u_int32_t ns_rx_proberesp
- u_int32_t ns_rx_dup
- u_int32_t ns_rx_noprivacy
- u_int32_t ns_rx_wepfail
- u_int32_t ns_rx_demicfail
- u_int32_t ns_rx_decap
- u_int32_t ns_rx_defrag
- u_int32_t ns_rx_disassoc
- u_int32_t ns_rx_deauth
- u_int32_t ns_rx_decryptcrc
- u_int32_t ns_rx_unauth
- u_int32_t ns_rx_unencrypted
- u_int32_t ns_tx_data
- u_int32_t ns_tx_mgmt
- u_int32_t ns_tx_ucast
- u_int32_t ns_tx_mcast
- u_int64_t ns_tx_bytes
- u_int32_t ns_tx_probereq
- u_int32_t ns_tx_novlantag
- u_int32_t ns_tx_vlanmismatch
- u_int32_t ns_ps_discard
- u_int32_t ns_tx_assoc
- u_int32_t ns_tx_assoc_fail
- u_int32_t ns_tx_auth
- u_int32_t ns_tx_auth_fail
- u_int32_t ns_tx_deauth
- u_int32_t ns_tx_deauth_code
- u_int32_t ns_tx_disassoc
- u_int32_t ns_tx_disassoc_code

### 6.31.1 Detailed Description

Definition at line 47 of file ieee80211_ioctl.h.

## 6.31.2 Field Documentation

### 6.31.2.1 u_int32_t ieee80211_nodestats::ns_ps_discard

Definition at line 79 of file ieee80211_ioctl.h.

### 6.31.2.2 u_int64_t ieee80211_nodestats::ns_rx_beacons

Definition at line 54 of file ieee80211_ioctl.h.

### 6.31.2.3 u_int64_t ieee80211_nodestats::ns_rx_bytes

Definition at line 53 of file ieee80211_ioctl.h.

### 6.31.2.4 u_int32_t ieee80211_nodestats::ns_rx_ctrl

Definition at line 50 of file ieee80211_ioctl.h.

### 6.31.2.5 u_int32_t ieee80211_nodestats::ns_rx_data

Definition at line 48 of file ieee80211_ioctl.h.

### 6.31.2.6 u_int32_t ieee80211_nodestats::ns_rx_deauth

Definition at line 64 of file ieee80211_ioctl.h.

### 6.31.2.7 u_int32_t ieee80211_nodestats::ns_rx_decap

Definition at line 61 of file ieee80211_ioctl.h.

### 6.31.2.8 u_int32_t ieee80211_nodestats::ns_rx_decryptcrc

Definition at line 65 of file ieee80211_ioctl.h.

### 6.31.2.9 u_int32_t ieee80211_nodestats::ns_rx_defrag

Definition at line 62 of file ieee80211_ioctl.h.

### 6.31.2.10 u_int32_t ieee80211_nodestats::ns_rx_demicfail

Definition at line 60 of file ieee80211_ioctl.h.

### 6.31.2.11 u_int32_t ieee80211_nodestats::ns_rx_disassoc

Definition at line 63 of file ieee80211_ioctl.h.

#### 6.31.2.12 u_int32_t ieee80211_nodestats::ns_rx_dup

Definition at line 57 of file ieee80211_ioctl.h.

#### 6.31.2.13 u_int32_t ieee80211_nodestats::ns_rx_mcast

Definition at line 52 of file ieee80211_ioctl.h.

#### 6.31.2.14 u_int32_t ieee80211_nodestats::ns_rx_mgmt

Definition at line 49 of file ieee80211_ioctl.h.

#### 6.31.2.15 u_int32_t ieee80211_nodestats::ns_rx_noprivacy

Definition at line 58 of file ieee80211_ioctl.h.

#### 6.31.2.16 u_int32_t ieee80211_nodestats::ns_rx_proberesp

Definition at line 55 of file ieee80211_ioctl.h.

#### 6.31.2.17 u_int32_t ieee80211_nodestats::ns_rx_ucast

Definition at line 51 of file ieee80211_ioctl.h.

#### 6.31.2.18 u_int32_t ieee80211_nodestats::ns_rx_unauth

Definition at line 66 of file ieee80211_ioctl.h.

#### 6.31.2.19 u_int32_t ieee80211_nodestats::ns_rx_unencrypted

Definition at line 67 of file ieee80211_ioctl.h.

#### 6.31.2.20 u_int32_t ieee80211_nodestats::ns_rx_wepfail

Definition at line 59 of file ieee80211_ioctl.h.

#### 6.31.2.21 u_int32_t ieee80211_nodestats::ns_tx_assoc

Definition at line 82 of file ieee80211_ioctl.h.

#### 6.31.2.22 u_int32_t ieee80211_nodestats::ns_tx_assoc_fail

Definition at line 83 of file ieee80211_ioctl.h.

#### 6.31.2.23 u_int32_t ieee80211_nodestats::ns_tx_auth

Definition at line 84 of file ieee80211_ioctl.h.

#### 6.31.2.24 u_int32_t ieee80211_nodestats::ns_tx_auth_fail

Definition at line 85 of file ieee80211_ioctl.h.

#### 6.31.2.25 u_int64_t ieee80211_nodestats::ns_tx_bytes

Definition at line 73 of file ieee80211_ioctl.h.

#### 6.31.2.26 u_int32_t ieee80211_nodestats::ns_tx_data

Definition at line 69 of file ieee80211_ioctl.h.

#### 6.31.2.27 u_int32_t ieee80211_nodestats::ns_tx_deauth

Definition at line 86 of file ieee80211_ioctl.h.

#### 6.31.2.28 u_int32_t ieee80211_nodestats::ns_tx_deauth_code

Definition at line 87 of file ieee80211_ioctl.h.

#### 6.31.2.29 u_int32_t ieee80211_nodestats::ns_tx_disassoc

Definition at line 88 of file ieee80211_ioctl.h.

#### 6.31.2.30 u_int32_t ieee80211_nodestats::ns_tx_disassoc_code

Definition at line 89 of file ieee80211_ioctl.h.

#### 6.31.2.31 u_int32_t ieee80211_nodestats::ns_tx_mcast

Definition at line 72 of file ieee80211_ioctl.h.

#### 6.31.2.32 u_int32_t ieee80211_nodestats::ns_tx_mgmt

Definition at line 70 of file ieee80211_ioctl.h.

#### 6.31.2.33 u_int32_t ieee80211_nodestats::ns_tx_novlantag

Definition at line 76 of file ieee80211_ioctl.h.

#### 6.31.2.34 u_int32_t ieee80211_nodestats::ns_tx_probereq

Definition at line 74 of file ieee80211_ioctl.h.

#### 6.31.2.35 u_int32_t ieee80211_nodestats::ns_tx_ucast

Definition at line 71 of file ieee80211_ioctl.h.

#### 6.31.2.36 u_int32_t ieee80211_nodestats::ns_tx_vlanmismatch

Definition at line 77 of file ieee80211_ioctl.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_ioctl.h

# 6.32 ieee80211_plcp_hdr Struct Reference

`#include <ieee80211.h>`

## Data Fields

- u_int16_t i_sfd
- u_int8_t i_signal
- u_int8_t i_service
- u_int16_t i_length
- u_int16_t i_crc

## 6.32.1 Detailed Description

Definition at line 46 of file ieee80211.h.

## 6.32.2 Field Documentation

### 6.32.2.1 u_int16_t ieee80211_plcp_hdr::i_crc

Definition at line 51 of file ieee80211.h.

### 6.32.2.2 u_int16_t ieee80211_plcp_hdr::i_length

Definition at line 50 of file ieee80211.h.

### 6.32.2.3 u_int8_t ieee80211_plcp_hdr::i_service

Definition at line 49 of file ieee80211.h.

### 6.32.2.4 u_int16_t ieee80211_plcp_hdr::i_sfd

Definition at line 47 of file ieee80211.h.

### 6.32.2.5 u_int8_t ieee80211_plcp_hdr::i_signal

Definition at line 48 of file ieee80211.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211.h

## 6.33 ieee80211_qoscntl Struct Reference

`#include <ieee80211.h>`

### Data Fields

- u_int8_t i_qos [2]

### 6.33.1 Detailed Description

Definition at line 83 of file ieee80211.h.

### 6.33.2 Field Documentation

#### 6.33.2.1 u_int8_t ieee80211_qoscntl::i_qos[2]

Definition at line 84 of file ieee80211.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211.h

# 6.34 ieee80211_qosframe Struct Reference

`#include <ieee80211.h>`

## Data Fields

- u_int8_t i_fc [2]
- u_int8_t i_dur [2]
- u_int8_t i_addr1 [IEEE80211_ADDR_LEN]
- u_int8_t i_addr2 [IEEE80211_ADDR_LEN]
- u_int8_t i_addr3 [IEEE80211_ADDR_LEN]
- u_int8_t i_seq [2]
- u_int8_t i_qos [2]

### 6.34.1 Detailed Description

Definition at line 71 of file ieee80211.h.

### 6.34.2 Field Documentation

#### 6.34.2.1 u_int8_t ieee80211_qosframe::i_addr1[IEEE80211_ADDR_LEN]

Definition at line 74 of file ieee80211.h.

#### 6.34.2.2 u_int8_t ieee80211_qosframe::i_addr2[IEEE80211_ADDR_LEN]

Definition at line 75 of file ieee80211.h.

#### 6.34.2.3 u_int8_t ieee80211_qosframe::i_addr3[IEEE80211_ADDR_LEN]

Definition at line 76 of file ieee80211.h.

#### 6.34.2.4 u_int8_t ieee80211_qosframe::i_dur[2]

Definition at line 73 of file ieee80211.h.

#### 6.34.2.5 u_int8_t ieee80211_qosframe::i_fc[2]

Definition at line 72 of file ieee80211.h.

Referenced by ieee80211_encap().

#### 6.34.2.6 u_int8_t ieee80211_qosframe::i_qos[2]

Definition at line 78 of file ieee80211.h.

Referenced by ccmp_init_blocks(), ieee80211_encap(), ieee80211_input(), and michael_mic_hdr().

#### 6.34.2.7 u_int8_t ieee80211_qosframe::i_seq[2]

Definition at line 77 of file ieee80211.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211.h

# 6.35 ieee80211_qosframe_addr4 Struct Reference

`#include <ieee80211.h>`

## Data Fields

- u_int8_t i_fc [2]
- u_int8_t i_dur [2]
- u_int8_t i_addr1 [IEEE80211_ADDR_LEN]
- u_int8_t i_addr2 [IEEE80211_ADDR_LEN]
- u_int8_t i_addr3 [IEEE80211_ADDR_LEN]
- u_int8_t i_seq [2]
- u_int8_t i_addr4 [IEEE80211_ADDR_LEN]
- u_int8_t i_qos [2]

### 6.35.1 Detailed Description

Definition at line 98 of file ieee80211.h.

### 6.35.2 Field Documentation

#### 6.35.2.1 u_int8_t ieee80211_qosframe_addr4::i_addr1[IEEE80211_ADDR_LEN]

Definition at line 101 of file ieee80211.h.

Referenced by ieee80211_decap().

#### 6.35.2.2 u_int8_t ieee80211_qosframe_addr4::i_addr2[IEEE80211_ADDR_LEN]

Definition at line 102 of file ieee80211.h.

Referenced by ieee80211_decap().

#### 6.35.2.3 u_int8_t ieee80211_qosframe_addr4::i_addr3[IEEE80211_ADDR_LEN]

Definition at line 103 of file ieee80211.h.

Referenced by ieee80211_decap().

#### 6.35.2.4 u_int8_t ieee80211_qosframe_addr4::i_addr4[IEEE80211_ADDR_LEN]

Definition at line 105 of file ieee80211.h.

Referenced by ieee80211_decap().

#### 6.35.2.5 u_int8_t ieee80211_qosframe_addr4::i_dur[2]

Definition at line 100 of file ieee80211.h.

#### 6.35.2.6 u_int8_t ieee80211_qosframe_addr4::i_fc[2]

Definition at line 99 of file ieee80211.h.

Referenced by ieee80211_decap().

#### 6.35.2.7 u_int8_t ieee80211_qosframe_addr4::i_qos[2]

Definition at line 106 of file ieee80211.h.

Referenced by ccmp_init_blocks().

#### 6.35.2.8 u_int8_t ieee80211_qosframe_addr4::i_seq[2]

Definition at line 104 of file ieee80211.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211.h

# 6.36 ieee80211_radiotap_header Struct Reference

`#include <ieee80211_radiotap.h>`

## Data Fields

- u_int8_t it_version
- u_int8_t it_pad
- u_int16_t it_len
- u_int32_t it_present

### 6.36.1 Detailed Description

Definition at line 61 of file ieee80211_radiotap.h.

### 6.36.2 Field Documentation

#### 6.36.2.1 u_int16_t ieee80211_radiotap_header::it_len

Definition at line 68 of file ieee80211_radiotap.h.

#### 6.36.2.2 u_int8_t ieee80211_radiotap_header::it_pad

Definition at line 67 of file ieee80211_radiotap.h.

#### 6.36.2.3 u_int32_t ieee80211_radiotap_header::it_present

Definition at line 73 of file ieee80211_radiotap.h.

#### 6.36.2.4 u_int8_t ieee80211_radiotap_header::it_version

Definition at line 62 of file ieee80211_radiotap.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_radiotap.h

## 6.37 ieee80211_rateset Struct Reference

`#include <_ieee80211.h>`

### Data Fields

- u_int8_t rs_nrates
- u_int8_t rs_rates [IEEE80211_RATE_MAXSIZE]

### 6.37.1 Detailed Description

Definition at line 204 of file _ieee80211.h.

### 6.37.2 Field Documentation

#### 6.37.2.1 u_int8_t ieee80211_rateset::rs_nrates

Definition at line 205 of file _ieee80211.h.

Referenced by findrate(), findrix(), get_scan_result(), get_sta_info(), ieee80211_add_rates(), ieee80211_add_xrates(), ieee80211_announce(), ieee80211_fix_rate(), ieee80211_iserp_rateset(), ieee80211_media_init(), ieee80211_newstate(), ieee80211_set11gbasicrates(), maxrate(), wi_read_ap_result(), and wi_read_prism2_result().

#### 6.37.2.2 u_int8_t ieee80211_rateset::rs_rates[IEEE80211_RATE_MAXSIZE]

Definition at line 206 of file _ieee80211.h.

Referenced by findrix(), get_scan_result(), get_sta_info(), ieee80211_add_rates(), ieee80211_add_xrates(), ieee80211_amrr_choose(), ieee80211_announce(), ieee80211_cfgget(), ieee80211_fix_rate(), ieee80211_iserp_rateset(), ieee80211_media_init(), ieee80211_media_status(), ieee80211_newstate(), ieee80211_set11gbasicrates(), maxrate(), wi_read_ap_result(), and wi_read_prism2_result().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/_ieee80211.h

# 6.38 ieee80211_replay_event Struct Reference

`#include <ieee80211_freebsd.h>`

## Data Fields

- uint8_t iev_src [6]
- uint8_t iev_dst [6]
- uint8_t iev_cipher
- uint8_t iev_keyix
- uint64_t iev_keyrsc
- uint64_t iev_rsc

## 6.38.1 Detailed Description

Definition at line 207 of file ieee80211_freebsd.h.

## 6.38.2 Field Documentation

### 6.38.2.1 uint8_t ieee80211_replay_event::iev_cipher

Definition at line 210 of file ieee80211_freebsd.h.

Referenced by ieee80211_notify_replay_failure().

### 6.38.2.2 uint8_t ieee80211_replay_event::iev_dst[6]

Definition at line 209 of file ieee80211_freebsd.h.

Referenced by ieee80211_notify_replay_failure().

### 6.38.2.3 uint8_t ieee80211_replay_event::iev_keyix

Definition at line 211 of file ieee80211_freebsd.h.

Referenced by ieee80211_notify_replay_failure().

### 6.38.2.4 uint64_t ieee80211_replay_event::iev_keyrsc

Definition at line 212 of file ieee80211_freebsd.h.

Referenced by ieee80211_notify_replay_failure().

### 6.38.2.5 uint64_t ieee80211_replay_event::iev_rsc

Definition at line 213 of file ieee80211_freebsd.h.

Referenced by ieee80211_notify_replay_failure().

#### 6.38.2.6 uint8_t ieee80211_replay_event::iev_src[6]

Definition at line 208 of file ieee80211_freebsd.h.

Referenced by ieee80211_notify_replay_failure().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_freebsd.h

# 6.39 ieee80211_rsnparms Struct Reference

`#include <ieee80211_node.h>`

## Data Fields

- u_int8_t rsn_mcastcipher
- u_int8_t rsn_mcastkeylen
- u_int8_t rsn_ucastcipherset
- u_int8_t rsn_ucastcipher
- u_int8_t rsn_ucastkeylen
- u_int8_t rsn_keymgmtset
- u_int8_t rsn_keymgmt
- u_int16_t rsn_caps

### 6.39.1 Detailed Description

Definition at line 69 of file ieee80211_node.h.

### 6.39.2 Field Documentation

#### 6.39.2.1 u_int16_t ieee80211_rsnparms::rsn_caps

Definition at line 77 of file ieee80211_node.h.

Referenced by ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), ieee80211_parse_rsn(), ieee80211_parse_wpa(), ieee80211_recv_mgmt(), ieee80211_setup_rsn_ie(), and ieee80211_setup_-wpa_ie().

#### 6.39.2.2 u_int8_t ieee80211_rsnparms::rsn_keymgmt

Definition at line 76 of file ieee80211_node.h.

Referenced by ieee80211_node_lateattach(), ieee80211_parse_rsn(), ieee80211_parse_wpa(), and ieee80211_recv_mgmt().

#### 6.39.2.3 u_int8_t ieee80211_rsnparms::rsn_keymgmtset

Definition at line 75 of file ieee80211_node.h.

Referenced by ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), ieee80211_node_lateattach(), ieee80211_parse_rsn(), ieee80211_parse_wpa(), ieee80211_setup_rsn_ie(), and ieee80211_setup_wpa_-ie().

#### 6.39.2.4 u_int8_t ieee80211_rsnparms::rsn_mcastcipher

Definition at line 70 of file ieee80211_node.h.

Referenced by ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), ieee80211_node_lateattach(), ieee80211_parse_rsn(), ieee80211_parse_wpa(), ieee80211_recv_mgmt(), ieee80211_setup_rsn_ie(), and ieee80211_setup_wpa_ie().

#### 6.39.2.5 u_int8_t ieee80211_rsnparms::rsn_mcastkeylen

Definition at line 71 of file ieee80211_node.h.

Referenced by ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), ieee80211_node_lateattach(), ieee80211_parse_rsn(), ieee80211_parse_wpa(), ieee80211_recv_mgmt(), ieee80211_setup_rsn_ie(), and ieee80211_setup_wpa_ie().

#### 6.39.2.6 u_int8_t ieee80211_rsnparms::rsn_ucastcipher

Definition at line 73 of file ieee80211_node.h.

Referenced by ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), ieee80211_node_lateattach(), ieee80211_parse_rsn(), ieee80211_parse_wpa(), and ieee80211_recv_mgmt().

#### 6.39.2.7 u_int8_t ieee80211_rsnparms::rsn_ucastcipherset

Definition at line 72 of file ieee80211_node.h.

Referenced by ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), ieee80211_node_lateattach(), ieee80211_parse_rsn(), ieee80211_parse_wpa(), ieee80211_setup_rsn_ie(), and ieee80211_setup_wpa_-ie().

#### 6.39.2.8 u_int8_t ieee80211_rsnparms::rsn_ucastkeylen

Definition at line 74 of file ieee80211_node.h.

Referenced by ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), ieee80211_node_lateattach(), ieee80211_parse_rsn(), ieee80211_parse_wpa(), and ieee80211_recv_mgmt().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_node.h

# 6.40 ieee80211_scanparams Struct Reference

`#include <ieee80211_node.h>`

## Data Fields

- u_int16_t capinfo
- u_int16_t fhdwell
- u_int8_t chan
- u_int8_t bchan
- u_int8_t fhindex
- u_int8_t erp
- u_int16_t bintval
- u_int8_t timoff
- u_int8_t * tim
- u_int8_t * tstamp
- u_int8_t * country
- u_int8_t * ssid
- u_int8_t * rates
- u_int8_t * xrates
- u_int8_t * wpa
- u_int8_t * wme

### 6.40.1 Detailed Description

Definition at line 305 of file ieee80211_node.h.

### 6.40.2 Field Documentation

#### 6.40.2.1 u_int8_t ieee80211_scanparams::bchan

Definition at line 309 of file ieee80211_node.h.

#### 6.40.2.2 u_int16_t ieee80211_scanparams::bintval

Definition at line 312 of file ieee80211_node.h.

Referenced by ieee80211_add_scan(), and ieee80211_init_neighbor().

#### 6.40.2.3 u_int16_t ieee80211_scanparams::capinfo

Definition at line 306 of file ieee80211_node.h.

Referenced by ieee80211_add_scan(), and ieee80211_init_neighbor().

#### 6.40.2.4 u_int8_t ieee80211_scanparams::chan

Definition at line 308 of file ieee80211_node.h.

Referenced by ieee80211_add_scan().

#### 6.40.2.5 u_int8_t* ieee80211_scanparams::country

Definition at line 316 of file ieee80211_node.h.

#### 6.40.2.6 u_int8_t ieee80211_scanparams::erp

Definition at line 311 of file ieee80211_node.h.

Referenced by ieee80211_add_scan(), and ieee80211_init_neighbor().

#### 6.40.2.7 u_int16_t ieee80211_scanparams::fhdwell

Definition at line 307 of file ieee80211_node.h.

Referenced by ieee80211_add_scan(), and ieee80211_init_neighbor().

#### 6.40.2.8 u_int8_t ieee80211_scanparams::fhindex

Definition at line 310 of file ieee80211_node.h.

Referenced by ieee80211_add_scan(), and ieee80211_init_neighbor().

#### 6.40.2.9 u_int8_t* ieee80211_scanparams::rates

Definition at line 318 of file ieee80211_node.h.

Referenced by ieee80211_add_scan(), and ieee80211_init_neighbor().

#### 6.40.2.10 u_int8_t* ieee80211_scanparams::ssid

Definition at line 317 of file ieee80211_node.h.

Referenced by ieee80211_add_scan(), and ieee80211_init_neighbor().

#### 6.40.2.11 u_int8_t* ieee80211_scanparams::tim

Definition at line 314 of file ieee80211_node.h.

Referenced by ieee80211_add_scan().

#### 6.40.2.12 u_int8_t ieee80211_scanparams::timoff

Definition at line 313 of file ieee80211_node.h.

Referenced by ieee80211_add_scan(), and ieee80211_init_neighbor().

#### 6.40.2.13 u_int8_t* ieee80211_scanparams::tstamp

Definition at line 315 of file ieee80211_node.h.

Referenced by ieee80211_add_scan(), and ieee80211_init_neighbor().

#### 6.40.2.14 u_int8_t* ieee80211_scanparams::wme

Definition at line 321 of file ieee80211_node.h.

Referenced by ieee80211_add_scan(), and ieee80211_init_neighbor().

#### 6.40.2.15 u_int8_t* ieee80211_scanparams::wpa

Definition at line 320 of file ieee80211_node.h.

Referenced by ieee80211_add_scan(), and ieee80211_init_neighbor().

#### 6.40.2.16 u_int8_t* ieee80211_scanparams::xrates

Definition at line 319 of file ieee80211_node.h.

Referenced by ieee80211_add_scan(), and ieee80211_init_neighbor().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_node.h

## 6.41 ieee80211_stats Struct Reference

`#include <ieee80211_ioctl.h>`

### Data Fields

- u_int32_t is_rx_badversion
- u_int32_t is_rx_tooshort
- u_int32_t is_rx_wrongbss
- u_int32_t is_rx_dup
- u_int32_t is_rx_wrongdir
- u_int32_t is_rx_mcastecho
- u_int32_t is_rx_notassoc
- u_int32_t is_rx_noprivacy
- u_int32_t is_rx_unencrypted
- u_int32_t is_rx_wepfail
- u_int32_t is_rx_decap
- u_int32_t is_rx_mgtdiscard
- u_int32_t is_rx_ctl
- u_int32_t is_rx_beacon
- u_int32_t is_rx_rstoobig
- u_int32_t is_rx_elem_missing
- u_int32_t is_rx_elem_toobig
- u_int32_t is_rx_elem_toosmall
- u_int32_t is_rx_elem_unknown
- u_int32_t is_rx_badchan
- u_int32_t is_rx_chanmismatch
- u_int32_t is_rx_nodealloc
- u_int32_t is_rx_ssidmismatch
- u_int32_t is_rx_auth_unsupported
- u_int32_t is_rx_auth_fail
- u_int32_t is_rx_auth_countermeasures
- u_int32_t is_rx_assoc_bss
- u_int32_t is_rx_assoc_notauth
- u_int32_t is_rx_assoc_capmismatch
- u_int32_t is_rx_assoc_norate
- u_int32_t is_rx_assoc_badwpaie
- u_int32_t is_rx_deauth
- u_int32_t is_rx_disassoc
- u_int32_t is_rx_badsubtype
- u_int32_t is_rx_nobuf
- u_int32_t is_rx_decryptcrc
- u_int32_t is_rx_ahdemo_mgt
- u_int32_t is_rx_bad_auth
- u_int32_t is_rx_unauth
- u_int32_t is_rx_badkeyid
- u_int32_t is_rx_ccmpreplay
- u_int32_t is_rx_ccmpformat
- u_int32_t is_rx_ccmpmic

- u_int32_t is_rx_tkipreplay
- u_int32_t is_rx_tkipformat
- u_int32_t is_rx_tkipmic
- u_int32_t is_rx_tkipicv
- u_int32_t is_rx_badcipher
- u_int32_t is_rx_nocipherctx
- u_int32_t is_rx_acl
- u_int32_t is_tx_nobuf
- u_int32_t is_tx_nonode
- u_int32_t is_tx_unknownmgt
- u_int32_t is_tx_badcipher
- u_int32_t is_tx_nodefkey
- u_int32_t is_tx_noheadroom
- u_int32_t is_tx_fragframes
- u_int32_t is_tx_frags
- u_int32_t is_scan_active
- u_int32_t is_scan_passive
- u_int32_t is_node_timeout
- u_int32_t is_crypto_nomem
- u_int32_t is_crypto_tkip
- u_int32_t is_crypto_tkipenmic
- u_int32_t is_crypto_tkipdemic
- u_int32_t is_crypto_tkipcm
- u_int32_t is_crypto_ccmp
- u_int32_t is_crypto_wep
- u_int32_t is_crypto_setkey_cipher
- u_int32_t is_crypto_setkey_nokey
- u_int32_t is_crypto_delkey
- u_int32_t is_crypto_badcipher
- u_int32_t is_crypto_nocipher
- u_int32_t is_crypto_attachfail
- u_int32_t is_crypto_swfallback
- u_int32_t is_crypto_keyfail
- u_int32_t is_crypto_enmicfail
- u_int32_t is_ibss_capmismatch
- u_int32_t is_ibss_norate
- u_int32_t is_ps_unassoc
- u_int32_t is_ps_badaid
- u_int32_t is_ps_qempty
- u_int32_t is_ff_badhdr
- u_int32_t is_ff_tooshort
- u_int32_t is_ff_split
- u_int32_t is_ff_decap
- u_int32_t is_ff_encap
- u_int32_t is_rx_badbintval
- u_int32_t is_rx_demicfail
- u_int32_t is_rx_defrag
- u_int32_t is_rx_mgmt
- u_int32_t is_spare [6]

### 6.41.1 Detailed Description

Definition at line 95 of file ieee80211_ioctl.h.

### 6.41.2 Field Documentation

#### 6.41.2.1 u_int32_t ieee80211_stats::is_crypto_attachfail

Definition at line 169 of file ieee80211_ioctl.h.

#### 6.41.2.2 u_int32_t ieee80211_stats::is_crypto_badcipher

Definition at line 167 of file ieee80211_ioctl.h.

#### 6.41.2.3 u_int32_t ieee80211_stats::is_crypto_ccmp

Definition at line 162 of file ieee80211_ioctl.h.

Referenced by ccmp_decrypt(), and ccmp_encrypt().

#### 6.41.2.4 u_int32_t ieee80211_stats::is_crypto_delkey

Definition at line 166 of file ieee80211_ioctl.h.

#### 6.41.2.5 u_int32_t ieee80211_stats::is_crypto_enmicfail

Definition at line 172 of file ieee80211_ioctl.h.

Referenced by ieee80211_encap().

#### 6.41.2.6 u_int32_t ieee80211_stats::is_crypto_keyfail

Definition at line 171 of file ieee80211_ioctl.h.

Referenced by ieee80211_crypto_newkey().

#### 6.41.2.7 u_int32_t ieee80211_stats::is_crypto_nocipher

Definition at line 168 of file ieee80211_ioctl.h.

#### 6.41.2.8 u_int32_t ieee80211_stats::is_crypto_nomem

Definition at line 157 of file ieee80211_ioctl.h.

Referenced by ccmp_attach(), tkip_attach(), and wep_attach().

#### 6.41.2.9 u_int32_t ieee80211_stats::is_crypto_setkey_cipher

Definition at line 164 of file ieee80211_ioctl.h.

#### 6.41.2.10 u_int32_t ieee80211_stats::is_crypto_setkey_nokey

Definition at line 165 of file ieee80211_ioctl.h.

#### 6.41.2.11 u_int32_t ieee80211_stats::is_crypto_swfallback

Definition at line 170 of file ieee80211_ioctl.h.

Referenced by ieee80211_crypto_newkey().

#### 6.41.2.12 u_int32_t ieee80211_stats::is_crypto_tkip

Definition at line 158 of file ieee80211_ioctl.h.

Referenced by tkip_decrypt(), and tkip_encrypt().

#### 6.41.2.13 u_int32_t ieee80211_stats::is_crypto_tkipcm

Definition at line 161 of file ieee80211_ioctl.h.

Referenced by tkip_encap().

#### 6.41.2.14 u_int32_t ieee80211_stats::is_crypto_tkipdemic

Definition at line 160 of file ieee80211_ioctl.h.

Referenced by tkip_demic().

#### 6.41.2.15 u_int32_t ieee80211_stats::is_crypto_tkipenmic

Definition at line 159 of file ieee80211_ioctl.h.

Referenced by tkip_enmic().

#### 6.41.2.16 u_int32_t ieee80211_stats::is_crypto_wep

Definition at line 163 of file ieee80211_ioctl.h.

Referenced by wep_decrypt(), and wep_encrypt().

#### 6.41.2.17 u_int32_t ieee80211_stats::is_ff_badhdr

Definition at line 178 of file ieee80211_ioctl.h.

#### 6.41.2.18 u_int32_t ieee80211_stats::is_ff_decap

Definition at line 181 of file ieee80211_ioctl.h.

#### 6.41.2.19 u_int32_t ieee80211_stats::is_ff_encap

Definition at line 182 of file ieee80211_ioctl.h.

#### 6.41.2.20 u_int32_t ieee80211_stats::is_ff_split

Definition at line 180 of file ieee80211_ioctl.h.

#### 6.41.2.21 u_int32_t ieee80211_stats::is_ff_tooshort

Definition at line 179 of file ieee80211_ioctl.h.

#### 6.41.2.22 u_int32_t ieee80211_stats::is_ibss_capmismatch

Definition at line 173 of file ieee80211_ioctl.h.

Referenced by ieee80211_ibss_merge().

#### 6.41.2.23 u_int32_t ieee80211_stats::is_ibss_norate

Definition at line 174 of file ieee80211_ioctl.h.

#### 6.41.2.24 u_int32_t ieee80211_stats::is_node_timeout

Definition at line 156 of file ieee80211_ioctl.h.

Referenced by ieee80211_timeout_stations().

#### 6.41.2.25 u_int32_t ieee80211_stats::is_ps_badaid

Definition at line 176 of file ieee80211_ioctl.h.

Referenced by ieee80211_recv_pspoll().

#### 6.41.2.26 u_int32_t ieee80211_stats::is_ps_qempty

Definition at line 177 of file ieee80211_ioctl.h.

#### 6.41.2.27 u_int32_t ieee80211_stats::is_ps_unassoc

Definition at line 175 of file ieee80211_ioctl.h.

Referenced by ieee80211_recv_pspoll().

#### 6.41.2.28 u_int32_t ieee80211_stats::is_rx_acl

Definition at line 145 of file ieee80211_ioctl.h.

Referenced by ieee80211_recv_mgmt().

#### 6.41.2.29 u_int32_t ieee80211_stats::is_rx_ahdemo_mgt

Definition at line 132 of file ieee80211_ioctl.h.

#### 6.41.2.30 u_int32_t ieee80211_stats::is_rx_assoc_badwpaie

Definition at line 126 of file ieee80211_ioctl.h.

Referenced by ieee80211_recv_mgmt().

#### 6.41.2.31 u_int32_t ieee80211_stats::is_rx_assoc_bss

Definition at line 122 of file ieee80211_ioctl.h.

Referenced by ieee80211_recv_mgmt().

#### 6.41.2.32 u_int32_t ieee80211_stats::is_rx_assoc_capmismatch

Definition at line 124 of file ieee80211_ioctl.h.

Referenced by ieee80211_recv_mgmt().

#### 6.41.2.33 u_int32_t ieee80211_stats::is_rx_assoc_norate

Definition at line 125 of file ieee80211_ioctl.h.

Referenced by ieee80211_recv_mgmt().

#### 6.41.2.34 u_int32_t ieee80211_stats::is_rx_assoc_notauth

Definition at line 123 of file ieee80211_ioctl.h.

Referenced by ieee80211_recv_mgmt().

#### 6.41.2.35 u_int32_t ieee80211_stats::is_rx_auth_countermeasures

Definition at line 121 of file ieee80211_ioctl.h.

#### 6.41.2.36 u_int32_t ieee80211_stats::is_rx_auth_fail

Definition at line 120 of file ieee80211_ioctl.h.

Referenced by ieee80211_auth_open(), ieee80211_auth_shared(), and ieee80211_recv_mgmt().

#### 6.41.2.37 u_int32_t ieee80211_stats::is_rx_auth_unsupported

Definition at line 119 of file ieee80211_ioctl.h.

#### 6.41.2.38 u_int32_t ieee80211_stats::is_rx_bad_auth

Definition at line 133 of file ieee80211_ioctl.h.

Referenced by ieee80211_auth_open(), and ieee80211_auth_shared().

#### 6.41.2.39 u_int32_t ieee80211_stats::is_rx_badbintval

Definition at line 183 of file ieee80211_ioctl.h.

#### 6.41.2.40 u_int32_t ieee80211_stats::is_rx_badchan

Definition at line 115 of file ieee80211_ioctl.h.

Referenced by ieee80211_recv_mgmt().

#### 6.41.2.41 u_int32_t ieee80211_stats::is_rx_badcipher

Definition at line 143 of file ieee80211_ioctl.h.

#### 6.41.2.42 u_int32_t ieee80211_stats::is_rx_badkeyid

Definition at line 135 of file ieee80211_ioctl.h.

Referenced by none_demic().

#### 6.41.2.43 u_int32_t ieee80211_stats::is_rx_badsubtype

Definition at line 129 of file ieee80211_ioctl.h.

Referenced by ieee80211_recv_mgmt().

#### 6.41.2.44 u_int32_t ieee80211_stats::is_rx_badversion

Definition at line 96 of file ieee80211_ioctl.h.

#### 6.41.2.45 u_int32_t ieee80211_stats::is_rx_beacon

Definition at line 109 of file ieee80211_ioctl.h.

Referenced by ieee80211_recv_mgmt().

#### 6.41.2.46 u_int32_t ieee80211_stats::is_rx_ccmpformat

Definition at line 137 of file ieee80211_ioctl.h.

Referenced by ccmp_decap().

#### 6.41.2.47 u_int32_t ieee80211_stats::is_rx_ccmpmic

Definition at line 138 of file ieee80211_ioctl.h.

Referenced by ccmp_decrypt().

#### 6.41.2.48 u_int32_t ieee80211_stats::is_rx_ccmpreplay

Definition at line 136 of file ieee80211_ioctl.h.

Referenced by ccmp_decap().

#### 6.41.2.49 u_int32_t ieee80211_stats::is_rx_chanmismatch

Definition at line 116 of file ieee80211_ioctl.h.

#### 6.41.2.50 u_int32_t ieee80211_stats::is_rx_ctl

Definition at line 108 of file ieee80211_ioctl.h.

Referenced by ieee80211_input().

#### 6.41.2.51 u_int32_t ieee80211_stats::is_rx_deauth

Definition at line 127 of file ieee80211_ioctl.h.

Referenced by ieee80211_recv_mgmt().

#### 6.41.2.52 u_int32_t ieee80211_stats::is_rx_decap

Definition at line 106 of file ieee80211_ioctl.h.

Referenced by ieee80211_input().

#### 6.41.2.53 u_int32_t ieee80211_stats::is_rx_decryptcrc

Definition at line 131 of file ieee80211_ioctl.h.

#### 6.41.2.54 u_int32_t ieee80211_stats::is_rx_defrag

Definition at line 185 of file ieee80211_ioctl.h.

Referenced by ieee80211_defrag().

#### 6.41.2.55 u_int32_t ieee80211_stats::is_rx_demicfail

Definition at line 184 of file ieee80211_ioctl.h.

Referenced by ieee80211_input().

#### 6.41.2.56 u_int32_t ieee80211_stats::is_rx_disassoc

Definition at line 128 of file ieee80211_ioctl.h.

Referenced by ieee80211_recv_mgmt().

#### 6.41.2.57 u_int32_t ieee80211_stats::is_rx_dup

Definition at line 99 of file ieee80211_ioctl.h.

#### 6.41.2.58 u_int32_t ieee80211_stats::is_rx_elem_missing

Definition at line 111 of file ieee80211_ioctl.h.

#### 6.41.2.59 u_int32_t ieee80211_stats::is_rx_elem_toobig

Definition at line 112 of file ieee80211_ioctl.h.

Referenced by ieee80211_recv_mgmt().

#### 6.41.2.60 u_int32_t ieee80211_stats::is_rx_elem_toosmall

Definition at line 113 of file ieee80211_ioctl.h.

#### 6.41.2.61 u_int32_t ieee80211_stats::is_rx_elem_unknown

Definition at line 114 of file ieee80211_ioctl.h.

Referenced by ieee80211_recv_mgmt().

#### 6.41.2.62 u_int32_t ieee80211_stats::is_rx_mcastecho

Definition at line 101 of file ieee80211_ioctl.h.

Referenced by ieee80211_input().

#### 6.41.2.63 u_int32_t ieee80211_stats::is_rx_mgmt

Definition at line 186 of file ieee80211_ioctl.h.

Referenced by ieee80211_input().

#### 6.41.2.64 u_int32_t ieee80211_stats::is_rx_mgtdiscard

Definition at line 107 of file ieee80211_ioctl.h.

Referenced by ieee80211_recv_mgmt().

#### 6.41.2.65 u_int32_t ieee80211_stats::is_rx_nobuf

Definition at line 130 of file ieee80211_ioctl.h.

#### 6.41.2.66 u_int32_t ieee80211_stats::is_rx_nocipherctx

Definition at line 144 of file ieee80211_ioctl.h.

#### 6.41.2.67 u_int32_t ieee80211_stats::is_rx_nodealloc

Definition at line 117 of file ieee80211_ioctl.h.

Referenced by ieee80211_add_scan(), ieee80211_alloc_node(), ieee80211_dup_bss(), and ieee80211_-tmp_node().

#### 6.41.2.68 u_int32_t ieee80211_stats::is_rx_noprivacy

Definition at line 103 of file ieee80211_ioctl.h.

Referenced by ieee80211_input().

#### 6.41.2.69 u_int32_t ieee80211_stats::is_rx_notassoc

Definition at line 102 of file ieee80211_ioctl.h.

Referenced by ieee80211_input().

#### 6.41.2.70 u_int32_t ieee80211_stats::is_rx_rstoobig

Definition at line 110 of file ieee80211_ioctl.h.

Referenced by ieee80211_setup_rates().

#### 6.41.2.71 u_int32_t ieee80211_stats::is_rx_ssidmismatch

Definition at line 118 of file ieee80211_ioctl.h.

Referenced by ieee80211_recv_mgmt().

#### 6.41.2.72 u_int32_t ieee80211_stats::is_rx_tkipformat

Definition at line 140 of file ieee80211_ioctl.h.

Referenced by tkip_decap().

#### 6.41.2.73 u_int32_t ieee80211_stats::is_rx_tkipicv

Definition at line 142 of file ieee80211_ioctl.h.

Referenced by tkip_decrypt().

#### 6.41.2.74 u_int32_t ieee80211_stats::is_rx_tkipmic

Definition at line 141 of file ieee80211_ioctl.h.

Referenced by ieee80211_notify_michael_failure().

#### 6.41.2.75 u_int32_t ieee80211_stats::is_rx_tkipreplay

Definition at line 139 of file ieee80211_ioctl.h.

Referenced by tkip_decap().

#### 6.41.2.76 u_int32_t ieee80211_stats::is_rx_tooshort

Definition at line 97 of file ieee80211_ioctl.h.

#### 6.41.2.77 u_int32_t ieee80211_stats::is_rx_unauth

Definition at line 134 of file ieee80211_ioctl.h.

Referenced by ieee80211_deliver_data().

#### 6.41.2.78 u_int32_t ieee80211_stats::is_rx_unencrypted

Definition at line 104 of file ieee80211_ioctl.h.

Referenced by ieee80211_input().

#### 6.41.2.79 u_int32_t ieee80211_stats::is_rx_wepfail

Definition at line 105 of file ieee80211_ioctl.h.

Referenced by wep_decap().

#### 6.41.2.80 u_int32_t ieee80211_stats::is_rx_wrongbss

Definition at line 98 of file ieee80211_ioctl.h.

Referenced by ieee80211_input().

#### 6.41.2.81 u_int32_t ieee80211_stats::is_rx_wrongdir

Definition at line 100 of file ieee80211_ioctl.h.

#### 6.41.2.82 u_int32_t ieee80211_stats::is_scan_active

Definition at line 154 of file ieee80211_ioctl.h.

Referenced by ieee80211_begin_scan().

#### 6.41.2.83 u_int32_t ieee80211_stats::is_scan_passive

Definition at line 155 of file ieee80211_ioctl.h.

Referenced by ieee80211_begin_scan().

#### 6.41.2.84 u_int32_t ieee80211_stats::is_spare[6]

Definition at line 187 of file ieee80211_ioctl.h.

#### 6.41.2.85 u_int32_t ieee80211_stats::is_tx_badcipher

Definition at line 149 of file ieee80211_ioctl.h.

Referenced by none_encap(), and none_enmic().

#### 6.41.2.86 u_int32_t ieee80211_stats::is_tx_fragframes

Definition at line 152 of file ieee80211_ioctl.h.

#### 6.41.2.87 u_int32_t ieee80211_stats::is_tx_frags

Definition at line 153 of file ieee80211_ioctl.h.

#### 6.41.2.88 u_int32_t ieee80211_stats::is_tx_nobuf

Definition at line 146 of file ieee80211_ioctl.h.

Referenced by ieee80211_encap(), ieee80211_send_nulldata(), and ieee80211_send_probereq().

#### 6.41.2.89 u_int32_t ieee80211_stats::is_tx_nodefkey

Definition at line 150 of file ieee80211_ioctl.h.

#### 6.41.2.90 u_int32_t ieee80211_stats::is_tx_noheadroom

Definition at line 151 of file ieee80211_ioctl.h.

#### 6.41.2.91 u_int32_t ieee80211_stats::is_tx_nonode

Definition at line 147 of file ieee80211_ioctl.h.

Referenced by ieee80211_find_txnode().

#### 6.41.2.92 u_int32_t ieee80211_stats::is_tx_unknownmgt

Definition at line 148 of file ieee80211_ioctl.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_ioctl.h

## 6.42 ieee80211_tim_ie Struct Reference

`#include <ieee80211.h>`

### Data Fields

- u_int8_t tim_ie
- u_int8_t tim_len
- u_int8_t tim_count
- u_int8_t tim_period
- u_int8_t tim_bitctl
- u_int8_t tim_bitmap [1]

### 6.42.1 Detailed Description

Definition at line 414 of file ieee80211.h.

### 6.42.2 Field Documentation

#### 6.42.2.1 u_int8_t ieee80211_tim_ie::tim_bitctl

Definition at line 419 of file ieee80211.h.

Referenced by ieee80211_beacon_alloc(), and ieee80211_beacon_update().

#### 6.42.2.2 u_int8_t ieee80211_tim_ie::tim_bitmap[1]

Definition at line 420 of file ieee80211.h.

Referenced by ieee80211_beacon_alloc(), and ieee80211_beacon_update().

#### 6.42.2.3 u_int8_t ieee80211_tim_ie::tim_count

Definition at line 417 of file ieee80211.h.

Referenced by ieee80211_add_scan(), ieee80211_beacon_alloc(), and ieee80211_recv_mgmt().

#### 6.42.2.4 u_int8_t ieee80211_tim_ie::tim_ie

Definition at line 415 of file ieee80211.h.

Referenced by ieee80211_beacon_alloc().

#### 6.42.2.5 u_int8_t ieee80211_tim_ie::tim_len

Definition at line 416 of file ieee80211.h.

Referenced by ieee80211_beacon_alloc(), and ieee80211_beacon_update().

#### 6.42.2.6 u_int8_t ieee80211_tim_ie::tim_period

Definition at line 418 of file ieee80211.h.

Referenced by ieee80211_add_scan(), ieee80211_beacon_alloc(), and ieee80211_recv_mgmt().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211.h

## 6.43 ieee80211_wepkey Struct Reference

`#include <ieee80211_crypto.h>`

### Data Fields

- u_int wk_len
- u_int8_t wk_key [IEEE80211_KEYBUF_SIZE]

### 6.43.1 Detailed Description

Definition at line 46 of file ieee80211_crypto.h.

### 6.43.2 Field Documentation

#### 6.43.2.1 u_int8_t ieee80211_wepkey::wk_key[IEEE80211_KEYBUF_SIZE]

Definition at line 48 of file ieee80211_crypto.h.

#### 6.43.2.2 u_int ieee80211_wepkey::wk_len

Definition at line 47 of file ieee80211_crypto.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_crypto.h

# 6.44 ieee80211_wme_acparams Struct Reference

`#include <ieee80211.h>`

## Data Fields

- u_int8_t acp_aci_aifsn
- u_int8_t acp_logcwminmax
- u_int16_t acp_txop

## 6.44.1 Detailed Description

Definition at line 229 of file ieee80211.h.

## 6.44.2 Field Documentation

### 6.44.2.1 u_int8_t ieee80211_wme_acparams::acp_aci_aifsn

Definition at line 230 of file ieee80211.h.

### 6.44.2.2 u_int8_t ieee80211_wme_acparams::acp_logcwminmax

Definition at line 231 of file ieee80211.h.

### 6.44.2.3 u_int16_t ieee80211_wme_acparams::acp_txop

Definition at line 232 of file ieee80211.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211.h

## 6.45 ieee80211_wme_info Struct Reference

`#include <ieee80211.h>`

### Data Fields

- u_int8_t wme_id
- u_int8_t wme_len
- u_int8_t wme_oui [3]
- u_int8_t wme_type
- u_int8_t wme_subtype
- u_int8_t wme_version
- u_int8_t wme_info

### 6.45.1 Detailed Description

Definition at line 188 of file ieee80211.h.

### 6.45.2 Field Documentation

#### 6.45.2.1 u_int8_t ieee80211_wme_info::wme_id

Definition at line 189 of file ieee80211.h.

Referenced by ieee80211_add_wme_info(), and ieee80211_add_wme_param().

#### 6.45.2.2 u_int8_t ieee80211_wme_info::wme_info

Definition at line 195 of file ieee80211.h.

#### 6.45.2.3 u_int8_t ieee80211_wme_info::wme_len

Definition at line 190 of file ieee80211.h.

#### 6.45.2.4 u_int8_t ieee80211_wme_info::wme_oui[3]

Definition at line 191 of file ieee80211.h.

Referenced by ieee80211_add_wme_info().

#### 6.45.2.5 u_int8_t ieee80211_wme_info::wme_subtype

Definition at line 193 of file ieee80211.h.

#### 6.45.2.6 u_int8_t ieee80211_wme_info::wme_type

Definition at line 192 of file ieee80211.h.

#### 6.45.2.7 u_int8_t ieee80211_wme_info::wme_version

Definition at line 194 of file ieee80211.h.

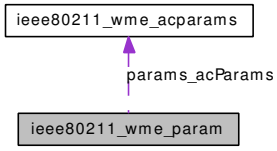
The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211.h

## 6.46 ieee80211_wme_param Struct Reference

`#include <ieee80211.h>`

Collaboration diagram for ieee80211_wme_param:




### Data Fields

- u_int8_t param_id
- u_int8_t param_len
- u_int8_t param_oui [3]
- u_int8_t param_oui_type
- u_int8_t param_oui_sybtype
- u_int8_t param_version
- u_int8_t param_qosInfo
- u_int8_t param_reserved
- ieee80211_wme_acparams params_acParams [WME_NUM_AC]

### 6.46.1 Detailed Description

Definition at line 263 of file ieee80211.h.

### 6.46.2 Field Documentation

#### 6.46.2.1 u_int8_t ieee80211_wme_param::param_id

Definition at line 264 of file ieee80211.h.

#### 6.46.2.2 u_int8_t ieee80211_wme_param::param_len

Definition at line 265 of file ieee80211.h.

#### 6.46.2.3 u_int8_t ieee80211_wme_param::param_oui[3]

Definition at line 266 of file ieee80211.h.

#### 6.46.2.4 u_int8_t ieee80211_wme_param::param_oui_sybtype

Definition at line 268 of file ieee80211.h.

#### 6.46.2.5 u_int8_t ieee80211_wme_param::param_oui_type

Definition at line 267 of file ieee80211.h.

#### 6.46.2.6 u_int8_t ieee80211_wme_param::param_qosInfo

Definition at line 270 of file ieee80211.h.

#### 6.46.2.7 u_int8_t ieee80211_wme_param::param_reserved

Definition at line 272 of file ieee80211.h.

#### 6.46.2.8 u_int8_t ieee80211_wme_param::param_version

Definition at line 269 of file ieee80211.h.

#### 6.46.2.9 struct ieee80211_wme_acparams ieee80211_wme_param::params_acParams[WME_NUM_AC]

Definition at line 273 of file ieee80211.h.

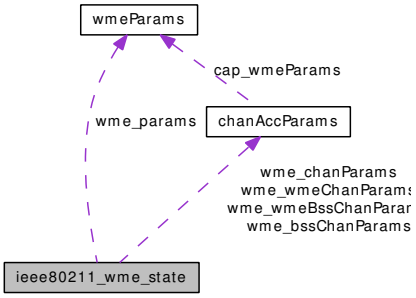
The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211.h

# 6.47 ieee80211_wme_state Struct Reference

`#include <ieee80211_proto.h>`

Collaboration diagram for ieee80211_wme_state:




## Data Fields

- u_int wme_flags
- u_int wme_hipri_traffic
- u_int wme_hipri_switch_thresh
- u_int wme_hipri_switch_hysteresis
- wmeParams wme_params [4]
- chanAccParams wme_wmeChanParams
- chanAccParams wme_wmeBssChanParams
- chanAccParams wme_chanParams
- chanAccParams wme_bssChanParams
- int(∗ wme_update )(struct ieee80211com ∗)

### 6.47.1 Detailed Description

Definition at line 205 of file ieee80211_proto.h.

### 6.47.2 Field Documentation

#### 6.47.2.1 struct chanAccParams ieee80211_wme_state::wme_bssChanParams

Definition at line 216 of file ieee80211_proto.h.

Referenced by ieee80211_add_wme_param(), ieee80211_ioctl_setwmeparam(), and ieee80211_wme_-updateparams_locked().

#### 6.47.2.2 struct chanAccParams ieee80211_wme_state::wme_chanParams

Definition at line 215 of file ieee80211_proto.h.

Referenced by ieee80211_ioctl_setwmeparam(), and ieee80211_wme_updateparams_locked().

#### 6.47.2.3 u_int ieee80211_wme_state::wme_flags

Definition at line 206 of file ieee80211_proto.h.

Referenced by ieee80211_beacon_update(), ieee80211_ioctl_setwmeparam(), and ieee80211_wme_-updateparams_locked().

#### 6.47.2.4 u_int ieee80211_wme_state::wme_hipri_switch_hysteresis

Definition at line 210 of file ieee80211_proto.h.

Referenced by ieee80211_beacon_update(), and ieee80211_proto_attach().

#### 6.47.2.5 u_int ieee80211_wme_state::wme_hipri_switch_thresh

Definition at line 209 of file ieee80211_proto.h.

Referenced by ieee80211_beacon_update().

#### 6.47.2.6 u_int ieee80211_wme_state::wme_hipri_traffic

Definition at line 208 of file ieee80211_proto.h.

Referenced by ieee80211_beacon_update(), and ieee80211_input().

#### 6.47.2.7 struct wmeParams ieee80211_wme_state::wme_params[4]

Definition at line 212 of file ieee80211_proto.h.

#### 6.47.2.8 int(∗ ieee80211_wme_state::wme_update)(struct ieee80211com ∗)

#### 6.47.2.9 struct chanAccParams ieee80211_wme_state::wme_wmeBssChanParams

Definition at line 214 of file ieee80211_proto.h.

Referenced by ieee80211_classify(), ieee80211_ioctl_getwmeparam(), ieee80211_ioctl_setwmeparam(), ieee80211_wme_initparams(), and ieee80211_wme_updateparams_locked().

#### 6.47.2.10 struct chanAccParams ieee80211_wme_state::wme_wmeChanParams

Definition at line 213 of file ieee80211_proto.h.

Referenced by ieee80211_encap(), ieee80211_ioctl_getwmeparam(), ieee80211_ioctl_setwmeparam(), ieee80211_parse_wmeparams(), ieee80211_wme_initparams(), and ieee80211_wme_updateparams_-locked().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_proto.h

## 6.48 ieee80211_wme_tspec Struct Reference

`#include <ieee80211.h>`

### Data Fields

- u_int8_t ts_id
- u_int8_t ts_len
- u_int8_t ts_oui [3]
- u_int8_t ts_oui_type
- u_int8_t ts_oui_subtype
- u_int8_t ts_version
- u_int8_t ts_tsinfo [3]
- u_int8_t ts_nom_msdu [2]
- u_int8_t ts_max_msdu [2]
- u_int8_t ts_min_svc [4]
- u_int8_t ts_max_svc [4]
- u_int8_t ts_inactv_intv [4]
- u_int8_t ts_susp_intv [4]
- u_int8_t ts_start_svc [4]
- u_int8_t ts_min_rate [4]
- u_int8_t ts_mean_rate [4]
- u_int8_t ts_max_burst [4]
- u_int8_t ts_min_phy [4]
- u_int8_t ts_peak_rate [4]
- u_int8_t ts_delay [4]
- u_int8_t ts_surplus [2]
- u_int8_t ts_medium_time [2]

### 6.48.1 Detailed Description

Definition at line 201 of file ieee80211.h.

### 6.48.2 Field Documentation

#### 6.48.2.1 u_int8_t ieee80211_wme_tspec::ts_delay[4]

Definition at line 221 of file ieee80211.h.

#### 6.48.2.2 u_int8_t ieee80211_wme_tspec::ts_id

Definition at line 202 of file ieee80211.h.

#### 6.48.2.3 u_int8_t ieee80211_wme_tspec::ts_inactv_intv[4]

Definition at line 213 of file ieee80211.h.

#### 6.48.2.4 u_int8_t ieee80211_wme_tspec::ts_len

Definition at line 203 of file ieee80211.h.

#### 6.48.2.5 u_int8_t ieee80211_wme_tspec::ts_max_burst[4]

Definition at line 218 of file ieee80211.h.

#### 6.48.2.6 u_int8_t ieee80211_wme_tspec::ts_max_msdu[2]

Definition at line 210 of file ieee80211.h.

#### 6.48.2.7 u_int8_t ieee80211_wme_tspec::ts_max_svc[4]

Definition at line 212 of file ieee80211.h.

#### 6.48.2.8 u_int8_t ieee80211_wme_tspec::ts_mean_rate[4]

Definition at line 217 of file ieee80211.h.

#### 6.48.2.9 u_int8_t ieee80211_wme_tspec::ts_medium_time[2]

Definition at line 223 of file ieee80211.h.

#### 6.48.2.10 u_int8_t ieee80211_wme_tspec::ts_min_phy[4]

Definition at line 219 of file ieee80211.h.

#### 6.48.2.11 u_int8_t ieee80211_wme_tspec::ts_min_rate[4]

Definition at line 216 of file ieee80211.h.

#### 6.48.2.12 u_int8_t ieee80211_wme_tspec::ts_min_svc[4]

Definition at line 211 of file ieee80211.h.

#### 6.48.2.13 u_int8_t ieee80211_wme_tspec::ts_nom_msdu[2]

Definition at line 209 of file ieee80211.h.

#### 6.48.2.14 u_int8_t ieee80211_wme_tspec::ts_oui[3]

Definition at line 204 of file ieee80211.h.

#### 6.48.2.15 u_int8_t ieee80211_wme_tspec::ts_oui_subtype

Definition at line 206 of file ieee80211.h.

#### 6.48.2.16 u_int8_t ieee80211_wme_tspec::ts_oui_type

Definition at line 205 of file ieee80211.h.

#### 6.48.2.17 u_int8_t ieee80211_wme_tspec::ts_peak_rate[4]

Definition at line 220 of file ieee80211.h.

#### 6.48.2.18 u_int8_t ieee80211_wme_tspec::ts_start_svc[4]

Definition at line 215 of file ieee80211.h.

#### 6.48.2.19 u_int8_t ieee80211_wme_tspec::ts_surplus[2]

Definition at line 222 of file ieee80211.h.

#### 6.48.2.20 u_int8_t ieee80211_wme_tspec::ts_susp_intv[4]

Definition at line 214 of file ieee80211.h.

#### 6.48.2.21 u_int8_t ieee80211_wme_tspec::ts_tsinfo[3]

Definition at line 208 of file ieee80211.h.

#### 6.48.2.22 u_int8_t ieee80211_wme_tspec::ts_version

Definition at line 207 of file ieee80211.h.

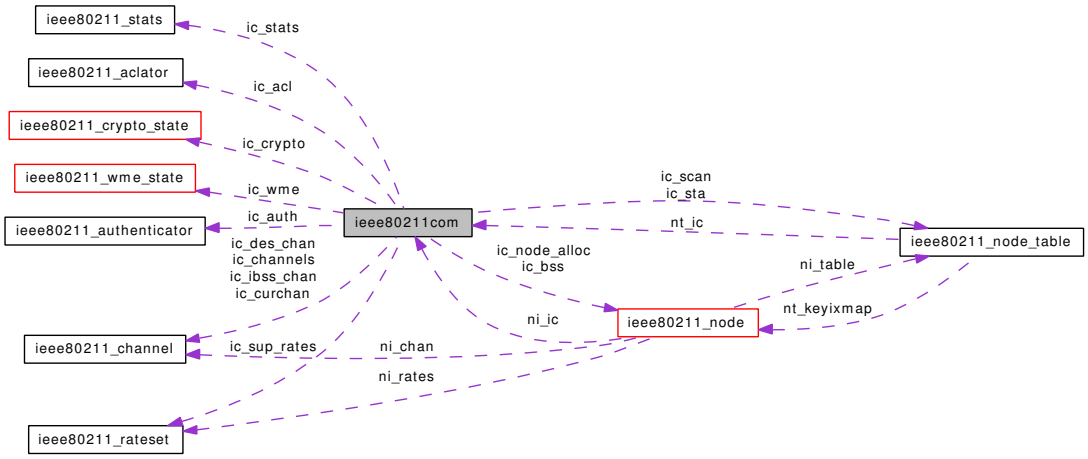
The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211.h

# 6.49 ieee80211com Struct Reference

`#include <ieee80211_var.h>`

Collaboration diagram for ieee80211com:




## Public Member Functions

- SLIST_ENTRY (ieee80211com) ic_next

## Data Fields

- ifnet ∗ ic_ifp
- ieee80211_stats ic_stats
- sysctl_ctx_list ∗ ic_sysctl
- u_int32_t ic_debug
- int ic_vap
- ieee80211_beacon_lock_t ic_beaconlock
- int(∗ ic_reset )(struct ifnet ∗)
- void(∗ ic_recv_mgmt )(struct ieee80211com ∗, struct mbuf ∗, struct ieee80211_node ∗, int, int, u_-int32_t)
- int(∗ ic_send_mgmt )(struct ieee80211com ∗, struct ieee80211_node ∗, int, int)
- int(∗ ic_newstate )(struct ieee80211com ∗, enum ieee80211_state, int)
- void(∗ ic_newassoc )(struct ieee80211_node ∗, int)
- void(∗ ic_updateslot )(struct ifnet ∗)
- void(∗ ic_set_tim )(struct ieee80211_node ∗, int)
- int(∗ ic_raw_xmit )(struct ieee80211_node ∗, struct mbuf ∗, const struct ieee80211_bpf_params ∗)
- u_int8_t ic_myaddr [IEEE80211_ADDR_LEN]
- ieee80211_rateset ic_sup_rates [IEEE80211_MODE_MAX]
- ieee80211_channel ic_channels [IEEE80211_CHAN_MAX+1]
- u_int8_t ic_chan_avail [IEEE80211_CHAN_BYTES]
- u_int8_t ic_chan_active [IEEE80211_CHAN_BYTES]
- u_int8_t ic_chan_scan [IEEE80211_CHAN_BYTES]

- ieee80211_node_table ic_scan
- ifqueue ic_mgtq
- u_int32_t ic_flags
- u_int32_t ic_flags_ext
- u_int32_t ic_caps
- u_int16_t ic_modecaps
- u_int16_t ic_curmode
- enum ieee80211_phytype ic_phytype
- enum ieee80211_opmode ic_opmode
- enum ieee80211_state ic_state
- enum ieee80211_protmode ic_protmode
- enum ieee80211_roamingmode ic_roaming
- ieee80211_node_table ic_sta
- u_int32_t * ic_aid_bitmap
- u_int16_t ic_max_aid
- u_int16_t ic_sta_assoc
- u_int16_t ic_ps_sta
- u_int16_t ic_ps_pending
- u_int8_t * ic_tim_bitmap
- u_int16_t ic_tim_len
- u_int8_t ic_dtim_period
- u_int8_t ic_dtim_count
- ifmedia ic_media
- bpf_if * ic_rawbpf
- ieee80211_node * ic_bss
- ieee80211_channel * ic_ibss_chan
- ieee80211_channel * ic_curchan
- int ic_fixed_rate
- int ic_mcast_rate
- u_int16_t ic_rtsthreshold
- u_int16_t ic_fragthreshold
- u_int8_t ic_bmissthreshold
- u_int8_t ic_bmiss_count
- int ic_bmiss_max
- u_int16_t ic_swbmiss_count
- u_int16_t ic_swbmiss_period
- callout ic_swbmiss
- ieee80211_node *(* ic_node_alloc )(struct ieee80211_node_table *)
- void(* ic_node_free )(struct ieee80211_node *)
- void(* ic_node_cleanup )(struct ieee80211_node *)
- u_int8_t(* ic_node_getrssi )(const struct ieee80211_node *)
- u_int16_t ic_lintval
- u_int16_t ic_bintval
- u_int16_t ic_holdover
- u_int16_t ic_txmin
- u_int16_t ic_txmax
- u_int16_t ic_txlifetime
- u_int16_t ic_txpowlimit
- u_int16_t ic_nonerpsta
- u_int16_t ic_longslotsta

- int ic_mgt_timer
- int ic_inact_timer
- int ic_des_esslen
- u_int8_t ic_des_essid [IEEE80211_NWID_LEN]
- ieee80211_channel * ic_des_chan
- u_int8_t ic_des_bssid [IEEE80211_ADDR_LEN]
- void * ic_opt_ie
- u_int16_t ic_opt_ie_len
- int ic_inact_init
- int ic_inact_auth
- int ic_inact_run
- int ic_inact_probe
- ieee80211_wme_state ic_wme
- ieee80211_crypto_state ic_crypto
- ieee80211_authenticator * ic_auth
- eapolcom * ic_ec
- ieee80211_aclator * ic_acl
- void * ic_as

## 6.49.1 Detailed Description

Definition at line 86 of file ieee80211_var.h.

## 6.49.2 Member Function Documentation

### 6.49.2.1 ieee80211com::SLIST_ENTRY (ieee80211com)

## 6.49.3 Field Documentation

### 6.49.3.1 struct ieee80211_aclator* ieee80211com::ic_acl

Definition at line 206 of file ieee80211_var.h.

Referenced by ieee80211_ioctl_getmaccmd(), ieee80211_ioctl_macmac(), ieee80211_ioctl_setmaccmd(), ieee80211_proto_detach(), and ieee80211_recv_mgmt().

### 6.49.3.2 u_int32_t* ieee80211com::ic_aid_bitmap

Definition at line 128 of file ieee80211_var.h.

Referenced by _ieee80211_free_node(), ieee80211_node_detach(), ieee80211_node_join(), and ieee80211_node_lateattach().

### 6.49.3.3 void* ieee80211com::ic_as

Definition at line 207 of file ieee80211_var.h.

Referenced by acl_add(), acl_attach(), acl_check(), acl_detach(), acl_free_all(), acl_getioctl(), acl_-getpolicy(), acl_remove(), and acl_setpolicy().

#### 6.49.3.4 struct ieee80211_authenticator* ieee80211com::ic_auth

Definition at line 198 of file ieee80211_var.h.

Referenced by ieee80211_free_allnodes_locked(), ieee80211_ioctl_set80211(), ieee80211_newstate(), ieee80211_node_lateattach(), ieee80211_node_leave(), and ieee80211_proto_detach().

#### 6.49.3.5 ieee80211_beacon_lock_t ieee80211com::ic_beaconlock

Definition at line 93 of file ieee80211_var.h.

#### 6.49.3.6 u_int16_t ieee80211com::ic_bintval

Definition at line 157 of file ieee80211_var.h.

Referenced by ieee80211_create_ibss(), ieee80211_ifattach(), ieee80211_ioctl_set80211(), ieee80211_pwrsave(), and ieee80211_reset_bss().

#### 6.49.3.7 u_int8_t ieee80211com::ic_bmiss_count

Definition at line 147 of file ieee80211_var.h.

Referenced by ieee80211_beacon_miss(), ieee80211_recv_mgmt(), and ieee80211_swbmiss().

#### 6.49.3.8 int ieee80211com::ic_bmiss_max

Definition at line 148 of file ieee80211_var.h.

Referenced by ieee80211_beacon_miss(), ieee80211_proto_attach(), and ieee80211_sysctl_attach().

#### 6.49.3.9 u_int8_t ieee80211com::ic_bmissthreshold

Definition at line 146 of file ieee80211_var.h.

Referenced by ieee80211_ifattach(), ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 6.49.3.10 struct ieee80211_node* ieee80211com::ic_bss

Definition at line 139 of file ieee80211_var.h.

Referenced by ieee80211_add_scan(), ieee80211_auth_open(), ieee80211_auth_shared(), ieee80211_beacon_miss(), ieee80211_cfgget(), ieee80211_cfgset(), ieee80211_create_ibss(), ieee80211_deliver_data(), ieee80211_dup_bss(), ieee80211_encap(), ieee80211_fakeup_adhoc_node(), ieee80211_find_rxnode(), ieee80211_find_rxnode_withkey(), ieee80211_find_txnode(), ieee80211_getrssi(), ieee80211_ibss_merge(), ieee80211_input(), ieee80211_ioctl_delkey(), ieee80211_ioctl_get80211(), ieee80211_ioctl_getkey(), ieee80211_ioctl_getstainfo(), ieee80211_ioctl_getstastats(), ieee80211_ioctl_set80211(), ieee80211_ioctl_setkey(), ieee80211_media_status(), ieee80211_newstate(), ieee80211_next_scan(), ieee80211_node_detach(), ieee80211_node_lateattach(), ieee80211_notify_node_join(), ieee80211_notify_node_leave(), ieee80211_output(), ieee80211_probe_curchan(), ieee80211_recv_mgmt(), ieee80211_reset_bss(), ieee80211_send_error(), ieee80211_send_mgmt(), ieee80211_setup_rsn_ie(), ieee80211_setup_wpa_ie(), ieee80211_sta_join(), ieee80211_timeout_scan_candidates(), ieee80211_timeout_stations(), and ieee80211_wme_updateparams_locked().

#### 6.49.3.11 u_int32_t ieee80211com::ic_caps

Definition at line 119 of file ieee80211_var.h.

Referenced by ieee80211_beacon_alloc(), ieee80211_cfgset(), ieee80211_crypto_newkey(), ieee80211_ifattach(), ieee80211_ioctl_get80211(), ieee80211_ioctl_getwmeparam(), ieee80211_ioctl_set80211(), ieee80211_ioctl_setwmeparam(), ieee80211_media_init(), ieee80211_node_lateattach(), ieee80211_node_leave_11g(), ieee80211_reset_erp(), ieee80211_send_mgmt(), ieee80211_sysctl_attach(), ieee80211_wme_initparams(), and ieee80211_wme_updateparams().

#### 6.49.3.12 u_int8_t ieee80211com::ic_chan_active[IEEE80211_CHAN_BYTES]

Definition at line 113 of file ieee80211_var.h.

Referenced by ieee80211_cfgget(), ieee80211_cfgset(), ieee80211_end_scan(), ieee80211_ioctl_getchanlist(), ieee80211_ioctl_set80211(), ieee80211_match_bss(), ieee80211_recv_mgmt(), ieee80211_reset_scan(), ieee80211_setmode(), and ieee80211_setupscan().

#### 6.49.3.13 u_int8_t ieee80211com::ic_chan_avail[IEEE80211_CHAN_BYTES]

Definition at line 112 of file ieee80211_var.h.

Referenced by ieee80211_cfgset(), ieee80211_chan_init(), ieee80211_ioctl_getchaninfo(), ieee80211_ioctl_set80211(), and ieee80211_ioctl_setchanlist().

#### 6.49.3.14 u_int8_t ieee80211com::ic_chan_scan[IEEE80211_CHAN_BYTES]

Definition at line 114 of file ieee80211_var.h.

Referenced by ieee80211_next_scan(), and ieee80211_reset_scan().

#### 6.49.3.15 struct ieee80211_channel ieee80211com::ic_channels[IEEE80211_CHAN_MAX+1]

Definition at line 111 of file ieee80211_var.h.

Referenced by ieee80211_add_scan(), ieee80211_cfgset(), ieee80211_chan2ieee(), ieee80211_chan_init(), ieee80211_end_scan(), ieee80211_ioctl_getchaninfo(), ieee80211_ioctl_set80211(), ieee80211_ioctl_setchanlist(), ieee80211_next_scan(), and ieee80211_setmode().

#### 6.49.3.16 struct ieee80211_crypto_state ieee80211com::ic_crypto

Definition at line 189 of file ieee80211_var.h.

Referenced by dev_key_alloc(), dev_key_delete(), dev_key_set(), ieee80211_crypto_attach(), ieee80211_key_update_begin(), ieee80211_key_update_end(), and ieee80211_node_lateattach().

#### 6.49.3.17 struct ieee80211_channel* ieee80211com::ic_curchan

Definition at line 141 of file ieee80211_var.h.

Referenced by ieee80211_add_scan(), ieee80211_cfgget(), ieee80211_chan_init(), ieee80211_create_ibss(), ieee80211_init_neighbor(), ieee80211_ioctl_get80211(), ieee80211_media_status(),

ieee80211_mgmt_output(), ieee80211_next_scan(), ieee80211_probe_curchan(), ieee80211_recv_-mgmt(), ieee80211_reset_scan(), ieee80211_send_mgmt(), ieee80211_send_nulldata(), ieee80211_send_-probereq(), ieee80211_set_chan(), ieee80211_setmode(), and ieee80211_sta_join().

#### 6.49.3.18 u_int16_t ieee80211com::ic_curmode

Definition at line 121 of file ieee80211_var.h.

Referenced by ieee80211_beacon_alloc(), ieee80211_begin_scan(), ieee80211_cfgget(), ieee80211_-cfgset(), ieee80211_chan2mode(), ieee80211_create_ibss(), ieee80211_ioctl_set80211(), ieee80211_-media_status(), ieee80211_node_join(), ieee80211_node_leave_11g(), ieee80211_recv_mgmt(), ieee80211_reset_erp(), ieee80211_send_mgmt(), ieee80211_sta_join(), ieee80211_wme_initparams(), and ieee80211_wme_updateparams_locked().

#### 6.49.3.19 u_int32_t ieee80211com::ic_debug

Definition at line 91 of file ieee80211_var.h.

Referenced by ieee80211_sysctl_attach().

#### 6.49.3.20 u_int8_t ieee80211com::ic_des_bssid[IEEE80211_ADDR_LEN]

Definition at line 170 of file ieee80211_var.h.

Referenced by ieee80211_create_ibss(), ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), and ieee80211_match_bss().

#### 6.49.3.21 struct ieee80211_channel* ieee80211com::ic_des_chan

Definition at line 169 of file ieee80211_var.h.

Referenced by ieee80211_ifattach(), ieee80211_ioctl_set80211(), ieee80211_match_bss(), and ieee80211_reset_scan().

#### 6.49.3.22 u_int8_t ieee80211com::ic_des_essid[IEEE80211_NWID_LEN]

Definition at line 168 of file ieee80211_var.h.

Referenced by ieee80211_cfgget(), ieee80211_cfgset(), ieee80211_create_ibss(), ieee80211_ioctl_-get80211(), ieee80211_ioctl_set80211(), ieee80211_match_bss(), ieee80211_probe_curchan(), and wi_-read_ap_result().

#### 6.49.3.23 int ieee80211com::ic_des_esslen

Definition at line 167 of file ieee80211_var.h.

Referenced by ieee80211_cfgget(), ieee80211_cfgset(), ieee80211_create_ibss(), ieee80211_ioctl_-get80211(), ieee80211_ioctl_set80211(), ieee80211_match_bss(), ieee80211_probe_curchan(), and wi_-read_ap_result().

#### 6.49.3.24 u_int8_t ieee80211com::ic_dtim_count

Definition at line 136 of file ieee80211_var.h.

#### 6.49.3.25 u_int8_t ieee80211com::ic_dtim_period

Definition at line 135 of file ieee80211_var.h.

Referenced by ieee80211_beacon_alloc(), ieee80211_ifattach(), ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 6.49.3.26 struct eapolcom* ieee80211com::ic_ec

Definition at line 199 of file ieee80211_var.h.

#### 6.49.3.27 int ieee80211com::ic_fixed_rate

Definition at line 142 of file ieee80211_var.h.

Referenced by ieee80211_cfgget(), ieee80211_cfgset(), ieee80211_fix_rate(), ieee80211_media_status(), and ieee80211_proto_attach().

#### 6.49.3.28 u_int32_t ieee80211com::ic_flags

Definition at line 117 of file ieee80211_var.h.

Referenced by getcapinfo(), ieee80211_add_erp(), ieee80211_add_scan(), ieee80211_add_wpa(), ieee80211_anyhdrspace(), ieee80211_auth_shared(), ieee80211_beacon_alloc(), ieee80211_beacon_miss(), ieee80211_beacon_update(), ieee80211_begin_scan(), ieee80211_cancel_scan(), ieee80211_cfgget(), ieee80211_cfgset(), ieee80211_create_ibss(), ieee80211_deliver_data(), ieee80211_encap(), ieee80211_fakeup_adhoc_node(), ieee80211_find_rxnode(), ieee80211_find_rxnode_withkey(), ieee80211_hdrspace(), ieee80211_ibss_merge(), ieee80211_ifattach(), ieee80211_input(), ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), ieee80211_match_bss(), ieee80211_node_join_11g(), ieee80211_node_leave_11g(), ieee80211_parse_rsn(), ieee80211_parse_wpa(), ieee80211_recv_mgmt(), ieee80211_reset_erp(), ieee80211_send_mgmt(), ieee80211_set_shortslottime(), ieee80211_set_tim(), ieee80211_wme_updateparams_locked(), tkip_decap(), and tkip_encap().

#### 6.49.3.29 u_int32_t ieee80211com::ic_flags_ext

Definition at line 118 of file ieee80211_var.h.

Referenced by ieee80211_beacon_update(), ieee80211_cancel_scan(), ieee80211_newstate(), ieee80211_next_scan(), ieee80211_node_join_11g(), ieee80211_node_leave_11g(), ieee80211_probe_curchan(), and ieee80211_recv_mgmt().

#### 6.49.3.30 u_int16_t ieee80211com::ic_fragthreshold

Definition at line 145 of file ieee80211_var.h.

Referenced by ieee80211_cfgget(), ieee80211_cfgset(), ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), and ieee80211_proto_attach().

#### 6.49.3.31 u_int16_t ieee80211com::ic_holdover

Definition at line 158 of file ieee80211_var.h.

#### 6.49.3.32 struct ieee80211_channel* ieee80211com::ic_ibss_chan

Definition at line 140 of file ieee80211_var.h.

Referenced by ieee80211_cfgget(), ieee80211_cfgset(), ieee80211_ioctl_set80211(), and ieee80211_ioctl_setchanlist().

#### 6.49.3.33 struct ifnet* ieee80211com::ic_ifp

Definition at line 88 of file ieee80211_var.h.

Referenced by ieee80211_announce(), ieee80211_beacon_alloc(), ieee80211_cfgget(), ieee80211_cfgset(), ieee80211_chan2ieee(), ieee80211_chan_init(), ieee80211_deliver_data(), ieee80211_deliver_l2uf(), ieee80211_find_instance(), ieee80211_ifattach(), ieee80211_ifdetach(), ieee80211_input(), ieee80211_ioctl(), ieee80211_ioctl_getstainfo(), ieee80211_ioctl_set80211(), ieee80211_ioctl_setmlme(), ieee80211_media_init(), ieee80211_mgmt_output(), ieee80211_newstate(), ieee80211_node_pwrsave(), ieee80211_node_table_init(), ieee80211_notify_michael_failure(), ieee80211_notify_node_join(), ieee80211_notify_node_leave(), ieee80211_notify_replay_failure(), ieee80211_notify_scan_done(), ieee80211_probe_curchan(), ieee80211_proto_attach(), ieee80211_raw_xmit(), ieee80211_recv_pspoll(), ieee80211_send_nulldata(), ieee80211_send_probereq(), ieee80211_set_shortslottime(), ieee80211_sysctl_attach(), ieee80211_sysctl_parent(), and ieee80211_watchdog().

#### 6.49.3.34 int ieee80211com::ic_inact_auth

Definition at line 177 of file ieee80211_var.h.

Referenced by get_sta_info(), ieee80211_node_attach(), and ieee80211_sysctl_attach().

#### 6.49.3.35 int ieee80211com::ic_inact_init

Definition at line 176 of file ieee80211_var.h.

Referenced by get_sta_info(), ieee80211_create_ibss(), ieee80211_node_attach(), and ieee80211_sysctl_attach().

#### 6.49.3.36 int ieee80211com::ic_inact_probe

Definition at line 179 of file ieee80211_var.h.

Referenced by ieee80211_node_attach(), ieee80211_sysctl_attach(), and ieee80211_timeout_stations().

#### 6.49.3.37 int ieee80211com::ic_inact_run

Definition at line 178 of file ieee80211_var.h.

Referenced by get_sta_info(), ieee80211_create_ibss(), ieee80211_node_attach(), ieee80211_node_authorize(), ieee80211_sta_join(), and ieee80211_sysctl_attach().

#### 6.49.3.38 int ieee80211com::ic_inact_timer

Definition at line 166 of file ieee80211_var.h.

#### 6.49.3.39 u_int16_t ieee80211com::ic_lintval

Definition at line 156 of file ieee80211_var.h.

Referenced by ieee80211_cfgget(), ieee80211_cfgset(), ieee80211_ifattach(), ieee80211_ioctl_-get80211(), ieee80211_ioctl_set80211(), and ieee80211_send_mgmt().

#### 6.49.3.40 u_int16_t ieee80211com::ic_longslotsta

Definition at line 164 of file ieee80211_var.h.

Referenced by ieee80211_node_join_11g(), ieee80211_node_leave_11g(), and ieee80211_reset_erp().

#### 6.49.3.41 u_int16_t ieee80211com::ic_max_aid

Definition at line 129 of file ieee80211_var.h.

Referenced by ieee80211_node_attach(), ieee80211_node_join(), ieee80211_node_lateattach(), and ieee80211_set_tim().

#### 6.49.3.42 int ieee80211com::ic_mcast_rate

Definition at line 143 of file ieee80211_var.h.

Referenced by ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), and ieee80211_proto_attach().

#### 6.49.3.43 struct ifmedia ieee80211com::ic_media

Definition at line 137 of file ieee80211_var.h.

Referenced by ieee80211_ifdetach(), ieee80211_ioctl(), ieee80211_media_change(), and ieee80211_-media_init().

#### 6.49.3.44 int ieee80211com::ic_mgt_timer

Definition at line 165 of file ieee80211_var.h.

Referenced by ieee80211_mgmt_output(), ieee80211_newstate(), ieee80211_next_scan(), and ieee80211_watchdog().

#### 6.49.3.45 struct ifqueue ieee80211com::ic_mgtq

Definition at line 116 of file ieee80211_var.h.

Referenced by ieee80211_mgmt_output(), ieee80211_newstate(), ieee80211_proto_attach(), ieee80211_-proto_detach(), ieee80211_raw_xmit(), ieee80211_send_nulldata(), and ieee80211_send_probereq().

#### 6.49.3.46 u_int16_t ieee80211com::ic_modecaps

Definition at line 120 of file ieee80211_var.h.

Referenced by ieee80211_announce(), ieee80211_cfgset(), ieee80211_chan_init(), ieee80211_media_-change(), ieee80211_media_init(), and ieee80211_setmode().

#### 6.49.3.47 u_int8_t ieee80211com::ic_myaddr[IEEE80211_ADDR_LEN]

Definition at line 109 of file ieee80211_var.h.

Referenced by ieee80211_beacon_alloc(), ieee80211_beacon_miss(), ieee80211_cfgget(), ieee80211_-create_ibss(), ieee80211_find_vap(), ieee80211_ifattach(), ieee80211_input(), ieee80211_ioctl_-set80211(), ieee80211_mgmt_output(), ieee80211_probe_curchan(), ieee80211_reset_bss(), and ieee80211_send_nulldata().

#### 6.49.3.48 void(∗ ieee80211com::ic_newassoc)(struct ieee80211_node ∗, int)

Referenced by ieee80211_add_neighbor(), and ieee80211_fakeup_adhoc_node().

#### 6.49.3.49 int(∗ ieee80211com::ic_newstate)(struct ieee80211com ∗, enum ieee80211_state, int)

Referenced by ieee80211_proto_attach().

#### 6.49.3.50 struct ieee80211_node∗(∗ ieee80211com::ic_node_alloc)(struct ieee80211_node_table ∗)

Referenced by ieee80211_add_scan(), ieee80211_alloc_node(), ieee80211_dup_bss(), ieee80211_node_-attach(), and ieee80211_tmp_node().

#### 6.49.3.51 void(∗ ieee80211com::ic_node_cleanup)(struct ieee80211_node ∗)

Referenced by ieee80211_node_attach(), ieee80211_sta_leave(), and node_free().

#### 6.49.3.52 void(∗ ieee80211com::ic_node_free)(struct ieee80211_node ∗)

Referenced by _ieee80211_free_node(), and ieee80211_node_attach().

#### 6.49.3.53 u_int8_t(∗ ieee80211com::ic_node_getrssi)(const struct ieee80211_node ∗)

Referenced by get_scan_result(), get_sta_info(), ieee80211_cfgget(), ieee80211_end_scan(), ieee80211_-getrssi(), ieee80211_node_attach(), ieee80211_node_compare(), wi_read_ap_result(), wi_read_prism2_-result(), and wi_read_sigcache().

#### 6.49.3.54 u_int16_t ieee80211com::ic_nonerpsta

Definition at line 163 of file ieee80211_var.h.

Referenced by ieee80211_add_erp(), ieee80211_node_join_11g(), ieee80211_node_leave_11g(), and ieee80211_reset_erp().

#### 6.49.3.55 enum ieee80211_opmode ieee80211com::ic_opmode

Definition at line 123 of file ieee80211_var.h.

Referenced by get_sta_info(), get_sta_space(), getcapinfo(), ieee80211_auth_open(), ieee80211_auth_shared(), ieee80211_beacon_alloc(), ieee80211_beacon_miss(), ieee80211_beacon_update(), ieee80211_begin_scan(), ieee80211_cfgget(), ieee80211_cfgset(), ieee80211_classify(), ieee80211_create_ibss(), ieee80211_deliver_data(), ieee80211_encap(), ieee80211_end_scan(), ieee80211_fakeup_adhoc_node(), ieee80211_find_rxnode(), ieee80211_find_rxnode_withkey(), ieee80211_find_txnode(), ieee80211_getrssi(), ieee80211_input(), ieee80211_ioctl_delkey(), ieee80211_ioctl_getstainfo(), ieee80211_ioctl_getstastats(), ieee80211_ioctl_set80211(), ieee80211_ioctl_setkey(), ieee80211_ioctl_setmlme(), ieee80211_ioctl_setoptie(), ieee80211_match_bss(), ieee80211_media_status(), ieee80211_newstate(), ieee80211_node_leave(), ieee80211_node_leave_11g(), ieee80211_recv_mgmt(), ieee80211_reset_erp(), ieee80211_send_mgmt(), ieee80211_send_nulldata(), ieee80211_send_setup(), ieee80211_set_tim(), ieee80211_sta_join(), ieee80211_timeout_stations(), ieee80211_wme_initparams(), ieee80211_wme_updateparams_locked(), and wi_read_ap_result().

#### 6.49.3.56 void* ieee80211com::ic_opt_ie

Definition at line 171 of file ieee80211_var.h.

Referenced by ieee80211_beacon_miss(), ieee80211_ioctl_get80211(), ieee80211_ioctl_setoptie(), ieee80211_probe_curchan(), and ieee80211_send_mgmt().

#### 6.49.3.57 u_int16_t ieee80211com::ic_opt_ie_len

Definition at line 172 of file ieee80211_var.h.

Referenced by ieee80211_beacon_miss(), ieee80211_ioctl_get80211(), ieee80211_ioctl_setoptie(), ieee80211_probe_curchan(), and ieee80211_send_mgmt().

#### 6.49.3.58 enum ieee80211_phytype ieee80211com::ic_phytype

Definition at line 122 of file ieee80211_var.h.

Referenced by ieee80211_cfgget(), ieee80211_cfgset(), ieee80211_create_ibss(), ieee80211_ioctl_getchaninfo(), ieee80211_ioctl_setchanlist(), ieee80211_rate2media(), ieee80211_recv_mgmt(), and ieee80211_send_mgmt().

#### 6.49.3.59 enum ieee80211_protmode ieee80211com::ic_protmode

Definition at line 125 of file ieee80211_var.h.

Referenced by ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), ieee80211_node_join_11g(), and ieee80211_proto_attach().

#### 6.49.3.60 u_int16_t ieee80211com::ic_ps_pending

Definition at line 132 of file ieee80211_var.h.

Referenced by ieee80211_beacon_update(), and ieee80211_set_tim().

#### 6.49.3.61 u_int16_t ieee80211com::ic_ps_sta

Definition at line 131 of file ieee80211_var.h.

Referenced by ieee80211_node_pwrsave(), and node_cleanup().

#### 6.49.3.62 int(∗ ieee80211com::ic_raw_xmit)(struct ieee80211_node ∗, struct mbuf ∗, const struct ieee80211_bpf_params ∗)

Referenced by ieee80211_output(), and ieee80211_proto_attach().

#### 6.49.3.63 struct bpf_if∗ ieee80211com::ic_rawbpf

Definition at line 138 of file ieee80211_var.h.

Referenced by ieee80211_ifattach(), and ieee80211_input().

#### 6.49.3.64 void(∗ ieee80211com::ic_recv_mgmt)(struct ieee80211com ∗, struct mbuf ∗, struct ieee80211_node ∗, int, int, u_int32_t)

Referenced by ieee80211_input(), and ieee80211_proto_attach().

#### 6.49.3.65 int(∗ ieee80211com::ic_reset)(struct ifnet ∗)

Referenced by ieee80211_cfgset(), ieee80211_ifattach(), and ieee80211_ioctl_set80211().

#### 6.49.3.66 enum ieee80211_roamingmode ieee80211com::ic_roaming

Definition at line 126 of file ieee80211_var.h.

Referenced by ieee80211_cfgget(), ieee80211_cfgset(), ieee80211_ioctl_get80211(), ieee80211_ioctl_-set80211(), and ieee80211_proto_attach().

#### 6.49.3.67 u_int16_t ieee80211com::ic_rtsthreshold

Definition at line 144 of file ieee80211_var.h.

Referenced by ieee80211_cfgget(), ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), and ieee80211_proto_attach().

#### 6.49.3.68 struct ieee80211_node_table ieee80211com::ic_scan

Definition at line 115 of file ieee80211_var.h.

Referenced by ieee80211_add_scan(), ieee80211_begin_scan(), ieee80211_cfgget(), ieee80211_end_-scan(), ieee80211_find_rxnode(), ieee80211_find_rxnode_withkey(), ieee80211_ioctl_getscanresults(), ieee80211_ioctl_setmlme(), ieee80211_node_detach(), ieee80211_node_lateattach(), ieee80211_reset_-bss(), and ieee80211_watchdog().

#### 6.49.3.69 int(∗ ieee80211com::ic_send_mgmt)(struct ieee80211com ∗, struct ieee80211_node ∗, int, int)

Referenced by ieee80211_proto_attach().

#### 6.49.3.70 void(∗ ieee80211com::ic_set_tim)(struct ieee80211_node ∗, int)

Referenced by ieee80211_node_attach(), ieee80211_node_pwrsave(), ieee80211_pwrsave(), ieee80211_recv_pspoll(), ieee80211_timeout_stations(), and node_cleanup().

#### 6.49.3.71 struct ieee80211_node_table ieee80211com::ic_sta

Definition at line 127 of file ieee80211_var.h.

Referenced by getstainfo_common(), ieee80211_add_neighbor(), ieee80211_auth_open(), ieee80211_auth_shared(), ieee80211_create_ibss(), ieee80211_deliver_data(), ieee80211_find_rxnode(), ieee80211_find_rxnode_withkey(), ieee80211_find_txnode(), ieee80211_getrssi(), ieee80211_input(), ieee80211_ioctl_delkey(), ieee80211_ioctl_getkey(), ieee80211_ioctl_getstainfo(), ieee80211_ioctl_getstastats(), ieee80211_ioctl_getstatxpow(), ieee80211_ioctl_getwpaie(), ieee80211_ioctl_setkey(), ieee80211_ioctl_setmlme(), ieee80211_ioctl_setstastats(), ieee80211_ioctl_setstatxpow(), ieee80211_newstate(), ieee80211_node_delucastkey(), ieee80211_node_detach(), ieee80211_node_lateattach(), ieee80211_recv_mgmt(), ieee80211_reset_bss(), ieee80211_sta_join(), ieee80211_tmp_node(), and ieee80211_watchdog().

#### 6.49.3.72 u_int16_t ieee80211com::ic_sta_assoc

Definition at line 130 of file ieee80211_var.h.

Referenced by ieee80211_node_join().

#### 6.49.3.73 enum ieee80211_state ieee80211com::ic_state

Definition at line 124 of file ieee80211_var.h.

Referenced by ieee80211_auth_open(), ieee80211_auth_shared(), ieee80211_beacon_miss(), ieee80211_cfgget(), ieee80211_cfgset(), ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), ieee80211_media_status(), ieee80211_newstate(), ieee80211_recv_mgmt(), ieee80211_setupscan(), and ieee80211_watchdog().

#### 6.49.3.74 struct ieee80211_stats ieee80211com::ic_stats

Definition at line 89 of file ieee80211_var.h.

Referenced by ccmp_attach(), ccmp_decap(), ccmp_decrypt(), ccmp_encrypt(), ieee80211_add_scan(), ieee80211_alloc_node(), ieee80211_auth_open(), ieee80211_auth_shared(), ieee80211_begin_scan(), ieee80211_crypto_newkey(), ieee80211_defrag(), ieee80211_deliver_data(), ieee80211_dup_bss(), ieee80211_encap(), ieee80211_find_txnode(), ieee80211_ibss_merge(), ieee80211_input(), ieee80211_ioctl(), ieee80211_notify_michael_failure(), ieee80211_recv_mgmt(), ieee80211_recv_pspoll(), ieee80211_send_nulldata(), ieee80211_send_probereq(), ieee80211_setup_rates(), ieee80211_timeout_stations(), ieee80211_tmp_node(), none_demic(), none_encap(), none_enmic(), tkip_attach(), tkip_decap(), tkip_decrypt(), tkip_demic(), tkip_encap(), tkip_encrypt(), tkip_enmic(), wep_attach(), wep_decap(), wep_decrypt(), and wep_encrypt().

#### 6.49.3.75 struct ieee80211_rateset ieee80211com::ic_sup_rates[IEEE80211_MODE_MAX]

Definition at line 110 of file ieee80211_var.h.

Referenced by findrate(), ieee80211_announce(), ieee80211_cfgget(), and ieee80211_get_suprates().

#### 6.49.3.76 struct callout ieee80211com::ic_swbmiss

Definition at line 151 of file ieee80211_var.h.

Referenced by ieee80211_newstate(), ieee80211_proto_attach(), and ieee80211_swbmiss().

#### 6.49.3.77 u_int16_t ieee80211com::ic_swbmiss_count

Definition at line 149 of file ieee80211_var.h.

Referenced by ieee80211_recv_mgmt(), and ieee80211_swbmiss().

#### 6.49.3.78 u_int16_t ieee80211com::ic_swbmiss_period

Definition at line 150 of file ieee80211_var.h.

Referenced by ieee80211_swbmiss().

#### 6.49.3.79 struct sysctl_ctx_list* ieee80211com::ic_sysctl

Definition at line 90 of file ieee80211_var.h.

Referenced by ieee80211_sysctl_attach(), and ieee80211_sysctl_detach().

#### 6.49.3.80 u_int8_t* ieee80211com::ic_tim_bitmap

Definition at line 133 of file ieee80211_var.h.

Referenced by ieee80211_beacon_update(), ieee80211_node_detach(), ieee80211_node_lateattach(), and ieee80211_set_tim().

#### 6.49.3.81 u_int16_t ieee80211com::ic_tim_len

Definition at line 134 of file ieee80211_var.h.

Referenced by ieee80211_beacon_alloc(), ieee80211_beacon_update(), and ieee80211_node_lateattach().

#### 6.49.3.82 u_int16_t ieee80211com::ic_txlifetime

Definition at line 161 of file ieee80211_var.h.

#### 6.49.3.83 u_int16_t ieee80211com::ic_txmax

Definition at line 160 of file ieee80211_var.h.

#### 6.49.3.84 u_int16_t ieee80211com::ic_txmin

Definition at line 159 of file ieee80211_var.h.

#### 6.49.3.85 u_int16_t ieee80211com::ic_txpowlimit

Definition at line 162 of file ieee80211_var.h.

Referenced by ieee80211_ifattach(), ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), and ieee80211_setup_node().

#### 6.49.3.86 void(∗ ieee80211com::ic_updateslot)(struct ifnet ∗)

Referenced by ieee80211_set_shortslottime().

#### 6.49.3.87 int ieee80211com::ic_vap

Definition at line 92 of file ieee80211_var.h.

Referenced by ieee80211_add_vap(), ieee80211_remove_vap(), and ieee80211_sysctl_attach().

#### 6.49.3.88 struct ieee80211_wme_state ieee80211com::ic_wme

Definition at line 184 of file ieee80211_var.h.

Referenced by ieee80211_beacon_alloc(), ieee80211_beacon_update(), ieee80211_classify(), ieee80211_-encap(), ieee80211_input(), ieee80211_ioctl_getwmeparam(), ieee80211_ioctl_setwmeparam(), ieee80211_parse_wmeparams(), ieee80211_proto_attach(), ieee80211_send_mgmt(), ieee80211_-wme_initparams(), and ieee80211_wme_updateparams_locked().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_var.h

# 6.50 ieee80211req Struct Reference

`#include <ieee80211_ioctl.h>`

## Data Fields

- char i_name [IFNAMSIZ]
- u_int16_t i_type
- int16_t i_val
- int16_t i_len
- void * i_data

### 6.50.1 Detailed Description

Definition at line 370 of file ieee80211_ioctl.h.

### 6.50.2 Field Documentation

#### 6.50.2.1 void* ieee80211req::i_data

Definition at line 375 of file ieee80211_ioctl.h.

Referenced by acl_getioctl(), getstainfo_common(), ieee80211_ioctl_delkey(), ieee80211_ioctl_get80211(), ieee80211_ioctl_getchanlist(), ieee80211_ioctl_getkey(), ieee80211_ioctl_getscanresults(), ieee80211_ioctl_getstainfo(), ieee80211_ioctl_getstastats(), ieee80211_ioctl_getstatxpow(), ieee80211_ioctl_getwpaie(), ieee80211_ioctl_macmac(), ieee80211_ioctl_set80211(), ieee80211_ioctl_setchanlist(), ieee80211_ioctl_setkey(), ieee80211_ioctl_setmlme(), ieee80211_ioctl_setoptie(), ieee80211_ioctl_setstastats(), and ieee80211_ioctl_setstatxpow().

#### 6.50.2.2 int16_t ieee80211req::i_len

Definition at line 374 of file ieee80211_ioctl.h.

Referenced by acl_getioctl(), getstainfo_common(), ieee80211_ioctl_delkey(), ieee80211_ioctl_get80211(), ieee80211_ioctl_getchanlist(), ieee80211_ioctl_getkey(), ieee80211_ioctl_getscanresults(), ieee80211_ioctl_getstainfo(), ieee80211_ioctl_getstastats(), ieee80211_ioctl_getstatxpow(), ieee80211_ioctl_getwmeparam(), ieee80211_ioctl_getwpaie(), ieee80211_ioctl_macmac(), ieee80211_ioctl_set80211(), ieee80211_ioctl_setchanlist(), ieee80211_ioctl_setkey(), ieee80211_ioctl_setmlme(), ieee80211_ioctl_setoptie(), ieee80211_ioctl_setstastats(), ieee80211_ioctl_setstatxpow(), and ieee80211_ioctl_setwmeparam().

#### 6.50.2.3 char ieee80211req::i_name[IFNAMSIZ]

Definition at line 371 of file ieee80211_ioctl.h.

#### 6.50.2.4 u_int16_t ieee80211req::i_type

Definition at line 372 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), ieee80211_ioctl_getwmeparam(), ieee80211_ioctl_macmac(), ieee80211_ioctl_set80211(), and ieee80211_ioctl_setwmeparam().

#### 6.50.2.5 int16_t ieee80211req::i_val

Definition at line 373 of file ieee80211_ioctl.h.

Referenced by acl_getioctl(), ieee80211_ioctl_get80211(), ieee80211_ioctl_getwmeparam(), ieee80211_-ioctl_set80211(), ieee80211_ioctl_setmaccmd(), and ieee80211_ioctl_setwmeparam().

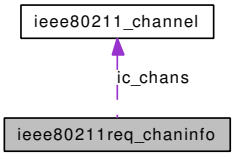
The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_ioctl.h

## 6.51 ieee80211req_chaninfo Struct Reference

`#include <ieee80211_ioctl.h>`

Collaboration diagram for ieee80211req_chaninfo:




### Data Fields

- u_int ic_nchans
- ieee80211_channel ic_chans [IEEE80211_CHAN_MAX]

### 6.51.1 Detailed Description

Definition at line 279 of file ieee80211_ioctl.h.

### 6.51.2 Field Documentation

#### 6.51.2.1 struct ieee80211_channel ieee80211req_chaninfo::ic_chans[IEEE80211_CHAN_MAX]

Definition at line 281 of file ieee80211_ioctl.h.

#### 6.51.2.2 u_int ieee80211req_chaninfo::ic_nchans

Definition at line 280 of file ieee80211_ioctl.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_ioctl.h

# 6.52 ieee80211req_chanlist Struct Reference

`#include <ieee80211_ioctl.h>`

## Data Fields

- u_int8_t ic_channels [IEEE80211_CHAN_BYTES]

### 6.52.1 Detailed Description

Definition at line 272 of file ieee80211_ioctl.h.

### 6.52.2 Field Documentation

#### 6.52.2.1 u_int8_t ieee80211req_chanlist::ic_channels[IEEE80211_CHAN_BYTES]

Definition at line 273 of file ieee80211_ioctl.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_ioctl.h

## 6.53 ieee80211req_del_key Struct Reference

`#include <ieee80211_ioctl.h>`

### Data Fields

- u_int8_t idk_keyix
- u_int8_t idk_macaddr [IEEE80211_ADDR_LEN]

### 6.53.1 Detailed Description

Definition at line 225 of file ieee80211_ioctl.h.

### 6.53.2 Field Documentation

#### 6.53.2.1 u_int8_t ieee80211req_del_key::idk_keyix

Definition at line 226 of file ieee80211_ioctl.h.

#### 6.53.2.2 u_int8_t ieee80211req_del_key::idk_macaddr[IEEE80211_ADDR_LEN]

Definition at line 227 of file ieee80211_ioctl.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_ioctl.h

# 6.54 ieee80211req_key Struct Reference

`#include <ieee80211_ioctl.h>`

## Data Fields

- u_int8_t ik_type
- u_int8_t ik_pad
- u_int16_t ik_keyix
- u_int8_t ik_keylen
- u_int8_t ik_flags
- u_int8_t ik_macaddr [IEEE80211_ADDR_LEN]
- u_int64_t ik_keyrsc
- u_int64_t ik_keytsc
- u_int8_t ik_keydata [IEEE80211_KEYBUF_SIZE+IEEE80211_MICBUF_SIZE]

## 6.54.1 Detailed Description

Definition at line 207 of file ieee80211_ioctl.h.

## 6.54.2 Field Documentation

### 6.54.2.1 u_int8_t ieee80211req_key::ik_flags

Definition at line 212 of file ieee80211_ioctl.h.

### 6.54.2.2 u_int8_t ieee80211req_key::ik_keydata[IEEE80211_KEYBUF_SIZE+IEEE80211_MICBUF_SIZE]

Definition at line 218 of file ieee80211_ioctl.h.

### 6.54.2.3 u_int16_t ieee80211req_key::ik_keyix

Definition at line 210 of file ieee80211_ioctl.h.

### 6.54.2.4 u_int8_t ieee80211req_key::ik_keylen

Definition at line 211 of file ieee80211_ioctl.h.

### 6.54.2.5 u_int64_t ieee80211req_key::ik_keyrsc

Definition at line 216 of file ieee80211_ioctl.h.

### 6.54.2.6 u_int64_t ieee80211req_key::ik_keytsc

Definition at line 217 of file ieee80211_ioctl.h.

#### 6.54.2.7 u_int8_t ieee80211req_key::ik_macaddr[IEEE80211_ADDR_LEN]

Definition at line 215 of file ieee80211_ioctl.h.

#### 6.54.2.8 u_int8_t ieee80211req_key::ik_pad

Definition at line 209 of file ieee80211_ioctl.h.

#### 6.54.2.9 u_int8_t ieee80211req_key::ik_type

Definition at line 208 of file ieee80211_ioctl.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_ioctl.h

# 6.55 ieee80211req_maclist Struct Reference

`#include <ieee80211_ioctl.h>`

## Data Fields

- u_int8_t ml_macaddr [IEEE80211_ADDR_LEN]

## 6.55.1 Detailed Description

Definition at line 262 of file ieee80211_ioctl.h.

## 6.55.2 Field Documentation

### 6.55.2.1 u_int8_t ieee80211req_maclist::ml_macaddr[IEEE80211_ADDR_LEN]

Definition at line 263 of file ieee80211_ioctl.h.

Referenced by acl_getioctl().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_ioctl.h

## 6.56 ieee80211req_mlme Struct Reference

`#include <ieee80211_ioctl.h>`

### Data Fields

- u_int8_t im_op
- u_int8_t im_ssid_len
- u_int16_t im_reason
- u_int8_t im_macaddr [IEEE80211_ADDR_LEN]
- u_int8_t im_ssid [IEEE80211_NWID_LEN]

### 6.56.1 Detailed Description

Definition at line 236 of file ieee80211_ioctl.h.

### 6.56.2 Field Documentation

#### 6.56.2.1 u_int8_t ieee80211req_mlme::im_macaddr[IEEE80211_ADDR_LEN]

Definition at line 245 of file ieee80211_ioctl.h.

#### 6.56.2.2 u_int8_t ieee80211req_mlme::im_op

Definition at line 237 of file ieee80211_ioctl.h.

Referenced by domlme().

#### 6.56.2.3 u_int16_t ieee80211req_mlme::im_reason

Definition at line 244 of file ieee80211_ioctl.h.

Referenced by domlme().

#### 6.56.2.4 u_int8_t ieee80211req_mlme::im_ssid[IEEE80211_NWID_LEN]

Definition at line 246 of file ieee80211_ioctl.h.

#### 6.56.2.5 u_int8_t ieee80211req_mlme::im_ssid_len

Definition at line 243 of file ieee80211_ioctl.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_ioctl.h

# 6.57 ieee80211req_scan_result Struct Reference

`#include <ieee80211_ioctl.h>`

## Data Fields

- u_int16_t isr_len
- u_int16_t isr_ie_len
- u_int16_t isr_freq
- u_int16_t isr_flags
- int8_t isr_noise
- int8_t isr_rssi
- u_int8_t isr_intval
- u_int8_t isr_capinfo
- u_int8_t isr_erp
- u_int8_t isr_bssid [IEEE80211_ADDR_LEN]
- u_int8_t isr_nrates
- u_int8_t isr_rates [IEEE80211_RATE_MAXSIZE]
- u_int8_t isr_ssid_len
- u_int8_t isr_pad [8]

## 6.57.1 Detailed Description

Definition at line 464 of file ieee80211_ioctl.h.

## 6.57.2 Field Documentation

### 6.57.2.1 u_int8_t ieee80211req_scan_result::isr_bssid[IEEE80211_ADDR_LEN]

Definition at line 474 of file ieee80211_ioctl.h.

Referenced by get_scan_result().

### 6.57.2.2 u_int8_t ieee80211req_scan_result::isr_capinfo

Definition at line 472 of file ieee80211_ioctl.h.

Referenced by get_scan_result().

### 6.57.2.3 u_int8_t ieee80211req_scan_result::isr_erp

Definition at line 473 of file ieee80211_ioctl.h.

Referenced by get_scan_result().

### 6.57.2.4 u_int16_t ieee80211req_scan_result::isr_flags

Definition at line 468 of file ieee80211_ioctl.h.

Referenced by get_scan_result().

#### 6.57.2.5 u_int16_t ieee80211req_scan_result::isr_freq

Definition at line 467 of file ieee80211_ioctl.h.

Referenced by get_scan_result().

#### 6.57.2.6 u_int16_t ieee80211req_scan_result::isr_ie_len

Definition at line 466 of file ieee80211_ioctl.h.

Referenced by get_scan_result().

#### 6.57.2.7 u_int8_t ieee80211req_scan_result::isr_intval

Definition at line 471 of file ieee80211_ioctl.h.

Referenced by get_scan_result().

#### 6.57.2.8 u_int16_t ieee80211req_scan_result::isr_len

Definition at line 465 of file ieee80211_ioctl.h.

Referenced by get_scan_result().

#### 6.57.2.9 int8_t ieee80211req_scan_result::isr_noise

Definition at line 469 of file ieee80211_ioctl.h.

#### 6.57.2.10 u_int8_t ieee80211req_scan_result::isr_nrates

Definition at line 475 of file ieee80211_ioctl.h.

Referenced by get_scan_result().

#### 6.57.2.11 u_int8_t ieee80211req_scan_result::isr_pad[8]

Definition at line 478 of file ieee80211_ioctl.h.

#### 6.57.2.12 u_int8_t ieee80211req_scan_result::isr_rates[IEEE80211_RATE_MAXSIZE]

Definition at line 476 of file ieee80211_ioctl.h.

Referenced by get_scan_result().

#### 6.57.2.13 int8_t ieee80211req_scan_result::isr_rssi

Definition at line 470 of file ieee80211_ioctl.h.

Referenced by get_scan_result().

#### 6.57.2.14 u_int8_t ieee80211req_scan_result::isr_ssid_len

Definition at line 477 of file ieee80211_ioctl.h.

Referenced by get_scan_result().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_ioctl.h

## 6.58 ieee80211req_sta_info Struct Reference

`#include <ieee80211_ioctl.h>`

### Data Fields

- u_int16_t isi_len
- u_int16_t isi_freq
- u_int16_t isi_flags
- u_int16_t isi_state
- u_int8_t isi_authmode
- int8_t isi_rssi
- u_int8_t isi_capinfo
- u_int8_t isi_erp
- u_int8_t isi_macaddr [IEEE80211_ADDR_LEN]
- u_int8_t isi_nrates
- u_int8_t isi_rates [IEEE80211_RATE_MAXSIZE]
- u_int8_t isi_txrate
- int8_t isi_noise
- u_int16_t isi_ie_len
- u_int16_t isi_associd
- u_int16_t isi_txpower
- u_int16_t isi_vlan
- u_int16_t isi_txseqs [17]
- u_int16_t isi_rxseqs [17]
- u_int16_t isi_inact

### 6.58.1 Detailed Description

Definition at line 308 of file ieee80211_ioctl.h.

### 6.58.2 Field Documentation

#### 6.58.2.1 u_int16_t ieee80211req_sta_info::isi_associd

Definition at line 324 of file ieee80211_ioctl.h.

Referenced by get_sta_info().

#### 6.58.2.2 u_int8_t ieee80211req_sta_info::isi_authmode

Definition at line 313 of file ieee80211_ioctl.h.

Referenced by get_sta_info().

#### 6.58.2.3 u_int8_t ieee80211req_sta_info::isi_capinfo

Definition at line 315 of file ieee80211_ioctl.h.

Referenced by get_sta_info().

#### 6.58.2.4 u_int8_t ieee80211req_sta_info::isi_erp

Definition at line 316 of file ieee80211_ioctl.h.

Referenced by get_sta_info().

#### 6.58.2.5 u_int16_t ieee80211req_sta_info::isi_flags

Definition at line 311 of file ieee80211_ioctl.h.

Referenced by get_sta_info().

#### 6.58.2.6 u_int16_t ieee80211req_sta_info::isi_freq

Definition at line 310 of file ieee80211_ioctl.h.

Referenced by get_sta_info().

#### 6.58.2.7 u_int16_t ieee80211req_sta_info::isi_ie_len

Definition at line 323 of file ieee80211_ioctl.h.

Referenced by get_sta_info().

#### 6.58.2.8 u_int16_t ieee80211req_sta_info::isi_inact

Definition at line 329 of file ieee80211_ioctl.h.

Referenced by get_sta_info().

#### 6.58.2.9 u_int16_t ieee80211req_sta_info::isi_len

Definition at line 309 of file ieee80211_ioctl.h.

Referenced by get_sta_info().

#### 6.58.2.10 u_int8_t ieee80211req_sta_info::isi_macaddr[IEEE80211_ADDR_LEN]

Definition at line 317 of file ieee80211_ioctl.h.

Referenced by get_sta_info().

#### 6.58.2.11 int8_t ieee80211req_sta_info::isi_noise

Definition at line 322 of file ieee80211_ioctl.h.

Referenced by get_sta_info().

#### 6.58.2.12 u_int8_t ieee80211req_sta_info::isi_nrates

Definition at line 318 of file ieee80211_ioctl.h.

Referenced by get_sta_info().

#### 6.58.2.13 u_int8_t ieee80211req_sta_info::isi_rates[IEEE80211_RATE_MAXSIZE]

Definition at line 320 of file ieee80211_ioctl.h.

Referenced by get_sta_info().

#### 6.58.2.14 int8_t ieee80211req_sta_info::isi_rssi

Definition at line 314 of file ieee80211_ioctl.h.

Referenced by get_sta_info().

#### 6.58.2.15 u_int16_t ieee80211req_sta_info::isi_rxseqs[17]

Definition at line 328 of file ieee80211_ioctl.h.

Referenced by get_sta_info().

#### 6.58.2.16 u_int16_t ieee80211req_sta_info::isi_state

Definition at line 312 of file ieee80211_ioctl.h.

Referenced by get_sta_info().

#### 6.58.2.17 u_int16_t ieee80211req_sta_info::isi_txpower

Definition at line 325 of file ieee80211_ioctl.h.

Referenced by get_sta_info().

#### 6.58.2.18 u_int8_t ieee80211req_sta_info::isi_txrate

Definition at line 321 of file ieee80211_ioctl.h.

Referenced by get_sta_info().

#### 6.58.2.19 u_int16_t ieee80211req_sta_info::isi_txseqs[17]

Definition at line 327 of file ieee80211_ioctl.h.

Referenced by get_sta_info().

#### 6.58.2.20 u_int16_t ieee80211req_sta_info::isi_vlan

Definition at line 326 of file ieee80211_ioctl.h.

Referenced by get_sta_info().

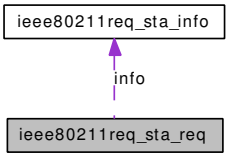
The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_ioctl.h

# 6.59 ieee80211req_sta_req Struct Reference

`#include <ieee80211_ioctl.h>`

Collaboration diagram for ieee80211req_sta_req:




## Data Fields

- union {
  u_int8_t macaddr [IEEE80211_ADDR_LEN]
  u_int64_t pad
  } is_u

- ieee80211req_sta_info info [1]

### 6.59.1 Detailed Description

Definition at line 338 of file ieee80211_ioctl.h.

### 6.59.2 Field Documentation

#### 6.59.2.1 struct ieee80211req_sta_info ieee80211req_sta_req::info[1]

Definition at line 344 of file ieee80211_ioctl.h.

#### 6.59.2.2 union { ... } ieee80211req_sta_req::is_u

#### 6.59.2.3 u_int8_t ieee80211req_sta_req::macaddr[IEEE80211_ADDR_LEN]

Definition at line 341 of file ieee80211_ioctl.h.

#### 6.59.2.4 u_int64_t ieee80211req_sta_req::pad

Definition at line 342 of file ieee80211_ioctl.h.

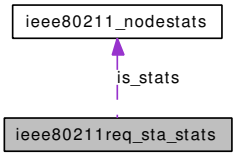
The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_ioctl.h

## 6.60 ieee80211req_sta_stats Struct Reference

`#include <ieee80211_ioctl.h>`

Collaboration diagram for ieee80211req_sta_stats:




### Data Fields

- union {
  u_int8_t macaddr [IEEE80211_ADDR_LEN]
  u_int64_t pad
  } is_u

- ieee80211_nodestats is_stats

### 6.60.1 Detailed Description

Definition at line 295 of file ieee80211_ioctl.h.

### 6.60.2 Field Documentation

#### 6.60.2.1 struct ieee80211_nodestats ieee80211req_sta_stats::is_stats

Definition at line 301 of file ieee80211_ioctl.h.

#### 6.60.2.2 union { ... } ieee80211req_sta_stats::is_u

#### 6.60.2.3 u_int8_t ieee80211req_sta_stats::macaddr[IEEE80211_ADDR_LEN]

Definition at line 298 of file ieee80211_ioctl.h.

#### 6.60.2.4 u_int64_t ieee80211req_sta_stats::pad

Definition at line 299 of file ieee80211_ioctl.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_ioctl.h

# 6.61 ieee80211req_sta_txpow Struct Reference

`#include <ieee80211_ioctl.h>`

## Data Fields

- u_int8_t it_macaddr [IEEE80211_ADDR_LEN]
- u_int8_t it_txpow

## 6.61.1 Detailed Description

Definition at line 350 of file ieee80211_ioctl.h.

## 6.61.2 Field Documentation

### 6.61.2.1 u_int8_t ieee80211req_sta_txpow::it_macaddr[IEEE80211_ADDR_LEN]

Definition at line 351 of file ieee80211_ioctl.h.

### 6.61.2.2 u_int8_t ieee80211req_sta_txpow::it_txpow

Definition at line 352 of file ieee80211_ioctl.h.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_ioctl.h

# 6.62 ieee80211req_wpaie Struct Reference

`#include <ieee80211_ioctl.h>`

## Data Fields

- u_int8_t wpa_macaddr [IEEE80211_ADDR_LEN]
- u_int8_t wpa_ie [IEEE80211_MAX_OPT_IE]

## 6.62.1 Detailed Description

Definition at line 287 of file ieee80211_ioctl.h.

## 6.62.2 Field Documentation

### 6.62.2.1 u_int8_t ieee80211req_wpaie::wpa_ie[IEEE80211_MAX_OPT_IE]

Definition at line 289 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_getwpaie().

### 6.62.2.2 u_int8_t ieee80211req_wpaie::wpa_macaddr[IEEE80211_ADDR_LEN]

Definition at line 288 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_getwpaie().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_ioctl.h

# 6.63 l2_update_frame Struct Reference

## Data Fields

- ether_header eh
- u_int8_t dsap
- u_int8_t ssap
- u_int8_t control
- u_int8_t xid [3]

### 6.63.1 Detailed Description

Definition at line 1728 of file ieee80211_input.c.

### 6.63.2 Field Documentation

#### 6.63.2.1 u_int8_t l2_update_frame::control

Definition at line 1732 of file ieee80211_input.c.

#### 6.63.2.2 u_int8_t l2_update_frame::dsap

Definition at line 1730 of file ieee80211_input.c.

#### 6.63.2.3 struct ether_header l2_update_frame::eh

Definition at line 1729 of file ieee80211_input.c.

Referenced by ieee80211_deliver_l2uf().

#### 6.63.2.4 u_int8_t l2_update_frame::ssap

Definition at line 1731 of file ieee80211_input.c.

#### 6.63.2.5 u_int8_t l2_update_frame::xid[3]

Definition at line 1733 of file ieee80211_input.c.

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_input.c

# 6.64 phyParamType Struct Reference

## Data Fields

- u_int8_t aifsn
- u_int8_t logcwmin
- u_int8_t logcwmax
- u_int16_t txopLimit
- u_int8_t acm

### 6.64.1 Detailed Description

Definition at line 535 of file ieee80211_proto.c.

### 6.64.2 Field Documentation

#### 6.64.2.1 u_int8_t phyParamType::acm

Definition at line 540 of file ieee80211_proto.c.

Referenced by ieee80211_wme_initparams().

#### 6.64.2.2 u_int8_t phyParamType::aifsn

Definition at line 536 of file ieee80211_proto.c.

Referenced by ieee80211_wme_initparams().

#### 6.64.2.3 u_int8_t phyParamType::logcwmax

Definition at line 538 of file ieee80211_proto.c.

Referenced by ieee80211_wme_initparams().

#### 6.64.2.4 u_int8_t phyParamType::logcwmin

Definition at line 537 of file ieee80211_proto.c.

Referenced by ieee80211_wme_initparams().

#### 6.64.2.5 u_int16_t phyParamType::txopLimit

Definition at line 539 of file ieee80211_proto.c.

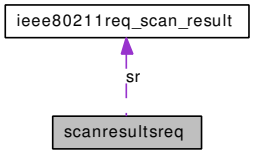
Referenced by ieee80211_wme_initparams().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_proto.c

# 6.65 scanresultsreq Struct Reference

Collaboration diagram for scanresultsreq:




## Data Fields

- ieee80211req_scan_result * sr
- size_t space

### 6.65.1 Detailed Description

Definition at line 1086 of file ieee80211_ioctl.c.

### 6.65.2 Field Documentation

#### 6.65.2.1 size_t scanresultsreq::space

Definition at line 1088 of file ieee80211_ioctl.c.

Referenced by get_scan_result(), get_scan_space(), and ieee80211_ioctl_getscanresults().

#### 6.65.2.2 struct ieee80211req_scan_result* scanresultsreq::sr

Definition at line 1087 of file ieee80211_ioctl.c.

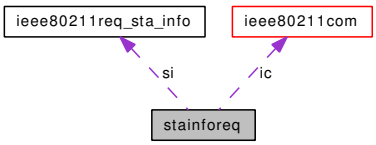
Referenced by get_scan_result(), and ieee80211_ioctl_getscanresults().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_ioctl.c

## 6.66 stainforeq Struct Reference

Collaboration diagram for stainforeq:




### Data Fields

- ieee80211com * ic
- ieee80211req_sta_info * si
- size_t space

### 6.66.1 Detailed Description

Definition at line 1203 of file ieee80211_ioctl.c.

### 6.66.2 Field Documentation

#### 6.66.2.1 struct ieee80211com* stainforeq::ic

Definition at line 1204 of file ieee80211_ioctl.c.

Referenced by getstainfo_common().

#### 6.66.2.2 struct ieee80211req_sta_info* stainforeq::si

Definition at line 1205 of file ieee80211_ioctl.c.

Referenced by get_sta_info(), and getstainfo_common().

#### 6.66.2.3 size_t stainforeq::space

Definition at line 1206 of file ieee80211_ioctl.c.

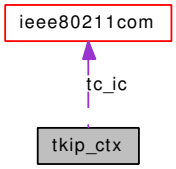
Referenced by get_sta_info(), get_sta_space(), and getstainfo_common().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_ioctl.c

# 6.67 tkip_ctx Struct Reference

Collaboration diagram for tkip_ctx:




## Data Fields

- ieee80211com * tc_ic
- u16 tx_ttak [5]
- int tx_phase1_done
- u8 tx_rc4key [16]
- u16 rx_ttak [5]
- int rx_phase1_done
- u8 rx_rc4key [16]
- uint64_t rx_rsc

## 6.67.1 Detailed Description

Definition at line 88 of file ieee80211_crypto_tkip.c.

## 6.67.2 Field Documentation

### 6.67.2.1 int tkip_ctx::rx_phase1_done

Definition at line 96 of file ieee80211_crypto_tkip.c.

Referenced by tkip_decrypt().

### 6.67.2.2 u8 tkip_ctx::rx_rc4key[16]

Definition at line 97 of file ieee80211_crypto_tkip.c.

Referenced by tkip_decrypt().

### 6.67.2.3 uint64_t tkip_ctx::rx_rsc

Definition at line 98 of file ieee80211_crypto_tkip.c.

Referenced by tkip_decap(), tkip_decrypt(), and tkip_demic().

### 6.67.2.4 u16 tkip_ctx::rx_ttak[5]

Definition at line 95 of file ieee80211_crypto_tkip.c.

Referenced by tkip_decrypt().

#### 6.67.2.5 struct ieee80211com* tkip_ctx::tc_ic

Definition at line 89 of file ieee80211_crypto_tkip.c.

Referenced by tkip_attach(), tkip_decap(), tkip_decrypt(), tkip_demic(), tkip_encap(), tkip_encrypt(), tkip_enmic(), and tkip_setkey().

#### 6.67.2.6 int tkip_ctx::tx_phase1_done

Definition at line 92 of file ieee80211_crypto_tkip.c.

Referenced by tkip_encrypt().

#### 6.67.2.7 u8 tkip_ctx::tx_rc4key[16]

Definition at line 93 of file ieee80211_crypto_tkip.c.

Referenced by tkip_encrypt().

#### 6.67.2.8 u16 tkip_ctx::tx_ttak[5]

Definition at line 91 of file ieee80211_crypto_tkip.c.

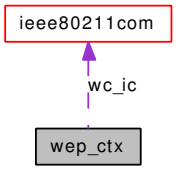
Referenced by tkip_encrypt().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_crypto_tkip.c

# 6.68 wep_ctx Struct Reference

Collaboration diagram for wep_ctx:




## Data Fields

- ieee80211com * wc_ic
- u_int32_t wc_iv

### 6.68.1 Detailed Description

Definition at line 80 of file ieee80211_crypto_wep.c.

### 6.68.2 Field Documentation

#### 6.68.2.1 struct ieee80211com* wep_ctx::wc_ic

Definition at line 81 of file ieee80211_crypto_wep.c.

Referenced by wep_attach(), wep_decap(), wep_decrypt(), wep_encap(), and wep_encrypt().

#### 6.68.2.2 u_int32_t wep_ctx::wc_iv

Definition at line 82 of file ieee80211_crypto_wep.c.

Referenced by wep_attach(), and wep_encap().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_crypto_wep.c

# 6.69 wi_read_ap_args Struct Reference

## Data Fields

- int i
- wi_apinfo * ap
- caddr_t max

### 6.69.1 Detailed Description

Definition at line 85 of file ieee80211_ioctl.c.

### 6.69.2 Field Documentation

#### 6.69.2.1 struct wi_apinfo* wi_read_ap_args::ap

Definition at line 87 of file ieee80211_ioctl.c.

Referenced by ieee80211_cfgget(), and wi_read_ap_result().

#### 6.69.2.2 int wi_read_ap_args::i

Definition at line 86 of file ieee80211_ioctl.c.

Referenced by ieee80211_cfgget().

#### 6.69.2.3 caddr_t wi_read_ap_args::max

Definition at line 88 of file ieee80211_ioctl.c.

Referenced by ieee80211_cfgget(), and wi_read_ap_result().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_ioctl.c

# 6.70 wi_read_prism2_args Struct Reference

## Data Fields

- int i
- wi_scan_res * res
- caddr_t max

### 6.70.1 Detailed Description

Definition at line 131 of file ieee80211_ioctl.c.

### 6.70.2 Field Documentation

#### 6.70.2.1 int wi_read_prism2_args::i

Definition at line 132 of file ieee80211_ioctl.c.

Referenced by ieee80211_cfgget(), and wi_read_prism2_result().

#### 6.70.2.2 caddr_t wi_read_prism2_args::max

Definition at line 134 of file ieee80211_ioctl.c.

Referenced by ieee80211_cfgget(), and wi_read_prism2_result().

#### 6.70.2.3 struct wi_scan_res* wi_read_prism2_args::res

Definition at line 133 of file ieee80211_ioctl.c.

Referenced by ieee80211_cfgget(), and wi_read_prism2_result().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_ioctl.c

# 6.71 wi_read_sigcache_args Struct Reference

## Data Fields

- int i
- wi_sigcache * wsc
- caddr_t max

### 6.71.1 Detailed Description

Definition at line 166 of file ieee80211_ioctl.c.

### 6.71.2 Field Documentation

#### 6.71.2.1 int wi_read_sigcache_args::i

Definition at line 167 of file ieee80211_ioctl.c.

Referenced by ieee80211_cfgget(), and wi_read_sigcache().

#### 6.71.2.2 caddr_t wi_read_sigcache_args::max

Definition at line 169 of file ieee80211_ioctl.c.

Referenced by ieee80211_cfgget(), and wi_read_sigcache().

#### 6.71.2.3 struct wi_sigcache* wi_read_sigcache_args::wsc

Definition at line 168 of file ieee80211_ioctl.c.

Referenced by ieee80211_cfgget(), and wi_read_sigcache().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_ioctl.c

## 6.72 wmeParams Struct Reference

`#include <ieee80211_proto.h>`

### Data Fields

- u_int8_t wmep_acm
- u_int8_t wmep_aifsn
- u_int8_t wmep_logcwmin
- u_int8_t wmep_logcwmax
- u_int8_t wmep_txopLimit
- u_int8_t wmep_noackPolicy

### 6.72.1 Detailed Description

Definition at line 189 of file ieee80211_proto.h.

### 6.72.2 Field Documentation

#### 6.72.2.1 u_int8_t wmeParams::wmep_acm

Definition at line 190 of file ieee80211_proto.h.

Referenced by ieee80211_classify(), ieee80211_ioctl_getwmeparam(), ieee80211_ioctl_setwmeparam(), ieee80211_parse_wmeparams(), ieee80211_wme_initparams(), and ieee80211_wme_updateparams_locked().

#### 6.72.2.2 u_int8_t wmeParams::wmep_aifsn

Definition at line 191 of file ieee80211_proto.h.

Referenced by ieee80211_ioctl_getwmeparam(), ieee80211_ioctl_setwmeparam(), ieee80211_wme_initparams(), and ieee80211_wme_updateparams_locked().

#### 6.72.2.3 u_int8_t wmeParams::wmep_logcwmax

Definition at line 193 of file ieee80211_proto.h.

Referenced by ieee80211_ioctl_getwmeparam(), ieee80211_ioctl_setwmeparam(), ieee80211_wme_initparams(), and ieee80211_wme_updateparams_locked().

#### 6.72.2.4 u_int8_t wmeParams::wmep_logcwmin

Definition at line 192 of file ieee80211_proto.h.

Referenced by ieee80211_ioctl_getwmeparam(), ieee80211_ioctl_setwmeparam(), ieee80211_wme_initparams(), and ieee80211_wme_updateparams_locked().

#### 6.72.2.5 u_int8_t wmeParams::wmep_noackPolicy

Definition at line 195 of file ieee80211_proto.h.

Referenced by ieee80211_encap(), ieee80211_ioctl_getwmeparam(), and ieee80211_ioctl_-setwmeparam().

#### 6.72.2.6 u_int8_t wmeParams::wmep_txopLimit

Definition at line 194 of file ieee80211_proto.h.

Referenced by ieee80211_ioctl_getwmeparam(), ieee80211_ioctl_setwmeparam(), ieee80211_wme_-initparams(), and ieee80211_wme_updateparams_locked().

The documentation for this struct was generated from the following file:

- /usr/src/sys/net80211/ieee80211_proto.h

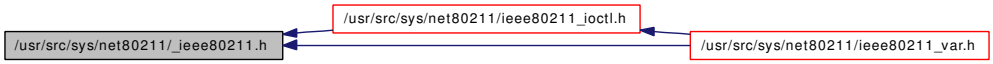
# Chapter 7

# FreeBSD kernel WLAN code File Documentation

## 7.1 notreviewed.dox File Reference

## 7.2 /usr/src/sys/net80211/_ieee80211.h File Reference

This graph shows which files directly or indirectly include this file:




### Data Structures

- struct ieee80211_channel
- struct ieee80211_rateset

### Defines

- #define IEEE80211_T_CCK IEEE80211_T_DS
- #define IEEE80211_MODE_MAX (IEEE80211_MODE_TURBO_G+1)
- #define IEEE80211_CHAN_MAX 255
- #define IEEE80211_CHAN_BYTES 32
- #define IEEE80211_CHAN_ANY 0xffff
- #define IEEE80211_CHAN_ANYC ((struct ieee80211_channel *) IEEE80211_CHAN_ANY)
- #define IEEE80211_CHAN_TURBO 0x0010
- #define IEEE80211_CHAN_CCK 0x0020
- #define IEEE80211_CHAN_OFDM 0x0040
- #define IEEE80211_CHAN_2GHZ 0x0080
- #define IEEE80211_CHAN_5GHZ 0x0100
- #define IEEE80211_CHAN_PASSIVE 0x0200
- #define IEEE80211_CHAN_DYN 0x0400
- #define IEEE80211_CHAN_GFSK 0x0800
- #define IEEE80211_CHAN_GSM 0x1000
- #define IEEE80211_CHAN_HALF 0x4000
- #define IEEE80211_CHAN_QUARTER 0x8000
- #define IEEE80211_CHAN_FHSS (IEEE80211_CHAN_2GHZ | IEEE80211_CHAN_GFSK)
- #define IEEE80211_CHAN_A (IEEE80211_CHAN_5GHZ | IEEE80211_CHAN_OFDM)
- #define IEEE80211_CHAN_B (IEEE80211_CHAN_2GHZ | IEEE80211_CHAN_CCK)
- #define IEEE80211_CHAN_PUREG (IEEE80211_CHAN_2GHZ | IEEE80211_CHAN_OFDM)
- #define IEEE80211_CHAN_G (IEEE80211_CHAN_2GHZ | IEEE80211_CHAN_DYN)
- #define IEEE80211_CHAN_T (IEEE80211_CHAN_5GHZ | IEEE80211_CHAN_OFDM | IEEE80211_CHAN_TURBO)
- #define IEEE80211_CHAN_108G (IEEE80211_CHAN_2GHZ | IEEE80211_CHAN_OFDM | IEEE80211_CHAN_TURBO)
- #define IEEE80211_CHAN_ALL
- #define IEEE80211_CHAN_ALLTURBO (IEEE80211_CHAN_ALL | IEEE80211_CHAN_-TURBO)
- #define IEEE80211_IS_CHAN_FHSS(_c) (((_c) → ic_flags & IEEE80211_CHAN_FHSS) == IEEE80211_CHAN_FHSS)
- #define IEEE80211_IS_CHAN_A(_c) (((_c) → ic_flags & IEEE80211_CHAN_A) == IEEE80211_CHAN_A)

- #define IEEE80211_IS_CHAN_B(_c) (((_c) → ic_flags & IEEE80211_CHAN_B) == IEEE80211_-CHAN_B)
- #define IEEE80211_IS_CHAN_PUREG(_c) (((_c) → ic_flags & IEEE80211_CHAN_PUREG) == IEEE80211_CHAN_PUREG)
- #define IEEE80211_IS_CHAN_G(_c) (((_c) → ic_flags & IEEE80211_CHAN_G) == IEEE80211_CHAN_G)
- #define IEEE80211_IS_CHAN_ANYG(_c) (IEEE80211_IS_CHAN_PUREG(_c) || IEEE80211_-IS_CHAN_G(_c))
- #define IEEE80211_IS_CHAN_T(_c) (((_c) → ic_flags & IEEE80211_CHAN_T) == IEEE80211_-CHAN_T)
- #define IEEE80211_IS_CHAN_108G(_c) (((_c) → ic_flags & IEEE80211_CHAN_108G) == IEEE80211_CHAN_108G)
- #define IEEE80211_IS_CHAN_2GHZ(_c) (((_c) → ic_flags & IEEE80211_CHAN_2GHZ) != 0)
- #define IEEE80211_IS_CHAN_5GHZ(_c) (((_c) → ic_flags & IEEE80211_CHAN_5GHZ) != 0)
- #define IEEE80211_IS_CHAN_OFDM(_c) (((_c) → ic_flags & IEEE80211_CHAN_OFDM) != 0)
- #define IEEE80211_IS_CHAN_CCK(_c) (((_c) → ic_flags & IEEE80211_CHAN_CCK) != 0)
- #define IEEE80211_IS_CHAN_GFSK(_c) (((_c) → ic_flags & IEEE80211_CHAN_GFSK) != 0)
- #define IEEE80211_IS_CHAN_HALF(_c) (((_c) → ic_flags & IEEE80211_CHAN_HALF) != 0)
- #define IEEE80211_IS_CHAN_QUARTER(_c) (((_c) → ic_flags & IEEE80211_CHAN_-QUARTER) != 0)
- #define IEEE80211_IS_CHAN_FULL(_c) (((_c) → ic_flags & (IEEE80211_CHAN_QUARTER | IEEE80211_CHAN_HALF)) == 0)
- #define IEEE80211_IS_CHAN_GSM(_c) (((_c) → ic_flags & IEEE80211_CHAN_GSM) != 0)
- #define IEEE80211_IS_CHAN_PASSIVE(_c) (((_c) → ic_flags & IEEE80211_CHAN_PASSIVE) != 0)
- #define IEEE80211_FH_CHANMOD 80
- #define IEEE80211_FH_CHAN(set, pat) (((set)-1)∗IEEE80211_FH_CHANMOD+(pat))
- #define IEEE80211_FH_CHANSET(chan) ((chan)/IEEE80211_FH_CHANMOD+1)
- #define IEEE80211_FH_CHANPAT(chan) ((chan)%IEEE80211_FH_CHANMOD)
- #define IEEE80211_RATE_SIZE 8
- #define IEEE80211_RATE_MAXSIZE 15

## Enumerations

- enum ieee80211_phytype { IEEE80211_T_DS, IEEE80211_T_FH, IEEE80211_T_OFDM, IEEE80211_T_TURBO }
- enum ieee80211_phymode {

  IEEE80211_MODE_AUTO = 0, IEEE80211_MODE_11A = 1, IEEE80211_MODE_11B = 2, IEEE80211_MODE_11G = 3,

  IEEE80211_MODE_FH = 4, IEEE80211_MODE_TURBO_A = 5, IEEE80211_MODE_TURBO_-G = 6 }
- enum ieee80211_opmode {

  IEEE80211_M_STA = 1, IEEE80211_M_IBSS = 0, IEEE80211_M_AHDEMO = 3, IEEE80211_-M_HOSTAP = 6,

  IEEE80211_M_MONITOR = 8 }
- enum ieee80211_protmode { IEEE80211_PROT_NONE = 0, IEEE80211_PROT_CTSONLY = 1, IEEE80211_PROT_RTSCTS = 2 }

- enum ieee80211_authmode {

  IEEE80211_AUTH_NONE = 0, IEEE80211_AUTH_OPEN = 1, IEEE80211_AUTH_SHARED = 2, IEEE80211_AUTH_8021X = 3,

  IEEE80211_AUTH_AUTO = 4, IEEE80211_AUTH_WPA = 5 }
- enum ieee80211_roamingmode { IEEE80211_ROAMING_DEVICE = 0, IEEE80211_ROAMING_AUTO = 1, IEEE80211_ROAMING_MANUAL = 2 }

## 7.2.1 Define Documentation

### 7.2.1.1 #define IEEE80211_CHAN_108G (IEEE80211_CHAN_2GHZ | IEEE80211_CHAN_OFDM | IEEE80211_CHAN_TURBO)

Definition at line 145 of file _ieee80211.h.

Referenced by ieee80211_setmode().

### 7.2.1.2 #define IEEE80211_CHAN_2GHZ 0x0080

Definition at line 121 of file _ieee80211.h.

Referenced by ieee80211_ieee2mhz(), and ieee80211_mhz2ieee().

### 7.2.1.3 #define IEEE80211_CHAN_5GHZ 0x0100

Definition at line 122 of file _ieee80211.h.

Referenced by ieee80211_ieee2mhz(), and ieee80211_mhz2ieee().

### 7.2.1.4 #define IEEE80211_CHAN_A (IEEE80211_CHAN_5GHZ | IEEE80211_CHAN_OFDM)

Definition at line 135 of file _ieee80211.h.

Referenced by ieee80211_setmode().

### 7.2.1.5 #define IEEE80211_CHAN_ALL

**Value:**

```
(IEEE80211_CHAN_2GHZ | IEEE80211_CHAN_5GHZ | IEEE80211_CHAN_GFSK | \
         IEEE80211_CHAN_CCK | IEEE80211_CHAN_OFDM | IEEE80211_CHAN_DYN)
```

Definition at line 148 of file _ieee80211.h.

### 7.2.1.6 #define IEEE80211_CHAN_ALLTURBO (IEEE80211_CHAN_ALL | IEEE80211_CHAN_TURBO)

Definition at line 151 of file _ieee80211.h.

#### 7.2.1.7 #define IEEE80211_CHAN_ANY 0xffff

Definition at line 112 of file _ieee80211.h.

Referenced by ieee80211_chan2ieee(), and ieee80211_ioctl_set80211().

#### 7.2.1.8 #define IEEE80211_CHAN_ANYC ((struct ieee80211_channel *) IEEE80211_CHAN_ANY)

Definition at line 113 of file _ieee80211.h.

Referenced by get_scan_result(), get_sta_info(), ieee80211_chan2ieee(), ieee80211_ifattach(), ieee80211_ioctl_set80211(), ieee80211_match_bss(), ieee80211_newstate(), ieee80211_reset_scan(), ieee80211_set_chan(), and ieee80211_setup_node().

#### 7.2.1.9 #define IEEE80211_CHAN_B (IEEE80211_CHAN_2GHZ | IEEE80211_CHAN_CCK)

Definition at line 137 of file _ieee80211.h.

Referenced by ieee80211_setmode().

#### 7.2.1.10 #define IEEE80211_CHAN_BYTES 32

Definition at line 111 of file _ieee80211.h.

Referenced by ieee80211_ioctl_setchanlist().

#### 7.2.1.11 #define IEEE80211_CHAN_CCK 0x0020

Definition at line 119 of file _ieee80211.h.

#### 7.2.1.12 #define IEEE80211_CHAN_DYN 0x0400

Definition at line 124 of file _ieee80211.h.

Referenced by ieee80211_chan2mode().

#### 7.2.1.13 #define IEEE80211_CHAN_FHSS (IEEE80211_CHAN_2GHZ | IEEE80211_CHAN_GFSK)

Definition at line 133 of file _ieee80211.h.

Referenced by ieee80211_setmode().

#### 7.2.1.14 #define IEEE80211_CHAN_G (IEEE80211_CHAN_2GHZ | IEEE80211_CHAN_DYN)

Definition at line 141 of file _ieee80211.h.

#### 7.2.1.15 #define IEEE80211_CHAN_GFSK 0x0800

Definition at line 125 of file _ieee80211.h.

#### 7.2.1.16 #define IEEE80211_CHAN_GSM 0x1000

Definition at line 126 of file _ieee80211.h.

Referenced by ieee80211_ieee2mhz(), and ieee80211_mhz2ieee().

#### 7.2.1.17 #define IEEE80211_CHAN_HALF 0x4000

Definition at line 127 of file _ieee80211.h.

Referenced by ieee80211_ieee2mhz(), ieee80211_mhz2ieee(), and mapgsm().

#### 7.2.1.18 #define IEEE80211_CHAN_MAX 255

Definition at line 110 of file _ieee80211.h.

Referenced by ieee80211_cfgget(), ieee80211_cfgset(), ieee80211_chan2ieee(), ieee80211_chan_init(), ieee80211_ioctl_getchaninfo(), ieee80211_ioctl_set80211(), ieee80211_ioctl_setchanlist(), ieee80211_-recv_mgmt(), and ieee80211_setmode().

#### 7.2.1.19 #define IEEE80211_CHAN_OFDM 0x0040

Definition at line 120 of file _ieee80211.h.

Referenced by ieee80211_chan2mode().

#### 7.2.1.20 #define IEEE80211_CHAN_PASSIVE 0x0200

Definition at line 123 of file _ieee80211.h.

Referenced by ieee80211_probe_curchan().

#### 7.2.1.21 #define IEEE80211_CHAN_PUREG (IEEE80211_CHAN_2GHZ | IEEE80211_CHAN_OFDM)

Definition at line 139 of file _ieee80211.h.

Referenced by ieee80211_setmode().

#### 7.2.1.22 #define IEEE80211_CHAN_QUARTER 0x8000

Definition at line 128 of file _ieee80211.h.

Referenced by ieee80211_ieee2mhz(), ieee80211_mhz2ieee(), and mapgsm().

#### 7.2.1.23 #define IEEE80211_CHAN_T (IEEE80211_CHAN_5GHZ | IEEE80211_CHAN_OFDM | IEEE80211_CHAN_TURBO)

Definition at line 143 of file _ieee80211.h.

Referenced by ieee80211_setmode().

#### 7.2.1.24 #define IEEE80211_CHAN_TURBO 0x0010

Definition at line 118 of file _ieee80211.h.

#### 7.2.1.25 #define IEEE80211_FH_CHAN(set, pat) (((set)-1)*IEEE80211_FH_CHANMOD+(pat))

Definition at line 194 of file _ieee80211.h.

Referenced by ieee80211_recv_mgmt().

#### 7.2.1.26 #define IEEE80211_FH_CHANMOD 80

Definition at line 193 of file _ieee80211.h.

#### 7.2.1.27 #define IEEE80211_FH_CHANPAT(chan) ((chan)%IEEE80211_FH_CHANMOD)

Definition at line 196 of file _ieee80211.h.

Referenced by ieee80211_send_mgmt().

#### 7.2.1.28 #define IEEE80211_FH_CHANSET(chan) ((chan)/IEEE80211_FH_CHANMOD+1)

Definition at line 195 of file _ieee80211.h.

Referenced by ieee80211_send_mgmt().

#### 7.2.1.29 #define IEEE80211_IS_CHAN_108G(_c) (((_c) → ic_flags & IEEE80211_CHAN_108G) == IEEE80211_CHAN_108G)

Definition at line 168 of file _ieee80211.h.

Referenced by ieee80211_chan_init().

#### 7.2.1.30 #define IEEE80211_IS_CHAN_2GHZ(_c) (((_c) → ic_flags & IEEE80211_CHAN_2GHZ) != 0)

Definition at line 171 of file _ieee80211.h.

Referenced by getcapinfo(), and ieee80211_send_mgmt().

#### 7.2.1.31 #define IEEE80211_IS_CHAN_5GHZ(_c) (((_c) → ic_flags & IEEE80211_CHAN_5GHZ) != 0)

Definition at line 173 of file _ieee80211.h.

Referenced by ieee80211_chan2mode(), and ieee80211_node_compare().

#### 7.2.1.32 #define IEEE80211_IS_CHAN_A(_c) (((_c) → ic_flags & IEEE80211_CHAN_A) == IEEE80211_CHAN_A)

Definition at line 156 of file _ieee80211.h.

Referenced by ieee80211_chan_init().

#### 7.2.1.33 #define IEEE80211_IS_CHAN_ANYG(_c) (IEEE80211_IS_CHAN_PUREG(_c) || IEEE80211_IS_CHAN_G(_c))

Definition at line 164 of file _ieee80211.h.

Referenced by ieee80211_chan_init().

#### 7.2.1.34 #define IEEE80211_IS_CHAN_B(_c) (((_c) → ic_flags & IEEE80211_CHAN_B) == IEEE80211_CHAN_B)

Definition at line 158 of file _ieee80211.h.

Referenced by ieee80211_chan_init().

#### 7.2.1.35 #define IEEE80211_IS_CHAN_CCK(_c) (((_c) → ic_flags & IEEE80211_CHAN_CCK) != 0)

Definition at line 177 of file _ieee80211.h.

#### 7.2.1.36 #define IEEE80211_IS_CHAN_FHSS(_c) (((_c) → ic_flags & IEEE80211_CHAN_FHSS) == IEEE80211_CHAN_FHSS)

Definition at line 154 of file _ieee80211.h.

Referenced by ieee80211_chan2mode(), and ieee80211_chan_init().

#### 7.2.1.37 #define IEEE80211_IS_CHAN_FULL(_c) (((_c) → ic_flags & (IEEE80211_CHAN_QUARTER | IEEE80211_CHAN_HALF)) == 0)

Definition at line 185 of file _ieee80211.h.

Referenced by ieee80211_create_ibss(), ieee80211_node_join(), and ieee80211_node_leave().

#### 7.2.1.38 #define IEEE80211_IS_CHAN_G(_c) (((_c) → ic_flags & IEEE80211_CHAN_G) == IEEE80211_CHAN_G)

Definition at line 162 of file _ieee80211.h.

#### 7.2.1.39 #define IEEE80211_IS_CHAN_GFSK(_c) (((_c) → ic_flags & IEEE80211_CHAN_GFSK) != 0)

Definition at line 179 of file _ieee80211.h.

#### 7.2.1.40 #define IEEE80211_IS_CHAN_GSM(_c) (((_c) → ic_flags & IEEE80211_CHAN_GSM) != 0)

Definition at line 187 of file _ieee80211.h.

#### 7.2.1.41 #define IEEE80211_IS_CHAN_HALF(_c) (((_c) → ic_flags & IEEE80211_CHAN_HALF) != 0)

Definition at line 181 of file _ieee80211.h.

Referenced by ieee80211_get_suprates().

#### 7.2.1.42 #define IEEE80211_IS_CHAN_OFDM(_c) (((_c) → ic_flags & IEEE80211_CHAN_OFDM) != 0)

Definition at line 175 of file _ieee80211.h.

#### 7.2.1.43 #define IEEE80211_IS_CHAN_PASSIVE(_c) (((_c) → ic_flags & IEEE80211_CHAN_PASSIVE) != 0)

Definition at line 189 of file _ieee80211.h.

#### 7.2.1.44 #define IEEE80211_IS_CHAN_PUREG(_c) (((_c) → ic_flags & IEEE80211_CHAN_PUREG) == IEEE80211_CHAN_PUREG)

Definition at line 160 of file _ieee80211.h.

#### 7.2.1.45 #define IEEE80211_IS_CHAN_QUARTER(_c) (((_c) → ic_flags & IEEE80211_CHAN_QUARTER) != 0)

Definition at line 183 of file _ieee80211.h.

Referenced by ieee80211_get_suprates().

#### 7.2.1.46 #define IEEE80211_IS_CHAN_T(_c) (((_c) → ic_flags & IEEE80211_CHAN_T) == IEEE80211_CHAN_T)

Definition at line 166 of file _ieee80211.h.

Referenced by ieee80211_chan2mode(), ieee80211_chan_init(), and ieee80211_setmode().

#### 7.2.1.47 #define IEEE80211_MODE_MAX (IEEE80211_MODE_TURBO_G+1)

Definition at line 55 of file _ieee80211.h.

Referenced by ieee80211_announce(), ieee80211_cfgset(), ieee80211_media_change(), ieee80211_media_init(), and ieee80211_wme_updateparams_locked().

#### 7.2.1.48 #define IEEE80211_RATE_MAXSIZE 15

Definition at line 202 of file _ieee80211.h.

Referenced by ieee80211_beacon_alloc(), ieee80211_recv_mgmt(), ieee80211_send_mgmt(), ieee80211_send_probereq(), and ieee80211_setup_rates().

#### 7.2.1.49 #define IEEE80211_RATE_SIZE 8

Definition at line 201 of file _ieee80211.h.

Referenced by ieee80211_add_rates(), ieee80211_add_xrates(), ieee80211_beacon_alloc(), ieee80211_-send_mgmt(), and ieee80211_send_probereq().

#### 7.2.1.50 #define IEEE80211_T_CCK IEEE80211_T_DS

Definition at line 43 of file _ieee80211.h.

### 7.2.2 Enumeration Type Documentation

#### 7.2.2.1 enum ieee80211_authmode

**Enumerator:**

*IEEE80211_AUTH_NONE*
*IEEE80211_AUTH_OPEN*
*IEEE80211_AUTH_SHARED*
*IEEE80211_AUTH_8021X*
*IEEE80211_AUTH_AUTO*
*IEEE80211_AUTH_WPA*

Definition at line 77 of file _ieee80211.h.

#### 7.2.2.2 enum ieee80211_opmode

**Enumerator:**

*IEEE80211_M_STA*
*IEEE80211_M_IBSS*
*IEEE80211_M_AHDEMO*
*IEEE80211_M_HOSTAP*
*IEEE80211_M_MONITOR*

Definition at line 57 of file _ieee80211.h.

#### 7.2.2.3 enum ieee80211_phymode

**Enumerator:**

*IEEE80211_MODE_AUTO*
*IEEE80211_MODE_11A*
*IEEE80211_MODE_11B*
*IEEE80211_MODE_11G*
*IEEE80211_MODE_FH*
*IEEE80211_MODE_TURBO_A*
*IEEE80211_MODE_TURBO_G*

Definition at line 46 of file _ieee80211.h.

#### 7.2.2.4 enum ieee80211_phytype

**Enumerator:**

*IEEE80211_T_DS*
*IEEE80211_T_FH*
*IEEE80211_T_OFDM*
*IEEE80211_T_TURBO*

Definition at line 37 of file _ieee80211.h.

#### 7.2.2.5 enum ieee80211_protmode

**Enumerator:**

*IEEE80211_PROT_NONE*
*IEEE80211_PROT_CTSONLY*
*IEEE80211_PROT_RTSCTS*

Definition at line 68 of file _ieee80211.h.

#### 7.2.2.6 enum ieee80211_roamingmode

**Enumerator:**

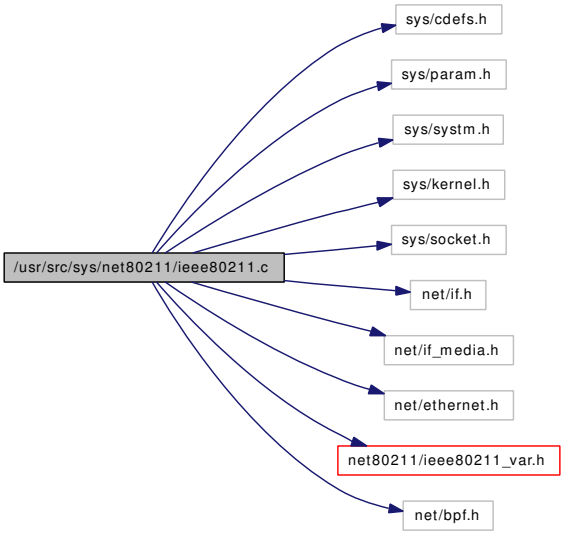
*IEEE80211_ROAMING_DEVICE*
*IEEE80211_ROAMING_AUTO*
*IEEE80211_ROAMING_MANUAL*

Definition at line 96 of file _ieee80211.h.

## 7.3 /usr/src/sys/net80211/ieee80211.c File Reference

```
#include <sys/cdefs.h>
#include <sys/param.h>
#include <sys/systm.h>
#include <sys/kernel.h>
#include <sys/socket.h>
#include <net/if.h>
#include <net/if_media.h>
#include <net/ethernet.h>
#include <net80211/ieee80211_var.h>
#include <net/bpf.h>
```

Include dependency graph for ieee80211.c:




### Defines

- #define B(r) ((r) | IEEE80211_RATE_BASIC)
- #define N(a) (sizeof(a)/sizeof(a[0]))
- #define DEFAULTRATES(m, def)
- #define ADD(_ic, _s, _o)
- #define IEEERATE(_ic, _m, _i) ((_ic) → ic_sup_rates[_m].rs_rates[_i] & IEEE80211_RATE_VAL)
- #define N(a) (sizeof(a) / sizeof(a[0]))
- #define N(a) (sizeof(a) / sizeof(a[0]))
- #define N(a) (sizeof(a) / sizeof(a[0]))

### Functions

- __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211.c,v 1.35 2007/01/15 01:12:28 sam Exp $")

- SLIST_HEAD (ieee80211_list, ieee80211com)
- MTX_SYSINIT (ieee80211,&ieee80211_vap_mtx,"net80211 instances", MTX_DEF)
- static void ieee80211_add_vap (struct ieee80211com *ic)
- static void ieee80211_remove_vap (struct ieee80211com *ic)
- static int ieee80211_default_reset (struct ifnet *ifp)
- static void ieee80211_chan_init (struct ieee80211com *ic)
- void ieee80211_ifattach (struct ieee80211com *ic)
- void ieee80211_ifdetach (struct ieee80211com *ic)
- static __inline int mapgsm (u_int freq, u_int flags)
- static __inline int mappsb (u_int freq, u_int flags)
- int ieee80211_mhz2ieee (u_int freq, u_int flags)
- int ieee80211_chan2ieee (struct ieee80211com *ic, const struct ieee80211_channel *c)
- u_int ieee80211_ieee2mhz (u_int chan, u_int flags)
- void ieee80211_media_init (struct ieee80211com *ic, ifm_change_cb_t media_change, ifm_stat_cb_t media_stat)
- ieee80211_rateset * ieee80211_get_suprates (struct ieee80211com *ic, const struct ieee80211_channel *c)
- void ieee80211_announce (struct ieee80211com *ic)
- static int findrate (struct ieee80211com *ic, enum ieee80211_phymode mode, int rate)
- ieee80211com * ieee80211_find_vap (const u_int8_t mac[IEEE80211_ADDR_LEN])
- static struct ieee80211com * ieee80211_find_instance (struct ifnet *ifp)
- int ieee80211_media_change (struct ifnet *ifp)
- void ieee80211_media_status (struct ifnet *ifp, struct ifmediareq *imr)
- void ieee80211_watchdog (struct ieee80211com *ic)
- int ieee80211_setmode (struct ieee80211com *ic, enum ieee80211_phymode mode)
- enum ieee80211_phymode ieee80211_chan2mode (struct ieee80211com *ic, const struct ieee80211_channel *chan)
- int ieee80211_rate2media (struct ieee80211com *ic, int rate, enum ieee80211_phymode mode)
- int ieee80211_media2rate (int mword)

## Variables

- const char * ieee80211_phymode_name [ ]
- static struct ieee80211_rateset ieee80211_rateset_11a
- static struct ieee80211_rateset ieee80211_rateset_half
- static struct ieee80211_rateset ieee80211_rateset_quarter
- static struct ieee80211_rateset ieee80211_rateset_11b
- static struct ieee80211_rateset ieee80211_rateset_11g
- static struct ieee80211_list ieee80211_list
- static u_int8_t ieee80211_vapmap [32]
- static struct mtx ieee80211_vap_mtx

### 7.3.1 Define Documentation

#### 7.3.1.1 #define ADD(_ic, _s, _o)

**Value:**

```
ifmedia_add(&(_ic)->ic_media, \
                IFM_MAKEWORD(IFM_IEEE80211, (_s), (_o), 0), 0, NULL)
```

Referenced by ieee80211_media_init().

#### 7.3.1.2 #define B(r) ((r) | IEEE80211_RATE_BASIC)

Definition at line 67 of file ieee80211.c.

Referenced by wep_encap().

#### 7.3.1.3 #define DEFAULTRATES(m, def)

**Value:**

```
do { \
        if ((ic->ic_modecaps & (1<<m)) && ic->ic_sup_rates[m].rs_nrates == 0) \
                ic->ic_sup_rates[m] = def; \
} while (0)
```

#### 7.3.1.4 #define IEEERATE(_ic, _m, _i) ((_ic) → ic_sup_rates[_m].rs_rates[_i] & IEEE80211_RATE_VAL)

Referenced by findrate().

#### 7.3.1.5 #define N(a) (sizeof(a) / sizeof(a[0]))

#### 7.3.1.6 #define N(a) (sizeof(a) / sizeof(a[0]))

#### 7.3.1.7 #define N(a) (sizeof(a) / sizeof(a[0]))

#### 7.3.1.8 #define N(a) (sizeof(a)/sizeof(a[0]))

Referenced by ieee80211_add_vap(), ieee80211_crypto_newkey(), ieee80211_iserp_rateset(), ieee80211_media2rate(), ieee80211_rate2media(), ieee80211_setmode(), and node_cleanup().

### 7.3.2 Function Documentation

#### 7.3.2.1 __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211. *c*, v 1.35 2007/01/15 01:12:28 sam Exp $")

#### 7.3.2.2 static int findrate (struct ieee80211com * *ic*, enum ieee80211_phymode *mode*, int *rate*) [static]

Definition at line 556 of file ieee80211.c.

References ieee80211com::ic_sup_rates, IEEERATE, and ieee80211_rateset::rs_nrates.

Referenced by ieee80211_cfgset(), and ieee80211_media_change().

#### 7.3.2.3 static void ieee80211_add_vap (struct ieee80211com * *ic*) [static]

Definition at line 90 of file ieee80211.c.

References ieee80211com::ic_vap, ieee80211_list, ieee80211_vap_mtx, ieee80211_vapmap, and N.

Referenced by ieee80211_ifattach().

#### 7.3.2.4 void ieee80211_announce (struct ieee80211com * *ic*)

Definition at line 531 of file ieee80211.c.

References ieee80211com::ic_ifp, ieee80211com::ic_modecaps, ieee80211com::ic_sup_rates, IEEE80211_MODE_11A, IEEE80211_MODE_MAX, ieee80211_phymode_name, ieee80211_rate2media(), IEEE80211_RATE_VAL, ieee80211_rateset::rs_nrates, and ieee80211_rateset::rs_rates.

Here is the call graph for this function:


#### 7.3.2.5 int ieee80211_chan2ieee (struct ieee80211com * *ic*, const struct ieee80211_channel * *c*)

Definition at line 348 of file ieee80211.c.

References ieee80211com::ic_channels, ieee80211_channel::ic_flags, ieee80211_channel::ic_freq, ieee80211com::ic_ifp, IEEE80211_CHAN_ANY, IEEE80211_CHAN_ANYC, and IEEE80211_CHAN_MAX.

Referenced by ieee80211_beacon_alloc(), ieee80211_cfgget(), ieee80211_chan_init(), ieee80211_end_scan(), ieee80211_ioctl_get80211(), ieee80211_ioctl_setchanlist(), ieee80211_match_bss(), ieee80211_mgmt_output(), ieee80211_newstate(), ieee80211_next_scan(), ieee80211_recv_mgmt(), ieee80211_reset_scan(), ieee80211_send_mgmt(), ieee80211_send_nulldata(), ieee80211_send_probereq(), ieee80211_setmode(), wi_read_ap_result(), and wi_read_prism2_result().

#### 7.3.2.6 enum ieee80211_phymode ieee80211_chan2mode (struct ieee80211com * *ic*, const struct ieee80211_channel * *chan*)

Definition at line 1002 of file ieee80211.c.

References ieee80211com::ic_curmode, ieee80211_channel::ic_flags, IEEE80211_CHAN_DYN, IEEE80211_CHAN_OFDM, IEEE80211_IS_CHAN_5GHZ, IEEE80211_IS_CHAN_FHSS, IEEE80211_IS_CHAN_T, IEEE80211_MODE_11A, IEEE80211_MODE_11B, IEEE80211_MODE_11G, IEEE80211_MODE_FH, IEEE80211_MODE_TURBO_A, and IEEE80211_MODE_TURBO_G.

Referenced by ieee80211_create_ibss(), ieee80211_get_suprates(), and ieee80211_sta_join().

#### 7.3.2.7 static void ieee80211_chan_init (struct ieee80211com * *ic*) [static]

Definition at line 144 of file ieee80211.c.

References ieee80211com::ic_chan_avail, ieee80211com::ic_channels, ieee80211com::ic_curchan, ieee80211_channel::ic_flags, ieee80211_channel::ic_freq, ieee80211com::ic_ifp, ieee80211com::ic_modecaps, ieee80211_chan2ieee(), IEEE80211_CHAN_MAX, IEEE80211_IS_CHAN_108G, IEEE80211_IS_CHAN_A, IEEE80211_IS_CHAN_ANYG, IEEE80211_IS_CHAN_B, IEEE80211_IS_CHAN_FHSS, IEEE80211_IS_CHAN_T, IEEE80211_MODE_11A, IEEE80211_MODE_11B, IEEE80211_MODE_11G, IEEE80211_MODE_AUTO, IEEE80211_MODE_FH, IEEE80211_MODE_TURBO_A, and IEEE80211_MODE_TURBO_G.

Referenced by ieee80211_ifattach(), and ieee80211_media_init().

Here is the call graph for this function:


#### 7.3.2.8 static int ieee80211_default_reset (struct ifnet * *ifp*) [static]

Definition at line 133 of file ieee80211.c.

Referenced by ieee80211_ifattach().

#### 7.3.2.9 static struct ieee80211com* ieee80211_find_instance (struct ifnet * *ifp*) [static]

Definition at line 584 of file ieee80211.c.

References ieee80211com::ic_ifp, and ieee80211_list.

Referenced by ieee80211_media_change(), and ieee80211_media_status().

#### 7.3.2.10 struct ieee80211com* ieee80211_find_vap (const u_int8_t *mac*[IEEE80211_ADDR_LEN])

Definition at line 572 of file ieee80211.c.

References ieee80211com::ic_myaddr, IEEE80211_ADDR_EQ, ieee80211_list, and mac.

#### 7.3.2.11 struct ieee80211_rateset* ieee80211_get_suprates (struct ieee80211com * *ic*, const struct ieee80211_channel * *c*)

Definition at line 519 of file ieee80211.c.

References ieee80211com::ic_sup_rates, ieee80211_chan2mode(), IEEE80211_IS_CHAN_HALF, IEEE80211_IS_CHAN_QUARTER, ieee80211_rateset_half, and ieee80211_rateset_quarter.

Referenced by ieee80211_fix_rate(), ieee80211_media_status(), ieee80211_next_scan(), ieee80211_send_probereq(), and ieee80211_set_chan().

Here is the call graph for this function:


#### 7.3.2.12 u_int ieee80211_ieee2mhz (u_int *chan*, u_int *flags*)

Definition at line 368 of file ieee80211.c.

References IEEE80211_CHAN_2GHZ, IEEE80211_CHAN_5GHZ, IEEE80211_CHAN_GSM, IEEE80211_CHAN_HALF, and IEEE80211_CHAN_QUARTER.

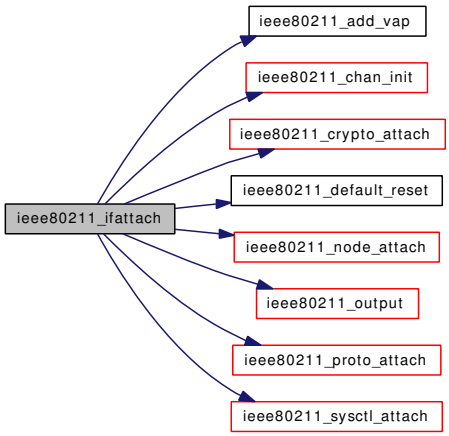
#### 7.3.2.13 void ieee80211_ifattach (struct ieee80211com * *ic*)

Definition at line 207 of file ieee80211.c.

References ieee80211com::ic_bintval, ieee80211com::ic_bmissthreshold, ieee80211com::ic_caps, ieee80211com::ic_des_chan, ieee80211com::ic_dtim_period, ieee80211com::ic_flags,

ieee80211com::ic_ifp, ieee80211com::ic_lintval, ieee80211com::ic_myaddr, ieee80211com::ic_rawbpf, ieee80211com::ic_reset, ieee80211com::ic_txpowlimit, ieee80211_add_vap(), IEEE80211_BEACON_-LOCK_INIT, IEEE80211_BINTVAL_DEFAULT, IEEE80211_C_BURST, IEEE80211_C_WME, IEEE80211_CHAN_ANYC, ieee80211_chan_init(), ieee80211_crypto_attach(), ieee80211_default_-reset(), IEEE80211_DTIM_DEFAULT, IEEE80211_F_BURST, IEEE80211_F_WME, IEEE80211_-HWBMISS_DEFAULT, ieee80211_node_attach(), ieee80211_output(), ieee80211_proto_attach(), ieee80211_sysctl_attach(), and IEEE80211_TXPOWER_MAX.

Here is the call graph for this function:

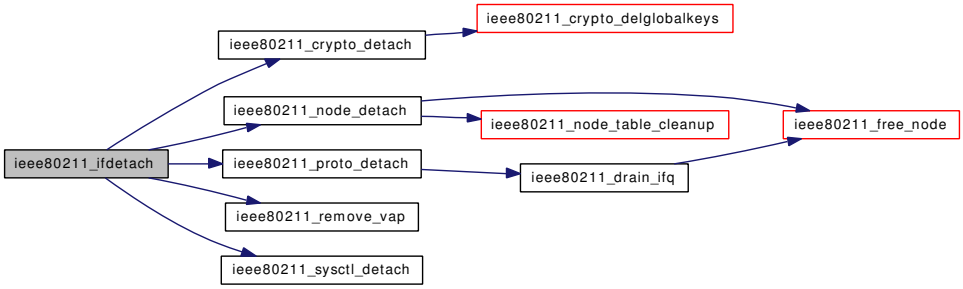



#### 7.3.2.14 void ieee80211_ifdetach (struct ieee80211com * *ic*)

Definition at line 263 of file ieee80211.c.

References ieee80211com::ic_ifp, ieee80211com::ic_media, IEEE80211_BEACON_LOCK_DESTROY, ieee80211_crypto_detach(), ieee80211_node_detach(), ieee80211_proto_detach(), ieee80211_remove_-vap(), and ieee80211_sysctl_detach().

Here is the call graph for this function:




#### 7.3.2.15 int ieee80211_media2rate (int *mword*)

Definition at line 1103 of file ieee80211.c.

References N.

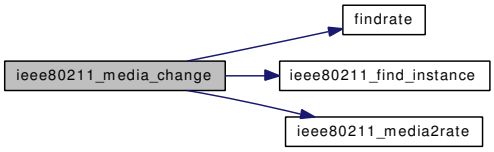
Referenced by ieee80211_media_change().

#### 7.3.2.16 int ieee80211_media_change (struct ifnet * *ifp*)

Definition at line 600 of file ieee80211.c.

References findrate(), ieee80211com::ic_media, ieee80211com::ic_modecaps, ieee80211_find_instance(), IEEE80211_M_AHDEMO, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_M_MONITOR, IEEE80211_M_STA, ieee80211_media2rate(), IEEE80211_MODE_11A, IEEE80211_MODE_11B, IEEE80211_MODE_11G, IEEE80211_MODE_AUTO, IEEE80211_MODE_FH, IEEE80211_MODE_MAX, IEEE80211_MODE_TURBO_A, and IEEE80211_MODE_TURBO_G.

Here is the call graph for this function:

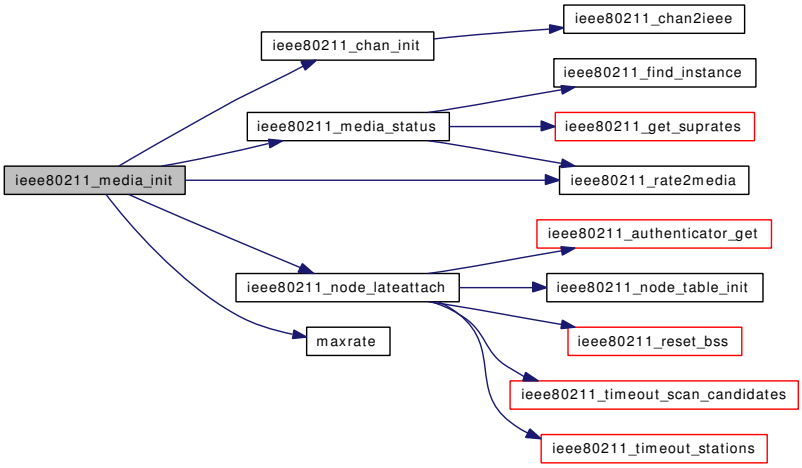



#### 7.3.2.17 void ieee80211_media_init (struct ieee80211com * *ic*, ifm_change_cb_t *media_change*, ifm_stat_cb_t *media_stat*)

Definition at line 403 of file ieee80211.c.

References ADD, ieee80211com::ic_caps, ieee80211com::ic_ifp, ieee80211com::ic_media, ieee80211com::ic_modecaps, IEEE80211_C_AHDEMO, IEEE80211_C_HOSTAP, IEEE80211_C_IBSS, IEEE80211_C_MONITOR, ieee80211_chan_init(), ieee80211_media_status(), IEEE80211_MODE_AUTO, IEEE80211_MODE_MAX, ieee80211_node_lateattach(), ieee80211_rate2media(), IEEE80211_RATE_VAL, maxrate(), ieee80211_rateset::rs_nrates, and ieee80211_rateset::rs_rates.

Here is the call graph for this function:



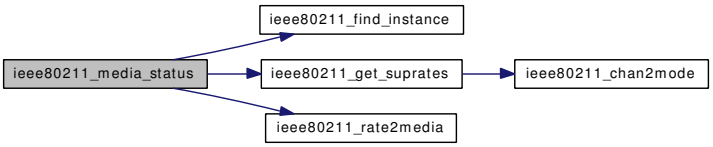
#### 7.3.2.18 void ieee80211_media_status (struct ifnet * *ifp*, struct ifmediareq * *imr*)

Definition at line 772 of file ieee80211.c.

References ieee80211com::ic_bss, ieee80211com::ic_curchan, ieee80211com::ic_curmode, ieee80211com::ic_fixed_rate, ieee80211com::ic_opmode, ieee80211com::ic_state, ieee80211_find_instance(), IEEE80211_FIXED_RATE_NONE, ieee80211_get_suprates(), IEEE80211_M_AHDEMO, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_M_MONITOR, IEEE80211_M_STA, IEEE80211_MODE_11A, IEEE80211_MODE_11B, IEEE80211_MODE_11G, IEEE80211_MODE_FH, IEEE80211_MODE_TURBO_A, IEEE80211_MODE_TURBO_G, ieee80211_rate2media(), IEEE80211_S_RUN, ieee80211_node::ni_rates, ieee80211_node::ni_txrate, and ieee80211_rateset::rs_rates.

Referenced by ieee80211_media_init().

Here is the call graph for this function:

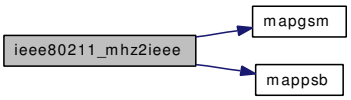



#### 7.3.2.19 int ieee80211_mhz2ieee (u_int *freq*, u_int *flags*)

Definition at line 306 of file ieee80211.c.

References IEEE80211_CHAN_2GHZ, IEEE80211_CHAN_5GHZ, IEEE80211_CHAN_GSM, IEEE80211_CHAN_HALF, IEEE80211_CHAN_QUARTER, mapgsm(), and mappsb().

Here is the call graph for this function:




#### 7.3.2.20 int ieee80211_rate2media (struct ieee80211com * *ic*, int *rate*, enum ieee80211_phymode *mode*)

Definition at line 1029 of file ieee80211.c.

References ieee80211com::ic_phytype, IEEE80211_MODE_11A, IEEE80211_MODE_11B, IEEE80211_MODE_11G, IEEE80211_MODE_AUTO, IEEE80211_MODE_FH, IEEE80211_MODE_TURBO_A, IEEE80211_MODE_TURBO_G, IEEE80211_RATE_VAL, IEEE80211_T_FH, and N.

Referenced by ieee80211_announce(), ieee80211_media_init(), and ieee80211_media_status().

#### 7.3.2.21 static void ieee80211_remove_vap (struct ieee80211com * *ic*) [static]

Definition at line 111 of file ieee80211.c.

References ieee80211com::ic_vap, ieee80211_list, ieee80211_vap_mtx, and ieee80211_vapmap.

Referenced by ieee80211_ifdetach().

#### 7.3.2.22 int ieee80211_setmode (struct ieee80211com * *ic*, enum ieee80211_phymode *mode*)

Definition at line 878 of file ieee80211.c.

References ieee80211com::ic_chan_active, ieee80211com::ic_channels, ieee80211com::ic_curchan, ieee80211_channel::ic_flags, ieee80211com::ic_modecaps, ieee80211_chan2ieee(), IEEE80211_CHAN_108G, IEEE80211_CHAN_A, IEEE80211_CHAN_B, IEEE80211_CHAN_FHSS, IEEE80211_CHAN_MAX, IEEE80211_CHAN_PUREG, IEEE80211_CHAN_T, IEEE80211_DPRINTF, IEEE80211_IS_CHAN_T, IEEE80211_MODE_AUTO, IEEE80211_MSG_ANY, and N.

Here is the call graph for this function:


#### 7.3.2.23 void ieee80211_watchdog (struct ieee80211com * *ic*)

Definition at line 846 of file ieee80211.c.

References ieee80211com::ic_ifp, ieee80211com::ic_mgt_timer, ieee80211com::ic_scan, ieee80211com::ic_sta, ieee80211com::ic_state, ieee80211_new_state, IEEE80211_S_INIT, IEEE80211_S_SCAN, ieee80211_node_table::nt_inact_timer, and ieee80211_node_table::nt_timeout.

#### 7.3.2.24 static __inline int mapgsm (u_int *freq*, u_int *flags*) [static]

Definition at line 283 of file ieee80211.c.

References IEEE80211_CHAN_HALF, and IEEE80211_CHAN_QUARTER.

Referenced by ieee80211_mhz2ieee().

#### 7.3.2.25 static __inline int mappsb (u_int *freq*, u_int *flags*) [static]

Definition at line 297 of file ieee80211.c.

Referenced by ieee80211_mhz2ieee().

#### 7.3.2.26 MTX_SYSINIT (ieee80211, & *ieee80211_vap_mtx*, "net80211 instances", MTX_DEF)

#### 7.3.2.27 SLIST_HEAD (ieee80211_list, ieee80211com)

### 7.3.3 Variable Documentation

#### 7.3.3.1 struct ieee80211_list ieee80211_list [static]

**Initial value:**

```
SLIST_HEAD_INITIALIZER(ieee80211_list)
```

Definition at line 83 of file ieee80211.c.

Referenced by ieee80211_add_vap(), ieee80211_find_instance(), ieee80211_find_vap(), and ieee80211_-remove_vap().

#### 7.3.3.2 const char* ieee80211_phymode_name[ ]

**Initial value:**

```
{
        "auto",
        "11a",
        "11b",
        "11g",
        "FH",
        "turboA",
        "turboG",
}
```

Definition at line 54 of file ieee80211.c.

Referenced by ieee80211_announce(), and ieee80211_begin_scan().

#### 7.3.3.3 struct ieee80211_rateset ieee80211_rateset_11a [static]

**Initial value:**

```
{ 8, { B(12), 18, B(24), 36, B(48), 72, 96, 108 } }
```

Definition at line 68 of file ieee80211.c.

#### 7.3.3.4 struct ieee80211_rateset ieee80211_rateset_11b [static]

**Initial value:**

```
{ 4, { B(2), B(4), B(11), B(22) } }
```

Definition at line 74 of file ieee80211.c.

#### 7.3.3.5 struct ieee80211_rateset ieee80211_rateset_11g [static]

**Initial value:**

```
{ 12, { B(2), B(4), B(11), B(22), 12, 18, 24, 36, 48, 72, 96, 108 } }
```

Definition at line 77 of file ieee80211.c.

#### 7.3.3.6 struct ieee80211_rateset ieee80211_rateset_half [static]

**Initial value:**

```
{ 8, { B(6), 9, B(12), 18, B(24), 36, 48, 54 } }
```

Definition at line 70 of file ieee80211.c.

Referenced by ieee80211_get_suprates().

#### 7.3.3.7 struct ieee80211_rateset ieee80211_rateset_quarter [static]

**Initial value:**

```
{ 8, { B(3), 4, B(6), 9, B(12), 18, 24, 27 } }
```

Definition at line 72 of file ieee80211.c.

Referenced by ieee80211_get_suprates().

#### 7.3.3.8 struct mtx ieee80211_vap_mtx [static]

Definition at line 86 of file ieee80211.c.

Referenced by ieee80211_add_vap(), and ieee80211_remove_vap().

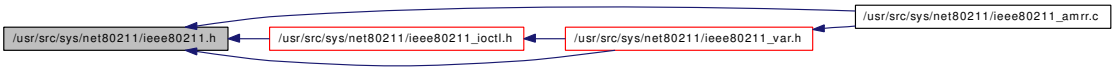
#### 7.3.3.9 u_int8_t ieee80211_vapmap[32] [static]

Definition at line 85 of file ieee80211.c.

Referenced by ieee80211_add_vap(), and ieee80211_remove_vap().

# 7.4 /usr/src/sys/net80211/ieee80211.h File Reference

This graph shows which files directly or indirectly include this file:




## Data Structures

- struct ieee80211_plcp_hdr
- struct ieee80211_frame
- struct ieee80211_qosframe
- struct ieee80211_qoscntl
- struct ieee80211_frame_addr4
- struct ieee80211_qosframe_addr4
- struct ieee80211_wme_info
- struct ieee80211_wme_tspec
- struct ieee80211_wme_acparams
- struct ieee80211_wme_param
- struct ieee80211_mnf
- struct ieee80211_frame_min
- struct ieee80211_frame_rts
- struct ieee80211_frame_cts
- struct ieee80211_frame_ack
- struct ieee80211_frame_pspoll
- struct ieee80211_frame_cfend
- struct ieee80211_ie_wpa
- struct ieee80211_tim_ie
- struct ieee80211_country_ie

## Defines

- #define IEEE80211_ADDR_LEN 6
- #define IEEE80211_IS_MULTICAST(_a) (*(_a) & 0x01)
- #define IEEE80211_PLCP_SFD 0xF3A0
- #define IEEE80211_PLCP_SERVICE 0x00
- #define IEEE80211_FC0_VERSION_MASK 0x03
- #define IEEE80211_FC0_VERSION_SHIFT 0
- #define IEEE80211_FC0_VERSION_0 0x00
- #define IEEE80211_FC0_TYPE_MASK 0x0c
- #define IEEE80211_FC0_TYPE_SHIFT 2
- #define IEEE80211_FC0_TYPE_MGT 0x00
- #define IEEE80211_FC0_TYPE_CTL 0x04
- #define IEEE80211_FC0_TYPE_DATA 0x08
- #define IEEE80211_FC0_SUBTYPE_MASK 0xf0
- #define IEEE80211_FC0_SUBTYPE_SHIFT 4
- #define IEEE80211_FC0_SUBTYPE_ASSOC_REQ 0x00

- #define IEEE80211_FC0_SUBTYPE_ASSOC_RESP 0x10
- #define IEEE80211_FC0_SUBTYPE_REASSOC_REQ 0x20
- #define IEEE80211_FC0_SUBTYPE_REASSOC_RESP 0x30
- #define IEEE80211_FC0_SUBTYPE_PROBE_REQ 0x40
- #define IEEE80211_FC0_SUBTYPE_PROBE_RESP 0x50
- #define IEEE80211_FC0_SUBTYPE_BEACON 0x80
- #define IEEE80211_FC0_SUBTYPE_ATIM 0x90
- #define IEEE80211_FC0_SUBTYPE_DISASSOC 0xa0
- #define IEEE80211_FC0_SUBTYPE_AUTH 0xb0
- #define IEEE80211_FC0_SUBTYPE_DEAUTH 0xc0
- #define IEEE80211_FC0_SUBTYPE_PS_POLL 0xa0
- #define IEEE80211_FC0_SUBTYPE_RTS 0xb0
- #define IEEE80211_FC0_SUBTYPE_CTS 0xc0
- #define IEEE80211_FC0_SUBTYPE_ACK 0xd0
- #define IEEE80211_FC0_SUBTYPE_CF_END 0xe0
- #define IEEE80211_FC0_SUBTYPE_CF_END_ACK 0xf0
- #define IEEE80211_FC0_SUBTYPE_DATA 0x00
- #define IEEE80211_FC0_SUBTYPE_CF_ACK 0x10
- #define IEEE80211_FC0_SUBTYPE_CF_POLL 0x20
- #define IEEE80211_FC0_SUBTYPE_CF_ACPL 0x30
- #define IEEE80211_FC0_SUBTYPE_NODATA 0x40
- #define IEEE80211_FC0_SUBTYPE_CFACK 0x50
- #define IEEE80211_FC0_SUBTYPE_CFPOLL 0x60
- #define IEEE80211_FC0_SUBTYPE_CF_ACK_CF_ACK 0x70
- #define IEEE80211_FC0_SUBTYPE_QOS 0x80
- #define IEEE80211_FC0_SUBTYPE_QOS_NULL 0xc0
- #define IEEE80211_FC1_DIR_MASK 0x03
- #define IEEE80211_FC1_DIR_NODS 0x00
- #define IEEE80211_FC1_DIR_TODS 0x01
- #define IEEE80211_FC1_DIR_FROMDS 0x02
- #define IEEE80211_FC1_DIR_DSTODS 0x03
- #define IEEE80211_FC1_MORE_FRAG 0x04
- #define IEEE80211_FC1_RETRY 0x08
- #define IEEE80211_FC1_PWR_MGT 0x10
- #define IEEE80211_FC1_MORE_DATA 0x20
- #define IEEE80211_FC1_WEP 0x40
- #define IEEE80211_FC1_ORDER 0x80
- #define IEEE80211_SEQ_FRAG_MASK 0x000f
- #define IEEE80211_SEQ_FRAG_SHIFT 0
- #define IEEE80211_SEQ_SEQ_MASK 0xfff0
- #define IEEE80211_SEQ_SEQ_SHIFT 4
- #define IEEE80211_NWID_LEN 32
- #define IEEE80211_QOS_TXOP 0x00ff
- #define IEEE80211_QOS_ACKPOLICY 0x60
- #define IEEE80211_QOS_ACKPOLICY_S 5
- #define IEEE80211_QOS_ESOP 0x10
- #define IEEE80211_QOS_ESOP_S 4
- #define IEEE80211_QOS_TID 0x0f
- #define IEEE80211_QOS_HAS_SEQ(wh)
- #define WME_NUM_AC 4

- #define WME_PARAM_ACI 0x60
- #define WME_PARAM_ACI_S 5
- #define WME_PARAM_ACM 0x10
- #define WME_PARAM_ACM_S 4
- #define WME_PARAM_AIFSN 0x0f
- #define WME_PARAM_AIFSN_S 0
- #define WME_PARAM_LOGCWMIN 0x0f
- #define WME_PARAM_LOGCWMIN_S 0
- #define WME_PARAM_LOGCWMAX 0xf0
- #define WME_PARAM_LOGCWMAX_S 4
- #define WME_AC_TO_TID(_ac)
- #define TID_TO_WME_AC(_tid)
- #define WME_QOSINFO_COUNT 0x0f
- #define MNF_SETUP_REQ 0
- #define MNF_SETUP_RESP 1
- #define MNF_TEARDOWN 2
- #define IEEE80211_BEACON_INTERVAL(beacon) ((beacon)[8] | ((beacon)[9] << 8))
- #define IEEE80211_BEACON_CAPABILITY(beacon) ((beacon)[10] | ((beacon)[11] << 8))
- #define IEEE80211_CAPINFO_ESS 0x0001
- #define IEEE80211_CAPINFO_IBSS 0x0002
- #define IEEE80211_CAPINFO_CF_POLLABLE 0x0004
- #define IEEE80211_CAPINFO_CF_POLLREQ 0x0008
- #define IEEE80211_CAPINFO_PRIVACY 0x0010
- #define IEEE80211_CAPINFO_SHORT_PREAMBLE 0x0020
- #define IEEE80211_CAPINFO_PBCC 0x0040
- #define IEEE80211_CAPINFO_CHNL_AGILITY 0x0080
- #define IEEE80211_CAPINFO_SHORT_SLOTTIME 0x0400
- #define IEEE80211_CAPINFO_RSN 0x0800
- #define IEEE80211_CAPINFO_DSSSOFDM 0x2000
- #define IEEE80211_CHALLENGE_LEN 128
- #define IEEE80211_RATE_BASIC 0x80
- #define IEEE80211_RATE_VAL 0x7f
- #define IEEE80211_ERP_NON_ERP_PRESENT 0x01
- #define IEEE80211_ERP_USE_PROTECTION 0x02
- #define IEEE80211_ERP_LONG_PREAMBLE 0x04
- #define ATHEROS_CAP_TURBO_PRIME 0x01
- #define ATHEROS_CAP_COMPRESSION 0x02
- #define ATHEROS_CAP_FAST_FRAME 0x04
- #define ATHEROS_CAP_BOOST 0x80
- #define ATH_OUI 0x7f0300
- #define ATH_OUI_TYPE 0x01
- #define ATH_OUI_VERSION 0x01
- #define WPA_OUI 0xf25000
- #define WPA_OUI_TYPE 0x01
- #define WPA_VERSION 1
- #define WPA_CSE_NULL 0x00
- #define WPA_CSE_WEP40 0x01
- #define WPA_CSE_TKIP 0x02
- #define WPA_CSE_CCMP 0x04
- #define WPA_CSE_WEP104 0x05

- #define WPA_ASE_NONE 0x00
- #define WPA_ASE_8021X_UNSPEC 0x01
- #define WPA_ASE_8021X_PSK 0x02
- #define RSN_OUI 0xac0f00
- #define RSN_VERSION 1
- #define RSN_CSE_NULL 0x00
- #define RSN_CSE_WEP40 0x01
- #define RSN_CSE_TKIP 0x02
- #define RSN_CSE_WRAP 0x03
- #define RSN_CSE_CCMP 0x04
- #define RSN_CSE_WEP104 0x05
- #define RSN_ASE_NONE 0x00
- #define RSN_ASE_8021X_UNSPEC 0x01
- #define RSN_ASE_8021X_PSK 0x02
- #define RSN_CAP_PREAUTH 0x01
- #define WME_OUI 0xf25000
- #define WME_OUI_TYPE 0x02
- #define WME_INFO_OUI_SUBTYPE 0x00
- #define WME_PARAM_OUI_SUBTYPE 0x01
- #define WME_VERSION 1
- #define WME_AC_BE 0
- #define WME_AC_BK 1
- #define WME_AC_VI 2
- #define WME_AC_VO 3
- #define IEEE80211_AUTH_ALGORITHM(auth) ((auth)[0] | ((auth)[1] << 8))
- #define IEEE80211_AUTH_TRANSACTION(auth) ((auth)[2] | ((auth)[3] << 8))
- #define IEEE80211_AUTH_STATUS(auth) ((auth)[4] | ((auth)[5] << 8))
- #define IEEE80211_AUTH_ALG_OPEN 0x0000
- #define IEEE80211_AUTH_ALG_SHARED 0x0001
- #define IEEE80211_AUTH_ALG_LEAP 0x0080
- #define IEEE80211_WEP_KEYLEN 5
- #define IEEE80211_WEP_IVLEN 3
- #define IEEE80211_WEP_KIDLEN 1
- #define IEEE80211_WEP_CRCLEN 4
- #define IEEE80211_WEP_NKID 4
- #define IEEE80211_WEP_EXTIV 0x20
- #define IEEE80211_WEP_EXTIVLEN 4
- #define IEEE80211_WEP_MICLEN 8
- #define IEEE80211_CRC_LEN 4
- #define IEEE80211_MTU_MAX 2290
- #define IEEE80211_MTU_MIN 32
- #define IEEE80211_MAX_LEN
- #define IEEE80211_ACK_LEN (sizeof(struct ieee80211_frame_ack) + IEEE80211_CRC_LEN)
- #define IEEE80211_MIN_LEN (sizeof(struct ieee80211_frame_min) + IEEE80211_CRC_LEN)
- #define IEEE80211_AID_MAX 2007
- #define IEEE80211_AID_DEF 128
- #define IEEE80211_AID(b) ((b) &~ 0xc000)
- #define IEEE80211_RTS_MIN 1
- #define IEEE80211_RTS_MAX 2346
- #define IEEE80211_FRAG_MIN 256

- #define IEEE80211_FRAG_MAX 2346
- #define IEEE80211_BINTVAL_MAX 1000
- #define IEEE80211_BINTVAL_MIN 25
- #define IEEE80211_DTIM_MAX 15
- #define IEEE80211_DTIM_MIN 1
- #define IEEE80211_HWBMISS_MIN 1
- #define IEEE80211_HWBMISS_MAX 255

## Typedefs

- typedef u_int8_t * ieee80211_mgt_beacon_t
- typedef u_int8_t * ieee80211_mgt_auth_t

## Enumerations

- enum {

  IEEE80211_ELEMID_SSID = 0, IEEE80211_ELEMID_RATES = 1, IEEE80211_ELEMID_FHPARMS = 2, IEEE80211_ELEMID_DSPARMS = 3,

  IEEE80211_ELEMID_CFPARMS = 4, IEEE80211_ELEMID_TIM = 5, IEEE80211_ELEMID_IBSSPARMS = 6, IEEE80211_ELEMID_COUNTRY = 7,

  IEEE80211_ELEMID_CHALLENGE = 16, IEEE80211_ELEMID_ERP = 42, IEEE80211_ELEMID_RSN = 48, IEEE80211_ELEMID_XRATES = 50,

  IEEE80211_ELEMID_TPC = 150, IEEE80211_ELEMID_CCKM = 156, IEEE80211_ELEMID_VENDOR = 221 }
- enum { IEEE80211_AUTH_OPEN_REQUEST = 1, IEEE80211_AUTH_OPEN_RESPONSE = 2 }
- enum { IEEE80211_AUTH_SHARED_REQUEST = 1, IEEE80211_AUTH_SHARED_CHALLENGE = 2, IEEE80211_AUTH_SHARED_RESPONSE = 3, IEEE80211_AUTH_SHARED_PASS = 4 }
- enum {

  IEEE80211_REASON_UNSPECIFIED = 1, IEEE80211_REASON_AUTH_EXPIRE = 2, IEEE80211_REASON_AUTH_LEAVE = 3, IEEE80211_REASON_ASSOC_EXPIRE = 4,

  IEEE80211_REASON_ASSOC_TOOMANY = 5, IEEE80211_REASON_NOT_AUTHED = 6, IEEE80211_REASON_NOT_ASSOCED = 7, IEEE80211_REASON_ASSOC_LEAVE = 8,

  IEEE80211_REASON_ASSOC_NOT_AUTHED = 9, IEEE80211_REASON_RSN_REQUIRED = 11, IEEE80211_REASON_RSN_INCONSISTENT = 12, IEEE80211_REASON_IE_INVALID = 13,

  IEEE80211_REASON_MIC_FAILURE = 14, IEEE80211_STATUS_SUCCESS = 0, IEEE80211_STATUS_UNSPECIFIED = 1, IEEE80211_STATUS_CAPINFO = 10,

  IEEE80211_STATUS_NOT_ASSOCED = 11, IEEE80211_STATUS_OTHER = 12, IEEE80211_STATUS_ALG = 13, IEEE80211_STATUS_SEQUENCE = 14,

  IEEE80211_STATUS_CHALLENGE = 15, IEEE80211_STATUS_TIMEOUT = 16, IEEE80211_STATUS_TOOMANY = 17, IEEE80211_STATUS_BASIC_RATE = 18,

  IEEE80211_STATUS_SP_REQUIRED = 19, IEEE80211_STATUS_PBCC_REQUIRED = 20, IEEE80211_STATUS_CA_REQUIRED = 21, IEEE80211_STATUS_TOO_MANY_STATIONS = 22,

  IEEE80211_STATUS_RATES = 23, IEEE80211_STATUS_SHORTSLOT_REQUIRED = 25, IEEE80211_STATUS_DSSSOFDM_REQUIRED = 26 }

## Variables

- ieee80211_plcp_hdr __packed
- ieee80211_frame __packed
- ieee80211_qosframe __packed
- ieee80211_frame_addr4 __packed
- ieee80211_qosframe_addr4 __packed
- ieee80211_wme_info __packed
- ieee80211_wme_tspec __packed
- ieee80211_wme_acparams __packed
- ieee80211_wme_param __packed
- ieee80211_mnf __packed
- ieee80211_frame_min __packed
- ieee80211_frame_rts __packed
- ieee80211_frame_cts __packed
- ieee80211_frame_ack __packed
- ieee80211_frame_pspoll __packed
- ieee80211_frame_cfend __packed
- ieee80211_ie_wpa __packed
- ieee80211_tim_ie __packed
- ieee80211_country_ie __packed

### 7.4.1 Define Documentation

#### 7.4.1.1 #define ATH_OUI 0x7f0300

Definition at line 451 of file ieee80211.h.

Referenced by isatherosoui().

#### 7.4.1.2 #define ATH_OUI_TYPE 0x01

Definition at line 452 of file ieee80211.h.

Referenced by isatherosoui().

#### 7.4.1.3 #define ATH_OUI_VERSION 0x01

Definition at line 453 of file ieee80211.h.

#### 7.4.1.4 #define ATHEROS_CAP_BOOST 0x80

Definition at line 449 of file ieee80211.h.

#### 7.4.1.5 #define ATHEROS_CAP_COMPRESSION 0x02

Definition at line 446 of file ieee80211.h.

#### 7.4.1.6 #define ATHEROS_CAP_FAST_FRAME 0x04

Definition at line 447 of file ieee80211.h.

#### 7.4.1.7 #define ATHEROS_CAP_TURBO_PRIME 0x01

Definition at line 445 of file ieee80211.h.

#### 7.4.1.8 #define IEEE80211_ACK_LEN (sizeof(struct ieee80211_frame_ack) + IEEE80211_CRC_LEN)

Definition at line 606 of file ieee80211.h.

#### 7.4.1.9 #define IEEE80211_ADDR_LEN 6

Definition at line 41 of file ieee80211.h.

Referenced by acl_getioctl(), ccmp_init_blocks(), ieee80211_cfgget(), ieee80211_cfgset(), ieee80211_create_ibss(), ieee80211_hdrsize(), ieee80211_ioctl_get80211(), ieee80211_ioctl_getstainfo(), ieee80211_ioctl_getstastats(), ieee80211_ioctl_getwpaie(), ieee80211_ioctl_macmac(), ieee80211_ioctl_set80211(), ieee80211_ioctl_setstastats(), ieee80211_send_mgmt(), and michael_mic_hdr().

#### 7.4.1.10 #define IEEE80211_AID(b) ((b) &∼ 0xc000)

Definition at line 621 of file ieee80211.h.

Referenced by ieee80211_getrssi(), and ieee80211_set_tim().

#### 7.4.1.11 #define IEEE80211_AID_DEF 128

Definition at line 619 of file ieee80211.h.

Referenced by ieee80211_node_attach().

#### 7.4.1.12 #define IEEE80211_AID_MAX 2007

Definition at line 618 of file ieee80211.h.

Referenced by ieee80211_node_lateattach().

#### 7.4.1.13 #define IEEE80211_AUTH_ALG_LEAP 0x0080

Definition at line 519 of file ieee80211.h.

#### 7.4.1.14 #define IEEE80211_AUTH_ALG_OPEN 0x0000

Definition at line 517 of file ieee80211.h.

Referenced by ieee80211_recv_mgmt(), and ieee80211_send_mgmt().

#### 7.4.1.15 #define IEEE80211_AUTH_ALG_SHARED 0x0001

Definition at line 518 of file ieee80211.h.

Referenced by ieee80211_recv_mgmt(), and ieee80211_send_mgmt().

#### 7.4.1.16 #define IEEE80211_AUTH_ALGORITHM(auth) ((auth)[0] | ((auth)[1] << 8))

Definition at line 510 of file ieee80211.h.

#### 7.4.1.17 #define IEEE80211_AUTH_STATUS(auth) ((auth)[4] | ((auth)[5] << 8))

Definition at line 514 of file ieee80211.h.

#### 7.4.1.18 #define IEEE80211_AUTH_TRANSACTION(auth) ((auth)[2] | ((auth)[3] << 8))

Definition at line 512 of file ieee80211.h.

#### 7.4.1.19 #define IEEE80211_BEACON_CAPABILITY(beacon) ((beacon)[10] | ((beacon)[11] << 8))

Definition at line 354 of file ieee80211.h.

#### 7.4.1.20 #define IEEE80211_BEACON_INTERVAL(beacon) ((beacon)[8] | ((beacon)[9] << 8))

Definition at line 352 of file ieee80211.h.

#### 7.4.1.21 #define IEEE80211_BINTVAL_MAX 1000

Definition at line 644 of file ieee80211.h.

Referenced by ieee80211_ioctl_set80211(), and ieee80211_recv_mgmt().

#### 7.4.1.22 #define IEEE80211_BINTVAL_MIN 25

Definition at line 645 of file ieee80211.h.

Referenced by ieee80211_recv_mgmt().

#### 7.4.1.23 #define IEEE80211_CAPINFO_CF_POLLABLE 0x0004

Definition at line 359 of file ieee80211.h.

#### 7.4.1.24 #define IEEE80211_CAPINFO_CF_POLLREQ 0x0008

Definition at line 360 of file ieee80211.h.

#### 7.4.1.25 #define IEEE80211_CAPINFO_CHNL_AGILITY 0x0080

Definition at line 364 of file ieee80211.h.

#### 7.4.1.26 #define IEEE80211_CAPINFO_DSSSOFDM 0x2000

Definition at line 369 of file ieee80211.h.

#### 7.4.1.27 #define IEEE80211_CAPINFO_ESS 0x0001

Definition at line 357 of file ieee80211.h.

Referenced by getcapinfo(), ieee80211_match_bss(), ieee80211_recv_mgmt(), and ieee80211_send_mgmt().

#### 7.4.1.28 #define IEEE80211_CAPINFO_IBSS 0x0002

Definition at line 358 of file ieee80211.h.

Referenced by getcapinfo(), ieee80211_create_ibss(), ieee80211_getrssi(), ieee80211_match_bss(), and ieee80211_recv_mgmt().

#### 7.4.1.29 #define IEEE80211_CAPINFO_PBCC 0x0040

Definition at line 363 of file ieee80211.h.

#### 7.4.1.30 #define IEEE80211_CAPINFO_PRIVACY 0x0010

Definition at line 361 of file ieee80211.h.

Referenced by getcapinfo(), ieee80211_create_ibss(), ieee80211_match_bss(), ieee80211_node_compare(), and ieee80211_send_mgmt().

#### 7.4.1.31 #define IEEE80211_CAPINFO_RSN 0x0800

Definition at line 367 of file ieee80211.h.

#### 7.4.1.32 #define IEEE80211_CAPINFO_SHORT_PREAMBLE 0x0020

Definition at line 362 of file ieee80211.h.

Referenced by getcapinfo(), ieee80211_node_join_11g(), ieee80211_recv_mgmt(), and ieee80211_send_mgmt().

#### 7.4.1.33 #define IEEE80211_CAPINFO_SHORT_SLOTTIME 0x0400

Definition at line 366 of file ieee80211.h.

Referenced by getcapinfo(), ieee80211_node_join_11g(), ieee80211_node_leave_11g(), ieee80211_recv_mgmt(), and ieee80211_send_mgmt().

#### 7.4.1.34 #define IEEE80211_CHALLENGE_LEN 128

Definition at line 434 of file ieee80211.h.

Referenced by alloc_challenge(), ieee80211_auth_shared(), and ieee80211_send_mgmt().

#### 7.4.1.35 #define IEEE80211_CRC_LEN 4

Definition at line 592 of file ieee80211.h.

Referenced by ieee80211_input().

#### 7.4.1.36 #define IEEE80211_DTIM_MAX 15

Definition at line 652 of file ieee80211.h.

Referenced by ieee80211_ioctl_set80211().

#### 7.4.1.37 #define IEEE80211_DTIM_MIN 1

Definition at line 653 of file ieee80211.h.

#### 7.4.1.38 #define IEEE80211_ERP_LONG_PREAMBLE 0x04

Definition at line 442 of file ieee80211.h.

Referenced by ieee80211_add_erp().

#### 7.4.1.39 #define IEEE80211_ERP_NON_ERP_PRESENT 0x01

Definition at line 440 of file ieee80211.h.

Referenced by ieee80211_add_erp().

#### 7.4.1.40 #define IEEE80211_ERP_USE_PROTECTION 0x02

Definition at line 441 of file ieee80211.h.

Referenced by ieee80211_add_erp(), and ieee80211_recv_mgmt().

#### 7.4.1.41 #define IEEE80211_FC0_SUBTYPE_ACK 0xd0

Definition at line 136 of file ieee80211.h.

Referenced by ieee80211_anyhdrsize().

#### 7.4.1.42 #define IEEE80211_FC0_SUBTYPE_ASSOC_REQ 0x00

Definition at line 121 of file ieee80211.h.

Referenced by ieee80211_newstate(), ieee80211_recv_mgmt(), and ieee80211_send_mgmt().

#### 7.4.1.43 #define IEEE80211_FC0_SUBTYPE_ASSOC_RESP 0x10

Definition at line 122 of file ieee80211.h.

Referenced by ieee80211_newstate(), ieee80211_recv_mgmt(), and ieee80211_send_mgmt().

#### 7.4.1.44 #define IEEE80211_FC0_SUBTYPE_ATIM 0x90

Definition at line 128 of file ieee80211.h.

#### 7.4.1.45 #define IEEE80211_FC0_SUBTYPE_AUTH 0xb0

Definition at line 130 of file ieee80211.h.

Referenced by ieee80211_auth_open(), ieee80211_auth_shared(), ieee80211_input(), ieee80211_-newstate(), ieee80211_recv_mgmt(), and ieee80211_send_mgmt().

#### 7.4.1.46 #define IEEE80211_FC0_SUBTYPE_BEACON 0x80

Definition at line 127 of file ieee80211.h.

Referenced by ieee80211_beacon_alloc(), and ieee80211_recv_mgmt().

#### 7.4.1.47 #define IEEE80211_FC0_SUBTYPE_CF_ACK 0x10

Definition at line 141 of file ieee80211.h.

#### 7.4.1.48 #define IEEE80211_FC0_SUBTYPE_CF_ACK_CF_ACK 0x70

Definition at line 147 of file ieee80211.h.

#### 7.4.1.49 #define IEEE80211_FC0_SUBTYPE_CF_ACPL 0x30

Definition at line 143 of file ieee80211.h.

#### 7.4.1.50 #define IEEE80211_FC0_SUBTYPE_CF_END 0xe0

Definition at line 137 of file ieee80211.h.

#### 7.4.1.51 #define IEEE80211_FC0_SUBTYPE_CF_END_ACK 0xf0

Definition at line 138 of file ieee80211.h.

#### 7.4.1.52 #define IEEE80211_FC0_SUBTYPE_CF_POLL 0x20

Definition at line 142 of file ieee80211.h.

#### 7.4.1.53 #define IEEE80211_FC0_SUBTYPE_CFACK 0x50

Definition at line 145 of file ieee80211.h.

#### 7.4.1.54 #define IEEE80211_FC0_SUBTYPE_CFPOLL 0x60

Definition at line 146 of file ieee80211.h.

#### 7.4.1.55 #define IEEE80211_FC0_SUBTYPE_CTS 0xc0

Definition at line 135 of file ieee80211.h.

Referenced by ieee80211_anyhdrsize().

#### 7.4.1.56 #define IEEE80211_FC0_SUBTYPE_DATA 0x00

Definition at line 140 of file ieee80211.h.

#### 7.4.1.57 #define IEEE80211_FC0_SUBTYPE_DEAUTH 0xc0

Definition at line 131 of file ieee80211.h.

Referenced by domlme(), ieee80211_input(), ieee80211_newstate(), ieee80211_recv_mgmt(), ieee80211_recv_pspoll(), ieee80211_send_mgmt(), ieee80211_timeout_stations(), and sta_deauth().

#### 7.4.1.58 #define IEEE80211_FC0_SUBTYPE_DISASSOC 0xa0

Definition at line 129 of file ieee80211.h.

Referenced by domlme(), ieee80211_input(), ieee80211_newstate(), ieee80211_recv_mgmt(), ieee80211_send_mgmt(), and sta_disassoc().

#### 7.4.1.59 #define IEEE80211_FC0_SUBTYPE_MASK 0xf0

Definition at line 118 of file ieee80211.h.

Referenced by ieee80211_anyhdrsize(), ieee80211_auth_open(), ieee80211_auth_shared(), ieee80211_-dump_pkt(), ieee80211_input(), ieee80211_mgmt_output(), and ieee80211_recv_mgmt().

#### 7.4.1.60 #define IEEE80211_FC0_SUBTYPE_NODATA 0x40

Definition at line 144 of file ieee80211.h.

Referenced by ieee80211_input(), and ieee80211_send_nulldata().

#### 7.4.1.61 #define IEEE80211_FC0_SUBTYPE_PROBE_REQ 0x40

Definition at line 125 of file ieee80211.h.

Referenced by ieee80211_recv_mgmt(), and ieee80211_send_probereq().

#### 7.4.1.62 #define IEEE80211_FC0_SUBTYPE_PROBE_RESP 0x50

Definition at line 126 of file ieee80211.h.

Referenced by ieee80211_recv_mgmt(), and ieee80211_send_mgmt().

#### 7.4.1.63 #define IEEE80211_FC0_SUBTYPE_PS_POLL 0xa0

Definition at line 133 of file ieee80211.h.

Referenced by ieee80211_input().

#### 7.4.1.64 #define IEEE80211_FC0_SUBTYPE_QOS 0x80

Definition at line 148 of file ieee80211.h.

Referenced by ieee80211_encap(), and michael_mic_hdr().

#### 7.4.1.65 #define IEEE80211_FC0_SUBTYPE_QOS_NULL 0xc0

Definition at line 149 of file ieee80211.h.

#### 7.4.1.66 #define IEEE80211_FC0_SUBTYPE_REASSOC_REQ 0x20

Definition at line 123 of file ieee80211.h.

Referenced by ieee80211_recv_mgmt(), and ieee80211_send_mgmt().

#### 7.4.1.67 #define IEEE80211_FC0_SUBTYPE_REASSOC_RESP 0x30

Definition at line 124 of file ieee80211.h.

Referenced by ieee80211_recv_mgmt(), and ieee80211_send_mgmt().

#### 7.4.1.68 #define IEEE80211_FC0_SUBTYPE_RTS 0xb0

Definition at line 134 of file ieee80211.h.

#### 7.4.1.69 #define IEEE80211_FC0_SUBTYPE_SHIFT 4

Definition at line 119 of file ieee80211.h.

Referenced by ieee80211_dump_pkt(), ieee80211_input(), ieee80211_mgmt_output(), and ieee80211_-recv_mgmt().

#### 7.4.1.70 #define IEEE80211_FC0_TYPE_CTL 0x04

Definition at line 115 of file ieee80211.h.

Referenced by ieee80211_anyhdrsize(), ieee80211_hdrsize(), and ieee80211_input().

#### 7.4.1.71 #define IEEE80211_FC0_TYPE_DATA 0x08

Definition at line 116 of file ieee80211.h.

Referenced by ieee80211_dump_pkt(), ieee80211_encap(), ieee80211_input(), ieee80211_send_nulldata(), and ieee80211_send_setup().

#### 7.4.1.72 #define IEEE80211_FC0_TYPE_MASK 0x0c

Definition at line 112 of file ieee80211.h.

Referenced by ieee80211_anyhdrsize(), ieee80211_dump_pkt(), ieee80211_hdrsize(), ieee80211_input(), and ieee80211_send_setup().

#### 7.4.1.73 #define IEEE80211_FC0_TYPE_MGT 0x00

Definition at line 114 of file ieee80211.h.

Referenced by ieee80211_beacon_alloc(), ieee80211_dump_pkt(), ieee80211_input(), ieee80211_mgmt_output(), and ieee80211_send_probereq().

#### 7.4.1.74 #define IEEE80211_FC0_TYPE_SHIFT 2

Definition at line 113 of file ieee80211.h.

#### 7.4.1.75 #define IEEE80211_FC0_VERSION_0 0x00

Definition at line 111 of file ieee80211.h.

Referenced by ieee80211_beacon_alloc(), ieee80211_encap(), ieee80211_input(), ieee80211_output(), and ieee80211_send_setup().

#### 7.4.1.76 #define IEEE80211_FC0_VERSION_MASK 0x03

Definition at line 109 of file ieee80211.h.

Referenced by ieee80211_input(), and ieee80211_output().

#### 7.4.1.77 #define IEEE80211_FC0_VERSION_SHIFT 0

Definition at line 110 of file ieee80211.h.

#### 7.4.1.78 #define IEEE80211_FC1_DIR_DSTODS 0x03

Definition at line 155 of file ieee80211.h.

Referenced by ieee80211_decap(), ieee80211_dump_pkt(), ieee80211_hdrsize(), ieee80211_output(), and michael_mic_hdr().

#### 7.4.1.79 #define IEEE80211_FC1_DIR_FROMDS 0x02

Definition at line 154 of file ieee80211.h.

Referenced by ieee80211_decap(), ieee80211_dump_pkt(), ieee80211_encap(), ieee80211_input(), ieee80211_output(), ieee80211_send_setup(), and michael_mic_hdr().

#### 7.4.1.80 #define IEEE80211_FC1_DIR_MASK 0x03

Definition at line 151 of file ieee80211.h.

Referenced by ieee80211_decap(), ieee80211_dump_pkt(), ieee80211_hdrsize(), ieee80211_input(), ieee80211_output(), and michael_mic_hdr().

#### 7.4.1.81 #define IEEE80211_FC1_DIR_NODS 0x00

Definition at line 152 of file ieee80211.h.

Referenced by ieee80211_beacon_alloc(), ieee80211_decap(), ieee80211_dump_pkt(), ieee80211_-encap(), ieee80211_input(), ieee80211_output(), ieee80211_send_setup(), and michael_mic_hdr().

#### 7.4.1.82 #define IEEE80211_FC1_DIR_TODS 0x01

Definition at line 153 of file ieee80211.h.

Referenced by ieee80211_decap(), ieee80211_dump_pkt(), ieee80211_encap(), ieee80211_input(), ieee80211_output(), ieee80211_send_setup(), and michael_mic_hdr().

#### 7.4.1.83 #define IEEE80211_FC1_MORE_DATA 0x20

Definition at line 160 of file ieee80211.h.

Referenced by ieee80211_encap().

#### 7.4.1.84 #define IEEE80211_FC1_MORE_FRAG 0x04

Definition at line 157 of file ieee80211.h.

Referenced by ieee80211_defrag().

#### 7.4.1.85 #define IEEE80211_FC1_ORDER 0x80

Definition at line 162 of file ieee80211.h.

#### 7.4.1.86 #define IEEE80211_FC1_PWR_MGT 0x10

Definition at line 159 of file ieee80211.h.

Referenced by ieee80211_input(), and ieee80211_send_nulldata().

#### 7.4.1.87 #define IEEE80211_FC1_RETRY 0x08

Definition at line 158 of file ieee80211.h.

Referenced by ieee80211_input().

#### 7.4.1.88 #define IEEE80211_FC1_WEP 0x40

Definition at line 161 of file ieee80211.h.

Referenced by ieee80211_dump_pkt(), ieee80211_encap(), ieee80211_input(), and ieee80211_mgmt_output().

#### 7.4.1.89 #define IEEE80211_FRAG_MAX 2346

Definition at line 637 of file ieee80211.h.

Referenced by ieee80211_ioctl_set80211().

#### 7.4.1.90 #define IEEE80211_FRAG_MIN 256

Definition at line 636 of file ieee80211.h.

#### 7.4.1.91 #define IEEE80211_HWBMISS_MAX 255

Definition at line 661 of file ieee80211.h.

Referenced by ieee80211_ioctl_set80211().

#### 7.4.1.92 #define IEEE80211_HWBMISS_MIN 1

Definition at line 660 of file ieee80211.h.

#### 7.4.1.93 #define IEEE80211_IS_MULTICAST(_a) (*(_a) & 0x01)

Definition at line 43 of file ieee80211.h.

Referenced by ieee80211_crypto_decap(), ieee80211_crypto_encap(), ieee80211_defrag(), ieee80211_encap(), ieee80211_find_txnode(), ieee80211_input(), and ieee80211_recv_mgmt().

#### 7.4.1.94 #define IEEE80211_MAX_LEN

**Value:**

```
(2300 + IEEE80211_CRC_LEN + \
    (IEEE80211_WEP_IVLEN + IEEE80211_WEP_KIDLEN + IEEE80211_WEP_CRCLEN))
```

Definition at line 604 of file ieee80211.h.

Referenced by ieee80211_cfgset().

#### 7.4.1.95 #define IEEE80211_MIN_LEN (sizeof(struct ieee80211_frame_min) + IEEE80211_CRC_LEN)

Definition at line 608 of file ieee80211.h.

#### 7.4.1.96 #define IEEE80211_MTU_MAX 2290

Definition at line 601 of file ieee80211.h.

Referenced by ieee80211_ioctl().

#### 7.4.1.97 #define IEEE80211_MTU_MIN 32

Definition at line 602 of file ieee80211.h.

#### 7.4.1.98 #define IEEE80211_NWID_LEN 32

Definition at line 169 of file ieee80211.h.

Referenced by ieee80211_cfgset(), ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), ieee80211_print_essid(), ieee80211_recv_mgmt(), ieee80211_send_mgmt(), ieee80211_send_probereq(), and wi_read_prism2_result().

#### 7.4.1.99 #define IEEE80211_PLCP_SERVICE 0x00

Definition at line 55 of file ieee80211.h.

#### 7.4.1.100 #define IEEE80211_PLCP_SFD 0xF3A0

Definition at line 54 of file ieee80211.h.

#### 7.4.1.101 #define IEEE80211_QOS_ACKPOLICY 0x60

Definition at line 173 of file ieee80211.h.

#### 7.4.1.102 #define IEEE80211_QOS_ACKPOLICY_S 5

Definition at line 174 of file ieee80211.h.

Referenced by ieee80211_encap().

#### 7.4.1.103 #define IEEE80211_QOS_ESOP 0x10

Definition at line 175 of file ieee80211.h.

#### 7.4.1.104 #define IEEE80211_QOS_ESOP_S 4

Definition at line 176 of file ieee80211.h.

#### 7.4.1.105 #define IEEE80211_QOS_HAS_SEQ(wh)

**Value:**

```
(((wh)->i_fc[0] & \
          (IEEE80211_FC0_TYPE_MASK | IEEE80211_FC0_SUBTYPE_QOS)) == \
          (IEEE80211_FC0_TYPE_DATA | IEEE80211_FC0_SUBTYPE_QOS))
```

Definition at line 180 of file ieee80211.h.

Referenced by ieee80211_hdrsize(), and ieee80211_input().

#### 7.4.1.106 #define IEEE80211_QOS_TID 0x0f

Definition at line 177 of file ieee80211.h.

Referenced by ieee80211_encap(), ieee80211_input(), and michael_mic_hdr().

#### 7.4.1.107 #define IEEE80211_QOS_TXOP 0x00ff

Definition at line 171 of file ieee80211.h.

#### 7.4.1.108 #define IEEE80211_RATE_BASIC 0x80

Definition at line 436 of file ieee80211.h.

Referenced by ieee80211_fix_rate(), ieee80211_match_bss(), ieee80211_recv_mgmt(), ieee80211_-set11gbasicrates(), and wi_read_ap_result().

#### 7.4.1.109 #define IEEE80211_RATE_VAL 0x7f

Definition at line 437 of file ieee80211.h.

Referenced by findrix(), ieee80211_amrr_choose(), ieee80211_announce(), ieee80211_cfgget(), ieee80211_fix_rate(), ieee80211_ioctl_set80211(), ieee80211_iserp_rateset(), ieee80211_match_-bss(), ieee80211_media_init(), ieee80211_rate2media(), ieee80211_set11gbasicrates(), maxrate(), and wi_read_ap_result().

#### 7.4.1.110 #define IEEE80211_RTS_MAX 2346

Definition at line 630 of file ieee80211.h.

Referenced by ieee80211_ioctl_set80211().

#### 7.4.1.111 #define IEEE80211_RTS_MIN 1

Definition at line 629 of file ieee80211.h.

#### 7.4.1.112 #define IEEE80211_SEQ_FRAG_MASK 0x000f

Definition at line 164 of file ieee80211.h.

Referenced by ccmp_init_blocks(), ieee80211_defrag(), ieee80211_dump_node(), and ieee80211_input().

#### 7.4.1.113 #define IEEE80211_SEQ_FRAG_SHIFT 0

Definition at line 165 of file ieee80211.h.

#### 7.4.1.114 #define IEEE80211_SEQ_SEQ_MASK 0xfff0

Definition at line 166 of file ieee80211.h.

#### 7.4.1.115 #define IEEE80211_SEQ_SEQ_SHIFT 4

Definition at line 167 of file ieee80211.h.

Referenced by ieee80211_dump_node(), ieee80211_encap(), ieee80211_input(), and ieee80211_send_-setup().

#### 7.4.1.116 #define IEEE80211_WEP_CRCLEN 4

Definition at line 578 of file ieee80211.h.

Referenced by tkip_encrypt(), wep_decrypt(), and wep_encrypt().

#### 7.4.1.117 #define IEEE80211_WEP_EXTIV 0x20

Definition at line 588 of file ieee80211.h.

Referenced by ccmp_decap(), ccmp_encap(), tkip_decap(), and tkip_encap().

#### 7.4.1.118 #define IEEE80211_WEP_EXTIVLEN 4

Definition at line 589 of file ieee80211.h.

#### 7.4.1.119 #define IEEE80211_WEP_IVLEN 3

Definition at line 576 of file ieee80211.h.

Referenced by ccmp_decap(), ieee80211_crypto_decap(), ieee80211_dump_pkt(), none_decap(), tkip_-decap(), wep_decrypt(), and wep_encrypt().

#### 7.4.1.120 #define IEEE80211_WEP_KEYLEN 5

Definition at line 575 of file ieee80211.h.

Referenced by ieee80211_cfgset().

#### 7.4.1.121 #define IEEE80211_WEP_KIDLEN 1

Definition at line 577 of file ieee80211.h.

#### 7.4.1.122 #define IEEE80211_WEP_MICLEN 8

Definition at line 590 of file ieee80211.h.

Referenced by tkip_demic(), and tkip_enmic().

#### 7.4.1.123 #define IEEE80211_WEP_NKID 4

Definition at line 579 of file ieee80211.h.

Referenced by ieee80211_cfgget(), ieee80211_cfgset(), ieee80211_crypto_attach(), ieee80211_crypto_-delglobalkeys(), ieee80211_ioctl_delkey(), ieee80211_ioctl_get80211(), ieee80211_ioctl_getkey(), ieee80211_ioctl_set80211(), ieee80211_ioctl_setkey(), and null_key_alloc().

#### 7.4.1.124 #define MNF_SETUP_REQ 0

Definition at line 285 of file ieee80211.h.

#### 7.4.1.125 #define MNF_SETUP_RESP 1

Definition at line 286 of file ieee80211.h.

#### 7.4.1.126 #define MNF_TEARDOWN 2

Definition at line 287 of file ieee80211.h.

#### 7.4.1.127 #define RSN_ASE_8021X_PSK 0x02

Definition at line 481 of file ieee80211.h.

Referenced by ieee80211_parse_rsn(), ieee80211_setup_rsn_ie(), and rsn_keymgmt().

#### 7.4.1.128 #define RSN_ASE_8021X_UNSPEC 0x01

Definition at line 480 of file ieee80211.h.

Referenced by ieee80211_parse_rsn(), ieee80211_setup_rsn_ie(), and rsn_keymgmt().

#### 7.4.1.129 #define RSN_ASE_NONE 0x00

Definition at line 479 of file ieee80211.h.

Referenced by rsn_keymgmt().

#### 7.4.1.130 #define RSN_CAP_PREAUTH 0x01

Definition at line 483 of file ieee80211.h.

Referenced by ieee80211_setup_wpa_ie().

#### 7.4.1.131 #define RSN_CSE_CCMP 0x04

Definition at line 476 of file ieee80211.h.

Referenced by ieee80211_setup_rsn_ie(), and rsn_cipher().

#### 7.4.1.132 #define RSN_CSE_NULL 0x00

Definition at line 472 of file ieee80211.h.

Referenced by ieee80211_setup_rsn_ie(), and rsn_cipher().

#### 7.4.1.133 #define RSN_CSE_TKIP 0x02

Definition at line 474 of file ieee80211.h.

Referenced by ieee80211_setup_rsn_ie(), and rsn_cipher().

#### 7.4.1.134 #define RSN_CSE_WEP104 0x05

Definition at line 477 of file ieee80211.h.

Referenced by ieee80211_setup_rsn_ie(), and rsn_cipher().

#### 7.4.1.135 #define RSN_CSE_WEP40 0x01

Definition at line 473 of file ieee80211.h.

Referenced by ieee80211_setup_rsn_ie(), and rsn_cipher().

#### 7.4.1.136 #define RSN_CSE_WRAP 0x03

Definition at line 475 of file ieee80211.h.

Referenced by ieee80211_setup_rsn_ie(), and rsn_cipher().

#### 7.4.1.137 #define RSN_OUI 0xac0f00

Definition at line 469 of file ieee80211.h.

#### 7.4.1.138 #define RSN_VERSION 1

Definition at line 470 of file ieee80211.h.

Referenced by ieee80211_parse_rsn(), and ieee80211_setup_rsn_ie().

#### 7.4.1.139 #define TID_TO_WME_AC(_tid)

**Value:**

```
(       \
         ((_tid) < 1) ? WME_AC_BE : \
         ((_tid) < 3) ? WME_AC_BK : \
         ((_tid) < 6) ? WME_AC_VI : \
         WME_AC_VO)
```

Definition at line 254 of file ieee80211.h.

Referenced by ieee80211_input().

#### 7.4.1.140 #define WME_AC_BE 0

Definition at line 492 of file ieee80211.h.

Referenced by ieee80211_classify(), ieee80211_ioctl_getwmeparam(), ieee80211_ioctl_setwmeparam(), ieee80211_wme_initparams(), and ieee80211_wme_updateparams_locked().

#### 7.4.1.141 #define WME_AC_BK 1

Definition at line 493 of file ieee80211.h.

Referenced by ieee80211_classify(), and ieee80211_wme_initparams().

#### 7.4.1.142 #define WME_AC_TO_TID(_ac)

**Value:**

```
(       \
         ((_ac) == WME_AC_VO) ? 6 : \
         ((_ac) == WME_AC_VI) ? 5 : \
         ((_ac) == WME_AC_BK) ? 1 : \
         0)
```

Definition at line 248 of file ieee80211.h.

Referenced by ieee80211_encap().

#### 7.4.1.143 #define WME_AC_VI 2

Definition at line 494 of file ieee80211.h.

Referenced by ieee80211_classify(), ieee80211_input(), and ieee80211_wme_initparams().

#### 7.4.1.144 #define WME_AC_VO 3

Definition at line 495 of file ieee80211.h.

Referenced by ieee80211_classify(), and ieee80211_wme_initparams().

#### 7.4.1.145 #define WME_INFO_OUI_SUBTYPE 0x00

Definition at line 487 of file ieee80211.h.

Referenced by ieee80211_add_wme_info(), and iswmeinfo().

#### 7.4.1.146 #define WME_NUM_AC 4

Definition at line 235 of file ieee80211.h.

Referenced by ieee80211_add_wme_param(), ieee80211_ioctl_getwmeparam(), ieee80211_ioctl_-setwmeparam(), ieee80211_parse_wmeparams(), ieee80211_wme_initparams(), and ieee80211_wme_-updateparams_locked().

#### 7.4.1.147 #define WME_OUI 0xf25000

Definition at line 485 of file ieee80211.h.

Referenced by iswmeinfo(), iswmeoui(), and iswmeparam().

#### 7.4.1.148 #define WME_OUI_TYPE 0x02

Definition at line 486 of file ieee80211.h.

Referenced by ieee80211_add_wme_info(), ieee80211_add_wme_param(), iswmeinfo(), iswmeoui(), and iswmeparam().

#### 7.4.1.149 #define WME_PARAM_ACI 0x60

Definition at line 237 of file ieee80211.h.

Referenced by ieee80211_add_wme_param().

#### 7.4.1.150 #define WME_PARAM_ACI_S 5

Definition at line 238 of file ieee80211.h.

#### 7.4.1.151 #define WME_PARAM_ACM 0x10

Definition at line 239 of file ieee80211.h.

Referenced by ieee80211_add_wme_param(), and ieee80211_parse_wmeparams().

#### 7.4.1.152 #define WME_PARAM_ACM_S 4

Definition at line 240 of file ieee80211.h.

#### 7.4.1.153 #define WME_PARAM_AIFSN 0x0f

Definition at line 241 of file ieee80211.h.

Referenced by ieee80211_add_wme_param(), and ieee80211_parse_wmeparams().

#### 7.4.1.154 #define WME_PARAM_AIFSN_S 0

Definition at line 242 of file ieee80211.h.

#### 7.4.1.155 #define WME_PARAM_LOGCWMAX 0xf0

Definition at line 245 of file ieee80211.h.

Referenced by ieee80211_add_wme_param(), and ieee80211_parse_wmeparams().

#### 7.4.1.156 #define WME_PARAM_LOGCWMAX_S 4

Definition at line 246 of file ieee80211.h.

#### 7.4.1.157 #define WME_PARAM_LOGCWMIN 0x0f

Definition at line 243 of file ieee80211.h.

Referenced by ieee80211_add_wme_param(), and ieee80211_parse_wmeparams().

#### 7.4.1.158 #define WME_PARAM_LOGCWMIN_S 0

Definition at line 244 of file ieee80211.h.

#### 7.4.1.159 #define WME_PARAM_OUI_SUBTYPE 0x01

Definition at line 488 of file ieee80211.h.

Referenced by ieee80211_add_wme_param(), and iswmeparam().

#### 7.4.1.160 #define WME_QOSINFO_COUNT 0x0f

Definition at line 271 of file ieee80211.h.

Referenced by ieee80211_parse_wmeparams().

#### 7.4.1.161 #define WME_VERSION 1

Definition at line 489 of file ieee80211.h.

Referenced by ieee80211_add_wme_info(), and ieee80211_add_wme_param().

#### 7.4.1.162 #define WPA_ASE_8021X_PSK 0x02

Definition at line 467 of file ieee80211.h.

Referenced by ieee80211_node_lateattach(), ieee80211_parse_wpa(), ieee80211_setup_rsn_ie(), ieee80211_setup_wpa_ie(), and wpa_keymgmt().

#### 7.4.1.163 #define WPA_ASE_8021X_UNSPEC 0x01

Definition at line 466 of file ieee80211.h.

Referenced by ieee80211_node_lateattach(), ieee80211_parse_wpa(), ieee80211_setup_rsn_ie(), ieee80211_setup_wpa_ie(), and wpa_keymgmt().

#### 7.4.1.164 #define WPA_ASE_NONE 0x00

Definition at line 465 of file ieee80211.h.

Referenced by wpa_keymgmt().

#### 7.4.1.165 #define WPA_CSE_CCMP 0x04

Definition at line 462 of file ieee80211.h.

Referenced by ieee80211_setup_wpa_ie(), and wpa_cipher().

#### 7.4.1.166 #define WPA_CSE_NULL 0x00

Definition at line 459 of file ieee80211.h.

Referenced by ieee80211_setup_wpa_ie(), and wpa_cipher().

#### 7.4.1.167 #define WPA_CSE_TKIP 0x02

Definition at line 461 of file ieee80211.h.

Referenced by ieee80211_setup_wpa_ie(), and wpa_cipher().

#### 7.4.1.168 #define WPA_CSE_WEP104 0x05

Definition at line 463 of file ieee80211.h.

Referenced by ieee80211_setup_wpa_ie(), and wpa_cipher().

#### 7.4.1.169 #define WPA_CSE_WEP40 0x01

Definition at line 460 of file ieee80211.h.

Referenced by ieee80211_setup_wpa_ie(), and wpa_cipher().

#### 7.4.1.170 #define WPA_OUI 0xf25000

Definition at line 455 of file ieee80211.h.

Referenced by iswpaoui().

#### 7.4.1.171 #define WPA_OUI_TYPE 0x01

Definition at line 456 of file ieee80211.h.

Referenced by ieee80211_setup_wpa_ie(), and iswpaoui().

#### 7.4.1.172 #define WPA_VERSION 1

Definition at line 457 of file ieee80211.h.

Referenced by ieee80211_parse_wpa(), and ieee80211_setup_wpa_ie().

## 7.4.2 Typedef Documentation

### 7.4.2.1 typedef u_int8_t* ieee80211_mgt_auth_t

Definition at line 508 of file ieee80211.h.

### 7.4.2.2 typedef u_int8_t* ieee80211_mgt_beacon_t

Definition at line 350 of file ieee80211.h.

## 7.4.3 Enumeration Type Documentation

### 7.4.3.1 anonymous enum

**Enumerator:**

*IEEE80211_ELEMID_SSID*

*IEEE80211_ELEMID_RATES*

*IEEE80211_ELEMID_FHPARMS*

*IEEE80211_ELEMID_DSPARMS*

*IEEE80211_ELEMID_CFPARMS*

*IEEE80211_ELEMID_TIM*

*IEEE80211_ELEMID_IBSSPARMS*

*IEEE80211_ELEMID_COUNTRY*

*IEEE80211_ELEMID_CHALLENGE*

*IEEE80211_ELEMID_ERP*

*IEEE80211_ELEMID_RSN*

*IEEE80211_ELEMID_XRATES*

*IEEE80211_ELEMID_TPC*

*IEEE80211_ELEMID_CCKM*

*IEEE80211_ELEMID_VENDOR*

Definition at line 395 of file ieee80211.h.

### 7.4.3.2 anonymous enum

**Enumerator:**

*IEEE80211_AUTH_OPEN_REQUEST*

*IEEE80211_AUTH_OPEN_RESPONSE*

Definition at line 521 of file ieee80211.h.

#### 7.4.3.3 anonymous enum

**Enumerator:**

*IEEE80211_AUTH_SHARED_REQUEST*
*IEEE80211_AUTH_SHARED_CHALLENGE*
*IEEE80211_AUTH_SHARED_RESPONSE*
*IEEE80211_AUTH_SHARED_PASS*

Definition at line 526 of file ieee80211.h.

#### 7.4.3.4 anonymous enum

**Enumerator:**

*IEEE80211_REASON_UNSPECIFIED*
*IEEE80211_REASON_AUTH_EXPIRE*
*IEEE80211_REASON_AUTH_LEAVE*
*IEEE80211_REASON_ASSOC_EXPIRE*
*IEEE80211_REASON_ASSOC_TOOMANY*
*IEEE80211_REASON_NOT_AUTHED*
*IEEE80211_REASON_NOT_ASSOCED*
*IEEE80211_REASON_ASSOC_LEAVE*
*IEEE80211_REASON_ASSOC_NOT_AUTHED*
*IEEE80211_REASON_RSN_REQUIRED*
*IEEE80211_REASON_RSN_INCONSISTENT*
*IEEE80211_REASON_IE_INVALID*
*IEEE80211_REASON_MIC_FAILURE*
*IEEE80211_STATUS_SUCCESS*
*IEEE80211_STATUS_UNSPECIFIED*
*IEEE80211_STATUS_CAPINFO*
*IEEE80211_STATUS_NOT_ASSOCED*
*IEEE80211_STATUS_OTHER*
*IEEE80211_STATUS_ALG*
*IEEE80211_STATUS_SEQUENCE*
*IEEE80211_STATUS_CHALLENGE*
*IEEE80211_STATUS_TIMEOUT*
*IEEE80211_STATUS_TOOMANY*
*IEEE80211_STATUS_BASIC_RATE*
*IEEE80211_STATUS_SP_REQUIRED*
*IEEE80211_STATUS_PBCC_REQUIRED*
*IEEE80211_STATUS_CA_REQUIRED*
*IEEE80211_STATUS_TOO_MANY_STATIONS*
*IEEE80211_STATUS_RATES*
*IEEE80211_STATUS_SHORTSLOT_REQUIRED*
*IEEE80211_STATUS_DSSSOFDM_REQUIRED*

Definition at line 539 of file ieee80211.h.

### 7.4.4 Variable Documentation

#### 7.4.4.1 struct ieee80211_country_ie __packed

#### 7.4.4.2 struct ieee80211_tim_ie __packed

#### 7.4.4.3 struct ieee80211_ie_wpa __packed

#### 7.4.4.4 struct ieee80211_frame_cfend __packed

#### 7.4.4.5 struct ieee80211_frame_pspoll __packed

#### 7.4.4.6 struct ieee80211_frame_ack __packed

#### 7.4.4.7 struct ieee80211_frame_cts __packed

#### 7.4.4.8 struct ieee80211_frame_rts __packed

#### 7.4.4.9 struct ieee80211_frame_min __packed

#### 7.4.4.10 struct ieee80211_mnf __packed

#### 7.4.4.11 struct ieee80211_wme_param __packed

#### 7.4.4.12 struct ieee80211_wme_acparams __packed

#### 7.4.4.13 struct ieee80211_wme_tspec __packed

#### 7.4.4.14 struct ieee80211_wme_info __packed

#### 7.4.4.15 struct ieee80211_qosframe_addr4 __packed

#### 7.4.4.16 struct ieee80211_frame_addr4 __packed

#### 7.4.4.17 struct ieee80211_qosframe __packed

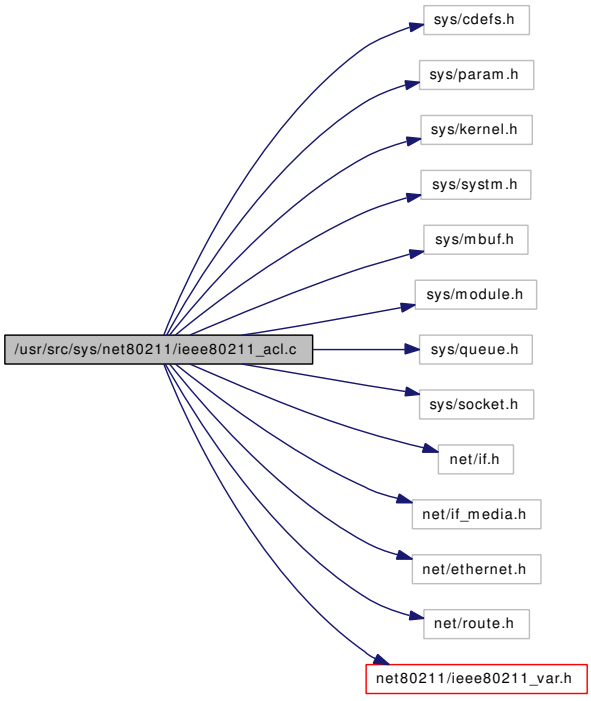
#### 7.4.4.18 struct ieee80211_frame __packed

#### 7.4.4.19 struct ieee80211_plcp_hdr __packed

# 7.5 /usr/src/sys/net80211/ieee80211_acl.c File Reference

```
#include <sys/cdefs.h>
#include <sys/param.h>
#include <sys/kernel.h>
#include <sys/systm.h>
#include <sys/mbuf.h>
#include <sys/module.h>
#include <sys/queue.h>
#include <sys/socket.h>
#include <net/if.h>
#include <net/if_media.h>
#include <net/ethernet.h>
#include <net/route.h>
#include <net80211/ieee80211_var.h>
```

Include dependency graph for ieee80211_acl.c:




## Data Structures

- struct acl
- struct aclstate

## Defines

- #define ACL_HASHSIZE 32
- #define ACL_HASH(addr) (((const u_int8_t *)(addr))[IEEE80211_ADDR_LEN - 1] % ACL_-HASHSIZE)

## Enumerations

- enum { ACL_POLICY_OPEN = 0, ACL_POLICY_ALLOW = 1, ACL_POLICY_DENY = 2 }

## Functions

- __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_acl.c,v 1.4 2005/08/13 17:31:48 sam Exp $")
- MALLOC_DEFINE (M_80211_ACL,"acl","802.11 station acl")
- static int acl_free_all (struct ieee80211com *)
- static int acl_attach (struct ieee80211com *ic)
- static void acl_detach (struct ieee80211com *ic)
- static __inline struct acl * _find_acl (struct aclstate *as, const u_int8_t *macaddr)
- static void _acl_free (struct aclstate *as, struct acl *acl)
- static int acl_check (struct ieee80211com *ic, const u_int8_t mac[IEEE80211_ADDR_LEN])
- static int acl_add (struct ieee80211com *ic, const u_int8_t mac[IEEE80211_ADDR_LEN])
- static int acl_remove (struct ieee80211com *ic, const u_int8_t mac[IEEE80211_ADDR_LEN])
- static int acl_setpolicy (struct ieee80211com *ic, int policy)
- static int acl_getpolicy (struct ieee80211com *ic)
- static int acl_setioctl (struct ieee80211com *ic, struct ieee80211req *ireq)
- static int acl_getioctl (struct ieee80211com *ic, struct ieee80211req *ireq)
- static int wlan_acl_modevent (module_t mod, int type, void *unused)
- DECLARE_MODULE (wlan_acl, wlan_acl_mod, SI_SUB_DRIVERS, SI_ORDER_FIRST)
- MODULE_VERSION (wlan_acl, 1)
- MODULE_DEPEND (wlan_acl, wlan, 1, 1, 1)

## Variables

- static struct ieee80211_aclator mac
- static moduledata_t wlan_acl_mod

### 7.5.1 Define Documentation

#### 7.5.1.1 #define ACL_HASH(addr) (((const u_int8_t *)(addr))[IEEE80211_ADDR_LEN - 1] % ACL_HASHSIZE)

Definition at line 85 of file ieee80211_acl.c.

Referenced by _find_acl(), and acl_add().

#### 7.5.1.2 #define ACL_HASHSIZE 32

Definition at line 68 of file ieee80211_acl.c.

## 7.5.2 Enumeration Type Documentation

### 7.5.2.1 anonymous enum

**Enumerator:**

*ACL_POLICY_OPEN*

*ACL_POLICY_ALLOW*

*ACL_POLICY_DENY*

Definition at line 62 of file ieee80211_acl.c.

## 7.5.3 Function Documentation

### 7.5.3.1 __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_acl. *c*, v 1.4 2005/08/13 17:31:48 sam Exp $")

### 7.5.3.2 static void _acl_free (struct aclstate * *as*, struct acl * *acl*) [static]

Definition at line 135 of file ieee80211_acl.c.

References acl, ACL_LOCK_ASSERT, and aclstate::as_nacls.

Referenced by acl_free_all(), and acl_remove().

### 7.5.3.3 static __inline struct acl* _find_acl (struct aclstate * *as*, const u_int8_t * *macaddr*) [static]

Definition at line 121 of file ieee80211_acl.c.

References acl, ACL_HASH, and IEEE80211_ADDR_EQ.

Referenced by acl_check(), and acl_remove().

### 7.5.3.4 static int acl_add (struct ieee80211com * *ic*, const u_int8_t *mac*[IEEE80211_ADDR_LEN]) [static]

Definition at line 162 of file ieee80211_acl.c.

References acl, ACL_HASH, ACL_LOCK, ACL_UNLOCK, aclstate::as_nacls, ieee80211com::ic_as, IEEE80211_ADDR_COPY, IEEE80211_ADDR_EQ, IEEE80211_DPRINTF, IEEE80211_MSG_ACL, and mac.

### 7.5.3.5 static int acl_attach (struct ieee80211com * *ic*) [static]

Definition at line 93 of file ieee80211_acl.c.

References ACL_LOCK_INIT, ACL_POLICY_OPEN, aclstate::as_policy, and ieee80211com::ic_as.

### 7.5.3.6 static int acl_check (struct ieee80211com * *ic*, const u_int8_t *mac*[IEEE80211_ADDR_LEN]) [static]

Definition at line 146 of file ieee80211_acl.c.

References _find_acl(), ACL_POLICY_ALLOW, ACL_POLICY_DENY, ACL_POLICY_OPEN, aclstate::as_policy, ieee80211com::ic_as, and mac.

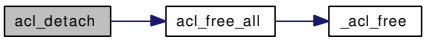
Here is the call graph for this function:


#### 7.5.3.7 static void acl_detach (struct ieee80211com * *ic*) [static]

Definition at line 110 of file ieee80211_acl.c.

References acl_free_all(), ACL_LOCK_DESTROY, and ieee80211com::ic_as.

Here is the call graph for this function:




#### 7.5.3.8 static int acl_free_all (struct ieee80211com *) [static]

Definition at line 219 of file ieee80211_acl.c.

References _acl_free(), acl, ACL_LOCK, ACL_UNLOCK, ieee80211com::ic_as, IEEE80211_DPRINTF, and IEEE80211_MSG_ACL.

Referenced by acl_detach().

Here is the call graph for this function:


#### 7.5.3.9 static int acl_getioctl (struct ieee80211com * *ic*, struct ieee80211req * *ireq*) [static]

Definition at line 274 of file ieee80211_acl.c.

References acl, ACL_LOCK, ACL_UNLOCK, aclstate::as_nacls, aclstate::as_policy, ieee80211req::i_data, ieee80211req::i_len, ieee80211req::i_val, ieee80211com::ic_as, IEEE80211_ADDR_COPY, IEEE80211_ADDR_LEN, IEEE80211_MACCMD_LIST, IEEE80211_MACCMD_POLICY, and ieee80211req_maclist::ml_macaddr.

#### 7.5.3.10 static int acl_getpolicy (struct ieee80211com * *ic*) [static]

Definition at line 259 of file ieee80211_acl.c.

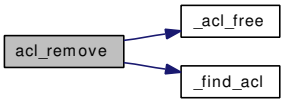
References aclstate::as_policy, and ieee80211com::ic_as.

#### 7.5.3.11 static int acl_remove (struct ieee80211com * *ic*, const u_int8_t *mac*[IEEE80211_ADDR_LEN]) [static]

Definition at line 200 of file ieee80211_acl.c.

References _acl_free(), _find_acl(), acl, ACL_LOCK, ACL_UNLOCK, ieee80211com::ic_as, IEEE80211_DPRINTF, IEEE80211_MSG_ACL, and mac.

Here is the call graph for this function:




#### 7.5.3.12 static int acl_setioctl (struct ieee80211com * *ic*, struct ieee80211req * *ireq*) [static]

Definition at line 267 of file ieee80211_acl.c.

#### 7.5.3.13 static int acl_setpolicy (struct ieee80211com * *ic*, int *policy*) [static]

Definition at line 235 of file ieee80211_acl.c.

References ACL_POLICY_ALLOW, ACL_POLICY_DENY, ACL_POLICY_OPEN, aclstate::as_policy, ieee80211com::ic_as, IEEE80211_DPRINTF, IEEE80211_MACCMD_POLICY_ALLOW, IEEE80211_-MACCMD_POLICY_DENY, IEEE80211_MACCMD_POLICY_OPEN, and IEEE80211_MSG_ACL.

#### 7.5.3.14 DECLARE_MODULE (wlan_acl, wlan_acl_mod, SI_SUB_DRIVERS, SI_ORDER_FIRST)

#### 7.5.3.15 MALLOC_DEFINE (M_80211_ACL, "acl", "802.11 station acl")

#### 7.5.3.16 MODULE_DEPEND (wlan_acl, wlan, 1, 1, 1)

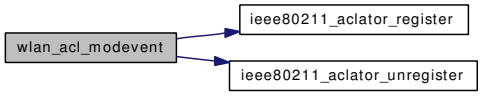
#### 7.5.3.17 MODULE_VERSION (wlan_acl, 1)

#### 7.5.3.18 static int wlan_acl_modevent (module_t *mod*, int *type*, void * *unused*) [static]

Definition at line 331 of file ieee80211_acl.c.

References ieee80211_aclator_register(), ieee80211_aclator_unregister(), and mac.

Here is the call graph for this function:



## 7.5.4 Variable Documentation

### 7.5.4.1 struct ieee80211_aclator mac [static]

**Initial value:**

```
{
        .iac_name       = "mac",
        .iac_attach     = acl_attach,
        .iac_detach     = acl_detach,
        .iac_check      = acl_check,
        .iac_add        = acl_add,
        .iac_remove     = acl_remove,
        .iac_flush      = acl_free_all,
        .iac_setpolicy  = acl_setpolicy,
        .iac_getpolicy  = acl_getpolicy,
        .iac_setioctl   = acl_setioctl,
        .iac_getioctl   = acl_getioctl,
}
```

Definition at line 313 of file ieee80211_acl.c.

Referenced by acl_add(), acl_check(), acl_remove(), dev_key_set(), ieee80211_find_vap(), ieee80211_-ioctl_macmac(), and wlan_acl_modevent().

### 7.5.4.2 moduledata_t wlan_acl_mod [static]

**Initial value:**

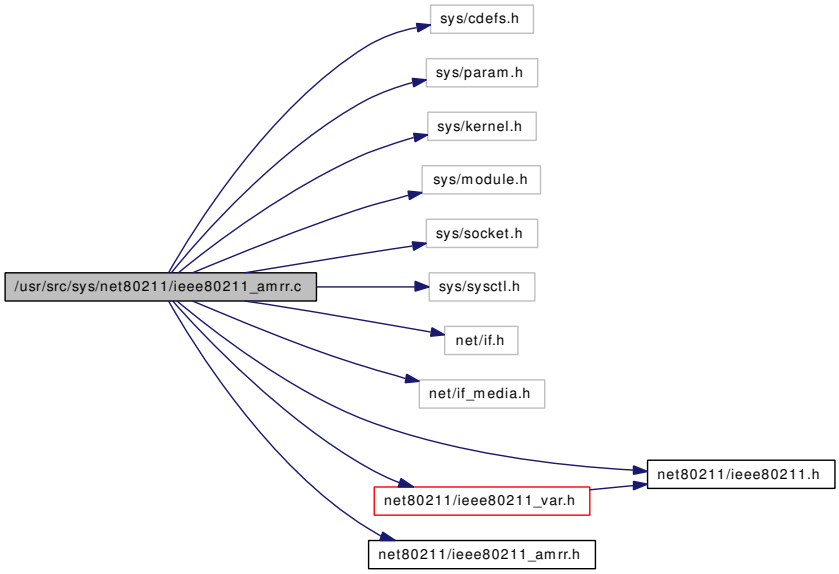
```
{
        "wlan_acl",
        wlan_acl_modevent,
        0
}
```

Definition at line 346 of file ieee80211_acl.c.

# 7.6 /usr/src/sys/net80211/ieee80211_amrr.c File Reference

```
#include <sys/cdefs.h>
#include <sys/param.h>
#include <sys/kernel.h>
#include <sys/module.h>
#include <sys/socket.h>
#include <sys/sysctl.h>
#include <net/if.h>
#include <net/if_media.h>
#include <net80211/ieee80211.h>
#include <net80211/ieee80211_var.h>
#include <net80211/ieee80211_amrr.h>
```

Include dependency graph for ieee80211_amrr.c:




## Defines

- #define is_success(amn) ((amn) → amn_retrycnt < (amn) → amn_txcnt / 10)
- #define is_failure(amn) ((amn) → amn_retrycnt > (amn) → amn_txcnt / 3)
- #define is_enough(amn) ((amn) → amn_txcnt > 10)
- #define is_min_rate(ni) ((ni) → ni_txrate == 0)
- #define is_max_rate(ni) ((ni) → ni_txrate == (ni) → ni_rates.rs_nrates - 1)
- #define increase_rate(ni) ((ni) → ni_txrate++)
- #define decrease_rate(ni) ((ni) → ni_txrate–)
- #define reset_cnt(amn) do { (amn) → amn_txcnt = (amn) → amn_retrycnt = 0; } while (0)

## Functions

- __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_amrr.c,v 1.1 2006/11/26 19:55:26 sam Exp $")
- void ieee80211_amrr_init (struct ieee80211_amrr *amrr, struct ieee80211com *ic, int min, int max)
- void ieee80211_amrr_node_init (struct ieee80211_amrr *amrr, struct ieee80211_amrr_node *amn)
- void ieee80211_amrr_choose (struct ieee80211_amrr *amrr, struct ieee80211_node *ni, struct ieee80211_amrr_node *amn)
- static int amrr_modevent (module_t mod, int type, void *unused)
- DECLARE_MODULE (wlan_amrr, amrr_mod, SI_SUB_DRIVERS, SI_ORDER_FIRST)
- MODULE_VERSION (wlan_amrr, 1)

## Variables

- static moduledata_t amrr_mod

### 7.6.1 Define Documentation

#### 7.6.1.1 #define decrease_rate(ni) ((ni) → ni_txrate–)

Definition at line 61 of file ieee80211_amrr.c.

Referenced by ieee80211_amrr_choose().

#### 7.6.1.2 #define increase_rate(ni) ((ni) → ni_txrate++)

Definition at line 59 of file ieee80211_amrr.c.

Referenced by ieee80211_amrr_choose().

#### 7.6.1.3 #define is_enough(amn) ((amn) → amn_txcnt > 10)

Definition at line 53 of file ieee80211_amrr.c.

Referenced by ieee80211_amrr_choose().

#### 7.6.1.4 #define is_failure(amn) ((amn) → amn_retrycnt > (amn) → amn_txcnt / 3)

Definition at line 51 of file ieee80211_amrr.c.

Referenced by ieee80211_amrr_choose().

#### 7.6.1.5 #define is_max_rate(ni) ((ni) → ni_txrate == (ni) → ni_rates.rs_nrates - 1)

Definition at line 57 of file ieee80211_amrr.c.

Referenced by ieee80211_amrr_choose().

#### 7.6.1.6 #define is_min_rate(ni) ((ni) → ni_txrate == 0)

Definition at line 55 of file ieee80211_amrr.c.

Referenced by ieee80211_amrr_choose().

#### 7.6.1.7 #define is_success(amn) ((amn) → amn_retrycnt < (amn) → amn_txcnt / 10)

Definition at line 49 of file ieee80211_amrr.c.

Referenced by ieee80211_amrr_choose().

#### 7.6.1.8 #define reset_cnt(amn) do { (amn) → amn_txcnt = (amn) → amn_retrycnt = 0; } while (0)

Definition at line 63 of file ieee80211_amrr.c.

Referenced by ieee80211_amrr_choose().

### 7.6.2 Function Documentation

#### 7.6.2.1 __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_amrr. *c*, v 1.1 2006/11/26 19:55:26 sam Exp $")

#### 7.6.2.2 static int amrr_modevent (module_t *mod*, int *type*, void * *unused*) [static]

Definition at line 145 of file ieee80211_amrr.c.

#### 7.6.2.3 DECLARE_MODULE (wlan_amrr, amrr_mod, SI_SUB_DRIVERS, SI_ORDER_FIRST)

#### 7.6.2.4 void ieee80211_amrr_choose (struct ieee80211_amrr * *amrr*, struct ieee80211_node * *ni*, struct ieee80211_amrr_node * *amn*)

Definition at line 90 of file ieee80211_amrr.c.

References ieee80211_amrr_node::amn_recovery, ieee80211_amrr_node::amn_retrycnt, ieee80211_amrr_node::amn_success, ieee80211_amrr_node::amn_success_threshold, ieee80211_amrr_node::amn_txcnt, ieee80211_amrr::amrr_ic, ieee80211_amrr::amrr_max_success_threshold, ieee80211_amrr::amrr_min_success_threshold, decrease_rate, IEEE80211_DPRINTF, IEEE80211_MSG_RATECTL, IEEE80211_RATE_VAL, increase_rate, is_enough, is_failure, is_max_rate, is_min_rate, is_success, ieee80211_node::ni_rates, ieee80211_node::ni_txrate, reset_cnt, and ieee80211_rateset::rs_rates.

#### 7.6.2.5 void ieee80211_amrr_init (struct ieee80211_amrr * *amrr*, struct ieee80211com * *ic*, int *min*, int *max*)

Definition at line 67 of file ieee80211_amrr.c.

References ieee80211_amrr::amrr_ic, ieee80211_amrr::amrr_max_success_threshold, and ieee80211_amrr::amrr_min_success_threshold.

#### 7.6.2.6 void ieee80211_amrr_node_init (struct ieee80211_amrr * *amrr*, struct ieee80211_amrr_node * *amn*)

Definition at line 77 of file ieee80211_amrr.c.

References ieee80211_amrr_node::amn_recovery, ieee80211_amrr_node::amn_retrycnt, ieee80211_amrr_node::amn_success, ieee80211_amrr_node::amn_success_threshold, ieee80211_amrr_node::amn_txcnt, and ieee80211_amrr::amrr_min_success_threshold.

#### 7.6.2.7 MODULE_VERSION (wlan_amrr, 1)

### 7.6.3 Variable Documentation

#### 7.6.3.1 moduledata_t amrr_mod [static]

**Initial value:**

```
{
        "wlan_amrr",
        amrr_modevent,
        0
}
```

Definition at line 158 of file ieee80211_amrr.c.

# 7.7 /usr/src/sys/net80211/ieee80211_amrr.h File Reference

This graph shows which files directly or indirectly include this file:


## Data Structures

- struct ieee80211_amrr
- struct ieee80211_amrr_node

## Defines

- #define IEEE80211_AMRR_MIN_SUCCESS_THRESHOLD 1
- #define IEEE80211_AMRR_MAX_SUCCESS_THRESHOLD 15

## Functions

- void ieee80211_amrr_init (struct ieee80211_amrr ∗, struct ieee80211com ∗ic, int, int)
- void ieee80211_amrr_node_init (struct ieee80211_amrr ∗, struct ieee80211_amrr_node ∗)
- void ieee80211_amrr_choose (struct ieee80211_amrr ∗, struct ieee80211_node ∗, struct ieee80211_amrr_node ∗)

## 7.7.1 Define Documentation

### 7.7.1.1 #define IEEE80211_AMRR_MAX_SUCCESS_THRESHOLD 15

Definition at line 44 of file ieee80211_amrr.h.

### 7.7.1.2 #define IEEE80211_AMRR_MIN_SUCCESS_THRESHOLD 1

Definition at line 43 of file ieee80211_amrr.h.

## 7.7.2 Function Documentation

### 7.7.2.1 void ieee80211_amrr_choose (struct ieee80211_amrr ∗, struct ieee80211_node ∗, struct ieee80211_amrr_node ∗)

Definition at line 90 of file ieee80211_amrr.c.

References ieee80211_amrr_node::amn_recovery, ieee80211_amrr_node::amn_retrycnt, ieee80211_amrr_node::amn_success, ieee80211_amrr_node::amn_success_threshold, ieee80211_amrr_node::amn_txcnt, ieee80211_amrr::amrr_ic, ieee80211_amrr::amrr_max_success_threshold, ieee80211_amrr::amrr_min_success_threshold, decrease_rate, IEEE80211_DPRINTF, IEEE80211_MSG_RATECTL, IEEE80211_RATE_VAL, increase_rate, is_enough, is_failure, is_max_rate, is_min_rate, is_success, ieee80211_node::ni_rates, ieee80211_node::ni_txrate, reset_cnt, and ieee80211_rateset::rs_rates.

#### 7.7.2.2 void ieee80211_amrr_init (struct ieee80211_amrr *, struct ieee80211com * *ic*, int, int)

Definition at line 67 of file ieee80211_amrr.c.

References ieee80211_amrr::amrr_ic, ieee80211_amrr::amrr_max_success_threshold, and ieee80211_amrr::amrr_min_success_threshold.

#### 7.7.2.3 void ieee80211_amrr_node_init (struct ieee80211_amrr *, struct ieee80211_amrr_node *)

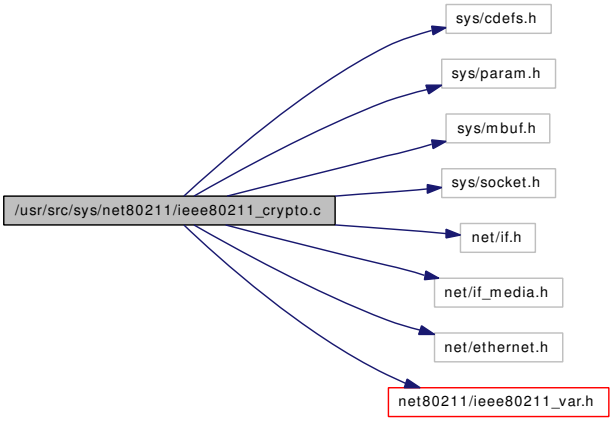
Definition at line 77 of file ieee80211_amrr.c.

References ieee80211_amrr_node::amn_recovery, ieee80211_amrr_node::amn_retrycnt, ieee80211_amrr_node::amn_success, ieee80211_amrr_node::amn_success_threshold, ieee80211_amrr_node::amn_txcnt, and ieee80211_amrr::amrr_min_success_threshold.

# 7.8 /usr/src/sys/net80211/ieee80211_crypto.c File Reference

```
#include <sys/cdefs.h>
#include <sys/param.h>
#include <sys/mbuf.h>
#include <sys/socket.h>
#include <net/if.h>
#include <net/if_media.h>
#include <net/ethernet.h>
#include <net80211/ieee80211_var.h>
```

Include dependency graph for ieee80211_crypto.c:




## Defines

- #define N(a) (sizeof(a) / sizeof(a[0]))
- #define IEEE80211_WEP_HDRLEN (IEEE80211_WEP_IVLEN + IEEE80211_WEP_KIDLEN)
- #define IEEE80211_WEP_MINLEN

## Functions

- __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_crypto.c,v 1.12 2005/08/08 18:46:35 sam Exp $")
- static int _ieee80211_crypto_delkey (struct ieee80211com *, struct ieee80211_key *)
- static int null_key_alloc (struct ieee80211com *ic, const struct ieee80211_key *k, ieee80211_keyix *keyix, ieee80211_keyix *rxkeyix)
- static int null_key_delete (struct ieee80211com *ic, const struct ieee80211_key *k)
- static int null_key_set (struct ieee80211com *ic, const struct ieee80211_key *k, const u_int8_t mac[IEEE80211_ADDR_LEN])
- static void null_key_update (struct ieee80211com *ic)
- static __inline void cipher_detach (struct ieee80211_key *key)
- static __inline void * cipher_attach (struct ieee80211com *ic, struct ieee80211_key *key)

- static __inline int dev_key_alloc (struct ieee80211com *ic, const struct ieee80211_key *key, ieee80211_keyix *keyix, ieee80211_keyix *rxkeyix)
- static __inline int dev_key_delete (struct ieee80211com *ic, const struct ieee80211_key *key)
- static __inline int dev_key_set (struct ieee80211com *ic, const struct ieee80211_key *key, const u_int8_t mac[IEEE80211_ADDR_LEN])
- void ieee80211_crypto_attach (struct ieee80211com *ic)
- void ieee80211_crypto_detach (struct ieee80211com *ic)
- void ieee80211_crypto_register (const struct ieee80211_cipher *cip)
- void ieee80211_crypto_unregister (const struct ieee80211_cipher *cip)
- int ieee80211_crypto_available (u_int cipher)
- int ieee80211_crypto_newkey (struct ieee80211com *ic, int cipher, int flags, struct ieee80211_key *key)
- int ieee80211_crypto_delkey (struct ieee80211com *ic, struct ieee80211_key *key)
- void ieee80211_crypto_delglobalkeys (struct ieee80211com *ic)
- int ieee80211_crypto_setkey (struct ieee80211com *ic, struct ieee80211_key *key, const u_int8_t macaddr[IEEE80211_ADDR_LEN])
- ieee80211_key * ieee80211_crypto_encap (struct ieee80211com *ic, struct ieee80211_node *ni, struct mbuf *m)
- ieee80211_key * ieee80211_crypto_decap (struct ieee80211com *ic, struct ieee80211_node *ni, struct mbuf *m, int hdrlen)

## Variables

- static struct ieee80211_cipher * ciphers [IEEE80211_CIPHER_MAX]
- static const char * cipher_modnames [ ]

### 7.8.1 Define Documentation

#### 7.8.1.1 #define IEEE80211_WEP_HDRLEN (IEEE80211_WEP_IVLEN + IEEE80211_WEP_KIDLEN)

#### 7.8.1.2 #define IEEE80211_WEP_MINLEN

**Value:**

```
(sizeof(struct ieee80211_frame) + \
        IEEE80211_WEP_HDRLEN + IEEE80211_WEP_CRCLEN)
```

Referenced by ieee80211_crypto_decap().

#### 7.8.1.3 #define N(a) (sizeof(a) / sizeof(a[0]))

### 7.8.2 Function Documentation

#### 7.8.2.1 __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_crypto. *c*, v 1.12 2005/08/08 18:46:35 sam Exp $")

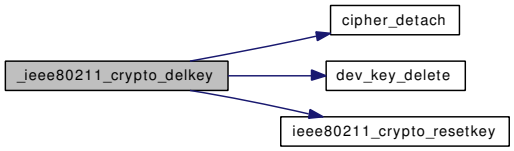
#### 7.8.2.2 static int _ieee80211_crypto_delkey (struct ieee80211com *, struct ieee80211_key *) [static]

Definition at line 401 of file ieee80211_crypto.c.

References cipher_detach(), dev_key_delete(), ieee80211_cipher::ic_name, ieee80211_crypto_resetkey(), IEEE80211_DPRINTF, IEEE80211_KEYIX_NONE, IEEE80211_MSG_CRYPTO, ieee80211_-key::wk_cipher, ieee80211_key::wk_flags, ieee80211_key::wk_keyix, ieee80211_key::wk_keylen, ieee80211_key::wk_keyrsc, and ieee80211_key::wk_keytsc.

Referenced by ieee80211_crypto_delglobalkeys(), and ieee80211_crypto_delkey().

Here is the call graph for this function:




#### 7.8.2.3 static __inline void* cipher_attach (struct ieee80211com * *ic*, struct ieee80211_key * *key*) [static]

Definition at line 109 of file ieee80211_crypto.c.

References ieee80211_cipher::ic_attach, and ieee80211_key::wk_cipher.

#### 7.8.2.4 static __inline void cipher_detach (struct ieee80211_key * *key*) [static]

Definition at line 103 of file ieee80211_crypto.c.

References ieee80211_cipher::ic_detach, and ieee80211_key::wk_cipher.

Referenced by _ieee80211_crypto_delkey(), and ieee80211_crypto_newkey().

#### 7.8.2.5 static __inline int dev_key_alloc (struct ieee80211com * *ic*, const struct ieee80211_key * *key*, ieee80211_keyix * *keyix*, ieee80211_keyix * *rxkeyix*) [static]

Definition at line 118 of file ieee80211_crypto.c.

References ieee80211_crypto_state::cs_key_alloc, and ieee80211com::ic_crypto.

Referenced by ieee80211_crypto_newkey().

#### 7.8.2.6 static __inline int dev_key_delete (struct ieee80211com * *ic*, const struct ieee80211_key * *key*) [static]

Definition at line 126 of file ieee80211_crypto.c.

References ieee80211_crypto_state::cs_key_delete, and ieee80211com::ic_crypto.

Referenced by _ieee80211_crypto_delkey().

#### 7.8.2.7 static __inline int dev_key_set (struct ieee80211com * *ic*, const struct ieee80211_key * *key*, const u_int8_t *mac*[IEEE80211_ADDR_LEN]) [static]

Definition at line 133 of file ieee80211_crypto.c.

References ieee80211_crypto_state::cs_key_set, ieee80211com::ic_crypto, and mac.

Referenced by ieee80211_crypto_setkey().

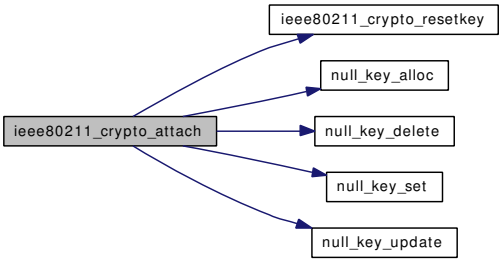
#### 7.8.2.8 void ieee80211_crypto_attach (struct ieee80211com * *ic*)

Definition at line 143 of file ieee80211_crypto.c.

References ciphers, ieee80211_crypto_state::cs_def_txkey, ieee80211_crypto_state::cs_key_alloc, ieee80211_crypto_state::cs_key_delete, ieee80211_crypto_state::cs_key_set, ieee80211_crypto_state::cs_key_update_begin, ieee80211_crypto_state::cs_key_update_end, ieee80211_crypto_state::cs_max_keyix, ieee80211_crypto_state::cs_nw_keys, ieee80211com::ic_crypto, IEEE80211_CIPHER_NONE, ieee80211_cipher_none, ieee80211_crypto_resetkey(), IEEE80211_KEYIX_NONE, IEEE80211_WEP_NKID, null_key_alloc(), null_key_delete(), null_key_set(), and null_key_update().

Referenced by ieee80211_ifattach().

Here is the call graph for this function:




#### 7.8.2.9 int ieee80211_crypto_available (u_int *cipher*)

Definition at line 216 of file ieee80211_crypto.c.

References ciphers, and IEEE80211_CIPHER_MAX.

Referenced by ieee80211_ioctl_set80211().

#### 7.8.2.10 struct ieee80211_key* ieee80211_crypto_decap (struct ieee80211com * *ic*, struct ieee80211_node * *ni*, struct mbuf * *m*, int *hdrlen*)

Definition at line 548 of file ieee80211_crypto.c.

References ieee80211_frame::i_addr1, ieee80211_frame::i_addr2, ieee80211_cipher::ic_decap, ieee80211_cipher::ic_header, ieee80211_cipher::ic_name, ieee80211_cipher_none, IEEE80211_DPRINTF, IEEE80211_IS_MULTICAST, IEEE80211_MSG_ANY, IEEE80211_MSG_CRYPTO, IEEE80211_WEP_IVLEN, IEEE80211_WEP_MINLEN, ieee80211_node::ni_ucastkey, and ieee80211_key::wk_cipher.

Referenced by ieee80211_input().

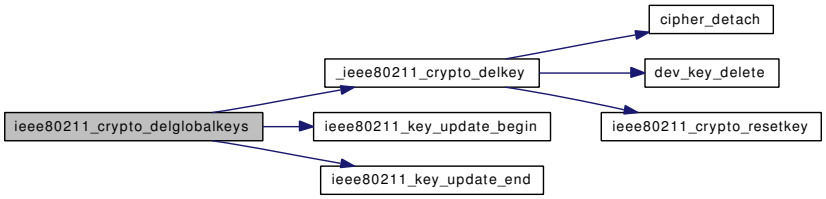
#### 7.8.2.11 void ieee80211_crypto_delglobalkeys (struct ieee80211com * *ic*)

Definition at line 451 of file ieee80211_crypto.c.

References _ieee80211_crypto_delkey(), ieee80211_key_update_begin(), ieee80211_key_update_end(), and IEEE80211_WEP_NKID.

Referenced by ieee80211_crypto_detach().

Here is the call graph for this function:



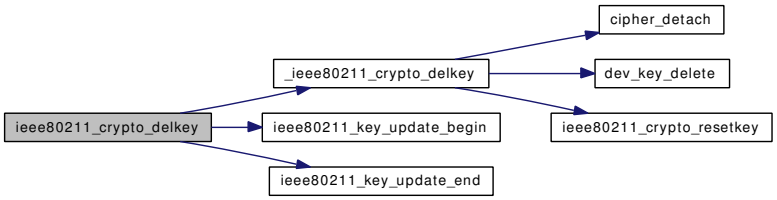

### 7.8.2.12 int ieee80211_crypto_delkey (struct ieee80211com * *ic*, struct ieee80211_key * *key*)

Definition at line 437 of file ieee80211_crypto.c.

References _ieee80211_crypto_delkey(), ieee80211_key_update_begin(), and ieee80211_key_update_-end().

Referenced by ieee80211_ioctl_delkey(), ieee80211_ioctl_set80211(), and ieee80211_node_-delucastkey().

Here is the call graph for this function:



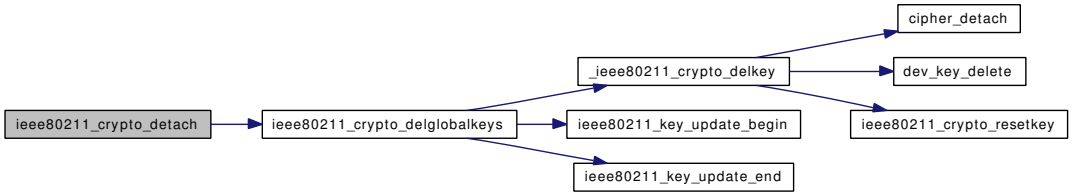

### 7.8.2.13 void ieee80211_crypto_detach (struct ieee80211com * *ic*)

Definition at line 170 of file ieee80211_crypto.c.

References ieee80211_crypto_delglobalkeys().

Referenced by ieee80211_ifdetach().

Here is the call graph for this function:



#### 7.8.2.14 struct ieee80211_key* ieee80211_crypto_encap (struct ieee80211com * *ic*, struct ieee80211_node * *ni*, struct mbuf * *m*)

Definition at line 508 of file ieee80211_crypto.c.

References ieee80211_frame::i_addr1, ieee80211_cipher::ic_encap, ieee80211_cipher_none, IEEE80211_DPRINTF, IEEE80211_IS_MULTICAST, IEEE80211_KEYIX_NONE, IEEE80211_-MSG_CRYPTO, ieee80211_node::ni_ucastkey, and ieee80211_key::wk_cipher.

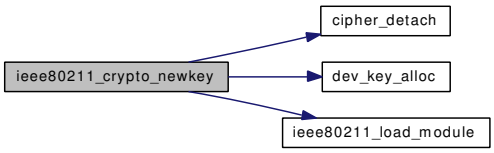
#### 7.8.2.15 int ieee80211_crypto_newkey (struct ieee80211com * *ic*, int *cipher*, int *flags*, struct ieee80211_key * *key*)

Definition at line 244 of file ieee80211_crypto.c.

References cipher_detach(), cipher_modnames, ciphers, dev_key_alloc(), ieee80211_cipher::ic_attach, ieee80211com::ic_caps, ieee80211_cipher::ic_name, ieee80211com::ic_stats, IEEE80211_C_TKIPMIC, IEEE80211_CIPHER_MAX, IEEE80211_CIPHER_TKIP, IEEE80211_DPRINTF, IEEE80211_KEY_-COMMON, IEEE80211_KEY_SWCRYPT, IEEE80211_KEY_SWMIC, IEEE80211_KEYIX_NONE, ieee80211_load_module(), IEEE80211_MSG_CRYPTO, ieee80211_stats::is_crypto_keyfail, ieee80211_-stats::is_crypto_swfallback, N, ieee80211_key::wk_cipher, ieee80211_key::wk_flags, ieee80211_-key::wk_keyix, ieee80211_key::wk_private, and ieee80211_key::wk_rxkeyix.

Referenced by ieee80211_ioctl_set80211(), and ieee80211_ioctl_setkey().

Here is the call graph for this function:




#### 7.8.2.16 void ieee80211_crypto_register (const struct ieee80211_cipher * *cip*)

Definition at line 179 of file ieee80211_crypto.c.

References ciphers, ieee80211_cipher::ic_cipher, ieee80211_cipher::ic_name, and IEEE80211_-CIPHER_MAX.

Referenced by ccmp_modevent(), tkip_modevent(), and wep_modevent().

#### 7.8.2.17 int ieee80211_crypto_setkey (struct ieee80211com * *ic*, struct ieee80211_key * *key*, const u_int8_t *macaddr*[IEEE80211_ADDR_LEN])

Definition at line 469 of file ieee80211_crypto.c.

References dev_key_set(), ieee80211_cipher::ic_name, ieee80211_cipher::ic_setkey, IEEE80211_-DPRINTF, IEEE80211_KEYIX_NONE, IEEE80211_MSG_CRYPTO, ieee80211_key::wk_cipher, ieee80211_key::wk_flags, ieee80211_key::wk_keyix, ieee80211_key::wk_keylen, ieee80211_key::wk_-keyrsc, and ieee80211_key::wk_keytsc.

Referenced by ieee80211_ioctl_set80211(), and ieee80211_ioctl_setkey().

Here is the call graph for this function:


#### 7.8.2.18 void ieee80211_crypto_unregister (const struct ieee80211_cipher * *cip*)

Definition at line 198 of file ieee80211_crypto.c.

References ciphers, ieee80211_cipher::ic_cipher, ieee80211_cipher::ic_name, and IEEE80211_-CIPHER_MAX.

Referenced by ccmp_modevent(), tkip_modevent(), and wep_modevent().

#### 7.8.2.19 static int null_key_alloc (struct ieee80211com * *ic*, const struct ieee80211_key * *k*, ieee80211_keyix * *keyix*, ieee80211_keyix * *rxkeyix*) [static]

Definition at line 62 of file ieee80211_crypto.c.

References ic_nw_keys, IEEE80211_KEY_GROUP, IEEE80211_KEYIX_NONE, IEEE80211_WEP_-NKID, and ieee80211_key::wk_flags.

Referenced by ieee80211_crypto_attach().

#### 7.8.2.20 static int null_key_delete (struct ieee80211com * *ic*, const struct ieee80211_key * *k*) [static]

Definition at line 87 of file ieee80211_crypto.c.

Referenced by ieee80211_crypto_attach().

#### 7.8.2.21 static int null_key_set (struct ieee80211com * *ic*, const struct ieee80211_key * *k*, const u_int8_t *mac*[IEEE80211_ADDR_LEN]) [static]

Definition at line 92 of file ieee80211_crypto.c.

Referenced by ieee80211_crypto_attach().

#### 7.8.2.22 static void null_key_update (struct ieee80211com * *ic*) [static]

Definition at line 97 of file ieee80211_crypto.c.

Referenced by ieee80211_crypto_attach().

### 7.8.3 Variable Documentation

#### 7.8.3.1 const char* cipher_modnames[ ] [static]

**Initial value:**

```
{
        "wlan_wep",
        "wlan_tkip",
        "wlan_aes_ocb",
```

```
        "wlan_ccmp",
        "wlan_ckip",
}
```

Definition at line 222 of file ieee80211_crypto.c.

Referenced by ieee80211_crypto_newkey().

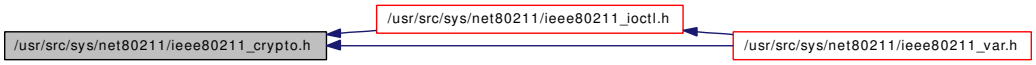
#### 7.8.3.2 struct ieee80211_cipher* ciphers[IEEE80211_CIPHER_MAX] [static]

Definition at line 53 of file ieee80211_crypto.c.

Referenced by ieee80211_crypto_attach(), ieee80211_crypto_available(), ieee80211_crypto_newkey(), ieee80211_crypto_register(), and ieee80211_crypto_unregister().

# 7.9 /usr/src/sys/net80211/ieee80211_crypto.h File Reference

This graph shows which files directly or indirectly include this file:




## Data Structures

- struct ieee80211_wepkey
- struct ieee80211_key
- struct ieee80211_crypto_state
- struct ieee80211_cipher

## Defines

- #define IEEE80211_KEYBUF_SIZE 16
- #define IEEE80211_MICBUF_SIZE (8+8)
- #define IEEE80211_KEY_XMIT 0x01
- #define IEEE80211_KEY_RECV 0x02
- #define IEEE80211_KEY_GROUP 0x04
- #define IEEE80211_KEY_SWCRYPT 0x10
- #define IEEE80211_KEY_SWMIC 0x20
- #define wk_txmic wk_key+IEEE80211_KEYBUF_SIZE+0
- #define wk_rxmic wk_key+IEEE80211_KEYBUF_SIZE+8
- #define IEEE80211_KEY_COMMON
- #define IEEE80211_CIPHER_WEP 0
- #define IEEE80211_CIPHER_TKIP 1
- #define IEEE80211_CIPHER_AES_OCB 2
- #define IEEE80211_CIPHER_AES_CCM 3
- #define IEEE80211_CIPHER_CKIP 5
- #define IEEE80211_CIPHER_NONE 6
- #define IEEE80211_CIPHER_MAX (IEEE80211_CIPHER_NONE+1)
- #define IEEE80211_KEYIX_NONE ((ieee80211_keyix) -1)

## Typedefs

- typedef u_int16_t ieee80211_keyix

## Functions

- void ieee80211_crypto_attach (struct ieee80211com *)
- void ieee80211_crypto_detach (struct ieee80211com *)
- int ieee80211_crypto_newkey (struct ieee80211com *, int cipher, int flags, struct ieee80211_key *)
- int ieee80211_crypto_delkey (struct ieee80211com *, struct ieee80211_key *)
- int ieee80211_crypto_setkey (struct ieee80211com *, struct ieee80211_key *, const u_int8_t macaddr[IEEE80211_ADDR_LEN])

- void ieee80211_crypto_delglobalkeys (struct ieee80211com *)
- void ieee80211_crypto_register (const struct ieee80211_cipher *)
- void ieee80211_crypto_unregister (const struct ieee80211_cipher *)
- int ieee80211_crypto_available (u_int cipher)
- ieee80211_key * ieee80211_crypto_encap (struct ieee80211com *, struct ieee80211_node *, struct mbuf *)
- ieee80211_key * ieee80211_crypto_decap (struct ieee80211com *, struct ieee80211_node *, struct mbuf *, int)
- static __inline int ieee80211_crypto_demic (struct ieee80211com *ic, struct ieee80211_key *k, struct mbuf *m, int force)
- static __inline int ieee80211_crypto_enmic (struct ieee80211com *ic, struct ieee80211_key *k, struct mbuf *m, int force)
- static __inline void ieee80211_crypto_resetkey (struct ieee80211com *ic, struct ieee80211_key *k, ieee80211_keyix ix)
- void ieee80211_notify_replay_failure (struct ieee80211com *, const struct ieee80211_frame *, const struct ieee80211_key *, u_int64_t rsc)
- void ieee80211_notify_michael_failure (struct ieee80211com *, const struct ieee80211_frame *, u_int keyix)

## Variables

- ieee80211_cipher ieee80211_cipher_none

### 7.9.1 Define Documentation

#### 7.9.1.1 #define IEEE80211_CIPHER_AES_CCM 3

Definition at line 101 of file ieee80211_crypto.h.

Referenced by cap2cipher(), cipher2cap(), ieee80211_node_lateattach(), ieee80211_parse_rsn(), ieee80211_parse_wpa(), ieee80211_setup_rsn_ie(), ieee80211_setup_wpa_ie(), rsn_cipher(), and wpa_cipher().

#### 7.9.1.2 #define IEEE80211_CIPHER_AES_OCB 2

Definition at line 100 of file ieee80211_crypto.h.

Referenced by cap2cipher(), cipher2cap(), ieee80211_node_lateattach(), and rsn_cipher().

#### 7.9.1.3 #define IEEE80211_CIPHER_CKIP 5

Definition at line 102 of file ieee80211_crypto.h.

Referenced by cap2cipher(), cipher2cap(), and ieee80211_node_lateattach().

#### 7.9.1.4 #define IEEE80211_CIPHER_MAX (IEEE80211_CIPHER_NONE+1)

Definition at line 105 of file ieee80211_crypto.h.

Referenced by ieee80211_crypto_available(), ieee80211_crypto_newkey(), ieee80211_crypto_register(), and ieee80211_crypto_unregister().

#### 7.9.1.5 #define IEEE80211_CIPHER_NONE 6

Definition at line 103 of file ieee80211_crypto.h.

Referenced by ieee80211_crypto_attach(), rsn_cipher(), and wpa_cipher().

#### 7.9.1.6 #define IEEE80211_CIPHER_TKIP 1

Definition at line 99 of file ieee80211_crypto.h.

Referenced by cap2cipher(), cipher2cap(), ieee80211_crypto_newkey(), ieee80211_ioctl_getkey(), ieee80211_node_lateattach(), ieee80211_notify_michael_failure(), ieee80211_parse_rsn(), ieee80211_parse_wpa(), ieee80211_setup_rsn_ie(), ieee80211_setup_wpa_ie(), rsn_cipher(), and wpa_cipher().

#### 7.9.1.7 #define IEEE80211_CIPHER_WEP 0

Definition at line 98 of file ieee80211_crypto.h.

Referenced by cap2cipher(), cipher2cap(), ieee80211_cfgset(), ieee80211_ioctl_set80211(), ieee80211_node_lateattach(), ieee80211_setup_rsn_ie(), ieee80211_setup_wpa_ie(), rsn_cipher(), and wpa_cipher().

#### 7.9.1.8 #define IEEE80211_KEY_COMMON

**Value:**

```
/* common flags passed in by apps */\
        (IEEE80211_KEY_XMIT | IEEE80211_KEY_RECV | IEEE80211_KEY_GROUP)
```

Definition at line 90 of file ieee80211_crypto.h.

Referenced by ieee80211_crypto_newkey().

#### 7.9.1.9 #define IEEE80211_KEY_GROUP 0x04

Definition at line 77 of file ieee80211_crypto.h.

Referenced by null_key_alloc().

#### 7.9.1.10 #define IEEE80211_KEY_RECV 0x02

Definition at line 76 of file ieee80211_crypto.h.

Referenced by ieee80211_cfgset(), ieee80211_crypto_resetkey(), ieee80211_ioctl_getkey(), ieee80211_ioctl_set80211(), and ieee80211_ioctl_setkey().

#### 7.9.1.11 #define IEEE80211_KEY_SWCRYPT 0x10

Definition at line 78 of file ieee80211_crypto.h.

Referenced by ccmp_decap(), ccmp_encap(), ccmp_setkey(), ieee80211_crypto_newkey(), ieee80211_mbuf_adjust(), tkip_decap(), tkip_encap(), wep_decap(), and wep_encap().

#### 7.9.1.12 #define IEEE80211_KEY_SWMIC 0x20

Definition at line 79 of file ieee80211_crypto.h.

Referenced by ieee80211_crypto_newkey(), ieee80211_mbuf_adjust(), tkip_demic(), and tkip_enmic().

#### 7.9.1.13 #define IEEE80211_KEY_XMIT 0x01

Definition at line 75 of file ieee80211_crypto.h.

Referenced by ieee80211_cfgset(), ieee80211_crypto_resetkey(), ieee80211_ioctl_getkey(), ieee80211_ioctl_set80211(), and ieee80211_ioctl_setkey().

#### 7.9.1.14 #define IEEE80211_KEYBUF_SIZE 16

Definition at line 40 of file ieee80211_crypto.h.

Referenced by ieee80211_cfgset(), ieee80211_ioctl_get80211(), ieee80211_ioctl_getkey(), ieee80211_ioctl_set80211(), ieee80211_ioctl_setkey(), wep_decrypt(), and wep_encrypt().

#### 7.9.1.15 #define IEEE80211_KEYIX_NONE ((ieee80211_keyix) -1)

Definition at line 107 of file ieee80211_crypto.h.

Referenced by _ieee80211_crypto_delkey(), ieee80211_crypto_attach(), ieee80211_crypto_encap(), ieee80211_crypto_getmcastkey(), ieee80211_crypto_getucastkey(), ieee80211_crypto_newkey(), ieee80211_crypto_setkey(), ieee80211_ioctl_delkey(), ieee80211_ioctl_getkey(), ieee80211_ioctl_set80211(), ieee80211_ioctl_setkey(), ieee80211_notify_replay_failure(), ieee80211_setup_node(), ieee80211_tmp_node(), null_key_alloc(), and tkip_demic().

#### 7.9.1.16 #define IEEE80211_MICBUF_SIZE (8+8)

Definition at line 41 of file ieee80211_crypto.h.

Referenced by ieee80211_ioctl_getkey().

#### 7.9.1.17 #define wk_rxmic wk_key+IEEE80211_KEYBUF_SIZE+8

Definition at line 84 of file ieee80211_crypto.h.

#### 7.9.1.18 #define wk_txmic wk_key+IEEE80211_KEYBUF_SIZE+0

Definition at line 83 of file ieee80211_crypto.h.

### 7.9.2 Typedef Documentation

#### 7.9.2.1 typedef u_int16_t ieee80211_keyix

Definition at line 51 of file ieee80211_crypto.h.

## 7.9.3 Function Documentation

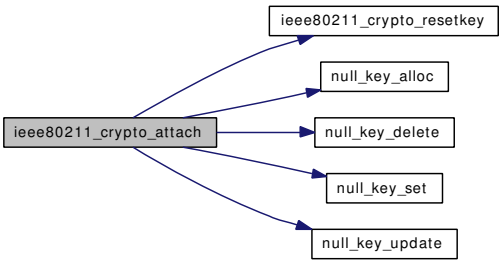
### 7.9.3.1 void ieee80211_crypto_attach (struct ieee80211com *)

Definition at line 143 of file ieee80211_crypto.c.

References ciphers, ieee80211_crypto_state::cs_def_txkey, ieee80211_crypto_state::cs_key_alloc, ieee80211_crypto_state::cs_key_delete, ieee80211_crypto_state::cs_key_set, ieee80211_crypto_state::cs_key_update_begin, ieee80211_crypto_state::cs_key_update_end, ieee80211_crypto_state::cs_max_keyix, ieee80211_crypto_state::cs_nw_keys, ieee80211com::ic_crypto, ieee80211_cipher_none, IEEE80211_CIPHER_NONE, ieee80211_crypto_resetkey(), IEEE80211_KEYIX_NONE, IEEE80211_WEP_NKID, null_key_alloc(), null_key_delete(), null_key_set(), and null_key_update().

Referenced by ieee80211_ifattach().

Here is the call graph for this function:




### 7.9.3.2 int ieee80211_crypto_available (u_int *cipher*)

Definition at line 216 of file ieee80211_crypto.c.

References ciphers, and IEEE80211_CIPHER_MAX.

Referenced by ieee80211_ioctl_set80211().

### 7.9.3.3 struct ieee80211_key* ieee80211_crypto_decap (struct ieee80211com *, struct ieee80211_node *, struct mbuf *, int)

Definition at line 548 of file ieee80211_crypto.c.

References ieee80211_frame::i_addr1, ieee80211_frame::i_addr2, ieee80211_cipher::ic_decap, ieee80211_cipher::ic_header, ieee80211_cipher::ic_name, ieee80211_cipher_none, IEEE80211_DPRINTF, IEEE80211_IS_MULTICAST, IEEE80211_MSG_ANY, IEEE80211_MSG_CRYPTO, IEEE80211_WEP_IVLEN, IEEE80211_WEP_MINLEN, ieee80211_node::ni_ucastkey, and ieee80211_key::wk_cipher.

Referenced by ieee80211_input().

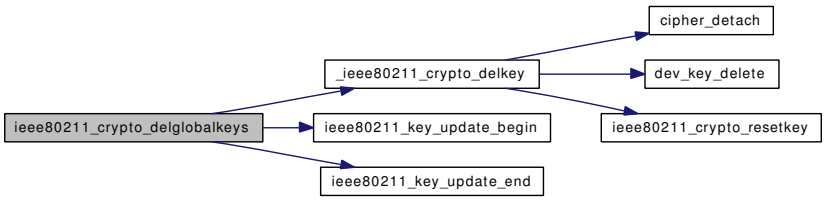
### 7.9.3.4 void ieee80211_crypto_delglobalkeys (struct ieee80211com *)

Definition at line 451 of file ieee80211_crypto.c.

References _ieee80211_crypto_delkey(), ieee80211_key_update_begin(), ieee80211_key_update_end(), and IEEE80211_WEP_NKID.

Referenced by ieee80211_crypto_detach().

Here is the call graph for this function:



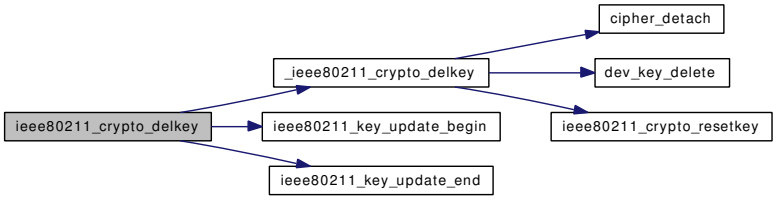

#### 7.9.3.5 int ieee80211_crypto_delkey (struct ieee80211com *, struct ieee80211_key *)

Definition at line 437 of file ieee80211_crypto.c.

References _ieee80211_crypto_delkey(), ieee80211_key_update_begin(), and ieee80211_key_update_-end().

Referenced by ieee80211_ioctl_delkey(), ieee80211_ioctl_set80211(), and ieee80211_node_-delucastkey().

Here is the call graph for this function:




#### 7.9.3.6 static __inline int ieee80211_crypto_demic (struct ieee80211com * *ic*, struct ieee80211_key * *k*, struct mbuf * *m*, int *force*) [static]

Definition at line 185 of file ieee80211_crypto.h.

References ieee80211_cipher::ic_demic, ieee80211_cipher::ic_miclen, and ieee80211_key::wk_cipher.

Referenced by ieee80211_input().

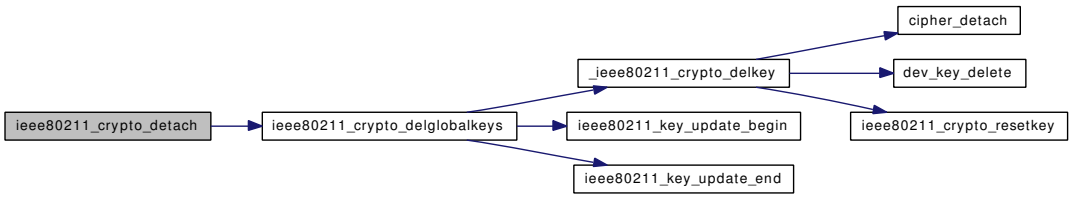
#### 7.9.3.7 void ieee80211_crypto_detach (struct ieee80211com *)

Definition at line 170 of file ieee80211_crypto.c.

References ieee80211_crypto_delglobalkeys().

Referenced by ieee80211_ifdetach().

Here is the call graph for this function:




#### 7.9.3.8 struct ieee80211_key* ieee80211_crypto_encap (struct ieee80211com *, struct ieee80211_node *, struct mbuf *)

Definition at line 508 of file ieee80211_crypto.c.

References ieee80211_frame::i_addr1, ieee80211_cipher::ic_encap, ieee80211_cipher_none, IEEE80211_DPRINTF, IEEE80211_IS_MULTICAST, IEEE80211_KEYIX_NONE, IEEE80211_-MSG_CRYPTO, ieee80211_node::ni_ucastkey, and ieee80211_key::wk_cipher.

#### 7.9.3.9 static __inline int ieee80211_crypto_enmic (struct ieee80211com * *ic*, struct ieee80211_key * *k*, struct mbuf * *m*, int *force*) [static]

Definition at line 196 of file ieee80211_crypto.h.

References ieee80211_cipher::ic_enmic, ieee80211_cipher::ic_miclen, and ieee80211_key::wk_cipher.

Referenced by ieee80211_encap().

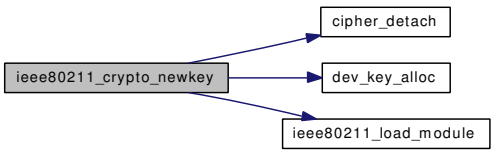
#### 7.9.3.10 int ieee80211_crypto_newkey (struct ieee80211com *, int *cipher*, int *flags*, struct ieee80211_key *)

Definition at line 244 of file ieee80211_crypto.c.

References cipher_detach(), cipher_modnames, ciphers, dev_key_alloc(), ieee80211_cipher::ic_attach, ieee80211com::ic_caps, ieee80211_cipher::ic_name, ieee80211com::ic_stats, IEEE80211_C_TKIPMIC, IEEE80211_CIPHER_MAX, IEEE80211_CIPHER_TKIP, IEEE80211_DPRINTF, IEEE80211_KEY_-COMMON, IEEE80211_KEY_SWCRYPT, IEEE80211_KEY_SWMIC, IEEE80211_KEYIX_NONE, ieee80211_load_module(), IEEE80211_MSG_CRYPTO, ieee80211_stats::is_crypto_keyfail, ieee80211_-stats::is_crypto_swfallback, N, ieee80211_key::wk_cipher, ieee80211_key::wk_flags, ieee80211_-key::wk_keyix, ieee80211_key::wk_private, and ieee80211_key::wk_rxkeyix.

Referenced by ieee80211_ioctl_set80211(), and ieee80211_ioctl_setkey().

Here is the call graph for this function:



#### 7.9.3.11 void ieee80211_crypto_register (const struct ieee80211_cipher *)

Definition at line 179 of file ieee80211_crypto.c.

References ciphers, ieee80211_cipher::ic_cipher, ieee80211_cipher::ic_name, and IEEE80211_-CIPHER_MAX.

Referenced by ccmp_modevent(), tkip_modevent(), and wep_modevent().

#### 7.9.3.12 static __inline void ieee80211_crypto_resetkey (struct ieee80211com * *ic*, struct ieee80211_key * *k*, ieee80211_keyix *ix*) [static]

Definition at line 209 of file ieee80211_crypto.h.

References ieee80211_cipher::ic_attach, ieee80211_cipher_none, IEEE80211_KEY_RECV, IEEE80211_KEY_XMIT, ieee80211_key::wk_cipher, ieee80211_key::wk_flags, ieee80211_key::wk_-keyix, ieee80211_key::wk_private, and ieee80211_key::wk_rxkeyix.

Referenced by _ieee80211_crypto_delkey(), ieee80211_crypto_attach(), ieee80211_setup_node(), and ieee80211_tmp_node().

#### 7.9.3.13 int ieee80211_crypto_setkey (struct ieee80211com *, struct ieee80211_key *, const u_int8_t *macaddr*[IEEE80211_ADDR_LEN])

Definition at line 469 of file ieee80211_crypto.c.

References dev_key_set(), ieee80211_cipher::ic_name, ieee80211_cipher::ic_setkey, IEEE80211_-DPRINTF, IEEE80211_KEYIX_NONE, IEEE80211_MSG_CRYPTO, ieee80211_key::wk_cipher, ieee80211_key::wk_flags, ieee80211_key::wk_keyix, ieee80211_key::wk_keylen, ieee80211_key::wk_-keyrsc, and ieee80211_key::wk_keytsc.

Referenced by ieee80211_ioctl_set80211(), and ieee80211_ioctl_setkey().

Here is the call graph for this function:


#### 7.9.3.14 void ieee80211_crypto_unregister (const struct ieee80211_cipher *)

Definition at line 198 of file ieee80211_crypto.c.

References ciphers, ieee80211_cipher::ic_cipher, ieee80211_cipher::ic_name, and IEEE80211_-CIPHER_MAX.

Referenced by ccmp_modevent(), tkip_modevent(), and wep_modevent().

#### 7.9.3.15 void ieee80211_notify_michael_failure (struct ieee80211com *, const struct ieee80211_frame *, u_int *keyix*)

Definition at line 308 of file ieee80211_freebsd.c.

References ieee80211_frame::i_addr1, ieee80211_frame::i_addr2, ieee80211com::ic_ifp, ieee80211com::ic_stats, IEEE80211_ADDR_COPY, IEEE80211_CIPHER_TKIP, IEEE80211_-DPRINTF, IEEE80211_MSG_CRYPTO, ieee80211_michael_event::iev_cipher, ieee80211_michael_-

event::iev_dst, ieee80211_michael_event::iev_keyix, ieee80211_michael_event::iev_src, ieee80211_-stats::is_rx_tkipmic, and RTM_IEEE80211_MICHAEL.

Referenced by tkip_demic().

#### 7.9.3.16 void ieee80211_notify_replay_failure (struct ieee80211com *, const struct ieee80211_frame *, const struct ieee80211_key *, u_int64_t *rsc*)

Definition at line 279 of file ieee80211_freebsd.c.

References ieee80211_frame::i_addr1, ieee80211_frame::i_addr2, ieee80211_cipher::ic_cipher, ieee80211com::ic_ifp, ieee80211_cipher::ic_name, IEEE80211_ADDR_COPY, IEEE80211_DPRINTF, IEEE80211_KEYIX_NONE, IEEE80211_MSG_CRYPTO, ieee80211_replay_event::iev_cipher, ieee80211_replay_event::iev_dst, ieee80211_replay_event::iev_keyix, ieee80211_replay_event::iev_-keyrsc, ieee80211_replay_event::iev_rsc, ieee80211_replay_event::iev_src, RTM_IEEE80211_REPLAY, ieee80211_key::wk_cipher, ieee80211_key::wk_keyix, ieee80211_key::wk_keyrsc, and ieee80211_-key::wk_rxkeyix.

Referenced by ccmp_decap(), and tkip_decap().

### 7.9.4 Variable Documentation

#### 7.9.4.1 struct ieee80211_cipher ieee80211_cipher_none

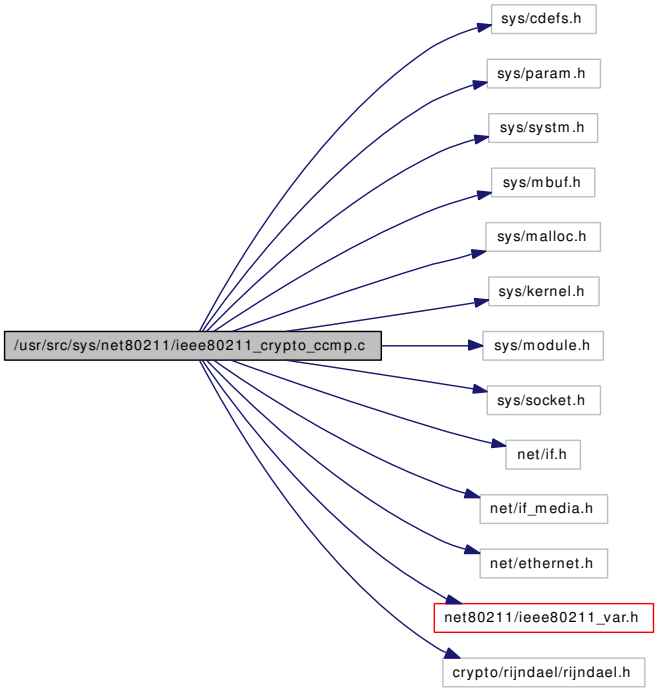
Definition at line 59 of file ieee80211_crypto_none.c.

Referenced by ieee80211_crypto_attach(), ieee80211_crypto_decap(), ieee80211_crypto_encap(), and ieee80211_crypto_resetkey().

## 7.10 /usr/src/sys/net80211/ieee80211_crypto_ccmp.c File Reference

```
#include <sys/cdefs.h>
#include <sys/param.h>
#include <sys/systm.h>
#include <sys/mbuf.h>
#include <sys/malloc.h>
#include <sys/kernel.h>
#include <sys/module.h>
#include <sys/socket.h>
#include <net/if.h>
#include <net/if_media.h>
#include <net/ethernet.h>
#include <net80211/ieee80211_var.h>
#include <crypto/rijndael/rijndael.h>
```

Include dependency graph for ieee80211_crypto_ccmp.c:




### Data Structures

- struct ccmp_ctx

## Defines

- #define AES_BLOCK_LEN 16
- #define IS_4ADDRESS(wh) ((wh → i_fc[1] & IEEE80211_FC1_DIR_MASK) == IEEE80211_-FC1_DIR_DSTODS)
- #define IS_QOS_DATA(wh) IEEE80211_QOS_HAS_SEQ(wh)
- #define CCMP_ENCRYPT(_i, _b, _b0, _pos, _e, _len)
- #define CCMP_DECRYPT(_i, _b, _b0, _pos, _a, _len)

## Functions

- __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_crypto_ccmp.c,v 1.8 2005/12/12 19:07:48 sam Exp $")
- static void * ccmp_attach (struct ieee80211com *, struct ieee80211_key *)
- static void ccmp_detach (struct ieee80211_key *)
- static int ccmp_setkey (struct ieee80211_key *)
- static int ccmp_encap (struct ieee80211_key *k, struct mbuf *, u_int8_t keyid)
- static int ccmp_decap (struct ieee80211_key *, struct mbuf *, int)
- static int ccmp_enmic (struct ieee80211_key *, struct mbuf *, int)
- static int ccmp_demic (struct ieee80211_key *, struct mbuf *, int)
- static int ccmp_encrypt (struct ieee80211_key *, struct mbuf *, int hdrlen)
- static int ccmp_decrypt (struct ieee80211_key *, u_int64_t pn, struct mbuf *, int hdrlen)
- static __inline uint64_t READ_6 (uint8_t b0, uint8_t b1, uint8_t b2, uint8_t b3, uint8_t b4, uint8_t b5)
- static __inline void xor_block (uint8_t *b, const uint8_t *a, size_t len)
- static void ccmp_init_blocks (rijndael_ctx *ctx, struct ieee80211_frame *wh, u_int64_t pn, size_-t dlen, uint8_t b0[AES_BLOCK_LEN], uint8_t aad[2 *AES_BLOCK_LEN], uint8_t auth[AES_-BLOCK_LEN], uint8_t s0[AES_BLOCK_LEN])
- static int ccmp_modevent (module_t mod, int type, void *unused)
- DECLARE_MODULE (wlan_ccmp, ccmp_mod, SI_SUB_DRIVERS, SI_ORDER_FIRST)
- MODULE_VERSION (wlan_ccmp, 1)
- MODULE_DEPEND (wlan_ccmp, wlan, 1, 1, 1)

## Variables

- static struct ieee80211_cipher ccmp
- static int nrefs = 0
- static moduledata_t ccmp_mod

### 7.10.1 Define Documentation

#### 7.10.1.1 #define AES_BLOCK_LEN 16

Definition at line 59 of file ieee80211_crypto_ccmp.c.

Referenced by ccmp_decrypt(), and ccmp_encrypt().

#### 7.10.1.2 #define CCMP_DECRYPT(_i, _b, _b0, _pos, _a, _len)

**Value:**

```
do {    \
        /* Decrypt, with counter */                     \
        _b0[14] = (_i >> 8) & 0xff;                     \
        _b0[15] = _i & 0xff;                            \
        rijndael_encrypt(&ctx->cc_aes, _b0, _b);        \
        xor_block(_pos, _b, _len);                      \
        /* Authentication */                            \
        xor_block(_a, _pos, _len);                      \
        rijndael_encrypt(&ctx->cc_aes, _a, _a);         \
} while (0)
```

Definition at line 538 of file ieee80211_crypto_ccmp.c.

Referenced by ccmp_decrypt().

#### 7.10.1.3 #define CCMP_ENCRYPT(_i, _b, _b0, _pos, _e, _len)

**Value:**

```
do {    \
        /* Authentication */                            \
        xor_block(_b, _pos, _len);                      \
        rijndael_encrypt(&ctx->cc_aes, _b, _b);         \
        /* Encryption, with counter */                  \
        _b0[14] = (_i >> 8) & 0xff;                     \
        _b0[15] = _i & 0xff;                            \
        rijndael_encrypt(&ctx->cc_aes, _b0, _e);        \
        xor_block(_pos, _e, _len);                      \
} while (0)
```

Definition at line 393 of file ieee80211_crypto_ccmp.c.

Referenced by ccmp_encrypt().

#### 7.10.1.4 #define IS_4ADDRESS(wh) ((wh → i_fc[1] & IEEE80211_FC1_DIR_MASK) == IEEE80211_FC1_DIR_DSTODS)

Referenced by ccmp_init_blocks().

#### 7.10.1.5 #define IS_QOS_DATA(wh) IEEE80211_QOS_HAS_SEQ(wh)

Referenced by ccmp_init_blocks().

### 7.10.2 Function Documentation

#### 7.10.2.1 __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_crypto_ccmp. *c*, v 1.8 2005/12/12 19:07:48 sam Exp $")

#### 7.10.2.2 static void * ccmp_attach (struct ieee80211com *, struct ieee80211_key *) [static]

Definition at line 98 of file ieee80211_crypto_ccmp.c.

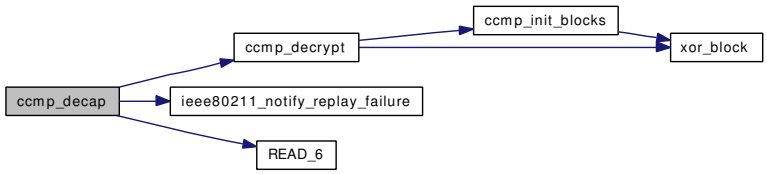
References ccmp_ctx::cc_ic, ieee80211com::ic_stats, ieee80211_stats::is_crypto_nomem, and nrefs.

#### 7.10.2.3 static int ccmp_decap (struct ieee80211_key *, struct mbuf *, int) [static]

Definition at line 206 of file ieee80211_crypto_ccmp.c.

References ccmp_ctx::cc_ic, ccmp, ccmp_decrypt(), ieee80211_frame::i_addr2, ieee80211_cipher::ic_header, ieee80211com::ic_stats, ieee80211_cipher::ic_trailer, IEEE80211_DPRINTF, IEEE80211_KEY_SWCRYPT, IEEE80211_MSG_CRYPTO, ieee80211_notify_replay_failure(), IEEE80211_WEP_EXTIV, IEEE80211_WEP_IVLEN, ieee80211_stats::is_rx_ccmpformat, ieee80211_stats::is_rx_ccmpreplay, READ_6(), ieee80211_key::wk_flags, ieee80211_key::wk_keyrsc, and ieee80211_key::wk_private.

Here is the call graph for this function:



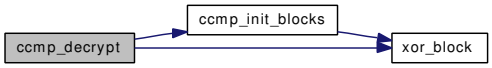

#### 7.10.2.4 static int ccmp_decrypt (struct ieee80211_key *, u_int64_t *pn*, struct mbuf *, int *hdrlen*) [static]

Definition at line 550 of file ieee80211_crypto_ccmp.c.

References AES_BLOCK_LEN, ccmp_ctx::cc_aes, ccmp_ctx::cc_ic, ccmp, CCMP_DECRYPT, ccmp_init_blocks(), ieee80211_frame::i_addr2, ieee80211_cipher::ic_header, ieee80211com::ic_stats, ieee80211_cipher::ic_trailer, IEEE80211_DPRINTF, IEEE80211_MSG_CRYPTO, ieee80211_stats::is_crypto_ccmp, ieee80211_stats::is_rx_ccmpmic, ieee80211_key::wk_private, and xor_block().

Referenced by ccmp_decap().

Here is the call graph for this function:




#### 7.10.2.5 static int ccmp_demic (struct ieee80211_key *, struct mbuf *, int) [static]

Definition at line 269 of file ieee80211_crypto_ccmp.c.

#### 7.10.2.6 static void ccmp_detach (struct ieee80211_key *) [static]

Definition at line 114 of file ieee80211_crypto_ccmp.c.

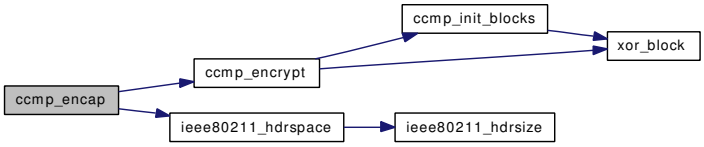
References nrefs, and ieee80211_key::wk_private.

#### 7.10.2.7 static int ccmp_encap (struct ieee80211_key * *k*, struct mbuf *, u_int8_t *keyid*) [static]

Definition at line 143 of file ieee80211_crypto_ccmp.c.

References ccmp_ctx::cc_ic, ccmp, ccmp_encrypt(), ieee80211_cipher::ic_header, ieee80211_hdrspace(), IEEE80211_KEY_SWCRYPT, IEEE80211_WEP_EXTIV, ieee80211_key::wk_flags, ieee80211_key::wk_keytsc, and ieee80211_key::wk_private.

Here is the call graph for this function:



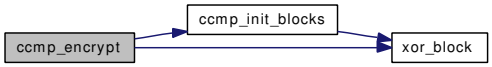

#### 7.10.2.8 static int ccmp_encrypt (struct ieee80211_key *, struct mbuf *, int *hdrlen*) [static]

Definition at line 405 of file ieee80211_crypto_ccmp.c.

References AES_BLOCK_LEN, ccmp_ctx::cc_aes, ccmp_ctx::cc_ic, ccmp, CCMP_ENCRYPT, ccmp_init_blocks(), ieee80211_cipher::ic_header, ieee80211com::ic_stats, ieee80211_cipher::ic_trailer, ieee80211_stats::is_crypto_ccmp, ieee80211_key::wk_keytsc, ieee80211_key::wk_private, and xor_block().

Referenced by ccmp_encap().

Here is the call graph for this function:




#### 7.10.2.9 static int ccmp_enmic (struct ieee80211_key *, struct mbuf *, int) [static]

Definition at line 186 of file ieee80211_crypto_ccmp.c.

#### 7.10.2.10 static void ccmp_init_blocks (rijndael_ctx * *ctx*, struct ieee80211_frame * *wh*, u_int64_t *pn*, size_t *dlen*, uint8_t *b0*[AES_BLOCK_LEN], uint8_t *aad*[2 *AES_BLOCK_LEN], uint8_t *auth*[AES_BLOCK_LEN], uint8_t *s0*[AES_BLOCK_LEN]) [static]

Definition at line 297 of file ieee80211_crypto_ccmp.c.

References ieee80211_frame::i_addr1, ieee80211_frame::i_addr2, ieee80211_frame::i_fc, ieee80211_qosframe::i_qos, ieee80211_qosframe_addr4::i_qos, ieee80211_frame::i_seq, IEEE80211_ADDR_COPY, IEEE80211_ADDR_LEN, IEEE80211_SEQ_FRAG_MASK, IS_4ADDRESS, IS_QOS_DATA, and xor_block().

Referenced by ccmp_decrypt(), and ccmp_encrypt().

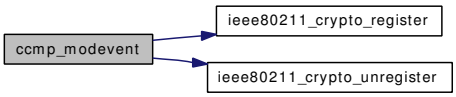
Here is the call graph for this function:

#### 7.10.2.11 static int ccmp_modevent (module_t *mod*, int *type*, void * *unused*) [static]

Definition at line 639 of file ieee80211_crypto_ccmp.c.

References ccmp, ieee80211_crypto_register(), ieee80211_crypto_unregister(), and nrefs.

Here is the call graph for this function:




#### 7.10.2.12 static int ccmp_setkey (struct ieee80211_key *) [static]

Definition at line 124 of file ieee80211_crypto_ccmp.c.

References ccmp_ctx::cc_aes, ccmp_ctx::cc_ic, IEEE80211_DPRINTF, IEEE80211_KEY_SWCRYPT, IEEE80211_MSG_CRYPTO, ieee80211_key::wk_flags, ieee80211_key::wk_key, ieee80211_key::wk_keylen, and ieee80211_key::wk_private.

#### 7.10.2.13 DECLARE_MODULE (wlan_ccmp, ccmp_mod, SI_SUB_DRIVERS, SI_ORDER_FIRST)

#### 7.10.2.14 MODULE_DEPEND (wlan_ccmp, wlan, 1, 1, 1)

#### 7.10.2.15 MODULE_VERSION (wlan_ccmp, 1)

#### 7.10.2.16 static __inline uint64_t READ_6 (uint8_t *b0*, uint8_t *b1*, uint8_t *b2*, uint8_t *b3*, uint8_t *b4*, uint8_t *b5*) [static]

Definition at line 193 of file ieee80211_crypto_ccmp.c.

Referenced by ccmp_decap(), and tkip_decap().

#### 7.10.2.17 static __inline void xor_block (uint8_t * *b*, const uint8_t * *a*, size_t *len*) [static]

Definition at line 275 of file ieee80211_crypto_ccmp.c.

Referenced by ccmp_decrypt(), ccmp_encrypt(), and ccmp_init_blocks().

### 7.10.3 Variable Documentation

#### 7.10.3.1 struct ieee80211_cipher ccmp [static]

**Initial value:**

```
{
        .ic_name        = "AES-CCM",
        .ic_cipher      = IEEE80211_CIPHER_AES_CCM,
        .ic_header      = IEEE80211_WEP_IVLEN + IEEE80211_WEP_KIDLEN +
                          IEEE80211_WEP_EXTIVLEN,
        .ic_trailer     = IEEE80211_WEP_MICLEN,
```

```
        .ic_miclen      = 0,
        .ic_attach      = ccmp_attach,
        .ic_detach      = ccmp_detach,
        .ic_setkey      = ccmp_setkey,
        .ic_encap       = ccmp_encap,
        .ic_decap       = ccmp_decap,
        .ic_enmic       = ccmp_enmic,
        .ic_demic       = ccmp_demic,
}
```

Definition at line 74 of file ieee80211_crypto_ccmp.c.

Referenced by ccmp_decap(), ccmp_decrypt(), ccmp_encap(), ccmp_encrypt(), and ccmp_modevent().

#### 7.10.3.2 moduledata_t ccmp_mod [static]

**Initial value:**

```
 {
        "wlan_ccmp",
        ccmp_modevent,
        0
}
```

Definition at line 659 of file ieee80211_crypto_ccmp.c.

#### 7.10.3.3 int nrefs = 0 [static]

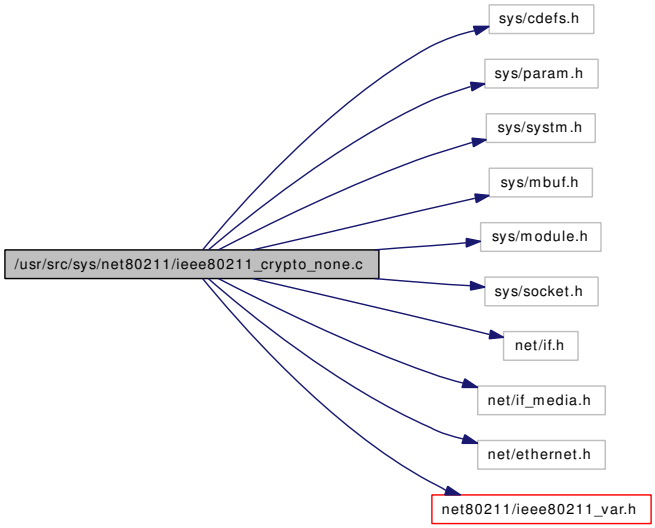
Definition at line 95 of file ieee80211_crypto_ccmp.c.

Referenced by ccmp_attach(), ccmp_detach(), ccmp_modevent(), tkip_attach(), tkip_detach(), tkip_-modevent(), wep_attach(), wep_detach(), and wep_modevent().

# 7.11 /usr/src/sys/net80211/ieee80211_crypto_none.c File Reference

```
#include <sys/cdefs.h>
#include <sys/param.h>
#include <sys/systm.h>
#include <sys/mbuf.h>
#include <sys/module.h>
#include <sys/socket.h>
#include <net/if.h>
#include <net/if_media.h>
#include <net/ethernet.h>
#include <net80211/ieee80211_var.h>
```

Include dependency graph for ieee80211_crypto_none.c:




## Functions

- __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_crypto_none.c,v 1.5 2005/06/10 16:11:24 sam Exp $")
- static void * none_attach (struct ieee80211com *, struct ieee80211_key *)
- static void none_detach (struct ieee80211_key *)
- static int none_setkey (struct ieee80211_key *)
- static int none_encap (struct ieee80211_key *, struct mbuf *, u_int8_t)
- static int none_decap (struct ieee80211_key *, struct mbuf *, int)
- static int none_enmic (struct ieee80211_key *, struct mbuf *, int)
- static int none_demic (struct ieee80211_key *, struct mbuf *, int)

## Variables

- ieee80211_cipher ieee80211_cipher_none

## 7.11.1 Function Documentation

### 7.11.1.1 __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_crypto_none. *c*, v 1.5 2005/06/10 16:11:24 sam Exp $")

### 7.11.1.2 static void * none_attach (struct ieee80211com *, struct ieee80211_key *) [static]

Definition at line 75 of file ieee80211_crypto_none.c.

### 7.11.1.3 static int none_decap (struct ieee80211_key *, struct mbuf *, int) [static]

Definition at line 113 of file ieee80211_crypto_none.c.

References ieee80211_frame::i_addr2, IEEE80211_DPRINTF, IEEE80211_MSG_CRYPTO, IEEE80211_WEP_IVLEN, and ieee80211_key::wk_private.

### 7.11.1.4 static int none_demic (struct ieee80211_key *, struct mbuf *, int) [static]

Definition at line 143 of file ieee80211_crypto_none.c.

References ieee80211com::ic_stats, ieee80211_stats::is_rx_badkeyid, and ieee80211_key::wk_private.

### 7.11.1.5 static void none_detach (struct ieee80211_key *) [static]

Definition at line 81 of file ieee80211_crypto_none.c.

### 7.11.1.6 static int none_encap (struct ieee80211_key *, struct mbuf *, u_int8_t) [static]

Definition at line 94 of file ieee80211_crypto_none.c.

References ieee80211_frame::i_addr1, ieee80211com::ic_stats, IEEE80211_DPRINTF, IEEE80211_-MSG_CRYPTO, ieee80211_stats::is_tx_badcipher, and ieee80211_key::wk_private.

### 7.11.1.7 static int none_enmic (struct ieee80211_key *, struct mbuf *, int) [static]

Definition at line 134 of file ieee80211_crypto_none.c.

References ieee80211com::ic_stats, ieee80211_stats::is_tx_badcipher, and ieee80211_key::wk_private.

### 7.11.1.8 static int none_setkey (struct ieee80211_key *) [static]

Definition at line 87 of file ieee80211_crypto_none.c.

## 7.11.2 Variable Documentation

### 7.11.2.1 struct ieee80211_cipher ieee80211_cipher_none

**Initial value:**

```
{
        .ic_name        = "NONE",
        .ic_cipher      = IEEE80211_CIPHER_NONE,
        .ic_header      = 0,
        .ic_trailer     = 0,
        .ic_miclen      = 0,
        .ic_attach      = none_attach,
        .ic_detach      = none_detach,
        .ic_setkey      = none_setkey,
        .ic_encap       = none_encap,
        .ic_decap       = none_decap,
        .ic_enmic       = none_enmic,
        .ic_demic       = none_demic,
}
```

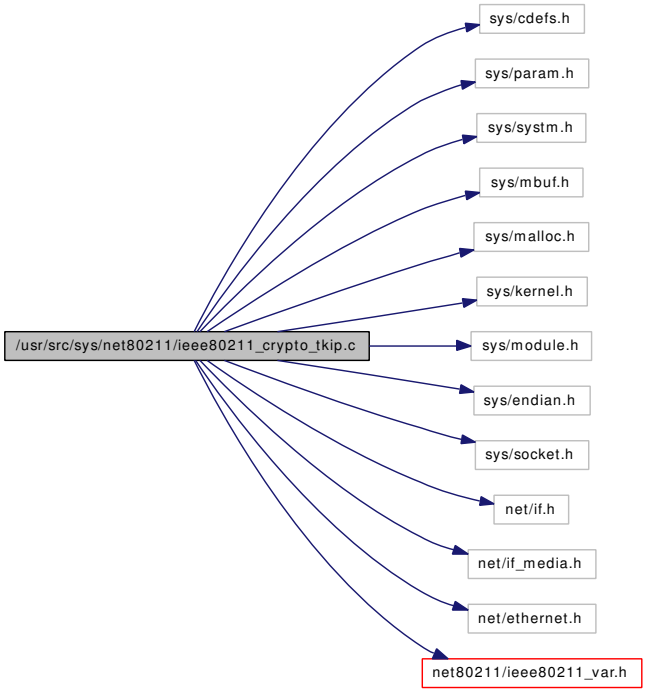
Definition at line 59 of file ieee80211_crypto_none.c.

Referenced by ieee80211_crypto_attach(), ieee80211_crypto_decap(), ieee80211_crypto_encap(), and ieee80211_crypto_resetkey().

## 7.12 /usr/src/sys/net80211/ieee80211_crypto_tkip.c File Reference

```
#include <sys/cdefs.h>
#include <sys/param.h>
#include <sys/systm.h>
#include <sys/mbuf.h>
#include <sys/malloc.h>
#include <sys/kernel.h>
#include <sys/module.h>
#include <sys/endian.h>
#include <sys/socket.h>
#include <net/if.h>
#include <net/if_media.h>
#include <net/ethernet.h>
#include <net80211/ieee80211_var.h>
```

Include dependency graph for ieee80211_crypto_tkip.c:




### Data Structures

- struct tkip_ctx

## Defines

- #define memmove(dst, src, n) ovbcopy(src, dst, n)
- #define PHASE1_LOOP_COUNT 8
- #define S_SWAP(a, b) do { u8 t = S[a]; S[a] = S[b]; S[b] = t; } while(0)
- #define michael_block(l, r)

## Typedefs

- typedef uint8_t u8
- typedef uint16_t u16
- typedef uint32_t __u32
- typedef uint32_t u32

## Functions

- __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_crypto_tkip.c,v 1.11 2005/12/12 19:07:48 sam Exp $")
- static void * tkip_attach (struct ieee80211com *, struct ieee80211_key *)
- static void tkip_detach (struct ieee80211_key *)
- static int tkip_setkey (struct ieee80211_key *)
- static int tkip_encap (struct ieee80211_key *, struct mbuf *m, u_int8_t keyid)
- static int tkip_enmic (struct ieee80211_key *, struct mbuf *, int)
- static int tkip_decap (struct ieee80211_key *, struct mbuf *, int)
- static int tkip_demic (struct ieee80211_key *, struct mbuf *, int)
- static void michael_mic (struct tkip_ctx *, const u8 *key, struct mbuf *m, u_int off, size_t data_len, u8 mic[IEEE80211_WEP_MICLEN])
- static int tkip_encrypt (struct tkip_ctx *, struct ieee80211_key *, struct mbuf *, int hdr_len)
- static int tkip_decrypt (struct tkip_ctx *, struct ieee80211_key *, struct mbuf *, int hdr_len)
- static __inline uint64_t READ_6 (uint8_t b0, uint8_t b1, uint8_t b2, uint8_t b3, uint8_t b4, uint8_t b5)
- static __inline u16 RotR1 (u16 val)
- static __inline u8 Lo8 (u16 val)
- static __inline u8 Hi8 (u16 val)
- static __inline u16 Lo16 (u32 val)
- static __inline u16 Hi16 (u32 val)
- static __inline u16 Mk16 (u8 hi, u8 lo)
- static __inline u16 Mk16_le (const u16 *v)
- static __inline u16 _S_ (u16 v)
- static void tkip_mixing_phase1 (u16 *TTAK, const u8 *TK, const u8 *TA, u32 IV32)
- static void tkip_mixing_phase2 (u8 *WEPSeed, const u8 *TK, const u16 *TTAK, u16 IV16)
- static void wep_encrypt (u8 *key, struct mbuf *m0, u_int off, size_t data_len, uint8_t icv[IEEE80211_WEP_CRCLEN])
- static int wep_decrypt (u8 *key, struct mbuf *m, u_int off, size_t data_len)
- static __inline u32 rotl (u32 val, int bits)
- static __inline u32 rotr (u32 val, int bits)
- static __inline u32 xswap (u32 val)
- static __inline u32 get_le32_split (u8 b0, u8 b1, u8 b2, u8 b3)
- static __inline u32 get_le32 (const u8 *p)
- static __inline void put_le32 (u8 *p, u32 v)

- static void michael_mic_hdr (const struct ieee80211_frame *wh0, uint8_t hdr[16])
- static int tkip_modevent (module_t mod, int type, void *unused)
- DECLARE_MODULE (wlan_tkip, tkip_mod, SI_SUB_DRIVERS, SI_ORDER_FIRST)
- MODULE_VERSION (wlan_tkip, 1)
- MODULE_DEPEND (wlan_tkip, wlan, 1, 1, 1)

## Variables

- static struct ieee80211_cipher tkip
- static int nrefs = 0
- static const __u32 crc32_table [256]
- static const u16 Sbox [256]
- static moduledata_t tkip_mod

### 7.12.1 Define Documentation

#### 7.12.1.1 #define memmove(dst, src, n) ovbcopy(src, dst, n)

Definition at line 86 of file ieee80211_crypto_tkip.c.

Referenced by tkip_decap(), and tkip_encap().

#### 7.12.1.2 #define michael_block(l, r)

**Value:**

```
do {                            \
        r ^= rotl(l, 17);       \
        l += r;                 \
        r ^= xswap(l);          \
        l += r;                 \
        r ^= rotl(l, 3);        \
        l += r;                 \
        r ^= rotr(l, 2);        \
        l += r;                 \
} while (0)
```

Definition at line 729 of file ieee80211_crypto_tkip.c.

Referenced by michael_mic().

#### 7.12.1.3 #define PHASE1_LOOP_COUNT 8

Definition at line 512 of file ieee80211_crypto_tkip.c.

Referenced by tkip_mixing_phase1().

#### 7.12.1.4 #define S_SWAP(a, b) do { u8 t = S[a]; S[a] = S[b]; S[b] = t; } while(0)

Referenced by wep_decrypt(), and wep_encrypt().

## 7.12.2 Typedef Documentation

### 7.12.2.1 typedef uint32_t __u32

Definition at line 84 of file ieee80211_crypto_tkip.c.

### 7.12.2.2 typedef uint16_t u16

Definition at line 83 of file ieee80211_crypto_tkip.c.

### 7.12.2.3 typedef uint32_t u32

Definition at line 85 of file ieee80211_crypto_tkip.c.

### 7.12.2.4 typedef uint8_t u8

Definition at line 82 of file ieee80211_crypto_tkip.c.

## 7.12.3 Function Documentation

### 7.12.3.1 __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_crypto_tkip. *c*, v 1.11 2005/12/12 19:07:48 sam Exp $")

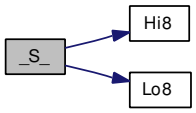
### 7.12.3.2 static __inline u16 _S_ (u16 *v*) [static]

Definition at line 506 of file ieee80211_crypto_tkip.c.

References Hi8(), Lo8(), and Sbox.

Referenced by tkip_mixing_phase1(), and tkip_mixing_phase2().

Here is the call graph for this function:




### 7.12.3.3 DECLARE_MODULE (wlan_tkip, tkip_mod, SI_SUB_DRIVERS, SI_ORDER_FIRST)

### 7.12.3.4 static __inline u32 get_le32 (const u8 * *p*) [static]

Definition at line 747 of file ieee80211_crypto_tkip.c.

References get_le32_split().

Referenced by michael_mic().

Here is the call graph for this function:


#### 7.12.3.5 static __inline u32 get_le32_split (u8 *b0*, u8 *b1*, u8 *b2*, u8 *b3*) [static]

Definition at line 742 of file ieee80211_crypto_tkip.c.

Referenced by get_le32(), and michael_mic().

#### 7.12.3.6 static __inline u16 Hi16 (u32 *val*) [static]

Definition at line 456 of file ieee80211_crypto_tkip.c.

Referenced by tkip_mixing_phase1().

#### 7.12.3.7 static __inline u8 Hi8 (u16 *val*) [static]

Definition at line 446 of file ieee80211_crypto_tkip.c.

Referenced by _S_(), and tkip_mixing_phase2().

#### 7.12.3.8 static __inline u16 Lo16 (u32 *val*) [static]

Definition at line 451 of file ieee80211_crypto_tkip.c.

Referenced by tkip_mixing_phase1().

#### 7.12.3.9 static __inline u8 Lo8 (u16 *val*) [static]

Definition at line 441 of file ieee80211_crypto_tkip.c.

Referenced by _S_(), and tkip_mixing_phase2().

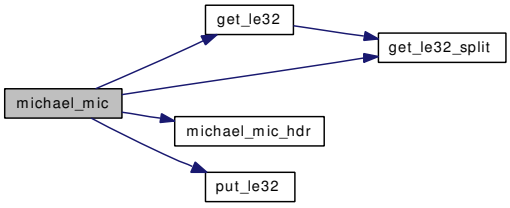
#### 7.12.3.10 static void michael_mic (struct tkip_ctx *, const u8 * *key*, struct mbuf * *m*, u_int *off*, size_t *data_len*, u8 *mic*[IEEE80211_WEP_MICLEN]) [static]

Definition at line 799 of file ieee80211_crypto_tkip.c.

References get_le32(), get_le32_split(), michael_block, michael_mic_hdr(), and put_le32().

Referenced by tkip_demic(), and tkip_enmic().

Here is the call graph for this function:



#### 7.12.3.11 static void michael_mic_hdr (const struct ieee80211_frame * *wh0*, uint8_t *hdr*[16]) [static]

Definition at line 765 of file ieee80211_crypto_tkip.c.

References ieee80211_frame_addr4::i_addr1, ieee80211_frame_addr4::i_addr2, ieee80211_frame_addr4::i_addr3, ieee80211_frame_addr4::i_addr4, ieee80211_frame_addr4::i_fc, ieee80211_qosframe::i_qos, IEEE80211_ADDR_COPY, IEEE80211_ADDR_LEN, IEEE80211_FC0_SUBTYPE_QOS, IEEE80211_FC1_DIR_DSTODS, IEEE80211_FC1_DIR_FROMDS, IEEE80211_FC1_DIR_MASK, IEEE80211_FC1_DIR_NODS, IEEE80211_FC1_DIR_TODS, and IEEE80211_QOS_TID.

Referenced by michael_mic().

#### 7.12.3.12 static __inline u16 Mk16 (u8 *hi*, u8 *lo*) [static]

Definition at line 461 of file ieee80211_crypto_tkip.c.

Referenced by tkip_mixing_phase1().

#### 7.12.3.13 static __inline u16 Mk16_le (const u16 * *v*) [static]

Definition at line 466 of file ieee80211_crypto_tkip.c.

Referenced by tkip_mixing_phase2().

#### 7.12.3.14 MODULE_DEPEND (wlan_tkip, wlan, 1, 1, 1)

#### 7.12.3.15 MODULE_VERSION (wlan_tkip, 1)

#### 7.12.3.16 static __inline void put_le32 (u8 * *p*, u32 *v*) [static]

Definition at line 753 of file ieee80211_crypto_tkip.c.

Referenced by michael_mic().

#### 7.12.3.17 static __inline uint64_t READ_6 (uint8_t *b0*, uint8_t *b1*, uint8_t *b2*, uint8_t *b3*, uint8_t *b4*, uint8_t *b5*) [static]

Definition at line 240 of file ieee80211_crypto_tkip.c.

#### 7.12.3.18 static __inline u32 rotl (u32 *val*, int *bits*) [static]

Definition at line 711 of file ieee80211_crypto_tkip.c.

#### 7.12.3.19 static __inline u32 rotr (u32 *val*, int *bits*) [static]

Definition at line 717 of file ieee80211_crypto_tkip.c.

#### 7.12.3.20 static __inline u16 RotR1 (u16 *val*) [static]

Definition at line 436 of file ieee80211_crypto_tkip.c.

Referenced by tkip_mixing_phase2().

#### 7.12.3.21 static void * tkip_attach (struct ieee80211com *, struct ieee80211_key *) [static]

Definition at line 113 of file ieee80211_crypto_tkip.c.

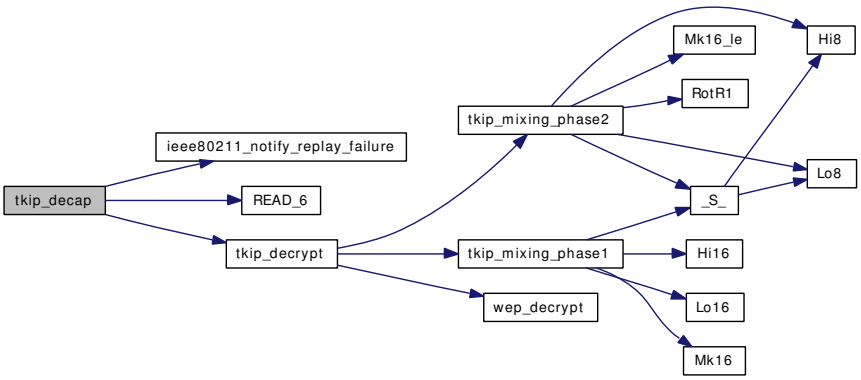
References ieee80211com::ic_stats, ieee80211_stats::is_crypto_nomem, nrefs, and tkip_ctx::tc_ic.

#### 7.12.3.22 static int tkip_decap (struct ieee80211_key *, struct mbuf *, int) [static]

Definition at line 253 of file ieee80211_crypto_tkip.c.

References ieee80211_frame::i_addr2, ieee80211com::ic_flags, ieee80211_cipher::ic_header, ieee80211com::ic_stats, ieee80211_cipher::ic_trailer, IEEE80211_DPRINTF, IEEE80211_F_-COUNTERM, IEEE80211_KEY_SWCRYPT, IEEE80211_MSG_CRYPTO, ieee80211_notify_replay_-failure(), IEEE80211_WEP_EXTIV, IEEE80211_WEP_IVLEN, ieee80211_stats::is_rx_tkipformat, ieee80211_stats::is_rx_tkipreplay, memmove, READ_6(), tkip_ctx::rx_rsc, tkip_ctx::tc_ic, tkip, tkip_-decrypt(), ieee80211_key::wk_flags, ieee80211_key::wk_keyrsc, and ieee80211_key::wk_private.

Here is the call graph for this function:



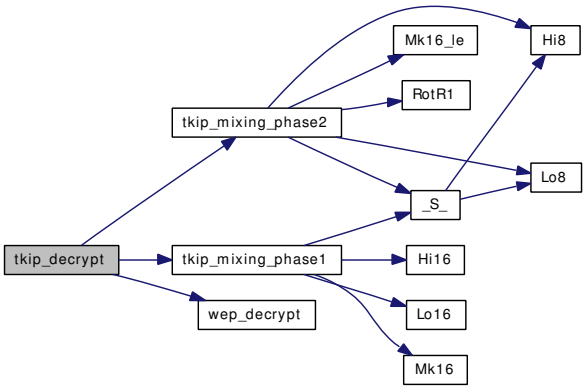

#### 7.12.3.23 static int tkip_decrypt (struct tkip_ctx *, struct ieee80211_key *, struct mbuf *, int *hdr_len*) [static]

Definition at line 937 of file ieee80211_crypto_tkip.c.

References ieee80211_frame::i_addr2, ieee80211_cipher::ic_header, ieee80211com::ic_stats, ieee80211_-cipher::ic_trailer, IEEE80211_DPRINTF, IEEE80211_MSG_CRYPTO, ieee80211_stats::is_crypto_-tkip, ieee80211_stats::is_rx_tkipicv, tkip_ctx::rx_phase1_done, tkip_ctx::rx_rc4key, tkip_ctx::rx_rsc, tkip_ctx::rx_ttak, tkip_ctx::tc_ic, tkip, tkip_mixing_phase1(), tkip_mixing_phase2(), wep_decrypt(), ieee80211_key::wk_key, and ieee80211_key::wk_keyrsc.

Referenced by tkip_decap().

Here is the call graph for this function:

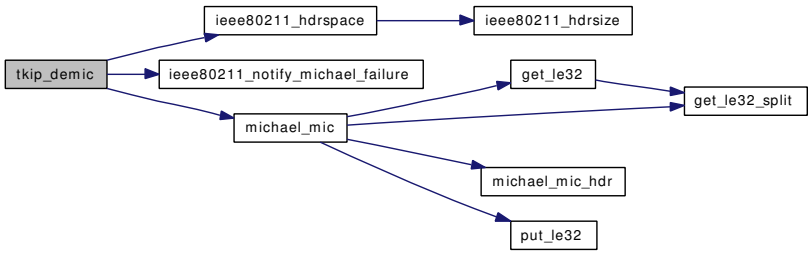



#### 7.12.3.24 static int tkip_demic (struct ieee80211_key *, struct mbuf *, int) [static]

Definition at line 328 of file ieee80211_crypto_tkip.c.

References ieee80211_cipher::ic_miclen, ieee80211com::ic_stats, ieee80211_hdrspace(), IEEE80211_KEY_SWMIC, IEEE80211_KEYIX_NONE, ieee80211_notify_michael_failure(), IEEE80211_WEP_MICLEN, ieee80211_stats::is_crypto_tkipdemic, michael_mic(), tkip_ctx::rx_rsc, tkip_ctx::tc_ic, tkip, ieee80211_key::wk_flags, ieee80211_key::wk_keyix, ieee80211_key::wk_keyrsc, ieee80211_key::wk_private, and ieee80211_key::wk_rxkeyix.

Here is the call graph for this function:




#### 7.12.3.25 static void tkip_detach (struct ieee80211_key *) [static]

Definition at line 130 of file ieee80211_crypto_tkip.c.

References nrefs, and ieee80211_key::wk_private.

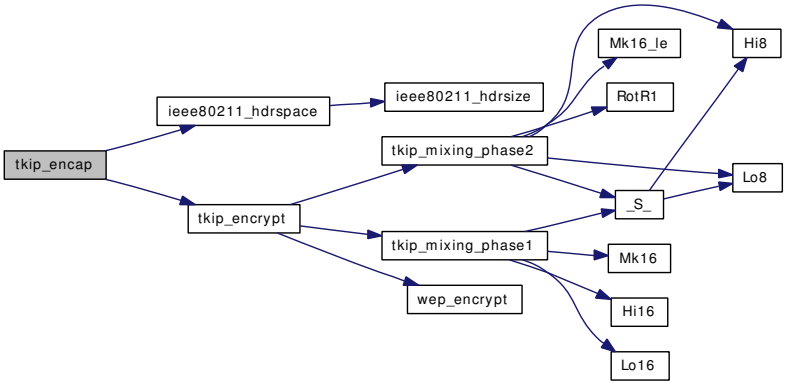
#### 7.12.3.26 static int tkip_encap (struct ieee80211_key *, struct mbuf * *m*, u_int8_t *keyid*) [static]

Definition at line 159 of file ieee80211_crypto_tkip.c.

References ieee80211_frame::i_addr2, ieee80211com::ic_flags, ieee80211_cipher::ic_header, ieee80211com::ic_stats, IEEE80211_DPRINTF, IEEE80211_F_COUNTERM, ieee80211_hdrspace(),

IEEE80211_KEY_SWCRYPT, IEEE80211_MSG_CRYPTO, IEEE80211_WEP_EXTIV, ieee80211_-stats::is_crypto_tkipcm, memmove, tkip_ctx::tc_ic, tkip, tkip_encrypt(), ieee80211_key::wk_flags, ieee80211_key::wk_keytsc, and ieee80211_key::wk_private.

Here is the call graph for this function:



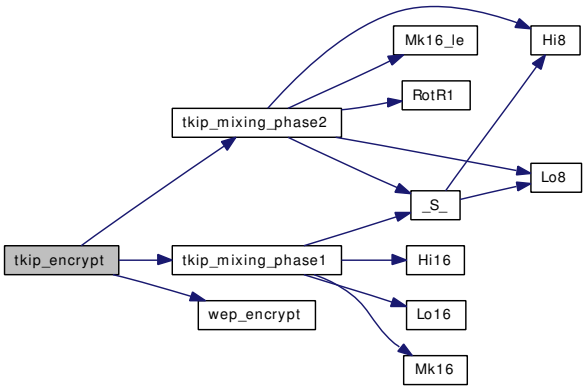

### 7.12.3.27 static int tkip_encrypt (struct tkip_ctx *, struct ieee80211_key *, struct mbuf *, int *hdr_len*) [static]

Definition at line 907 of file ieee80211_crypto_tkip.c.

References ieee80211_frame::i_addr2, ieee80211_cipher::ic_header, ieee80211com::ic_stats, IEEE80211_WEP_CRCLEN, ieee80211_stats::is_crypto_tkip, tkip_ctx::tc_ic, tkip, tkip_mixing_-phase1(), tkip_mixing_phase2(), tkip_ctx::tx_phase1_done, tkip_ctx::tx_rc4key, tkip_ctx::tx_ttak, wep_encrypt(), ieee80211_key::wk_key, and ieee80211_key::wk_keytsc.

Referenced by tkip_encap().

Here is the call graph for this function:

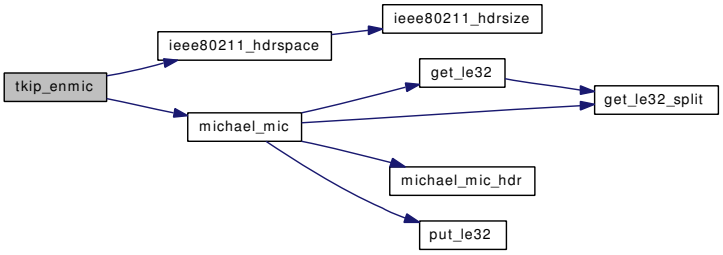


#### 7.12.3.28 static int tkip_enmic (struct ieee80211_key *, struct mbuf *, int) [static]

Definition at line 218 of file ieee80211_crypto_tkip.c.

References ieee80211_cipher::ic_miclen, ieee80211com::ic_stats, ieee80211_hdrspace(), IEEE80211_KEY_SWMIC, IEEE80211_WEP_MICLEN, ieee80211_stats::is_crypto_tkipenmic, michael_mic(), tkip_ctx::tc_ic, tkip, ieee80211_key::wk_flags, and ieee80211_key::wk_private.

Here is the call graph for this function:



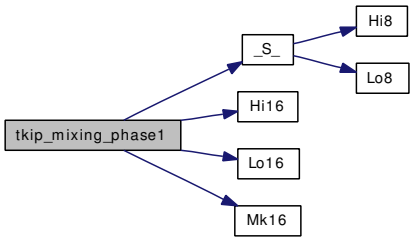

#### 7.12.3.29 static void tkip_mixing_phase1 (u16 * *TTAK*, const u8 * *TK*, const u8 * *TA*, u32 *IV32*) [static]

Definition at line 514 of file ieee80211_crypto_tkip.c.

References _S_(), Hi16(), Lo16(), Mk16(), and PHASE1_LOOP_COUNT.

Referenced by tkip_decrypt(), and tkip_encrypt().

Here is the call graph for this function:



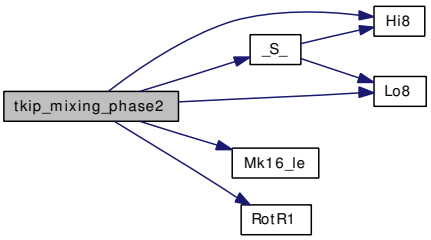

#### 7.12.3.30 static void tkip_mixing_phase2 (u8 * *WEPSeed*, const u8 * *TK*, const u16 * *TTAK*, u16 *IV16*) [static]

Definition at line 539 of file ieee80211_crypto_tkip.c.

References _S_(), Hi8(), Lo8(), Mk16_le(), and RotR1().

Referenced by tkip_decrypt(), and tkip_encrypt().

Here is the call graph for this function:

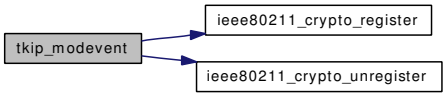



#### 7.12.3.31 static int tkip_modevent (module_t *mod*, int *type*, void * *unused*) [static]

Definition at line 980 of file ieee80211_crypto_tkip.c.

References ieee80211_crypto_register(), ieee80211_crypto_unregister(), nrefs, and tkip.

Here is the call graph for this function:




#### 7.12.3.32 static int tkip_setkey (struct ieee80211_key *) [static]

Definition at line 140 of file ieee80211_crypto_tkip.c.

References IEEE80211_DPRINTF, IEEE80211_MSG_CRYPTO, tkip_ctx::tc_ic, ieee80211_key::wk_keylen, ieee80211_key::wk_keytsc, and ieee80211_key::wk_private.

#### 7.12.3.33 static int wep_decrypt (u8 * *key*, struct mbuf * *m*, u_int *off*, size_t *data_len*) [static]

Definition at line 647 of file ieee80211_crypto_tkip.c.

References crc32_table, and S_SWAP.

Referenced by tkip_decrypt(), and wep_decap().

#### 7.12.3.34 static void wep_encrypt (u8 * *key*, struct mbuf * *m0*, u_int *off*, size_t *data_len*, uint8_t *icv*[IEEE80211_WEP_CRCLEN]) [static]

Definition at line 586 of file ieee80211_crypto_tkip.c.

References crc32_table, and S_SWAP.

Referenced by tkip_encrypt(), and wep_encap().

#### 7.12.3.35 static __inline u32 xswap (u32 *val*) [static]

Definition at line 723 of file ieee80211_crypto_tkip.c.

## 7.12.4 Variable Documentation

### 7.12.4.1 const __u32 crc32_table[256] [static]

Definition at line 381 of file ieee80211_crypto_tkip.c.

Referenced by wep_decrypt(), and wep_encrypt().

### 7.12.4.2 int nrefs = 0 [static]

Definition at line 110 of file ieee80211_crypto_tkip.c.

### 7.12.4.3 const u16 Sbox[256] [static]

Definition at line 471 of file ieee80211_crypto_tkip.c.

Referenced by _S_().

### 7.12.4.4 struct ieee80211_cipher tkip [static]

**Initial value:**

```
{
        .ic_name        = "TKIP",
        .ic_cipher      = IEEE80211_CIPHER_TKIP,
        .ic_header      = IEEE80211_WEP_IVLEN + IEEE80211_WEP_KIDLEN +
                          IEEE80211_WEP_EXTIVLEN,
        .ic_trailer     = IEEE80211_WEP_CRCLEN,
        .ic_miclen      = IEEE80211_WEP_MICLEN,
        .ic_attach      = tkip_attach,
        .ic_detach      = tkip_detach,
        .ic_setkey      = tkip_setkey,
        .ic_encap       = tkip_encap,
        .ic_decap       = tkip_decap,
        .ic_enmic       = tkip_enmic,
        .ic_demic       = tkip_demic,
}
```

Definition at line 66 of file ieee80211_crypto_tkip.c.

Referenced by tkip_decap(), tkip_decrypt(), tkip_demic(), tkip_encap(), tkip_encrypt(), tkip_enmic(), and tkip_modevent().

### 7.12.4.5 moduledata_t tkip_mod [static]

**Initial value:**

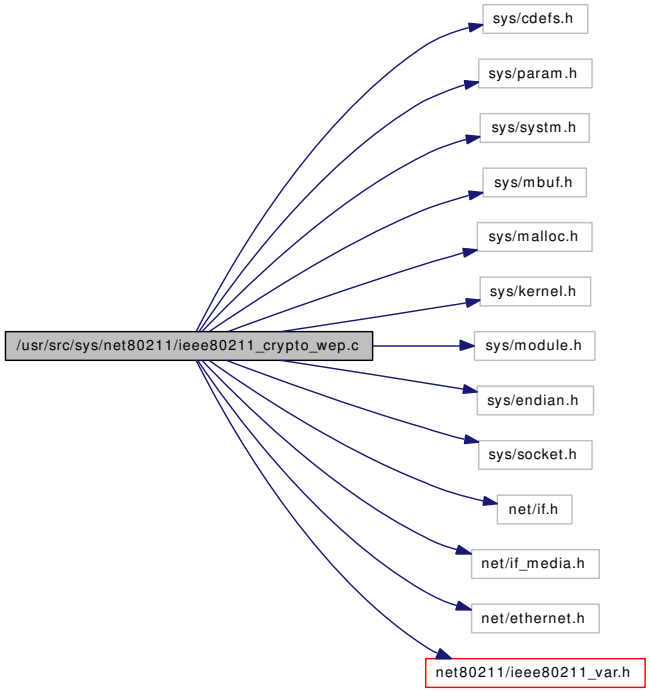
```
{
        "wlan_tkip",
        tkip_modevent,
        0
}
```

Definition at line 1000 of file ieee80211_crypto_tkip.c.

## 7.13 /usr/src/sys/net80211/ieee80211_crypto_wep.c File Reference

```
#include <sys/cdefs.h>
#include <sys/param.h>
#include <sys/systm.h>
#include <sys/mbuf.h>
#include <sys/malloc.h>
#include <sys/kernel.h>
#include <sys/module.h>
#include <sys/endian.h>
#include <sys/socket.h>
#include <net/if.h>
#include <net/if_media.h>
#include <net/ethernet.h>
#include <net80211/ieee80211_var.h>
```

Include dependency graph for ieee80211_crypto_wep.c:




## Data Structures

- struct wep_ctx

## Defines

- #define S_SWAP(a, b) do { uint8_t t = S[a]; S[a] = S[b]; S[b] = t; } while(0)
- #define S_SWAP(a, b) do { uint8_t t = S[a]; S[a] = S[b]; S[b] = t; } while(0)

## Functions

- __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_crypto_wep.c,v 1.8 2005/12/12 19:07:48 sam Exp $")
- static void * wep_attach (struct ieee80211com *, struct ieee80211_key *)
- static void wep_detach (struct ieee80211_key *)
- static int wep_setkey (struct ieee80211_key *)
- static int wep_encap (struct ieee80211_key *, struct mbuf *, u_int8_t keyid)
- static int wep_decap (struct ieee80211_key *, struct mbuf *, int hdrlen)
- static int wep_enmic (struct ieee80211_key *, struct mbuf *, int)
- static int wep_demic (struct ieee80211_key *, struct mbuf *, int)
- static int wep_encrypt (struct ieee80211_key *, struct mbuf *, int hdrlen)
- static int wep_decrypt (struct ieee80211_key *, struct mbuf *, int hdrlen)
- static int wep_modevent (module_t mod, int type, void *unused)
- DECLARE_MODULE (wlan_wep, wep_mod, SI_SUB_DRIVERS, SI_ORDER_FIRST)
- MODULE_VERSION (wlan_wep, 1)
- MODULE_DEPEND (wlan_wep, wlan, 1, 1, 1)

## Variables

- static struct ieee80211_cipher wep
- static int nrefs = 0
- static const uint32_t crc32_table [256]
- static moduledata_t wep_mod

### 7.13.1 Define Documentation

#### 7.13.1.1 #define S_SWAP(a, b) do { uint8_t t = S[a]; S[a] = S[b]; S[b] = t; } while(0)

#### 7.13.1.2 #define S_SWAP(a, b) do { uint8_t t = S[a]; S[a] = S[b]; S[b] = t; } while(0)

### 7.13.2 Function Documentation

#### 7.13.2.1 __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_crypto_wep. *c*, v 1.8 2005/12/12 19:07:48 sam Exp $")

#### 7.13.2.2 DECLARE_MODULE (wlan_wep, wep_mod, SI_SUB_DRIVERS, SI_ORDER_FIRST)

#### 7.13.2.3 MODULE_DEPEND (wlan_wep, wlan, 1, 1, 1)

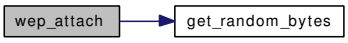
#### 7.13.2.4 MODULE_VERSION (wlan_wep, 1)

#### 7.13.2.5 static void * wep_attach (struct ieee80211com *, struct ieee80211_key *) [static]

Definition at line 89 of file ieee80211_crypto_wep.c.

References get_random_bytes(), ieee80211com::ic_stats, ieee80211_stats::is_crypto_nomem, nrefs, wep_ctx::wc_ic, and wep_ctx::wc_iv.

Here is the call graph for this function:




#### 7.13.2.6 static int wep_decap (struct ieee80211_key *, struct mbuf *, int *hdrlen*) [static]

Definition at line 214 of file ieee80211_crypto_wep.c.

References ieee80211_frame::i_addr2, ieee80211_cipher::ic_header, ieee80211com::ic_stats, ieee80211_cipher::ic_trailer, IEEE80211_DPRINTF, IEEE80211_KEY_SWCRYPT, IEEE80211_MSG_CRYPTO, ieee80211_stats::is_rx_wepfail, wep_ctx::wc_ic, wep, wep_decrypt(), ieee80211_key::wk_flags, and ieee80211_key::wk_private.

Here is the call graph for this function:


#### 7.13.2.7 static int wep_decrypt (struct ieee80211_key *, struct mbuf *, int *hdrlen*) [static]

Definition at line 392 of file ieee80211_crypto_wep.c.

References crc32_table, ieee80211_cipher::ic_header, ieee80211com::ic_stats, ieee80211_cipher::ic_trailer, IEEE80211_DPRINTF, IEEE80211_KEYBUF_SIZE, IEEE80211_MSG_CRYPTO, IEEE80211_WEP_CRCLEN, IEEE80211_WEP_IVLEN, ieee80211_stats::is_crypto_wep, S_SWAP, wep_ctx::wc_ic, wep, ieee80211_key::wk_key, ieee80211_key::wk_keylen, and ieee80211_key::wk_private.

#### 7.13.2.8 static int wep_demic (struct ieee80211_key *, struct mbuf *, int) [static]

Definition at line 249 of file ieee80211_crypto_wep.c.

#### 7.13.2.9 static void wep_detach (struct ieee80211_key *) [static]

Definition at line 107 of file ieee80211_crypto_wep.c.

References nrefs, and ieee80211_key::wk_private.

#### 7.13.2.10 static int wep_encap (struct ieee80211_key *, struct mbuf *, u_int8_t *keyid*) [static]

Definition at line 126 of file ieee80211_crypto_wep.c.

References B, ieee80211_cipher::ic_header, ieee80211_hdrspace(), IEEE80211_KEY_SWCRYPT, wep_ctx::wc_ic, wep_ctx::wc_iv, wep, wep_encrypt(), ieee80211_key::wk_flags, and ieee80211_key::wk_private.

Here is the call graph for this function:


#### 7.13.2.11 static int wep_encrypt (struct ieee80211_key *, struct mbuf *, int *hdrlen*) [static]

Definition at line 310 of file ieee80211_crypto_wep.c.

References crc32_table, ieee80211_cipher::ic_header, ieee80211com::ic_stats, IEEE80211_DPRINTF, IEEE80211_KEYBUF_SIZE, IEEE80211_MSG_CRYPTO, IEEE80211_WEP_CRCLEN, IEEE80211_WEP_IVLEN, ieee80211_stats::is_crypto_wep, S_SWAP, wep_ctx::wc_ic, wep, ieee80211_key::wk_key, ieee80211_key::wk_keylen, and ieee80211_key::wk_private.

#### 7.13.2.12 static int wep_enmic (struct ieee80211_key *, struct mbuf *, int) [static]

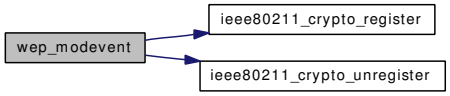
Definition at line 202 of file ieee80211_crypto_wep.c.

#### 7.13.2.13 static int wep_modevent (module_t *mod*, int *type*, void * *unused*) [static]

Definition at line 483 of file ieee80211_crypto_wep.c.

References ieee80211_crypto_register(), ieee80211_crypto_unregister(), nrefs, and wep.

Here is the call graph for this function:




#### 7.13.2.14 static int wep_setkey (struct ieee80211_key *) [static]

Definition at line 117 of file ieee80211_crypto_wep.c.

References ieee80211_key::wk_keylen.

### 7.13.3 Variable Documentation

#### 7.13.3.1 const uint32_t crc32_table[256] [static]

Definition at line 254 of file ieee80211_crypto_wep.c.

#### 7.13.3.2 int nrefs = 0 [static]

Definition at line 86 of file ieee80211_crypto_wep.c.

#### 7.13.3.3 struct ieee80211_cipher wep [static]

**Initial value:**

```
{
        .ic_name        = "WEP",
        .ic_cipher      = IEEE80211_CIPHER_WEP,
        .ic_header      = IEEE80211_WEP_IVLEN + IEEE80211_WEP_KIDLEN,
        .ic_trailer     = IEEE80211_WEP_CRCLEN,
        .ic_miclen      = 0,
        .ic_attach      = wep_attach,
        .ic_detach      = wep_detach,
        .ic_setkey      = wep_setkey,
        .ic_encap       = wep_encap,
        .ic_decap       = wep_decap,
        .ic_enmic       = wep_enmic,
        .ic_demic       = wep_demic,
}
```

Definition at line 62 of file ieee80211_crypto_wep.c.

Referenced by wep_decap(), wep_decrypt(), wep_encap(), wep_encrypt(), and wep_modevent().

#### 7.13.3.4 moduledata_t wep_mod [static]

**Initial value:**

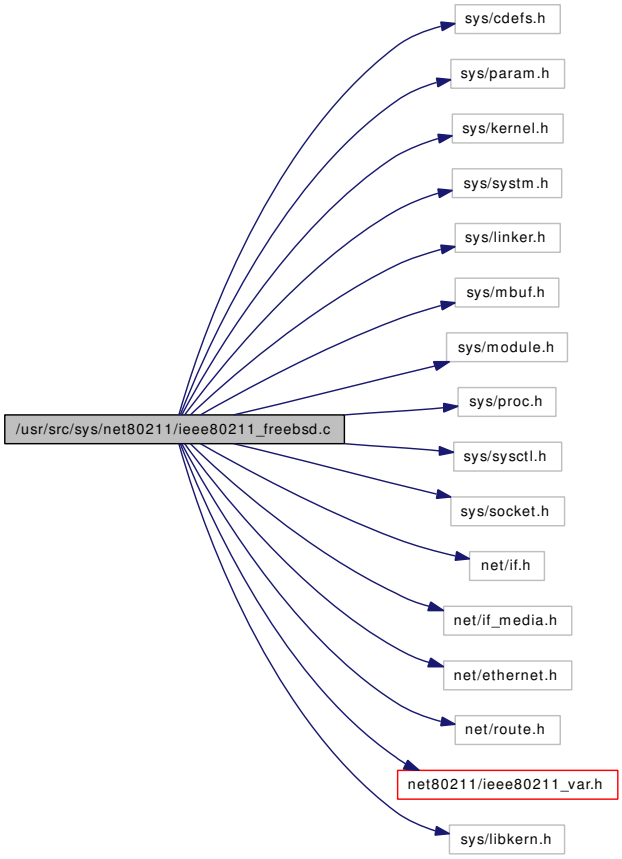
```
{
        "wlan_wep",
        wep_modevent,
        0
}
```

Definition at line 503 of file ieee80211_crypto_wep.c.

## 7.14 /usr/src/sys/net80211/ieee80211_freebsd.c File Reference

```
#include <sys/cdefs.h>
#include <sys/param.h>
#include <sys/kernel.h>
#include <sys/systm.h>
#include <sys/linker.h>
#include <sys/mbuf.h>
#include <sys/module.h>
#include <sys/proc.h>
#include <sys/sysctl.h>
#include <sys/socket.h>
#include <net/if.h>
#include <net/if_media.h>
#include <net/ethernet.h>
#include <net/route.h>
#include <net80211/ieee80211_var.h>
#include <sys/libkern.h>
```

Include dependency graph for ieee80211_freebsd.c:




## Functions

- __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_freebsd.c,v 1.13 2007/01/08 18:23:43 sam Exp $")
- SYSCTL_NODE (_net, OID_AUTO, wlan, CTLFLAG_RD, 0,"IEEE 80211 parameters")
- static int ieee80211_sysctl_inact (SYSCTL_HANDLER_ARGS)
- static int ieee80211_sysctl_parent (SYSCTL_HANDLER_ARGS)
- void ieee80211_sysctl_attach (struct ieee80211com *ic)
- void ieee80211_sysctl_detach (struct ieee80211com *ic)
- int ieee80211_node_dectestref (struct ieee80211_node *ni)
- void ieee80211_drain_ifq (struct ifqueue *ifq)
- mbuf * ieee80211_getmgtframe (u_int8_t **frm, u_int pktlen)
- void get_random_bytes (void *p, size_t n)
- void ieee80211_notify_node_join (struct ieee80211com *ic, struct ieee80211_node *ni, int newassoc)
- void ieee80211_notify_node_leave (struct ieee80211com *ic, struct ieee80211_node *ni)
- void ieee80211_notify_scan_done (struct ieee80211com *ic)
- void ieee80211_notify_replay_failure (struct ieee80211com *ic, const struct ieee80211_frame *wh, const struct ieee80211_key *k, u_int64_t rsc)
- void ieee80211_notify_michael_failure (struct ieee80211com *ic, const struct ieee80211_frame *wh, u_int keyix)
- void ieee80211_load_module (const char *modname)
- static int wlan_modevent (module_t mod, int type, void *unused)

- DECLARE_MODULE (wlan, wlan_mod, SI_SUB_DRIVERS, SI_ORDER_FIRST)
- MODULE_VERSION (wlan, 1)
- MODULE_DEPEND (wlan, ether, 1, 1, 1)

## Variables

- static moduledata_t wlan_mod

### 7.14.1 Function Documentation

#### 7.14.1.1 __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_freebsd. *c*, v 1.13 2007/01/08 18:23:43 sam Exp $")

#### 7.14.1.2 DECLARE_MODULE (wlan, wlan_mod, SI_SUB_DRIVERS, SI_ORDER_FIRST)

#### 7.14.1.3 void get_random_bytes (void * *p*, size_t *n*)

Definition at line 217 of file ieee80211_freebsd.c.

Referenced by ieee80211_auth_shared(), and wep_attach().

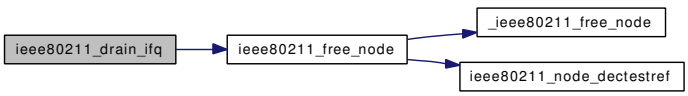
#### 7.14.1.4 void ieee80211_drain_ifq (struct ifqueue * *ifq*)

Definition at line 154 of file ieee80211_freebsd.c.

References ieee80211_free_node().

Referenced by ieee80211_newstate(), and ieee80211_proto_detach().

Here is the call graph for this function:




#### 7.14.1.5 struct mbuf* ieee80211_getmgtframe (u_int8_t ** *frm*, u_int *pktlen*)

Definition at line 183 of file ieee80211_freebsd.c.

Referenced by ieee80211_beacon_alloc(), ieee80211_send_mgmt(), and ieee80211_send_probereq().

#### 7.14.1.6 void ieee80211_load_module (const char * *modname*)

Definition at line 330 of file ieee80211_freebsd.c.

Referenced by ieee80211_aclator_get(), ieee80211_authenticator_get(), and ieee80211_crypto_newkey().

#### 7.14.1.7 int ieee80211_node_dectestref (struct ieee80211_node * *ni*)

Definition at line 146 of file ieee80211_freebsd.c.

References ieee80211_node::ni_refcnt.

Referenced by ieee80211_free_node(), and node_reclaim().

#### 7.14.1.8 void ieee80211_notify_michael_failure (struct ieee80211com * *ic*, const struct ieee80211_frame * *wh*, u_int *keyix*)

Definition at line 308 of file ieee80211_freebsd.c.

References ieee80211_frame::i_addr1, ieee80211_frame::i_addr2, ieee80211com::ic_ifp, ieee80211com::ic_stats, IEEE80211_ADDR_COPY, IEEE80211_CIPHER_TKIP, IEEE80211_DPRINTF, IEEE80211_MSG_CRYPTO, ieee80211_michael_event::iev_cipher, ieee80211_michael_event::iev_dst, ieee80211_michael_event::iev_keyix, ieee80211_michael_event::iev_src, ieee80211_stats::is_rx_tkipmic, and RTM_IEEE80211_MICHAEL.

Referenced by tkip_demic().

#### 7.14.1.9 void ieee80211_notify_node_join (struct ieee80211com * *ic*, struct ieee80211_node * *ni*, int *newassoc*)

Definition at line 230 of file ieee80211_freebsd.c.

References ieee80211com::ic_bss, ieee80211com::ic_ifp, IEEE80211_ADDR_COPY, ieee80211_node::ni_bssid, ieee80211_node::ni_macaddr, RTM_IEEE80211_ASSOC, RTM_IEEE80211_JOIN, RTM_IEEE80211_REASSOC, and RTM_IEEE80211_REJOIN.

Referenced by ieee80211_newstate().

#### 7.14.1.10 void ieee80211_notify_node_leave (struct ieee80211com * *ic*, struct ieee80211_node * *ni*)

Definition at line 251 of file ieee80211_freebsd.c.

References ieee80211com::ic_bss, ieee80211com::ic_ifp, IEEE80211_ADDR_COPY, ieee80211_node::ni_macaddr, RTM_IEEE80211_DISASSOC, and RTM_IEEE80211_LEAVE.

Referenced by ieee80211_sta_leave().

#### 7.14.1.11 void ieee80211_notify_replay_failure (struct ieee80211com * *ic*, const struct ieee80211_frame * *wh*, const struct ieee80211_key * *k*, u_int64_t *rsc*)

Definition at line 279 of file ieee80211_freebsd.c.

References ieee80211_frame::i_addr1, ieee80211_frame::i_addr2, ieee80211_cipher::ic_cipher, ieee80211com::ic_ifp, ieee80211_cipher::ic_name, IEEE80211_ADDR_COPY, IEEE80211_DPRINTF, IEEE80211_KEYIX_NONE, IEEE80211_MSG_CRYPTO, ieee80211_replay_event::iev_cipher, ieee80211_replay_event::iev_dst, ieee80211_replay_event::iev_keyix, ieee80211_replay_event::iev_keyrsc, ieee80211_replay_event::iev_rsc, ieee80211_replay_event::iev_src, RTM_IEEE80211_REPLAY, ieee80211_key::wk_cipher, ieee80211_key::wk_keyix, ieee80211_key::wk_keyrsc, and ieee80211_key::wk_rxkeyix.

Referenced by ccmp_decap(), and tkip_decap().

#### 7.14.1.12 void ieee80211_notify_scan_done (struct ieee80211com * *ic*)

Definition at line 268 of file ieee80211_freebsd.c.

References ieee80211com::ic_ifp, IEEE80211_DPRINTF, IEEE80211_MSG_SCAN, and RTM_-IEEE80211_SCAN.

Referenced by ieee80211_end_scan().

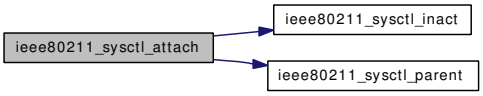
#### 7.14.1.13 void ieee80211_sysctl_attach (struct ieee80211com * *ic*)

Definition at line 83 of file ieee80211_freebsd.c.

References ieee80211com::ic_bmiss_max, ieee80211com::ic_caps, ieee80211com::ic_debug, ieee80211com::ic_ifp, ieee80211com::ic_inact_auth, ieee80211com::ic_inact_init, ieee80211com::ic_-inact_probe, ieee80211com::ic_inact_run, ieee80211com::ic_sysctl, ieee80211com::ic_vap, ieee80211_-sysctl_inact(), and ieee80211_sysctl_parent().

Referenced by ieee80211_ifattach().

Here is the call graph for this function:




#### 7.14.1.14 void ieee80211_sysctl_detach (struct ieee80211com * *ic*)

Definition at line 136 of file ieee80211_freebsd.c.

References ieee80211com::ic_sysctl.

Referenced by ieee80211_ifdetach().

#### 7.14.1.15 static int ieee80211_sysctl_inact (SYSCTL_HANDLER_ARGS) [static]

Definition at line 61 of file ieee80211_freebsd.c.

References IEEE80211_INACT_WAIT.

Referenced by ieee80211_sysctl_attach().

#### 7.14.1.16 static int ieee80211_sysctl_parent (SYSCTL_HANDLER_ARGS) [static]

Definition at line 74 of file ieee80211_freebsd.c.

References ieee80211com::ic_ifp.

Referenced by ieee80211_sysctl_attach().

#### 7.14.1.17 MODULE_DEPEND (wlan, ether, 1, 1, 1)

#### 7.14.1.18 MODULE_VERSION (wlan, 1)

#### 7.14.1.19 SYSCTL_NODE (_net, OID_AUTO, wlan, CTLFLAG_RD, 0, "IEEE 80211 parameters")

#### 7.14.1.20 static int wlan_modevent (module_t *mod*, int *type*, void * *unused*) [static]

Definition at line 346 of file ieee80211_freebsd.c.

### 7.14.2 Variable Documentation

#### 7.14.2.1 moduledata_t wlan_mod [static]

**Initial value:**

```
{
        "wlan",
        wlan_modevent,
        0
}
```

Definition at line 359 of file ieee80211_freebsd.c.

# 7.15 /usr/src/sys/net80211/ieee80211_freebsd.h File Reference

```
#include <machine/atomic.h>
```

Include dependency graph for ieee80211_freebsd.h:


This graph shows which files directly or indirectly include this file:


## Data Structures

- struct ieee80211_join_event
- struct ieee80211_leave_event
- struct ieee80211_replay_event
- struct ieee80211_michael_event
- struct ieee80211_bpf_params

## Defines

- #define IEEE80211_BEACON_LOCK_INIT(_ic, _name) mtx_init(&(_ic) → ic_beaconlock, _name, "802.11 beacon lock", MTX_DEF)
- #define IEEE80211_BEACON_LOCK_DESTROY(_ic) mtx_destroy(&(_ic) → ic_beaconlock)
- #define IEEE80211_BEACON_LOCK(_ic) mtx_lock(&(_ic) → ic_beaconlock)
- #define IEEE80211_BEACON_UNLOCK(_ic) mtx_unlock(&(_ic) → ic_beaconlock)
- #define IEEE80211_BEACON_LOCK_ASSERT(_ic) mtx_assert(&(_ic) → ic_beaconlock, MA_OWNED)
- #define IEEE80211_NODE_LOCK_INIT(_nt, _name)
- #define IEEE80211_NODE_LOCK_DESTROY(_nt) mtx_destroy(&(_nt) → nt_nodelock)
- #define IEEE80211_NODE_LOCK(_nt) mtx_lock(&(_nt) → nt_nodelock)
- #define IEEE80211_NODE_IS_LOCKED(_nt) mtx_owned(&(_nt) → nt_nodelock)
- #define IEEE80211_NODE_UNLOCK(_nt) mtx_unlock(&(_nt) → nt_nodelock)
- #define IEEE80211_NODE_LOCK_ASSERT(_nt) mtx_assert(&(_nt) → nt_nodelock, MA_OWNED)
- #define IEEE80211_SCAN_LOCK_INIT(_nt, _name) mtx_init(&(_nt) → nt_scanlock, _name, "802.11 scangen", MTX_DEF)
- #define IEEE80211_SCAN_LOCK_DESTROY(_nt) mtx_destroy(&(_nt) → nt_scanlock)
- #define IEEE80211_SCAN_LOCK(_nt) mtx_lock(&(_nt) → nt_scanlock)
- #define IEEE80211_SCAN_UNLOCK(_nt) mtx_unlock(&(_nt) → nt_scanlock)
- #define IEEE80211_SCAN_LOCK_ASSERT(_nt) mtx_assert(&(_nt) → nt_scanlock, MA_OWNED)
- #define IEEE80211_NODE_SAVEQ_INIT(_ni, _name)
- #define IEEE80211_NODE_SAVEQ_DESTROY(_ni) mtx_destroy(&(_ni) → ni_savedq.ifq_mtx)
- #define IEEE80211_NODE_SAVEQ_QLEN(_ni) _IF_QLEN(&(_ni) → ni_savedq)
- #define IEEE80211_NODE_SAVEQ_LOCK(_ni)

- #define IEEE80211_NODE_SAVEQ_UNLOCK(_ni)
- #define IEEE80211_NODE_SAVEQ_DEQUEUE(_ni, _m, _qlen)
- #define IEEE80211_NODE_SAVEQ_DRAIN(_ni, _qlen)
- #define _IEEE80211_NODE_SAVEQ_DEQUEUE_HEAD(_ni, _m)
- #define _IEEE80211_NODE_SAVEQ_ENQUEUE(_ni, _m, _qlen, _age)
- #define ACL_LOCK_INIT(_as, _name) mtx_init(&(_as) → as_lock, _name, "802.11 ACL", MTX_-DEF)
- #define ACL_LOCK_DESTROY(_as) mtx_destroy(&(_as) → as_lock)
- #define ACL_LOCK(_as) mtx_lock(&(_as) → as_lock)
- #define ACL_UNLOCK(_as) mtx_unlock(&(_as) → as_lock)
- #define ACL_LOCK_ASSERT(_as) mtx_assert((&(_as) → as_lock), MA_OWNED)
- #define ieee80211_node_initref(_ni) do { ((_ni) → ni_refcnt = 1); } while (0)
- #define ieee80211_node_incref(_ni) atomic_add_int(&(_ni) → ni_refcnt, 1)
- #define ieee80211_node_decref(_ni) atomic_subtract_int(&(_ni) → ni_refcnt, 1)
- #define ieee80211_node_refcnt(_ni) (_ni) → ni_refcnt
- #define M_LINK0 M_PROTO1
- #define M_PWR_SAV M_PROTO4
- #define M_MORE_DATA M_PROTO5
- #define M_WME_AC_MASK (M_PROTO2|M_PROTO3)
- #define M_WME_AC_SHIFT 5
- #define M_WME_SETAC(m, ac)
- #define M_WME_GETAC(m) (((m) → m_flags >> M_WME_AC_SHIFT) & 0x3)
- #define M_AGE_SET(m, v) (m → m_pkthdr.csum_data = v)
- #define M_AGE_GET(m) (m → m_pkthdr.csum_data)
- #define M_AGE_SUB(m, adj) (m → m_pkthdr.csum_data -= adj)
- #define RTM_IEEE80211_ASSOC 100
- #define RTM_IEEE80211_REASSOC 101
- #define RTM_IEEE80211_DISASSOC 102
- #define RTM_IEEE80211_JOIN 103
- #define RTM_IEEE80211_LEAVE 104
- #define RTM_IEEE80211_SCAN 105
- #define RTM_IEEE80211_REPLAY 106
- #define RTM_IEEE80211_MICHAEL 107
- #define RTM_IEEE80211_REJOIN 108
- #define IEEE80211_BPF_VERSION 0
- #define IEEE80211_BPF_SHORTPRE 0x01
- #define IEEE80211_BPF_NOACK 0x02
- #define IEEE80211_BPF_CRYPTO 0x04
- #define IEEE80211_BPF_FCS 0x10
- #define IEEE80211_BPF_DATAPAD 0x20
- #define IEEE80211_BPF_RTS 0x40
- #define IEEE80211_BPF_CTS 0x80

## Typedefs

- typedef mtx ieee80211_beacon_lock_t
- typedef mtx ieee80211_node_lock_t
- typedef mtx ieee80211_scan_lock_t
- typedef mtx acl_lock_t

## Functions

- int ieee80211_node_dectestref (struct ieee80211_node *ni)
- void ieee80211_drain_ifq (struct ifqueue *)
- mbuf * ieee80211_getmgtframe (u_int8_t **frm, u_int pktlen)
- void get_random_bytes (void *, size_t)
- void ieee80211_sysctl_attach (struct ieee80211com *)
- void ieee80211_sysctl_detach (struct ieee80211com *)
- void ieee80211_load_module (const char *)

### 7.15.1 Define Documentation

#### 7.15.1.1 #define _IEEE80211_NODE_SAVEQ_DEQUEUE_HEAD(_ni, _m)

**Value:**

```
do {    \
        _IF_DEQUEUE(&(_ni)->ni_savedq, m);                      \
} while (0)
```

Definition at line 102 of file ieee80211_freebsd.h.

Referenced by ieee80211_timeout_stations().

#### 7.15.1.2 #define _IEEE80211_NODE_SAVEQ_ENQUEUE(_ni, _m, _qlen, _age)

**Value:**

```
do {\
        (_m)->m_nextpkt = NULL;                                 \
        if ((_ni)->ni_savedq.ifq_tail != NULL) {                \
                _age -= M_AGE_GET((_ni)->ni_savedq.ifq_tail);   \
                (_ni)->ni_savedq.ifq_tail->m_nextpkt = (_m);    \
        } else {                                                \
                (_ni)->ni_savedq.ifq_head = (_m);               \
        }                                                       \
        M_AGE_SET(_m, _age);                                    \
        (_ni)->ni_savedq.ifq_tail = (_m);                       \
        (_qlen) = ++(_ni)->ni_savedq.ifq_len;                   \
} while (0)
```

Definition at line 105 of file ieee80211_freebsd.h.

Referenced by ieee80211_pwrsave().

#### 7.15.1.3 #define ACL_LOCK(_as) mtx_lock(&(_as) → as_lock)

Definition at line 125 of file ieee80211_freebsd.h.

Referenced by acl_add(), acl_free_all(), acl_getioctl(), and acl_remove().

#### 7.15.1.4 #define ACL_LOCK_ASSERT(_as) mtx_assert((&(_as) → as_lock), MA_OWNED)

Definition at line 127 of file ieee80211_freebsd.h.

Referenced by _acl_free().

#### 7.15.1.5 #define ACL_LOCK_DESTROY(_as) mtx_destroy(&(_as) → as_lock)

Definition at line 124 of file ieee80211_freebsd.h.

Referenced by acl_detach().

#### 7.15.1.6 #define ACL_LOCK_INIT(_as, _name) mtx_init(&(_as) → as_lock, _name, "802.11 ACL", MTX_DEF)

Definition at line 122 of file ieee80211_freebsd.h.

Referenced by acl_attach().

#### 7.15.1.7 #define ACL_UNLOCK(_as) mtx_unlock(&(_as) → as_lock)

Definition at line 126 of file ieee80211_freebsd.h.

Referenced by acl_add(), acl_free_all(), acl_getioctl(), and acl_remove().

#### 7.15.1.8 #define IEEE80211_BEACON_LOCK(_ic) mtx_lock(&(_ic) → ic_beaconlock)

Definition at line 40 of file ieee80211_freebsd.h.

Referenced by ieee80211_beacon_update(), ieee80211_set_tim(), and ieee80211_wme_updateparams().

#### 7.15.1.9 #define IEEE80211_BEACON_LOCK_ASSERT(_ic) mtx_assert(&(_ic) → ic_beaconlock, MA_OWNED)

Definition at line 42 of file ieee80211_freebsd.h.

#### 7.15.1.10 #define IEEE80211_BEACON_LOCK_DESTROY(_ic) mtx_destroy(&(_ic) → ic_beaconlock)

Definition at line 39 of file ieee80211_freebsd.h.

Referenced by ieee80211_ifdetach().

#### 7.15.1.11 #define IEEE80211_BEACON_LOCK_INIT(_ic, _name) mtx_init(&(_ic) → ic_beaconlock, _name, "802.11 beacon lock", MTX_DEF)

Definition at line 37 of file ieee80211_freebsd.h.

Referenced by ieee80211_ifattach().

#### 7.15.1.12 #define IEEE80211_BEACON_UNLOCK(_ic) mtx_unlock(&(_ic) → ic_beaconlock)

Definition at line 41 of file ieee80211_freebsd.h.

Referenced by ieee80211_set_tim(), and ieee80211_wme_updateparams().

#### 7.15.1.13 #define IEEE80211_BPF_CRYPTO 0x04

Definition at line 249 of file ieee80211_freebsd.h.

#### 7.15.1.14 #define IEEE80211_BPF_CTS 0x80

Definition at line 253 of file ieee80211_freebsd.h.

#### 7.15.1.15 #define IEEE80211_BPF_DATAPAD 0x20

Definition at line 251 of file ieee80211_freebsd.h.

#### 7.15.1.16 #define IEEE80211_BPF_FCS 0x10

Definition at line 250 of file ieee80211_freebsd.h.

#### 7.15.1.17 #define IEEE80211_BPF_NOACK 0x02

Definition at line 248 of file ieee80211_freebsd.h.

#### 7.15.1.18 #define IEEE80211_BPF_RTS 0x40

Definition at line 252 of file ieee80211_freebsd.h.

#### 7.15.1.19 #define IEEE80211_BPF_SHORTPRE 0x01

Definition at line 247 of file ieee80211_freebsd.h.

#### 7.15.1.20 #define IEEE80211_BPF_VERSION 0

Definition at line 244 of file ieee80211_freebsd.h.

#### 7.15.1.21 #define ieee80211_node_decref(_ni) atomic_subtract_int(&(_ni) → ni_refcnt, 1)

Definition at line 146 of file ieee80211_freebsd.h.

Referenced by ieee80211_free_node(), ieee80211_unref_node(), and node_reclaim().

#### 7.15.1.22 #define ieee80211_node_incref(_ni) atomic_add_int(&(_ni) → ni_refcnt, 1)

Definition at line 144 of file ieee80211_freebsd.h.

Referenced by ieee80211_ref_node().

#### 7.15.1.23 #define ieee80211_node_initref(_ni) do { ((_ni) → ni_refcnt = 1); } while (0)

Definition at line 142 of file ieee80211_freebsd.h.

Referenced by ieee80211_setup_node(), and ieee80211_tmp_node().

#### 7.15.1.24 #define IEEE80211_NODE_IS_LOCKED(_nt) mtx_owned(&(_nt) → nt_nodelock)

Definition at line 55 of file ieee80211_freebsd.h.

Referenced by ieee80211_node_delucastkey().

#### 7.15.1.25 #define IEEE80211_NODE_LOCK(_nt) mtx_lock(&(_nt) → nt_nodelock)

Definition at line 54 of file ieee80211_freebsd.h.

Referenced by ieee80211_create_ibss(), ieee80211_defrag(), ieee80211_end_scan(), ieee80211_find_node(), ieee80211_find_node_with_channel(), ieee80211_find_node_with_ssid(), ieee80211_find_rxnode(), ieee80211_find_rxnode_withkey(), ieee80211_find_txnode(), ieee80211_free_allnodes(), ieee80211_free_node(), ieee80211_iterate_nodes(), ieee80211_node_delucastkey(), ieee80211_node_leave(), ieee80211_node_table_cleanup(), ieee80211_node_table_reset(), ieee80211_setup_node(), ieee80211_sta_join(), ieee80211_timeout_scan_candidates(), and ieee80211_timeout_stations().

#### 7.15.1.26 #define IEEE80211_NODE_LOCK_ASSERT(_nt) mtx_assert(&(_nt) → nt_nodelock, MA_OWNED)

Definition at line 57 of file ieee80211_freebsd.h.

Referenced by _ieee80211_find_node(), and node_reclaim().

#### 7.15.1.27 #define IEEE80211_NODE_LOCK_DESTROY(_nt) mtx_destroy(&(_nt) → nt_nodelock)

Definition at line 53 of file ieee80211_freebsd.h.

Referenced by ieee80211_node_table_cleanup().

#### 7.15.1.28 #define IEEE80211_NODE_LOCK_INIT(_nt, _name)

**Value:**

```
mtx_init(&(_nt)->nt_nodelock, _name, "802.11 node table", \
                MTX_DEF | MTX_DUPOK)
```

Definition at line 50 of file ieee80211_freebsd.h.

Referenced by ieee80211_node_table_init().

#### 7.15.1.29 #define ieee80211_node_refcnt(_ni) (_ni) → ni_refcnt

Definition at line 150 of file ieee80211_freebsd.h.

Referenced by _ieee80211_find_node(), ieee80211_dump_node(), ieee80211_find_node_with_-channel(), ieee80211_find_node_with_ssid(), ieee80211_find_rxnode_withkey(), ieee80211_free_node(), ieee80211_node_delucastkey(), ieee80211_send_mgmt(), ieee80211_send_probereq(), ieee80211_-timeout_scan_candidates(), ieee80211_timeout_stations(), and node_reclaim().

#### 7.15.1.30 #define IEEE80211_NODE_SAVEQ_DEQUEUE(_ni, _m, _qlen)

**Value:**

```
do {    \
        IEEE80211_NODE_SAVEQ_LOCK(_ni);                         \
        _IF_DEQUEUE(&(_ni)->ni_savedq, _m);                     \
        (_qlen) = IEEE80211_NODE_SAVEQ_QLEN(_ni);               \
        IEEE80211_NODE_SAVEQ_UNLOCK(_ni);                       \
} while (0)
```

Definition at line 89 of file ieee80211_freebsd.h.

Referenced by ieee80211_node_pwrsave(), and ieee80211_recv_pspoll().

#### 7.15.1.31 #define IEEE80211_NODE_SAVEQ_DESTROY(_ni) mtx_destroy(&(_ni) → ni_savedq.ifq_mtx)

Definition at line 79 of file ieee80211_freebsd.h.

Referenced by node_free().

#### 7.15.1.32 #define IEEE80211_NODE_SAVEQ_DRAIN(_ni, _qlen)

**Value:**

```
do {            \
        IEEE80211_NODE_SAVEQ_LOCK(_ni);                         \
        (_qlen) = IEEE80211_NODE_SAVEQ_QLEN(_ni);               \
        _IF_DRAIN(&(_ni)->ni_savedq);                           \
        IEEE80211_NODE_SAVEQ_UNLOCK(_ni);                       \
} while (0)
```

Definition at line 95 of file ieee80211_freebsd.h.

Referenced by node_cleanup().

#### 7.15.1.33 #define IEEE80211_NODE_SAVEQ_INIT(_ni, _name)

**Value:**

```
do {            \
        mtx_init(&(_ni)->ni_savedq.ifq_mtx, _name, "802.11 ps queue", MTX_DEF);\
        (_ni)->ni_savedq.ifq_maxlen = IEEE80211_PS_MAX_QUEUE;   \
} while (0)
```

Definition at line 75 of file ieee80211_freebsd.h.

Referenced by ieee80211_setup_node(), and ieee80211_tmp_node().

#### 7.15.1.34 #define IEEE80211_NODE_SAVEQ_LOCK(_ni)

**Value:**

```
do {    \
        IF_LOCK(&(_ni)->ni_savedq);                                     \
} while (0)
```

Definition at line 83 of file ieee80211_freebsd.h.

Referenced by ieee80211_pwrsave(), and ieee80211_timeout_stations().

#### 7.15.1.35 #define IEEE80211_NODE_SAVEQ_QLEN(_ni) _IF_QLEN(&(_ni) → ni_savedq)

Definition at line 81 of file ieee80211_freebsd.h.

Referenced by ieee80211_node_pwrsave(), and ieee80211_timeout_stations().

#### 7.15.1.36 #define IEEE80211_NODE_SAVEQ_UNLOCK(_ni)

**Value:**

```
do {    \
        IF_UNLOCK(&(_ni)->ni_savedq);                                   \
} while (0)
```

Definition at line 86 of file ieee80211_freebsd.h.

Referenced by ieee80211_pwrsave(), and ieee80211_timeout_stations().

#### 7.15.1.37 #define IEEE80211_NODE_UNLOCK(_nt) mtx_unlock(&(_nt) → nt_nodelock)

Definition at line 56 of file ieee80211_freebsd.h.

Referenced by ieee80211_create_ibss(), ieee80211_defrag(), ieee80211_end_scan(), ieee80211_find_node(), ieee80211_find_node_with_channel(), ieee80211_find_node_with_ssid(), ieee80211_find_rxnode(), ieee80211_find_rxnode_withkey(), ieee80211_find_txnode(), ieee80211_free_allnodes(), ieee80211_free_node(), ieee80211_iterate_nodes(), ieee80211_node_delucastkey(), ieee80211_node_leave(), ieee80211_node_table_reset(), ieee80211_setup_node(), ieee80211_sta_join(), ieee80211_timeout_scan_candidates(), and ieee80211_timeout_stations().

#### 7.15.1.38 #define IEEE80211_SCAN_LOCK(_nt) mtx_lock(&(_nt) → nt_scanlock)

Definition at line 67 of file ieee80211_freebsd.h.

Referenced by ieee80211_iterate_nodes(), and ieee80211_timeout_stations().

#### 7.15.1.39 #define IEEE80211_SCAN_LOCK_ASSERT(_nt) mtx_assert(&(_nt) → nt_scanlock, MA_OWNED)

Definition at line 69 of file ieee80211_freebsd.h.

#### 7.15.1.40 #define IEEE80211_SCAN_LOCK_DESTROY(_nt) mtx_destroy(&(_nt) → nt_scanlock)

Definition at line 66 of file ieee80211_freebsd.h.

Referenced by ieee80211_node_table_cleanup().

#### 7.15.1.41 #define IEEE80211_SCAN_LOCK_INIT(_nt, _name) mtx_init(&(_nt) → nt_scanlock, _name, "802.11 scangen", MTX_DEF)

Definition at line 64 of file ieee80211_freebsd.h.

Referenced by ieee80211_node_table_init().

#### 7.15.1.42 #define IEEE80211_SCAN_UNLOCK(_nt) mtx_unlock(&(_nt) → nt_scanlock)

Definition at line 68 of file ieee80211_freebsd.h.

Referenced by ieee80211_iterate_nodes(), and ieee80211_timeout_stations().

#### 7.15.1.43 #define M_AGE_GET(m) (m → m_pkthdr.csum_data)

Definition at line 180 of file ieee80211_freebsd.h.

Referenced by ieee80211_timeout_stations().

#### 7.15.1.44 #define M_AGE_SET(m, v) (m → m_pkthdr.csum_data = v)

Definition at line 179 of file ieee80211_freebsd.h.

#### 7.15.1.45 #define M_AGE_SUB(m, adj) (m → m_pkthdr.csum_data -= adj)

Definition at line 181 of file ieee80211_freebsd.h.

Referenced by ieee80211_timeout_stations().

#### 7.15.1.46 #define M_LINK0 M_PROTO1

Definition at line 156 of file ieee80211_freebsd.h.

Referenced by ieee80211_mgmt_output(), and ieee80211_send_mgmt().

#### 7.15.1.47 #define M_MORE_DATA M_PROTO5

Definition at line 158 of file ieee80211_freebsd.h.

Referenced by ieee80211_encap(), ieee80211_node_pwrsave(), and ieee80211_recv_pspoll().

#### 7.15.1.48 #define M_PWR_SAV M_PROTO4

Definition at line 157 of file ieee80211_freebsd.h.

Referenced by ieee80211_output(), and ieee80211_recv_pspoll().

#### 7.15.1.49 #define M_WME_AC_MASK (M_PROTO2|M_PROTO3)

Definition at line 165 of file ieee80211_freebsd.h.

#### 7.15.1.50 #define M_WME_AC_SHIFT 5

Definition at line 167 of file ieee80211_freebsd.h.

#### 7.15.1.51 #define M_WME_GETAC(m) (((m) → m_flags >> M_WME_AC_SHIFT) & 0x3)

Definition at line 172 of file ieee80211_freebsd.h.

Referenced by ieee80211_encap().

#### 7.15.1.52 #define M_WME_SETAC(m, ac)

**Value:**

```
((m)->m_flags = ((m)->m_flags &~ M_WME_AC_MASK) | \
                ((ac) << M_WME_AC_SHIFT))
```

Definition at line 169 of file ieee80211_freebsd.h.

Referenced by ieee80211_classify().

#### 7.15.1.53 #define RTM_IEEE80211_ASSOC 100

Definition at line 223 of file ieee80211_freebsd.h.

Referenced by ieee80211_notify_node_join().

#### 7.15.1.54 #define RTM_IEEE80211_DISASSOC 102

Definition at line 225 of file ieee80211_freebsd.h.

Referenced by ieee80211_notify_node_leave().

#### 7.15.1.55 #define RTM_IEEE80211_JOIN 103

Definition at line 226 of file ieee80211_freebsd.h.

Referenced by ieee80211_notify_node_join().

#### 7.15.1.56 #define RTM_IEEE80211_LEAVE 104

Definition at line 227 of file ieee80211_freebsd.h.

Referenced by ieee80211_notify_node_leave().

#### 7.15.1.57 #define RTM_IEEE80211_MICHAEL 107

Definition at line 230 of file ieee80211_freebsd.h.

Referenced by ieee80211_notify_michael_failure().

#### 7.15.1.58 #define RTM_IEEE80211_REASSOC 101

Definition at line 224 of file ieee80211_freebsd.h.

Referenced by ieee80211_notify_node_join().

#### 7.15.1.59 #define RTM_IEEE80211_REJOIN 108

Definition at line 231 of file ieee80211_freebsd.h.

Referenced by ieee80211_notify_node_join().

#### 7.15.1.60 #define RTM_IEEE80211_REPLAY 106

Definition at line 229 of file ieee80211_freebsd.h.

Referenced by ieee80211_notify_replay_failure().

#### 7.15.1.61 #define RTM_IEEE80211_SCAN 105

Definition at line 228 of file ieee80211_freebsd.h.

Referenced by ieee80211_notify_scan_done().

### 7.15.2 Typedef Documentation

#### 7.15.2.1 typedef struct mtx acl_lock_t

Definition at line 121 of file ieee80211_freebsd.h.

#### 7.15.2.2 typedef struct mtx ieee80211_beacon_lock_t

Definition at line 36 of file ieee80211_freebsd.h.

#### 7.15.2.3 typedef struct mtx ieee80211_node_lock_t

Definition at line 49 of file ieee80211_freebsd.h.

#### 7.15.2.4 typedef struct mtx ieee80211_scan_lock_t

Definition at line 63 of file ieee80211_freebsd.h.

### 7.15.3 Function Documentation

#### 7.15.3.1 void get_random_bytes (void *, size_t)

Definition at line 217 of file ieee80211_freebsd.c.

Referenced by ieee80211_auth_shared(), and wep_attach().

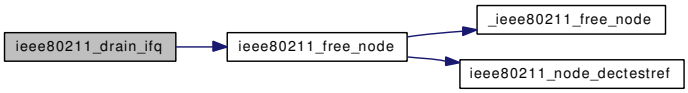
#### 7.15.3.2 void ieee80211_drain_ifq (struct ifqueue *)

Definition at line 154 of file ieee80211_freebsd.c.

References ieee80211_free_node().

Referenced by ieee80211_newstate(), and ieee80211_proto_detach().

Here is the call graph for this function:




#### 7.15.3.3 struct mbuf* ieee80211_getmgtframe (u_int8_t ** *frm*, u_int *pktlen*)

Definition at line 183 of file ieee80211_freebsd.c.

Referenced by ieee80211_beacon_alloc(), ieee80211_send_mgmt(), and ieee80211_send_probereq().

#### 7.15.3.4 void ieee80211_load_module (const char *)

Definition at line 330 of file ieee80211_freebsd.c.

Referenced by ieee80211_aclator_get(), ieee80211_authenticator_get(), and ieee80211_crypto_newkey().

#### 7.15.3.5 int ieee80211_node_dectestref (struct ieee80211_node * *ni*)

Definition at line 146 of file ieee80211_freebsd.c.

References ieee80211_node::ni_refcnt.

Referenced by ieee80211_free_node(), and node_reclaim().

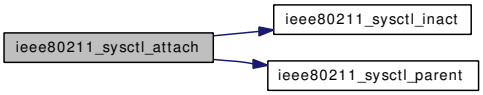
#### 7.15.3.6 void ieee80211_sysctl_attach (struct ieee80211com *)

Definition at line 83 of file ieee80211_freebsd.c.

References ieee80211com::ic_bmiss_max, ieee80211com::ic_caps, ieee80211com::ic_debug, ieee80211com::ic_ifp, ieee80211com::ic_inact_auth, ieee80211com::ic_inact_init, ieee80211com::ic_inact_probe, ieee80211com::ic_inact_run, ieee80211com::ic_sysctl, ieee80211com::ic_vap, ieee80211_sysctl_inact(), and ieee80211_sysctl_parent().

Referenced by ieee80211_ifattach().

Here is the call graph for this function:




#### 7.15.3.7 void ieee80211_sysctl_detach (struct ieee80211com *)

Definition at line 136 of file ieee80211_freebsd.c.

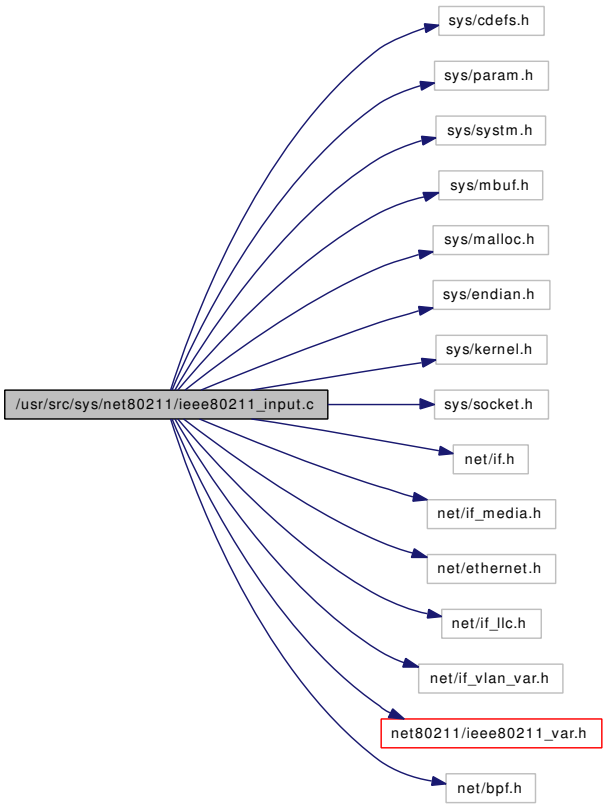
References ieee80211com::ic_sysctl.

Referenced by ieee80211_ifdetach().

## 7.16 /usr/src/sys/net80211/ieee80211_input.c File Reference

```
#include <sys/cdefs.h>
#include <sys/param.h>
#include <sys/systm.h>
#include <sys/mbuf.h>
#include <sys/malloc.h>
#include <sys/endian.h>
#include <sys/kernel.h>
#include <sys/socket.h>
#include <net/if.h>
#include <net/if_media.h>
#include <net/ethernet.h>
#include <net/if_llc.h>
#include <net/if_vlan_var.h>
#include <net80211/ieee80211_var.h>
#include <net/bpf.h>
```

Include dependency graph for ieee80211_input.c:



## Data Structures

- struct l2_update_frame

## Defines

- #define IEEE80211_DISCARD(_ic, _m, _wh, _type, _fmt,)
- #define IEEE80211_DISCARD_IE(_ic, _m, _wh, _type, _fmt,)
- #define IEEE80211_DISCARD_MAC(_ic, _m, _mac, _type, _fmt,)
- #define SEQ_LEQ(a, b) ((int)((a)-(b)) <= 0)
- #define HAS_SEQ(type) ((type & 0x4) == 0)
- #define IEEE80211_VERIFY_ELEMENT(__elem, __maxlen)
- #define IEEE80211_VERIFY_LENGTH(_len, _minlen)
- #define IEEE80211_VERIFY_SSID(_ni, _ssid)
- #define LE_READ_2(p)
- #define LE_READ_4(p)
- #define WPA_SEL(x) (((x)<<24)|WPA_OUI)
- #define WPA_SEL(x) (((x)<<24)|WPA_OUI)
- #define RSN_SEL(x) (((x)<<24)|RSN_OUI)
- #define RSN_SEL(x) (((x)<<24)|RSN_OUI)
- #define MS(_v, _f) (((_v) & _f) >> _f##_S)
- #define ISPROBE(_st) ((_st) == IEEE80211_FC0_SUBTYPE_PROBE_RESP)
- #define ISREASSOC(_st) ((_st) == IEEE80211_FC0_SUBTYPE_REASSOC_RESP)

## Functions

- __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_input.c,v 1.99 2007/02/04 05:49:16 sam Exp $")
- static struct mbuf * ieee80211_defrag (struct ieee80211com *, struct ieee80211_node *, struct mbuf *, int)
- static struct mbuf * ieee80211_decap (struct ieee80211com *, struct mbuf *, int)
- static void ieee80211_send_error (struct ieee80211com *, struct ieee80211_node *, const u_int8_t *mac, int subtype, int arg)
- static void ieee80211_deliver_data (struct ieee80211com *, struct ieee80211_node *, struct mbuf *)
- static void ieee80211_node_pwrsave (struct ieee80211_node *, int enable)
- static void ieee80211_recv_pspoll (struct ieee80211com *, struct ieee80211_node *, struct mbuf *)
- int ieee80211_input (struct ieee80211com *ic, struct mbuf *m, struct ieee80211_node *ni, int rssi, u_int32_t rstamp)
- int ieee80211_setup_rates (struct ieee80211_node *ni, const u_int8_t *rates, const u_int8_t *xrates, int flags)
- static void ieee80211_auth_open (struct ieee80211com *ic, struct ieee80211_frame *wh, struct ieee80211_node *ni, int rssi, u_int32_t rstamp, u_int16_t seq, u_int16_t status)
- static int alloc_challenge (struct ieee80211com *ic, struct ieee80211_node *ni)
- static void ieee80211_auth_shared (struct ieee80211com *ic, struct ieee80211_frame *wh, u_int8_t *frm, u_int8_t *efrm, struct ieee80211_node *ni, int rssi, u_int32_t rstamp, u_int16_t seq, u_int16_t status)
- static int __inline iswpaoui (const u_int8_t *frm)
- static int __inline iswmeoui (const u_int8_t *frm)
- static int __inline iswmeparam (const u_int8_t *frm)
- static int __inline iswmeinfo (const u_int8_t *frm)

- static int __inline isatherosoui (const u_int8_t *frm)
- static int wpa_cipher (u_int8_t *sel, u_int8_t *keylen)
- static int wpa_keymgmt (u_int8_t *sel)
- static int ieee80211_parse_wpa (struct ieee80211com *ic, u_int8_t *frm, struct ieee80211_rsnparms *rsn, const struct ieee80211_frame *wh)
- static int rsn_cipher (u_int8_t *sel, u_int8_t *keylen)
- static int rsn_keymgmt (u_int8_t *sel)
- static int ieee80211_parse_rsn (struct ieee80211com *ic, u_int8_t *frm, struct ieee80211_rsnparms *rsn, const struct ieee80211_frame *wh)
- static int ieee80211_parse_wmeparams (struct ieee80211com *ic, u_int8_t *frm, const struct ieee80211_frame *wh)
- void ieee80211_saveie (u_int8_t **iep, const u_int8_t *ie)
- static void ieee80211_deliver_l2uf (struct ieee80211_node *ni)
- void ieee80211_recv_mgmt (struct ieee80211com *ic, struct mbuf *m0, struct ieee80211_node *ni, int subtype, int rssi, u_int32_t rstamp)

## Variables

- l2_update_frame __packed

### 7.16.1 Define Documentation

#### 7.16.1.1 #define HAS_SEQ(type) ((type & 0x4) == 0)

Referenced by ieee80211_input().

#### 7.16.1.2 #define IEEE80211_DISCARD(_ic, _m, _wh, _type, _fmt)

Definition at line 105 of file ieee80211_input.c.

Referenced by ieee80211_auth_shared(), ieee80211_input(), ieee80211_recv_mgmt(), and ieee80211_recv_pspoll().

#### 7.16.1.3 #define IEEE80211_DISCARD_IE(_ic, _m, _wh, _type, _fmt)

Definition at line 106 of file ieee80211_input.c.

Referenced by ieee80211_parse_rsn(), ieee80211_parse_wmeparams(), ieee80211_parse_wpa(), and ieee80211_recv_mgmt().

#### 7.16.1.4 #define IEEE80211_DISCARD_MAC(_ic, _m, _mac, _type, _fmt)

Definition at line 107 of file ieee80211_input.c.

Referenced by ieee80211_auth_open(), ieee80211_auth_shared(), and ieee80211_input().

#### 7.16.1.5 #define IEEE80211_VERIFY_ELEMENT(__elem, __maxlen)

**Value:**

```
do {                    \
        if ((__elem) == NULL) {                                         \
                IEEE80211_DISCARD(ic, IEEE80211_MSG_ELEMID,             \
                    wh, ieee80211_mgt_subtype_name[subtype >>           \
                        IEEE80211_FC0_SUBTYPE_SHIFT],                   \
                    "%s", "no " #__elem );                              \
                ic->ic_stats.is_rx_elem_missing++;                      \
                return;                                                 \
        }                                                               \
        if ((__elem)[1] > (__maxlen)) {                                 \
                IEEE80211_DISCARD(ic, IEEE80211_MSG_ELEMID,             \
                    wh, ieee80211_mgt_subtype_name[subtype >>           \
                        IEEE80211_FC0_SUBTYPE_SHIFT],                   \
                    "bad " #__elem " len %d", (__elem)[1]);             \
                ic->ic_stats.is_rx_elem_toobig++;                       \
                return;                                                 \
        }                                                               \
} while (0)
```

Definition at line 1231 of file ieee80211_input.c.

Referenced by ieee80211_recv_mgmt().

#### 7.16.1.6 #define IEEE80211_VERIFY_LENGTH(_len, _minlen)

**Value:**

```
do {                    \
        if ((_len) < (_minlen)) {                                       \
                IEEE80211_DISCARD(ic, IEEE80211_MSG_ELEMID,             \
                    wh, ieee80211_mgt_subtype_name[subtype >>           \
                        IEEE80211_FC0_SUBTYPE_SHIFT],                   \
                    "%s", "ie too short");                              \
                ic->ic_stats.is_rx_elem_toosmall++;                     \
                return;                                                 \
        }                                                               \
} while (0)
```

Definition at line 1250 of file ieee80211_input.c.

Referenced by ieee80211_recv_mgmt().

#### 7.16.1.7 #define IEEE80211_VERIFY_SSID(_ni, _ssid)

**Value:**

```
do {                            \
        if ((_ssid)[1] != 0 &&                                          \
            ((_ssid)[1] != (_ni)->ni_esslen ||                          \
            memcmp((_ssid) + 2, (_ni)->ni_essid, (_ssid)[1]) != 0)) {   \
                ic->ic_stats.is_rx_ssidmismatch++;                      \
                return;                                                 \
        }                                                               \
} while (0)
```

Definition at line 1286 of file ieee80211_input.c.

Referenced by ieee80211_recv_mgmt().

#### 7.16.1.8 #define ISPROBE(_st) ((_st) == IEEE80211_FC0_SUBTYPE_PROBE_RESP)

Referenced by ieee80211_add_scan().

#### 7.16.1.9 #define ISREASSOC(_st) ((_st) == IEEE80211_FC0_SUBTYPE_REASSOC_RESP)

Referenced by ieee80211_recv_mgmt().

#### 7.16.1.10 #define LE_READ_2(p)

**Value:**

```
((u_int16_t)                                    \
         ((((const u_int8_t *)(p))[0]      ) |          \
          (((const u_int8_t *)(p))[1] <<  8)))
```

Definition at line 1297 of file ieee80211_input.c.

Referenced by ieee80211_parse_rsn(), ieee80211_parse_wmeparams(), ieee80211_parse_wpa(), and ieee80211_recv_mgmt().

#### 7.16.1.11 #define LE_READ_4(p)

**Value:**

```
((u_int32_t)                                    \
         ((((const u_int8_t *)(p))[0]      ) |          \
          (((const u_int8_t *)(p))[1] <<  8) |          \
          (((const u_int8_t *)(p))[2] << 16) |          \
          (((const u_int8_t *)(p))[3] << 24)))
```

Definition at line 1301 of file ieee80211_input.c.

Referenced by isatherosoui(), iswmeinfo(), iswmeoui(), iswmeparam(), iswpaoui(), rsn_cipher(), rsn_keymgmt(), wpa_cipher(), and wpa_keymgmt().

#### 7.16.1.12 #define MS(_v, _f) (((_v) & _f) >> _f##_S)

Referenced by ieee80211_parse_wmeparams().

#### 7.16.1.13 #define RSN_SEL(x) (((x)<<24)|RSN_OUI)

#### 7.16.1.14 #define RSN_SEL(x) (((x)<<24)|RSN_OUI)

Referenced by rsn_cipher(), and rsn_keymgmt().

#### 7.16.1.15 #define SEQ_LEQ(a, b) ((int)((a)-(b)) <= 0)

Referenced by ieee80211_input().

#### 7.16.1.16 #define WPA_SEL(x) (((x)<<24)|WPA_OUI)

#### 7.16.1.17 #define WPA_SEL(x) (((x)<<24)|WPA_OUI)

Referenced by wpa_cipher(), and wpa_keymgmt().

### 7.16.2 Function Documentation

#### 7.16.2.1 __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_input. *c*, v 1.99 2007/02/04 05:49:16 sam Exp $")

#### 7.16.2.2 static int alloc_challenge (struct ieee80211com * *ic*, struct ieee80211_node * *ni*) [static]

Definition at line 986 of file ieee80211_input.c.

References IEEE80211_CHALLENGE_LEN, IEEE80211_DPRINTF, IEEE80211_MSG_AUTH, IEEE80211_MSG_DEBUG, ieee80211_node::ni_challenge, and ieee80211_node::ni_macaddr.

Referenced by ieee80211_auth_shared().

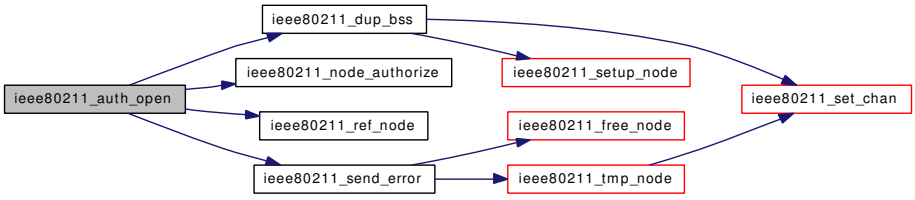
#### 7.16.2.3 static void ieee80211_auth_open (struct ieee80211com * *ic*, struct ieee80211_frame * *wh*, struct ieee80211_node * *ni*, int *rssi*, u_int32_t *rstamp*, u_int16_t *seq*, u_int16_t *status*) [static]

Definition at line 865 of file ieee80211_input.c.

References ieee80211_frame::i_addr2, ieee80211_frame::i_fc, ieee80211com::ic_bss, ieee80211com::ic_opmode, ieee80211com::ic_sta, ieee80211com::ic_state, ieee80211com::ic_stats, IEEE80211_AUTH_8021X, IEEE80211_AUTH_OPEN_REQUEST, IEEE80211_AUTH_OPEN_RESPONSE, IEEE80211_AUTH_SHARED, IEEE80211_DISCARD_MAC, IEEE80211_DPRINTF, ieee80211_dup_bss(), IEEE80211_FC0_SUBTYPE_AUTH, IEEE80211_FC0_SUBTYPE_MASK, IEEE80211_M_AHDEMO, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_M_MONITOR, IEEE80211_M_STA, IEEE80211_MSG_AUTH, IEEE80211_MSG_DEBUG, ieee80211_new_state, IEEE80211_NODE_AREF, ieee80211_node_authorize(), ieee80211_ref_node(), IEEE80211_S_ASSOC, IEEE80211_S_AUTH, IEEE80211_S_RUN, IEEE80211_S_SCAN, ieee80211_send_error(), IEEE80211_SEND_MGMT, IEEE80211_STATUS_ALG, ieee80211_stats::is_rx_auth_fail, ieee80211_stats::is_rx_bad_auth, ieee80211_node::ni_authmode, ieee80211_node::ni_challenge, ieee80211_node::ni_flags, and ieee80211_node::ni_macaddr.

Referenced by ieee80211_recv_mgmt().

Here is the call graph for this function:



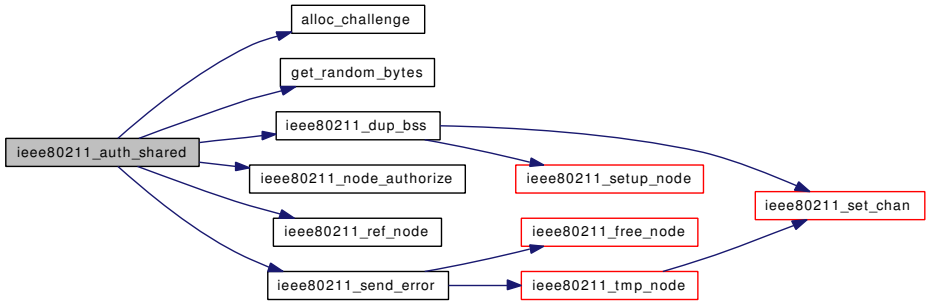
#### 7.16.2.4 static void ieee80211_auth_shared (struct ieee80211com * *ic*, struct ieee80211_frame * *wh*, u_int8_t * *frm*, u_int8_t * *efrm*, struct ieee80211_node * *ni*, int *rssi*, u_int32_t *rstamp*, u_int16_t *seq*, u_int16_t *status*) [static]

Definition at line 1002 of file ieee80211_input.c.

References alloc_challenge(), get_random_bytes(), ieee80211_frame::i_addr2, ieee80211_frame::i_fc, ieee80211com::ic_bss, ieee80211com::ic_flags, ieee80211com::ic_opmode, ieee80211com::ic_sta, ieee80211com::ic_state, ieee80211com::ic_stats, IEEE80211_AUTH_AUTO, IEEE80211_AUTH_SHARED, IEEE80211_AUTH_SHARED_CHALLENGE, IEEE80211_AUTH_SHARED_PASS, IEEE80211_AUTH_SHARED_REQUEST, IEEE80211_AUTH_SHARED_RESPONSE, IEEE80211_CHALLENGE_LEN, IEEE80211_DISCARD, IEEE80211_DISCARD_MAC, IEEE80211_DPRINTF, ieee80211_dup_bss(), IEEE80211_ELEMID_CHALLENGE, IEEE80211_F_PRIVACY, IEEE80211_FC0_SUBTYPE_AUTH, IEEE80211_FC0_SUBTYPE_MASK, IEEE80211_M_AHDEMO, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_M_MONITOR, IEEE80211_M_STA, IEEE80211_MSG_AUTH, IEEE80211_MSG_DEBUG, ieee80211_new_state, IEEE80211_NODE_AREF, ieee80211_node_authorize(), ieee80211_ref_node(), IEEE80211_S_ASSOC, IEEE80211_S_AUTH, IEEE80211_S_RUN, IEEE80211_S_SCAN, ieee80211_send_error(), IEEE80211_SEND_MGMT, IEEE80211_STATUS_ALG, IEEE80211_STATUS_CHALLENGE, IEEE80211_STATUS_SEQUENCE, ieee80211_stats::is_rx_auth_fail, ieee80211_stats::is_rx_bad_auth, ieee80211_node::ni_authmode, ieee80211_node::ni_challenge, ieee80211_node::ni_fails, ieee80211_node::ni_flags, ieee80211_node::ni_macaddr, ieee80211_node::ni_rssi, and ieee80211_node::ni_rstamp.

Referenced by ieee80211_recv_mgmt().

Here is the call graph for this function:




#### 7.16.2.5 static struct mbuf * ieee80211_decap (struct ieee80211com *, struct mbuf *, int) [static]

Definition at line 733 of file ieee80211_input.c.

References ieee80211_qosframe_addr4::i_addr1, ieee80211_qosframe_addr4::i_addr2, ieee80211_qosframe_addr4::i_addr3, ieee80211_qosframe_addr4::i_addr4, ieee80211_qosframe_addr4::i_fc, IEEE80211_ADDR_COPY, IEEE80211_FC1_DIR_DSTODS, IEEE80211_FC1_DIR_FROMDS, IEEE80211_FC1_DIR_MASK, IEEE80211_FC1_DIR_NODS, and IEEE80211_FC1_DIR_TODS.

Referenced by ieee80211_input().

#### 7.16.2.6 static struct mbuf * ieee80211_defrag (struct ieee80211com *, struct ieee80211_node *, struct mbuf *, int) [static]

Definition at line 576 of file ieee80211_input.c.

References ieee80211_frame::i_addr1, ieee80211_frame::i_addr2, ieee80211_frame::i_fc, ieee80211_frame::i_seq, ieee80211com::ic_stats, IEEE80211_ADDR_EQ, IEEE80211_FC1_MORE_FRAG, IEEE80211_IS_MULTICAST, IEEE80211_NODE_LOCK, IEEE80211_NODE_STAT, IEEE80211_NODE_UNLOCK, IEEE80211_SEQ_FRAG_MASK, ieee80211_stats::is_rx_defrag, ieee80211_node::ni_rxfrag, ieee80211_node::ni_rxfragstamp, and ieee80211_node::ni_table.

Referenced by ieee80211_input().

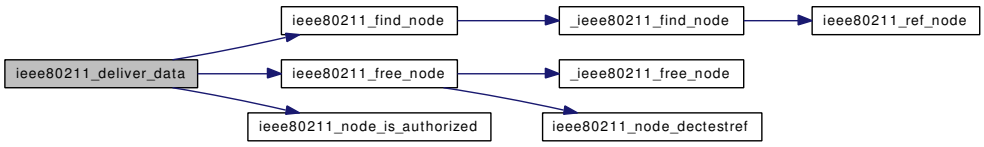
#### 7.16.2.7 static void ieee80211_deliver_data (struct ieee80211com *, struct ieee80211_node *, struct mbuf *) [static]

Definition at line 664 of file ieee80211_input.c.

References ieee80211com::ic_bss, ieee80211com::ic_flags, ieee80211com::ic_ifp, ieee80211com::ic_opmode, ieee80211com::ic_sta, ieee80211com::ic_stats, IEEE80211_F_NOBRIDGE, ieee80211_find_node(), ieee80211_free_node(), IEEE80211_M_HOSTAP, ieee80211_node_is_authorized(), IEEE80211_NODE_STAT, IEEE80211_NODE_STAT_ADD, ieee80211_stats::is_rx_unauth, and ieee80211_node::ni_vlan.

Referenced by ieee80211_deliver_l2uf(), and ieee80211_input().

Here is the call graph for this function:



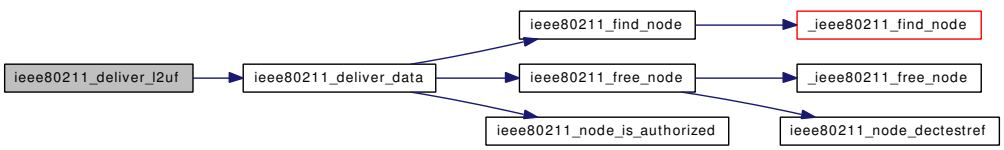

#### 7.16.2.8 static void ieee80211_deliver_l2uf (struct ieee80211_node * *ni*) [static]

Definition at line 1742 of file ieee80211_input.c.

References l2_update_frame::eh, ieee80211com::ic_ifp, IEEE80211_ADDR_COPY, ieee80211_deliver_data(), IEEE80211_MSG_ASSOC, IEEE80211_NOTE, ieee80211_node::ni_ic, and ieee80211_node::ni_macaddr.

Referenced by ieee80211_recv_mgmt().

Here is the call graph for this function:

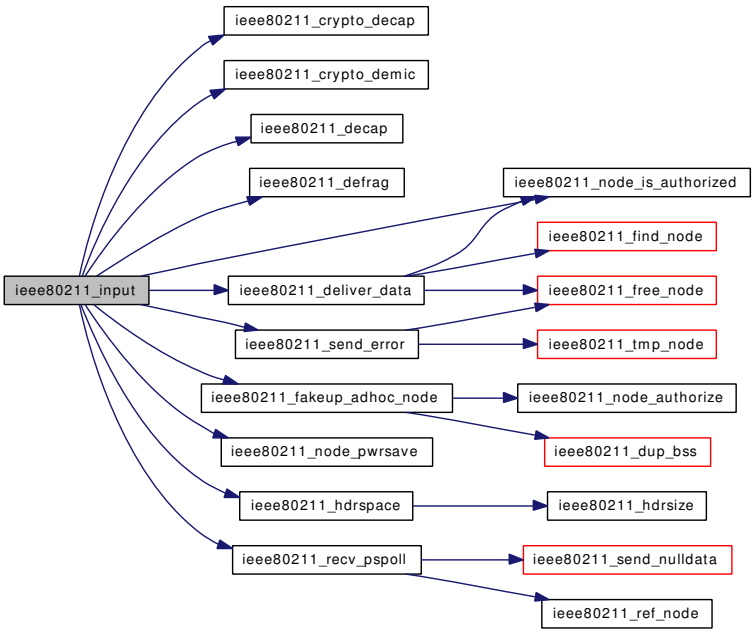


#### 7.16.2.9 int ieee80211_input (struct ieee80211com * *ic*, struct mbuf * *m*, struct ieee80211_node * *ni*, int *rssi*, u_int32_t *rstamp*)

Definition at line 132 of file ieee80211_input.c.

References HAS_SEQ, ieee80211_frame::i_addr1, ieee80211_frame::i_addr2, ieee80211_frame::i_addr3, ieee80211_frame::i_fc, ieee80211_qosframe::i_qos, ieee80211_frame::i_seq, ieee80211com::ic_bss, ieee80211com::ic_flags, ieee80211com::ic_ifp, ieee80211com::ic_myaddr, ieee80211com::ic_opmode, ieee80211com::ic_rawbpf, ieee80211com::ic_recv_mgmt, ieee80211com::ic_sta, ieee80211com::ic_stats, ieee80211com::ic_wme, IEEE80211_ADDR_EQ, IEEE80211_CRC_LEN, ieee80211_crypto_decap(), ieee80211_crypto_demic(), ieee80211_decap(), ieee80211_defrag(), ieee80211_deliver_data(), IEEE80211_DISCARD, IEEE80211_DISCARD_MAC, IEEE80211_F_DROPUNENC, IEEE80211_F_PRIVACY, IEEE80211_F_SCAN, ieee80211_fakeup_adhoc_node(), IEEE80211_FC0_SUBTYPE_AUTH, IEEE80211_FC0_SUBTYPE_DEAUTH, IEEE80211_FC0_SUBTYPE_DISASSOC, IEEE80211_FC0_SUBTYPE_MASK, IEEE80211_FC0_SUBTYPE_NODATA, IEEE80211_FC0_SUBTYPE_PS_POLL, IEEE80211_FC0_SUBTYPE_SHIFT, IEEE80211_FC0_TYPE_CTL, IEEE80211_FC0_TYPE_DATA, IEEE80211_FC0_TYPE_MASK, IEEE80211_FC0_TYPE_MGT, IEEE80211_FC0_VERSION_0, IEEE80211_FC0_VERSION_MASK, IEEE80211_FC1_DIR_FROMDS, IEEE80211_FC1_DIR_MASK, IEEE80211_FC1_DIR_NODS, IEEE80211_FC1_DIR_TODS, IEEE80211_FC1_PWR_MGT, IEEE80211_FC1_RETRY, IEEE80211_FC1_WEP, ieee80211_hdrspace(), IEEE80211_IS_MULTICAST, IEEE80211_M_AHDEMO, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_M_MONITOR, IEEE80211_M_STA, ieee80211_mgt_subtype_name, IEEE80211_MSG_ANY, ieee80211_msg_debug, ieee80211_msg_dumppkts, IEEE80211_MSG_INPUT, ieee80211_node_is_authorized(), IEEE80211_NODE_PWR_MGT, ieee80211_node_pwrsave(), IEEE80211_NODE_STAT, IEEE80211_QOS_HAS_SEQ, IEEE80211_QOS_TID, IEEE80211_REASON_NOT_ASSOCED, IEEE80211_REASON_NOT_AUTHED, ieee80211_recv_pspoll(), ieee80211_send_error(), IEEE80211_SEND_MGMT, IEEE80211_SEQ_FRAG_MASK, IEEE80211_SEQ_SEQ_SHIFT, ieee80211_stats::is_rx_ctl, ieee80211_stats::is_rx_decap, ieee80211_stats::is_rx_demicfail, ieee80211_stats::is_rx_mcastecho, ieee80211_stats::is_rx_mgmt, ieee80211_stats::is_rx_noprivacy, ieee80211_stats::is_rx_notassoc, ieee80211_stats::is_rx_unencrypted, ieee80211_stats::is_rx_wrongbss, ieee80211_node::ni_associd, ieee80211_node::ni_bssid, ieee80211_node::ni_flags, ieee80211_node::ni_inact, ieee80211_node::ni_inact_reload, ieee80211_node::ni_macaddr, ieee80211_node::ni_rssi, ieee80211_node::ni_rstamp, ieee80211_node::ni_rxseqs, SEQ_LEQ, TID_TO_WME_AC, WME_AC_VI, and ieee80211_wme_state::wme_hipri_traffic.

Here is the call graph for this function:




### 7.16.2.10 static void ieee80211_node_pwrsave (struct ieee80211_node *, int *enable*) [static]

Definition at line 2633 of file ieee80211_input.c.

References ieee80211com::ic_ifp, ieee80211com::ic_ps_sta, ieee80211com::ic_set_tim, IEEE80211_-DPRINTF, IEEE80211_MSG_POWER, IEEE80211_NODE_PWR_MGT, IEEE80211_NODE_-SAVEQ_DEQUEUE, IEEE80211_NODE_SAVEQ_QLEN, M_MORE_DATA, ieee80211_node::ni_flags, ieee80211_node::ni_ic, and ieee80211_node::ni_macaddr.

Referenced by ieee80211_input().

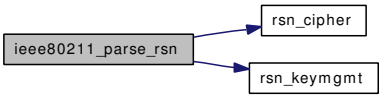
### 7.16.2.11 static int ieee80211_parse_rsn (struct ieee80211com * *ic*, u_int8_t * *frm*, struct ieee80211_rsnparms * *rsn*, const struct ieee80211_frame * *wh*) [static]

Definition at line 1566 of file ieee80211_input.c.

References ieee80211com::ic_flags, IEEE80211_CIPHER_AES_CCM, IEEE80211_CIPHER_TKIP, IEEE80211_DISCARD_IE, IEEE80211_F_WPA2, IEEE80211_MSG_ELEMID, IEEE80211_-MSG_WPA, IEEE80211_REASON_IE_INVALID, LE_READ_2, RSN_ASE_8021X_PSK, RSN_-ASE_8021X_UNSPEC, ieee80211_rsnparms::rsn_caps, rsn_cipher(), ieee80211_rsnparms::rsn_-keymgmt, rsn_keymgmt(), ieee80211_rsnparms::rsn_keymgmtset, ieee80211_rsnparms::rsn_mcastcipher, ieee80211_rsnparms::rsn_mcastkeylen, ieee80211_rsnparms::rsn_ucastcipher, ieee80211_rsnparms::rsn_-ucastcipherset, ieee80211_rsnparms::rsn_ucastkeylen, and RSN_VERSION.

Referenced by ieee80211_recv_mgmt().

Here is the call graph for this function:



#### 7.16.2.12 static int ieee80211_parse_wmeparams (struct ieee80211com * *ic*, u_int8_t * *frm*, const struct ieee80211_frame * *wh*) [static]

Definition at line 1674 of file ieee80211_input.c.

References chanAccParams::cap_info, chanAccParams::cap_wmeParams, ieee80211com::ic_wme, IEEE80211_DISCARD_IE, IEEE80211_MSG_ELEMID, IEEE80211_MSG_WME, LE_READ_2, MS, WME_NUM_AC, WME_PARAM_ACM, WME_PARAM_AIFSN, WME_PARAM_LOGCWMAX, WME_PARAM_LOGCWMIN, WME_QOSINFO_COUNT, ieee80211_wme_state::wme_wmeChanParams, and wmeParams::wmep_acm.

Referenced by ieee80211_recv_mgmt().

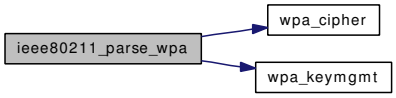
#### 7.16.2.13 static int ieee80211_parse_wpa (struct ieee80211com * *ic*, u_int8_t * *frm*, struct ieee80211_rsnparms * *rsn*, const struct ieee80211_frame * *wh*) [static]

Definition at line 1399 of file ieee80211_input.c.

References ieee80211com::ic_flags, IEEE80211_CIPHER_AES_CCM, IEEE80211_CIPHER_TKIP, IEEE80211_DISCARD_IE, IEEE80211_F_WPA1, IEEE80211_MSG_ELEMID, IEEE80211_MSG_WPA, IEEE80211_REASON_IE_INVALID, LE_READ_2, ieee80211_rsnparms::rsn_caps, ieee80211_rsnparms::rsn_keymgmt, ieee80211_rsnparms::rsn_keymgmtset, ieee80211_rsnparms::rsn_mcastcipher, ieee80211_rsnparms::rsn_mcastkeylen, ieee80211_rsnparms::rsn_ucastcipher, ieee80211_rsnparms::rsn_ucastcipherset, ieee80211_rsnparms::rsn_ucastkeylen, WPA_ASE_8021X_PSK, WPA_ASE_8021X_UNSPEC, wpa_cipher(), wpa_keymgmt(), and WPA_VERSION.

Referenced by ieee80211_recv_mgmt().

Here is the call graph for this function:




#### 7.16.2.14 void ieee80211_recv_mgmt (struct ieee80211com * *ic*, struct mbuf * *m0*, struct ieee80211_node * *ni*, int *subtype*, int *rssi*, u_int32_t *rstamp*)

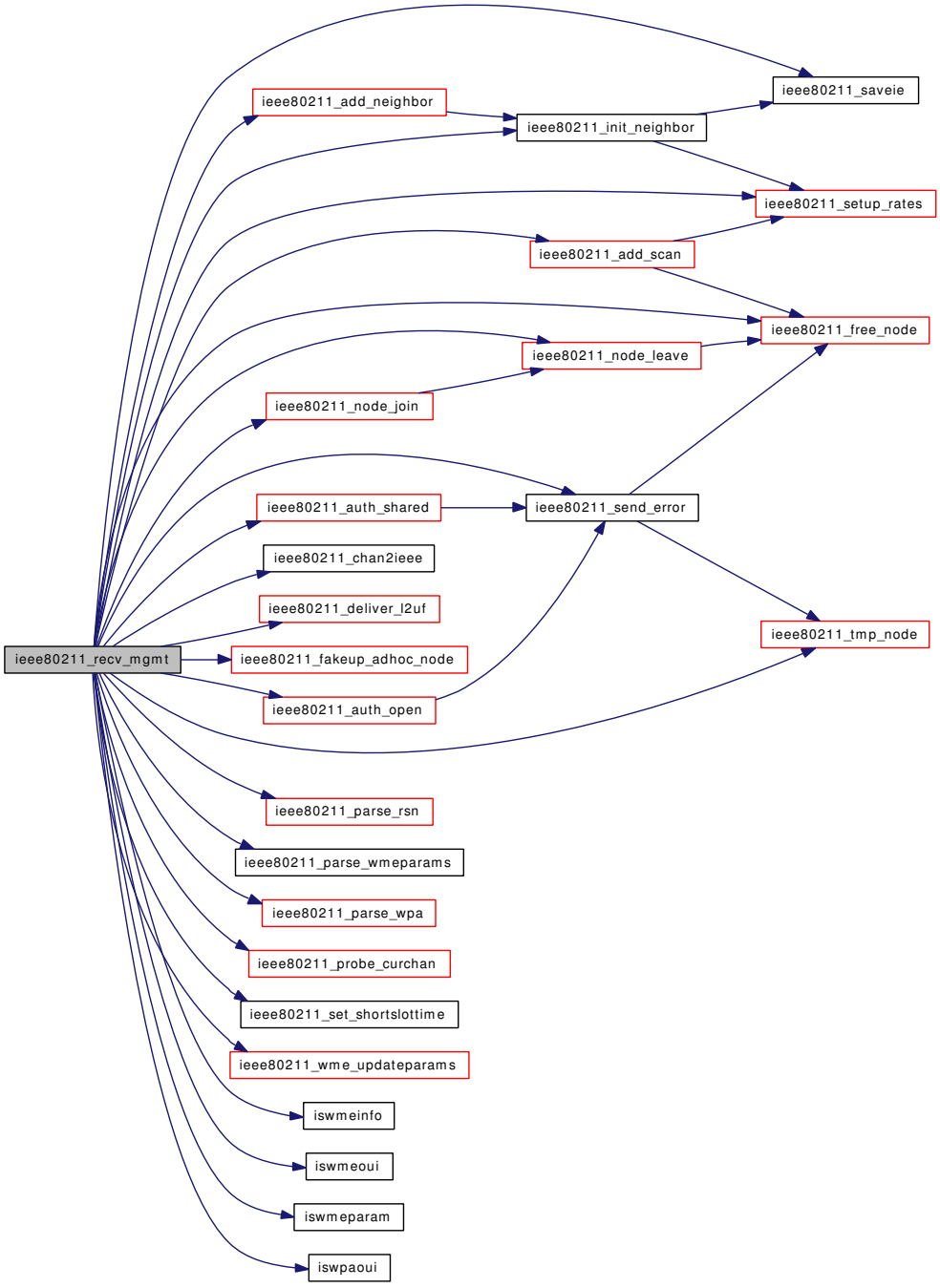
Definition at line 1777 of file ieee80211_input.c.

References ieee80211_node::data, ieee80211_frame::i_addr2, ieee80211_frame::i_addr3, ieee80211_frame::i_fc, ieee80211_aclator::iac_check, ieee80211com::ic_acl, ieee80211com::ic_bmiss_count, ieee80211com::ic_bss, ieee80211com::ic_chan_active, ieee80211com::ic_curchan, ieee80211com::ic_curmode, ieee80211com::ic_flags, ieee80211com::ic_flags_ext, ieee80211com::ic_opmode, ieee80211com::ic_phytype, ieee80211com::ic_sta, ieee80211com::ic_state, ieee80211com::ic_stats, ieee80211com::ic_swbmiss_count, ieee80211_add_neighbor(), ieee80211_add_scan(), IEEE80211_ADDR_EQ, IEEE80211_AUTH_ALG_OPEN, IEEE80211_AUTH_ALG_SHARED, ieee80211_auth_open(), ieee80211_auth_shared(), IEEE80211_BINTVAL_MAX, IEEE80211_BINTVAL_MIN, IEEE80211_CAPINFO_ESS, IEEE80211_CAPINFO_IBSS, IEEE80211_CAPINFO_SHORT_PREAMBLE, IEEE80211_CAPINFO_SHORT_SLOTTIME, ieee80211_chan2ieee(), IEEE80211_CHAN_MAX, ieee80211_deliver_l2uf(), IEEE80211_DISCARD, IEEE80211_DISCARD_IE, IEEE80211_DPRINTF, IEEE80211_ELEMID_COUNTRY, IEEE80211_ELEMID_DSPARMS, IEEE80211_ELEMID_ERP, IEEE80211_ELEMID_FHPARMS, IEEE80211_ELEMID_IBSSPARMS, IEEE80211_ELEMID_RATES, IEEE80211_ELEMID_RSN, IEEE80211_ELEMID_SSID, IEEE80211_-

ELEMID_TIM, IEEE80211_ELEMID_VENDOR, IEEE80211_ELEMID_XRATES, IEEE80211_ERP_-USE_PROTECTION, IEEE80211_F_COUNTERM, IEEE80211_F_DODEL, IEEE80211_F_DOFRATE, IEEE80211_F_DONEGO, IEEE80211_F_DOSORT, IEEE80211_F_HIDESSID, IEEE80211_F_JOIN, IEEE80211_F_PUREG, IEEE80211_F_SCAN, IEEE80211_F_SHPREAMBLE, IEEE80211_F_-SHSLOT, IEEE80211_F_USEBARKER, IEEE80211_F_USEPROT, IEEE80211_F_WPA, ieee80211_-fakeup_adhoc_node(), IEEE80211_FC0_SUBTYPE_ASSOC_REQ, IEEE80211_FC0_SUBTYPE_-ASSOC_RESP, IEEE80211_FC0_SUBTYPE_AUTH, IEEE80211_FC0_SUBTYPE_BEACON, IEEE80211_FC0_SUBTYPE_DEAUTH, IEEE80211_FC0_SUBTYPE_DISASSOC, IEEE80211_-FC0_SUBTYPE_MASK, IEEE80211_FC0_SUBTYPE_PROBE_REQ, IEEE80211_FC0_SUBTYPE_-PROBE_RESP, IEEE80211_FC0_SUBTYPE_REASSOC_REQ, IEEE80211_FC0_SUBTYPE_-REASSOC_RESP, IEEE80211_FC0_SUBTYPE_SHIFT, IEEE80211_FEXT_PROBECHAN, IEEE80211_FH_CHAN, ieee80211_free_node(), ieee80211_init_neighbor(), IEEE80211_IS_-MULTICAST, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_M_STA, ieee80211_-mgt_subtype_name, IEEE80211_MODE_11A, IEEE80211_MODE_11G, IEEE80211_MSG_ACL, IEEE80211_MSG_ANY, IEEE80211_MSG_ASSOC, IEEE80211_MSG_AUTH, IEEE80211_-MSG_CRYPTO, IEEE80211_MSG_ELEMID, IEEE80211_MSG_INPUT, IEEE80211_MSG_WPA, IEEE80211_MSG_XRATE, ieee80211_new_state, ieee80211_node_join(), ieee80211_node_leave(), IEEE80211_NODE_QOS, IEEE80211_NODE_STAT, IEEE80211_NWID_LEN, ieee80211_parse_rsn(), ieee80211_parse_wmeparams(), ieee80211_parse_wpa(), ieee80211_probe_curchan(), IEEE80211_-RATE_BASIC, IEEE80211_RATE_MAXSIZE, IEEE80211_REASON_ASSOC_NOT_AUTHED, IEEE80211_REASON_MIC_FAILURE, IEEE80211_REASON_RSN_REQUIRED, IEEE80211_-S_ASSOC, IEEE80211_S_AUTH, IEEE80211_S_RUN, IEEE80211_S_SCAN, ieee80211_saveie(), ieee80211_send_error(), IEEE80211_SEND_MGMT, ieee80211_set_shortslottime(), ieee80211_setup_-rates(), IEEE80211_STATUS_ALG, IEEE80211_STATUS_BASIC_RATE, IEEE80211_STATUS_-CAPINFO, IEEE80211_STATUS_UNSPECIFIED, IEEE80211_T_FH, ieee80211_tmp_node(), IEEE80211_VERIFY_ELEMENT, IEEE80211_VERIFY_LENGTH, IEEE80211_VERIFY_SSID, ieee80211_wme_updateparams(), ieee80211_stats::is_rx_acl, ieee80211_stats::is_rx_assoc_badwpaie, ieee80211_stats::is_rx_assoc_bss, ieee80211_stats::is_rx_assoc_capmismatch, ieee80211_stats::is_-rx_assoc_norate, ieee80211_stats::is_rx_assoc_notauth, ieee80211_stats::is_rx_auth_fail, ieee80211_-stats::is_rx_badchan, ieee80211_stats::is_rx_badsubtype, ieee80211_stats::is_rx_beacon, ieee80211_-stats::is_rx_deauth, ieee80211_stats::is_rx_disassoc, ieee80211_stats::is_rx_elem_toobig, ieee80211_-stats::is_rx_elem_unknown, ieee80211_stats::is_rx_mgtdiscard, ieee80211_stats::is_rx_ssidmismatch, ISREASSOC, iswmeinfo(), iswmeoui(), iswmeparam(), iswpaoui(), LE_READ_2, ieee80211_-node::ni_associd, ieee80211_node::ni_bssid, ieee80211_node::ni_capinfo, ieee80211_node::ni_-challenge, ieee80211_node::ni_chan, ieee80211_node::ni_dtim_count, ieee80211_node::ni_dtim_-period, ieee80211_node::ni_erp, ieee80211_node::ni_fails, ieee80211_node::ni_fhdwell, ieee80211_-node::ni_fhindex, ieee80211_node::ni_flags, ieee80211_node::ni_intval, ieee80211_node::ni_macaddr, ieee80211_node::ni_rsn, ieee80211_node::ni_rssi, ieee80211_node::ni_rstamp, ieee80211_node::ni_-tstamp, ieee80211_node::ni_wme_ie, ieee80211_node::ni_wpa_ie, ieee80211_rsnparms::rsn_caps, ieee80211_rsnparms::rsn_keymgmt, ieee80211_rsnparms::rsn_mcastcipher, ieee80211_rsnparms::rsn_-mcastkeylen, ieee80211_rsnparms::rsn_ucastcipher, ieee80211_rsnparms::rsn_ucastkeylen, ieee80211_-tim_ie::tim_count, and ieee80211_tim_ie::tim_period.

Referenced by ieee80211_proto_attach().

Here is the call graph for this function:




### 7.16.2.15 static void ieee80211_recv_pspoll (struct ieee80211com *, struct ieee80211_node *, struct mbuf *) [static]

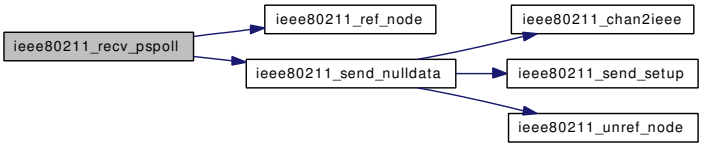
Definition at line 2693 of file ieee80211_input.c.

References ieee80211_frame_min::i_addr2, ieee80211_frame_min::i_dur, ieee80211com::ic_ifp,

ieee80211com::ic_set_tim, ieee80211com::ic_stats, IEEE80211_DISCARD, IEEE80211_DPRINTF, IEEE80211_FC0_SUBTYPE_DEAUTH, IEEE80211_MSG_DEBUG, IEEE80211_MSG_POWER, IEEE80211_NODE_SAVEQ_DEQUEUE, IEEE80211_REASON_NOT_ASSOCED, ieee80211_ref_node(), IEEE80211_SEND_MGMT, ieee80211_send_nulldata(), ieee80211_stats::is_ps_badaid, ieee80211_stats::is_ps_unassoc, M_MORE_DATA, M_PWR_SAV, ieee80211_node::ni_associd, and ieee80211_node::ni_macaddr.

Referenced by ieee80211_input().

Here is the call graph for this function:




#### 7.16.2.16 void ieee80211_saveie (u_int8_t ** *iep*, const u_int8_t * *ie*)

Definition at line 1711 of file ieee80211_input.c.

Referenced by ieee80211_init_neighbor(), ieee80211_recv_mgmt(), and saveie().

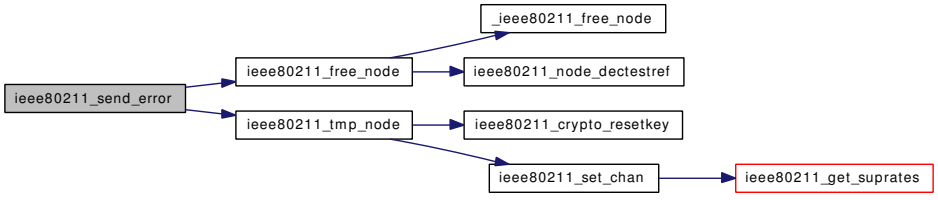
#### 7.16.2.17 static void ieee80211_send_error (struct ieee80211com *, struct ieee80211_node *, const u_int8_t * *mac*, int *subtype*, int *arg*) [static]

Definition at line 966 of file ieee80211_input.c.

References ieee80211com::ic_bss, ieee80211_free_node(), IEEE80211_SEND_MGMT, and ieee80211_tmp_node().

Referenced by ieee80211_auth_open(), ieee80211_auth_shared(), ieee80211_input(), and ieee80211_recv_mgmt().

Here is the call graph for this function:



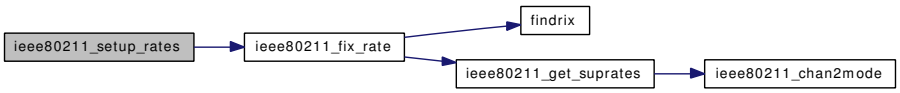

#### 7.16.2.18 int ieee80211_setup_rates (struct ieee80211_node * *ni*, const u_int8_t * *rates*, const u_int8_t * *xrates*, int *flags*)

Definition at line 835 of file ieee80211_input.c.

References ieee80211com::ic_stats, IEEE80211_DPRINTF, ieee80211_fix_rate(), IEEE80211_MSG_XRATE, IEEE80211_RATE_MAXSIZE, ieee80211_stats::is_rx_rstoobig, ieee80211_node::ni_ic, ieee80211_node::ni_macaddr, and ieee80211_node::ni_rates.

Referenced by ieee80211_add_scan(), ieee80211_init_neighbor(), and ieee80211_recv_mgmt().

Here is the call graph for this function:




#### 7.16.2.19 static int __inline isatherosoui (const u_int8_t * *frm*) [static]

Definition at line 1335 of file ieee80211_input.c.

References ATH_OUI, ATH_OUI_TYPE, and LE_READ_4.

#### 7.16.2.20 static int __inline iswmeinfo (const u_int8_t * *frm*) [static]

Definition at line 1328 of file ieee80211_input.c.

References LE_READ_4, WME_INFO_OUI_SUBTYPE, WME_OUI, and WME_OUI_TYPE.

Referenced by ieee80211_recv_mgmt().

#### 7.16.2.21 static int __inline iswmeoui (const u_int8_t * *frm*) [static]

Definition at line 1315 of file ieee80211_input.c.

References LE_READ_4, WME_OUI, and WME_OUI_TYPE.

Referenced by ieee80211_recv_mgmt().

#### 7.16.2.22 static int __inline iswmeparam (const u_int8_t * *frm*) [static]

Definition at line 1321 of file ieee80211_input.c.

References LE_READ_4, WME_OUI, WME_OUI_TYPE, and WME_PARAM_OUI_SUBTYPE.

Referenced by ieee80211_recv_mgmt().

#### 7.16.2.23 static int __inline iswpaoui (const u_int8_t * *frm*) [static]

Definition at line 1309 of file ieee80211_input.c.

References LE_READ_4, WPA_OUI, and WPA_OUI_TYPE.

Referenced by ieee80211_recv_mgmt().

#### 7.16.2.24 static int rsn_cipher (u_int8_t * *sel*, u_int8_t * *keylen*) [static]

Definition at line 1511 of file ieee80211_input.c.

References IEEE80211_CIPHER_AES_CCM, IEEE80211_CIPHER_AES_OCB, IEEE80211_CIPHER_NONE, IEEE80211_CIPHER_TKIP, IEEE80211_CIPHER_WEP, LE_READ_4, RSN_CSE_CCMP, RSN_CSE_NULL, RSN_CSE_TKIP, RSN_CSE_WEP104, RSN_CSE_WEP40, RSN_CSE_WRAP, and RSN_SEL.

Referenced by ieee80211_parse_rsn().

#### 7.16.2.25 static int rsn_keymgmt (u_int8_t * *sel*) [static]

Definition at line 1543 of file ieee80211_input.c.

References LE_READ_4, RSN_ASE_8021X_PSK, RSN_ASE_8021X_UNSPEC, RSN_ASE_NONE, and RSN_SEL.

Referenced by ieee80211_parse_rsn().

#### 7.16.2.26 static int wpa_cipher (u_int8_t * *sel*, u_int8_t * *keylen*) [static]

Definition at line 1346 of file ieee80211_input.c.

References IEEE80211_CIPHER_AES_CCM, IEEE80211_CIPHER_NONE, IEEE80211_CIPHER_-TKIP, IEEE80211_CIPHER_WEP, LE_READ_4, WPA_CSE_CCMP, WPA_CSE_NULL, WPA_CSE_-TKIP, WPA_CSE_WEP104, WPA_CSE_WEP40, and WPA_SEL.

Referenced by ieee80211_parse_wpa().

#### 7.16.2.27 static int wpa_keymgmt (u_int8_t * *sel*) [static]

Definition at line 1376 of file ieee80211_input.c.

References LE_READ_4, WPA_ASE_8021X_PSK, WPA_ASE_8021X_UNSPEC, WPA_ASE_NONE, and WPA_SEL.

Referenced by ieee80211_parse_wpa().

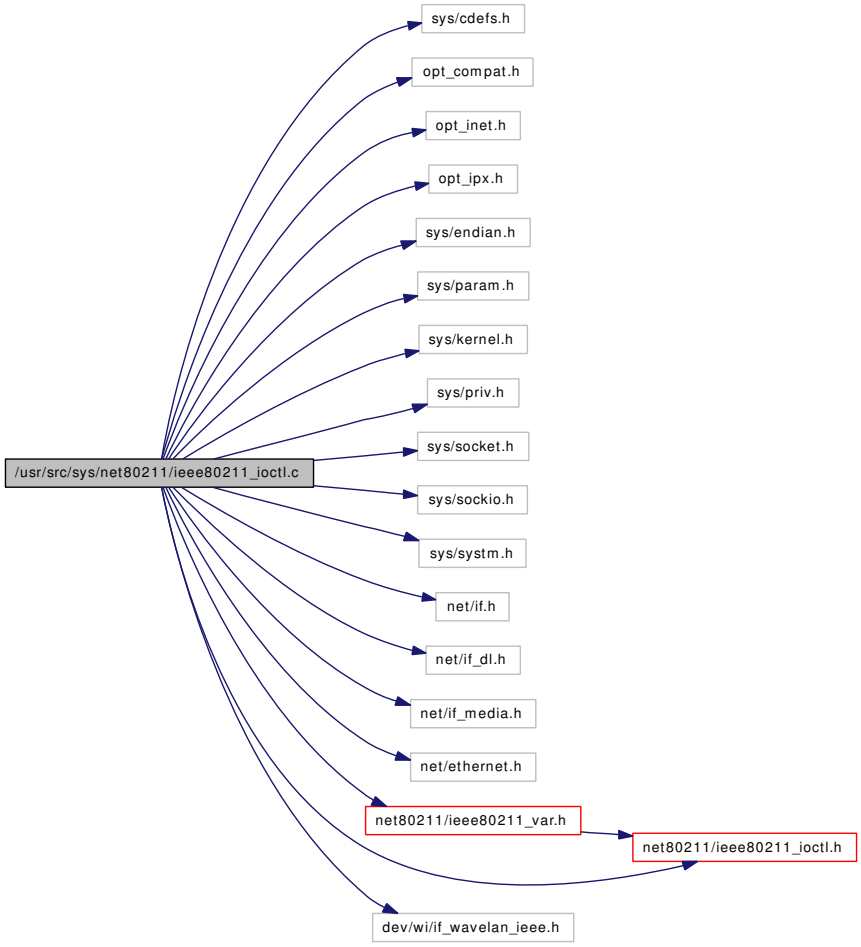
### 7.16.3 Variable Documentation

#### 7.16.3.1 struct l2_update_frame __packed

## 7.17 /usr/src/sys/net80211/ieee80211_ioctl.c File Reference

```
#include <sys/cdefs.h>
#include "opt_compat.h"
#include "opt_inet.h"
#include "opt_ipx.h"
#include <sys/endian.h>
#include <sys/param.h>
#include <sys/kernel.h>
#include <sys/priv.h>
#include <sys/socket.h>
#include <sys/sockio.h>
#include <sys/systm.h>
#include <net/if.h>
#include <net/if_dl.h>
#include <net/if_media.h>
#include <net/ethernet.h>
#include <net80211/ieee80211_var.h>
#include <net80211/ieee80211_ioctl.h>
#include <dev/wi/if_wavelan_ieee.h>
```

Include dependency graph for ieee80211_ioctl.c:




## Data Structures

- struct wi_read_ap_args
- struct wi_read_prism2_args
- struct wi_read_sigcache_args
- struct scanresultsreq
- struct stainforeq

## Defines

- #define IS_UP(_ic)
- #define IS_UP_AUTO(_ic) (IS_UP(_ic) && (_ic) → ic_roaming == IEEE80211_ROAMING_-AUTO)
- #define IEEERATE(_ic, _m, _i) ((_ic) → ic_sup_rates[_m].rs_rates[_i] & IEEE80211_RATE_VAL)

## Functions

- __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_ioctl.c,v 1.51 2006/11/06 13:42:03 rwatson Exp $")

- static void wi_read_ap_result (void *arg, struct ieee80211_node *ni)
- static void wi_read_prism2_result (void *arg, struct ieee80211_node *ni)
- static void wi_read_sigcache (void *arg, struct ieee80211_node *ni)
- int ieee80211_cfgget (struct ieee80211com *ic, u_long cmd, caddr_t data)
- static int findrate (struct ieee80211com *ic, enum ieee80211_phymode mode, int rate)
- static int ieee80211_setupscan (struct ieee80211com *ic, const u_int8_t chanlist[ ])
- int ieee80211_cfgset (struct ieee80211com *ic, u_long cmd, caddr_t data)
- static int cap2cipher (int flag)
- static int ieee80211_ioctl_getkey (struct ieee80211com *ic, struct ieee80211req *ireq)
- static int ieee80211_ioctl_getchanlist (struct ieee80211com *ic, struct ieee80211req *ireq)
- static int ieee80211_ioctl_getchaninfo (struct ieee80211com *ic, struct ieee80211req *ireq)
- static int ieee80211_ioctl_getwpaie (struct ieee80211com *ic, struct ieee80211req *ireq)
- static int ieee80211_ioctl_getstastats (struct ieee80211com *ic, struct ieee80211req *ireq)
- static size_t scan_space (const struct ieee80211_node *ni, size_t *ielen)
- static void get_scan_space (void *arg, struct ieee80211_node *ni)
- static void get_scan_result (void *arg, struct ieee80211_node *ni)
- static int ieee80211_ioctl_getscanresults (struct ieee80211com *ic, struct ieee80211req *ireq)
- static size_t sta_space (const struct ieee80211_node *ni, size_t *ielen)
- static void get_sta_space (void *arg, struct ieee80211_node *ni)
- static void get_sta_info (void *arg, struct ieee80211_node *ni)
- static int getstainfo_common (struct ieee80211com *ic, struct ieee80211req *ireq, struct ieee80211_node *ni, int off)
- static int ieee80211_ioctl_getstainfo (struct ieee80211com *ic, struct ieee80211req *ireq)
- static int ieee80211_ioctl_getstatxpow (struct ieee80211com *ic, struct ieee80211req *ireq)
- static int ieee80211_ioctl_getwmeparam (struct ieee80211com *ic, struct ieee80211req *ireq)
- static int ieee80211_ioctl_getmaccmd (struct ieee80211com *ic, struct ieee80211req *ireq)
- static int ieee80211_ioctl_get80211 (struct ieee80211com *ic, u_long cmd, struct ieee80211req *ireq)
- static int ieee80211_ioctl_setoptie (struct ieee80211com *ic, struct ieee80211req *ireq)
- static int ieee80211_ioctl_setkey (struct ieee80211com *ic, struct ieee80211req *ireq)
- static int ieee80211_ioctl_delkey (struct ieee80211com *ic, struct ieee80211req *ireq)
- static void domlme (void *arg, struct ieee80211_node *ni)
- static int ieee80211_ioctl_setmlme (struct ieee80211com *ic, struct ieee80211req *ireq)
- static int ieee80211_ioctl_macmac (struct ieee80211com *ic, struct ieee80211req *ireq)
- static int ieee80211_ioctl_setmaccmd (struct ieee80211com *ic, struct ieee80211req *ireq)
- static int ieee80211_ioctl_setchanlist (struct ieee80211com *ic, struct ieee80211req *ireq)
- static int ieee80211_ioctl_setstastats (struct ieee80211com *ic, struct ieee80211req *ireq)
- static int ieee80211_ioctl_setstatxpow (struct ieee80211com *ic, struct ieee80211req *ireq)
- static int ieee80211_ioctl_setwmeparam (struct ieee80211com *ic, struct ieee80211req *ireq)
- static int cipher2cap (int cipher)
- static int ieee80211_ioctl_set80211 (struct ieee80211com *ic, u_long cmd, struct ieee80211req *ireq)
- int ieee80211_ioctl (struct ieee80211com *ic, u_long cmd, caddr_t data)

## 7.17.1 Define Documentation

### 7.17.1.1 #define IEEERATE(_ic, _m, _i) ((_ic) → ic_sup_rates[_m].rs_rates[_i] & IEEE80211_RATE_VAL)

### 7.17.1.2 #define IS_UP(_ic)

**Value:**

```
(((_ic)->ic_ifp->if_flags & IFF_UP) &&                  \
            ((_ic)->ic_ifp->if_drv_flags & IFF_DRV_RUNNING))
```

Definition at line 73 of file ieee80211_ioctl.c.

Referenced by ieee80211_cfgset(), ieee80211_ioctl_set80211(), and ieee80211_setupscan().

### 7.17.1.3 #define IS_UP_AUTO(_ic) (IS_UP(_ic) && (_ic) → ic_roaming == IEEE80211_ROAMING_AUTO)

Definition at line 76 of file ieee80211_ioctl.c.

Referenced by ieee80211_cfgset(), and ieee80211_ioctl_set80211().

## 7.17.2 Function Documentation

### 7.17.2.1 __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_ioctl. *c*, v 1.51 2006/11/06 13:42:03 rwatson Exp $")

### 7.17.2.2 static int cap2cipher (int *flag*) [static]

Definition at line 819 of file ieee80211_ioctl.c.

References IEEE80211_C_AES, IEEE80211_C_AES_CCM, IEEE80211_C_CKIP, IEEE80211_C_TKIP, IEEE80211_C_WEP, IEEE80211_CIPHER_AES_CCM, IEEE80211_CIPHER_AES_OCB, IEEE80211_CIPHER_CKIP, IEEE80211_CIPHER_TKIP, and IEEE80211_CIPHER_WEP.

Referenced by ieee80211_ioctl_get80211().

### 7.17.2.3 static int cipher2cap (int *cipher*) [static]

Definition at line 2189 of file ieee80211_ioctl.c.

References IEEE80211_C_AES, IEEE80211_C_AES_CCM, IEEE80211_C_CKIP, IEEE80211_C_TKIP, IEEE80211_C_WEP, IEEE80211_CIPHER_AES_CCM, IEEE80211_CIPHER_AES_OCB, IEEE80211_CIPHER_CKIP, IEEE80211_CIPHER_TKIP, and IEEE80211_CIPHER_WEP.

Referenced by ieee80211_ioctl_set80211().

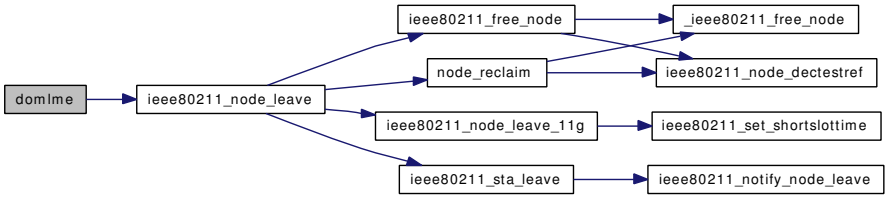
### 7.17.2.4 static void domlme (void * *arg*, struct ieee80211_node * *ni*) [static]

Definition at line 1864 of file ieee80211_ioctl.c.

References IEEE80211_FC0_SUBTYPE_DEAUTH, IEEE80211_FC0_SUBTYPE_DISASSOC, IEEE80211_MLME_DEAUTH, ieee80211_node_leave(), IEEE80211_SEND_MGMT, ieee80211req_mlme::im_op, ieee80211req_mlme::im_reason, ieee80211_node::ni_associd, and ieee80211_node::ni_ic.

Referenced by ieee80211_ioctl_setmlme().

Here is the call graph for this function:




#### 7.17.2.5 static int findrate (struct ieee80211com * *ic*, enum ieee80211_phymode *mode*, int *rate*) [static]

Definition at line 433 of file ieee80211_ioctl.c.

References ieee80211com::ic_sup_rates, IEEERATE, and ieee80211_rateset::rs_nrates.

#### 7.17.2.6 static void get_scan_result (void * *arg*, struct ieee80211_node * *ni*) [static]

Definition at line 1120 of file ieee80211_ioctl.c.

References ieee80211_channel::ic_flags, ieee80211_channel::ic_freq, ieee80211com::ic_node_getrssi, IEEE80211_ADDR_COPY, IEEE80211_CHAN_ANYC, ieee80211req_scan_result::isr_bssid, ieee80211req_scan_result::isr_capinfo, ieee80211req_scan_result::isr_erp, ieee80211req_scan_result::isr_flags, ieee80211req_scan_result::isr_freq, ieee80211req_scan_result::isr_ie_len, ieee80211req_scan_result::isr_intval, ieee80211req_scan_result::isr_len, ieee80211req_scan_result::isr_nrates, ieee80211req_scan_result::isr_rates, ieee80211req_scan_result::isr_rssi, ieee80211req_scan_result::isr_ssid_len, ieee80211_node::ni_bssid, ieee80211_node::ni_capinfo, ieee80211_node::ni_chan, ieee80211_node::ni_erp, ieee80211_node::ni_essid, ieee80211_node::ni_esslen, ieee80211_node::ni_ic, ieee80211_node::ni_intval, ieee80211_node::ni_rates, ieee80211_node::ni_wme_ie, ieee80211_node::ni_wpa_ie, ieee80211_rateset::rs_nrates, ieee80211_rateset::rs_rates, scan_space(), scanresultsreq::space, and scanresultsreq::sr.

Referenced by ieee80211_ioctl_getscanresults().

Here is the call graph for this function:


#### 7.17.2.7 static void get_scan_space (void * *arg*, struct ieee80211_node * *ni*) [static]

Definition at line 1111 of file ieee80211_ioctl.c.

References scan_space(), and scanresultsreq::space.

Referenced by ieee80211_ioctl_getscanresults().

Here is the call graph for this function:

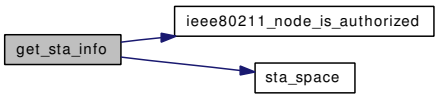

#### 7.17.2.8 static void get_sta_info (void * *arg*, struct ieee80211_node * *ni*) [static]

Definition at line 1235 of file ieee80211_ioctl.c.

References ieee80211_channel::ic_flags, ieee80211_channel::ic_freq, ieee80211com::ic_inact_auth, ieee80211com::ic_inact_init, ieee80211com::ic_inact_run, ieee80211com::ic_node_getrssi, ieee80211com::ic_opmode, IEEE80211_ADDR_COPY, IEEE80211_CHAN_ANYC, IEEE80211_INACT_WAIT, IEEE80211_M_HOSTAP, ieee80211_node_is_authorized(), IEEE80211_NODE_QOS, ieee80211req_sta_info::isi_associd, ieee80211req_sta_info::isi_authmode, ieee80211req_sta_info::isi_capinfo, ieee80211req_sta_info::isi_erp, ieee80211req_sta_info::isi_flags, ieee80211req_sta_info::isi_freq, ieee80211req_sta_info::isi_ie_len, ieee80211req_sta_info::isi_inact, ieee80211req_sta_info::isi_len, ieee80211req_sta_info::isi_macaddr, ieee80211req_sta_info::isi_noise, ieee80211req_sta_info::isi_nrates, ieee80211req_sta_info::isi_rates, ieee80211req_sta_info::isi_rssi, ieee80211req_sta_info::isi_rxseqs, ieee80211req_sta_info::isi_state, ieee80211req_sta_info::isi_txpower, ieee80211req_sta_info::isi_txrate, ieee80211req_sta_info::isi_txseqs, ieee80211req_sta_info::isi_vlan, ieee80211_node::ni_associd, ieee80211_node::ni_authmode, ieee80211_node::ni_capinfo, ieee80211_node::ni_chan, ieee80211_node::ni_erp, ieee80211_node::ni_flags, ieee80211_node::ni_ic, ieee80211_node::ni_inact, ieee80211_node::ni_macaddr, ieee80211_node::ni_rates, ieee80211_node::ni_rxseqs, ieee80211_node::ni_txpower, ieee80211_node::ni_txrate, ieee80211_node::ni_txseqs, ieee80211_node::ni_vlan, ieee80211_node::ni_wme_ie, ieee80211_node::ni_wpa_ie, ieee80211_rateset::rs_nrates, ieee80211_rateset::rs_rates, stainforeq::si, stainforeq::space, and sta_space().

Referenced by getstainfo_common().

Here is the call graph for this function:




#### 7.17.2.9 static void get_sta_space (void * *arg*, struct ieee80211_node * *ni*) [static]

Definition at line 1222 of file ieee80211_ioctl.c.

References ieee80211com::ic_opmode, IEEE80211_M_HOSTAP, ieee80211_node::ni_associd, ieee80211_node::ni_ic, stainforeq::space, and sta_space().

Referenced by getstainfo_common().

Here is the call graph for this function:

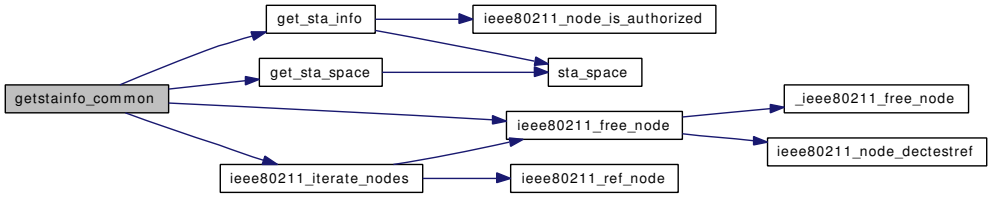

#### 7.17.2.10 static int getstainfo_common (struct ieee80211com * *ic*, struct ieee80211req * *ireq*, struct ieee80211_node * *ni*, int *off*) [static]

Definition at line 1303 of file ieee80211_ioctl.c.

References get_sta_info(), get_sta_space(), ieee80211req::i_data, ieee80211req::i_len, stainforeq::ic, ieee80211com::ic_sta, ieee80211_free_node(), ieee80211_iterate_nodes(), stainforeq::si, and stainforeq::space.

Referenced by ieee80211_ioctl_getstainfo().

Here is the call graph for this function:



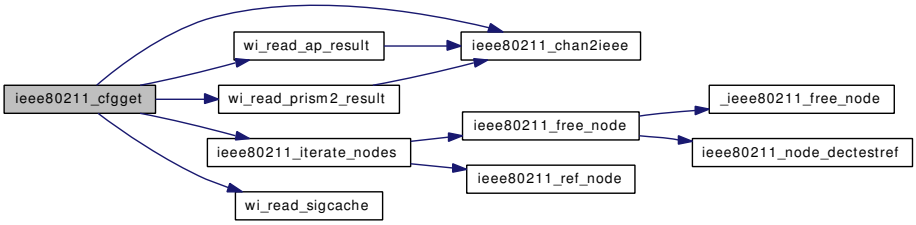

### 7.17.2.11 int ieee80211_cfgget (struct ieee80211com * *ic*, u_long *cmd*, caddr_t *data*)

Definition at line 190 of file ieee80211_ioctl.c.

References wi_read_ap_args::ap, wi_read_ap_args::i, wi_read_prism2_args::i, wi_read_sigcache_args::i, ieee80211com::ic_bss, ieee80211com::ic_chan_active, ieee80211com::ic_curchan, ieee80211com::ic_curmode, ieee80211com::ic_des_essid, ieee80211com::ic_des_esslen, ieee80211com::ic_fixed_rate, ieee80211com::ic_flags, ieee80211com::ic_fragthreshold, ieee80211com::ic_ibss_chan, ieee80211com::ic_ifp, ieee80211com::ic_lintval, ieee80211com::ic_myaddr, ieee80211com::ic_node_getrssi, ieee80211com::ic_opmode, ieee80211com::ic_phytype, ieee80211com::ic_roaming, ieee80211com::ic_rtsthreshold, ieee80211com::ic_scan, ieee80211com::ic_state, ieee80211com::ic_sup_rates, IEEE80211_ADDR_COPY, IEEE80211_ADDR_LEN, ieee80211_chan2ieee(), IEEE80211_CHAN_MAX, IEEE80211_F_ASCAN, IEEE80211_F_IBSSON, IEEE80211_F_PMGTON, IEEE80211_F_PRIVACY, IEEE80211_F_SCAN, IEEE80211_FIXED_RATE_NONE, ieee80211_iterate_nodes(), IEEE80211_RATE_VAL, IEEE80211_S_RUN, IEEE80211_T_DS, IEEE80211_WEP_NKID, wi_read_ap_args::max, wi_read_prism2_args::max, wi_read_sigcache_args::max, ieee80211_node::ni_bssid, ieee80211_node::ni_essid, ieee80211_node::ni_esslen, ieee80211_node::ni_intval, ieee80211_node::ni_rates, ieee80211_node::ni_txrate, wi_read_prism2_args::res, ieee80211_rateset::rs_rates, wi_read_ap_result(), wi_read_prism2_result(), wi_read_sigcache(), and wi_read_sigcache_args::wsc.

Referenced by ieee80211_ioctl().

Here is the call graph for this function:



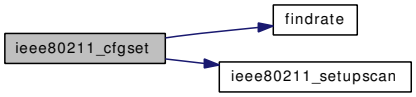
#### 7.17.2.12 int ieee80211_cfgset (struct ieee80211com * *ic*, u_long *cmd*, caddr_t *data*)

Definition at line 477 of file ieee80211_ioctl.c.

References findrate(), ieee80211com::ic_bss, ieee80211com::ic_caps, ieee80211com::ic_chan_active, ieee80211com::ic_chan_avail, ieee80211com::ic_channels, ieee80211com::ic_curmode, ieee80211com::ic_des_essid, ieee80211com::ic_des_esslen, ieee80211com::ic_fixed_rate, ieee80211com::ic_flags, ieee80211com::ic_fragthreshold, ieee80211com::ic_ibss_chan, ieee80211com::ic_ifp, ieee80211com::ic_lintval, ieee80211com::ic_modecaps, ieee80211com::ic_opmode, ieee80211com::ic_phytype, ieee80211com::ic_reset, ieee80211com::ic_roaming, ieee80211com::ic_state, IEEE80211_ADDR_COPY, IEEE80211_ADDR_LEN, IEEE80211_AUTH_WPA, IEEE80211_C_AHDEMO, IEEE80211_C_HOSTAP, IEEE80211_C_IBSS, IEEE80211_C_PMGT, IEEE80211_C_WEP, IEEE80211_CHAN_MAX, IEEE80211_CIPHER_WEP, IEEE80211_F_IBSSON, IEEE80211_F_PMGTON, IEEE80211_F_PRIVACY, IEEE80211_F_SIBSS, IEEE80211_FIXED_RATE_NONE, IEEE80211_KEY_RECV, IEEE80211_KEY_XMIT, IEEE80211_KEYBUF_SIZE, IEEE80211_M_AHDEMO, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_M_MONITOR, IEEE80211_M_STA, IEEE80211_MAX_LEN, IEEE80211_MODE_11A, IEEE80211_MODE_AUTO, IEEE80211_MODE_MAX, ieee80211_new_state, IEEE80211_NWID_LEN, IEEE80211_ROAMING_MANUAL, IEEE80211_S_SCAN, ieee80211_setupscan(), IEEE80211_T_DS, IEEE80211_WEP_KEYLEN, IEEE80211_WEP_NKID, IS_UP, IS_UP_AUTO, and ieee80211_node::ni_authmode.

Referenced by ieee80211_ioctl().

Here is the call graph for this function:

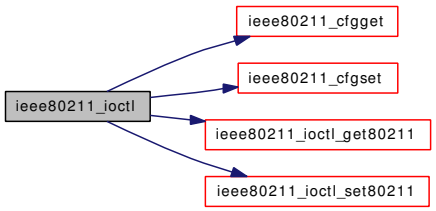



#### 7.17.2.13 int ieee80211_ioctl (struct ieee80211com * *ic*, u_long *cmd*, caddr_t *data*)

Definition at line 2678 of file ieee80211_ioctl.c.

References ieee80211com::ic_ifp, ieee80211com::ic_media, ieee80211com::ic_stats, ieee80211_cfgget(), ieee80211_cfgset(), ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), IEEE80211_MTU_MAX, SIOCG80211, SIOCG80211STATS, and SIOCS80211.

Here is the call graph for this function:



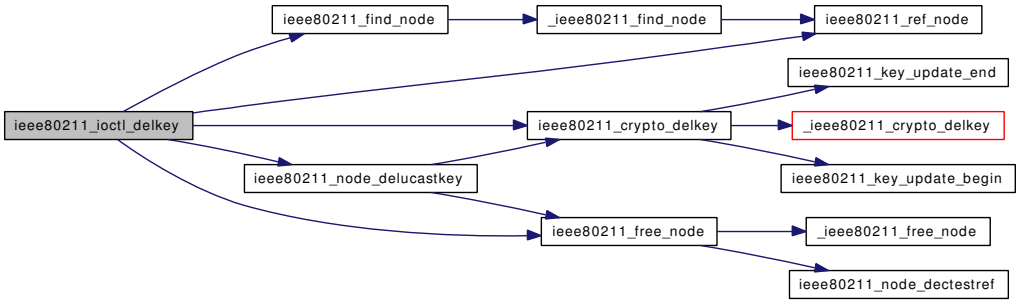

#### 7.17.2.14 static int ieee80211_ioctl_delkey (struct ieee80211com * *ic*, struct ieee80211req * *ireq*) [static]

Definition at line 1825 of file ieee80211_ioctl.c.

References ieee80211req::i_data, ieee80211req::i_len, ieee80211com::ic_bss, ieee80211com::ic_opmode, ieee80211com::ic_sta, IEEE80211_ADDR_EQ, ieee80211_crypto_delkey(), ieee80211_find_node(), ieee80211_free_node(), IEEE80211_KEYIX_NONE, IEEE80211_M_STA, ieee80211_node_delucastkey(), ieee80211_ref_node(), IEEE80211_WEP_NKID, and ieee80211_node::ni_bssid.

Referenced by ieee80211_ioctl_set80211().

Here is the call graph for this function:




### 7.17.2.15 static int ieee80211_ioctl_get80211 (struct ieee80211com * *ic*, u_long *cmd*, struct ieee80211req * *ireq*) [static]

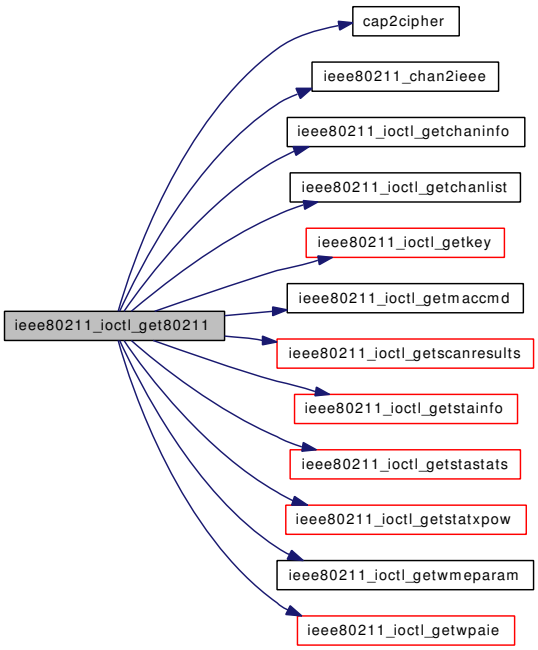
Definition at line 1473 of file ieee80211_ioctl.c.

References cap2cipher(), ieee80211req::i_data, ieee80211req::i_len, ieee80211req::i_type, ieee80211req::i_val, ieee80211com::ic_bmissthreshold, ieee80211com::ic_bss, ieee80211com::ic_caps, ieee80211com::ic_curchan, ieee80211com::ic_des_bssid, ieee80211com::ic_des_essid, ieee80211com::ic_des_esslen, ieee80211com::ic_dtim_period, ieee80211com::ic_flags, ieee80211com::ic_fragthreshold, ieee80211com::ic_lintval, ieee80211com::ic_mcast_rate, ieee80211com::ic_opt_ie, ieee80211com::ic_opt_ie_len, ieee80211com::ic_protmode, ieee80211com::ic_roaming, ieee80211com::ic_rtsthreshold, ieee80211com::ic_state, ieee80211com::ic_txpowlimit, IEEE80211_ADDR_LEN, IEEE80211_AUTH_WPA, IEEE80211_C_TXPMGT, ieee80211_chan2ieee(), IEEE80211_F_BURST, IEEE80211_F_COUNTERM, IEEE80211_F_DROPUNENC, IEEE80211_F_HIDESSID, IEEE80211_F_NOBRIDGE, IEEE80211_F_PMGTON, IEEE80211_F_PRIVACY, IEEE80211_F_PUREG, IEEE80211_F_WME, IEEE80211_F_WPA, IEEE80211_F_WPA1, IEEE80211_F_WPA2, IEEE80211_IOC_APBRIDGE, IEEE80211_IOC_AUTHMODE, IEEE80211_IOC_BEACON_INTERVAL, IEEE80211_IOC_BMISSTHRESHOLD, IEEE80211_IOC_BSSID, IEEE80211_IOC_BURST, IEEE80211_IOC_CHANINFO, IEEE80211_IOC_CHANLIST, IEEE80211_IOC_CHANNEL, IEEE80211_IOC_COUNTERMEASURES, IEEE80211_IOC_DRIVER_CAPS, IEEE80211_IOC_DROPUNENCRYPTED, IEEE80211_IOC_DTIM_PERIOD, IEEE80211_IOC_FRAGTHRESHOLD, IEEE80211_IOC_HIDESSID, IEEE80211_IOC_KEYMGTALGS, IEEE80211_IOC_MACCMD, IEEE80211_IOC_MCAST_RATE, IEEE80211_IOC_MCASTCIPHER, IEEE80211_IOC_MCASTKEYLEN, IEEE80211_IOC_NUMSSIDS, IEEE80211_IOC_NUMWEPKEYS, IEEE80211_IOC_OPTIE, IEEE80211_IOC_POWERSAVE, IEEE80211_IOC_POWERSAVESLEEP, IEEE80211_IOC_PRIVACY, IEEE80211_IOC_PROTMODE, IEEE80211_IOC_PUREG, IEEE80211_IOC_ROAMING, IEEE80211_IOC_RSNCAPS, IEEE80211_IOC_RTSTHRESHOLD, IEEE80211_IOC_SCAN_RESULTS, IEEE80211_IOC_SSID, IEEE80211_IOC_STA_INFO, IEEE80211_IOC_STA_STATS, IEEE80211_IOC_STA_TXPOW, IEEE80211_IOC_TXPOWER, IEEE80211_IOC_TXPOWMAX, IEEE80211_IOC_UCASTCIPHER, IEEE80211_IOC_UCASTCIPHERS, IEEE80211_IOC_UCASTKEYLEN, IEEE80211_IOC_WEP, IEEE80211_IOC_WEPKEY, IEEE80211_IOC_WEPTXKEY, IEEE80211_IOC_WME, IEEE80211_IOC_WME_ACKPOLICY, IEEE80211_IOC_WME_ACM, IEEE80211_IOC_WME_AIFS, IEEE80211_IOC_WME_CWMAX, IEEE80211_IOC_

WME_CWMIN, IEEE80211_IOC_WME_TXOPLIMIT, IEEE80211_IOC_WPA, IEEE80211_IOC_-WPAIE, IEEE80211_IOC_WPAKEY, ieee80211_ioctl_getchaninfo(), ieee80211_ioctl_getchanlist(), ieee80211_ioctl_getkey(), ieee80211_ioctl_getmaccmd(), ieee80211_ioctl_getscanresults(), ieee80211_-ioctl_getstainfo(), ieee80211_ioctl_getstastats(), ieee80211_ioctl_getstatxpow(), ieee80211_ioctl_-getwmeparam(), ieee80211_ioctl_getwpaie(), IEEE80211_KEYBUF_SIZE, IEEE80211_NWID_-LEN, IEEE80211_POWERSAVE_OFF, IEEE80211_POWERSAVE_ON, IEEE80211_S_INIT, IEEE80211_S_RUN, IEEE80211_S_SCAN, IEEE80211_WEP_MIXED, IEEE80211_WEP_NKID, IEEE80211_WEP_OFF, IEEE80211_WEP_ON, ieee80211_node::ni_authmode, ieee80211_node::ni_-bssid, ieee80211_node::ni_essid, ieee80211_node::ni_esslen, ieee80211_node::ni_intval, ieee80211_-node::ni_rsn, ieee80211_node::ni_txpower, ieee80211_rsnparms::rsn_caps, ieee80211_rsnparms::rsn_-keymgmtset, ieee80211_rsnparms::rsn_mcastcipher, ieee80211_rsnparms::rsn_mcastkeylen, ieee80211_-rsnparms::rsn_ucastcipher, ieee80211_rsnparms::rsn_ucastcipherset, and ieee80211_rsnparms::rsn_-ucastkeylen.

Referenced by ieee80211_ioctl().

Here is the call graph for this function:




### 7.17.2.16 static int ieee80211_ioctl_getchaninfo (struct ieee80211com * *ic*, struct ieee80211req * *ireq*) [static]

Definition at line 896 of file ieee80211_ioctl.c.

References ieee80211com::ic_chan_avail, ieee80211com::ic_channels, ieee80211_channel::ic_freq, ieee80211com::ic_phytype, IEEE80211_CHAN_MAX, and IEEE80211_T_DS.

Referenced by ieee80211_ioctl_get80211().

#### 7.17.2.17 static int ieee80211_ioctl_getchanlist (struct ieee80211com * *ic*, struct ieee80211req * *ireq*) [static]

Definition at line 887 of file ieee80211_ioctl.c.

References ieee80211req::i_data, ieee80211req::i_len, and ieee80211com::ic_chan_active.

Referenced by ieee80211_ioctl_get80211().

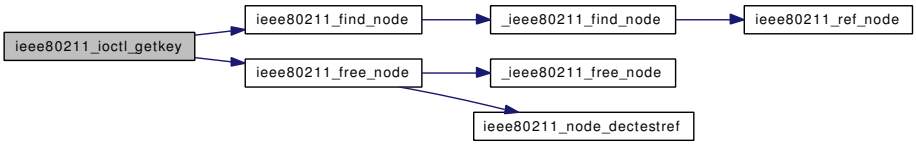
#### 7.17.2.18 static int ieee80211_ioctl_getkey (struct ieee80211com * *ic*, struct ieee80211req * *ireq*) [static]

Definition at line 832 of file ieee80211_ioctl.c.

References ieee80211req::i_data, ieee80211req::i_len, ieee80211com::ic_bss, ieee80211_cipher::ic_cipher, ieee80211com::ic_sta, IEEE80211_ADDR_COPY, IEEE80211_CIPHER_TKIP, ieee80211_find_node(), ieee80211_free_node(), IEEE80211_KEY_DEFAULT, IEEE80211_KEY_RECV, IEEE80211_KEY_XMIT, IEEE80211_KEYBUF_SIZE, IEEE80211_KEYIX_NONE, IEEE80211_MICBUF_SIZE, IEEE80211_WEP_NKID, ieee80211_node::ni_macaddr, ieee80211_node::ni_ucastkey, ieee80211_key::wk_cipher, ieee80211_key::wk_flags, ieee80211_key::wk_key, ieee80211_key::wk_keyix, ieee80211_key::wk_keylen, ieee80211_key::wk_keyrsc, and ieee80211_key::wk_keytsc.

Referenced by ieee80211_ioctl_get80211().

Here is the call graph for this function:




#### 7.17.2.19 static int ieee80211_ioctl_getmaccmd (struct ieee80211com * *ic*, struct ieee80211req * *ireq*) [static]

Definition at line 1446 of file ieee80211_ioctl.c.

References acl, ieee80211_aclator::iac_getioctl, and ieee80211com::ic_acl.

Referenced by ieee80211_ioctl_get80211().

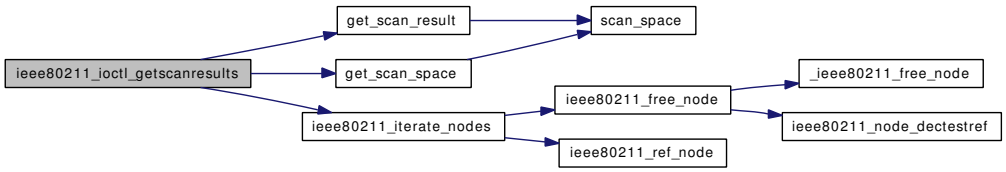
#### 7.17.2.20 static int ieee80211_ioctl_getscanresults (struct ieee80211com * *ic*, struct ieee80211req * *ireq*) [static]

Definition at line 1170 of file ieee80211_ioctl.c.

References get_scan_result(), get_scan_space(), ieee80211req::i_data, ieee80211req::i_len, ieee80211com::ic_scan, ieee80211_iterate_nodes(), scanresultsreq::space, and scanresultsreq::sr.

Referenced by ieee80211_ioctl_get80211().

Here is the call graph for this function:



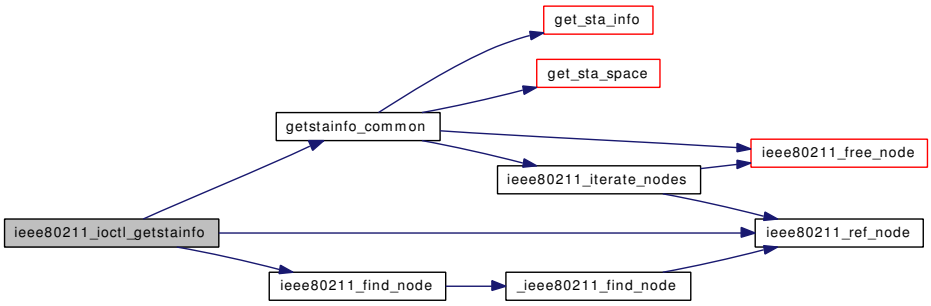

#### 7.17.2.21 static int ieee80211_ioctl_getstainfo (struct ieee80211com * *ic*, struct ieee80211req * *ireq*) [static]

Definition at line 1344 of file ieee80211_ioctl.c.

References getstainfo_common(), ieee80211req::i_data, ieee80211req::i_len, ieee80211com::ic_bss, ieee80211com::ic_ifp, ieee80211com::ic_opmode, ieee80211com::ic_sta, IEEE80211_ADDR_EQ, IEEE80211_ADDR_LEN, ieee80211_find_node(), IEEE80211_M_STA, and ieee80211_ref_node().

Referenced by ieee80211_ioctl_get80211().

Here is the call graph for this function:



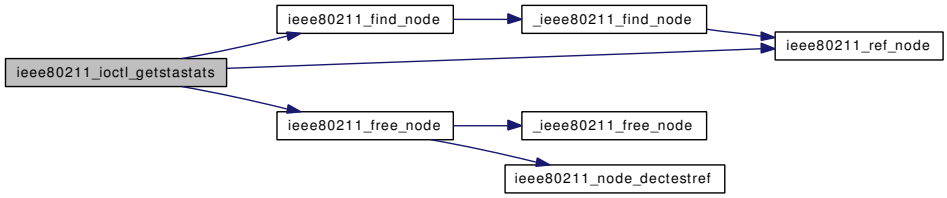

#### 7.17.2.22 static int ieee80211_ioctl_getstastats (struct ieee80211com * *ic*, struct ieee80211req * *ireq*) [static]

Definition at line 953 of file ieee80211_ioctl.c.

References ieee80211req::i_data, ieee80211req::i_len, ieee80211com::ic_bss, ieee80211com::ic_opmode, ieee80211com::ic_sta, IEEE80211_ADDR_LEN, ieee80211_find_node(), ieee80211_free_node(), IEEE80211_M_STA, ieee80211_ref_node(), and ieee80211_node::ni_stats.

Referenced by ieee80211_ioctl_get80211().

Here is the call graph for this function:



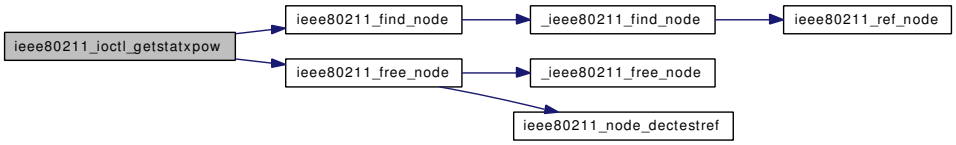
#### 7.17.2.23 static int ieee80211_ioctl_getstatxpow (struct ieee80211com * *ic*, struct ieee80211req * *ireq*) [static]

Definition at line 1383 of file ieee80211_ioctl.c.

References ieee80211req::i_data, ieee80211req::i_len, ieee80211com::ic_sta, ieee80211_find_node(), ieee80211_free_node(), and ieee80211_node::ni_txpower.

Referenced by ieee80211_ioctl_get80211().

Here is the call graph for this function:




#### 7.17.2.24 static int ieee80211_ioctl_getwmeparam (struct ieee80211com * *ic*, struct ieee80211req * *ireq*) [static]

Definition at line 1404 of file ieee80211_ioctl.c.

References chanAccParams::cap_wmeParams, ieee80211req::i_len, ieee80211req::i_type, ieee80211req::i_val, ieee80211com::ic_caps, ieee80211com::ic_wme, IEEE80211_C_WME, IEEE80211_IOC_WME_ACKPOLICY, IEEE80211_IOC_WME_ACM, IEEE80211_IOC_WME_AIFS, IEEE80211_IOC_WME_CWMAX, IEEE80211_IOC_WME_CWMIN, IEEE80211_IOC_WME_TXOPLIMIT, IEEE80211_WMEPARAM_BSS, IEEE80211_WMEPARAM_VAL, WME_AC_BE, WME_NUM_AC, ieee80211_wme_state::wme_wmeBssChanParams, ieee80211_wme_state::wme_wmeChanParams, wmeParams::wmep_acm, wmeParams::wmep_aifsn, wmeParams::wmep_logcwmax, wmeParams::wmep_logcwmin, wmeParams::wmep_noackPolicy, and wmeParams::wmep_txopLimit.

Referenced by ieee80211_ioctl_get80211().

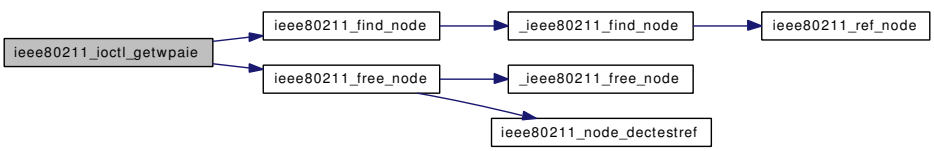
#### 7.17.2.25 static int ieee80211_ioctl_getwpaie (struct ieee80211com * *ic*, struct ieee80211req * *ireq*) [static]

Definition at line 925 of file ieee80211_ioctl.c.

References ieee80211req::i_data, ieee80211req::i_len, ieee80211com::ic_sta, IEEE80211_ADDR_LEN, ieee80211_find_node(), ieee80211_free_node(), ieee80211_node::ni_wpa_ie, ieee80211req_wpaie::wpa_ie, and ieee80211req_wpaie::wpa_macaddr.

Referenced by ieee80211_ioctl_get80211().

Here is the call graph for this function:



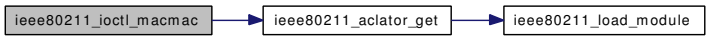
#### 7.17.2.26 static int ieee80211_ioctl_macmac (struct ieee80211com * *ic*, struct ieee80211req * *ireq*) [static]

Definition at line 1963 of file ieee80211_ioctl.c.

References acl, ieee80211req::i_data, ieee80211req::i_len, ieee80211req::i_type, ieee80211_aclator::iac_add, ieee80211_aclator::iac_attach, ieee80211_aclator::iac_remove, ieee80211com::ic_acl, ieee80211_aclator_get(), IEEE80211_ADDR_LEN, IEEE80211_IOC_ADDMAC, and mac.

Referenced by ieee80211_ioctl_set80211().

Here is the call graph for this function:




#### 7.17.2.27 static int ieee80211_ioctl_set80211 (struct ieee80211com * *ic*, u_long *cmd*, struct ieee80211req * *ireq*) [static]

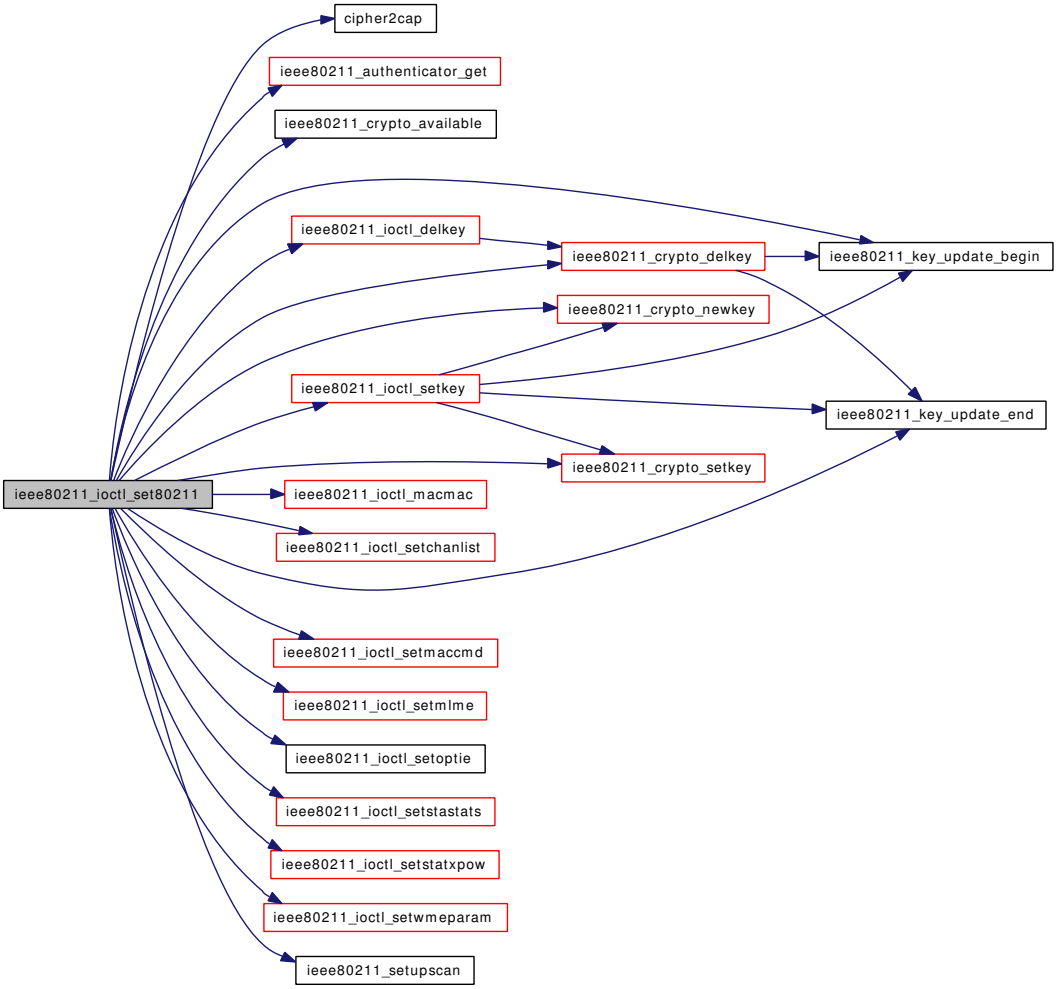
Definition at line 2202 of file ieee80211_ioctl.c.

References cipher2cap(), ieee80211req::i_data, ieee80211req::i_len, ieee80211req::i_type, ieee80211req::i_val, ieee80211com::ic_auth, ieee80211com::ic_bintval, ieee80211com::ic_bmissthreshold, ieee80211com::ic_bss, ieee80211com::ic_caps, ieee80211com::ic_chan_active, ieee80211com::ic_chan_avail, ieee80211com::ic_channels, ieee80211com::ic_curmode, ieee80211com::ic_des_bssid, ieee80211com::ic_des_chan, ieee80211com::ic_des_essid, ieee80211com::ic_des_esslen, ieee80211com::ic_dtim_period, ieee80211com::ic_flags, ieee80211com::ic_fragthreshold, ieee80211com::ic_ibss_chan, ieee80211com::ic_ifp, ieee80211com::ic_lintval, ieee80211com::ic_mcast_rate, ieee80211com::ic_myaddr, ieee80211com::ic_opmode, ieee80211com::ic_protmode, ieee80211com::ic_reset, ieee80211com::ic_roaming, ieee80211com::ic_rtsthreshold, ieee80211com::ic_state, ieee80211com::ic_txpowlimit, IEEE80211_ADDR_COPY, IEEE80211_ADDR_EQ, IEEE80211_ADDR_LEN, IEEE80211_AUTH_8021X, IEEE80211_AUTH_AUTO, IEEE80211_AUTH_OPEN, IEEE80211_AUTH_SHARED, IEEE80211_AUTH_WPA, ieee80211_authenticator_get(), IEEE80211_BINTVAL_MAX, IEEE80211_C_BURST, IEEE80211_C_PMGT, IEEE80211_C_TXFRAG, IEEE80211_C_TXPMGT, IEEE80211_C_WME, IEEE80211_CHAN_ANY, IEEE80211_CHAN_ANYC, IEEE80211_CHAN_MAX, IEEE80211_CIPHER_WEP, ieee80211_crypto_available(), ieee80211_crypto_delkey(), ieee80211_crypto_newkey(), ieee80211_crypto_setkey(), IEEE80211_DTIM_MAX, IEEE80211_F_BURST, IEEE80211_F_COUNTERM, IEEE80211_F_DESBSSID, IEEE80211_F_DROPUNENC, IEEE80211_F_HIDESSID, IEEE80211_F_NOBRIDGE, IEEE80211_F_PMGTON, IEEE80211_F_PRIVACY, IEEE80211_F_PUREG, IEEE80211_F_SCAN, IEEE80211_F_WME, IEEE80211_F_WPA, IEEE80211_F_WPA1, IEEE80211_F_WPA2, IEEE80211_FRAG_MAX, IEEE80211_HWBMISS_MAX, IEEE80211_IOC_ADDMAC, IEEE80211_IOC_APBRIDGE, IEEE80211_IOC_AUTHMODE, IEEE80211_IOC_BEACON_INTERVAL, IEEE80211_IOC_BMISSTHRESHOLD, IEEE80211_IOC_BSSID, IEEE80211_IOC_BURST, IEEE80211_IOC_CHANLIST, IEEE80211_IOC_CHANNEL, IEEE80211_IOC_COUNTERMEASURES, IEEE80211_IOC_DELKEY, IEEE80211_IOC_DELMAC, IEEE80211_IOC_DRIVER_CAPS, IEEE80211_IOC_DROPUNENCRYPTED, IEEE80211_IOC_DTIM_PERIOD, IEEE80211_IOC_FRAGTHRESHOLD, IEEE80211_IOC_HIDESSID, IEEE80211_IOC_KEYMGTALGS, IEEE80211_IOC_MACCMD, IEEE80211_IOC_MCAST_RATE, IEEE80211_IOC_MCASTCIPHER, IEEE80211_IOC_MCASTKEYLEN, IEEE80211_IOC_MLME, IEEE80211_IOC_OPTIE, IEEE80211_IOC_POWERSAVE, IEEE80211_IOC_POWERSAVESLEEP, IEEE80211_IOC_PRIVACY, IEEE80211_IOC_PROTMODE, IEEE80211_IOC_PUREG, IEEE80211_IOC_ROAMING, IEEE80211_IOC_RSNCAPS, IEEE80211_IOC_RTSTHRESHOLD, IEEE80211_IOC_SCAN_REQ, IEEE80211_IOC_SSID, IEEE80211_IOC_STA_STATS, IEEE80211_IOC_STA_TXPOW,

IEEE80211_IOC_TXPOWER, IEEE80211_IOC_UCASTCIPHER, IEEE80211_IOC_UCASTCIPHERS, IEEE80211_IOC_UCASTKEYLEN, IEEE80211_IOC_WEP, IEEE80211_IOC_WEPKEY, IEEE80211_IOC_WEPTXKEY, IEEE80211_IOC_WME, IEEE80211_IOC_WME_ACKPOLICY, IEEE80211_IOC_WME_ACM, IEEE80211_IOC_WME_AIFS, IEEE80211_IOC_WME_CWMAX, IEEE80211_IOC_WME_CWMIN, IEEE80211_IOC_WME_TXOPLIMIT, IEEE80211_IOC_WPA, IEEE80211_IOC_WPAKEY, ieee80211_ioctl_delkey(), ieee80211_ioctl_macmac(), ieee80211_ioctl_setchanlist(), ieee80211_ioctl_setkey(), ieee80211_ioctl_setmaccmd(), ieee80211_ioctl_setmlme(), ieee80211_ioctl_setoptie(), ieee80211_ioctl_setstastats(), ieee80211_ioctl_setstatxpow(), ieee80211_ioctl_setwmeparam(), IEEE80211_KEY_RECV, ieee80211_key_update_begin(), ieee80211_key_update_end(), IEEE80211_KEY_XMIT, IEEE80211_KEYBUF_SIZE, IEEE80211_KEYIX_NONE, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_M_MONITOR, IEEE80211_MODE_11G, ieee80211_new_state, IEEE80211_NWID_LEN, IEEE80211_POWERSAVE_OFF, IEEE80211_POWERSAVE_ON, IEEE80211_PROT_RTSCTS, IEEE80211_RATE_VAL, IEEE80211_ROAMING_MANUAL, IEEE80211_RTS_MAX, IEEE80211_S_INIT, IEEE80211_S_SCAN, ieee80211_setupscan(), IEEE80211_TXPOWER_MAX, IEEE80211_WEP_MIXED, IEEE80211_WEP_NKID, IEEE80211_WEP_OFF, IEEE80211_WEP_ON, IS_UP, IS_UP_AUTO, ieee80211_node::ni_authmode, ieee80211_node::ni_chan, ieee80211_node::ni_rsn, ieee80211_rsnparms::rsn_caps, ieee80211_rsnparms::rsn_keymgmtset, ieee80211_rsnparms::rsn_mcastcipher, ieee80211_rsnparms::rsn_mcastkeylen, ieee80211_rsnparms::rsn_ucastcipher, ieee80211_rsnparms::rsn_ucastcipherset, ieee80211_rsnparms::rsn_ucastkeylen, ieee80211_key::wk_key, ieee80211_key::wk_keyix, and ieee80211_key::wk_keylen.

Referenced by ieee80211_ioctl().

Here is the call graph for this function:




#### 7.17.2.28 static int ieee80211_ioctl_setchanlist (struct ieee80211com * *ic*, struct ieee80211req * *ireq*) [static]

Definition at line 2025 of file ieee80211_ioctl.c.

References ieee80211req::i_data, ieee80211req::i_len, ieee80211com::ic_chan_avail, ieee80211com::ic_-channels, ieee80211com::ic_ibss_chan, ieee80211com::ic_phytype, ieee80211_chan2ieee(), IEEE80211_CHAN_BYTES, IEEE80211_CHAN_MAX, and IEEE80211_T_DS.

Referenced by ieee80211_ioctl_set80211().

Here is the call graph for this function:

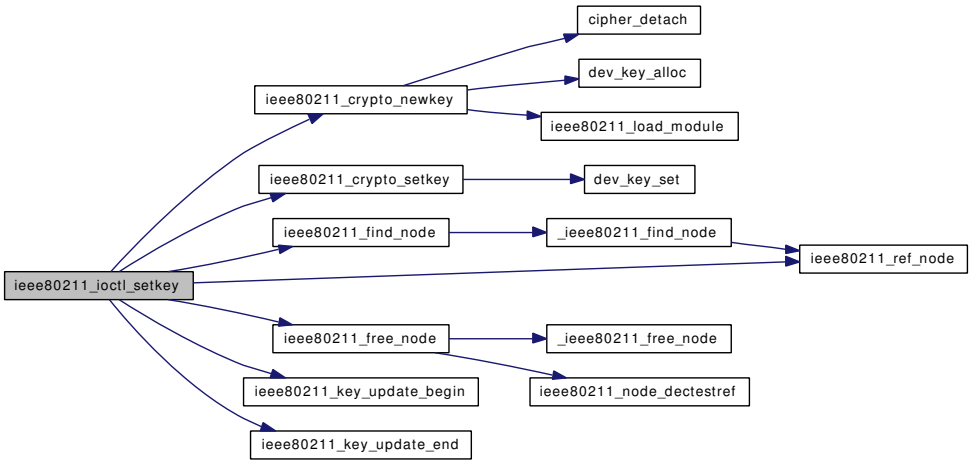
#### 7.17.2.29 static int ieee80211_ioctl_setkey (struct ieee80211com * *ic*, struct ieee80211req * *ireq*) [static]

Definition at line 1754 of file ieee80211_ioctl.c.

References ieee80211req::i_data, ieee80211req::i_len, ieee80211com::ic_bss, ieee80211com::ic_opmode, ieee80211com::ic_sta, IEEE80211_ADDR_EQ, ieee80211_crypto_newkey(), ieee80211_crypto_setkey(), ieee80211_find_node(), ieee80211_free_node(), IEEE80211_KEY_DEFAULT, IEEE80211_KEY_RECV, ieee80211_key_update_begin(), ieee80211_key_update_end(), IEEE80211_KEY_XMIT, IEEE80211_KEYBUF_SIZE, IEEE80211_KEYIX_NONE, IEEE80211_M_STA, ieee80211_ref_node(), IEEE80211_WEP_NKID, ieee80211_node::ni_bssid, ieee80211_node::ni_macaddr, ieee80211_node::ni_ucastkey, ieee80211_key::wk_key, ieee80211_key::wk_keyix, ieee80211_key::wk_keylen, ieee80211_key::wk_keyrsc, and ieee80211_key::wk_keytsc.

Referenced by ieee80211_ioctl_set80211().

Here is the call graph for this function:



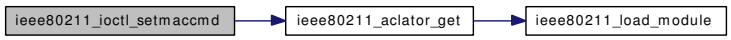

#### 7.17.2.30 static int ieee80211_ioctl_setmaccmd (struct ieee80211com * *ic*, struct ieee80211req * *ireq*) [static]

Definition at line 1988 of file ieee80211_ioctl.c.

References acl, ieee80211req::i_val, ieee80211_aclator::iac_attach, ieee80211_aclator::iac_detach, ieee80211_aclator::iac_flush, ieee80211_aclator::iac_setioctl, ieee80211_aclator::iac_setpolicy, ieee80211com::ic_acl, ieee80211_aclator_get(), IEEE80211_MACCMD_DETACH, IEEE80211_MACCMD_FLUSH, IEEE80211_MACCMD_POLICY_ALLOW, IEEE80211_MACCMD_POLICY_DENY, and IEEE80211_MACCMD_POLICY_OPEN.

Referenced by ieee80211_ioctl_set80211().

Here is the call graph for this function:



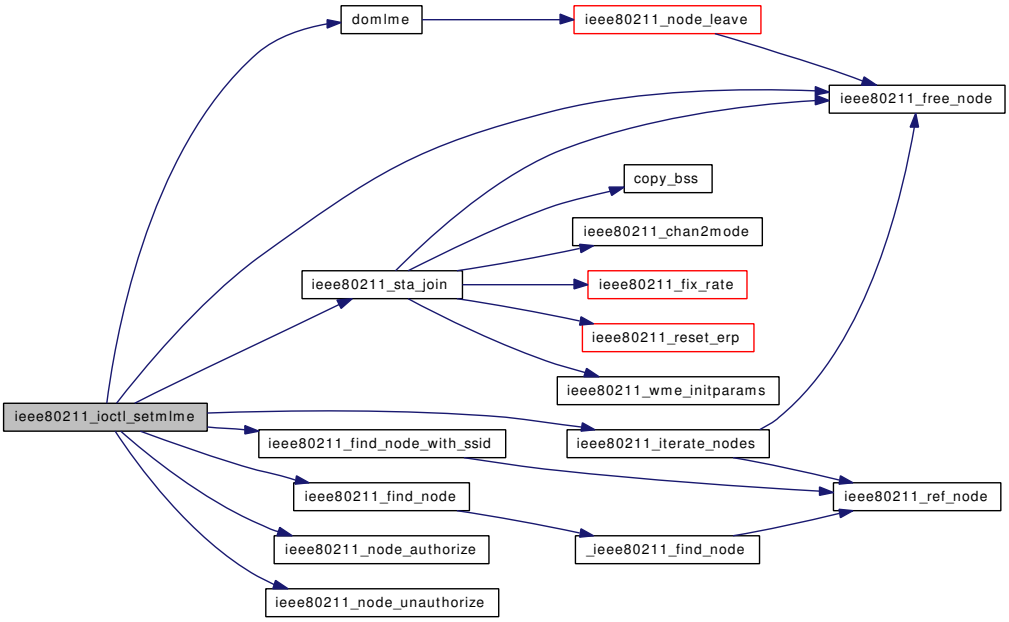
#### 7.17.2.31 static int ieee80211_ioctl_setmlme (struct ieee80211com * *ic*, struct ieee80211req * *ireq*) [static]

Definition at line 1880 of file ieee80211_ioctl.c.

References domlme(), ieee80211req::i_data, ieee80211req::i_len, ieee80211com::ic_ifp, ieee80211com::ic_opmode, ieee80211com::ic_scan, ieee80211com::ic_sta, IEEE80211_ADDR_EQ, ieee80211_find_node(), ieee80211_find_node_with_ssid(), ieee80211_free_node(), ieee80211_iterate_nodes(), IEEE80211_M_HOSTAP, IEEE80211_M_STA, IEEE80211_MLME_ASSOC, IEEE80211_MLME_AUTHORIZE, IEEE80211_MLME_DEAUTH, IEEE80211_MLME_DISASSOC, IEEE80211_MLME_UNAUTHORIZE, ieee80211_new_state, ieee80211_node_authorize(), ieee80211_node_unauthorize(), IEEE80211_S_INIT, and ieee80211_sta_join().

Referenced by ieee80211_ioctl_set80211().

Here is the call graph for this function:




#### 7.17.2.32 static int ieee80211_ioctl_setoptie (struct ieee80211com * *ic*, struct ieee80211req * *ireq*) [static]

Definition at line 1716 of file ieee80211_ioctl.c.

References ieee80211req::i_data, ieee80211req::i_len, ieee80211com::ic_opmode, ieee80211com::ic_opt_ie, ieee80211com::ic_opt_ie_len, IEEE80211_M_STA, and IEEE80211_MAX_OPT_IE.

Referenced by ieee80211_ioctl_set80211().

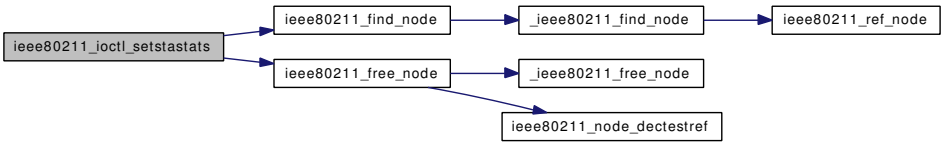
#### 7.17.2.33 static int ieee80211_ioctl_setstastats (struct ieee80211com * *ic*, struct ieee80211req * *ireq*) [static]

Definition at line 2069 of file ieee80211_ioctl.c.

References ieee80211req::i_data, ieee80211req::i_len, ieee80211com::ic_sta, IEEE80211_ADDR_LEN, ieee80211_find_node(), ieee80211_free_node(), and ieee80211_node::ni_stats.

Referenced by ieee80211_ioctl_set80211().

Here is the call graph for this function:



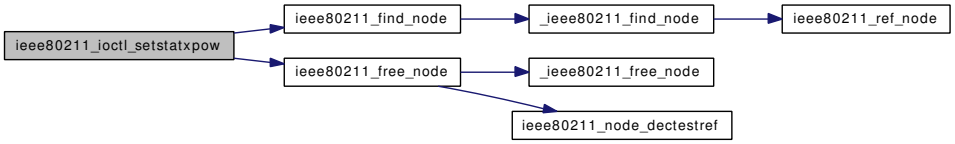

### 7.17.2.34 static int ieee80211_ioctl_setstatxpow (struct ieee80211com * *ic*, struct ieee80211req * *ireq*) [static]

Definition at line 2094 of file ieee80211_ioctl.c.

References ieee80211req::i_data, ieee80211req::i_len, ieee80211com::ic_sta, ieee80211_find_node(), ieee80211_free_node(), and ieee80211_node::ni_txpower.

Referenced by ieee80211_ioctl_set80211().

Here is the call graph for this function:




### 7.17.2.35 static int ieee80211_ioctl_setwmeparam (struct ieee80211com * *ic*, struct ieee80211req * *ireq*) [static]

Definition at line 2114 of file ieee80211_ioctl.c.

References chanAccParams::cap_wmeParams, ieee80211req::i_len, ieee80211req::i_type, ieee80211req::i_val, ieee80211com::ic_caps, ieee80211com::ic_wme, IEEE80211_C_WME, IEEE80211_IOC_WME_ACKPOLICY, IEEE80211_IOC_WME_ACM, IEEE80211_IOC_WME_AIFS, IEEE80211_IOC_WME_CWMAX, IEEE80211_IOC_WME_CWMIN, IEEE80211_IOC_WME_TXOPLIMIT, ieee80211_wme_updateparams(), IEEE80211_WMEPARAM_BSS, IEEE80211_WMEPARAM_VAL, WME_AC_BE, ieee80211_wme_state::wme_bssChanParams, ieee80211_wme_state::wme_chanParams, WME_F_AGGRMODE, ieee80211_wme_state::wme_flags, WME_NUM_AC, ieee80211_wme_state::wme_wmeBssChanParams, ieee80211_wme_state::wme_wmeChanParams, wmeParams::wmep_acm, wmeParams::wmep_aifsn, wmeParams::wmep_logcwmax, wmeParams::wmep_logcwmin, wmeParams::wmep_noackPolicy, and wmeParams::wmep_txopLimit.

Referenced by ieee80211_ioctl_set80211().

Here is the call graph for this function:

#### 7.17.2.36 static int ieee80211_setupscan (struct ieee80211com * *ic*, const u_int8_t *chanlist*[ ]) [static]

Definition at line 452 of file ieee80211_ioctl.c.

References ieee80211com::ic_chan_active, ieee80211com::ic_state, IEEE80211_S_INIT, and IS_UP.

Referenced by ieee80211_cfgset(), and ieee80211_ioctl_set80211().

#### 7.17.2.37 static size_t scan_space (const struct ieee80211_node * *ni*, size_t * *ielen*) [static]

Definition at line 1092 of file ieee80211_ioctl.c.

References ieee80211_node::ni_wme_ie, and ieee80211_node::ni_wpa_ie.

Referenced by get_scan_result(), and get_scan_space().

#### 7.17.2.38 static size_t sta_space (const struct ieee80211_node * *ni*, size_t * *ielen*) [static]

Definition at line 1210 of file ieee80211_ioctl.c.

References ieee80211_node::ni_wme_ie, and ieee80211_node::ni_wpa_ie.

Referenced by get_sta_info(), and get_sta_space().

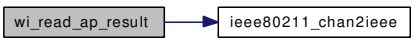
#### 7.17.2.39 static void wi_read_ap_result (void * *arg*, struct ieee80211_node * *ni*) [static]

Definition at line 92 of file ieee80211_ioctl.c.

References wi_read_ap_args::ap, ieee80211com::ic_des_essid, ieee80211com::ic_des_esslen, ieee80211com::ic_node_getrssi, ieee80211com::ic_opmode, IEEE80211_ADDR_COPY, ieee80211_chan2ieee(), IEEE80211_M_HOSTAP, IEEE80211_RATE_BASIC, IEEE80211_RATE_VAL, wi_read_ap_args::max, ieee80211_node::ni_bssid, ieee80211_node::ni_capinfo, ieee80211_node::ni_chan, ieee80211_node::ni_essid, ieee80211_node::ni_esslen, ieee80211_node::ni_ic, ieee80211_node::ni_intval, ieee80211_node::ni_macaddr, ieee80211_node::ni_rates, ieee80211_rateset::rs_nrates, and ieee80211_rateset::rs_rates.

Referenced by ieee80211_cfgget().

Here is the call graph for this function:




#### 7.17.2.40 static void wi_read_prism2_result (void * *arg*, struct ieee80211_node * *ni*) [static]

Definition at line 138 of file ieee80211_ioctl.c.

References wi_read_prism2_args::i, ieee80211com::ic_node_getrssi, IEEE80211_ADDR_COPY, ieee80211_chan2ieee(), IEEE80211_NWID_LEN, wi_read_prism2_args::max, ieee80211_node::ni_bssid, ieee80211_node::ni_capinfo, ieee80211_node::ni_chan, ieee80211_node::ni_essid, ieee80211_node::ni_esslen, ieee80211_node::ni_ic, ieee80211_node::ni_intval, ieee80211_node::ni_rates, ieee80211_node::ni_txrate, wi_read_prism2_args::res, ieee80211_rateset::rs_nrates, and ieee80211_rateset::rs_rates.

Referenced by ieee80211_cfgget().

Here is the call graph for this function:


#### 7.17.2.41 static void wi_read_sigcache (void * *arg*, struct ieee80211_node * *ni*) [static]

Definition at line 173 of file ieee80211_ioctl.c.

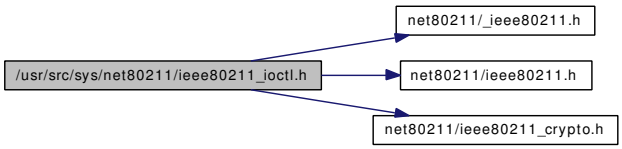
References wi_read_sigcache_args::i, ieee80211com::ic_node_getrssi, IEEE80211_ADDR_COPY, wi_read_sigcache_args::max, ieee80211_node::ni_ic, ieee80211_node::ni_macaddr, and wi_read_sigcache_args::wsc.

Referenced by ieee80211_cfgget().

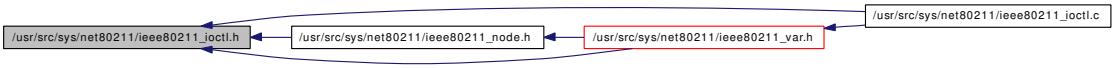
# 7.18 /usr/src/sys/net80211/ieee80211_ioctl.h File Reference

```
#include <net80211/_ieee80211.h>
#include <net80211/ieee80211.h>
#include <net80211/ieee80211_crypto.h>
```

Include dependency graph for ieee80211_ioctl.h:




This graph shows which files directly or indirectly include this file:




## Data Structures

- struct ieee80211_nodestats
- struct ieee80211_stats
- struct ieee80211req_key
- struct ieee80211req_del_key
- struct ieee80211req_mlme
- struct ieee80211req_maclist
- struct ieee80211req_chanlist
- struct ieee80211req_chaninfo
- struct ieee80211req_wpaie
- struct ieee80211req_sta_stats
- struct ieee80211req_sta_info
- struct ieee80211req_sta_req
- struct ieee80211req_sta_txpow
- struct ieee80211req
- struct ieee80211req_scan_result

## Defines

- #define IEEE80211_MAX_OPT_IE 256
- #define IEEE80211_KEY_DEFAULT 0x80
- #define IEEE80211_MLME_ASSOC 1
- #define IEEE80211_MLME_DISASSOC 2
- #define IEEE80211_MLME_DEAUTH 3
- #define IEEE80211_MLME_AUTHORIZE 4
- #define IEEE80211_MLME_UNAUTHORIZE 5

- #define IEEE80211_WMEPARAM_SELF 0x0000
- #define IEEE80211_WMEPARAM_BSS 0x8000
- #define IEEE80211_WMEPARAM_VAL 0x7fff
- #define SIOCS80211 _IOW('i', 234, struct ieee80211req)
- #define SIOCG80211 _IOWR('i', 235, struct ieee80211req)
- #define IEEE80211_IOC_SSID 1
- #define IEEE80211_IOC_NUMSSIDS 2
- #define IEEE80211_IOC_WEP 3
- #define IEEE80211_WEP_NOSUP -1
- #define IEEE80211_WEP_OFF 0
- #define IEEE80211_WEP_ON 1
- #define IEEE80211_WEP_MIXED 2
- #define IEEE80211_IOC_WEPKEY 4
- #define IEEE80211_IOC_NUMWEPKEYS 5
- #define IEEE80211_IOC_WEPTXKEY 6
- #define IEEE80211_IOC_AUTHMODE 7
- #define IEEE80211_IOC_STATIONNAME 8
- #define IEEE80211_IOC_CHANNEL 9
- #define IEEE80211_IOC_POWERSAVE 10
- #define IEEE80211_POWERSAVE_NOSUP -1
- #define IEEE80211_POWERSAVE_OFF 0
- #define IEEE80211_POWERSAVE_CAM 1
- #define IEEE80211_POWERSAVE_PSP 2
- #define IEEE80211_POWERSAVE_PSP_CAM 3
- #define IEEE80211_POWERSAVE_ON IEEE80211_POWERSAVE_CAM
- #define IEEE80211_IOC_POWERSAVESLEEP 11
- #define IEEE80211_IOC_RTSTHRESHOLD 12
- #define IEEE80211_IOC_PROTMODE 13
- #define IEEE80211_PROTMODE_OFF 0
- #define IEEE80211_PROTMODE_CTS 1
- #define IEEE80211_PROTMODE_RTSCTS 2
- #define IEEE80211_IOC_TXPOWER 14
- #define IEEE80211_IOC_BSSID 15
- #define IEEE80211_IOC_ROAMING 16
- #define IEEE80211_IOC_PRIVACY 17
- #define IEEE80211_IOC_DROPUNENCRYPTED 18
- #define IEEE80211_IOC_WPAKEY 19
- #define IEEE80211_IOC_DELKEY 20
- #define IEEE80211_IOC_MLME 21
- #define IEEE80211_IOC_OPTIE 22
- #define IEEE80211_IOC_SCAN_REQ 23
- #define IEEE80211_IOC_COUNTERMEASURES 25
- #define IEEE80211_IOC_WPA 26
- #define IEEE80211_IOC_CHANLIST 27
- #define IEEE80211_IOC_WME 28
- #define IEEE80211_IOC_HIDESSID 29
- #define IEEE80211_IOC_APBRIDGE 30
- #define IEEE80211_IOC_MCASTCIPHER 31
- #define IEEE80211_IOC_MCASTKEYLEN 32
- #define IEEE80211_IOC_UCASTCIPHERS 33

- #define IEEE80211_IOC_UCASTCIPHER 34
- #define IEEE80211_IOC_UCASTKEYLEN 35
- #define IEEE80211_IOC_DRIVER_CAPS 36
- #define IEEE80211_IOC_KEYMGTALGS 37
- #define IEEE80211_IOC_RSNCAPS 38
- #define IEEE80211_IOC_WPAIE 39
- #define IEEE80211_IOC_STA_STATS 40
- #define IEEE80211_IOC_MACCMD 41
- #define IEEE80211_IOC_CHANINFO 42
- #define IEEE80211_IOC_TXPOWMAX 43
- #define IEEE80211_IOC_STA_TXPOW 44
- #define IEEE80211_IOC_WME_CWMIN 46
- #define IEEE80211_IOC_WME_CWMAX 47
- #define IEEE80211_IOC_WME_AIFS 48
- #define IEEE80211_IOC_WME_TXOPLIMIT 49
- #define IEEE80211_IOC_WME_ACM 50
- #define IEEE80211_IOC_WME_ACKPOLICY 51
- #define IEEE80211_IOC_DTIM_PERIOD 52
- #define IEEE80211_IOC_BEACON_INTERVAL 53
- #define IEEE80211_IOC_ADDMAC 54
- #define IEEE80211_IOC_DELMAC 55
- #define IEEE80211_IOC_PUREG 56
- #define IEEE80211_IOC_MCAST_RATE 72
- #define IEEE80211_IOC_FRAGTHRESHOLD 73
- #define IEEE80211_IOC_BURST 75
- #define IEEE80211_IOC_SCAN_RESULTS 76
- #define IEEE80211_IOC_BMISSTHRESHOLD 77
- #define IEEE80211_IOC_STA_INFO 78
- #define SIOCG80211STATS _IOWR('i', 236, struct ifreq)

## Enumerations

- enum {

  IEEE80211_MACCMD_POLICY_OPEN = 0, IEEE80211_MACCMD_POLICY_ALLOW = 1, IEEE80211_MACCMD_POLICY_DENY = 2, IEEE80211_MACCMD_FLUSH = 3,

  IEEE80211_MACCMD_DETACH = 4, IEEE80211_MACCMD_POLICY = 5, IEEE80211_-MACCMD_LIST = 6 }

## 7.18.1 Define Documentation

### 7.18.1.1 #define IEEE80211_IOC_ADDMAC 54

Definition at line 446 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_macmac(), and ieee80211_ioctl_set80211().

### 7.18.1.2 #define IEEE80211_IOC_APBRIDGE 30

Definition at line 422 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.3 #define IEEE80211_IOC_AUTHMODE 7

Definition at line 390 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.4 #define IEEE80211_IOC_BEACON_INTERVAL 53

Definition at line 445 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.5 #define IEEE80211_IOC_BMISSTHRESHOLD 77

Definition at line 453 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.6 #define IEEE80211_IOC_BSSID 15

Definition at line 407 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.7 #define IEEE80211_IOC_BURST 75

Definition at line 451 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.8 #define IEEE80211_IOC_CHANINFO 42

Definition at line 434 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211().

#### 7.18.1.9 #define IEEE80211_IOC_CHANLIST 27

Definition at line 419 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.10 #define IEEE80211_IOC_CHANNEL 9

Definition at line 392 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.11 #define IEEE80211_IOC_COUNTERMEASURES 25

Definition at line 417 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.12 #define IEEE80211_IOC_DELKEY 20

Definition at line 412 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_set80211().

#### 7.18.1.13 #define IEEE80211_IOC_DELMAC 55

Definition at line 447 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_set80211().

#### 7.18.1.14 #define IEEE80211_IOC_DRIVER_CAPS 36

Definition at line 428 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.15 #define IEEE80211_IOC_DROPUNENCRYPTED 18

Definition at line 410 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.16 #define IEEE80211_IOC_DTIM_PERIOD 52

Definition at line 444 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.17 #define IEEE80211_IOC_FRAGTHRESHOLD 73

Definition at line 450 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.18 #define IEEE80211_IOC_HIDESSID 29

Definition at line 421 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.19 #define IEEE80211_IOC_KEYMGTALGS 37

Definition at line 429 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.20 #define IEEE80211_IOC_MACCMD 41

Definition at line 433 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.21 #define IEEE80211_IOC_MCAST_RATE 72

Definition at line 449 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.22 #define IEEE80211_IOC_MCASTCIPHER 31

Definition at line 423 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.23 #define IEEE80211_IOC_MCASTKEYLEN 32

Definition at line 424 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.24 #define IEEE80211_IOC_MLME 21

Definition at line 413 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_set80211().

#### 7.18.1.25 #define IEEE80211_IOC_NUMSSIDS 2

Definition at line 381 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211().

#### 7.18.1.26 #define IEEE80211_IOC_NUMWEPKEYS 5

Definition at line 388 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211().

#### 7.18.1.27 #define IEEE80211_IOC_OPTIE 22

Definition at line 414 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.28 #define IEEE80211_IOC_POWERSAVE 10

Definition at line 393 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.29 #define IEEE80211_IOC_POWERSAVESLEEP 11

Definition at line 400 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.30 #define IEEE80211_IOC_PRIVACY 17

Definition at line 409 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.31 #define IEEE80211_IOC_PROTMODE 13

Definition at line 402 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.32 #define IEEE80211_IOC_PUREG 56

Definition at line 448 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.33 #define IEEE80211_IOC_ROAMING 16

Definition at line 408 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.34 #define IEEE80211_IOC_RSNCAPS 38

Definition at line 430 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.35 #define IEEE80211_IOC_RTSTHRESHOLD 12

Definition at line 401 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.36 #define IEEE80211_IOC_SCAN_REQ 23

Definition at line 415 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_set80211().

#### 7.18.1.37 #define IEEE80211_IOC_SCAN_RESULTS 76

Definition at line 452 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211().

#### 7.18.1.38 #define IEEE80211_IOC_SSID 1

Definition at line 380 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.39 #define IEEE80211_IOC_STA_INFO 78

Definition at line 454 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211().

#### 7.18.1.40 #define IEEE80211_IOC_STA_STATS 40

Definition at line 432 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.41 #define IEEE80211_IOC_STA_TXPOW 44

Definition at line 436 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.42 #define IEEE80211_IOC_STATIONNAME 8

Definition at line 391 of file ieee80211_ioctl.h.

#### 7.18.1.43 #define IEEE80211_IOC_TXPOWER 14

Definition at line 406 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.44 #define IEEE80211_IOC_TXPOWMAX 43

Definition at line 435 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211().

#### 7.18.1.45 #define IEEE80211_IOC_UCASTCIPHER 34

Definition at line 426 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.46 #define IEEE80211_IOC_UCASTCIPHERS 33

Definition at line 425 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.47 #define IEEE80211_IOC_UCASTKEYLEN 35

Definition at line 427 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.48 #define IEEE80211_IOC_WEP 3

Definition at line 382 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.49 #define IEEE80211_IOC_WEPKEY 4

Definition at line 387 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.50 #define IEEE80211_IOC_WEPTXKEY 6

Definition at line 389 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.51 #define IEEE80211_IOC_WME 28

Definition at line 420 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.52 #define IEEE80211_IOC_WME_ACKPOLICY 51

Definition at line 443 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), ieee80211_ioctl_getwmeparam(), ieee80211_ioctl_-set80211(), and ieee80211_ioctl_setwmeparam().

#### 7.18.1.53 #define IEEE80211_IOC_WME_ACM 50

Definition at line 442 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), ieee80211_ioctl_getwmeparam(), ieee80211_ioctl_-set80211(), and ieee80211_ioctl_setwmeparam().

#### 7.18.1.54 #define IEEE80211_IOC_WME_AIFS 48

Definition at line 440 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), ieee80211_ioctl_getwmeparam(), ieee80211_ioctl_-set80211(), and ieee80211_ioctl_setwmeparam().

#### 7.18.1.55 #define IEEE80211_IOC_WME_CWMAX 47

Definition at line 439 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), ieee80211_ioctl_getwmeparam(), ieee80211_ioctl_-set80211(), and ieee80211_ioctl_setwmeparam().

#### 7.18.1.56 #define IEEE80211_IOC_WME_CWMIN 46

Definition at line 438 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), ieee80211_ioctl_getwmeparam(), ieee80211_ioctl_-set80211(), and ieee80211_ioctl_setwmeparam().

#### 7.18.1.57 #define IEEE80211_IOC_WME_TXOPLIMIT 49

Definition at line 441 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), ieee80211_ioctl_getwmeparam(), ieee80211_ioctl_-set80211(), and ieee80211_ioctl_setwmeparam().

#### 7.18.1.58 #define IEEE80211_IOC_WPA 26

Definition at line 418 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.59 #define IEEE80211_IOC_WPAIE 39

Definition at line 431 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211().

#### 7.18.1.60 #define IEEE80211_IOC_WPAKEY 19

Definition at line 411 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.61 #define IEEE80211_KEY_DEFAULT 0x80

Definition at line 214 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_getkey(), and ieee80211_ioctl_setkey().

#### 7.18.1.62 #define IEEE80211_MAX_OPT_IE 256

Definition at line 195 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_setoptie().

#### 7.18.1.63 #define IEEE80211_MLME_ASSOC 1

Definition at line 238 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_setmlme().

#### 7.18.1.64 #define IEEE80211_MLME_AUTHORIZE 4

Definition at line 241 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_setmlme().

#### 7.18.1.65 #define IEEE80211_MLME_DEAUTH 3

Definition at line 240 of file ieee80211_ioctl.h.

Referenced by domlme(), and ieee80211_ioctl_setmlme().

#### 7.18.1.66 #define IEEE80211_MLME_DISASSOC 2

Definition at line 239 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_setmlme().

#### 7.18.1.67 #define IEEE80211_MLME_UNAUTHORIZE 5

Definition at line 242 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_setmlme().

#### 7.18.1.68 #define IEEE80211_POWERSAVE_CAM 1

Definition at line 396 of file ieee80211_ioctl.h.

#### 7.18.1.69 #define IEEE80211_POWERSAVE_NOSUP -1

Definition at line 394 of file ieee80211_ioctl.h.

#### 7.18.1.70 #define IEEE80211_POWERSAVE_OFF 0

Definition at line 395 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.71 #define IEEE80211_POWERSAVE_ON IEEE80211_POWERSAVE_CAM

Definition at line 399 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.72 #define IEEE80211_POWERSAVE_PSP 2

Definition at line 397 of file ieee80211_ioctl.h.

#### 7.18.1.73 #define IEEE80211_POWERSAVE_PSP_CAM 3

Definition at line 398 of file ieee80211_ioctl.h.

#### 7.18.1.74 #define IEEE80211_PROTMODE_CTS 1

Definition at line 404 of file ieee80211_ioctl.h.

#### 7.18.1.75 #define IEEE80211_PROTMODE_OFF 0

Definition at line 403 of file ieee80211_ioctl.h.

#### 7.18.1.76 #define IEEE80211_PROTMODE_RTSCTS 2

Definition at line 405 of file ieee80211_ioctl.h.

#### 7.18.1.77 #define IEEE80211_WEP_MIXED 2

Definition at line 386 of file ieee80211_ioctl.h.
Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.78 #define IEEE80211_WEP_NOSUP -1

Definition at line 383 of file ieee80211_ioctl.h.

#### 7.18.1.79 #define IEEE80211_WEP_OFF 0

Definition at line 384 of file ieee80211_ioctl.h.
Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.80 #define IEEE80211_WEP_ON 1

Definition at line 385 of file ieee80211_ioctl.h.
Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.18.1.81 #define IEEE80211_WMEPARAM_BSS 0x8000

Definition at line 362 of file ieee80211_ioctl.h.
Referenced by ieee80211_ioctl_getwmeparam(), and ieee80211_ioctl_setwmeparam().

#### 7.18.1.82 #define IEEE80211_WMEPARAM_SELF 0x0000

Definition at line 361 of file ieee80211_ioctl.h.

#### 7.18.1.83 #define IEEE80211_WMEPARAM_VAL 0x7fff

Definition at line 363 of file ieee80211_ioctl.h.
Referenced by ieee80211_ioctl_getwmeparam(), and ieee80211_ioctl_setwmeparam().

#### 7.18.1.84 #define SIOCG80211 _IOWR('i', 235, struct ieee80211req)

Definition at line 378 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl().

#### 7.18.1.85 #define SIOCG80211STATS _IOWR('i', 236, struct ifreq)

Definition at line 482 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl().

#### 7.18.1.86 #define SIOCS80211 _IOW('i', 234, struct ieee80211req)

Definition at line 377 of file ieee80211_ioctl.h.

Referenced by ieee80211_ioctl().

### 7.18.2 Enumeration Type Documentation

#### 7.18.2.1 anonymous enum

**Enumerator:**

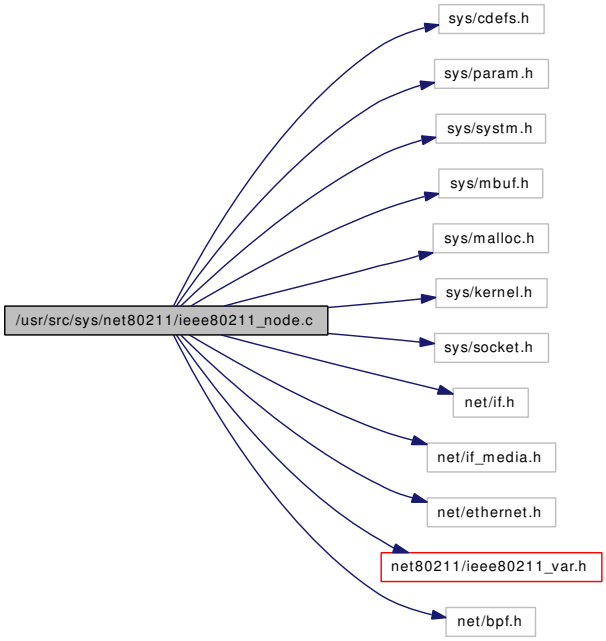
*IEEE80211_MACCMD_POLICY_OPEN*
*IEEE80211_MACCMD_POLICY_ALLOW*
*IEEE80211_MACCMD_POLICY_DENY*
*IEEE80211_MACCMD_FLUSH*
*IEEE80211_MACCMD_DETACH*
*IEEE80211_MACCMD_POLICY*
*IEEE80211_MACCMD_LIST*

Definition at line 252 of file ieee80211_ioctl.h.

## 7.19 /usr/src/sys/net80211/ieee80211_node.c File Reference

```
#include <sys/cdefs.h>
#include <sys/param.h>
#include <sys/systm.h>
#include <sys/mbuf.h>
#include <sys/malloc.h>
#include <sys/kernel.h>
#include <sys/socket.h>
#include <net/if.h>
#include <net/if_media.h>
#include <net/ethernet.h>
#include <net80211/ieee80211_var.h>
#include <net/bpf.h>
```

Include dependency graph for ieee80211_node.c:




### Defines

- #define IEEE80211_AID_SET(b, w) ((w)[IEEE80211_AID(b) / 32] |= (1 << (IEEE80211_AID(b) % 32)))
- #define IEEE80211_AID_CLR(b, w) ((w)[IEEE80211_AID(b) / 32] &= ~(1 << (IEEE80211_AID(b) % 32)))
- #define IEEE80211_AID_ISSET(b, w) ((w)[IEEE80211_AID(b) / 32] & (1 << (IEEE80211_AID(b) % 32)))
- #define REFCNT_LOC "%s %p<%s> refcnt %d\n", __func__

- #define STA_FAILS_MAX 2
- #define N(a) (sizeof(a)/sizeof(a[0]))
- #define ISPROBE(_st) ((_st) == IEEE80211_FC0_SUBTYPE_PROBE_RESP)
- #define IS_CTL(wh) ((wh → i_fc[0] & IEEE80211_FC0_TYPE_MASK) == IEEE80211_FC0_-TYPE_CTL)
- #define IS_PSPOLL(wh) ((wh → i_fc[0] & IEEE80211_FC0_SUBTYPE_MASK) == IEEE80211_-FC0_SUBTYPE_PS_POLL)
- #define MATCH_SSID(ni, ssid, ssidlen) (ni → ni_esslen == ssidlen && memcmp(ni → ni_essid, ssid, ssidlen) == 0)
- #define NZ(x) ((x) == 0 ? 1 : (x))

## Functions

- __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_node.c,v 1.78 2007/01/15 01:12:28 sam Exp $")
- static struct ieee80211_node * node_alloc (struct ieee80211_node_table *)
- static void node_cleanup (struct ieee80211_node *)
- static void node_free (struct ieee80211_node *)
- static u_int8_t node_getrssi (const struct ieee80211_node *)
- static void ieee80211_setup_node (struct ieee80211_node_table *, struct ieee80211_node *, const u_int8_t *)
- static void _ieee80211_free_node (struct ieee80211_node *)
- static void ieee80211_free_allnodes (struct ieee80211_node_table *)
- static void ieee80211_timeout_scan_candidates (struct ieee80211_node_table *)
- static void ieee80211_timeout_stations (struct ieee80211_node_table *)
- static void ieee80211_set_tim (struct ieee80211_node *, int set)
- static void ieee80211_node_table_init (struct ieee80211com *ic, struct ieee80211_node_table *nt, const char *name, int inact, int keyixmax, void(*timeout)(struct ieee80211_node_table *))
- static void ieee80211_node_table_cleanup (struct ieee80211_node_table *nt)
- MALLOC_DEFINE (M_80211_NODE,"80211node","802.11 node state")
- void ieee80211_node_attach (struct ieee80211com *ic)
- void ieee80211_node_lateattach (struct ieee80211com *ic)
- void ieee80211_node_detach (struct ieee80211com *ic)
- void ieee80211_node_authorize (struct ieee80211_node *ni)
- void ieee80211_node_unauthorize (struct ieee80211_node *ni)
- static void ieee80211_set_chan (struct ieee80211com *ic, struct ieee80211_node *ni, struct ieee80211_channel *chan)
- static void ieee80211_reset_scan (struct ieee80211com *ic)
- void ieee80211_begin_scan (struct ieee80211com *ic, int reset)
- int ieee80211_next_scan (struct ieee80211com *ic)
- void ieee80211_probe_curchan (struct ieee80211com *ic, int force)
- static __inline void copy_bss (struct ieee80211_node *nbss, const struct ieee80211_node *obss)
- void ieee80211_create_ibss (struct ieee80211com *ic, struct ieee80211_channel *chan)
- void ieee80211_reset_bss (struct ieee80211com *ic)
- static int ieee80211_match_bss (struct ieee80211com *ic, struct ieee80211_node *ni)
- static __inline u_int8_t maxrate (const struct ieee80211_node *ni)
- static int ieee80211_node_compare (struct ieee80211com *ic, const struct ieee80211_node *a, const struct ieee80211_node *b)
- void ieee80211_cancel_scan (struct ieee80211com *ic)
- void ieee80211_end_scan (struct ieee80211com *ic)

- int ieee80211_ibss_merge (struct ieee80211_node *ni)
- int ieee80211_sta_join (struct ieee80211com *ic, struct ieee80211_node *selbs)
- void ieee80211_sta_leave (struct ieee80211com *ic, struct ieee80211_node *ni)
- ieee80211_node * ieee80211_alloc_node (struct ieee80211_node_table *nt, const u_int8_t *macaddr)
- ieee80211_node * ieee80211_tmp_node (struct ieee80211com *ic, const u_int8_t *macaddr)
- ieee80211_node * ieee80211_dup_bss (struct ieee80211_node_table *nt, const u_int8_t *macaddr)
- static struct ieee80211_node * _ieee80211_find_node (struct ieee80211_node_table *nt, const u_int8_t *macaddr)
- ieee80211_node * ieee80211_find_node (struct ieee80211_node_table *nt, const u_int8_t *macaddr)
- ieee80211_node * ieee80211_fakeup_adhoc_node (struct ieee80211_node_table *nt, const u_int8_t macaddr[IEEE80211_ADDR_LEN])
- static void saveie (u_int8_t **iep, const u_int8_t *ie)
- void ieee80211_add_scan (struct ieee80211com *ic, const struct ieee80211_scanparams *sp, const struct ieee80211_frame *wh, int subtype, int rssi, int rstamp)
- void ieee80211_init_neighbor (struct ieee80211_node *ni, const struct ieee80211_frame *wh, const struct ieee80211_scanparams *sp)
- ieee80211_node * ieee80211_add_neighbor (struct ieee80211com *ic, const struct ieee80211_frame *wh, const struct ieee80211_scanparams *sp)
- ieee80211_node * ieee80211_find_rxnode (struct ieee80211com *ic, const struct ieee80211_frame_min *wh)
- ieee80211_node * ieee80211_find_rxnode_withkey (struct ieee80211com *ic, const struct ieee80211_frame_min *wh, ieee80211_keyix keyix)
- ieee80211_node * ieee80211_find_txnode (struct ieee80211com *ic, const u_int8_t *macaddr)
- ieee80211_node * ieee80211_find_node_with_channel (struct ieee80211_node_table *nt, const u_int8_t *macaddr, struct ieee80211_channel *chan)
- ieee80211_node * ieee80211_find_node_with_ssid (struct ieee80211_node_table *nt, const u_int8_t *macaddr, u_int ssidlen, const u_int8_t *ssid)
- void ieee80211_free_node (struct ieee80211_node *ni)
- int ieee80211_node_delucastkey (struct ieee80211_node *ni)
- static void node_reclaim (struct ieee80211_node_table *nt, struct ieee80211_node *ni)
- static void ieee80211_free_allnodes_locked (struct ieee80211_node_table *nt)
- void ieee80211_iterate_nodes (struct ieee80211_node_table *nt, ieee80211_iter_func *f, void *arg)
- void ieee80211_dump_node (struct ieee80211_node_table *nt, struct ieee80211_node *ni)
- void ieee80211_dump_nodes (struct ieee80211_node_table *nt)
- static void ieee80211_node_join_11g (struct ieee80211com *ic, struct ieee80211_node *ni)
- void ieee80211_node_join (struct ieee80211com *ic, struct ieee80211_node *ni, int resp)
- static void ieee80211_node_leave_11g (struct ieee80211com *ic, struct ieee80211_node *ni)
- void ieee80211_node_leave (struct ieee80211com *ic, struct ieee80211_node *ni)
- u_int8_t ieee80211_getrssi (struct ieee80211com *ic)
- void ieee80211_node_table_reset (struct ieee80211_node_table *nt)

## 7.19.1 Define Documentation

### 7.19.1.1 #define IEEE80211_AID_CLR(b, w) ((w)[IEEE80211_AID(b) / 32] &= ~(1 << (IEEE80211_AID(b) % 32)))

Definition at line 57 of file ieee80211_node.c.

Referenced by _ieee80211_free_node(), ieee80211_free_allnodes_locked(), and ieee80211_node_leave().

#### 7.19.1.2 #define IEEE80211_AID_ISSET(b, w) ((w)[IEEE80211_AID(b) / 32] & (1 << (IEEE80211_AID(b) % 32)))

Definition at line 59 of file ieee80211_node.c.

Referenced by ieee80211_node_join().

#### 7.19.1.3 #define IEEE80211_AID_SET(b, w) ((w)[IEEE80211_AID(b) / 32] |= (1 << (IEEE80211_AID(b) % 32)))

Definition at line 55 of file ieee80211_node.c.

Referenced by ieee80211_node_join().

#### 7.19.1.4 #define IS_CTL(wh) ((wh → i_fc[0] & IEEE80211_FC0_TYPE_MASK) == IEEE80211_FC0_TYPE_CTL)

Definition at line 1325 of file ieee80211_node.c.

Referenced by ieee80211_find_rxnode(), and ieee80211_find_rxnode_withkey().

#### 7.19.1.5 #define IS_PSPOLL(wh) ((wh → i_fc[0] & IEEE80211_FC0_SUBTYPE_MASK) == IEEE80211_FC0_SUBTYPE_PS_POLL)

Definition at line 1327 of file ieee80211_node.c.

Referenced by ieee80211_find_rxnode(), and ieee80211_find_rxnode_withkey().

#### 7.19.1.6 #define ISPROBE(_st) ((_st) == IEEE80211_FC0_SUBTYPE_PROBE_RESP)

#### 7.19.1.7 #define MATCH_SSID(ni, ssid, ssidlen) (ni → ni_esslen == ssidlen && memcmp(ni → ni_essid, ssid, ssidlen) == 0)

Referenced by ieee80211_find_node_with_ssid().

#### 7.19.1.8 #define N(a) (sizeof(a)/sizeof(a[0]))

#### 7.19.1.9 #define NZ(x) ((x) == 0 ? 1 : (x))

Referenced by ieee80211_getrssi().

#### 7.19.1.10 #define REFCNT_LOC "%s %p<%s> refcnt %d\n", __func__

Definition at line 65 of file ieee80211_node.c.

Referenced by ieee80211_find_node_with_channel(), and ieee80211_find_node_with_ssid().

#### 7.19.1.11 #define STA_FAILS_MAX 2

Definition at line 484 of file ieee80211_node.c.

Referenced by ieee80211_match_bss().

## 7.19.2 Function Documentation

### 7.19.2.1 __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_node. *c*, v 1.78 2007/01/15 01:12:28 sam Exp $")

### 7.19.2.2 static struct ieee80211_node* _ieee80211_find_node (struct ieee80211_node_table * *nt*, const u_int8_t * *macaddr*) [static]

Definition at line 1058 of file ieee80211_node.c.

References IEEE80211_ADDR_EQ, IEEE80211_DPRINTF, IEEE80211_MSG_NODE, IEEE80211_NODE_HASH, IEEE80211_NODE_LOCK_ASSERT, ieee80211_node_refcnt, ieee80211_ref_node(), ieee80211_node::ni_macaddr, and ieee80211_node_table::nt_ic.

Referenced by ieee80211_find_node(), ieee80211_find_rxnode(), ieee80211_find_rxnode_withkey(), and ieee80211_find_txnode().

Here is the call graph for this function:


### 7.19.2.3 static void _ieee80211_free_node (struct ieee80211_node *) [static]

Definition at line 1578 of file ieee80211_node.c.

References ieee80211com::ic_aid_bitmap, ieee80211com::ic_node_free, IEEE80211_AID_CLR, IEEE80211_DPRINTF, IEEE80211_MSG_NODE, ieee80211_node::ni_associd, ieee80211_node::ni_ic, ieee80211_node::ni_macaddr, ieee80211_node::ni_table, and ieee80211_node_table::nt_name.

Referenced by ieee80211_free_node(), and node_reclaim().

### 7.19.2.4 static __inline void copy_bss (struct ieee80211_node * *nbss*, const struct ieee80211_node * *obss*) [static]

Definition at line 382 of file ieee80211_node.c.

References ieee80211_node::ni_authmode, ieee80211_node::ni_rsn, ieee80211_node::ni_txpower, and ieee80211_node::ni_vlan.

Referenced by ieee80211_create_ibss(), ieee80211_reset_bss(), and ieee80211_sta_join().

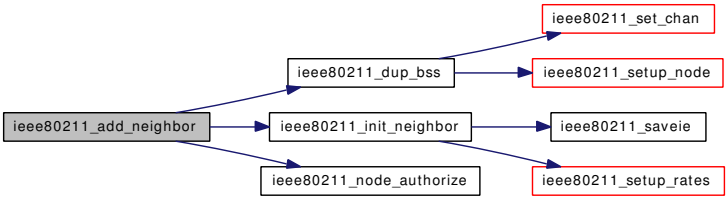
### 7.19.2.5 struct ieee80211_node* ieee80211_add_neighbor (struct ieee80211com * *ic*, const struct ieee80211_frame * *wh*, const struct ieee80211_scanparams * *sp*)

Definition at line 1306 of file ieee80211_node.c.

References ieee80211_frame::i_addr2, ieee80211com::ic_newassoc, ieee80211com::ic_sta, IEEE80211_DPRINTF, ieee80211_dup_bss(), ieee80211_init_neighbor(), IEEE80211_MSG_NODE, and ieee80211_node_authorize().

Referenced by ieee80211_recv_mgmt().

Here is the call graph for this function:



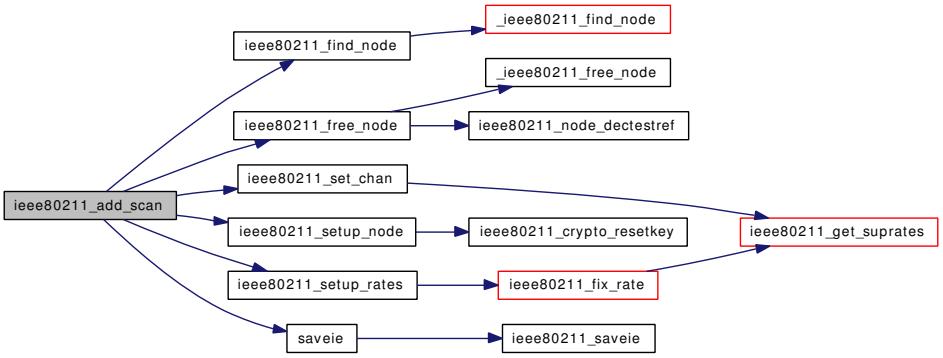

#### 7.19.2.6 void ieee80211_add_scan (struct ieee80211com * *ic*, const struct ieee80211_scanparams * *sp*, const struct ieee80211_frame * *wh*, int *subtype*, int *rssi*, int *rstamp*)

Definition at line 1187 of file ieee80211_node.c.

References ieee80211_scanparams::bintval, ieee80211_scanparams::capinfo, ieee80211_scanparams::chan, ieee80211_node::data, ieee80211_scanparams::erp, ieee80211_scanparams::fhdwell, ieee80211_scanparams::fhindex, ieee80211_frame::i_addr2, ieee80211_frame::i_addr3, ieee80211com::ic_bss, ieee80211com::ic_channels, ieee80211com::ic_curchan, ieee80211com::ic_flags, ieee80211com::ic_node_alloc, ieee80211com::ic_scan, ieee80211com::ic_stats, IEEE80211_ADDR_COPY, IEEE80211_F_DOSORT, ieee80211_find_node(), ieee80211_free_node(), ieee80211_msg_scan, ieee80211_set_chan(), ieee80211_setup_node(), ieee80211_setup_rates(), ieee80211_stats::is_rx_nodealloc, ISPROBE, ieee80211_node::ni_authmode, ieee80211_node::ni_bssid, ieee80211_node::ni_capinfo, ieee80211_node::ni_chan, ieee80211_node::ni_dtim_count, ieee80211_node::ni_dtim_period, ieee80211_node::ni_erp, ieee80211_node::ni_essid, ieee80211_node::ni_esslen, ieee80211_node::ni_fhdwell, ieee80211_node::ni_fhindex, ieee80211_node::ni_intval, ieee80211_node::ni_rsn, ieee80211_node::ni_rssi, ieee80211_node::ni_rstamp, ieee80211_node::ni_scangen, ieee80211_node::ni_timoff, ieee80211_node::ni_tstamp, ieee80211_node::ni_txpower, ieee80211_node::ni_vlan, ieee80211_node::ni_wme_ie, ieee80211_node::ni_wpa_ie, ieee80211_node_table::nt_scangen, ieee80211_scanparams::rates, saveie(), ieee80211_scanparams::ssid, ieee80211_scanparams::tim, ieee80211_tim_ie::tim_count, ieee80211_tim_ie::tim_period, ieee80211_scanparams::timoff, ieee80211_scanparams::tstamp, ieee80211_scanparams::wme, ieee80211_scanparams::wpa, and ieee80211_scanparams::xrates.

Referenced by ieee80211_recv_mgmt().

Here is the call graph for this function:



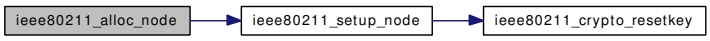
#### 7.19.2.7 struct ieee80211_node* ieee80211_alloc_node (struct ieee80211_node_table * *nt*, const u_int8_t * *macaddr*)

Definition at line 981 of file ieee80211_node.c.

References ieee80211com::ic_node_alloc, ieee80211com::ic_stats, ieee80211_setup_node(), ieee80211_-stats::is_rx_nodealloc, and ieee80211_node_table::nt_ic.

Referenced by ieee80211_create_ibss(), and ieee80211_reset_bss().

Here is the call graph for this function:



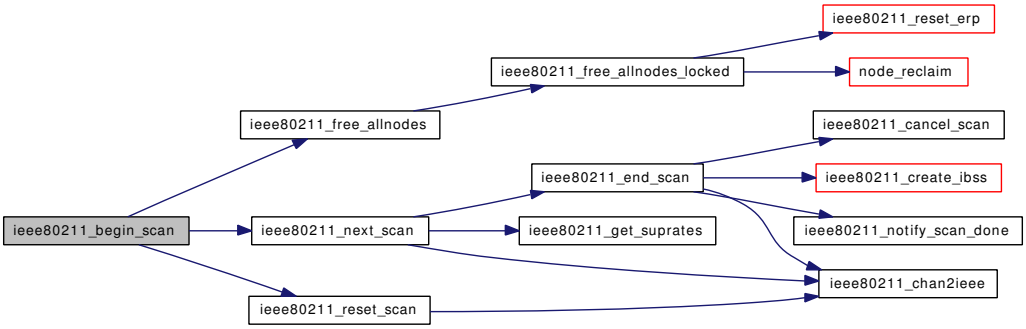

#### 7.19.2.8 void ieee80211_begin_scan (struct ieee80211com * *ic*, int *reset*)

Definition at line 286 of file ieee80211_node.c.

References ieee80211com::ic_curmode, ieee80211com::ic_flags, ieee80211com::ic_opmode, ieee80211com::ic_scan, ieee80211com::ic_stats, IEEE80211_DPRINTF, IEEE80211_F_ASCAN, IEEE80211_F_SCAN, ieee80211_free_allnodes(), IEEE80211_M_HOSTAP, IEEE80211_MSG_SCAN, ieee80211_next_scan(), ieee80211_phymode_name, ieee80211_reset_scan(), ieee80211_stats::is_scan_-active, ieee80211_stats::is_scan_passive, and ieee80211_node_table::nt_scangen.

Referenced by ieee80211_newstate().

Here is the call graph for this function:




#### 7.19.2.9 void ieee80211_cancel_scan (struct ieee80211com * *ic*)

Definition at line 616 of file ieee80211_node.c.

References ieee80211com::ic_flags, ieee80211com::ic_flags_ext, IEEE80211_DPRINTF, IEEE80211_-F_ASCAN, IEEE80211_F_SCAN, IEEE80211_FEXT_PROBECHAN, and IEEE80211_MSG_SCAN.

Referenced by ieee80211_end_scan(), and ieee80211_newstate().

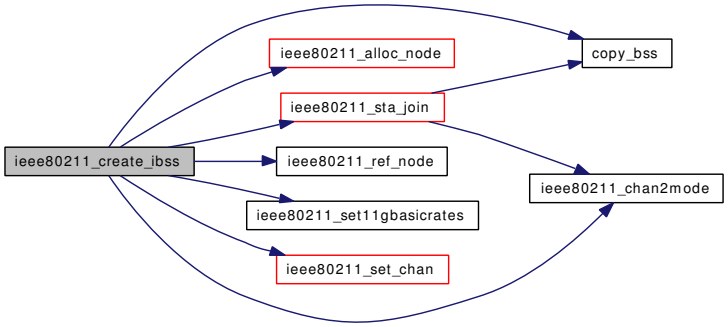
#### 7.19.2.10 void ieee80211_create_ibss (struct ieee80211com * *ic*, struct ieee80211_channel * *chan*)

Definition at line 393 of file ieee80211_node.c.

References copy_bss(), ieee80211com::ic_bintval, ieee80211com::ic_bss, ieee80211com::ic_curchan, ieee80211com::ic_curmode, ieee80211com::ic_des_bssid, ieee80211com::ic_des_essid, ieee80211com::ic_des_esslen, ieee80211com::ic_flags, ieee80211com::ic_inact_init, ieee80211com::ic_inact_run, ieee80211com::ic_myaddr, ieee80211com::ic_opmode, ieee80211com::ic_phytype, ieee80211com::ic_sta, IEEE80211_ADDR_COPY, IEEE80211_ADDR_LEN, ieee80211_alloc_node(), IEEE80211_CAPINFO_IBSS, IEEE80211_CAPINFO_PRIVACY, ieee80211_chan2mode(), IEEE80211_DPRINTF, IEEE80211_F_DESBSSID, IEEE80211_F_PRIVACY, IEEE80211_F_SIBSS, IEEE80211_IS_CHAN_FULL, IEEE80211_M_AHDEMO, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_MODE_11B, IEEE80211_MODE_11G, IEEE80211_MSG_SCAN, IEEE80211_NODE_LOCK, IEEE80211_NODE_UNLOCK, ieee80211_ref_node(), ieee80211_set11gbasicrates(), ieee80211_set_chan(), ieee80211_sta_join(), IEEE80211_T_FH, ieee80211_node::ni_bssid, ieee80211_node::ni_capinfo, ieee80211_node::ni_essid, ieee80211_node::ni_esslen, ieee80211_node::ni_fhdwell, ieee80211_node::ni_fhindex, ieee80211_node::ni_intval, ieee80211_node::ni_rates, ieee80211_node_table::nt_inact_init, and ieee80211_node_table::nt_name.

Referenced by ieee80211_end_scan(), and ieee80211_newstate().

Here is the call graph for this function:




#### 7.19.2.11 void ieee80211_dump_node (struct ieee80211_node_table * *nt*, struct ieee80211_node * *ni*)

Definition at line 1979 of file ieee80211_node.c.

References ieee80211_channel::ic_flags, ieee80211_channel::ic_freq, ieee80211_node_refcnt, IEEE80211_SEQ_FRAG_MASK, IEEE80211_SEQ_SEQ_SHIFT, ieee80211_node::ni_associd, ieee80211_node::ni_authmode, ieee80211_node::ni_bssid, ieee80211_node::ni_capinfo, ieee80211_node::ni_chan, ieee80211_node::ni_essid, ieee80211_node::ni_esslen, ieee80211_node::ni_fails, ieee80211_node::ni_flags, ieee80211_node::ni_inact, ieee80211_node::ni_intval, ieee80211_node::ni_macaddr, ieee80211_node::ni_rssi, ieee80211_node::ni_rstamp, ieee80211_node::ni_rxfragstamp, ieee80211_node::ni_rxseqs, ieee80211_node::ni_scangen, ieee80211_node::ni_txpower, ieee80211_node::ni_txrate, ieee80211_node::ni_txseqs, and ieee80211_node::ni_vlan.

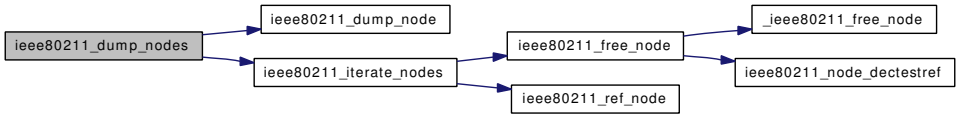
Referenced by ieee80211_dump_nodes().

#### 7.19.2.12 void ieee80211_dump_nodes (struct ieee80211_node_table * *nt*)

Definition at line 2003 of file ieee80211_node.c.

References ieee80211_dump_node(), and ieee80211_iterate_nodes().

Here is the call graph for this function:



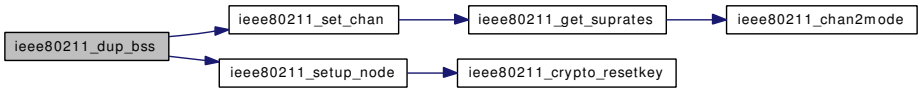

### 7.19.2.13 struct ieee80211_node* ieee80211_dup_bss (struct ieee80211_node_table * *nt*, const u_int8_t * *macaddr*)

Definition at line 1031 of file ieee80211_node.c.

References ieee80211com::ic_bss, ieee80211com::ic_node_alloc, ieee80211com::ic_stats, IEEE80211_-ADDR_COPY, ieee80211_set_chan(), ieee80211_setup_node(), ieee80211_stats::is_rx_nodealloc, ieee80211_node::ni_authmode, ieee80211_node::ni_bssid, ieee80211_node::ni_chan, ieee80211_-node::ni_rsn, ieee80211_node::ni_txpower, ieee80211_node::ni_vlan, and ieee80211_node_table::nt_ic.

Referenced by ieee80211_add_neighbor(), ieee80211_auth_open(), ieee80211_auth_shared(), and ieee80211_fakeup_adhoc_node().

Here is the call graph for this function:



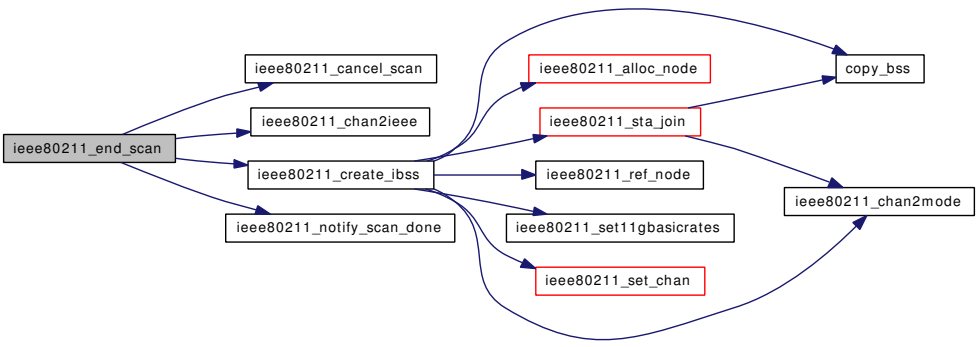

### 7.19.2.14 void ieee80211_end_scan (struct ieee80211com * *ic*)

Definition at line 631 of file ieee80211_node.c.

References ieee80211com::ic_chan_active, ieee80211com::ic_channels, ieee80211com::ic_node_getrssi, ieee80211com::ic_opmode, ieee80211com::ic_scan, ieee80211_cancel_scan(), ieee80211_chan2ieee(), ieee80211_create_ibss(), IEEE80211_M_HOSTAP, IEEE80211_NODE_LOCK, IEEE80211_NODE_-UNLOCK, ieee80211_notify_scan_done(), and ieee80211_node::ni_chan.

Referenced by ieee80211_next_scan().

Here is the call graph for this function:



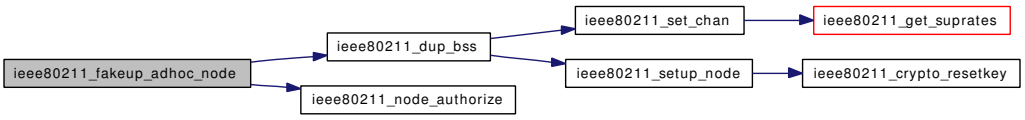
#### 7.19.2.15 struct ieee80211_node* ieee80211_fakeup_adhoc_node (struct ieee80211_node_table * *nt*, const u_int8_t *macaddr*[IEEE80211_ADDR_LEN])

Definition at line 1111 of file ieee80211_node.c.

References ieee80211com::ic_bss, ieee80211com::ic_flags, ieee80211com::ic_newassoc, ieee80211com::ic_opmode, IEEE80211_DPRINTF, ieee80211_dup_bss(), IEEE80211_F_WME, IEEE80211_M_AHDEMO, IEEE80211_MSG_NODE, ieee80211_node_authorize(), IEEE80211_NODE_QOS, ieee80211_node::ni_rates, and ieee80211_node_table::nt_ic.

Referenced by ieee80211_find_txnode(), ieee80211_input(), and ieee80211_recv_mgmt().

Here is the call graph for this function:



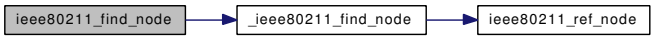

#### 7.19.2.16 struct ieee80211_node* ieee80211_find_node (struct ieee80211_node_table * *nt*, const u_int8_t * *macaddr*)

Definition at line 1093 of file ieee80211_node.c.

References _ieee80211_find_node(), IEEE80211_NODE_LOCK, and IEEE80211_NODE_UNLOCK.

Referenced by ieee80211_add_scan(), ieee80211_deliver_data(), ieee80211_ioctl_delkey(), ieee80211_ioctl_getkey(), ieee80211_ioctl_getstainfo(), ieee80211_ioctl_getstastats(), ieee80211_ioctl_getstatxpow(), ieee80211_ioctl_getwpaie(), ieee80211_ioctl_setkey(), ieee80211_ioctl_setmlme(), ieee80211_ioctl_setstastats(), ieee80211_ioctl_setstatxpow(), and ieee80211_newstate().

Here is the call graph for this function:




#### 7.19.2.17 struct ieee80211_node* ieee80211_find_node_with_channel (struct ieee80211_node_table * *nt*, const u_int8_t * *macaddr*, struct ieee80211_channel * *chan*)

Definition at line 1505 of file ieee80211_node.c.

References IEEE80211_ADDR_EQ, IEEE80211_DPRINTF, IEEE80211_MSG_NODE, IEEE80211_NODE_HASH, IEEE80211_NODE_LOCK, ieee80211_node_refcnt, IEEE80211_NODE_UNLOCK, ieee80211_ref_node(), ieee80211_node::ni_chan, ieee80211_node::ni_macaddr, ieee80211_node_table::nt_ic, and REFCNT_LOC.

Here is the call graph for this function:

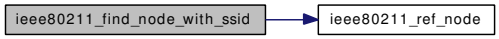
#### 7.19.2.18 struct ieee80211_node* ieee80211_find_node_with_ssid (struct ieee80211_node_table * *nt*, const u_int8_t * *macaddr*, u_int *ssidlen*, const u_int8_t * *ssid*)

Definition at line 1537 of file ieee80211_node.c.

References IEEE80211_ADDR_EQ, IEEE80211_DPRINTF, IEEE80211_MSG_NODE, IEEE80211_NODE_HASH, IEEE80211_NODE_LOCK, ieee80211_node_refcnt, IEEE80211_NODE_UNLOCK, ieee80211_ref_node(), MATCH_SSID, ieee80211_node::ni_macaddr, ieee80211_node_table::nt_ic, and REFCNT_LOC.

Referenced by ieee80211_ioctl_setmlme().

Here is the call graph for this function:

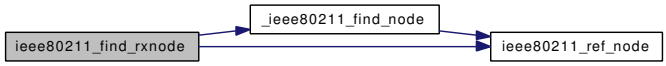



#### 7.19.2.19 struct ieee80211_node* ieee80211_find_rxnode (struct ieee80211com * *ic*, const struct ieee80211_frame_min * *wh*)

Definition at line 1342 of file ieee80211_node.c.

References _ieee80211_find_node(), ieee80211_frame_min::i_addr1, ieee80211_frame_min::i_addr2, ieee80211com::ic_bss, ieee80211com::ic_flags, ieee80211com::ic_opmode, ieee80211com::ic_scan, ieee80211com::ic_sta, IEEE80211_M_MONITOR, IEEE80211_M_STA, IEEE80211_NODE_LOCK, IEEE80211_NODE_UNLOCK, ieee80211_ref_node(), IS_CTL, and IS_PSPOLL.

Here is the call graph for this function:

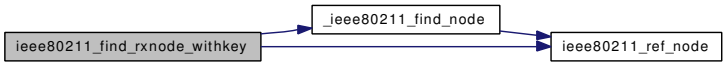



#### 7.19.2.20 struct ieee80211_node* ieee80211_find_rxnode_withkey (struct ieee80211com * *ic*, const struct ieee80211_frame_min * *wh*, ieee80211_keyix *keyix*)

Definition at line 1384 of file ieee80211_node.c.

References _ieee80211_find_node(), ieee80211com::ic_bss, ieee80211com::ic_flags, ieee80211com::ic_opmode, ieee80211com::ic_scan, ieee80211com::ic_sta, IEEE80211_DPRINTF, IEEE80211_M_MONITOR, IEEE80211_M_STA, IEEE80211_MSG_NODE, IEEE80211_NODE_LOCK, ieee80211_node_refcnt, IEEE80211_NODE_UNLOCK, ieee80211_ref_node(), IS_CTL, IS_PSPOLL, ieee80211_node::ni_ic, ieee80211_node::ni_macaddr, ieee80211_node::ni_ucastkey, ieee80211_node_table::nt_keyixmap, and ieee80211_key::wk_rxkeyix.

Here is the call graph for this function:



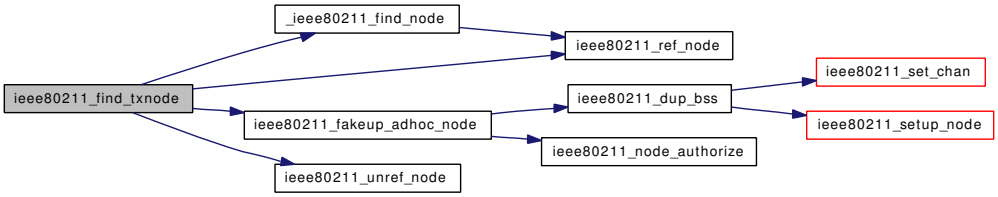
#### 7.19.2.21 struct ieee80211_node* ieee80211_find_txnode (struct ieee80211com * *ic*, const u_int8_t * *macaddr*)

Definition at line 1444 of file ieee80211_node.c.

References _ieee80211_find_node(), ieee80211com::ic_bss, ieee80211com::ic_opmode, ieee80211com::ic_sta, ieee80211com::ic_stats, IEEE80211_DPRINTF, ieee80211_fakeup_adhoc_node(), IEEE80211_IS_MULTICAST, IEEE80211_M_AHDEMO, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_M_STA, IEEE80211_MSG_OUTPUT, IEEE80211_NODE_LOCK, IEEE80211_NODE_UNLOCK, ieee80211_ref_node(), ieee80211_unref_node(), ieee80211_stats::is_tx_nonode, and ieee80211_node::ni_associd.

Referenced by ieee80211_output().

Here is the call graph for this function:



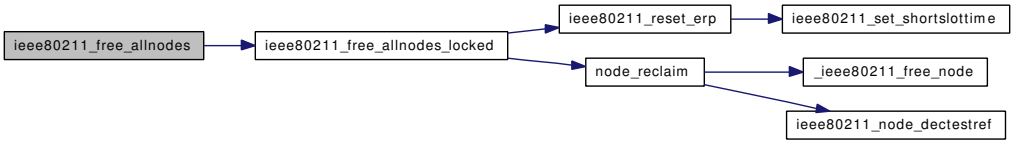

#### 7.19.2.22 static void ieee80211_free_allnodes (struct ieee80211_node_table *) [static]

Definition at line 1757 of file ieee80211_node.c.

References ieee80211_free_allnodes_locked(), IEEE80211_NODE_LOCK, and IEEE80211_NODE_UNLOCK.

Referenced by ieee80211_begin_scan().

Here is the call graph for this function:



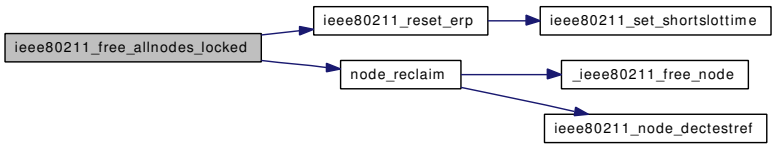

#### 7.19.2.23 static void ieee80211_free_allnodes_locked (struct ieee80211_node_table * *nt*) [static]

Definition at line 1737 of file ieee80211_node.c.

References ieee80211_authenticator::ia_node_leave, ieee80211com::ic_auth, IEEE80211_AID_CLR, IEEE80211_DPRINTF, IEEE80211_MSG_NODE, ieee80211_reset_erp(), ieee80211_node::ni_associd, node_reclaim(), ieee80211_node_table::nt_ic, and ieee80211_node_table::nt_name.

Referenced by ieee80211_free_allnodes(), ieee80211_node_table_cleanup(), and ieee80211_node_table_reset().

Here is the call graph for this function:



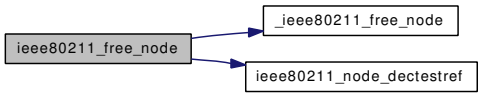

#### 7.19.2.24 void ieee80211_free_node (struct ieee80211_node * *ni*)

Definition at line 1600 of file ieee80211_node.c.

References _ieee80211_free_node(), IEEE80211_DPRINTF, IEEE80211_MSG_NODE, ieee80211_node_decref, ieee80211_node_dectestref(), IEEE80211_NODE_LOCK, ieee80211_node_refcnt, IEEE80211_NODE_UNLOCK, ieee80211_node::ni_ic, ieee80211_node::ni_macaddr, ieee80211_node::ni_table, ieee80211_node::ni_ucastkey, ieee80211_node_table::nt_keyixmax, and ieee80211_key::wk_rxkeyix.

Referenced by getstainfo_common(), ieee80211_add_scan(), ieee80211_deliver_data(), ieee80211_drain_ifq(), ieee80211_ioctl_delkey(), ieee80211_ioctl_getkey(), ieee80211_ioctl_getstastats(), ieee80211_ioctl_getstatxpow(), ieee80211_ioctl_getwpaie(), ieee80211_ioctl_setkey(), ieee80211_ioctl_setmlme(), ieee80211_ioctl_setstastats(), ieee80211_ioctl_setstatxpow(), ieee80211_iterate_nodes(), ieee80211_node_delucastkey(), ieee80211_node_detach(), ieee80211_node_leave(), ieee80211_output(), ieee80211_recv_mgmt(), ieee80211_reset_bss(), ieee80211_send_error(), ieee80211_send_mgmt(), ieee80211_send_probereq(), and ieee80211_sta_join().

Here is the call graph for this function:




#### 7.19.2.25 u_int8_t ieee80211_getrssi (struct ieee80211com * *ic*)

Definition at line 2245 of file ieee80211_node.c.

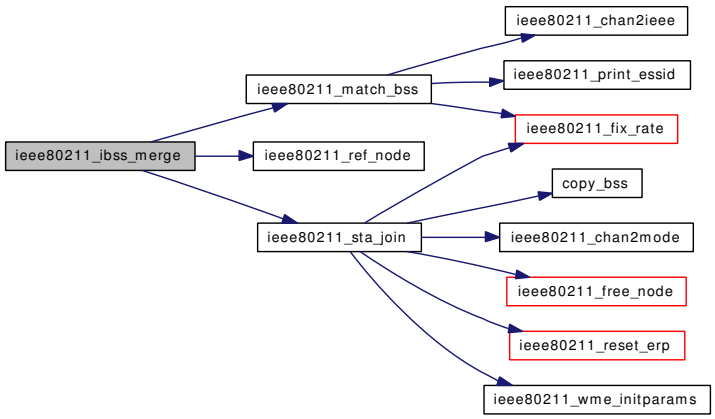
References ieee80211com::ic_bss, ieee80211com::ic_node_getrssi, ieee80211com::ic_opmode, ieee80211com::ic_sta, IEEE80211_AID, IEEE80211_CAPINFO_IBSS, IEEE80211_M_AHDEMO, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_M_MONITOR, IEEE80211_M_STA, ieee80211_node::ni_associd, ieee80211_node::ni_capinfo, and NZ.

#### 7.19.2.26 int ieee80211_ibss_merge (struct ieee80211_node * *ni*)

Definition at line 763 of file ieee80211_node.c.

References ieee80211com::ic_bss, ieee80211com::ic_flags, ieee80211com::ic_stats, IEEE80211_ADDR_EQ, IEEE80211_DPRINTF, IEEE80211_F_SHPREAMBLE, IEEE80211_F_SHSLOT, IEEE80211_F_USEPROT, ieee80211_match_bss(), IEEE80211_MSG_ASSOC, ieee80211_ref_node(), ieee80211_sta_join(), ieee80211_stats::is_ibss_capmismatch, ieee80211_node::ni_bssid, and ieee80211_node::ni_ic.

Here is the call graph for this function:



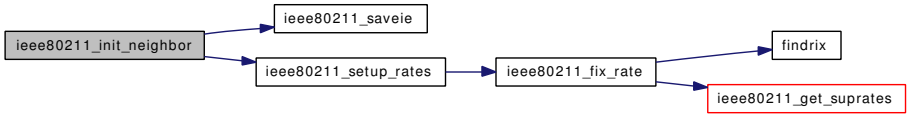

### 7.19.2.27 void ieee80211_init_neighbor (struct ieee80211_node * *ni*, const struct ieee80211_frame * *wh*, const struct ieee80211_scanparams * *sp*)

Definition at line 1270 of file ieee80211_node.c.

References ieee80211_scanparams::bintval, ieee80211_scanparams::capinfo, ieee80211_node::data, ieee80211_scanparams::erp, ieee80211_scanparams::fhdwell, ieee80211_scanparams::fhindex, ieee80211_frame::i_addr3, ieee80211com::ic_curchan, IEEE80211_ADDR_COPY, IEEE80211_-DPRINTF, IEEE80211_F_DODEL, IEEE80211_F_DOFRATE, IEEE80211_F_DONEGO, IEEE80211_-F_DOSORT, IEEE80211_MSG_NODE, ieee80211_saveie(), ieee80211_setup_rates(), ieee80211_-node::ni_bssid, ieee80211_node::ni_capinfo, ieee80211_node::ni_chan, ieee80211_node::ni_erp, ieee80211_node::ni_essid, ieee80211_node::ni_esslen, ieee80211_node::ni_fhdwell, ieee80211_-node::ni_fhindex, ieee80211_node::ni_ic, ieee80211_node::ni_intval, ieee80211_node::ni_-macaddr, ieee80211_node::ni_timoff, ieee80211_node::ni_tstamp, ieee80211_node::ni_wme_ie, ieee80211_node::ni_wpa_ie, ieee80211_scanparams::rates, ieee80211_scanparams::ssid, ieee80211_-scanparams::timoff, ieee80211_scanparams::tstamp, ieee80211_scanparams::wme, ieee80211_-scanparams::wpa, and ieee80211_scanparams::xrates.

Referenced by ieee80211_add_neighbor(), and ieee80211_recv_mgmt().

Here is the call graph for this function:



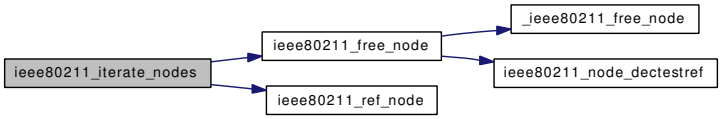

### 7.19.2.28 void ieee80211_iterate_nodes (struct ieee80211_node_table * *nt*, ieee80211_iter_func * *f*, void * *arg*)

Definition at line 1954 of file ieee80211_node.c.

References ieee80211_free_node(), IEEE80211_NODE_LOCK, IEEE80211_NODE_UNLOCK, ieee80211_ref_node(), IEEE80211_SCAN_LOCK, IEEE80211_SCAN_UNLOCK, ieee80211_node::ni_-scangen, and ieee80211_node_table::nt_scangen.

Referenced by getstainfo_common(), ieee80211_cfgget(), ieee80211_dump_nodes(), ieee80211_ioctl_-getscanresults(), ieee80211_ioctl_setmlme(), and ieee80211_newstate().

Here is the call graph for this function:



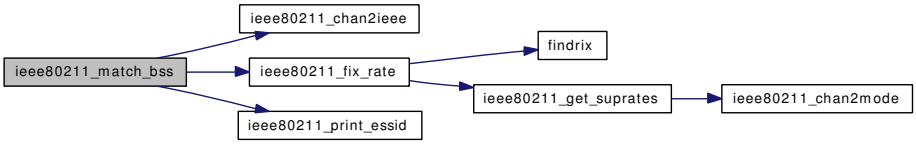

### 7.19.2.29 static int ieee80211_match_bss (struct ieee80211com * *ic*, struct ieee80211_node * *ni*) [static]

Definition at line 487 of file ieee80211_node.c.

References ieee80211com::ic_chan_active, ieee80211com::ic_des_bssid, ieee80211com::ic_-des_chan, ieee80211com::ic_des_essid, ieee80211com::ic_des_esslen, ieee80211com::ic_flags, ieee80211com::ic_opmode, IEEE80211_ADDR_EQ, IEEE80211_CAPINFO_ESS, IEEE80211_-CAPINFO_IBSS, IEEE80211_CAPINFO_PRIVACY, ieee80211_chan2ieee(), IEEE80211_CHAN_-ANYC, IEEE80211_F_DESBSSID, IEEE80211_F_DOFRATE, IEEE80211_F_DONEGO, IEEE80211_-F_JOIN, IEEE80211_F_PRIVACY, ieee80211_fix_rate(), IEEE80211_M_IBSS, ieee80211_msg_scan, ieee80211_print_essid(), IEEE80211_RATE_BASIC, IEEE80211_RATE_VAL, ieee80211_node::ni_-bssid, ieee80211_node::ni_capinfo, ieee80211_node::ni_chan, ieee80211_node::ni_essid, ieee80211_-node::ni_esslen, ieee80211_node::ni_fails, ieee80211_node::ni_macaddr, ieee80211_node::ni_rssi, and STA_FAILS_MAX.

Referenced by ieee80211_ibss_merge().

Here is the call graph for this function:



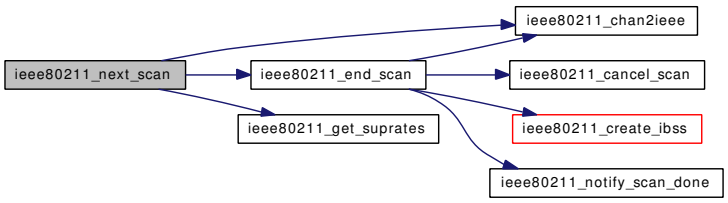

### 7.19.2.30 int ieee80211_next_scan (struct ieee80211com * *ic*)

Definition at line 320 of file ieee80211_node.c.

References ieee80211com::ic_bss, ieee80211com::ic_chan_scan, ieee80211com::ic_channels, ieee80211com::ic_curchan, ieee80211com::ic_flags_ext, ieee80211com::ic_mgt_timer, ieee80211_-chan2ieee(), IEEE80211_DPRINTF, ieee80211_end_scan(), IEEE80211_FEXT_PROBECHAN, ieee80211_get_suprates(), IEEE80211_MSG_SCAN, ieee80211_new_state, IEEE80211_S_SCAN, and ieee80211_node::ni_rates.

Referenced by ieee80211_begin_scan().

Here is the call graph for this function:



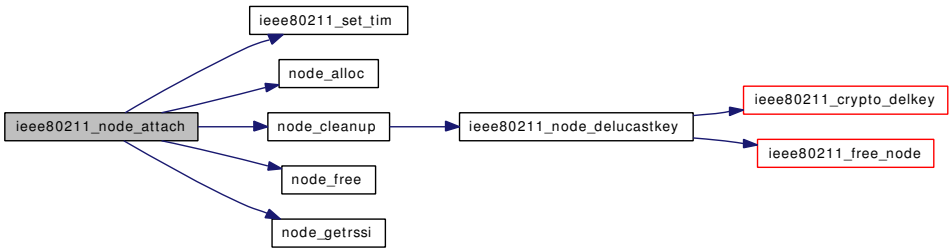

#### 7.19.2.31 void ieee80211_node_attach (struct ieee80211com * *ic*)

Definition at line 92 of file ieee80211_node.c.

References ieee80211com::ic_inact_auth, ieee80211com::ic_inact_init, ieee80211com::ic_inact_probe, ieee80211com::ic_inact_run, ieee80211com::ic_max_aid, ieee80211com::ic_node_alloc, ieee80211com::ic_node_cleanup, ieee80211com::ic_node_free, ieee80211com::ic_node_getrssi, ieee80211com::ic_set_tim, IEEE80211_AID_DEF, IEEE80211_INACT_AUTH, IEEE80211_INACT_INIT, IEEE80211_INACT_PROBE, IEEE80211_INACT_RUN, ieee80211_set_tim(), node_alloc(), node_cleanup(), node_free(), and node_getrssi().

Referenced by ieee80211_ifattach().

Here is the call graph for this function:




#### 7.19.2.32 void ieee80211_node_authorize (struct ieee80211_node * *ni*)

Definition at line 208 of file ieee80211_node.c.

References ieee80211com::ic_inact_run, IEEE80211_NODE_AUTH, ieee80211_node::ni_flags, ieee80211_node::ni_ic, and ieee80211_node::ni_inact_reload.

Referenced by ieee80211_add_neighbor(), ieee80211_auth_open(), ieee80211_auth_shared(), ieee80211_fakeup_adhoc_node(), ieee80211_ioctl_setmlme(), and ieee80211_newstate().

#### 7.19.2.33 static int ieee80211_node_compare (struct ieee80211com * *ic*, const struct ieee80211_node * *a*, const struct ieee80211_node * *b*) [static]

Definition at line 570 of file ieee80211_node.c.

References ieee80211com::ic_node_getrssi, IEEE80211_CAPINFO_PRIVACY, IEEE80211_IS_CHAN_5GHZ, maxrate(), ieee80211_node::ni_capinfo, ieee80211_node::ni_chan, and ieee80211_node::ni_fails.

Here is the call graph for this function:

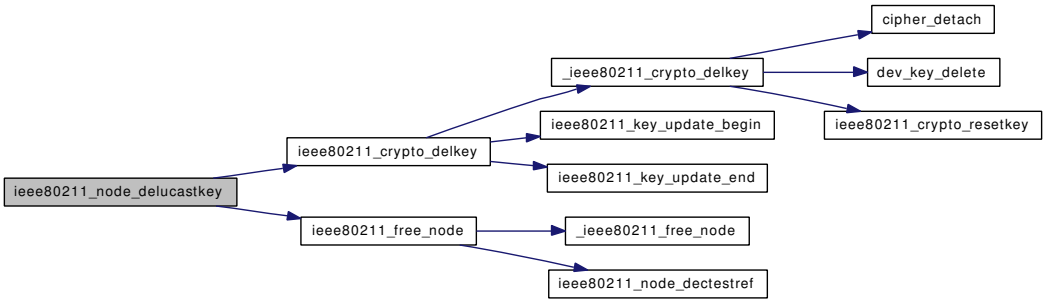

#### 7.19.2.34 int ieee80211_node_delucastkey (struct ieee80211_node * *ni*)

Definition at line 1645 of file ieee80211_node.c.

References ieee80211com::ic_sta, ieee80211_crypto_delkey(), IEEE80211_DPRINTF, ieee80211_free_node(), IEEE80211_MSG_NODE, IEEE80211_NODE_IS_LOCKED, IEEE80211_NODE_LOCK, ieee80211_node_refcnt, IEEE80211_NODE_UNLOCK, ieee80211_node::ni_ic, ieee80211_node::ni_macaddr, ieee80211_node::ni_ucastkey, and ieee80211_key::wk_rxkeyix.

Referenced by ieee80211_ioctl_delkey(), and node_cleanup().

Here is the call graph for this function:



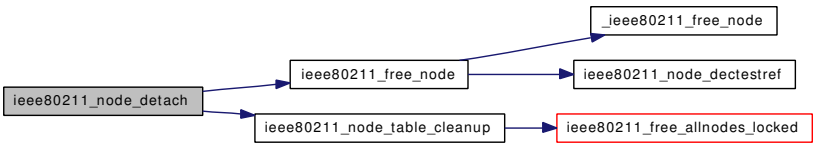

#### 7.19.2.35 void ieee80211_node_detach (struct ieee80211com * *ic*)

Definition at line 184 of file ieee80211_node.c.

References ieee80211com::ic_aid_bitmap, ieee80211com::ic_bss, ieee80211com::ic_scan, ieee80211com::ic_sta, ieee80211com::ic_tim_bitmap, ieee80211_free_node(), and ieee80211_node_table_cleanup().

Referenced by ieee80211_ifdetach().

Here is the call graph for this function:




#### 7.19.2.36 void ieee80211_node_join (struct ieee80211com * *ic*, struct ieee80211_node * *ni*, int *resp*)

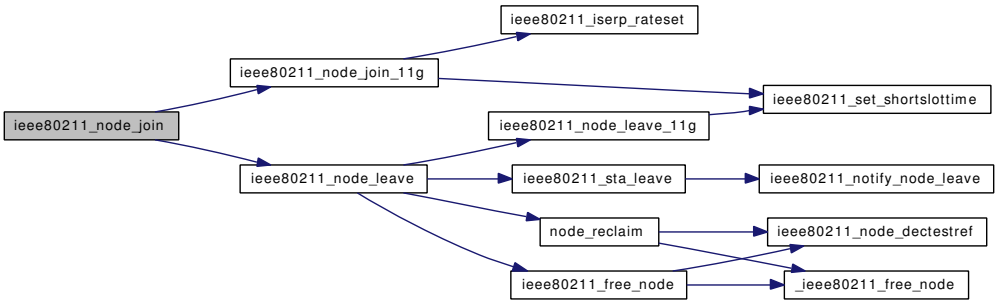
Definition at line 2067 of file ieee80211_node.c.

References ieee80211com::ic_aid_bitmap, ieee80211com::ic_curmode, ieee80211com::ic_max_aid, ieee80211com::ic_sta_assoc, IEEE80211_AID_ISSET, IEEE80211_AID_SET, IEEE80211_IS_-

CHAN_FULL, IEEE80211_MODE_11G, ieee80211_node_join_11g(), ieee80211_node_leave(), IEEE80211_REASON_ASSOC_TOOMANY, IEEE80211_SEND_MGMT, ieee80211_node::ni_associd, and ieee80211_node::ni_chan.

Referenced by ieee80211_recv_mgmt().

Here is the call graph for this function:



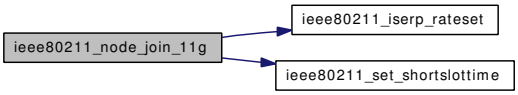

### 7.19.2.37 static void ieee80211_node_join_11g (struct ieee80211com * *ic*, struct ieee80211_node * *ni*) [static]

Definition at line 2013 of file ieee80211_node.c.

References ieee80211com::ic_flags, ieee80211com::ic_flags_ext, ieee80211com::ic_longslotsta, ieee80211com::ic_nonerpsta, ieee80211com::ic_protmode, IEEE80211_CAPINFO_SHORT_PREAMBLE, IEEE80211_CAPINFO_SHORT_SLOTTIME, IEEE80211_DPRINTF, IEEE80211_F_SHPREAMBLE, IEEE80211_F_USEBARKER, IEEE80211_F_USEPROT, IEEE80211_FEXT_ERPUPDATE, ieee80211_iserp_rateset(), IEEE80211_MSG_ASSOC, IEEE80211_NODE_ERP, IEEE80211_PROT_NONE, ieee80211_set_shortslottime(), ieee80211_node::ni_capinfo, ieee80211_node::ni_flags, ieee80211_node::ni_macaddr, and ieee80211_node::ni_rates.

Referenced by ieee80211_node_join().

Here is the call graph for this function:




### 7.19.2.38 void ieee80211_node_lateattach (struct ieee80211com * *ic*)

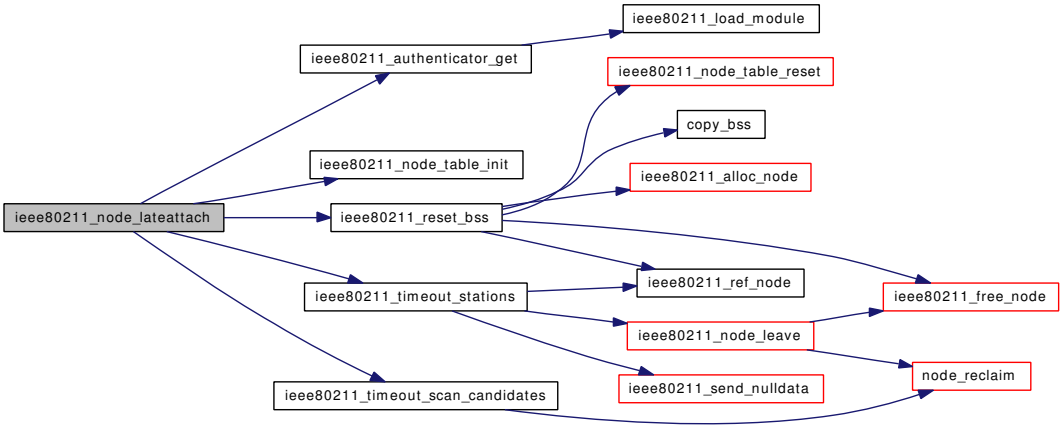
Definition at line 112 of file ieee80211_node.c.

References ieee80211_crypto_state::cs_max_keyix, ieee80211com::ic_aid_bitmap, ieee80211com::ic_auth, ieee80211com::ic_bss, ieee80211com::ic_caps, ieee80211com::ic_crypto, ieee80211com::ic_max_aid, ieee80211com::ic_scan, ieee80211com::ic_sta, ieee80211com::ic_tim_bitmap, ieee80211com::ic_tim_len, IEEE80211_AID_MAX, ieee80211_authenticator_get(), IEEE80211_C_AES, IEEE80211_C_CKIP, IEEE80211_CIPHER_AES_CCM, IEEE80211_CIPHER_AES_OCB, IEEE80211_CIPHER_CKIP, IEEE80211_CIPHER_TKIP, IEEE80211_CIPHER_WEP, IEEE80211_INACT_INIT, IEEE80211_INACT_SCAN, ieee80211_node_table_init(), ieee80211_reset_bss(), ieee80211_timeout_scan_candidates(), ieee80211_timeout_stations(), ieee80211_node::ni_authmode, ieee80211_

node::ni_rsn, ieee80211_rsnparms::rsn_keymgmt, ieee80211_rsnparms::rsn_keymgmtset, ieee80211_-rsnparms::rsn_mcastcipher, ieee80211_rsnparms::rsn_mcastkeylen, ieee80211_rsnparms::rsn_-ucastcipher, ieee80211_rsnparms::rsn_ucastcipherset, ieee80211_rsnparms::rsn_ucastkeylen, WPA_-ASE_8021X_PSK, and WPA_ASE_8021X_UNSPEC.

Referenced by ieee80211_media_init().

Here is the call graph for this function:



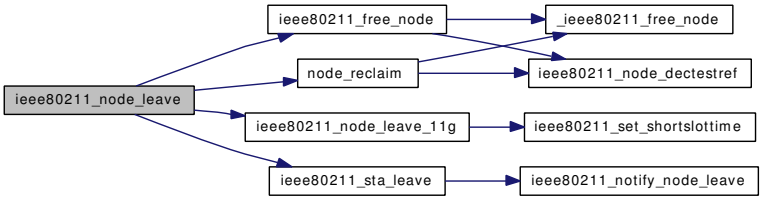

### 7.19.2.39 void ieee80211_node_leave (struct ieee80211com * *ic*, struct ieee80211_node * *ni*)

Definition at line 2188 of file ieee80211_node.c.

References ieee80211_authenticator::ia_node_leave, ieee80211com::ic_auth, ieee80211com::ic_opmode, IEEE80211_AID_CLR, IEEE80211_DPRINTF, ieee80211_free_node(), IEEE80211_IS_CHAN_FULL, IEEE80211_M_AHDEMO, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_MODE_11G, IEEE80211_MSG_ASSOC, IEEE80211_MSG_DEBUG, IEEE80211_NODE_AID, ieee80211_node_-leave_11g(), IEEE80211_NODE_LOCK, IEEE80211_NODE_UNLOCK, ieee80211_sta_leave(), ieee80211_node::ni_associd, ieee80211_node::ni_chan, ieee80211_node::ni_macaddr, ieee80211_-node::ni_table, and node_reclaim().

Referenced by domlme(), ieee80211_node_join(), ieee80211_recv_mgmt(), ieee80211_timeout_-stations(), and sta_disassoc().

Here is the call graph for this function:



#### 7.19.2.40 static void ieee80211_node_leave_11g (struct ieee80211com * *ic*, struct ieee80211_node * *ni*) [static]

Definition at line 2125 of file ieee80211_node.c.

References ieee80211com::ic_caps, ieee80211com::ic_curmode, ieee80211com::ic_flags, ieee80211_channel::ic_flags, ieee80211com::ic_flags_ext, ieee80211_channel::ic_freq, ieee80211com::ic_longslotsta, ieee80211com::ic_nonerpsta, ieee80211com::ic_opmode, IEEE80211_C_SHPREAMBLE, IEEE80211_C_SHSLOT, IEEE80211_CAPINFO_SHORT_SLOTTIME, IEEE80211_DPRINTF, IEEE80211_F_SHPREAMBLE, IEEE80211_F_USEBARKER, IEEE80211_F_USEPROT, IEEE80211_FEXT_ERPUPDATE, IEEE80211_M_IBSS, IEEE80211_MODE_11G, IEEE80211_MSG_ASSOC, IEEE80211_NODE_ERP, ieee80211_set_shortslottime(), ieee80211_node::ni_capinfo, ieee80211_node::ni_chan, ieee80211_node::ni_flags, and ieee80211_node::ni_macaddr.

Referenced by ieee80211_node_leave().

Here is the call graph for this function:

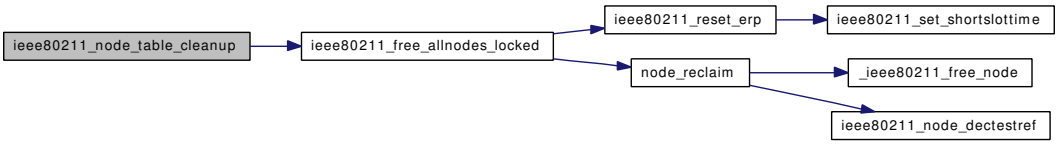

#### 7.19.2.41 static void ieee80211_node_table_cleanup (struct ieee80211_node_table * *nt*) [static]

Definition at line 2371 of file ieee80211_node.c.

References IEEE80211_DPRINTF, ieee80211_free_allnodes_locked(), IEEE80211_MSG_NODE, IEEE80211_NODE_LOCK, IEEE80211_NODE_LOCK_DESTROY, IEEE80211_SCAN_LOCK_DESTROY, ieee80211_node_table::nt_ic, ieee80211_node_table::nt_keyixmap, ieee80211_node_table::nt_keyixmax, and ieee80211_node_table::nt_name.

Referenced by ieee80211_node_detach().

Here is the call graph for this function:




#### 7.19.2.42 static void ieee80211_node_table_init (struct ieee80211com * *ic*, struct ieee80211_node_table * *nt*, const char * *name*, int *inact*, int *keyixmax*, void(*)(struct ieee80211_node_table *) *timeout*) [static]

Definition at line 2326 of file ieee80211_node.c.

References ieee80211com::ic_ifp, IEEE80211_DPRINTF, IEEE80211_MSG_NODE, IEEE80211_NODE_LOCK_INIT, IEEE80211_SCAN_LOCK_INIT, ieee80211_node_table::nt_ic, ieee80211_node_table::nt_inact_init, ieee80211_node_table::nt_keyixmap, ieee80211_node_table::nt_keyixmax, ieee80211_node_table::nt_name, ieee80211_node_table::nt_scangen, and ieee80211_node_table::nt_timeout.

Referenced by ieee80211_node_lateattach().

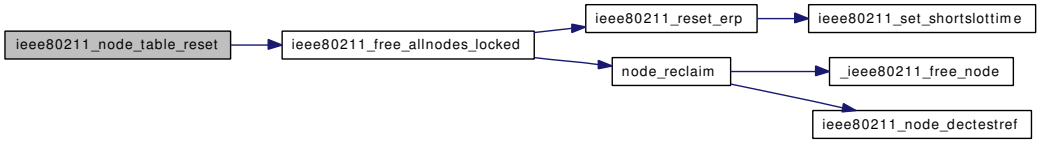
#### 7.19.2.43 void ieee80211_node_table_reset (struct ieee80211_node_table * *nt*)

Definition at line 2358 of file ieee80211_node.c.

References IEEE80211_DPRINTF, ieee80211_free_allnodes_locked(), IEEE80211_MSG_NODE, IEEE80211_NODE_LOCK, IEEE80211_NODE_UNLOCK, ieee80211_node_table::nt_ic, ieee80211_node_table::nt_inact_timer, and ieee80211_node_table::nt_name.

Referenced by ieee80211_reset_bss().

Here is the call graph for this function:




#### 7.19.2.44 void ieee80211_node_unauthorize (struct ieee80211_node * *ni*)

Definition at line 217 of file ieee80211_node.c.

References IEEE80211_NODE_AUTH, and ieee80211_node::ni_flags.

Referenced by ieee80211_ioctl_setmlme(), and ieee80211_send_mgmt().

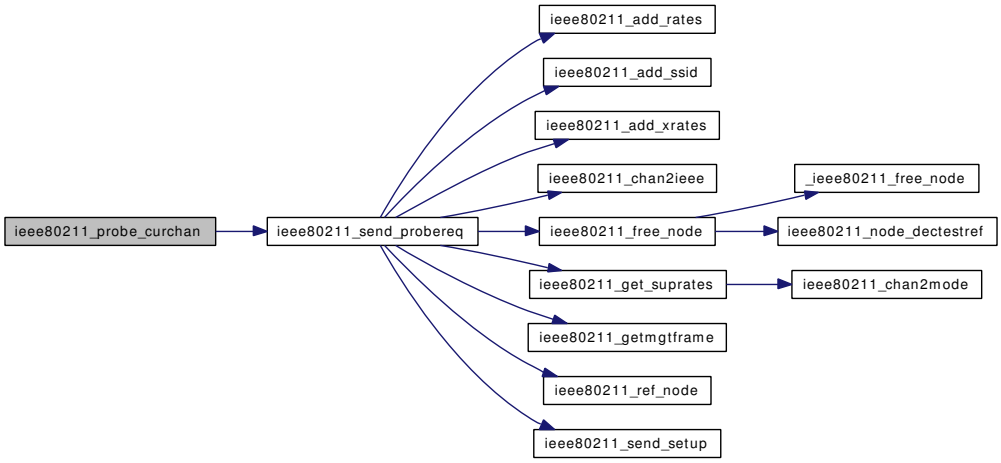
#### 7.19.2.45 void ieee80211_probe_curchan (struct ieee80211com * *ic*, int *force*)

Definition at line 364 of file ieee80211_node.c.

References ieee80211com::ic_bss, ieee80211com::ic_curchan, ieee80211com::ic_des_essid, ieee80211com::ic_des_esslen, ieee80211_channel::ic_flags, ieee80211com::ic_flags_ext, ieee80211com::ic_ifp, ieee80211com::ic_myaddr, ieee80211com::ic_opt_ie, ieee80211com::ic_opt_ie_len, IEEE80211_CHAN_PASSIVE, IEEE80211_FEXT_PROBECHAN, and ieee80211_send_probereq().

Referenced by ieee80211_newstate(), and ieee80211_recv_mgmt().

Here is the call graph for this function:



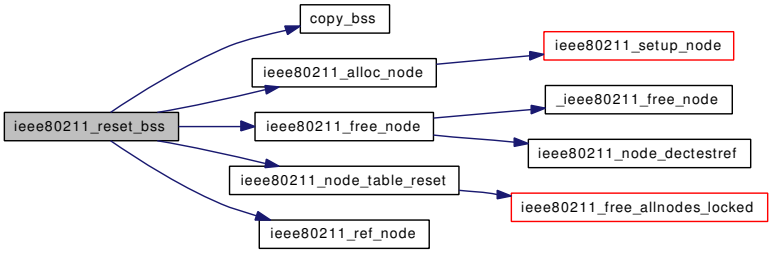
#### 7.19.2.46 void ieee80211_reset_bss (struct ieee80211com * *ic*)

Definition at line 465 of file ieee80211_node.c.

References copy_bss(), ieee80211com::ic_bintval, ieee80211com::ic_bss, ieee80211com::ic_myaddr, ieee80211com::ic_scan, ieee80211com::ic_sta, ieee80211_alloc_node(), ieee80211_free_node(), ieee80211_node_table_reset(), and ieee80211_ref_node().

Referenced by ieee80211_newstate(), and ieee80211_node_lateattach().

Here is the call graph for this function:




#### 7.19.2.47 static void ieee80211_reset_scan (struct ieee80211com * *ic*) [static]

Definition at line 261 of file ieee80211_node.c.

References ieee80211com::ic_chan_active, ieee80211com::ic_chan_scan, ieee80211com::ic_curchan, ieee80211com::ic_des_chan, ieee80211_chan2ieee(), IEEE80211_CHAN_ANYC, and ieee80211_msg_scan.

Referenced by ieee80211_begin_scan().

Here is the call graph for this function:

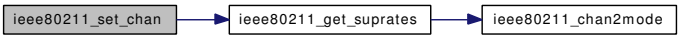

#### 7.19.2.48 static void ieee80211_set_chan (struct ieee80211com * *ic*, struct ieee80211_node * *ni*, struct ieee80211_channel * *chan*) [static]

Definition at line 227 of file ieee80211_node.c.

References ieee80211com::ic_curchan, IEEE80211_CHAN_ANYC, ieee80211_get_suprates(), ieee80211_node::ni_chan, and ieee80211_node::ni_rates.

Referenced by ieee80211_add_scan(), ieee80211_create_ibss(), ieee80211_dup_bss(), and ieee80211_tmp_node().

Here is the call graph for this function:



#### 7.19.2.49 static void ieee80211_set_tim (struct ieee80211_node *, int *set*) [static]

Definition at line 2294 of file ieee80211_node.c.

References ieee80211com::ic_flags, ieee80211com::ic_max_aid, ieee80211com::ic_opmode, ieee80211com::ic_ps_pending, ieee80211com::ic_tim_bitmap, IEEE80211_AID, IEEE80211_BEACON_LOCK, IEEE80211_BEACON_UNLOCK, IEEE80211_F_TIMUPDATE, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, ieee80211_node::ni_associd, and ieee80211_node::ni_ic.

Referenced by ieee80211_node_attach().

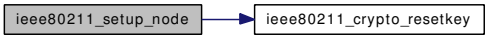
#### 7.19.2.50 static void ieee80211_setup_node (struct ieee80211_node_table *, struct ieee80211_node *, const u_int8_t *) [static]

Definition at line 951 of file ieee80211_node.c.

References ieee80211com::ic_txpowlimit, IEEE80211_ADDR_COPY, IEEE80211_AUTH_OPEN, IEEE80211_CHAN_ANYC, ieee80211_crypto_resetkey(), IEEE80211_DPRINTF, IEEE80211_KEYIX_NONE, IEEE80211_MSG_NODE, IEEE80211_NODE_HASH, ieee80211_node_initref, IEEE80211_NODE_LOCK, IEEE80211_NODE_SAVEQ_INIT, IEEE80211_NODE_UNLOCK, ieee80211_node::ni_authmode, ieee80211_node::ni_chan, ieee80211_node::ni_ic, ieee80211_node::ni_inact, ieee80211_node::ni_inact_reload, ieee80211_node::ni_macaddr, ieee80211_node::ni_table, ieee80211_node::ni_txpower, ieee80211_node::ni_ucastkey, ieee80211_node_table::nt_ic, ieee80211_node_table::nt_inact_init, and ieee80211_node_table::nt_name.

Referenced by ieee80211_add_scan(), ieee80211_alloc_node(), and ieee80211_dup_bss().

Here is the call graph for this function:



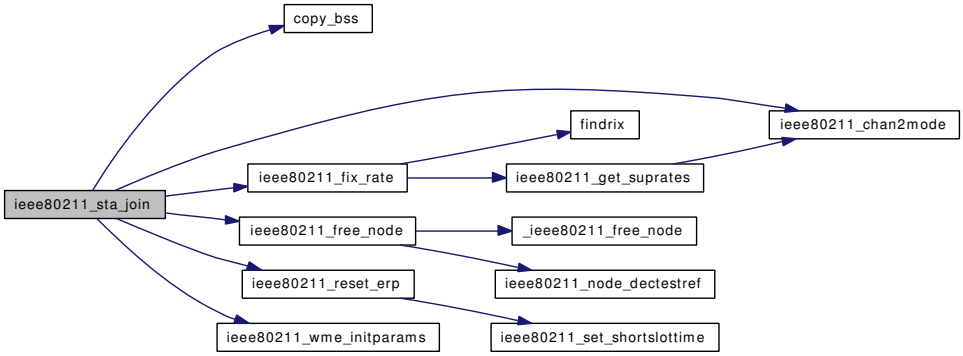

#### 7.19.2.51 int ieee80211_sta_join (struct ieee80211com * *ic*, struct ieee80211_node * *selbs*)

Definition at line 793 of file ieee80211_node.c.

References copy_bss(), ieee80211com::ic_bss, ieee80211com::ic_curchan, ieee80211com::ic_curmode, ieee80211com::ic_inact_run, ieee80211com::ic_opmode, ieee80211com::ic_sta, ieee80211_chan2mode(), IEEE80211_F_DODEL, IEEE80211_F_JOIN, ieee80211_fix_rate(), ieee80211_free_node(), IEEE80211_M_IBSS, IEEE80211_M_STA, ieee80211_new_state, IEEE80211_NODE_LOCK, IEEE80211_NODE_UNLOCK, ieee80211_reset_erp(), IEEE80211_S_AUTH, IEEE80211_S_RUN, ieee80211_wme_initparams(), ieee80211_node::ni_chan, ieee80211_node_table::nt_inact_init, and ieee80211_node_table::nt_name.

Referenced by ieee80211_create_ibss(), ieee80211_ibss_merge(), and ieee80211_ioctl_setmlme().

Here is the call graph for this function:




#### 7.19.2.52 void ieee80211_sta_leave (struct ieee80211com * *ic*, struct ieee80211_node * *ni*)

Definition at line 849 of file ieee80211_node.c.

References ieee80211com::ic_node_cleanup, and ieee80211_notify_node_leave().

Referenced by ieee80211_newstate(), and ieee80211_node_leave().

Here is the call graph for this function:

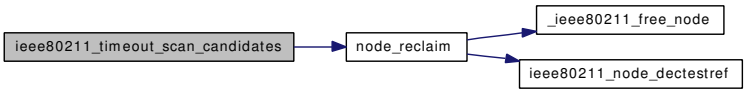

#### 7.19.2.53 static void ieee80211_timeout_scan_candidates (struct ieee80211_node_table *) [static]

Definition at line 1769 of file ieee80211_node.c.

References ieee80211com::ic_bss, IEEE80211_DPRINTF, IEEE80211_INACT_WAIT, IEEE80211_MSG_NODE, IEEE80211_NODE_LOCK, ieee80211_node_refcnt, IEEE80211_NODE_UNLOCK, ieee80211_node::ni_inact, ieee80211_node::ni_macaddr, ieee80211_node::ni_rxfrag, ieee80211_node::ni_rxfragstamp, node_reclaim(), ieee80211_node_table::nt_ic, and ieee80211_node_table::nt_inact_timer.

Referenced by ieee80211_node_lateattach().

Here is the call graph for this function:




#### 7.19.2.54 static void ieee80211_timeout_stations (struct ieee80211_node_table *) [static]

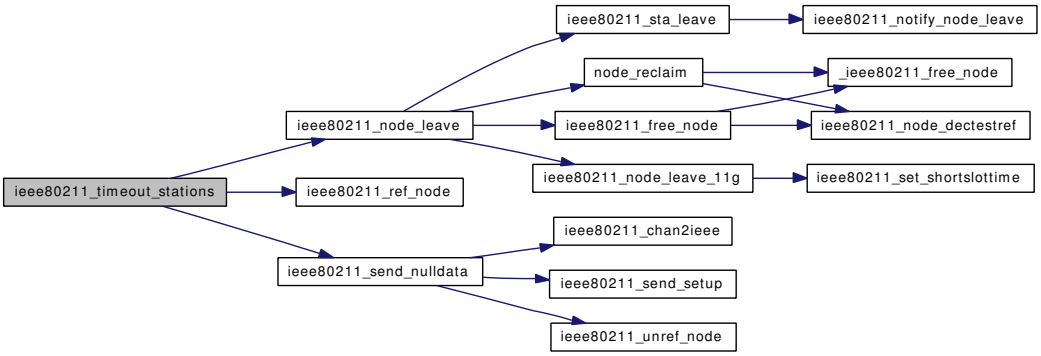
Definition at line 1806 of file ieee80211_node.c.

References _IEEE80211_NODE_SAVEQ_DEQUEUE_HEAD, ieee80211com::ic_bss, ieee80211com::ic_inact_probe, ieee80211com::ic_opmode, ieee80211com::ic_set_tim,

ieee80211com::ic_stats, IEEE80211_DPRINTF, IEEE80211_FC0_SUBTYPE_DEAUTH, IEEE80211_-INACT_WAIT, IEEE80211_M_AHDEMO, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_MSG_INACT, IEEE80211_MSG_NODE, IEEE80211_MSG_POWER, IEEE80211_-NODE_AREF, ieee80211_node_leave(), IEEE80211_NODE_LOCK, ieee80211_node_refcnt, IEEE80211_NODE_SAVEQ_LOCK, IEEE80211_NODE_SAVEQ_QLEN, IEEE80211_NODE_-SAVEQ_UNLOCK, IEEE80211_NODE_STAT_ADD, IEEE80211_NODE_UNLOCK, IEEE80211_-NOTE, IEEE80211_REASON_AUTH_EXPIRE, ieee80211_ref_node(), IEEE80211_SCAN_LOCK, IEEE80211_SCAN_UNLOCK, IEEE80211_SEND_MGMT, ieee80211_send_nulldata(), ieee80211_-stats::is_node_timeout, M_AGE_GET, M_AGE_SUB, ieee80211_node::ni_associd, ieee80211_-node::ni_flags, ieee80211_node::ni_inact, ieee80211_node::ni_rxfrag, ieee80211_node::ni_rxfragstamp, ieee80211_node::ni_scangen, ieee80211_node_table::nt_ic, ieee80211_node_table::nt_inact_timer, ieee80211_node_table::nt_name, and ieee80211_node_table::nt_scangen.

Referenced by ieee80211_node_lateattach().

Here is the call graph for this function:



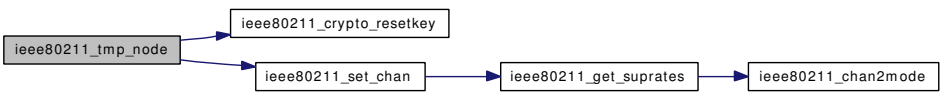

### 7.19.2.55 struct ieee80211_node* ieee80211_tmp_node (struct ieee80211com * *ic*, const u_int8_t * *macaddr*)

Definition at line 1001 of file ieee80211_node.c.

References ieee80211com::ic_node_alloc, ieee80211com::ic_sta, ieee80211com::ic_stats, IEEE80211_-ADDR_COPY, ieee80211_crypto_resetkey(), IEEE80211_DPRINTF, IEEE80211_KEYIX_NONE, IEEE80211_MSG_NODE, ieee80211_node_initref, IEEE80211_NODE_SAVEQ_INIT, ieee80211_-set_chan(), ieee80211_stats::is_rx_nodealloc, ieee80211_node::ni_bssid, ieee80211_node::ni_chan, ieee80211_node::ni_ic, ieee80211_node::ni_macaddr, ieee80211_node::ni_table, ieee80211_node::ni_-txpower, and ieee80211_node::ni_ucastkey.

Referenced by ieee80211_recv_mgmt(), and ieee80211_send_error().

Here is the call graph for this function:



#### 7.19.2.56 MALLOC_DEFINE (M_80211_NODE, "80211node", "802.11 node state")

#### 7.19.2.57 static __inline u_int8_t maxrate (const struct ieee80211_node * *ni*) [static]

Definition at line 555 of file ieee80211_node.c.

References IEEE80211_RATE_VAL, ieee80211_node::ni_rates, ieee80211_rateset::rs_nrates, and ieee80211_rateset::rs_rates.

Referenced by ieee80211_media_init(), and ieee80211_node_compare().

#### 7.19.2.58 static struct ieee80211_node * node_alloc (struct ieee80211_node_table *) [static]

Definition at line 856 of file ieee80211_node.c.

Referenced by ieee80211_node_attach().

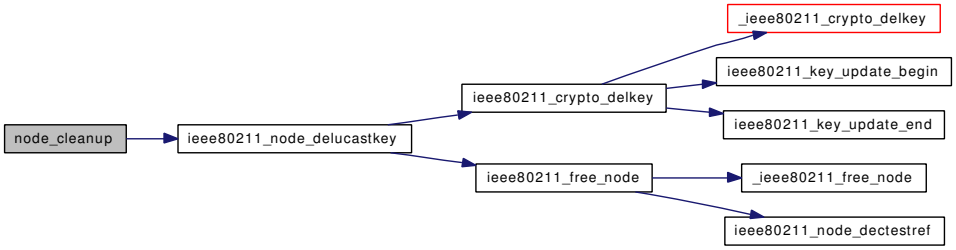
#### 7.19.2.59 static void node_cleanup (struct ieee80211_node *) [static]

Definition at line 872 of file ieee80211_node.c.

References ieee80211com::ic_ps_sta, ieee80211com::ic_set_tim, IEEE80211_DPRINTF, IEEE80211_-MSG_POWER, IEEE80211_NODE_AREF, ieee80211_node_delucastkey(), IEEE80211_NODE_PWR_-MGT, IEEE80211_NODE_SAVEQ_DRAIN, N, ieee80211_node::ni_flags, ieee80211_node::ni_ic, and ieee80211_node::ni_macaddr.

Referenced by ieee80211_node_attach().

Here is the call graph for this function:




#### 7.19.2.60 static void node_free (struct ieee80211_node *) [static]

Definition at line 931 of file ieee80211_node.c.

References ieee80211com::ic_node_cleanup, IEEE80211_NODE_SAVEQ_DESTROY, ieee80211_-node::ni_ic, ieee80211_node::ni_wme_ie, and ieee80211_node::ni_wpa_ie.

Referenced by ieee80211_node_attach().

#### 7.19.2.61 static u_int8_t node_getrssi (const struct ieee80211_node *) [static]

Definition at line 945 of file ieee80211_node.c.

References ieee80211_node::ni_rssi.

Referenced by ieee80211_node_attach().

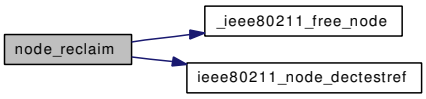
#### 7.19.2.62 static void node_reclaim (struct ieee80211_node_table * *nt*, struct ieee80211_node * *ni*) [static]

Definition at line 1696 of file ieee80211_node.c.

References _ieee80211_free_node(), IEEE80211_DPRINTF, IEEE80211_MSG_NODE, ieee80211_node_decref, ieee80211_node_dectestref(), IEEE80211_NODE_LOCK_ASSERT, ieee80211_node_refcnt, ieee80211_node::ni_ic, ieee80211_node::ni_macaddr, ieee80211_node::ni_table, ieee80211_node::ni_ucastkey, ieee80211_node_table::nt_keyixmap, ieee80211_node_table::nt_name, and ieee80211_key::wk_rxkeyix.

Referenced by ieee80211_free_allnodes_locked(), ieee80211_node_leave(), and ieee80211_timeout_scan_candidates().

Here is the call graph for this function:



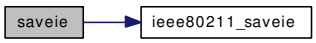

#### 7.19.2.63 static void saveie (u_int8_t ** *iep*, const u_int8_t * *ie*) [static]

Definition at line 1174 of file ieee80211_node.c.

References ieee80211_saveie().

Referenced by ieee80211_add_scan().

Here is the call graph for this function:



# 7.20 /usr/src/sys/net80211/ieee80211_node.h File Reference

```
#include <net80211/ieee80211_ioctl.h>
```

Include dependency graph for ieee80211_node.h:


This graph shows which files directly or indirectly include this file:


## Data Structures

- struct ieee80211_rsnparms
- struct ieee80211_node
- struct ieee80211_node_table
- struct ieee80211_scanparams

## Defines

- #define IEEE80211_INACT_WAIT 15
- #define IEEE80211_INACT_INIT (30/IEEE80211_INACT_WAIT)
- #define IEEE80211_INACT_AUTH (180/IEEE80211_INACT_WAIT)
- #define IEEE80211_INACT_RUN (300/IEEE80211_INACT_WAIT)
- #define IEEE80211_INACT_PROBE (30/IEEE80211_INACT_WAIT)
- #define IEEE80211_INACT_SCAN (300/IEEE80211_INACT_WAIT)
- #define IEEE80211_TRANS_WAIT 5
- #define IEEE80211_NODE_HASHSIZE 32
- #define IEEE80211_NODE_HASH(addr)
- #define IEEE80211_NODE_AUTH 0x0001
- #define IEEE80211_NODE_QOS 0x0002
- #define IEEE80211_NODE_ERP 0x0004
- #define IEEE80211_NODE_PWR_MGT 0x0010
- #define IEEE80211_NODE_AREF 0x0020
- #define IEEE80211_NODE_AID(ni) IEEE80211_AID(ni → ni_associd)
- #define IEEE80211_NODE_STAT(ni, stat) (ni → ni_stats.ns_##stat++)
- #define IEEE80211_NODE_STAT_ADD(ni, stat, v) (ni → ni_stats.ns_##stat += v)
- #define IEEE80211_NODE_STAT_SET(ni, stat, v) (ni → ni_stats.ns_##stat = v)

## Typedefs

- typedef void ieee80211_iter_func (void ∗, struct ieee80211_node ∗)

## Functions

- MALLOC_DECLARE (M_80211_NODE)
- static __inline struct ieee80211_node * ieee80211_ref_node (struct ieee80211_node *ni)
- static __inline void ieee80211_unref_node (struct ieee80211_node **ni)
- void ieee80211_node_attach (struct ieee80211com *)
- void ieee80211_node_lateattach (struct ieee80211com *)
- void ieee80211_node_detach (struct ieee80211com *)
- static __inline int ieee80211_node_is_authorized (const struct ieee80211_node *ni)
- void ieee80211_node_authorize (struct ieee80211_node *)
- void ieee80211_node_unauthorize (struct ieee80211_node *)
- void ieee80211_begin_scan (struct ieee80211com *, int)
- int ieee80211_next_scan (struct ieee80211com *)
- void ieee80211_probe_curchan (struct ieee80211com *, int)
- void ieee80211_create_ibss (struct ieee80211com *, struct ieee80211_channel *)
- void ieee80211_reset_bss (struct ieee80211com *)
- void ieee80211_cancel_scan (struct ieee80211com *)
- void ieee80211_end_scan (struct ieee80211com *)
- int ieee80211_ibss_merge (struct ieee80211_node *)
- int ieee80211_sta_join (struct ieee80211com *, struct ieee80211_node *)
- void ieee80211_sta_leave (struct ieee80211com *, struct ieee80211_node *)
- void ieee80211_node_table_reset (struct ieee80211_node_table *)
- ieee80211_node * ieee80211_alloc_node (struct ieee80211_node_table *, const u_int8_t *)
- ieee80211_node * ieee80211_tmp_node (struct ieee80211com *, const u_int8_t *macaddr)
- ieee80211_node * ieee80211_dup_bss (struct ieee80211_node_table *, const u_int8_t *)
- void ieee80211_free_node (struct ieee80211_node *)
- ieee80211_node * ieee80211_find_node (struct ieee80211_node_table *, const u_int8_t *)
- ieee80211_node * ieee80211_find_rxnode (struct ieee80211com *, const struct ieee80211_frame_-min *)
- ieee80211_node * ieee80211_find_rxnode_withkey (struct ieee80211com *, const struct ieee80211_frame_min *, u_int16_t keyix)
- ieee80211_node * ieee80211_find_txnode (struct ieee80211com *, const u_int8_t *)
- ieee80211_node * ieee80211_find_node_with_channel (struct ieee80211_node_table *, const u_-int8_t *macaddr, struct ieee80211_channel *)
- ieee80211_node * ieee80211_find_node_with_ssid (struct ieee80211_node_table *, const u_int8_t *macaddr, u_int ssidlen, const u_int8_t *ssid)
- int ieee80211_node_delucastkey (struct ieee80211_node *)
- void ieee80211_iterate_nodes (struct ieee80211_node_table *, ieee80211_iter_func *, void *)
- void ieee80211_dump_node (struct ieee80211_node_table *, struct ieee80211_node *)
- void ieee80211_dump_nodes (struct ieee80211_node_table *)
- ieee80211_node * ieee80211_fakeup_adhoc_node (struct ieee80211_node_table *, const u_int8_t macaddr[ ])
- void ieee80211_node_join (struct ieee80211com *, struct ieee80211_node *, int)
- void ieee80211_node_leave (struct ieee80211com *, struct ieee80211_node *)
- u_int8_t ieee80211_getrssi (struct ieee80211com *ic)
- void ieee80211_add_scan (struct ieee80211com *, const struct ieee80211_scanparams *, const struct ieee80211_frame *, int subtype, int rssi, int rstamp)
- void ieee80211_init_neighbor (struct ieee80211_node *, const struct ieee80211_frame *, const struct ieee80211_scanparams *)
- ieee80211_node * ieee80211_add_neighbor (struct ieee80211com *, const struct ieee80211_frame *, const struct ieee80211_scanparams *)

## 7.20.1 Define Documentation

### 7.20.1.1 #define IEEE80211_INACT_AUTH (180/IEEE80211_INACT_WAIT)

Definition at line 56 of file ieee80211_node.h.

Referenced by ieee80211_node_attach().

### 7.20.1.2 #define IEEE80211_INACT_INIT (30/IEEE80211_INACT_WAIT)

Definition at line 55 of file ieee80211_node.h.

Referenced by ieee80211_node_attach(), and ieee80211_node_lateattach().

### 7.20.1.3 #define IEEE80211_INACT_PROBE (30/IEEE80211_INACT_WAIT)

Definition at line 58 of file ieee80211_node.h.

Referenced by ieee80211_node_attach().

### 7.20.1.4 #define IEEE80211_INACT_RUN (300/IEEE80211_INACT_WAIT)

Definition at line 57 of file ieee80211_node.h.

Referenced by ieee80211_node_attach().

### 7.20.1.5 #define IEEE80211_INACT_SCAN (300/IEEE80211_INACT_WAIT)

Definition at line 59 of file ieee80211_node.h.

Referenced by ieee80211_node_lateattach().

### 7.20.1.6 #define IEEE80211_INACT_WAIT 15

Definition at line 54 of file ieee80211_node.h.

Referenced by get_sta_info(), ieee80211_newstate(), ieee80211_sysctl_inact(), ieee80211_timeout_scan_candidates(), and ieee80211_timeout_stations().

### 7.20.1.7 #define IEEE80211_NODE_AID(ni) IEEE80211_AID(ni → ni_associd)

Definition at line 153 of file ieee80211_node.h.

Referenced by ieee80211_node_leave().

### 7.20.1.8 #define IEEE80211_NODE_AREF 0x0020

Definition at line 103 of file ieee80211_node.h.

Referenced by ieee80211_auth_open(), ieee80211_auth_shared(), ieee80211_timeout_stations(), and node_cleanup().

#### 7.20.1.9 #define IEEE80211_NODE_AUTH 0x0001

Definition at line 98 of file ieee80211_node.h.

Referenced by ieee80211_node_authorize(), ieee80211_node_is_authorized(), and ieee80211_node_-unauthorize().

#### 7.20.1.10 #define IEEE80211_NODE_ERP 0x0004

Definition at line 100 of file ieee80211_node.h.

Referenced by ieee80211_node_join_11g(), and ieee80211_node_leave_11g().

#### 7.20.1.11 #define IEEE80211_NODE_HASH(addr)

**Value:**

```
(((const u_int8_t *)(addr))[IEEE80211_ADDR_LEN - 1] % \
                IEEE80211_NODE_HASHSIZE)
```

Definition at line 65 of file ieee80211_node.h.

Referenced by _ieee80211_find_node(), ieee80211_find_node_with_channel(), ieee80211_find_node_-with_ssid(), and ieee80211_setup_node().

#### 7.20.1.12 #define IEEE80211_NODE_HASHSIZE 32

Definition at line 63 of file ieee80211_node.h.

#### 7.20.1.13 #define IEEE80211_NODE_PWR_MGT 0x0010

Definition at line 102 of file ieee80211_node.h.

Referenced by ieee80211_input(), ieee80211_node_pwrsave(), ieee80211_output(), ieee80211_send_-nulldata(), and node_cleanup().

#### 7.20.1.14 #define IEEE80211_NODE_QOS 0x0002

Definition at line 99 of file ieee80211_node.h.

Referenced by get_sta_info(), ieee80211_classify(), ieee80211_encap(), ieee80211_fakeup_adhoc_node(), ieee80211_recv_mgmt(), and ieee80211_wme_updateparams_locked().

#### 7.20.1.15 #define IEEE80211_NODE_STAT(ni, stat) (ni → ni_stats.ns_##stat++)

Definition at line 155 of file ieee80211_node.h.

Referenced by ieee80211_classify(), ieee80211_defrag(), ieee80211_deliver_data(), ieee80211_-encap(), ieee80211_input(), ieee80211_mgmt_output(), ieee80211_recv_mgmt(), ieee80211_send_-mgmt(), ieee80211_send_nulldata(), and ieee80211_send_probereq().

#### 7.20.1.16 #define IEEE80211_NODE_STAT_ADD(ni, stat, v) (ni → ni_stats.ns_##stat += v)

Definition at line 156 of file ieee80211_node.h.

Referenced by ieee80211_deliver_data(), ieee80211_encap(), and ieee80211_timeout_stations().

#### 7.20.1.17 #define IEEE80211_NODE_STAT_SET(ni, stat, v) (ni → ni_stats.ns_##stat = v)

Definition at line 157 of file ieee80211_node.h.

Referenced by ieee80211_send_mgmt().

#### 7.20.1.18 #define IEEE80211_TRANS_WAIT 5

Definition at line 61 of file ieee80211_node.h.

Referenced by ieee80211_send_mgmt().

### 7.20.2 Typedef Documentation

#### 7.20.2.1 typedef void ieee80211_iter_func(void *, struct ieee80211_node *)

Definition at line 284 of file ieee80211_node.h.

### 7.20.3 Function Documentation

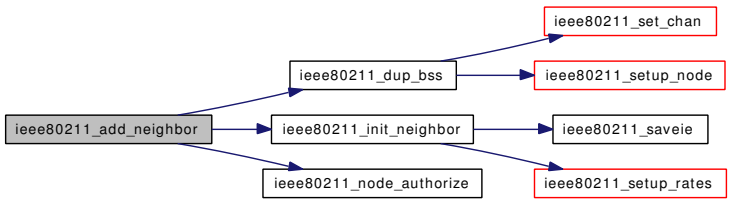
#### 7.20.3.1 struct ieee80211_node* ieee80211_add_neighbor (struct ieee80211com *, const struct ieee80211_frame *, const struct ieee80211_scanparams *)

Definition at line 1306 of file ieee80211_node.c.

References ieee80211_frame::i_addr2, ieee80211com::ic_newassoc, ieee80211com::ic_sta, IEEE80211_-DPRINTF, ieee80211_dup_bss(), ieee80211_init_neighbor(), IEEE80211_MSG_NODE, and ieee80211_-node_authorize().

Referenced by ieee80211_recv_mgmt().

Here is the call graph for this function:



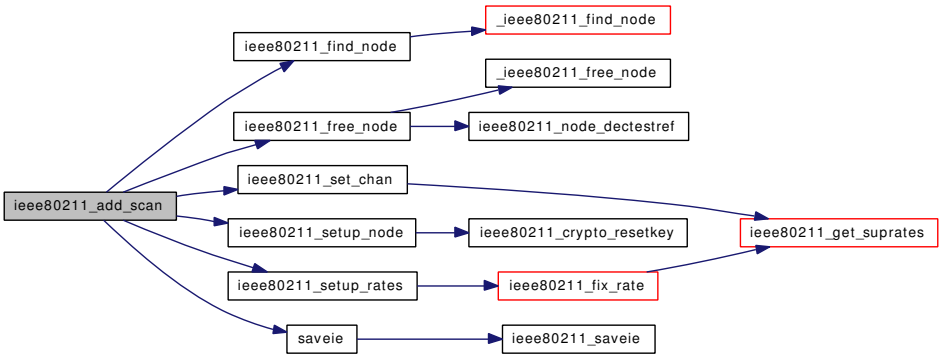

#### 7.20.3.2 void ieee80211_add_scan (struct ieee80211com *, const struct ieee80211_scanparams *, const struct ieee80211_frame *, int *subtype*, int *rssi*, int *rstamp*)

Definition at line 1187 of file ieee80211_node.c.

References ieee80211_scanparams::bintval, ieee80211_scanparams::capinfo, ieee80211_scanparams::chan, ieee80211_node::data, ieee80211_scanparams::erp, ieee80211_scanparams::fhdwell, ieee80211_scanparams::fhindex, ieee80211_frame::i_addr2, ieee80211_frame::i_addr3, ieee80211com::ic_bss, ieee80211com::ic_channels, ieee80211com::ic_curchan, ieee80211com::ic_flags, ieee80211com::ic_node_alloc, ieee80211com::ic_scan, ieee80211com::ic_stats, IEEE80211_ADDR_COPY, IEEE80211_F_DOSORT, ieee80211_find_node(), ieee80211_free_node(), ieee80211_msg_scan, ieee80211_set_chan(), ieee80211_setup_node(), ieee80211_setup_rates(), ieee80211_stats::is_rx_nodealloc, ISPROBE, ieee80211_node::ni_authmode, ieee80211_node::ni_bssid, ieee80211_node::ni_capinfo, ieee80211_node::ni_chan, ieee80211_node::ni_dtim_count, ieee80211_node::ni_dtim_period, ieee80211_node::ni_erp, ieee80211_node::ni_essid, ieee80211_node::ni_esslen, ieee80211_node::ni_fhdwell, ieee80211_node::ni_fhindex, ieee80211_node::ni_intval, ieee80211_node::ni_rsn, ieee80211_node::ni_rssi, ieee80211_node::ni_rstamp, ieee80211_node::ni_scangen, ieee80211_node::ni_timoff, ieee80211_node::ni_tstamp, ieee80211_node::ni_txpower, ieee80211_node::ni_vlan, ieee80211_node::ni_wme_ie, ieee80211_node::ni_wpa_ie, ieee80211_node_table::nt_scangen, ieee80211_scanparams::rates, saveie(), ieee80211_scanparams::ssid, ieee80211_scanparams::tim, ieee80211_tim_ie::tim_count, ieee80211_tim_ie::tim_period, ieee80211_scanparams::timoff, ieee80211_scanparams::tstamp, ieee80211_scanparams::wme, ieee80211_scanparams::wpa, and ieee80211_scanparams::xrates.

Referenced by ieee80211_recv_mgmt().

Here is the call graph for this function:




### 7.20.3.3 struct ieee80211_node* ieee80211_alloc_node (struct ieee80211_node_table *, const u_int8_t *)

Definition at line 981 of file ieee80211_node.c.

References ieee80211com::ic_node_alloc, ieee80211com::ic_stats, ieee80211_setup_node(), ieee80211_stats::is_rx_nodealloc, and ieee80211_node_table::nt_ic.

Referenced by ieee80211_create_ibss(), and ieee80211_reset_bss().

Here is the call graph for this function:

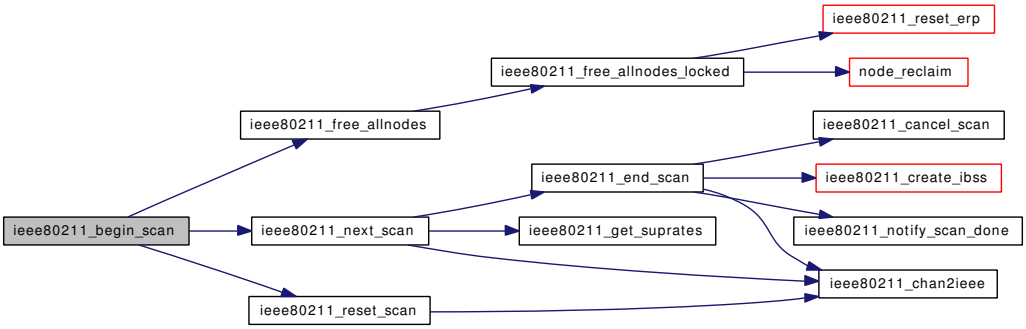
#### 7.20.3.4 void ieee80211_begin_scan (struct ieee80211com *, int)

Definition at line 286 of file ieee80211_node.c.

References ieee80211com::ic_curmode, ieee80211com::ic_flags, ieee80211com::ic_opmode, ieee80211com::ic_scan, ieee80211com::ic_stats, IEEE80211_DPRINTF, IEEE80211_F_ASCAN, IEEE80211_F_SCAN, ieee80211_free_allnodes(), IEEE80211_M_HOSTAP, IEEE80211_MSG_SCAN, ieee80211_next_scan(), ieee80211_phymode_name, ieee80211_reset_scan(), ieee80211_stats::is_scan_active, ieee80211_stats::is_scan_passive, and ieee80211_node_table::nt_scangen.

Referenced by ieee80211_newstate().

Here is the call graph for this function:




#### 7.20.3.5 void ieee80211_cancel_scan (struct ieee80211com *)

Definition at line 616 of file ieee80211_node.c.

References ieee80211com::ic_flags, ieee80211com::ic_flags_ext, IEEE80211_DPRINTF, IEEE80211_F_ASCAN, IEEE80211_F_SCAN, IEEE80211_FEXT_PROBECHAN, and IEEE80211_MSG_SCAN.

Referenced by ieee80211_end_scan(), and ieee80211_newstate().

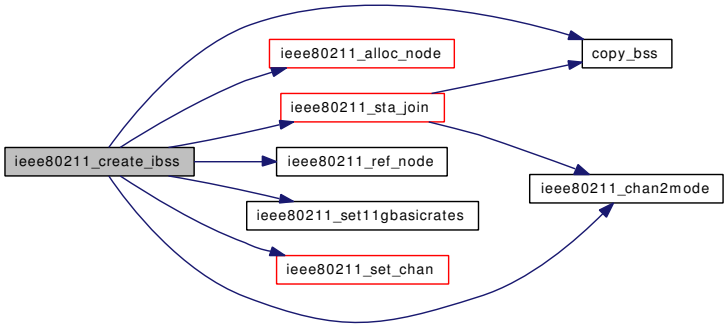
#### 7.20.3.6 void ieee80211_create_ibss (struct ieee80211com *, struct ieee80211_channel *)

Definition at line 393 of file ieee80211_node.c.

References copy_bss(), ieee80211com::ic_bintval, ieee80211com::ic_bss, ieee80211com::ic_curchan, ieee80211com::ic_curmode, ieee80211com::ic_des_bssid, ieee80211com::ic_des_essid, ieee80211com::ic_des_esslen, ieee80211com::ic_flags, ieee80211com::ic_inact_init, ieee80211com::ic_inact_run, ieee80211com::ic_myaddr, ieee80211com::ic_opmode, ieee80211com::ic_phytype, ieee80211com::ic_sta, IEEE80211_ADDR_COPY, IEEE80211_ADDR_LEN, ieee80211_alloc_node(), IEEE80211_CAPINFO_IBSS, IEEE80211_CAPINFO_PRIVACY, ieee80211_chan2mode(), IEEE80211_DPRINTF, IEEE80211_F_DESBSSID, IEEE80211_F_PRIVACY, IEEE80211_F_SIBSS, IEEE80211_IS_CHAN_FULL, IEEE80211_M_AHDEMO, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_MODE_11B, IEEE80211_MODE_11G, IEEE80211_MSG_SCAN, IEEE80211_NODE_LOCK, IEEE80211_NODE_UNLOCK, ieee80211_ref_node(), ieee80211_set11gbasicrates(), ieee80211_set_chan(), ieee80211_sta_join(), IEEE80211_T_FH, ieee80211_node::ni_bssid, ieee80211_node::ni_capinfo, ieee80211_node::ni_essid, ieee80211_node::ni_esslen, ieee80211_node::ni_fhdwell, ieee80211_node::ni_fhindex, ieee80211_node::ni_intval, ieee80211_node::ni_rates, ieee80211_node_table::nt_inact_init, and ieee80211_node_table::nt_name.

Referenced by ieee80211_end_scan(), and ieee80211_newstate().

Here is the call graph for this function:




#### 7.20.3.7 void ieee80211_dump_node (struct ieee80211_node_table *, struct ieee80211_node *)

Definition at line 1979 of file ieee80211_node.c.

References ieee80211_channel::ic_flags, ieee80211_channel::ic_freq, ieee80211_node_refcnt, IEEE80211_SEQ_FRAG_MASK, IEEE80211_SEQ_SEQ_SHIFT, ieee80211_node::ni_associd, ieee80211_node::ni_authmode, ieee80211_node::ni_bssid, ieee80211_node::ni_capinfo, ieee80211_node::ni_chan, ieee80211_node::ni_essid, ieee80211_node::ni_esslen, ieee80211_node::ni_fails, ieee80211_node::ni_flags, ieee80211_node::ni_inact, ieee80211_node::ni_intval, ieee80211_node::ni_macaddr, ieee80211_node::ni_rssi, ieee80211_node::ni_rstamp, ieee80211_node::ni_rxfragstamp, ieee80211_node::ni_rxseqs, ieee80211_node::ni_scangen, ieee80211_node::ni_txpower, ieee80211_node::ni_txrate, ieee80211_node::ni_txseqs, and ieee80211_node::ni_vlan.

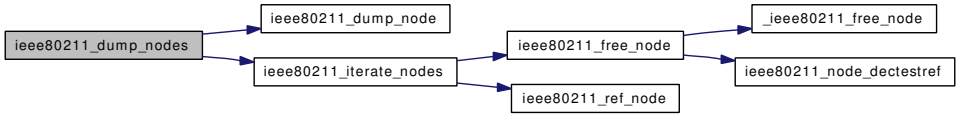
Referenced by ieee80211_dump_nodes().

#### 7.20.3.8 void ieee80211_dump_nodes (struct ieee80211_node_table *)

Definition at line 2003 of file ieee80211_node.c.

References ieee80211_dump_node(), and ieee80211_iterate_nodes().

Here is the call graph for this function:




#### 7.20.3.9 struct ieee80211_node* ieee80211_dup_bss (struct ieee80211_node_table *, const u_int8_t *)

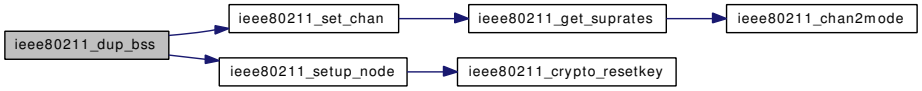
Definition at line 1031 of file ieee80211_node.c.

References ieee80211com::ic_bss, ieee80211com::ic_node_alloc, ieee80211com::ic_stats, IEEE80211_ADDR_COPY, ieee80211_set_chan(), ieee80211_setup_node(), ieee80211_stats::is_rx_nodealloc,

ieee80211_node::ni_authmode, ieee80211_node::ni_bssid, ieee80211_node::ni_chan, ieee80211_node::ni_rsn, ieee80211_node::ni_txpower, ieee80211_node::ni_vlan, and ieee80211_node_table::nt_ic.

Referenced by ieee80211_add_neighbor(), ieee80211_auth_open(), ieee80211_auth_shared(), and ieee80211_fakeup_adhoc_node().

Here is the call graph for this function:



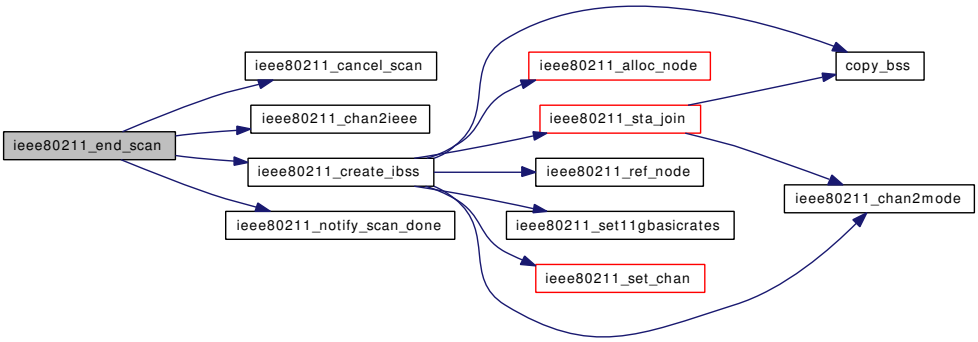

#### 7.20.3.10 void ieee80211_end_scan (struct ieee80211com *)

Definition at line 631 of file ieee80211_node.c.

References ieee80211com::ic_chan_active, ieee80211com::ic_channels, ieee80211com::ic_node_getrssi, ieee80211com::ic_opmode, ieee80211com::ic_scan, ieee80211_cancel_scan(), ieee80211_chan2ieee(), ieee80211_create_ibss(), IEEE80211_M_HOSTAP, IEEE80211_NODE_LOCK, IEEE80211_NODE_UNLOCK, ieee80211_notify_scan_done(), and ieee80211_node::ni_chan.

Referenced by ieee80211_next_scan().

Here is the call graph for this function:




#### 7.20.3.11 struct ieee80211_node* ieee80211_fakeup_adhoc_node (struct ieee80211_node_table *, const u_int8_t *macaddr*[ ])

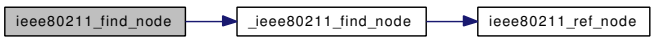
#### 7.20.3.12 struct ieee80211_node* ieee80211_find_node (struct ieee80211_node_table *, const u_int8_t *)

Definition at line 1093 of file ieee80211_node.c.

References _ieee80211_find_node(), IEEE80211_NODE_LOCK, and IEEE80211_NODE_UNLOCK.

Referenced by ieee80211_add_scan(), ieee80211_deliver_data(), ieee80211_ioctl_delkey(), ieee80211_ioctl_getkey(), ieee80211_ioctl_getstainfo(), ieee80211_ioctl_getstastats(), ieee80211_ioctl_getstatxpow(), ieee80211_ioctl_getwpaie(), ieee80211_ioctl_setkey(), ieee80211_ioctl_setmlme(), ieee80211_ioctl_setstastats(), ieee80211_ioctl_setstatxpow(), and ieee80211_newstate().

Here is the call graph for this function:




#### 7.20.3.13 struct ieee80211_node* ieee80211_find_node_with_channel (struct ieee80211_node_table *, const u_int8_t * *macaddr*, struct ieee80211_channel *)

Definition at line 1505 of file ieee80211_node.c.

References IEEE80211_ADDR_EQ, IEEE80211_DPRINTF, IEEE80211_MSG_NODE, IEEE80211_-NODE_HASH, IEEE80211_NODE_LOCK, ieee80211_node_refcnt, IEEE80211_NODE_UNLOCK, ieee80211_ref_node(), ieee80211_node::ni_chan, ieee80211_node::ni_macaddr, ieee80211_node_-table::nt_ic, and REFCNT_LOC.

Here is the call graph for this function:

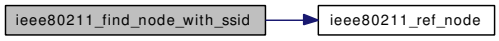

#### 7.20.3.14 struct ieee80211_node* ieee80211_find_node_with_ssid (struct ieee80211_node_table *, const u_int8_t * *macaddr*, u_int *ssidlen*, const u_int8_t * *ssid*)

Definition at line 1537 of file ieee80211_node.c.

References IEEE80211_ADDR_EQ, IEEE80211_DPRINTF, IEEE80211_MSG_NODE, IEEE80211_-NODE_HASH, IEEE80211_NODE_LOCK, ieee80211_node_refcnt, IEEE80211_NODE_UNLOCK, ieee80211_ref_node(), MATCH_SSID, ieee80211_node::ni_macaddr, ieee80211_node_table::nt_ic, and REFCNT_LOC.

Referenced by ieee80211_ioctl_setmlme().

Here is the call graph for this function:

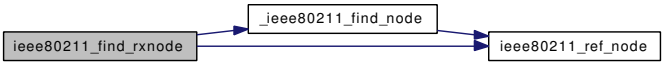



#### 7.20.3.15 struct ieee80211_node* ieee80211_find_rxnode (struct ieee80211com *, const struct ieee80211_frame_min *)

Definition at line 1342 of file ieee80211_node.c.

References _ieee80211_find_node(), ieee80211_frame_min::i_addr1, ieee80211_frame_min::i_addr2, ieee80211com::ic_bss, ieee80211com::ic_flags, ieee80211com::ic_opmode, ieee80211com::ic_scan, ieee80211com::ic_sta, IEEE80211_M_MONITOR, IEEE80211_M_STA, IEEE80211_NODE_LOCK, IEEE80211_NODE_UNLOCK, ieee80211_ref_node(), IS_CTL, and IS_PSPOLL.

Here is the call graph for this function:

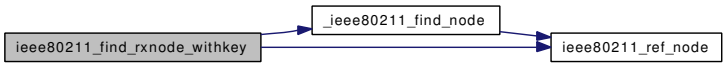



#### 7.20.3.16 struct ieee80211_node* ieee80211_find_rxnode_withkey (struct ieee80211com *, const struct ieee80211_frame_min *, u_int16_t *keyix*)

Definition at line 1384 of file ieee80211_node.c.

References _ieee80211_find_node(), ieee80211com::ic_bss, ieee80211com::ic_flags, ieee80211com::ic_opmode, ieee80211com::ic_scan, ieee80211com::ic_sta, IEEE80211_DPRINTF, IEEE80211_M_MONITOR, IEEE80211_M_STA, IEEE80211_MSG_NODE, IEEE80211_NODE_LOCK, ieee80211_node_refcnt, IEEE80211_NODE_UNLOCK, ieee80211_ref_node(), IS_CTL, IS_PSPOLL, ieee80211_node::ni_ic, ieee80211_node::ni_macaddr, ieee80211_node::ni_ucastkey, ieee80211_node_table::nt_keyixmap, and ieee80211_key::wk_rxkeyix.

Here is the call graph for this function:



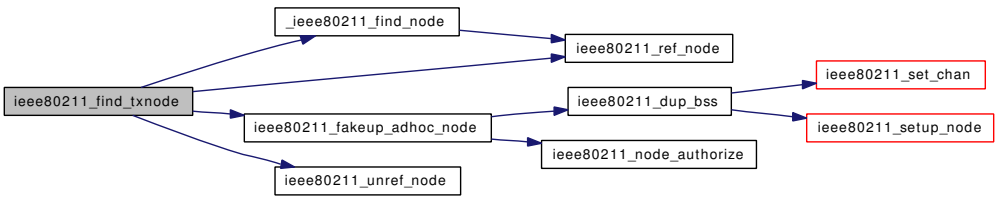

#### 7.20.3.17 struct ieee80211_node* ieee80211_find_txnode (struct ieee80211com *, const u_int8_t *)

Definition at line 1444 of file ieee80211_node.c.

References _ieee80211_find_node(), ieee80211com::ic_bss, ieee80211com::ic_opmode, ieee80211com::ic_sta, ieee80211com::ic_stats, IEEE80211_DPRINTF, ieee80211_fakeup_adhoc_node(), IEEE80211_IS_MULTICAST, IEEE80211_M_AHDEMO, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_M_STA, IEEE80211_MSG_OUTPUT, IEEE80211_NODE_LOCK, IEEE80211_NODE_UNLOCK, ieee80211_ref_node(), ieee80211_unref_node(), ieee80211_stats::is_tx_nonode, and ieee80211_node::ni_associd.

Referenced by ieee80211_output().

Here is the call graph for this function:



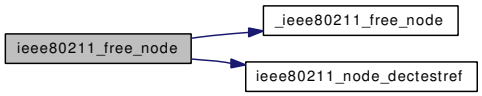

#### 7.20.3.18 void ieee80211_free_node (struct ieee80211_node *)

Definition at line 1600 of file ieee80211_node.c.

References _ieee80211_free_node(), IEEE80211_DPRINTF, IEEE80211_MSG_NODE, ieee80211_-node_decref, ieee80211_node_dectestref(), IEEE80211_NODE_LOCK, ieee80211_node_refcnt, IEEE80211_NODE_UNLOCK, ieee80211_node::ni_ic, ieee80211_node::ni_macaddr, ieee80211_-node::ni_table, ieee80211_node::ni_ucastkey, ieee80211_node_table::nt_keyixmax, and ieee80211_-key::wk_rxkeyix.

Referenced by getstainfo_common(), ieee80211_add_scan(), ieee80211_deliver_data(), ieee80211_-drain_ifq(), ieee80211_ioctl_delkey(), ieee80211_ioctl_getkey(), ieee80211_ioctl_getstastats(), ieee80211_ioctl_getstatxpow(), ieee80211_ioctl_getwpaie(), ieee80211_ioctl_setkey(), ieee80211_-ioctl_setmlme(), ieee80211_ioctl_setstastats(), ieee80211_ioctl_setstatxpow(), ieee80211_iterate_nodes(), ieee80211_node_delucastkey(), ieee80211_node_detach(), ieee80211_node_leave(), ieee80211_output(), ieee80211_recv_mgmt(), ieee80211_reset_bss(), ieee80211_send_error(), ieee80211_send_mgmt(), ieee80211_send_probereq(), and ieee80211_sta_join().

Here is the call graph for this function:




#### 7.20.3.19 u_int8_t ieee80211_getrssi (struct ieee80211com * *ic*)

Definition at line 2245 of file ieee80211_node.c.

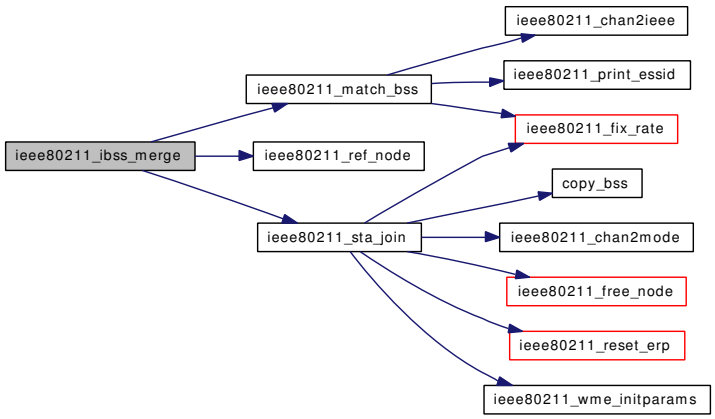
References ieee80211com::ic_bss, ieee80211com::ic_node_getrssi, ieee80211com::ic_opmode, ieee80211com::ic_sta, IEEE80211_AID, IEEE80211_CAPINFO_IBSS, IEEE80211_M_AHDEMO, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_M_MONITOR, IEEE80211_M_STA, ieee80211_node::ni_associd, ieee80211_node::ni_capinfo, and NZ.

#### 7.20.3.20 int ieee80211_ibss_merge (struct ieee80211_node *)

Definition at line 763 of file ieee80211_node.c.

References ieee80211com::ic_bss, ieee80211com::ic_flags, ieee80211com::ic_stats, IEEE80211_-ADDR_EQ, IEEE80211_DPRINTF, IEEE80211_F_SHPREAMBLE, IEEE80211_F_SHSLOT, IEEE80211_F_USEPROT, ieee80211_match_bss(), IEEE80211_MSG_ASSOC, ieee80211_ref_-node(), ieee80211_sta_join(), ieee80211_stats::is_ibss_capmismatch, ieee80211_node::ni_bssid, and ieee80211_node::ni_ic.

Here is the call graph for this function:



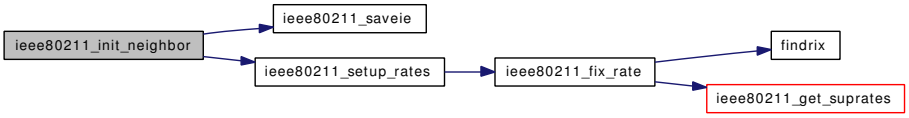

### 7.20.3.21 void ieee80211_init_neighbor (struct ieee80211_node *, const struct ieee80211_frame *, const struct ieee80211_scanparams *)

Definition at line 1270 of file ieee80211_node.c.

References ieee80211_scanparams::bintval, ieee80211_scanparams::capinfo, ieee80211_node::data, ieee80211_scanparams::erp, ieee80211_scanparams::fhdwell, ieee80211_scanparams::fhindex, ieee80211_frame::i_addr3, ieee80211com::ic_curchan, IEEE80211_ADDR_COPY, IEEE80211_DPRINTF, IEEE80211_F_DODEL, IEEE80211_F_DOFRATE, IEEE80211_F_DONEGO, IEEE80211_F_DOSORT, IEEE80211_MSG_NODE, ieee80211_saveie(), ieee80211_setup_rates(), ieee80211_node::ni_bssid, ieee80211_node::ni_capinfo, ieee80211_node::ni_chan, ieee80211_node::ni_erp, ieee80211_node::ni_essid, ieee80211_node::ni_esslen, ieee80211_node::ni_fhdwell, ieee80211_node::ni_fhindex, ieee80211_node::ni_ic, ieee80211_node::ni_intval, ieee80211_node::ni_macaddr, ieee80211_node::ni_timoff, ieee80211_node::ni_tstamp, ieee80211_node::ni_wme_ie, ieee80211_node::ni_wpa_ie, ieee80211_scanparams::rates, ieee80211_scanparams::ssid, ieee80211_scanparams::timoff, ieee80211_scanparams::tstamp, ieee80211_scanparams::wme, ieee80211_scanparams::wpa, and ieee80211_scanparams::xrates.

Referenced by ieee80211_add_neighbor(), and ieee80211_recv_mgmt().

Here is the call graph for this function:



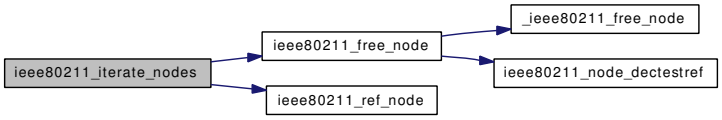

### 7.20.3.22 void ieee80211_iterate_nodes (struct ieee80211_node_table *, ieee80211_iter_func *, void *)

Definition at line 1954 of file ieee80211_node.c.

References ieee80211_free_node(), IEEE80211_NODE_LOCK, IEEE80211_NODE_UNLOCK, ieee80211_ref_node(), IEEE80211_SCAN_LOCK, IEEE80211_SCAN_UNLOCK, ieee80211_node::ni_scangen, and ieee80211_node_table::nt_scangen.

Referenced by getstainfo_common(), ieee80211_cfgget(), ieee80211_dump_nodes(), ieee80211_ioctl_-getscanresults(), ieee80211_ioctl_setmlme(), and ieee80211_newstate().

Here is the call graph for this function:



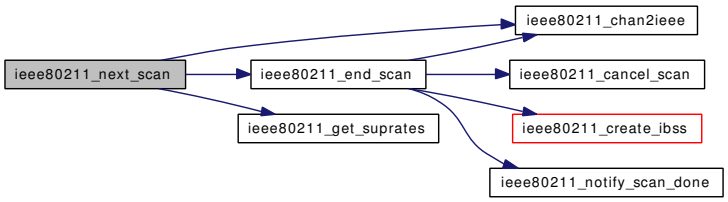

#### 7.20.3.23 int ieee80211_next_scan (struct ieee80211com *)

Definition at line 320 of file ieee80211_node.c.

References ieee80211com::ic_bss, ieee80211com::ic_chan_scan, ieee80211com::ic_channels, ieee80211com::ic_curchan, ieee80211com::ic_flags_ext, ieee80211com::ic_mgt_timer, ieee80211_-chan2ieee(), IEEE80211_DPRINTF, ieee80211_end_scan(), IEEE80211_FEXT_PROBECHAN, ieee80211_get_suprates(), IEEE80211_MSG_SCAN, ieee80211_new_state, IEEE80211_S_SCAN, and ieee80211_node::ni_rates.

Referenced by ieee80211_begin_scan().

Here is the call graph for this function:



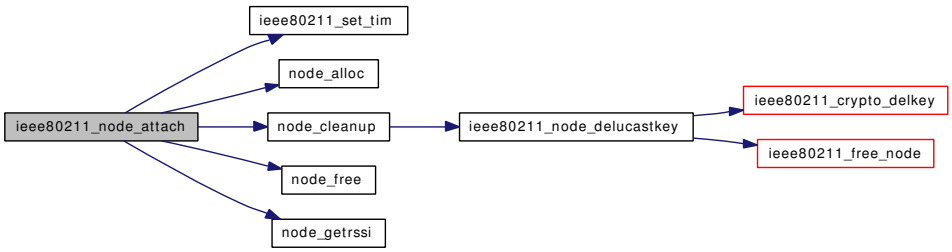

#### 7.20.3.24 void ieee80211_node_attach (struct ieee80211com *)

Definition at line 92 of file ieee80211_node.c.

References ieee80211com::ic_inact_auth, ieee80211com::ic_inact_init, ieee80211com::ic_inact_-probe, ieee80211com::ic_inact_run, ieee80211com::ic_max_aid, ieee80211com::ic_node_alloc, ieee80211com::ic_node_cleanup, ieee80211com::ic_node_free, ieee80211com::ic_node_getrssi, ieee80211com::ic_set_tim, IEEE80211_AID_DEF, IEEE80211_INACT_AUTH, IEEE80211_INACT_-INIT, IEEE80211_INACT_PROBE, IEEE80211_INACT_RUN, ieee80211_set_tim(), node_alloc(), node_cleanup(), node_free(), and node_getrssi().

Referenced by ieee80211_ifattach().

Here is the call graph for this function:




### 7.20.3.25 void ieee80211_node_authorize (struct ieee80211_node *)

Definition at line 208 of file ieee80211_node.c.

References ieee80211com::ic_inact_run, IEEE80211_NODE_AUTH, ieee80211_node::ni_flags, ieee80211_node::ni_ic, and ieee80211_node::ni_inact_reload.

Referenced by ieee80211_add_neighbor(), ieee80211_auth_open(), ieee80211_auth_shared(), ieee80211_fakeup_adhoc_node(), ieee80211_ioctl_setmlme(), and ieee80211_newstate().

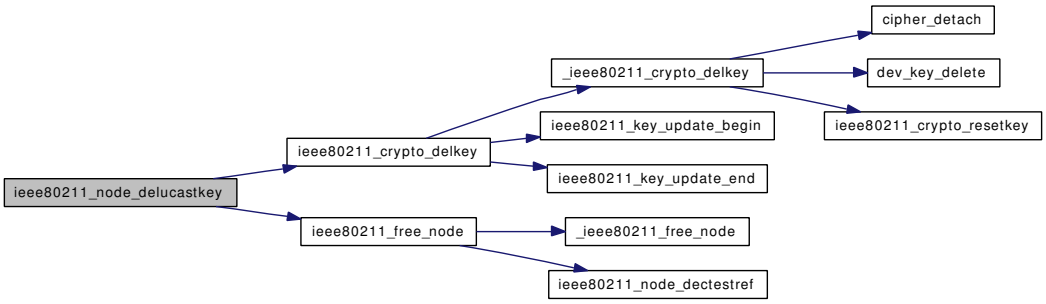
### 7.20.3.26 int ieee80211_node_delucastkey (struct ieee80211_node *)

Definition at line 1645 of file ieee80211_node.c.

References ieee80211com::ic_sta, ieee80211_crypto_delkey(), IEEE80211_DPRINTF, ieee80211_free_node(), IEEE80211_MSG_NODE, IEEE80211_NODE_IS_LOCKED, IEEE80211_NODE_LOCK, ieee80211_node_refcnt, IEEE80211_NODE_UNLOCK, ieee80211_node::ni_ic, ieee80211_node::ni_macaddr, ieee80211_node::ni_ucastkey, and ieee80211_key::wk_rxkeyix.

Referenced by ieee80211_ioctl_delkey(), and node_cleanup().

Here is the call graph for this function:



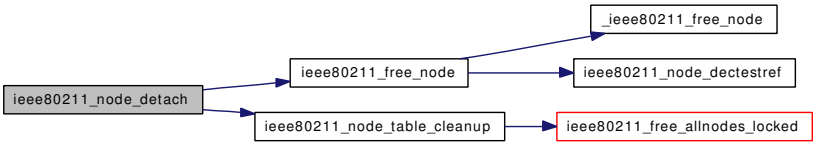

### 7.20.3.27 void ieee80211_node_detach (struct ieee80211com *)

Definition at line 184 of file ieee80211_node.c.

References ieee80211com::ic_aid_bitmap, ieee80211com::ic_bss, ieee80211com::ic_scan, ieee80211com::ic_sta, ieee80211com::ic_tim_bitmap, ieee80211_free_node(), and ieee80211_node_table_cleanup().

Referenced by ieee80211_ifdetach().

Here is the call graph for this function:




#### 7.20.3.28 static __inline int ieee80211_node_is_authorized (const struct ieee80211_node * *ni*) [static]

Definition at line 180 of file ieee80211_node.h.

References IEEE80211_NODE_AUTH, and ieee80211_node::ni_flags.

Referenced by get_sta_info(), ieee80211_deliver_data(), and ieee80211_input().

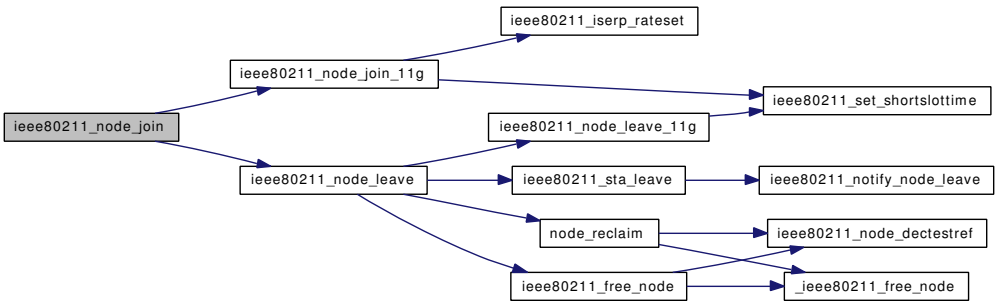
#### 7.20.3.29 void ieee80211_node_join (struct ieee80211com *, struct ieee80211_node *, int)

Definition at line 2067 of file ieee80211_node.c.

References ieee80211com::ic_aid_bitmap, ieee80211com::ic_curmode, ieee80211com::ic_max_aid, ieee80211com::ic_sta_assoc, IEEE80211_AID_ISSET, IEEE80211_AID_SET, IEEE80211_IS_CHAN_FULL, IEEE80211_MODE_11G, ieee80211_node_join_11g(), ieee80211_node_leave(), IEEE80211_REASON_ASSOC_TOOMANY, IEEE80211_SEND_MGMT, ieee80211_node::ni_associd, and ieee80211_node::ni_chan.

Referenced by ieee80211_recv_mgmt().

Here is the call graph for this function:




#### 7.20.3.30 void ieee80211_node_lateattach (struct ieee80211com *)

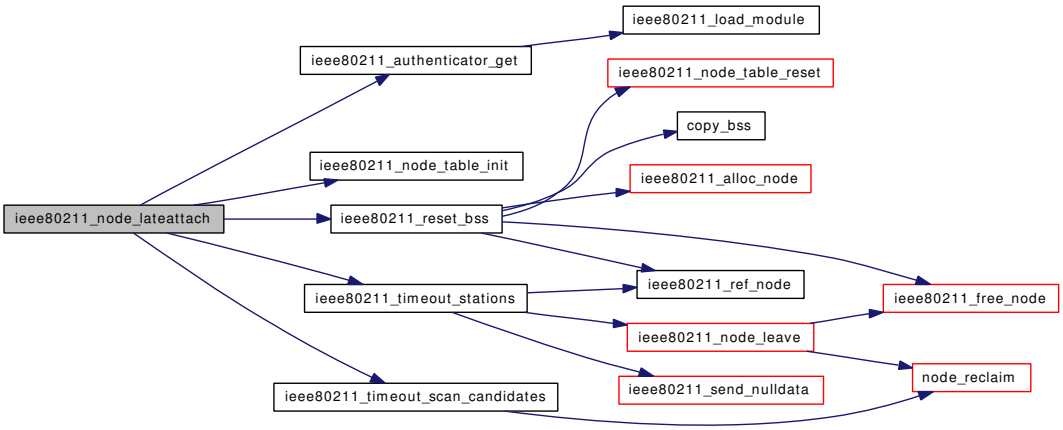
Definition at line 112 of file ieee80211_node.c.

References ieee80211_crypto_state::cs_max_keyix, ieee80211com::ic_aid_bitmap, ieee80211com::ic_auth, ieee80211com::ic_bss, ieee80211com::ic_caps, ieee80211com::ic_crypto, ieee80211com::ic_max_aid, ieee80211com::ic_scan, ieee80211com::ic_sta, ieee80211com::ic_tim_bitmap, ieee80211com::ic_tim_len, IEEE80211_AID_MAX, ieee80211_authenticator_get(), IEEE80211_C_AES, IEEE80211_C_CKIP, IEEE80211_CIPHER_AES_CCM, IEEE80211_CIPHER_AES_OCB, IEEE80211_

CIPHER_CKIP, IEEE80211_CIPHER_TKIP, IEEE80211_CIPHER_WEP, IEEE80211_INACT_-INIT, IEEE80211_INACT_SCAN, ieee80211_node_table_init(), ieee80211_reset_bss(), ieee80211_-timeout_scan_candidates(), ieee80211_timeout_stations(), ieee80211_node::ni_authmode, ieee80211_-node::ni_rsn, ieee80211_rsnparms::rsn_keymgmt, ieee80211_rsnparms::rsn_keymgmtset, ieee80211_-rsnparms::rsn_mcastcipher, ieee80211_rsnparms::rsn_mcastkeylen, ieee80211_rsnparms::rsn_-ucastcipher, ieee80211_rsnparms::rsn_ucastcipherset, ieee80211_rsnparms::rsn_ucastkeylen, WPA_-ASE_8021X_PSK, and WPA_ASE_8021X_UNSPEC.

Referenced by ieee80211_media_init().

Here is the call graph for this function:



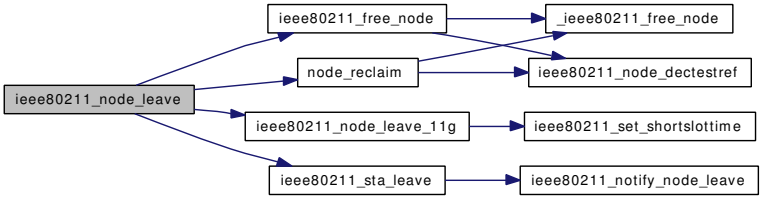

### 7.20.3.31 void ieee80211_node_leave (struct ieee80211com *, struct ieee80211_node *)

Definition at line 2188 of file ieee80211_node.c.

References ieee80211_authenticator::ia_node_leave, ieee80211com::ic_auth, ieee80211com::ic_opmode, IEEE80211_AID_CLR, IEEE80211_DPRINTF, ieee80211_free_node(), IEEE80211_IS_CHAN_FULL, IEEE80211_M_AHDEMO, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_MODE_11G, IEEE80211_MSG_ASSOC, IEEE80211_MSG_DEBUG, IEEE80211_NODE_AID, ieee80211_node_-leave_11g(), IEEE80211_NODE_LOCK, IEEE80211_NODE_UNLOCK, ieee80211_sta_leave(), ieee80211_node::ni_associd, ieee80211_node::ni_chan, ieee80211_node::ni_macaddr, ieee80211_-node::ni_table, and node_reclaim().

Referenced by domlme(), ieee80211_node_join(), ieee80211_recv_mgmt(), ieee80211_timeout_-stations(), and sta_disassoc().

Here is the call graph for this function:



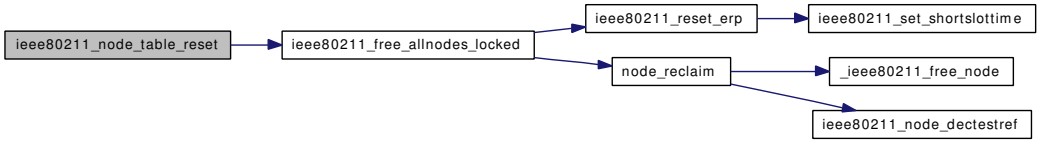
#### 7.20.3.32 void ieee80211_node_table_reset (struct ieee80211_node_table *)

Definition at line 2358 of file ieee80211_node.c.

References IEEE80211_DPRINTF, ieee80211_free_allnodes_locked(), IEEE80211_MSG_NODE, IEEE80211_NODE_LOCK, IEEE80211_NODE_UNLOCK, ieee80211_node_table::nt_ic, ieee80211_node_table::nt_inact_timer, and ieee80211_node_table::nt_name.

Referenced by ieee80211_reset_bss().

Here is the call graph for this function:




#### 7.20.3.33 void ieee80211_node_unauthorize (struct ieee80211_node *)

Definition at line 217 of file ieee80211_node.c.

References IEEE80211_NODE_AUTH, and ieee80211_node::ni_flags.

Referenced by ieee80211_ioctl_setmlme(), and ieee80211_send_mgmt().

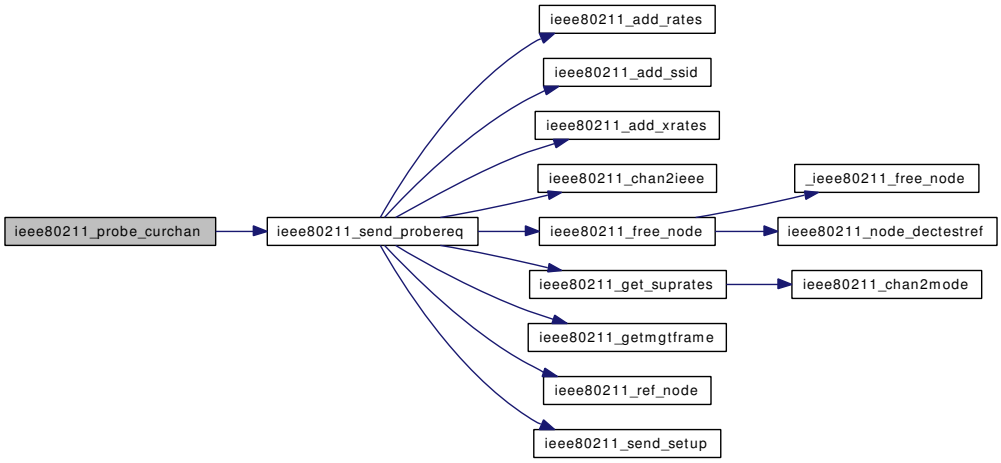
#### 7.20.3.34 void ieee80211_probe_curchan (struct ieee80211com *, int)

Definition at line 364 of file ieee80211_node.c.

References ieee80211com::ic_bss, ieee80211com::ic_curchan, ieee80211com::ic_des_essid, ieee80211com::ic_des_esslen, ieee80211_channel::ic_flags, ieee80211com::ic_flags_ext, ieee80211com::ic_ifp, ieee80211com::ic_myaddr, ieee80211com::ic_opt_ie, ieee80211com::ic_opt_ie_len, IEEE80211_CHAN_PASSIVE, IEEE80211_FEXT_PROBECHAN, and ieee80211_send_probereq().

Referenced by ieee80211_newstate(), and ieee80211_recv_mgmt().

Here is the call graph for this function:



#### 7.20.3.35 static __inline struct ieee80211_node* ieee80211_ref_node (struct ieee80211_node * *ni*) [static]

Definition at line 160 of file ieee80211_node.h.

References ieee80211_node_incref.

Referenced by _ieee80211_find_node(), ieee80211_auth_open(), ieee80211_auth_shared(), ieee80211_-create_ibss(), ieee80211_find_node_with_channel(), ieee80211_find_node_with_ssid(), ieee80211_-find_rxnode(), ieee80211_find_rxnode_withkey(), ieee80211_find_txnode(), ieee80211_ibss_merge(), ieee80211_ioctl_delkey(), ieee80211_ioctl_getstainfo(), ieee80211_ioctl_getstastats(), ieee80211_ioctl_-setkey(), ieee80211_iterate_nodes(), ieee80211_output(), ieee80211_recv_pspoll(), ieee80211_reset_-bss(), ieee80211_send_mgmt(), ieee80211_send_probereq(), and ieee80211_timeout_stations().

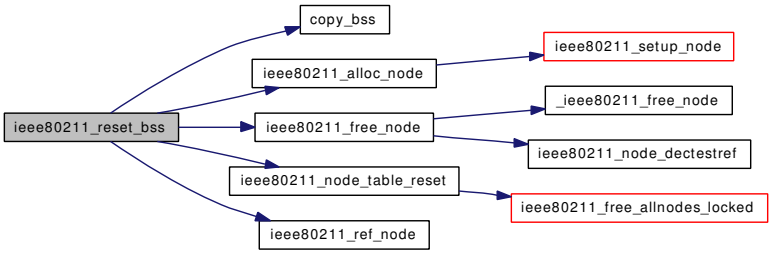
#### 7.20.3.36 void ieee80211_reset_bss (struct ieee80211com *)

Definition at line 465 of file ieee80211_node.c.

References copy_bss(), ieee80211com::ic_bintval, ieee80211com::ic_bss, ieee80211com::ic_myaddr, ieee80211com::ic_scan, ieee80211com::ic_sta, ieee80211_alloc_node(), ieee80211_free_node(), ieee80211_node_table_reset(), and ieee80211_ref_node().

Referenced by ieee80211_newstate(), and ieee80211_node_lateattach().

Here is the call graph for this function:



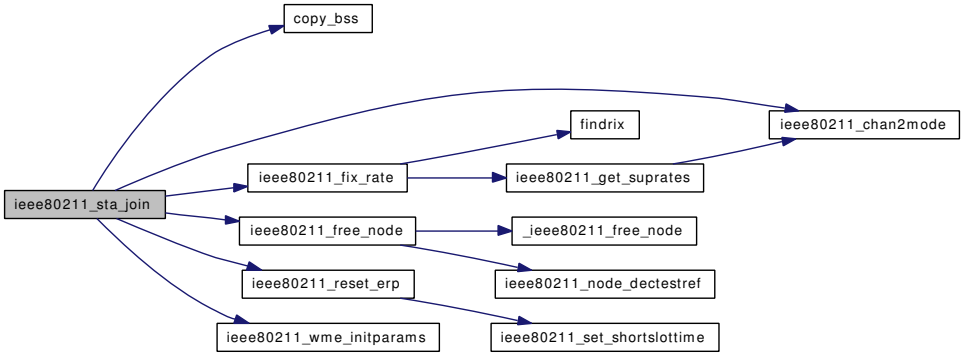

#### 7.20.3.37 int ieee80211_sta_join (struct ieee80211com *, struct ieee80211_node *)

Definition at line 793 of file ieee80211_node.c.

References copy_bss(), ieee80211com::ic_bss, ieee80211com::ic_curchan, ieee80211com::ic_-curmode, ieee80211com::ic_inact_run, ieee80211com::ic_opmode, ieee80211com::ic_sta, ieee80211_-chan2mode(), IEEE80211_F_DODEL, IEEE80211_F_JOIN, ieee80211_fix_rate(), ieee80211_free_-node(), IEEE80211_M_IBSS, IEEE80211_M_STA, ieee80211_new_state, IEEE80211_NODE_LOCK, IEEE80211_NODE_UNLOCK, ieee80211_reset_erp(), IEEE80211_S_AUTH, IEEE80211_S_RUN, ieee80211_wme_initparams(), ieee80211_node::ni_chan, ieee80211_node_table::nt_inact_init, and ieee80211_node_table::nt_name.

Referenced by ieee80211_create_ibss(), ieee80211_ibss_merge(), and ieee80211_ioctl_setmlme().

Here is the call graph for this function:




#### 7.20.3.38 void ieee80211_sta_leave (struct ieee80211com *, struct ieee80211_node *)

Definition at line 849 of file ieee80211_node.c.

References ieee80211com::ic_node_cleanup, and ieee80211_notify_node_leave().

Referenced by ieee80211_newstate(), and ieee80211_node_leave().

Here is the call graph for this function:

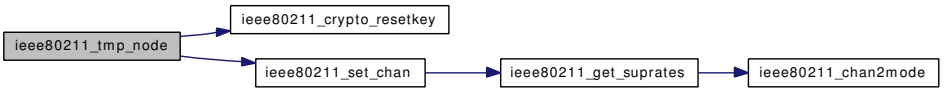

#### 7.20.3.39 struct ieee80211_node* ieee80211_tmp_node (struct ieee80211com *, const u_int8_t * *macaddr*)

Definition at line 1001 of file ieee80211_node.c.

References ieee80211com::ic_node_alloc, ieee80211com::ic_sta, ieee80211com::ic_stats, IEEE80211_ADDR_COPY, ieee80211_crypto_resetkey(), IEEE80211_DPRINTF, IEEE80211_KEYIX_NONE, IEEE80211_MSG_NODE, ieee80211_node_initref, IEEE80211_NODE_SAVEQ_INIT, ieee80211_set_chan(), ieee80211_stats::is_rx_nodealloc, ieee80211_node::ni_bssid, ieee80211_node::ni_chan, ieee80211_node::ni_ic, ieee80211_node::ni_macaddr, ieee80211_node::ni_table, ieee80211_node::ni_txpower, and ieee80211_node::ni_ucastkey.

Referenced by ieee80211_recv_mgmt(), and ieee80211_send_error().

Here is the call graph for this function:




#### 7.20.3.40 static __inline void ieee80211_unref_node (struct ieee80211_node ** *ni*) [static]

Definition at line 167 of file ieee80211_node.h.

References ieee80211_node_decref.

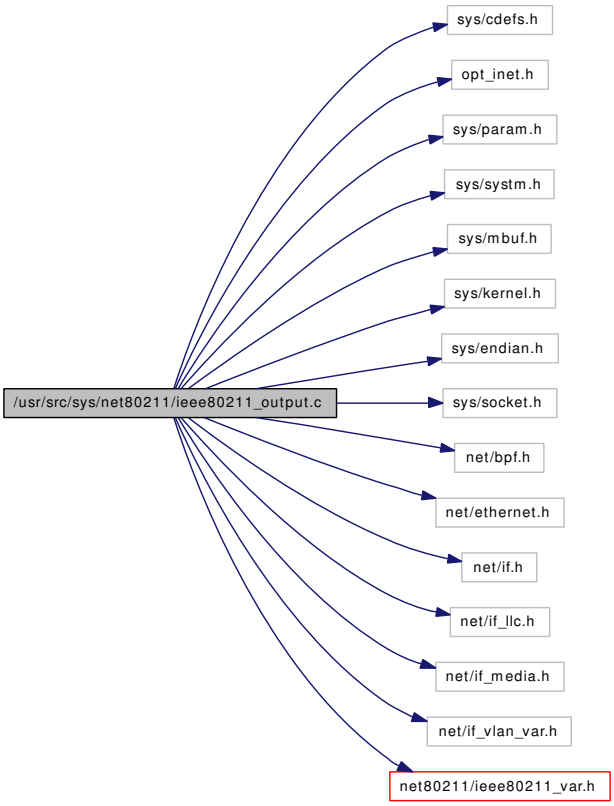
Referenced by ieee80211_find_txnode(), ieee80211_newstate(), and ieee80211_send_nulldata().

#### 7.20.3.41 MALLOC_DECLARE (M_80211_NODE)

## 7.21 /usr/src/sys/net80211/ieee80211_output.c File Reference

```
#include <sys/cdefs.h>
#include "opt_inet.h"
#include <sys/param.h>
#include <sys/systm.h>
#include <sys/mbuf.h>
#include <sys/kernel.h>
#include <sys/endian.h>
#include <sys/socket.h>
#include <net/bpf.h>
#include <net/ethernet.h>
#include <net/if.h>
#include <net/if_llc.h>
#include <net/if_media.h>
#include <net/if_vlan_var.h>
#include <net80211/ieee80211_var.h>
```

Include dependency graph for ieee80211_output.c:



## Defines

- #define WH4(wh) ((struct ieee80211_frame_addr4 *)wh)
- #define senderr(e) do { error = (e); goto bad;} while (0)
- #define TO_BE_RECLAIMED (sizeof(struct ether_header) - sizeof(struct llc))
- #define KEY_UNDEFINED(k) ((k).wk_cipher == &ieee80211_cipher_none)
- #define WPA_OUI_BYTES 0x00, 0x50, 0xf2
- #define ADDSHORT(frm, v)
- #define ADDSELECTOR(frm, sel)
- #define RSN_OUI_BYTES 0x00, 0x0f, 0xac
- #define ADDSHORT(frm, v)
- #define ADDSELECTOR(frm, sel)
- #define WME_OUI_BYTES 0x00, 0x50, 0xf2
- #define SM(_v, _f) (((_v) << _f##_S) & _f)
- #define ADDSHORT(frm, v)
- #define senderr(_x, _v) do { ic → ic_stats._v++; ret = _x; goto bad; } while (0)

## Functions

- __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_output.c,v 1.46 2006/12/27 18:46:18 sam Exp $")
- static void ieee80211_send_setup (struct ieee80211com *ic, struct ieee80211_node *ni, struct ieee80211_frame *wh, int type, const u_int8_t sa[IEEE80211_ADDR_LEN], const u_int8_t da[IEEE80211_ADDR_LEN], const u_int8_t bssid[IEEE80211_ADDR_LEN])
- static int ieee80211_mgmt_output (struct ieee80211com *ic, struct ieee80211_node *ni, struct mbuf *m, int type, int timer)
- int ieee80211_raw_xmit (struct ieee80211_node *ni, struct mbuf *m, const struct ieee80211_bpf_params *params)
- int ieee80211_output (struct ifnet *ifp, struct mbuf *m, struct sockaddr *dst, struct rtentry *rt0)
- int ieee80211_send_nulldata (struct ieee80211_node *ni)
- int ieee80211_classify (struct ieee80211com *ic, struct mbuf *m, struct ieee80211_node *ni)
- static struct mbuf * ieee80211_mbuf_adjust (struct ieee80211com *ic, int hdrsize, struct ieee80211_key *key, struct mbuf *m)
- static __inline struct ieee80211_key * ieee80211_crypto_getucastkey (struct ieee80211com *ic, struct ieee80211_node *ni)
- static __inline struct ieee80211_key * ieee80211_crypto_getmcastkey (struct ieee80211com *ic, struct ieee80211_node *ni)
- mbuf * ieee80211_encap (struct ieee80211com *ic, struct mbuf *m, struct ieee80211_node *ni)
- static u_int8_t * ieee80211_add_rates (u_int8_t *frm, const struct ieee80211_rateset *rs)
- static u_int8_t * ieee80211_add_xrates (u_int8_t *frm, const struct ieee80211_rateset *rs)
- static u_int8_t * ieee80211_add_ssid (u_int8_t *frm, const u_int8_t *ssid, u_int len)
- static u_int8_t * ieee80211_add_erp (u_int8_t *frm, struct ieee80211com *ic)
- static u_int8_t * ieee80211_setup_wpa_ie (struct ieee80211com *ic, u_int8_t *ie)
- static u_int8_t * ieee80211_setup_rsn_ie (struct ieee80211com *ic, u_int8_t *ie)
- static u_int8_t * ieee80211_add_wpa (u_int8_t *frm, struct ieee80211com *ic)
- static u_int8_t * ieee80211_add_wme_info (u_int8_t *frm, struct ieee80211_wme_state *wme)
- static u_int8_t * ieee80211_add_wme_param (u_int8_t *frm, struct ieee80211_wme_state *wme)
- int ieee80211_send_probereq (struct ieee80211_node *ni, const u_int8_t sa[IEEE80211_ADDR_LEN], const u_int8_t da[IEEE80211_ADDR_LEN], const u_int8_t bssid[IEEE80211_ADDR_LEN], const u_int8_t *ssid, size_t ssidlen, const void *optie, size_t optielen)
- static u_int16_t getcapinfo (struct ieee80211com *ic, struct ieee80211_channel *chan)

- int ieee80211_send_mgmt (struct ieee80211com *ic, struct ieee80211_node *ni, int type, int arg)
- mbuf * ieee80211_beacon_alloc (struct ieee80211com *ic, struct ieee80211_node *ni, struct ieee80211_beacon_offsets *bo)
- int ieee80211_beacon_update (struct ieee80211com *ic, struct ieee80211_node *ni, struct ieee80211_beacon_offsets *bo, struct mbuf *m, int mcast)
- void ieee80211_pwrsave (struct ieee80211com *ic, struct ieee80211_node *ni, struct mbuf *m)

## 7.21.1 Define Documentation

### 7.21.1.1 #define ADDSELECTOR(frm, sel)

**Value:**

```
do {            \
        memcpy(frm, sel, 4);                    \
        frm += 4;                               \
} while (0)
```

### 7.21.1.2 #define ADDSELECTOR(frm, sel)

**Value:**

```
do {            \
        memcpy(frm, sel, 4);                    \
        frm += 4;                               \
} while (0)
```

Referenced by ieee80211_setup_rsn_ie(), and ieee80211_setup_wpa_ie().

### 7.21.1.3 #define ADDSHORT(frm, v)

**Value:**

```
do {                    \
        frm[0] = (v) & 0xff;                    \
        frm[1] = (v) >> 8;                      \
        frm += 2;                               \
} while (0)
```

### 7.21.1.4 #define ADDSHORT(frm, v)

**Value:**

```
do {                    \
        frm[0] = (v) & 0xff;                    \
        frm[1] = (v) >> 8;                      \
        frm += 2;                               \
} while (0)
```

#### 7.21.1.5 #define ADDSHORT(frm, v)

**Value:**

```
do {                        \
        frm[0] = (v) & 0xff;                    \
        frm[1] = (v) >> 8;                      \
        frm += 2;                               \
} while (0)
```

Referenced by ieee80211_add_wme_param(), ieee80211_setup_rsn_ie(), and ieee80211_setup_wpa_ie().

#### 7.21.1.6 #define KEY_UNDEFINED(k) ((k).wk_cipher == &ieee80211_cipher_none)

Definition at line 576 of file ieee80211_output.c.

Referenced by ieee80211_crypto_getmcastkey(), ieee80211_crypto_getucastkey(), and ieee80211_-encap().

#### 7.21.1.7 #define RSN_OUI_BYTES 0x00, 0x0f, 0xac

Referenced by ieee80211_setup_rsn_ie().

#### 7.21.1.8 #define senderr(_x, _v) do { ic → ic_stats._v++; ret = _x; goto bad; } while (0)

#### 7.21.1.9 #define senderr(e) do { error = (e); goto bad;} while (0)

Referenced by ieee80211_output(), and ieee80211_send_mgmt().

#### 7.21.1.10 #define SM(_v, _f) (((_v) << _f##_S) & _f)

Referenced by ieee80211_add_wme_param().

#### 7.21.1.11 #define TO_BE_RECLAIMED (sizeof(struct ether_header) - sizeof(struct llc))

Referenced by ieee80211_mbuf_adjust().

#### 7.21.1.12 #define WH4(wh) ((struct ieee80211_frame_addr4 *)wh)

#### 7.21.1.13 #define WME_OUI_BYTES 0x00, 0x50, 0xf2

Definition at line 1035 of file ieee80211_output.c.

Referenced by ieee80211_add_wme_info(), and ieee80211_add_wme_param().

#### 7.21.1.14 #define WPA_OUI_BYTES 0x00, 0x50, 0xf2

Referenced by ieee80211_setup_wpa_ie().

## 7.21.2 Function Documentation

### 7.21.2.1 __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_output. *c*, v 1.46 2006/12/27 18:46:18 sam Exp $")

### 7.21.2.2 static u_int16_t getcapinfo (struct ieee80211com * *ic*, struct ieee80211_channel * *chan*) [static]

Definition at line 1189 of file ieee80211_output.c.

References ieee80211com::ic_flags, ieee80211com::ic_opmode, IEEE80211_CAPINFO_ESS, IEEE80211_CAPINFO_IBSS, IEEE80211_CAPINFO_PRIVACY, IEEE80211_CAPINFO_SHORT_PREAMBLE, IEEE80211_CAPINFO_SHORT_SLOTTIME, IEEE80211_F_PRIVACY, IEEE80211_F_SHPREAMBLE, IEEE80211_F_SHSLOT, IEEE80211_IS_CHAN_2GHZ, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, and IEEE80211_M_STA.

Referenced by ieee80211_beacon_alloc(), ieee80211_beacon_update(), and ieee80211_send_mgmt().

### 7.21.2.3 static u_int8_t* ieee80211_add_erp (u_int8_t * *frm*, struct ieee80211com * *ic*) [static]

Definition at line 834 of file ieee80211_output.c.

References ieee80211com::ic_flags, ieee80211com::ic_nonerpsta, IEEE80211_ELEMID_ERP, IEEE80211_ERP_LONG_PREAMBLE, IEEE80211_ERP_NON_ERP_PRESENT, IEEE80211_ERP_USE_PROTECTION, IEEE80211_F_USEBARKER, and IEEE80211_F_USEPROT.

Referenced by ieee80211_beacon_alloc(), ieee80211_beacon_update(), and ieee80211_send_mgmt().

### 7.21.2.4 static u_int8_t* ieee80211_add_rates (u_int8_t * *frm*, const struct ieee80211_rateset * *rs*) [static]

Definition at line 786 of file ieee80211_output.c.

References IEEE80211_ELEMID_RATES, IEEE80211_RATE_SIZE, ieee80211_rateset::rs_nrates, and ieee80211_rateset::rs_rates.

Referenced by ieee80211_beacon_alloc(), ieee80211_send_mgmt(), and ieee80211_send_probereq().

### 7.21.2.5 static u_int8_t* ieee80211_add_ssid (u_int8_t * *frm*, const u_int8_t * *ssid*, u_int *len*) [static]

Definition at line 822 of file ieee80211_output.c.

References IEEE80211_ELEMID_SSID.

Referenced by ieee80211_send_mgmt(), and ieee80211_send_probereq().

### 7.21.2.6 static u_int8_t* ieee80211_add_wme_info (u_int8_t * *frm*, struct ieee80211_wme_state * *wme*) [static]

Definition at line 1040 of file ieee80211_output.c.

References IEEE80211_ELEMID_VENDOR, ieee80211_wme_info::wme_id, WME_INFO_OUI_SUBTYPE, ieee80211_wme_info::wme_oui, WME_OUI_BYTES, WME_OUI_TYPE, and WME_VERSION.

Referenced by ieee80211_send_mgmt().

#### 7.21.2.7 static u_int8_t* ieee80211_add_wme_param (u_int8_t * *frm*, struct ieee80211_wme_state * *wme*) [static]

Definition at line 1059 of file ieee80211_output.c.

References ADDSHORT, chanAccParams::cap_info, chanAccParams::cap_wmeParams, IEEE80211_-ELEMID_VENDOR, SM, ieee80211_wme_state::wme_bssChanParams, ieee80211_wme_info::wme_id, WME_NUM_AC, WME_OUI_BYTES, WME_OUI_TYPE, WME_PARAM_ACI, WME_PARAM_-ACM, WME_PARAM_AIFSN, WME_PARAM_LOGCWMAX, WME_PARAM_LOGCWMIN, WME_PARAM_OUI_SUBTYPE, and WME_VERSION.

Referenced by ieee80211_beacon_alloc(), ieee80211_beacon_update(), and ieee80211_send_mgmt().

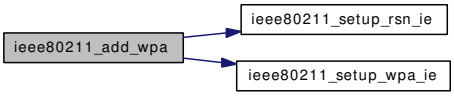
#### 7.21.2.8 static u_int8_t* ieee80211_add_wpa (u_int8_t * *frm*, struct ieee80211com * *ic*) [static]

Definition at line 1024 of file ieee80211_output.c.

References ieee80211com::ic_flags, IEEE80211_F_WPA, IEEE80211_F_WPA1, IEEE80211_F_WPA2, ieee80211_setup_rsn_ie(), and ieee80211_setup_wpa_ie().

Referenced by ieee80211_beacon_alloc(), and ieee80211_send_mgmt().

Here is the call graph for this function:




#### 7.21.2.9 static u_int8_t* ieee80211_add_xrates (u_int8_t * *frm*, const struct ieee80211_rateset * *rs*) [static]

Definition at line 803 of file ieee80211_output.c.

References IEEE80211_ELEMID_XRATES, IEEE80211_RATE_SIZE, ieee80211_rateset::rs_nrates, and ieee80211_rateset::rs_rates.

Referenced by ieee80211_beacon_alloc(), ieee80211_send_mgmt(), and ieee80211_send_probereq().

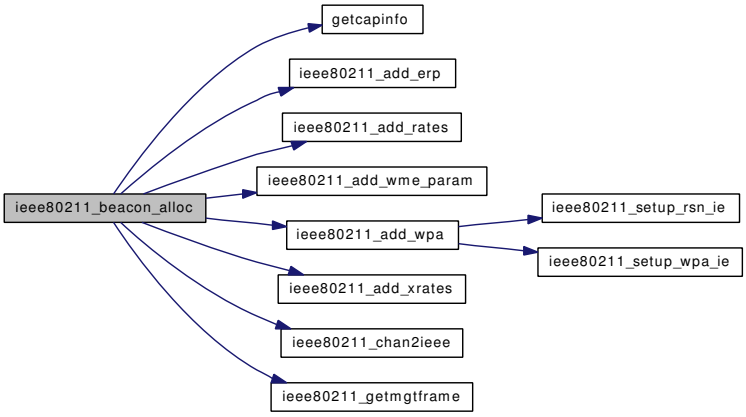
#### 7.21.2.10 struct mbuf* ieee80211_beacon_alloc (struct ieee80211com * *ic*, struct ieee80211_node * *ni*, struct ieee80211_beacon_offsets * *bo*)

Definition at line 1537 of file ieee80211_output.c.

References ieee80211_beacon_offsets::bo_caps, ieee80211_beacon_offsets::bo_erp, ieee80211_-beacon_offsets::bo_tim, ieee80211_beacon_offsets::bo_tim_len, ieee80211_beacon_offsets::bo_-trailer, ieee80211_beacon_offsets::bo_trailer_len, ieee80211_beacon_offsets::bo_wme, getcapinfo(), ieee80211_frame::i_addr1, ieee80211_frame::i_addr2, ieee80211_frame::i_addr3, ieee80211_frame::i_-dur, ieee80211_frame::i_fc, ieee80211_frame::i_seq, ieee80211com::ic_caps, ieee80211com::ic_-curmode, ieee80211com::ic_dtim_period, ieee80211com::ic_flags, ieee80211com::ic_ifp,

ieee80211com::ic_myaddr, ieee80211com::ic_opmode, ieee80211com::ic_tim_len, ieee80211com::ic_wme, ieee80211_add_erp(), ieee80211_add_rates(), ieee80211_add_wme_param(), ieee80211_add_wpa(), ieee80211_add_xrates(), IEEE80211_ADDR_COPY, IEEE80211_C_WME, IEEE80211_C_WPA, ieee80211_chan2ieee(), IEEE80211_DPRINTF, IEEE80211_ELEMID_DSPARMS, IEEE80211_ELEMID_IBSSPARMS, IEEE80211_ELEMID_SSID, IEEE80211_ELEMID_TIM, IEEE80211_F_HIDESSID, IEEE80211_F_WME, IEEE80211_F_WMEUPDATE, IEEE80211_F_WPA, IEEE80211_FC0_SUBTYPE_BEACON, IEEE80211_FC0_TYPE_MGT, IEEE80211_FC0_VERSION_0, IEEE80211_FC1_DIR_NODS, ieee80211_getmgtframe(), IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_MODE_11G, IEEE80211_MODE_FH, IEEE80211_MSG_ANY, IEEE80211_RATE_MAXSIZE, IEEE80211_RATE_SIZE, ieee80211_node::ni_bssid, ieee80211_node::ni_chan, ieee80211_node::ni_essid, ieee80211_node::ni_esslen, ieee80211_node::ni_intval, ieee80211_node::ni_rates, ieee80211_tim_ie::tim_bitctl, ieee80211_tim_ie::tim_bitmap, ieee80211_tim_ie::tim_count, ieee80211_tim_ie::tim_ie, ieee80211_tim_ie::tim_len, and ieee80211_tim_ie::tim_period.

Here is the call graph for this function:

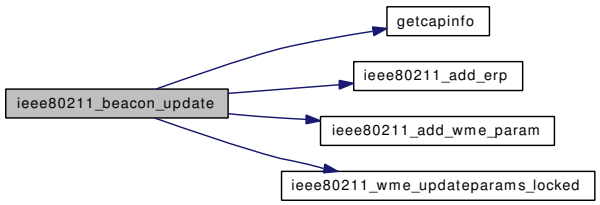



### 7.21.2.11 int ieee80211_beacon_update (struct ieee80211com * *ic*, struct ieee80211_node * *ni*, struct ieee80211_beacon_offsets * *bo*, struct mbuf * *m*, int *mcast*)

Definition at line 1661 of file ieee80211_output.c.

References ieee80211_beacon_offsets::bo_caps, ieee80211_beacon_offsets::bo_erp, ieee80211_beacon_offsets::bo_tim, ieee80211_beacon_offsets::bo_tim_len, ieee80211_beacon_offsets::bo_trailer, ieee80211_beacon_offsets::bo_trailer_len, ieee80211_beacon_offsets::bo_wme, getcapinfo(), ieee80211com::ic_flags, ieee80211com::ic_flags_ext, ieee80211com::ic_opmode, ieee80211com::ic_ps_pending, ieee80211com::ic_tim_bitmap, ieee80211com::ic_tim_len, ieee80211com::ic_wme, ieee80211_add_erp(), ieee80211_add_wme_param(), IEEE80211_BEACON_LOCK, IEEE80211_DPRINTF, IEEE80211_F_TIMUPDATE, IEEE80211_F_WME, IEEE80211_F_WMEUPDATE, IEEE80211_FEXT_ERPUPDATE, IEEE80211_M_HOSTAP, IEEE80211_MSG_POWER, IEEE80211_MSG_WME, ieee80211_wme_updateparams_locked(), ieee80211_node::ni_chan, ieee80211_tim_ie::tim_bitctl, ieee80211_tim_ie::tim_bitmap, ieee80211_tim_ie::tim_len, WME_F_AGGRMODE, ieee80211_wme_state::wme_flags, ieee80211_wme_state::wme_hipri_switch_hysteresis, ieee80211_wme_state::wme_hipri_switch_thresh, and ieee80211_wme_state::wme_hipri_traffic.

Here is the call graph for this function:




#### 7.21.2.12 int ieee80211_classify (struct ieee80211com * *ic*, struct mbuf * *m*, struct ieee80211_node * *ni*)

Definition at line 385 of file ieee80211_output.c.

References chanAccParams::cap_wmeParams, ieee80211com::ic_opmode, ieee80211com::ic_wme, IEEE80211_M_STA, IEEE80211_NODE_QOS, IEEE80211_NODE_STAT, M_WME_SETAC, ieee80211_node::ni_flags, ieee80211_node::ni_vlan, WME_AC_BE, WME_AC_BK, WME_AC_VI, WME_AC_VO, ieee80211_wme_state::wme_wmeBssChanParams, and wmeParams::wmep_acm.

Referenced by ieee80211_output().

#### 7.21.2.13 static __inline struct ieee80211_key* ieee80211_crypto_getmcastkey (struct ieee80211com * *ic*, struct ieee80211_node * *ni*) [static]

Definition at line 601 of file ieee80211_output.c.

References IEEE80211_KEYIX_NONE, and KEY_UNDEFINED.

Referenced by ieee80211_encap().

#### 7.21.2.14 static __inline struct ieee80211_key* ieee80211_crypto_getucastkey (struct ieee80211com * *ic*, struct ieee80211_node * *ni*) [static]

Definition at line 583 of file ieee80211_output.c.

References IEEE80211_KEYIX_NONE, KEY_UNDEFINED, and ieee80211_node::ni_ucastkey.

Referenced by ieee80211_encap().

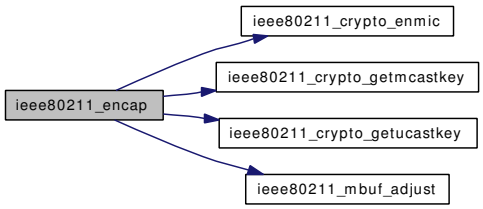
#### 7.21.2.15 struct mbuf* ieee80211_encap (struct ieee80211com * *ic*, struct mbuf * *m*, struct ieee80211_node * *ni*)

Definition at line 616 of file ieee80211_output.c.

References chanAccParams::cap_wmeParams, ieee80211_frame::i_addr1, ieee80211_frame::i_addr2, ieee80211_frame::i_addr3, ieee80211_frame::i_dur, ieee80211_frame::i_fc, ieee80211_qosframe::i_fc, ieee80211_qosframe::i_qos, ieee80211_frame::i_seq, ieee80211com::ic_bss, ieee80211com::ic_flags, ieee80211com::ic_opmode, ieee80211com::ic_stats, ieee80211com::ic_wme, IEEE80211_ADDR_COPY, ieee80211_crypto_enmic(), ieee80211_crypto_getmcastkey(), ieee80211_crypto_getucastkey(), IEEE80211_DPRINTF, IEEE80211_F_DATAPAD, IEEE80211_F_PRIVACY, IEEE80211_F_WPA, IEEE80211_FC0_SUBTYPE_QOS, IEEE80211_FC0_TYPE_DATA, IEEE80211_FC0_VERSION_0, IEEE80211_FC1_DIR_FROMDS, IEEE80211_FC1_DIR_NODS, IEEE80211_FC1_DIR_TODS, IEEE80211_FC1_MORE_DATA, IEEE80211_FC1_WEP, IEEE80211_IS_MULTICAST,

IEEE80211_M_AHDEMO, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_M_-MONITOR, IEEE80211_M_STA, ieee80211_mbuf_adjust(), IEEE80211_MSG_CRYPTO, IEEE80211_-MSG_OUTPUT, IEEE80211_NODE_QOS, IEEE80211_NODE_STAT, IEEE80211_NODE_STAT_-ADD, IEEE80211_QOS_ACKPOLICY_S, IEEE80211_QOS_TID, IEEE80211_SEQ_SEQ_SHIFT, ieee80211_stats::is_crypto_enmicfail, ieee80211_stats::is_tx_nobuf, KEY_UNDEFINED, M_MORE_-DATA, M_WME_GETAC, ieee80211_node::ni_bssid, ieee80211_node::ni_flags, ieee80211_node::ni_-txseqs, ieee80211_node::ni_ucastkey, WME_AC_TO_TID, ieee80211_wme_state::wme_wmeChan-Params, and wmeParams::wmep_noackPolicy.

Here is the call graph for this function:




#### 7.21.2.16 static struct mbuf* ieee80211_mbuf_adjust (struct ieee80211com * *ic*, int *hdrsize*, struct ieee80211_key * *key*, struct mbuf * *m*) [static]

Definition at line 500 of file ieee80211_output.c.

References ieee80211_cipher::ic_header, IEEE80211_DPRINTF, IEEE80211_KEY_SWCRYPT, IEEE80211_KEY_SWMIC, IEEE80211_MSG_OUTPUT, TO_BE_RECLAIMED, ieee80211_key::wk_-cipher, and ieee80211_key::wk_flags.

Referenced by ieee80211_encap().

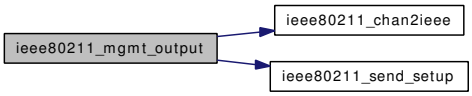
#### 7.21.2.17 static int ieee80211_mgmt_output (struct ieee80211com * *ic*, struct ieee80211_node * *ni*, struct mbuf * *m*, int *type*, int *timer*) [static]

Definition at line 144 of file ieee80211_output.c.

References ieee80211_frame::i_addr1, ieee80211_frame::i_fc, ieee80211com::ic_curchan, ieee80211com::ic_ifp, ieee80211com::ic_mgt_timer, ieee80211com::ic_mgtq, ieee80211com::ic_myaddr, ieee80211_chan2ieee(), IEEE80211_DPRINTF, IEEE80211_FC0_SUBTYPE_MASK, IEEE80211_-FC0_SUBTYPE_SHIFT, IEEE80211_FC0_TYPE_MGT, IEEE80211_FC1_WEP, ieee80211_-mgt_subtype_name, IEEE80211_MSG_AUTH, ieee80211_msg_debug, ieee80211_msg_dumppkts, IEEE80211_NODE_STAT, ieee80211_send_setup(), M_LINK0, ieee80211_node::ni_bssid, ieee80211_-node::ni_challenge, and ieee80211_node::ni_macaddr.

Referenced by ieee80211_send_mgmt().

Here is the call graph for this function:



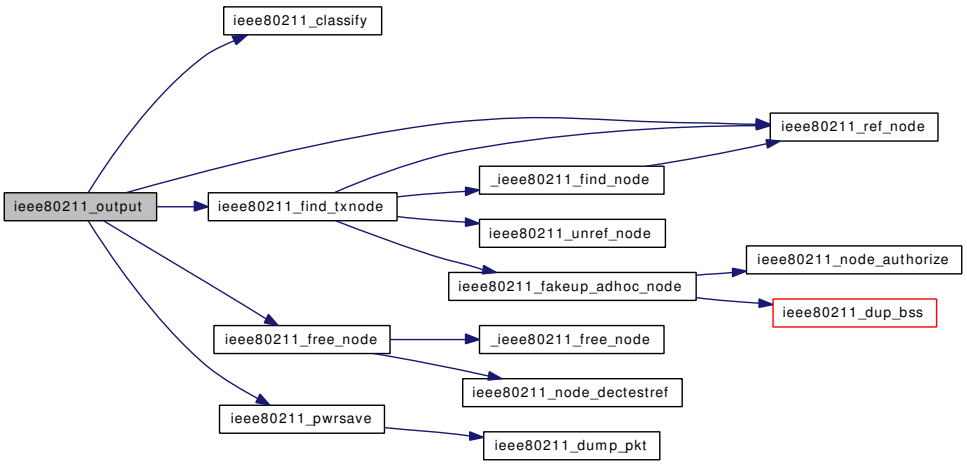
#### 7.21.2.18 int ieee80211_output (struct ifnet * *ifp*, struct mbuf * *m*, struct sockaddr * *dst*, struct rtentry * *rt0*)

Definition at line 234 of file ieee80211_output.c.

References ieee80211_frame::i_addr1, ieee80211_frame::i_addr3, ieee80211_frame::i_fc, ieee80211com::ic_bss, ieee80211com::ic_raw_xmit, ieee80211_classify(), IEEE80211_FC0_VERSION_0, IEEE80211_FC0_VERSION_MASK, IEEE80211_FC1_DIR_DSTODS, IEEE80211_FC1_DIR_FROMDS, IEEE80211_FC1_DIR_MASK, IEEE80211_FC1_DIR_NODS, IEEE80211_FC1_DIR_TODS, ieee80211_find_txnode(), ieee80211_free_node(), IEEE80211_NODE_PWR_MGT, ieee80211_pwrsave(), ieee80211_ref_node(), M_PWR_SAV, ieee80211_node::ni_flags, and senderr.

Referenced by ieee80211_ifattach().

Here is the call graph for this function:




#### 7.21.2.19 void ieee80211_pwrsave (struct ieee80211com * *ic*, struct ieee80211_node * *ni*, struct mbuf * *m*)

Definition at line 1804 of file ieee80211_output.c.

References _IEEE80211_NODE_SAVEQ_ENQUEUE, ieee80211com::ic_bintval, ieee80211com::ic_set_tim, IEEE80211_DPRINTF, ieee80211_dump_pkt(), IEEE80211_MSG_ANY, ieee80211_msg_dumppkts, IEEE80211_MSG_POWER, IEEE80211_NODE_SAVEQ_LOCK, IEEE80211_NODE_SAVEQ_UNLOCK, IEEE80211_PS_MAX_QUEUE, ieee80211_node::ni_intval, ieee80211_node::ni_macaddr, and ieee80211_node::ni_savedq.

Referenced by ieee80211_output().

Here is the call graph for this function:

#### 7.21.2.20 int ieee80211_raw_xmit (struct ieee80211_node * *ni*, struct mbuf * *m*, const struct ieee80211_bpf_params * *params*)

Definition at line 212 of file ieee80211_output.c.

References ieee80211com::ic_ifp, ieee80211com::ic_mgtq, and ieee80211_node::ni_ic.

Referenced by ieee80211_proto_attach().

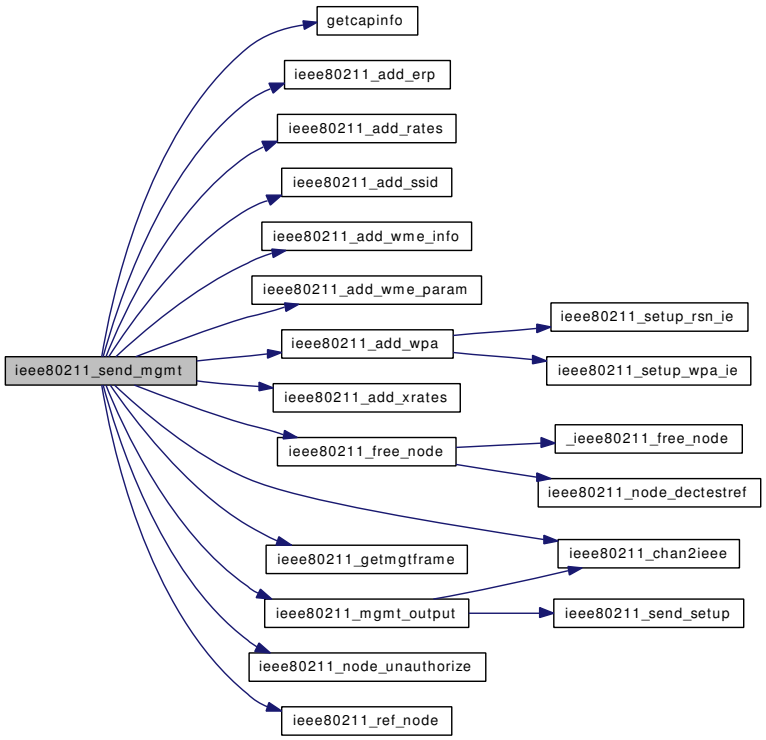
#### 7.21.2.21 int ieee80211_send_mgmt (struct ieee80211com * *ic*, struct ieee80211_node * *ni*, int *type*, int *arg*)

Definition at line 1217 of file ieee80211_output.c.

References getcapinfo(), ieee80211com::ic_bss, ieee80211com::ic_caps, ieee80211com::ic_curchan, ieee80211com::ic_curmode, ieee80211com::ic_flags, ieee80211com::ic_lintval, ieee80211com::ic_opmode, ieee80211com::ic_opt_ie, ieee80211com::ic_opt_ie_len, ieee80211com::ic_phytype, ieee80211com::ic_wme, ieee80211_add_erp(), ieee80211_add_rates(), ieee80211_add_ssid(), ieee80211_add_wme_info(), ieee80211_add_wme_param(), ieee80211_add_wpa(), ieee80211_add_xrates(), IEEE80211_ADDR_COPY, IEEE80211_ADDR_LEN, IEEE80211_AUTH_ALG_OPEN, IEEE80211_AUTH_ALG_SHARED, IEEE80211_AUTH_SHARED, IEEE80211_AUTH_SHARED_CHALLENGE, IEEE80211_AUTH_SHARED_REQUEST, IEEE80211_AUTH_SHARED_RESPONSE, IEEE80211_C_SHSLOT, IEEE80211_CAPINFO_ESS, IEEE80211_CAPINFO_PRIVACY, IEEE80211_CAPINFO_SHORT_PREAMBLE, IEEE80211_CAPINFO_SHORT_SLOTTIME, IEEE80211_CHALLENGE_LEN, ieee80211_chan2ieee(), IEEE80211_DPRINTF, IEEE80211_ELEMID_CHALLENGE, IEEE80211_ELEMID_DSPARMS, IEEE80211_ELEMID_FHPARMS, IEEE80211_ELEMID_IBSSPARMS, IEEE80211_F_PRIVACY, IEEE80211_F_SHPREAMBLE, IEEE80211_F_WME, IEEE80211_F_WPA, IEEE80211_FC0_SUBTYPE_ASSOC_REQ, IEEE80211_FC0_SUBTYPE_ASSOC_RESP, IEEE80211_FC0_SUBTYPE_AUTH, IEEE80211_FC0_SUBTYPE_DEAUTH, IEEE80211_FC0_SUBTYPE_DISASSOC, IEEE80211_FC0_SUBTYPE_PROBE_RESP, IEEE80211_FC0_SUBTYPE_REASSOC_REQ, IEEE80211_FC0_SUBTYPE_REASSOC_RESP, IEEE80211_FH_CHANPAT, IEEE80211_FH_CHANSET, ieee80211_free_node(), ieee80211_getmgtframe(), IEEE80211_IS_CHAN_2GHZ, IEEE80211_M_IBSS, IEEE80211_M_STA, ieee80211_mgmt_output(), IEEE80211_MODE_11G, IEEE80211_MSG_ANY, IEEE80211_MSG_ASSOC, IEEE80211_MSG_AUTH, IEEE80211_MSG_NODE, ieee80211_node_refcnt, IEEE80211_NODE_STAT, IEEE80211_NODE_STAT_SET, ieee80211_node_unauthorize(), IEEE80211_NWID_LEN, IEEE80211_RATE_MAXSIZE, IEEE80211_RATE_SIZE, ieee80211_ref_node(), IEEE80211_STATUS_SUCCESS, IEEE80211_T_FH, IEEE80211_TRANS_WAIT, M_LINK0, ieee80211_node::ni_authmode, ieee80211_node::ni_bssid, ieee80211_node::ni_challenge, ieee80211_node::ni_essid, ieee80211_node::ni_esslen, ieee80211_node::ni_fhdwell, ieee80211_node::ni_fhindex, ieee80211_node::ni_intval, ieee80211_node::ni_macaddr, ieee80211_node::ni_rates, and senderr.

Referenced by ieee80211_proto_attach().

Here is the call graph for this function:



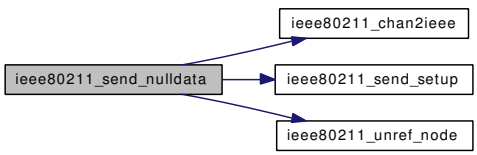

### 7.21.2.22 int ieee80211_send_nulldata (struct ieee80211_node * *ni*)

Definition at line 338 of file ieee80211_output.c.

References ieee80211_frame::i_fc, ieee80211com::ic_curchan, ieee80211com::ic_ifp, ieee80211com::ic_mgtq, ieee80211com::ic_myaddr, ieee80211com::ic_opmode, ieee80211com::ic_stats, ieee80211_chan2ieee(), IEEE80211_DPRINTF, IEEE80211_FC0_SUBTYPE_NODATA, IEEE80211_FC0_TYPE_DATA, IEEE80211_FC1_PWR_MGT, IEEE80211_M_HOSTAP, IEEE80211_MSG_DEBUG, IEEE80211_MSG_DUMPPKTS, IEEE80211_NODE_PWR_MGT, IEEE80211_NODE_STAT, ieee80211_send_setup(), ieee80211_unref_node(), ieee80211_stats::is_tx_nobuf, ieee80211_node::ni_bssid, ieee80211_node::ni_flags, ieee80211_node::ni_ic, and ieee80211_node::ni_macaddr.

Referenced by ieee80211_recv_pspoll(), and ieee80211_timeout_stations().

Here is the call graph for this function:



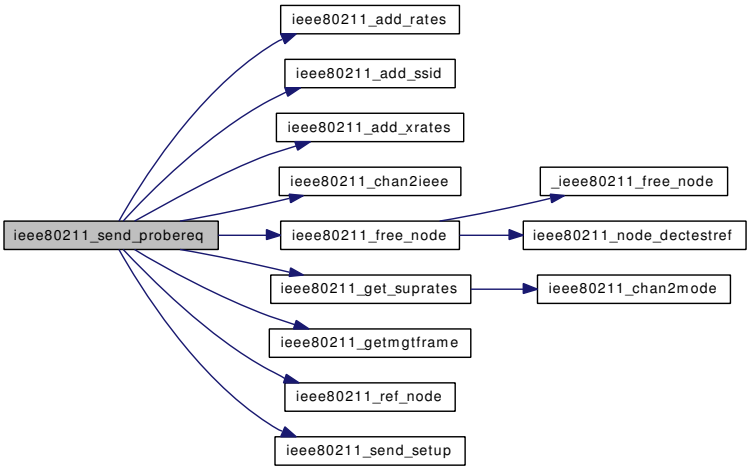
#### 7.21.2.23 int ieee80211_send_probereq (struct ieee80211_node * *ni*, const u_int8_t *sa*[IEEE80211_ADDR_LEN], const u_int8_t *da*[IEEE80211_ADDR_LEN], const u_int8_t *bssid*[IEEE80211_ADDR_LEN], const u_int8_t * *ssid*, size_t *ssidlen*, const void * *optie*, size_t *optielen*)

Definition at line 1105 of file ieee80211_output.c.

References ieee80211_frame::i_addr1, ieee80211com::ic_curchan, ieee80211com::ic_ifp, ieee80211com::ic_mgtq, ieee80211com::ic_stats, ieee80211_add_rates(), ieee80211_add_ssid(), ieee80211_add_xrates(), ieee80211_chan2ieee(), IEEE80211_DPRINTF, IEEE80211_FC0_SUBTYPE_PROBE_REQ, IEEE80211_FC0_TYPE_MGT, ieee80211_free_node(), ieee80211_get_suprates(), ieee80211_getmgtframe(), IEEE80211_MSG_DEBUG, IEEE80211_MSG_DUMPPKTS, IEEE80211_MSG_NODE, ieee80211_node_refcnt, IEEE80211_NODE_STAT, IEEE80211_NWID_LEN, IEEE80211_RATE_MAXSIZE, IEEE80211_RATE_SIZE, ieee80211_ref_node(), ieee80211_send_setup(), ieee80211_stats::is_tx_nobuf, ieee80211_node::ni_ic, and ieee80211_node::ni_macaddr.

Referenced by ieee80211_beacon_miss(), and ieee80211_probe_curchan().

Here is the call graph for this function:




#### 7.21.2.24 static void ieee80211_send_setup (struct ieee80211com * *ic*, struct ieee80211_node * *ni*, struct ieee80211_frame * *wh*, int *type*, const u_int8_t *sa*[IEEE80211_ADDR_LEN], const u_int8_t *da*[IEEE80211_ADDR_LEN], const u_int8_t *bssid*[IEEE80211_ADDR_LEN]) [static]

Definition at line 87 of file ieee80211_output.c.

References ieee80211_frame::i_addr1, ieee80211_frame::i_addr2, ieee80211_frame::i_addr3, ieee80211_frame::i_dur, ieee80211_frame::i_fc, ieee80211_frame::i_seq, ieee80211com::ic_opmode, IEEE80211_ADDR_COPY, IEEE80211_FC0_TYPE_DATA, IEEE80211_FC0_TYPE_MASK, IEEE80211_FC0_VERSION_0, IEEE80211_FC1_DIR_FROMDS, IEEE80211_FC1_DIR_NODS, IEEE80211_FC1_DIR_TODS, IEEE80211_M_AHDEMO, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_M_MONITOR, IEEE80211_M_STA, IEEE80211_SEQ_SEQ_SHIFT, and ieee80211_node::ni_txseqs.

Referenced by ieee80211_mgmt_output(), ieee80211_send_nulldata(), and ieee80211_send_probereq().

#### 7.21.2.25 static u_int8_t* ieee80211_setup_rsn_ie (struct ieee80211com * *ic*, u_int8_t * *ie*) [static]

Definition at line 938 of file ieee80211_output.c.

References ADDSELECTOR, ADDSHORT, ieee80211com::ic_bss, IEEE80211_CIPHER_AES_CCM, IEEE80211_CIPHER_TKIP, IEEE80211_CIPHER_WEP, IEEE80211_ELEMID_RSN, ieee80211_node::ni_rsn, RSN_ASE_8021X_PSK, RSN_ASE_8021X_UNSPEC, ieee80211_rsnparms::rsn_caps, RSN_CSE_CCMP, RSN_CSE_NULL, RSN_CSE_TKIP, RSN_CSE_WEP104, RSN_CSE_WEP40, RSN_CSE_WRAP, ieee80211_rsnparms::rsn_keymgmtset, ieee80211_rsnparms::rsn_mcastcipher, ieee80211_rsnparms::rsn_mcastkeylen, RSN_OUI_BYTES, ieee80211_rsnparms::rsn_ucastcipherset, RSN_VERSION, WPA_ASE_8021X_PSK, and WPA_ASE_8021X_UNSPEC.

Referenced by ieee80211_add_wpa().

#### 7.21.2.26 static u_int8_t* ieee80211_setup_wpa_ie (struct ieee80211com * *ic*, u_int8_t * *ie*) [static]

Definition at line 852 of file ieee80211_output.c.

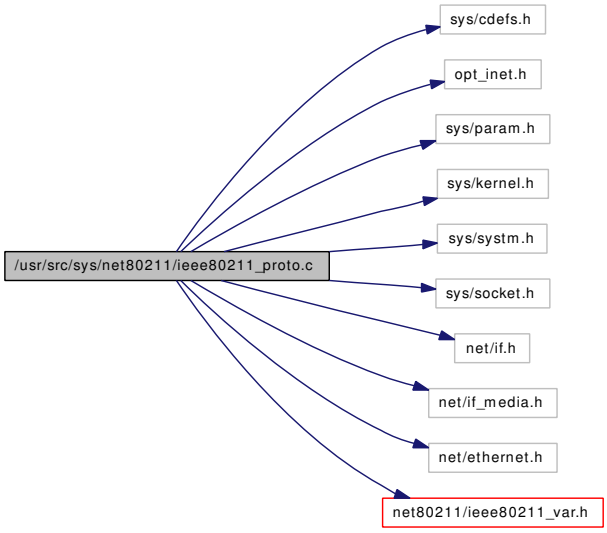
References ADDSELECTOR, ADDSHORT, ieee80211com::ic_bss, IEEE80211_CIPHER_AES_CCM, IEEE80211_CIPHER_TKIP, IEEE80211_CIPHER_WEP, IEEE80211_ELEMID_VENDOR, ieee80211_node::ni_rsn, RSN_CAP_PREAUTH, ieee80211_rsnparms::rsn_caps, ieee80211_rsnparms::rsn_keymgmtset, ieee80211_rsnparms::rsn_mcastcipher, ieee80211_rsnparms::rsn_mcastkeylen, ieee80211_rsnparms::rsn_ucastcipherset, WPA_ASE_8021X_PSK, WPA_ASE_8021X_UNSPEC, WPA_CSE_CCMP, WPA_CSE_NULL, WPA_CSE_TKIP, WPA_CSE_WEP104, WPA_CSE_WEP40, WPA_OUI_BYTES, WPA_OUI_TYPE, and WPA_VERSION.

Referenced by ieee80211_add_wpa().

## 7.22 /usr/src/sys/net80211/ieee80211_proto.c File Reference

```
#include <sys/cdefs.h>
#include "opt_inet.h"
#include <sys/param.h>
#include <sys/kernel.h>
#include <sys/systm.h>
#include <sys/socket.h>
#include <net/if.h>
#include <net/if_media.h>
#include <net/ethernet.h>
#include <net80211/ieee80211_var.h>
```

Include dependency graph for ieee80211_proto.c:




### Data Structures

- struct phyParamType

### Defines

- #define AGGRESSIVE_MODE_SWITCH_HYSTERESIS 3
- #define HIGH_PRI_SWITCH_THRESH 10
- #define IEEE80211_RATE2MBS(r) (((r) & IEEE80211_RATE_VAL) / 2)
- #define IEEE80211_AUTH_MAX (IEEE80211_AUTH_WPA+1)
- #define RV(v) ((v) & IEEE80211_RATE_VAL)
- #define N(a) (sizeof(a) / sizeof(a[0]))

## Typedefs

- typedef phyParamType paramType

## Functions

- __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_proto.c,v 1.34 2007/01/08 18:23:43 sam Exp $")
- static int ieee80211_newstate (struct ieee80211com *, enum ieee80211_state, int)
- void ieee80211_proto_attach (struct ieee80211com *ic)
- void ieee80211_proto_detach (struct ieee80211com *ic)
- static void ieee80211_auth_setup (void)
- SYSINIT (wlan_auth, SI_SUB_DRIVERS, SI_ORDER_FIRST, ieee80211_auth_setup, NULL)
- ieee80211_authenticator * ieee80211_authenticator_get (int auth)
- void ieee80211_authenticator_register (int type, const struct ieee80211_authenticator *auth)
- void ieee80211_authenticator_unregister (int type)
- void ieee80211_aclator_register (const struct ieee80211_aclator *iac)
- void ieee80211_aclator_unregister (const struct ieee80211_aclator *iac)
- ieee80211_aclator * ieee80211_aclator_get (const char *name)
- void ieee80211_print_essid (const u_int8_t *essid, int len)
- void ieee80211_dump_pkt (const u_int8_t *buf, int len, int rate, int rssi)
- static __inline int findrix (const struct ieee80211_rateset *rs, int r)
- int ieee80211_fix_rate (struct ieee80211_node *ni, int flags)
- void ieee80211_reset_erp (struct ieee80211com *ic)
- void ieee80211_set_shortslottime (struct ieee80211com *ic, int onoff)
- int ieee80211_iserp_rateset (struct ieee80211com *ic, struct ieee80211_rateset *rs)
- void ieee80211_set11gbasicrates (struct ieee80211_rateset *rs, enum ieee80211_phymode mode)
- void ieee80211_wme_initparams (struct ieee80211com *ic)
- void ieee80211_wme_updateparams_locked (struct ieee80211com *ic)
- void ieee80211_wme_updateparams (struct ieee80211com *ic)
- void ieee80211_beacon_miss (struct ieee80211com *ic)
- static void ieee80211_swbmiss (void *arg)
- static void sta_disassoc (void *arg, struct ieee80211_node *ni)
- static void sta_deauth (void *arg, struct ieee80211_node *ni)

## Variables

- const char * ieee80211_mgt_subtype_name [ ]
- const char * ieee80211_ctl_subtype_name [ ]
- const char * ieee80211_state_name [IEEE80211_S_MAX]
- const char * ieee80211_wme_acnames [ ]
- static const char * auth_modnames [IEEE80211_AUTH_MAX]
- static struct ieee80211_authenticator * authenticators [IEEE80211_AUTH_MAX]
- static struct ieee80211_authenticator auth_internal
- static struct ieee80211_aclator * acl = NULL
- static struct phyParamType phyParamForAC_BE [IEEE80211_MODE_MAX]
- static struct phyParamType phyParamForAC_BK [IEEE80211_MODE_MAX]
- static struct phyParamType phyParamForAC_VI [IEEE80211_MODE_MAX]
- static struct phyParamType phyParamForAC_VO [IEEE80211_MODE_MAX]
- static struct phyParamType bssPhyParamForAC_BE [IEEE80211_MODE_MAX]
- static struct phyParamType bssPhyParamForAC_VI [IEEE80211_MODE_MAX]
- static struct phyParamType bssPhyParamForAC_VO [IEEE80211_MODE_MAX]

## 7.22.1 Define Documentation

### 7.22.1.1 #define AGGRESSIVE_MODE_SWITCH_HYSTERESIS 3

Definition at line 55 of file ieee80211_proto.c.

Referenced by ieee80211_proto_attach().

### 7.22.1.2 #define HIGH_PRI_SWITCH_THRESH 10

Definition at line 56 of file ieee80211_proto.c.

### 7.22.1.3 #define IEEE80211_AUTH_MAX (IEEE80211_AUTH_WPA+1)

Definition at line 146 of file ieee80211_proto.c.

Referenced by ieee80211_authenticator_get(), ieee80211_authenticator_register(), and ieee80211_-authenticator_unregister().

### 7.22.1.4 #define IEEE80211_RATE2MBS(r) (((r) & IEEE80211_RATE_VAL) / 2)

Definition at line 58 of file ieee80211_proto.c.

Referenced by ieee80211_newstate().

### 7.22.1.5 #define N(a) (sizeof(a) / sizeof(a[0]))

### 7.22.1.6 #define RV(v) ((v) & IEEE80211_RATE_VAL)

Referenced by ieee80211_fix_rate().

## 7.22.2 Typedef Documentation

### 7.22.2.1 typedef struct phyParamType paramType

## 7.22.3 Function Documentation

### 7.22.3.1 __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_proto. *c*, v 1.34 2007/01/08 18:23:43 sam Exp $")

### 7.22.3.2 static __inline int findrix (const struct ieee80211_rateset * *rs*, int *r*) [static]

Definition at line 326 of file ieee80211_proto.c.

References IEEE80211_RATE_VAL, ieee80211_rateset::rs_nrates, and ieee80211_rateset::rs_rates.

Referenced by ieee80211_fix_rate().

### 7.22.3.3 struct ieee80211_aclator* ieee80211_aclator_get (const char * *name*)

Definition at line 228 of file ieee80211_proto.c.

References acl, ieee80211_aclator::iac_name, and ieee80211_load_module().

Referenced by ieee80211_ioctl_macmac(), and ieee80211_ioctl_setmaccmd().

Here is the call graph for this function:


#### 7.22.3.4 void ieee80211_aclator_register (const struct ieee80211_aclator * *iac*)

Definition at line 213 of file ieee80211_proto.c.

References acl, and ieee80211_aclator::iac_name.

Referenced by wlan_acl_modevent().

#### 7.22.3.5 void ieee80211_aclator_unregister (const struct ieee80211_aclator * *iac*)

Definition at line 220 of file ieee80211_proto.c.

References acl, and ieee80211_aclator::iac_name.

Referenced by wlan_acl_modevent().

#### 7.22.3.6 static void ieee80211_auth_setup (void) [static]

Definition at line 170 of file ieee80211_proto.c.

References auth_internal, IEEE80211_AUTH_AUTO, IEEE80211_AUTH_OPEN, IEEE80211_AUTH_-SHARED, and ieee80211_authenticator_register().

Here is the call graph for this function:

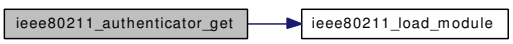

#### 7.22.3.7 struct ieee80211_authenticator* ieee80211_authenticator_get (int *auth*)

Definition at line 179 of file ieee80211_proto.c.

References auth_modnames, authenticators, IEEE80211_AUTH_MAX, and ieee80211_load_module().

Referenced by ieee80211_ioctl_set80211(), and ieee80211_node_lateattach().

Here is the call graph for this function:



#### 7.22.3.8 void ieee80211_authenticator_register (int *type*, const struct ieee80211_authenticator * *auth*)

Definition at line 189 of file ieee80211_proto.c.

References authenticators, and IEEE80211_AUTH_MAX.

Referenced by ieee80211_auth_setup(), and wlan_xauth_modevent().

#### 7.22.3.9 void ieee80211_authenticator_unregister (int *type*)

Definition at line 198 of file ieee80211_proto.c.

References authenticators, and IEEE80211_AUTH_MAX.

Referenced by wlan_xauth_modevent().

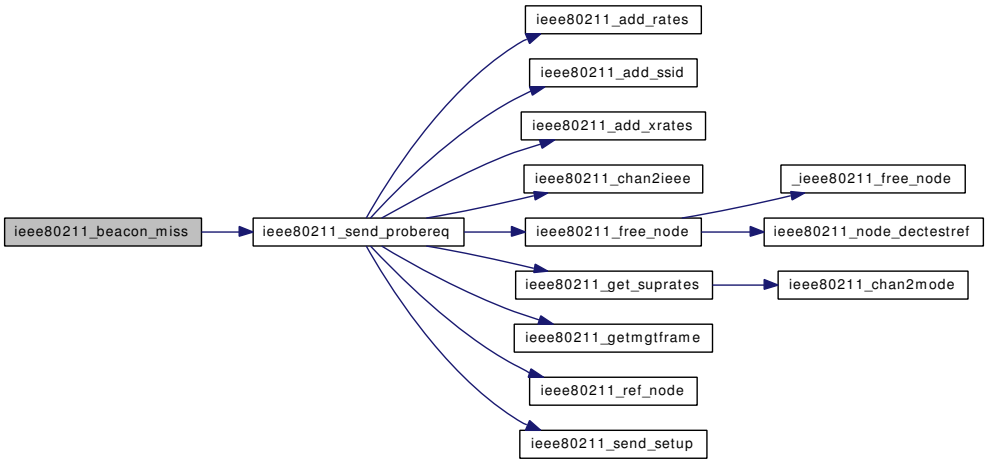
#### 7.22.3.10 void ieee80211_beacon_miss (struct ieee80211com * *ic*)

Definition at line 824 of file ieee80211_proto.c.

References ieee80211com::ic_bmiss_count, ieee80211com::ic_bmiss_max, ieee80211com::ic_bss, ieee80211com::ic_flags, ieee80211com::ic_myaddr, ieee80211com::ic_opmode, ieee80211com::ic_opt_ie, ieee80211com::ic_opt_ie_len, ieee80211com::ic_state, IEEE80211_DPRINTF, IEEE80211_F_SCAN, IEEE80211_M_STA, IEEE80211_MSG_DEBUG, IEEE80211_MSG_STATE, ieee80211_new_state, IEEE80211_S_RUN, IEEE80211_S_SCAN, ieee80211_send_probereq(), ieee80211_node::ni_bssid, ieee80211_node::ni_essid, and ieee80211_node::ni_esslen.

Referenced by ieee80211_swbmiss().

Here is the call graph for this function:




#### 7.22.3.11 void ieee80211_dump_pkt (const u_int8_t * *buf*, int *len*, int *rate*, int *rssi*)

Definition at line 261 of file ieee80211_proto.c.

References ieee80211_frame::i_addr1, ieee80211_frame::i_addr2, ieee80211_frame::i_addr3, ieee80211_frame::i_fc, IEEE80211_FC0_SUBTYPE_MASK, IEEE80211_FC0_SUBTYPE_SHIFT,

IEEE80211_FC0_TYPE_DATA, IEEE80211_FC0_TYPE_MASK, IEEE80211_FC0_TYPE_MGT, IEEE80211_FC1_DIR_DSTODS, IEEE80211_FC1_DIR_FROMDS, IEEE80211_FC1_DIR_MASK, IEEE80211_FC1_DIR_NODS, IEEE80211_FC1_DIR_TODS, IEEE80211_FC1_WEP, ieee80211_mgt_subtype_name, and IEEE80211_WEP_IVLEN.

Referenced by ieee80211_pwrsave().

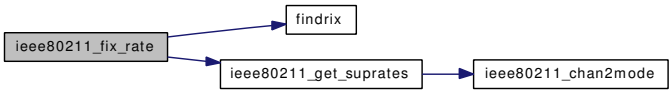
#### 7.22.3.12 int ieee80211_fix_rate (struct ieee80211_node * *ni*, int *flags*)

Definition at line 337 of file ieee80211_proto.c.

References findrix(), ieee80211com::ic_fixed_rate, IEEE80211_F_DODEL, IEEE80211_F_DOFRATE, IEEE80211_F_DONEGO, IEEE80211_F_DOSORT, IEEE80211_F_JOIN, IEEE80211_FIXED_RATE_NONE, ieee80211_get_suprates(), IEEE80211_RATE_BASIC, IEEE80211_RATE_VAL, ieee80211_node::ni_chan, ieee80211_node::ni_ic, ieee80211_node::ni_rates, ieee80211_rateset::rs_nrates, ieee80211_rateset::rs_rates, and RV.

Referenced by ieee80211_match_bss(), ieee80211_setup_rates(), and ieee80211_sta_join().

Here is the call graph for this function:




#### 7.22.3.13 int ieee80211_iserp_rateset (struct ieee80211com * *ic*, struct ieee80211_rateset * *rs*)

Definition at line 477 of file ieee80211_proto.c.

References IEEE80211_RATE_VAL, N, ieee80211_rateset::rs_nrates, and ieee80211_rateset::rs_rates.

Referenced by ieee80211_node_join_11g().

#### 7.22.3.14 static int ieee80211_newstate (struct ieee80211com *, enum *ieee80211_state*, int) [static]

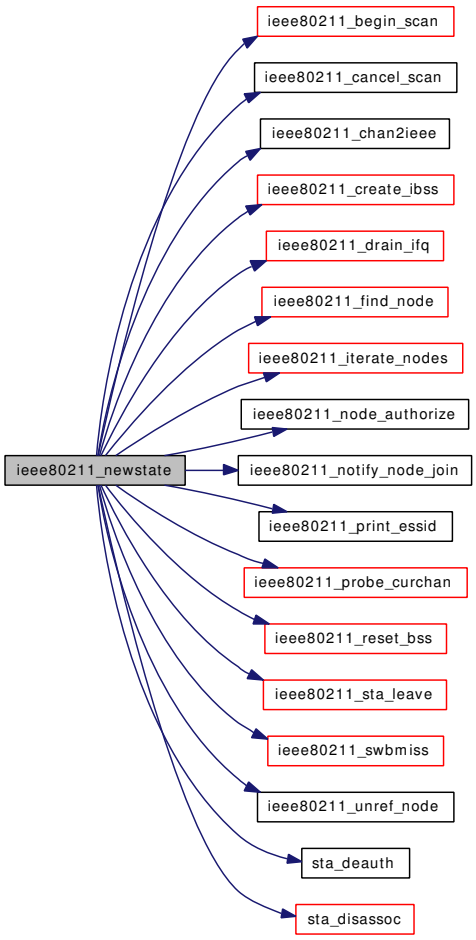
Definition at line 902 of file ieee80211_proto.c.

References ieee80211_authenticator::ia_detach, ieee80211com::ic_auth, ieee80211com::ic_bss, ieee80211com::ic_flags_ext, ieee80211com::ic_ifp, ieee80211com::ic_mgt_timer, ieee80211com::ic_mgtq, ieee80211com::ic_opmode, ieee80211com::ic_sta, ieee80211com::ic_state, ieee80211com::ic_swbmiss, IEEE80211_AUTH_8021X, ieee80211_begin_scan(), ieee80211_cancel_scan(), ieee80211_chan2ieee(), IEEE80211_CHAN_ANYC, ieee80211_create_ibss(), IEEE80211_DPRINTF, ieee80211_drain_ifq(), IEEE80211_F_ASCAN, IEEE80211_F_SIBSS, IEEE80211_F_WPA, IEEE80211_FC0_SUBTYPE_ASSOC_REQ, IEEE80211_FC0_SUBTYPE_ASSOC_RESP, IEEE80211_FC0_SUBTYPE_AUTH, IEEE80211_FC0_SUBTYPE_DEAUTH, IEEE80211_FC0_SUBTYPE_DISASSOC, IEEE80211_FEXT_SWBMISS, ieee80211_find_node(), IEEE80211_INACT_WAIT, ieee80211_iterate_nodes(), IEEE80211_M_AHDEMO, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_M_MONITOR, IEEE80211_M_STA, IEEE80211_MSG_ANY, ieee80211_msg_debug, IEEE80211_MSG_STATE, ieee80211_node_authorize(), ieee80211_notify_node_join(), ieee80211_print_essid(), ieee80211_probe_curchan(), IEEE80211_RATE2MBS, IEEE80211_REASON_ASSOC_LEAVE, IEEE80211_REASON_AUTH_LEAVE, ieee80211_reset_bss(), IEEE80211_ROAMING_AUTO,

IEEE80211_S_ASSOC, IEEE80211_S_AUTH, IEEE80211_S_INIT, IEEE80211_S_RUN, IEEE80211_S_SCAN, IEEE80211_SEND_MGMT, ieee80211_sta_leave(), ieee80211_state_name, ieee80211_swbmiss(), IEEE80211_TU_TO_TICKS, ieee80211_unref_node(), ieee80211_node::ni_authmode, ieee80211_node::ni_bssid, ieee80211_node::ni_esslen, ieee80211_node::ni_fails, ieee80211_node::ni_intval, ieee80211_node::ni_rates, ieee80211_node::ni_txrate, ieee80211_rateset::rs_nrates, ieee80211_rateset::rs_rates, sta_deauth(), and sta_disassoc().

Referenced by ieee80211_proto_attach().

Here is the call graph for this function:




### 7.22.3.15 void ieee80211_print_essid (const u_int8_t * *essid*, int *len*)

Definition at line 236 of file ieee80211_proto.c.

References IEEE80211_NWID_LEN.

Referenced by ieee80211_match_bss(), and ieee80211_newstate().

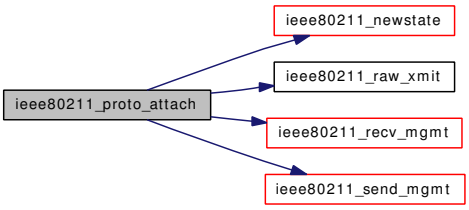
### 7.22.3.16 void ieee80211_proto_attach (struct ieee80211com * *ic*)

Definition at line 90 of file ieee80211_proto.c.

References AGGRESSIVE_MODE_SWITCH_HYSTERESIS, ieee80211com::ic_bmiss_max, ieee80211com::ic_fixed_rate, ieee80211com::ic_fragthreshold, ieee80211com::ic_ifp, ieee80211com::ic_mcast_rate, ieee80211com::ic_mgtq, ieee80211com::ic_newstate, ieee80211com::ic_protmode, ieee80211com::ic_raw_xmit, ieee80211com::ic_recv_mgmt, ieee80211com::ic_roaming, ieee80211com::ic_rtsthreshold, ieee80211com::ic_send_mgmt, ieee80211com::ic_swbmiss, ieee80211com::ic_wme, IEEE80211_BMISS_MAX, IEEE80211_FIXED_RATE_NONE, IEEE80211_FRAG_DEFAULT, IEEE80211_MCAST_RATE_DEFAULT, ieee80211_newstate(), IEEE80211_PROT_CTSONLY, ieee80211_raw_xmit(), ieee80211_recv_mgmt(), IEEE80211_ROAMING_AUTO, IEEE80211_RTS_DEFAULT, ieee80211_send_mgmt(), and ieee80211_wme_state::wme_hipri_switch_hysteresis.

Referenced by ieee80211_ifattach().

Here is the call graph for this function:



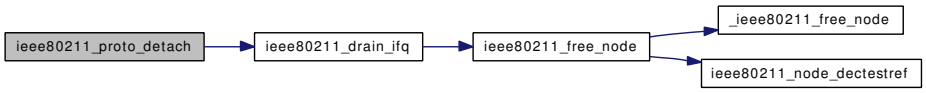

### 7.22.3.17 void ieee80211_proto_detach (struct ieee80211com * *ic*)

Definition at line 121 of file ieee80211_proto.c.

References ieee80211_authenticator::ia_detach, ieee80211_aclator::iac_detach, ieee80211com::ic_acl, ieee80211com::ic_auth, ieee80211com::ic_mgtq, and ieee80211_drain_ifq().

Referenced by ieee80211_ifdetach().

Here is the call graph for this function:




### 7.22.3.18 void ieee80211_reset_erp (struct ieee80211com * *ic*)

Definition at line 429 of file ieee80211_proto.c.

References ieee80211com::ic_caps, ieee80211com::ic_curmode, ieee80211com::ic_flags, ieee80211com::ic_longslotsta, ieee80211com::ic_nonerpsta, ieee80211com::ic_opmode, IEEE80211_C_SHPREAMBLE, IEEE80211_C_SHSLOT, IEEE80211_F_SHPREAMBLE, IEEE80211_F_USEBARKER, IEEE80211_F_USEPROT, IEEE80211_M_HOSTAP, IEEE80211_MODE_11A, IEEE80211_MODE_11G, and ieee80211_set_shortslottime().

Referenced by ieee80211_free_allnodes_locked(), and ieee80211_sta_join().

Here is the call graph for this function:


#### 7.22.3.19 void ieee80211_set11gbasicrates (struct ieee80211_rateset * *rs*, enum ieee80211_phymode *mode*)

Definition at line 509 of file ieee80211_proto.c.

References IEEE80211_RATE_BASIC, IEEE80211_RATE_VAL, ieee80211_rateset::rs_nrates, and ieee80211_rateset::rs_rates.

Referenced by ieee80211_create_ibss().

#### 7.22.3.20 void ieee80211_set_shortslottime (struct ieee80211com * *ic*, int *onoff*)

Definition at line 461 of file ieee80211_proto.c.

References ieee80211com::ic_flags, ieee80211com::ic_ifp, ieee80211com::ic_updateslot, and IEEE80211_F_SHSLOT.

Referenced by ieee80211_node_join_11g(), ieee80211_node_leave_11g(), ieee80211_recv_mgmt(), and ieee80211_reset_erp().

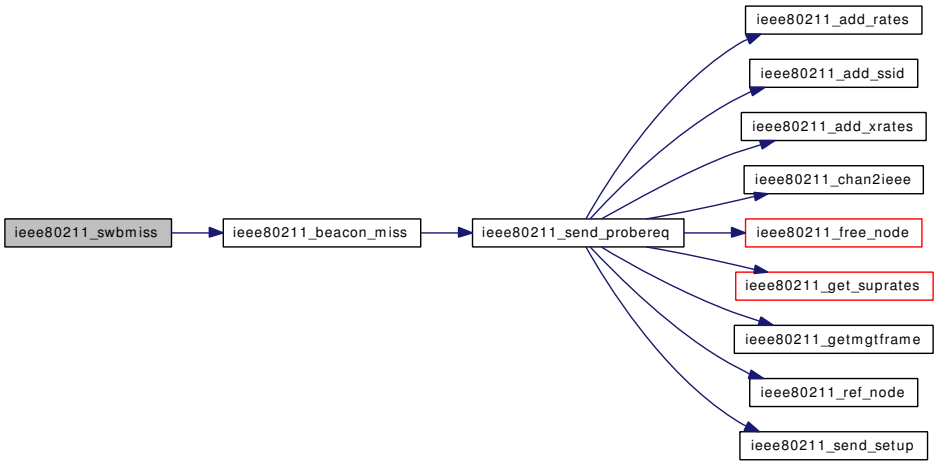
#### 7.22.3.21 static void ieee80211_swbmiss (void * *arg*) [static]

Definition at line 866 of file ieee80211_proto.c.

References ieee80211com::ic_bmiss_count, ieee80211com::ic_swbmiss, ieee80211com::ic_swbmiss_count, ieee80211com::ic_swbmiss_period, and ieee80211_beacon_miss().

Referenced by ieee80211_newstate().

Here is the call graph for this function:



#### 7.22.3.22 void ieee80211_wme_initparams (struct ieee80211com * *ic*)

Definition at line 609 of file ieee80211_proto.c.

References phyParamType::acm, phyParamType::aifsn, bssPhyParamForAC_BE, bssPhyParamForAC_VI, bssPhyParamForAC_VO, chanAccParams::cap_wmeParams, ieee80211com::ic_caps, ieee80211com::ic_curmode, ieee80211com::ic_opmode, ieee80211com::ic_wme, IEEE80211_C_WME, IEEE80211_DPRINTF, IEEE80211_M_HOSTAP, IEEE80211_MSG_WME, ieee80211_wme_acnames, phyParamType::logcwmax, phyParamType::logcwmin, phyParamForAC_BE, phyParamForAC_BK, phyParamForAC_VI, phyParamForAC_VO, phyParamType::txopLimit, WME_AC_BE, WME_AC_BK, WME_AC_VI, WME_AC_VO, WME_NUM_AC, ieee80211_wme_state::wme_wmeBssChanParams, ieee80211_wme_state::wme_wmeChanParams, wmeParams::wmep_acm, wmeParams::wmep_aifsn, wmeParams::wmep_logcwmax, wmeParams::wmep_logcwmin, and wmeParams::wmep_txopLimit.

Referenced by ieee80211_sta_join().

#### 7.22.3.23 void ieee80211_wme_updateparams (struct ieee80211com * *ic*)

Definition at line 813 of file ieee80211_proto.c.

References ieee80211com::ic_caps, IEEE80211_BEACON_LOCK, IEEE80211_BEACON_UNLOCK, IEEE80211_C_WME, and ieee80211_wme_updateparams_locked().

Referenced by ieee80211_ioctl_setwmeparam(), and ieee80211_recv_mgmt().

Here is the call graph for this function:


#### 7.22.3.24 void ieee80211_wme_updateparams_locked (struct ieee80211com * *ic*)

Definition at line 701 of file ieee80211_proto.c.

References chanAccParams::cap_wmeParams, ieee80211com::ic_bss, ieee80211com::ic_curmode, ieee80211com::ic_flags, ieee80211com::ic_opmode, ieee80211com::ic_wme, IEEE80211_DPRINTF, IEEE80211_F_BURST, IEEE80211_F_WME, IEEE80211_M_HOSTAP, IEEE80211_M_STA, IEEE80211_MODE_MAX, IEEE80211_MSG_WME, IEEE80211_NODE_QOS, ieee80211_wme_acnames, ieee80211_node::ni_flags, WME_AC_BE, ieee80211_wme_state::wme_bssChanParams, ieee80211_wme_state::wme_chanParams, WME_F_AGGRMODE, ieee80211_wme_state::wme_flags, WME_NUM_AC, ieee80211_wme_state::wme_wmeBssChanParams, ieee80211_wme_state::wme_wmeChanParams, wmeParams::wmep_acm, wmeParams::wmep_aifsn, wmeParams::wmep_logcwmax, wmeParams::wmep_logcwmin, and wmeParams::wmep_txopLimit.

Referenced by ieee80211_beacon_update(), and ieee80211_wme_updateparams().

#### 7.22.3.25 static void sta_deauth (void * *arg*, struct ieee80211_node * *ni*) [static]

Definition at line 893 of file ieee80211_proto.c.

References IEEE80211_FC0_SUBTYPE_DEAUTH, IEEE80211_REASON_ASSOC_LEAVE, and IEEE80211_SEND_MGMT.

Referenced by ieee80211_newstate().

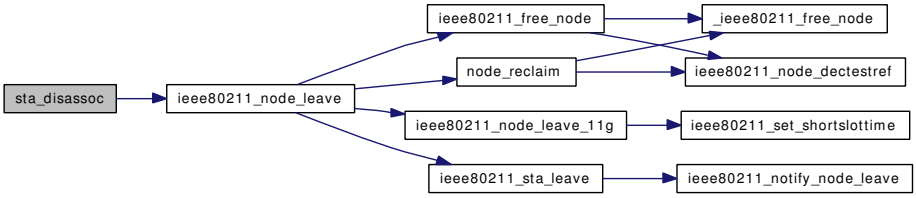
#### 7.22.3.26 static void sta_disassoc (void * *arg*, struct ieee80211_node * *ni*) [static]

Definition at line 881 of file ieee80211_proto.c.

References IEEE80211_FC0_SUBTYPE_DISASSOC, ieee80211_node_leave(), IEEE80211_-REASON_ASSOC_LEAVE, IEEE80211_SEND_MGMT, and ieee80211_node::ni_associd.

Referenced by ieee80211_newstate().

Here is the call graph for this function:




#### 7.22.3.27 SYSINIT (wlan_auth, SI_SUB_DRIVERS, SI_ORDER_FIRST, ieee80211_auth_setup, NULL)

### 7.22.4 Variable Documentation

#### 7.22.4.1 struct ieee80211_aclator* acl = NULL [static]

Definition at line 210 of file ieee80211_proto.c.

Referenced by _acl_free(), _find_acl(), acl_add(), acl_free_all(), acl_getioctl(), acl_remove(), ieee80211_aclator_get(), ieee80211_aclator_register(), ieee80211_aclator_unregister(), ieee80211_ioctl_-getmaccmd(), ieee80211_ioctl_macmac(), and ieee80211_ioctl_setmaccmd().

#### 7.22.4.2 struct ieee80211_authenticator auth_internal [static]

**Initial value:**

```
{
        .ia_name                = "wlan_internal",
        .ia_attach              = NULL,
        .ia_detach              = NULL,
        .ia_node_join           = NULL,
        .ia_node_leave          = NULL,
}
```

Definition at line 158 of file ieee80211_proto.c.

Referenced by ieee80211_auth_setup().

#### 7.22.4.3 const char* auth_modnames[IEEE80211_AUTH_MAX] [static]

**Initial value:**

```
{
        "wlan_internal",
```

```
        "wlan_internal",
        "wlan_internal",
        "wlan_xauth",
        "wlan_internal",
        "wlan_xauth",
}
```

Definition at line 148 of file ieee80211_proto.c.

Referenced by ieee80211_authenticator_get().

#### 7.22.4.4 struct ieee80211_authenticator* authenticators[IEEE80211_AUTH_MAX] [static]

Definition at line 156 of file ieee80211_proto.c.

Referenced by ieee80211_authenticator_get(), ieee80211_authenticator_register(), and ieee80211_-authenticator_unregister().

#### 7.22.4.5 struct phyParamType bssPhyParamForAC_BE[IEEE80211_MODE_MAX] [static]

**Initial value:**

```
 {
        { 3, 4, 10 },
        { 3, 4, 10 },
        { 3, 5, 10 },
        { 3, 4, 10 },
        { 3, 5, 10 },
        { 2, 3, 10 },
        { 2, 3, 10 },
}
```

Definition at line 580 of file ieee80211_proto.c.

Referenced by ieee80211_wme_initparams().

#### 7.22.4.6 struct phyParamType bssPhyParamForAC_VI[IEEE80211_MODE_MAX] [static]

**Initial value:**

```
 {
        { 2, 3, 4,  94 },
        { 2, 3, 4,  94 },
        { 2, 4, 5, 188 },
        { 2, 3, 4,  94 },
        { 2, 4, 5, 188 },
        { 2, 2, 3,  94 },
        { 2, 2, 3,  94 },
}
```

Definition at line 589 of file ieee80211_proto.c.

Referenced by ieee80211_wme_initparams().

#### 7.22.4.7 struct phyParamType bssPhyParamForAC_VO[IEEE80211_MODE_MAX] [static]

**Initial value:**

```
{
        { 2, 2, 3,  47 },
        { 2, 2, 3,  47 },
        { 2, 3, 4, 102 },
        { 2, 2, 3,  47 },
        { 2, 3, 4, 102 },
        { 1, 2, 2,  47 },
        { 1, 2, 2,  47 },
}
```

Definition at line 598 of file ieee80211_proto.c.

Referenced by ieee80211_wme_initparams().

#### 7.22.4.8 const char* ieee80211_ctl_subtype_name[ ]

**Initial value:**

```
{
        "reserved#0",   "reserved#1",   "reserved#2",   "reserved#3",
        "reserved#3",   "reserved#5",   "reserved#6",   "reserved#7",
        "reserved#8",   "reserved#9",   "ps_poll",      "rts",
        "cts",          "ack",          "cf_end",       "cf_end_ack"
}
```

Definition at line 66 of file ieee80211_proto.c.

#### 7.22.4.9 const char* ieee80211_mgt_subtype_name[ ]

**Initial value:**

```
{
        "assoc_req",    "assoc_resp",   "reassoc_req",  "reassoc_resp",
        "probe_req",    "probe_resp",   "reserved#6",   "reserved#7",
        "beacon",       "atim",         "disassoc",     "auth",
        "deauth",       "reserved#13",  "reserved#14",  "reserved#15"
}
```

Definition at line 60 of file ieee80211_proto.c.

Referenced by ieee80211_dump_pkt(), ieee80211_input(), ieee80211_mgmt_output(), and ieee80211_-recv_mgmt().

#### 7.22.4.10 const char* ieee80211_state_name[IEEE80211_S_MAX]

**Initial value:**

```
{
        "INIT",
        "SCAN",
        "AUTH",
        "ASSOC",
        "RUN"
}
```

Definition at line 72 of file ieee80211_proto.c.

Referenced by ieee80211_newstate().

#### 7.22.4.11 const char* ieee80211_wme_acnames[ ]

**Initial value:**

```
{
        "WME_AC_BE",
        "WME_AC_BK",
        "WME_AC_VI",
        "WME_AC_VO",
        "WME_UPSD",
}
```

Definition at line 79 of file ieee80211_proto.c.

Referenced by ieee80211_wme_initparams(), and ieee80211_wme_updateparams_locked().

#### 7.22.4.12 struct phyParamType phyParamForAC_BE[IEEE80211_MODE_MAX] [static]

**Initial value:**

```
{
        { 3, 4, 6 },
        { 3, 4, 6 },
        { 3, 5, 7 },
        { 3, 4, 6 },
        { 3, 5, 7 },
        { 2, 3, 5 },
        { 2, 3, 5 },
}
```

Definition at line 543 of file ieee80211_proto.c.

Referenced by ieee80211_wme_initparams().

#### 7.22.4.13 struct phyParamType phyParamForAC_BK[IEEE80211_MODE_MAX] [static]

**Initial value:**

```
{
        { 7, 4, 10 },
        { 7, 4, 10 },
        { 7, 5, 10 },
        { 7, 4, 10 },
        { 7, 5, 10 },
        { 7, 3, 10 },
        { 7, 3, 10 },
}
```

Definition at line 552 of file ieee80211_proto.c.

Referenced by ieee80211_wme_initparams().

#### 7.22.4.14 struct phyParamType phyParamForAC_VI[IEEE80211_MODE_MAX] [static]

**Initial value:**

```
 {
        { 1, 3, 4,  94 },
        { 1, 3, 4,  94 },
        { 1, 4, 5, 188 },
        { 1, 3, 4,  94 },
        { 1, 4, 5, 188 },
        { 1, 2, 3,  94 },
        { 1, 2, 3,  94 },
}
```

Definition at line 561 of file ieee80211_proto.c.

Referenced by ieee80211_wme_initparams().

#### 7.22.4.15 struct phyParamType phyParamForAC_VO[IEEE80211_MODE_MAX] [static]

**Initial value:**

```
 {
        { 1, 2, 3,  47 },
        { 1, 2, 3,  47 },
        { 1, 3, 4, 102 },
        { 1, 2, 3,  47 },
        { 1, 3, 4, 102 },
        { 1, 2, 2,  47 },
        { 1, 2, 2,  47 },
}
```

Definition at line 570 of file ieee80211_proto.c.

Referenced by ieee80211_wme_initparams().

# 7.23 /usr/src/sys/net80211/ieee80211_proto.h File Reference

This graph shows which files directly or indirectly include this file:


## Data Structures

- struct ieee80211_authenticator
- struct ieee80211_aclator
- struct wmeParams
- struct chanAccParams
- struct ieee80211_wme_state
- struct ieee80211_beacon_offsets

## Defines

- #define IEEE80211_S_MAX (IEEE80211_S_RUN+1)
- #define IEEE80211_SEND_MGMT(_ic, _ni, _type, _arg) ((∗(_ic) → ic_send_mgmt)(_ic, _ni, _-type, _arg))
- #define IEEE80211_F_DOSORT 0x00000001
- #define IEEE80211_F_DOFRATE 0x00000002
- #define IEEE80211_F_DONEGO 0x00000004
- #define IEEE80211_F_DODEL 0x00000008
- #define IEEE80211_F_JOIN 0x00000010
- #define IEEE80211_TXOP_TO_US(_txop) ((_txop)<<5)
- #define IEEE80211_US_TO_TXOP(_us) ((_us)>>5)
- #define WME_F_AGGRMODE 0x00000001
- #define ieee80211_new_state(_ic, _nstate, _arg) (((_ic) → ic_newstate)((_ic), (_nstate), (_arg)))

## Enumerations

- enum ieee80211_state {

  IEEE80211_S_INIT = 0, IEEE80211_S_SCAN = 1, IEEE80211_S_AUTH = 2, IEEE80211_S_-ASSOC = 3,

  IEEE80211_S_RUN = 4 }

## Functions

- void ieee80211_proto_attach (struct ieee80211com ∗)
- void ieee80211_proto_detach (struct ieee80211com ∗)
- int ieee80211_input (struct ieee80211com ∗, struct mbuf ∗, struct ieee80211_node ∗, int, u_int32_t)
- int ieee80211_setup_rates (struct ieee80211_node ∗ni, const u_int8_t ∗rates, const u_int8_t ∗xrates, int flags)
- void ieee80211_saveie (u_int8_t ∗∗, const u_int8_t ∗)
- void ieee80211_recv_mgmt (struct ieee80211com ∗, struct mbuf ∗, struct ieee80211_node ∗, int, int, u_int32_t)

- int ieee80211_raw_xmit (struct ieee80211_node *, struct mbuf *, const struct ieee80211_bpf_-params *)
- int ieee80211_output (struct ifnet *, struct mbuf *, struct sockaddr *, struct rtentry *)
- int ieee80211_send_nulldata (struct ieee80211_node *)
- int ieee80211_send_probereq (struct ieee80211_node *ni, const u_int8_t sa[IEEE80211_ADDR_-LEN], const u_int8_t da[IEEE80211_ADDR_LEN], const u_int8_t bssid[IEEE80211_ADDR_-LEN], const u_int8_t *ssid, size_t ssidlen, const void *optie, size_t optielen)
- int ieee80211_send_mgmt (struct ieee80211com *, struct ieee80211_node *, int, int)
- int ieee80211_classify (struct ieee80211com *, struct mbuf *, struct ieee80211_node *)
- mbuf * ieee80211_encap (struct ieee80211com *, struct mbuf *, struct ieee80211_node *)
- void ieee80211_pwrsave (struct ieee80211com *, struct ieee80211_node *, struct mbuf *)
- void ieee80211_reset_erp (struct ieee80211com *)
- void ieee80211_set_shortslottime (struct ieee80211com *, int onoff)
- int ieee80211_iserp_rateset (struct ieee80211com *, struct ieee80211_rateset *)
- void ieee80211_set11gbasicrates (struct ieee80211_rateset *, enum ieee80211_phymode)
- static __inline int ieee80211_hdrsize (const void *data)
- static __inline int ieee80211_anyhdrsize (const void *data)
- void ieee80211_authenticator_register (int type, const struct ieee80211_authenticator *)
- void ieee80211_authenticator_unregister (int type)
- ieee80211_authenticator * ieee80211_authenticator_get (int auth)
- void ieee80211_aclator_register (const struct ieee80211_aclator *)
- void ieee80211_aclator_unregister (const struct ieee80211_aclator *)
- ieee80211_aclator * ieee80211_aclator_get (const char *name)
- int ieee80211_fix_rate (struct ieee80211_node *, int)
- void ieee80211_wme_initparams (struct ieee80211com *)
- void ieee80211_wme_updateparams (struct ieee80211com *)
- void ieee80211_wme_updateparams_locked (struct ieee80211com *)
- void ieee80211_beacon_miss (struct ieee80211com *)
- void ieee80211_print_essid (const u_int8_t *, int)
- void ieee80211_dump_pkt (const u_int8_t *, int, int, int)
- mbuf * ieee80211_beacon_alloc (struct ieee80211com *, struct ieee80211_node *, struct ieee80211_beacon_offsets *)
- int ieee80211_beacon_update (struct ieee80211com *, struct ieee80211_node *, struct ieee80211_-beacon_offsets *, struct mbuf *, int broadcast)
- void ieee80211_notify_node_join (struct ieee80211com *, struct ieee80211_node *, int newassoc)
- void ieee80211_notify_node_leave (struct ieee80211com *, struct ieee80211_node *)
- void ieee80211_notify_scan_done (struct ieee80211com *)

## Variables

- const char * ieee80211_mgt_subtype_name [ ]
- const char * ieee80211_phymode_name [ ]
- const char * ieee80211_state_name [IEEE80211_S_MAX]
- const char * ieee80211_wme_acnames [ ]

### 7.23.1 Define Documentation

#### 7.23.1.1 #define IEEE80211_F_DODEL 0x00000008

Definition at line 182 of file ieee80211_proto.h.

Referenced by ieee80211_fix_rate(), ieee80211_init_neighbor(), ieee80211_recv_mgmt(), and ieee80211_sta_join().

#### 7.23.1.2 #define IEEE80211_F_DOFRATE 0x00000002

Definition at line 180 of file ieee80211_proto.h.

Referenced by ieee80211_fix_rate(), ieee80211_init_neighbor(), ieee80211_match_bss(), and ieee80211_recv_mgmt().

#### 7.23.1.3 #define IEEE80211_F_DONEGO 0x00000004

Definition at line 181 of file ieee80211_proto.h.

Referenced by ieee80211_fix_rate(), ieee80211_init_neighbor(), ieee80211_match_bss(), and ieee80211_recv_mgmt().

#### 7.23.1.4 #define IEEE80211_F_DOSORT 0x00000001

Definition at line 179 of file ieee80211_proto.h.

Referenced by ieee80211_add_scan(), ieee80211_fix_rate(), ieee80211_init_neighbor(), and ieee80211_recv_mgmt().

#### 7.23.1.5 #define IEEE80211_F_JOIN 0x00000010

Definition at line 183 of file ieee80211_proto.h.

Referenced by ieee80211_fix_rate(), ieee80211_match_bss(), ieee80211_recv_mgmt(), and ieee80211_sta_join().

#### 7.23.1.6 #define ieee80211_new_state(_ic, _nstate, _arg) (((_ic) → ic_newstate)((_ic), (_nstate), (_arg)))

Definition at line 225 of file ieee80211_proto.h.

Referenced by ieee80211_auth_open(), ieee80211_auth_shared(), ieee80211_beacon_miss(), ieee80211_cfgset(), ieee80211_ioctl_set80211(), ieee80211_ioctl_setmlme(), ieee80211_next_scan(), ieee80211_recv_mgmt(), ieee80211_sta_join(), and ieee80211_watchdog().

#### 7.23.1.7 #define IEEE80211_S_MAX (IEEE80211_S_RUN+1)

Definition at line 48 of file ieee80211_proto.h.

#### 7.23.1.8 #define IEEE80211_SEND_MGMT(_ic, _ni, _type, _arg) ((∗(_ic) → ic_send_mgmt)(_ic, _ni, _type, _arg))

Definition at line 50 of file ieee80211_proto.h.

Referenced by domlme(), ieee80211_auth_open(), ieee80211_auth_shared(), ieee80211_input(), ieee80211_newstate(), ieee80211_node_join(), ieee80211_recv_mgmt(), ieee80211_recv_pspoll(), ieee80211_send_error(), ieee80211_timeout_stations(), sta_deauth(), and sta_disassoc().

#### 7.23.1.9 #define IEEE80211_TXOP_TO_US(_txop) ((_txop)<<5)

Definition at line 197 of file ieee80211_proto.h.

#### 7.23.1.10 #define IEEE80211_US_TO_TXOP(_us) ((_us)>>5)

Definition at line 198 of file ieee80211_proto.h.

#### 7.23.1.11 #define WME_F_AGGRMODE 0x00000001

Definition at line 207 of file ieee80211_proto.h.

Referenced by ieee80211_beacon_update(), ieee80211_ioctl_setwmeparam(), and ieee80211_wme_updateparams_locked().

### 7.23.2 Enumeration Type Documentation

#### 7.23.2.1 enum ieee80211_state

**Enumerator:**

*IEEE80211_S_INIT*

*IEEE80211_S_SCAN*

*IEEE80211_S_AUTH*

*IEEE80211_S_ASSOC*

*IEEE80211_S_RUN*

Definition at line 41 of file ieee80211_proto.h.

### 7.23.3 Function Documentation

#### 7.23.3.1 struct ieee80211_aclator* ieee80211_aclator_get (const char * *name*)

Definition at line 228 of file ieee80211_proto.c.

References acl, ieee80211_aclator::iac_name, and ieee80211_load_module().

Referenced by ieee80211_ioctl_macmac(), and ieee80211_ioctl_setmaccmd().

Here is the call graph for this function:


#### 7.23.3.2 void ieee80211_aclator_register (const struct ieee80211_aclator *)

Definition at line 213 of file ieee80211_proto.c.

References acl, and ieee80211_aclator::iac_name.

Referenced by wlan_acl_modevent().

#### 7.23.3.3 void ieee80211_aclator_unregister (const struct ieee80211_aclator *)

Definition at line 220 of file ieee80211_proto.c.

References acl, and ieee80211_aclator::iac_name.

Referenced by wlan_acl_modevent().

#### 7.23.3.4 static __inline int ieee80211_anyhdrsize (const void * *data*) [static]

Definition at line 118 of file ieee80211_proto.h.

References ieee80211_frame::i_fc, IEEE80211_FC0_SUBTYPE_ACK, IEEE80211_FC0_SUBTYPE_-CTS, IEEE80211_FC0_SUBTYPE_MASK, IEEE80211_FC0_TYPE_CTL, IEEE80211_FC0_TYPE_-MASK, and ieee80211_hdrsize().

Referenced by ieee80211_anyhdrspace().

Here is the call graph for this function:


#### 7.23.3.5 struct ieee80211_authenticator* ieee80211_authenticator_get (int *auth*)

Definition at line 179 of file ieee80211_proto.c.

References auth_modnames, authenticators, IEEE80211_AUTH_MAX, and ieee80211_load_module().

Referenced by ieee80211_ioctl_set80211(), and ieee80211_node_lateattach().

Here is the call graph for this function:


#### 7.23.3.6 void ieee80211_authenticator_register (int *type*, const struct ieee80211_authenticator *)

Definition at line 189 of file ieee80211_proto.c.

References authenticators, and IEEE80211_AUTH_MAX.

Referenced by ieee80211_auth_setup(), and wlan_xauth_modevent().

#### 7.23.3.7 void ieee80211_authenticator_unregister (int *type*)

Definition at line 198 of file ieee80211_proto.c.

References authenticators, and IEEE80211_AUTH_MAX.

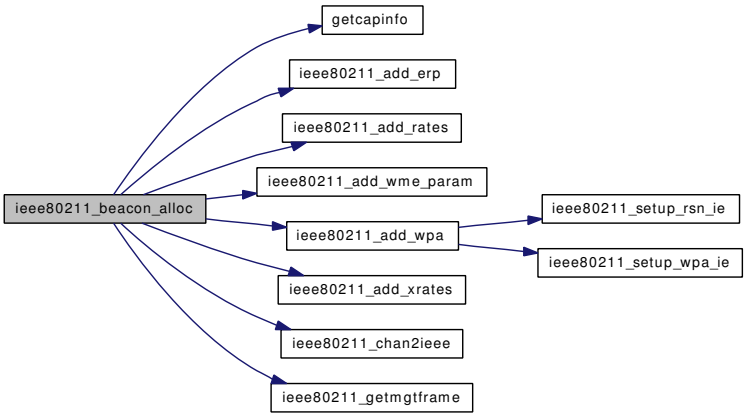
Referenced by wlan_xauth_modevent().

#### 7.23.3.8 struct mbuf* ieee80211_beacon_alloc (struct ieee80211com *, struct ieee80211_node *, struct ieee80211_beacon_offsets *)

Definition at line 1537 of file ieee80211_output.c.

References ieee80211_beacon_offsets::bo_caps, ieee80211_beacon_offsets::bo_erp, ieee80211_beacon_offsets::bo_tim, ieee80211_beacon_offsets::bo_tim_len, ieee80211_beacon_offsets::bo_trailer, ieee80211_beacon_offsets::bo_trailer_len, ieee80211_beacon_offsets::bo_wme, getcapinfo(), ieee80211_frame::i_addr1, ieee80211_frame::i_addr2, ieee80211_frame::i_addr3, ieee80211_frame::i_dur, ieee80211_frame::i_fc, ieee80211_frame::i_seq, ieee80211com::ic_caps, ieee80211com::ic_curmode, ieee80211com::ic_dtim_period, ieee80211com::ic_flags, ieee80211com::ic_ifp, ieee80211com::ic_myaddr, ieee80211com::ic_opmode, ieee80211com::ic_tim_len, ieee80211com::ic_wme, ieee80211_add_erp(), ieee80211_add_rates(), ieee80211_add_wme_param(), ieee80211_add_wpa(), ieee80211_add_xrates(), IEEE80211_ADDR_COPY, IEEE80211_C_WME, IEEE80211_C_WPA, ieee80211_chan2ieee(), IEEE80211_DPRINTF, IEEE80211_ELEMID_DSPARMS, IEEE80211_ELEMID_IBSSPARMS, IEEE80211_ELEMID_SSID, IEEE80211_ELEMID_TIM, IEEE80211_F_HIDESSID, IEEE80211_F_WME, IEEE80211_F_WMEUPDATE, IEEE80211_F_WPA, IEEE80211_FC0_SUBTYPE_BEACON, IEEE80211_FC0_TYPE_MGT, IEEE80211_FC0_VERSION_0, IEEE80211_FC1_DIR_NODS, ieee80211_getmgtframe(), IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_MODE_11G, IEEE80211_MODE_FH, IEEE80211_MSG_ANY, IEEE80211_RATE_MAXSIZE, IEEE80211_RATE_SIZE, ieee80211_node::ni_bssid, ieee80211_node::ni_chan, ieee80211_node::ni_essid, ieee80211_node::ni_esslen, ieee80211_node::ni_intval, ieee80211_node::ni_rates, ieee80211_tim_ie::tim_bitctl, ieee80211_tim_ie::tim_bitmap, ieee80211_tim_ie::tim_count, ieee80211_tim_ie::tim_ie, ieee80211_tim_ie::tim_len, and ieee80211_tim_ie::tim_period.

Here is the call graph for this function:



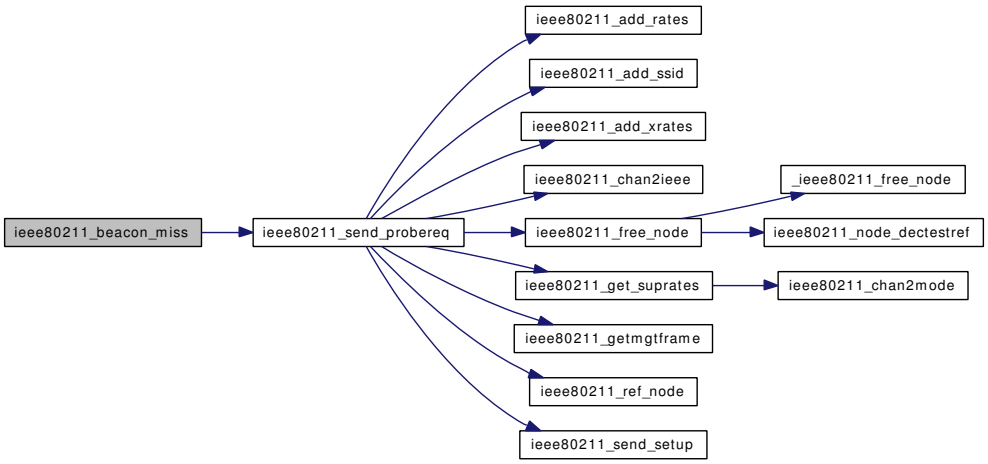

#### 7.23.3.9 void ieee80211_beacon_miss (struct ieee80211com *)

Definition at line 824 of file ieee80211_proto.c.

References ieee80211com::ic_bmiss_count, ieee80211com::ic_bmiss_max, ieee80211com::ic_bss, ieee80211com::ic_flags, ieee80211com::ic_myaddr, ieee80211com::ic_opmode, ieee80211com::ic_opt_ie, ieee80211com::ic_opt_ie_len, ieee80211com::ic_state, IEEE80211_DPRINTF, IEEE80211_F_SCAN, IEEE80211_M_STA, IEEE80211_MSG_DEBUG, IEEE80211_MSG_STATE, ieee80211_new_state, IEEE80211_S_RUN, IEEE80211_S_SCAN, ieee80211_send_probereq(), ieee80211_node::ni_bssid, ieee80211_node::ni_essid, and ieee80211_node::ni_esslen.

Referenced by ieee80211_swbmiss().

Here is the call graph for this function:

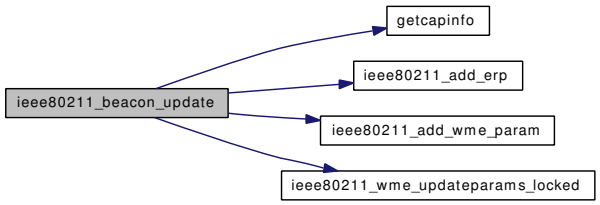



#### 7.23.3.10 int ieee80211_beacon_update (struct ieee80211com *, struct ieee80211_node *, struct ieee80211_beacon_offsets *, struct mbuf *, int *broadcast*)

Definition at line 1661 of file ieee80211_output.c.

References ieee80211_beacon_offsets::bo_caps, ieee80211_beacon_offsets::bo_erp, ieee80211_beacon_offsets::bo_tim, ieee80211_beacon_offsets::bo_tim_len, ieee80211_beacon_offsets::bo_trailer, ieee80211_beacon_offsets::bo_trailer_len, ieee80211_beacon_offsets::bo_wme, getcapinfo(), ieee80211com::ic_flags, ieee80211com::ic_flags_ext, ieee80211com::ic_opmode, ieee80211com::ic_ps_pending, ieee80211com::ic_tim_bitmap, ieee80211com::ic_tim_len, ieee80211com::ic_wme, ieee80211_add_erp(), ieee80211_add_wme_param(), IEEE80211_BEACON_LOCK, IEEE80211_DPRINTF, IEEE80211_F_TIMUPDATE, IEEE80211_F_WME, IEEE80211_F_WMEUPDATE, IEEE80211_FEXT_ERPUPDATE, IEEE80211_M_HOSTAP, IEEE80211_MSG_POWER, IEEE80211_MSG_WME, ieee80211_wme_updateparams_locked(), ieee80211_node::ni_chan, ieee80211_tim_ie::tim_bitctl, ieee80211_tim_ie::tim_bitmap, ieee80211_tim_ie::tim_len, WME_F_AGGRMODE, ieee80211_wme_state::wme_flags, ieee80211_wme_state::wme_hipri_switch_hysteresis, ieee80211_wme_state::wme_hipri_switch_thresh, and ieee80211_wme_state::wme_hipri_traffic.

Here is the call graph for this function:




#### 7.23.3.11 int ieee80211_classify (struct ieee80211com *, struct mbuf *, struct ieee80211_node *)

Definition at line 385 of file ieee80211_output.c.

References chanAccParams::cap_wmeParams, ieee80211com::ic_opmode, ieee80211com::ic_wme, IEEE80211_M_STA, IEEE80211_NODE_QOS, IEEE80211_NODE_STAT, M_WME_SETAC, ieee80211_node::ni_flags, ieee80211_node::ni_vlan, WME_AC_BE, WME_AC_BK, WME_AC_VI, WME_AC_VO, ieee80211_wme_state::wme_wmeBssChanParams, and wmeParams::wmep_acm.

Referenced by ieee80211_output().

#### 7.23.3.12 void ieee80211_dump_pkt (const u_int8_t *, int, int, int)

Definition at line 261 of file ieee80211_proto.c.

References ieee80211_frame::i_addr1, ieee80211_frame::i_addr2, ieee80211_frame::i_addr3, ieee80211_frame::i_fc, IEEE80211_FC0_SUBTYPE_MASK, IEEE80211_FC0_SUBTYPE_SHIFT, IEEE80211_FC0_TYPE_DATA, IEEE80211_FC0_TYPE_MASK, IEEE80211_FC0_TYPE_MGT, IEEE80211_FC1_DIR_DSTODS, IEEE80211_FC1_DIR_FROMDS, IEEE80211_FC1_DIR_MASK, IEEE80211_FC1_DIR_NODS, IEEE80211_FC1_DIR_TODS, IEEE80211_FC1_WEP, ieee80211_mgt_subtype_name, and IEEE80211_WEP_IVLEN.

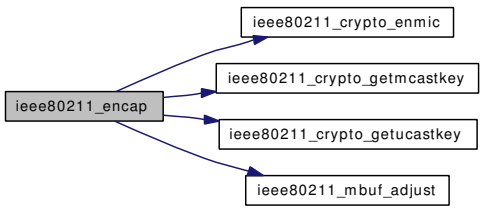
Referenced by ieee80211_pwrsave().

#### 7.23.3.13 struct mbuf* ieee80211_encap (struct ieee80211com *, struct mbuf *, struct ieee80211_node *)

Definition at line 616 of file ieee80211_output.c.

References chanAccParams::cap_wmeParams, ieee80211_frame::i_addr1, ieee80211_frame::i_addr2, ieee80211_frame::i_addr3, ieee80211_frame::i_dur, ieee80211_qosframe::i_fc, ieee80211_frame::i_fc, ieee80211_qosframe::i_qos, ieee80211_frame::i_seq, ieee80211com::ic_bss, ieee80211com::ic_flags, ieee80211com::ic_opmode, ieee80211com::ic_stats, ieee80211com::ic_wme, IEEE80211_ADDR_COPY, ieee80211_crypto_enmic(), ieee80211_crypto_getmcastkey(), ieee80211_crypto_getucastkey(), IEEE80211_DPRINTF, IEEE80211_F_DATAPAD, IEEE80211_F_PRIVACY, IEEE80211_F_WPA, IEEE80211_FC0_SUBTYPE_QOS, IEEE80211_FC0_TYPE_DATA, IEEE80211_FC0_VERSION_0, IEEE80211_FC1_DIR_FROMDS, IEEE80211_FC1_DIR_NODS, IEEE80211_FC1_DIR_TODS, IEEE80211_FC1_MORE_DATA, IEEE80211_FC1_WEP, IEEE80211_IS_MULTICAST, IEEE80211_M_AHDEMO, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_M_MONITOR, IEEE80211_M_STA, ieee80211_mbuf_adjust(), IEEE80211_MSG_CRYPTO, IEEE80211_MSG_OUTPUT, IEEE80211_NODE_QOS, IEEE80211_NODE_STAT, IEEE80211_NODE_STAT_ADD, IEEE80211_QOS_ACKPOLICY_S, IEEE80211_QOS_TID, IEEE80211_SEQ_SEQ_SHIFT, ieee80211_stats::is_crypto_enmicfail, ieee80211_stats::is_tx_nobuf, KEY_UNDEFINED, M_MORE_DATA, M_WME_GETAC, ieee80211_node::ni_bssid, ieee80211_node::ni_flags, ieee80211_node::ni_txseqs, ieee80211_node::ni_ucastkey, WME_AC_TO_TID, ieee80211_wme_state::wme_wmeChanParams, and wmeParams::wmep_noackPolicy.

Here is the call graph for this function:



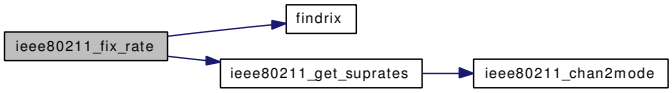
#### 7.23.3.14 int ieee80211_fix_rate (struct ieee80211_node *, int)

Definition at line 337 of file ieee80211_proto.c.

References findrix(), ieee80211com::ic_fixed_rate, IEEE80211_F_DODEL, IEEE80211_F_DOFRATE, IEEE80211_F_DONEGO, IEEE80211_F_DOSORT, IEEE80211_F_JOIN, IEEE80211_FIXED_RATE_NONE, ieee80211_get_suprates(), IEEE80211_RATE_BASIC, IEEE80211_RATE_VAL, ieee80211_node::ni_chan, ieee80211_node::ni_ic, ieee80211_node::ni_rates, ieee80211_rateset::rs_nrates, ieee80211_rateset::rs_rates, and RV.

Referenced by ieee80211_match_bss(), ieee80211_setup_rates(), and ieee80211_sta_join().

Here is the call graph for this function:




#### 7.23.3.15 static __inline int ieee80211_hdrsize (const void * *data*) [static]

Definition at line 99 of file ieee80211_proto.h.

References ieee80211_frame::i_fc, IEEE80211_ADDR_LEN, IEEE80211_FC0_TYPE_CTL, IEEE80211_FC0_TYPE_MASK, IEEE80211_FC1_DIR_DSTODS, IEEE80211_FC1_DIR_MASK, and IEEE80211_QOS_HAS_SEQ.

Referenced by ieee80211_anyhdrsize(), and ieee80211_hdrspace().

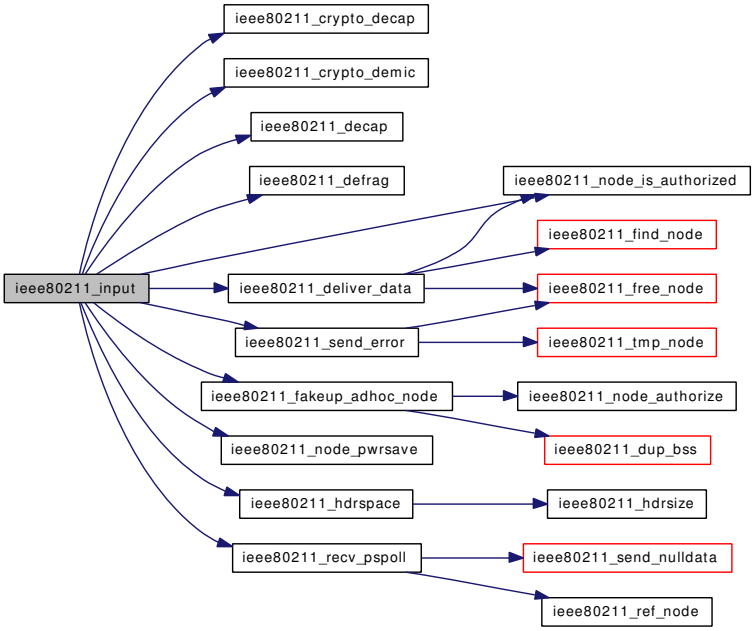
#### 7.23.3.16 int ieee80211_input (struct ieee80211com *, struct mbuf *, struct ieee80211_node *, int, u_int32_t)

Definition at line 132 of file ieee80211_input.c.

References HAS_SEQ, ieee80211_frame::i_addr1, ieee80211_frame::i_addr2, ieee80211_frame::i_addr3, ieee80211_frame::i_fc, ieee80211_qosframe::i_qos, ieee80211_frame::i_seq, ieee80211com::ic_bss, ieee80211com::ic_flags, ieee80211com::ic_ifp, ieee80211com::ic_myaddr, ieee80211com::ic_opmode, ieee80211com::ic_rawbpf, ieee80211com::ic_recv_mgmt, ieee80211com::ic_sta, ieee80211com::ic_stats, ieee80211com::ic_wme, IEEE80211_ADDR_EQ, IEEE80211_CRC_LEN, ieee80211_crypto_decap(), ieee80211_crypto_demic(), ieee80211_decap(), ieee80211_defrag(), ieee80211_deliver_data(), IEEE80211_DISCARD, IEEE80211_DISCARD_MAC, IEEE80211_F_DROPUNENC, IEEE80211_F_PRIVACY, IEEE80211_F_SCAN, ieee80211_fakeup_adhoc_node(), IEEE80211_FC0_SUBTYPE_AUTH, IEEE80211_FC0_SUBTYPE_DEAUTH, IEEE80211_FC0_SUBTYPE_DISASSOC, IEEE80211_FC0_SUBTYPE_MASK, IEEE80211_FC0_SUBTYPE_NODATA, IEEE80211_FC0_SUBTYPE_PS_POLL, IEEE80211_FC0_SUBTYPE_SHIFT, IEEE80211_FC0_TYPE_CTL, IEEE80211_FC0_TYPE_DATA, IEEE80211_FC0_TYPE_MASK, IEEE80211_FC0_TYPE_MGT, IEEE80211_FC0_VERSION_0, IEEE80211_FC0_VERSION_MASK, IEEE80211_FC1_DIR_FROMDS, IEEE80211_FC1_DIR_MASK, IEEE80211_FC1_DIR_NODS, IEEE80211_FC1_DIR_TODS, IEEE80211_FC1_PWR_MGT, IEEE80211_FC1_RETRY, IEEE80211_FC1_WEP, ieee80211_hdrspace(), IEEE80211_IS_MULTICAST, IEEE80211_M_AHDEMO, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_M_MONITOR, IEEE80211_M_STA, ieee80211_mgt_subtype_name, IEEE80211_MSG_ANY, ieee80211_msg_debug, ieee80211_msg_dumppkts, IEEE80211_MSG_INPUT, ieee80211_node_is_authorized(), IEEE80211_NODE_PWR_MGT, ieee80211_node_pwrsave(), IEEE80211_NODE_STAT, IEEE80211_QOS_HAS_SEQ, IEEE80211_QOS_TID, IEEE80211_REASON_NOT_ASSOCED, IEEE80211_REASON_NOT_AUTHED, ieee80211_recv_pspoll(),

ieee80211_send_error(), IEEE80211_SEND_MGMT, IEEE80211_SEQ_FRAG_MASK, IEEE80211_-SEQ_SEQ_SHIFT, ieee80211_stats::is_rx_ctl, ieee80211_stats::is_rx_decap, ieee80211_stats::is_rx_-demicfail, ieee80211_stats::is_rx_mcastecho, ieee80211_stats::is_rx_mgmt, ieee80211_stats::is_rx_-noprivacy, ieee80211_stats::is_rx_notassoc, ieee80211_stats::is_rx_unencrypted, ieee80211_stats::is_-rx_wrongbss, ieee80211_node::ni_associd, ieee80211_node::ni_bssid, ieee80211_node::ni_flags, ieee80211_node::ni_inact, ieee80211_node::ni_inact_reload, ieee80211_node::ni_macaddr, ieee80211_-node::ni_rssi, ieee80211_node::ni_rstamp, ieee80211_node::ni_rxseqs, SEQ_LEQ, TID_TO_WME_AC, WME_AC_VI, and ieee80211_wme_state::wme_hipri_traffic.

Here is the call graph for this function:




#### 7.23.3.17 int ieee80211_iserp_rateset (struct ieee80211com *, struct ieee80211_rateset *)

Definition at line 477 of file ieee80211_proto.c.

References IEEE80211_RATE_VAL, N, ieee80211_rateset::rs_nrates, and ieee80211_rateset::rs_rates.

Referenced by ieee80211_node_join_11g().

#### 7.23.3.18 void ieee80211_notify_node_join (struct ieee80211com *, struct ieee80211_node *, int *newassoc*)

Definition at line 230 of file ieee80211_freebsd.c.

References ieee80211com::ic_bss, ieee80211com::ic_ifp, IEEE80211_ADDR_COPY, ieee80211_-node::ni_bssid, ieee80211_node::ni_macaddr, RTM_IEEE80211_ASSOC, RTM_IEEE80211_JOIN, RTM_IEEE80211_REASSOC, and RTM_IEEE80211_REJOIN.

Referenced by ieee80211_newstate().

#### 7.23.3.19 void ieee80211_notify_node_leave (struct ieee80211com *, struct ieee80211_node *)

Definition at line 251 of file ieee80211_freebsd.c.

References ieee80211com::ic_bss, ieee80211com::ic_ifp, IEEE80211_ADDR_COPY, ieee80211_node::ni_macaddr, RTM_IEEE80211_DISASSOC, and RTM_IEEE80211_LEAVE.

Referenced by ieee80211_sta_leave().

#### 7.23.3.20 void ieee80211_notify_scan_done (struct ieee80211com *)

Definition at line 268 of file ieee80211_freebsd.c.

References ieee80211com::ic_ifp, IEEE80211_DPRINTF, IEEE80211_MSG_SCAN, and RTM_IEEE80211_SCAN.

Referenced by ieee80211_end_scan().

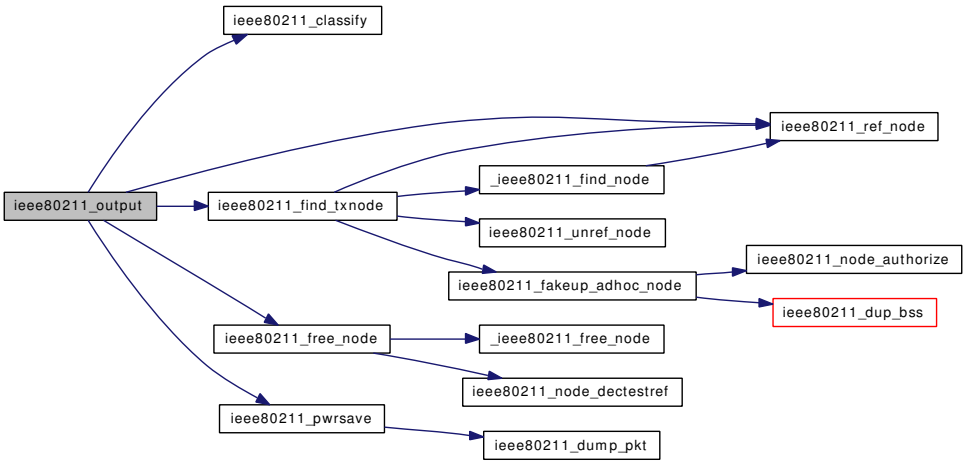
#### 7.23.3.21 int ieee80211_output (struct ifnet *, struct mbuf *, struct sockaddr *, struct rtentry *)

Definition at line 234 of file ieee80211_output.c.

References ieee80211_frame::i_addr1, ieee80211_frame::i_addr3, ieee80211_frame::i_fc, ieee80211com::ic_bss, ieee80211com::ic_raw_xmit, ieee80211_classify(), IEEE80211_FC0_VERSION_0, IEEE80211_FC0_VERSION_MASK, IEEE80211_FC1_DIR_DSTODS, IEEE80211_FC1_DIR_FROMDS, IEEE80211_FC1_DIR_MASK, IEEE80211_FC1_DIR_NODS, IEEE80211_FC1_DIR_TODS, ieee80211_find_txnode(), ieee80211_free_node(), IEEE80211_NODE_PWR_MGT, ieee80211_pwrsave(), ieee80211_ref_node(), M_PWR_SAV, ieee80211_node::ni_flags, and senderr.

Referenced by ieee80211_ifattach().

Here is the call graph for this function:




#### 7.23.3.22 void ieee80211_print_essid (const u_int8_t *, int)

Definition at line 236 of file ieee80211_proto.c.

References IEEE80211_NWID_LEN.

Referenced by ieee80211_match_bss(), and ieee80211_newstate().

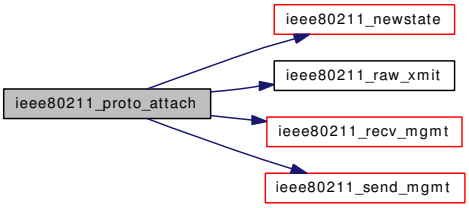
#### 7.23.3.23 void ieee80211_proto_attach (struct ieee80211com *)

Definition at line 90 of file ieee80211_proto.c.

References AGGRESSIVE_MODE_SWITCH_HYSTERESIS, ieee80211com::ic_bmiss_max, ieee80211com::ic_fixed_rate, ieee80211com::ic_fragthreshold, ieee80211com::ic_ifp, ieee80211com::ic_mcast_rate, ieee80211com::ic_mgtq, ieee80211com::ic_newstate, ieee80211com::ic_protmode, ieee80211com::ic_raw_xmit, ieee80211com::ic_recv_mgmt, ieee80211com::ic_roaming, ieee80211com::ic_rtsthreshold, ieee80211com::ic_send_mgmt, ieee80211com::ic_swbmiss, ieee80211com::ic_wme, IEEE80211_BMISS_MAX, IEEE80211_FIXED_RATE_NONE, IEEE80211_FRAG_DEFAULT, IEEE80211_MCAST_RATE_DEFAULT, ieee80211_newstate(), IEEE80211_PROT_CTSONLY, ieee80211_raw_xmit(), ieee80211_recv_mgmt(), IEEE80211_ROAMING_AUTO, IEEE80211_RTS_DEFAULT, ieee80211_send_mgmt(), and ieee80211_wme_state::wme_hipri_switch_hysteresis.

Referenced by ieee80211_ifattach().

Here is the call graph for this function:



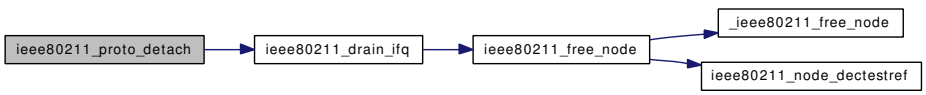

#### 7.23.3.24 void ieee80211_proto_detach (struct ieee80211com *)

Definition at line 121 of file ieee80211_proto.c.

References ieee80211_authenticator::ia_detach, ieee80211_aclator::iac_detach, ieee80211com::ic_acl, ieee80211com::ic_auth, ieee80211com::ic_mgtq, and ieee80211_drain_ifq().

Referenced by ieee80211_ifdetach().

Here is the call graph for this function:




#### 7.23.3.25 void ieee80211_pwrsave (struct ieee80211com *, struct ieee80211_node *, struct mbuf *)

Definition at line 1804 of file ieee80211_output.c.

References _IEEE80211_NODE_SAVEQ_ENQUEUE, ieee80211com::ic_bintval, ieee80211com::ic_set_tim, IEEE80211_DPRINTF, ieee80211_dump_pkt(), IEEE80211_MSG_ANY, ieee80211_msg_dumppkts, IEEE80211_MSG_POWER, IEEE80211_NODE_SAVEQ_LOCK, IEEE80211_NODE_-

SAVEQ_UNLOCK, IEEE80211_PS_MAX_QUEUE, ieee80211_node::ni_intval, ieee80211_node::ni_-macaddr, and ieee80211_node::ni_savedq.

Referenced by ieee80211_output().

Here is the call graph for this function:


#### 7.23.3.26 int ieee80211_raw_xmit (struct ieee80211_node *, struct mbuf *, const struct ieee80211_bpf_params *)

Definition at line 212 of file ieee80211_output.c.

References ieee80211com::ic_ifp, ieee80211com::ic_mgtq, and ieee80211_node::ni_ic.

Referenced by ieee80211_proto_attach().

#### 7.23.3.27 void ieee80211_recv_mgmt (struct ieee80211com *, struct mbuf *, struct ieee80211_node *, int, int, u_int32_t)

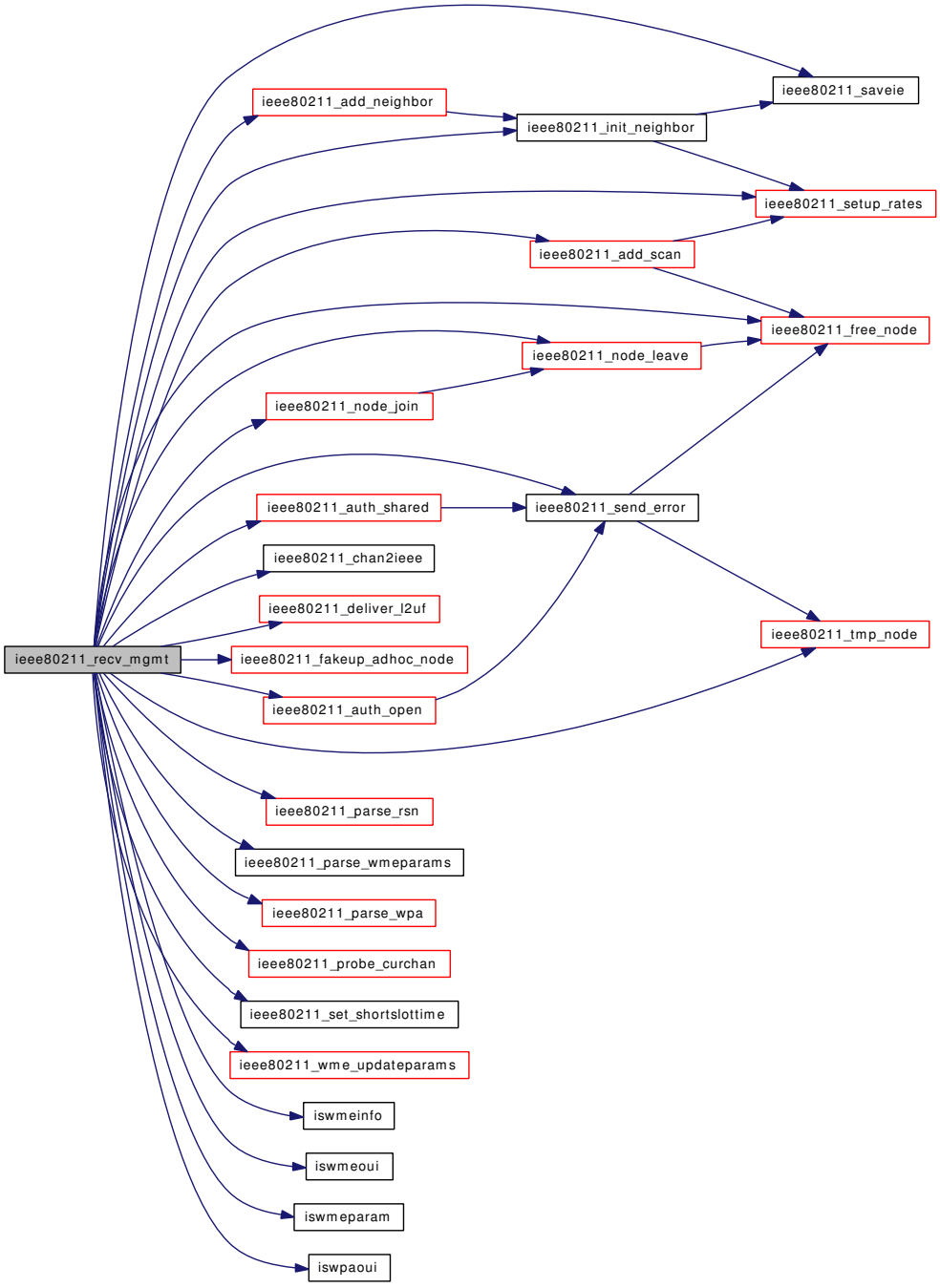
Definition at line 1777 of file ieee80211_input.c.

References ieee80211_node::data, ieee80211_frame::i_addr2, ieee80211_frame::i_addr3, ieee80211_-frame::i_fc, ieee80211_aclator::iac_check, ieee80211com::ic_acl, ieee80211com::ic_bmiss_count, ieee80211com::ic_bss, ieee80211com::ic_chan_active, ieee80211com::ic_curchan, ieee80211com::ic_-curmode, ieee80211com::ic_flags, ieee80211com::ic_flags_ext, ieee80211com::ic_opmode, ieee80211com::ic_phytype, ieee80211com::ic_sta, ieee80211com::ic_state, ieee80211com::ic_stats, ieee80211com::ic_swbmiss_count, ieee80211_add_neighbor(), ieee80211_add_scan(), IEEE80211_-ADDR_EQ, IEEE80211_AUTH_ALG_OPEN, IEEE80211_AUTH_ALG_SHARED, ieee80211_-auth_open(), ieee80211_auth_shared(), IEEE80211_BINTVAL_MAX, IEEE80211_BINTVAL_MIN, IEEE80211_CAPINFO_ESS, IEEE80211_CAPINFO_IBSS, IEEE80211_CAPINFO_SHORT_-PREAMBLE, IEEE80211_CAPINFO_SHORT_SLOTTIME, ieee80211_chan2ieee(), IEEE80211_-CHAN_MAX, ieee80211_deliver_l2uf(), IEEE80211_DISCARD, IEEE80211_DISCARD_IE, IEEE80211_DPRINTF, IEEE80211_ELEMID_COUNTRY, IEEE80211_ELEMID_DSPARMS, IEEE80211_ELEMID_ERP, IEEE80211_ELEMID_FHPARMS, IEEE80211_ELEMID_IBSSPARMS, IEEE80211_ELEMID_RATES, IEEE80211_ELEMID_RSN, IEEE80211_ELEMID_SSID, IEEE80211_-ELEMID_TIM, IEEE80211_ELEMID_VENDOR, IEEE80211_ELEMID_XRATES, IEEE80211_ERP_-USE_PROTECTION, IEEE80211_F_COUNTERM, IEEE80211_F_DODEL, IEEE80211_F_DOFRATE, IEEE80211_F_DONEGO, IEEE80211_F_DOSORT, IEEE80211_F_HIDESSID, IEEE80211_F_JOIN, IEEE80211_F_PUREG, IEEE80211_F_SCAN, IEEE80211_F_SHPREAMBLE, IEEE80211_F_-SHSLOT, IEEE80211_F_USEBARKER, IEEE80211_F_USEPROT, IEEE80211_F_WPA, ieee80211_-fakeup_adhoc_node(), IEEE80211_FC0_SUBTYPE_ASSOC_REQ, IEEE80211_FC0_SUBTYPE_-ASSOC_RESP, IEEE80211_FC0_SUBTYPE_AUTH, IEEE80211_FC0_SUBTYPE_BEACON, IEEE80211_FC0_SUBTYPE_DEAUTH, IEEE80211_FC0_SUBTYPE_DISASSOC, IEEE80211_-FC0_SUBTYPE_MASK, IEEE80211_FC0_SUBTYPE_PROBE_REQ, IEEE80211_FC0_SUBTYPE_-PROBE_RESP, IEEE80211_FC0_SUBTYPE_REASSOC_REQ, IEEE80211_FC0_SUBTYPE_-REASSOC_RESP, IEEE80211_FC0_SUBTYPE_SHIFT, IEEE80211_FEXT_PROBECHAN, IEEE80211_FH_CHAN, ieee80211_free_node(), ieee80211_init_neighbor(), IEEE80211_IS_-MULTICAST, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_M_STA, ieee80211_-mgt_subtype_name, IEEE80211_MODE_11A, IEEE80211_MODE_11G, IEEE80211_MSG_ACL, IEEE80211_MSG_ANY, IEEE80211_MSG_ASSOC, IEEE80211_MSG_AUTH, IEEE80211_-MSG_CRYPTO, IEEE80211_MSG_ELEMID, IEEE80211_MSG_INPUT, IEEE80211_MSG_WPA,

IEEE80211_MSG_XRATE, ieee80211_new_state, ieee80211_node_join(), ieee80211_node_leave(), IEEE80211_NODE_QOS, IEEE80211_NODE_STAT, IEEE80211_NWID_LEN, ieee80211_parse_rsn(), ieee80211_parse_wmeparams(), ieee80211_parse_wpa(), ieee80211_probe_curchan(), IEEE80211_-RATE_BASIC, IEEE80211_RATE_MAXSIZE, IEEE80211_REASON_ASSOC_NOT_AUTHED, IEEE80211_REASON_MIC_FAILURE, IEEE80211_REASON_RSN_REQUIRED, IEEE80211_-S_ASSOC, IEEE80211_S_AUTH, IEEE80211_S_RUN, IEEE80211_S_SCAN, ieee80211_saveie(), ieee80211_send_error(), IEEE80211_SEND_MGMT, ieee80211_set_shortslottime(), ieee80211_setup_-rates(), IEEE80211_STATUS_ALG, IEEE80211_STATUS_BASIC_RATE, IEEE80211_STATUS_-CAPINFO, IEEE80211_STATUS_UNSPECIFIED, IEEE80211_T_FH, ieee80211_tmp_node(), IEEE80211_VERIFY_ELEMENT, IEEE80211_VERIFY_LENGTH, IEEE80211_VERIFY_SSID, ieee80211_wme_updateparams(), ieee80211_stats::is_rx_acl, ieee80211_stats::is_rx_assoc_badwpaie, ieee80211_stats::is_rx_assoc_bss, ieee80211_stats::is_rx_assoc_capmismatch, ieee80211_stats::is_-rx_assoc_norate, ieee80211_stats::is_rx_assoc_notauth, ieee80211_stats::is_rx_auth_fail, ieee80211_-stats::is_rx_badchan, ieee80211_stats::is_rx_badsubtype, ieee80211_stats::is_rx_beacon, ieee80211_-stats::is_rx_deauth, ieee80211_stats::is_rx_disassoc, ieee80211_stats::is_rx_elem_toobig, ieee80211_-stats::is_rx_elem_unknown, ieee80211_stats::is_rx_mgtdiscard, ieee80211_stats::is_rx_ssidmismatch, ISREASSOC, iswmeinfo(), iswmeoui(), iswmeparam(), iswpaoui(), LE_READ_2, ieee80211_-node::ni_associd, ieee80211_node::ni_bssid, ieee80211_node::ni_capinfo, ieee80211_node::ni_-challenge, ieee80211_node::ni_chan, ieee80211_node::ni_dtim_count, ieee80211_node::ni_dtim_-period, ieee80211_node::ni_erp, ieee80211_node::ni_fails, ieee80211_node::ni_fhdwell, ieee80211_-node::ni_fhindex, ieee80211_node::ni_flags, ieee80211_node::ni_intval, ieee80211_node::ni_macaddr, ieee80211_node::ni_rsn, ieee80211_node::ni_rssi, ieee80211_node::ni_rstamp, ieee80211_node::ni_-tstamp, ieee80211_node::ni_wme_ie, ieee80211_node::ni_wpa_ie, ieee80211_rsnparms::rsn_caps, ieee80211_rsnparms::rsn_keymgmt, ieee80211_rsnparms::rsn_mcastcipher, ieee80211_rsnparms::rsn_-mcastkeylen, ieee80211_rsnparms::rsn_ucastcipher, ieee80211_rsnparms::rsn_ucastkeylen, ieee80211_-tim_ie::tim_count, and ieee80211_tim_ie::tim_period.

Referenced by ieee80211_proto_attach().

Here is the call graph for this function:




### 7.23.3.28 void ieee80211_reset_erp (struct ieee80211com *)

Definition at line 429 of file ieee80211_proto.c.

References ieee80211com::ic_caps, ieee80211com::ic_curmode, ieee80211com::ic_flags, ieee80211com::ic_longslotsta, ieee80211com::ic_nonerpsta, ieee80211com::ic_opmode, IEEE80211_-

C_SHPREAMBLE, IEEE80211_C_SHSLOT, IEEE80211_F_SHPREAMBLE, IEEE80211_F_-USEBARKER, IEEE80211_F_USEPROT, IEEE80211_M_HOSTAP, IEEE80211_MODE_11A, IEEE80211_MODE_11G, and ieee80211_set_shortslottime().

Referenced by ieee80211_free_allnodes_locked(), and ieee80211_sta_join().

Here is the call graph for this function:


#### 7.23.3.29 void ieee80211_saveie (u_int8_t **, const u_int8_t *)

Definition at line 1711 of file ieee80211_input.c.

Referenced by ieee80211_init_neighbor(), ieee80211_recv_mgmt(), and saveie().

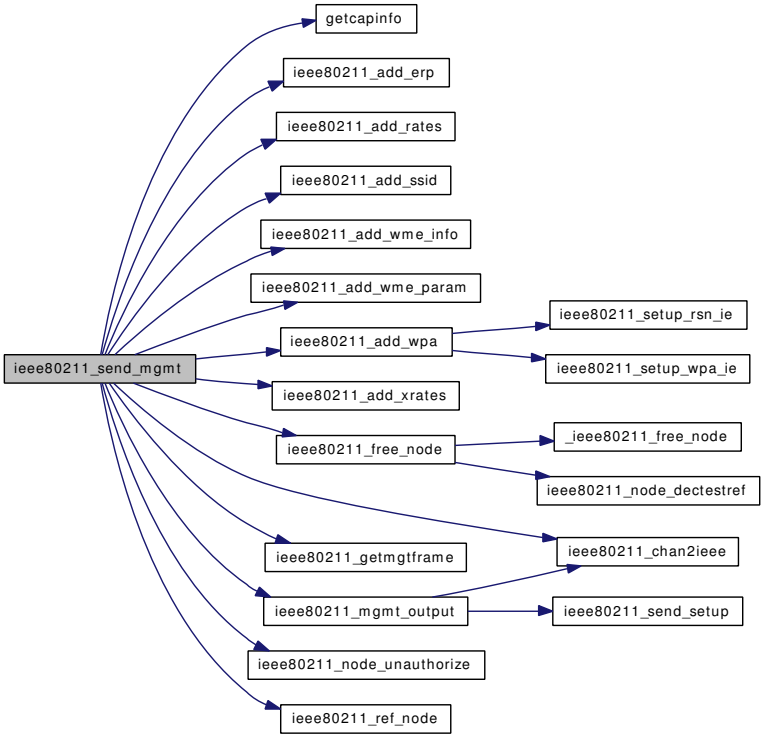
#### 7.23.3.30 int ieee80211_send_mgmt (struct ieee80211com *, struct ieee80211_node *, int, int)

Definition at line 1217 of file ieee80211_output.c.

References getcapinfo(), ieee80211com::ic_bss, ieee80211com::ic_caps, ieee80211com::ic_curchan, ieee80211com::ic_curmode, ieee80211com::ic_flags, ieee80211com::ic_lintval, ieee80211com::ic_-opmode, ieee80211com::ic_opt_ie, ieee80211com::ic_opt_ie_len, ieee80211com::ic_phytype, ieee80211com::ic_wme, ieee80211_add_erp(), ieee80211_add_rates(), ieee80211_add_ssid(), ieee80211_add_wme_info(), ieee80211_add_wme_param(), ieee80211_add_wpa(), ieee80211_-add_xrates(), IEEE80211_ADDR_COPY, IEEE80211_ADDR_LEN, IEEE80211_AUTH_ALG_-OPEN, IEEE80211_AUTH_ALG_SHARED, IEEE80211_AUTH_SHARED, IEEE80211_AUTH_-SHARED_CHALLENGE, IEEE80211_AUTH_SHARED_REQUEST, IEEE80211_AUTH_SHARED_-RESPONSE, IEEE80211_C_SHSLOT, IEEE80211_CAPINFO_ESS, IEEE80211_CAPINFO_PRIVACY, IEEE80211_CAPINFO_SHORT_PREAMBLE, IEEE80211_CAPINFO_SHORT_SLOTTIME, IEEE80211_CHALLENGE_LEN, ieee80211_chan2ieee(), IEEE80211_DPRINTF, IEEE80211_-ELEMID_CHALLENGE, IEEE80211_ELEMID_DSPARMS, IEEE80211_ELEMID_FHPARMS, IEEE80211_ELEMID_IBSSPARMS, IEEE80211_F_PRIVACY, IEEE80211_F_SHPREAMBLE, IEEE80211_F_WME, IEEE80211_F_WPA, IEEE80211_FC0_SUBTYPE_ASSOC_REQ, IEEE80211_-FC0_SUBTYPE_ASSOC_RESP, IEEE80211_FC0_SUBTYPE_AUTH, IEEE80211_FC0_SUBTYPE_-DEAUTH, IEEE80211_FC0_SUBTYPE_DISASSOC, IEEE80211_FC0_SUBTYPE_PROBE_RESP, IEEE80211_FC0_SUBTYPE_REASSOC_REQ, IEEE80211_FC0_SUBTYPE_REASSOC_RESP, IEEE80211_FH_CHANPAT, IEEE80211_FH_CHANSET, ieee80211_free_node(), ieee80211_-getmgtframe(), IEEE80211_IS_CHAN_2GHZ, IEEE80211_M_IBSS, IEEE80211_M_STA, ieee80211_-mgmt_output(), IEEE80211_MODE_11G, IEEE80211_MSG_ANY, IEEE80211_MSG_ASSOC, IEEE80211_MSG_AUTH, IEEE80211_MSG_NODE, ieee80211_node_refcnt, IEEE80211_NODE_-STAT, IEEE80211_NODE_STAT_SET, ieee80211_node_unauthorize(), IEEE80211_NWID_LEN, IEEE80211_RATE_MAXSIZE, IEEE80211_RATE_SIZE, ieee80211_ref_node(), IEEE80211_-STATUS_SUCCESS, IEEE80211_T_FH, IEEE80211_TRANS_WAIT, M_LINK0, ieee80211_-node::ni_authmode, ieee80211_node::ni_bssid, ieee80211_node::ni_challenge, ieee80211_node::ni_essid, ieee80211_node::ni_esslen, ieee80211_node::ni_fhdwell, ieee80211_node::ni_fhindex, ieee80211_-node::ni_intval, ieee80211_node::ni_macaddr, ieee80211_node::ni_rates, and senderr.

Referenced by ieee80211_proto_attach().

Here is the call graph for this function:



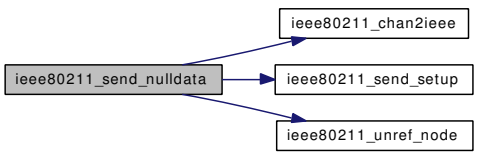

#### 7.23.3.31 int ieee80211_send_nulldata (struct ieee80211_node *)

Definition at line 338 of file ieee80211_output.c.

References ieee80211_frame::i_fc, ieee80211com::ic_curchan, ieee80211com::ic_ifp, ieee80211com::ic_mgtq, ieee80211com::ic_myaddr, ieee80211com::ic_opmode, ieee80211com::ic_stats, ieee80211_chan2ieee(), IEEE80211_DPRINTF, IEEE80211_FC0_SUBTYPE_NODATA, IEEE80211_FC0_TYPE_DATA, IEEE80211_FC1_PWR_MGT, IEEE80211_M_HOSTAP, IEEE80211_MSG_DEBUG, IEEE80211_MSG_DUMPPKTS, IEEE80211_NODE_PWR_MGT, IEEE80211_NODE_STAT, ieee80211_send_setup(), ieee80211_unref_node(), ieee80211_stats::is_tx_nobuf, ieee80211_node::ni_bssid, ieee80211_node::ni_flags, ieee80211_node::ni_ic, and ieee80211_node::ni_macaddr.

Referenced by ieee80211_recv_pspoll(), and ieee80211_timeout_stations().

Here is the call graph for this function:



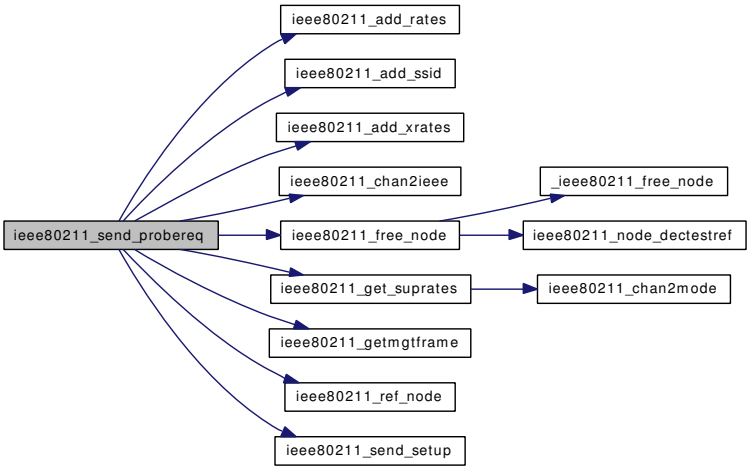
#### 7.23.3.32 int ieee80211_send_probereq (struct ieee80211_node * *ni*, const u_int8_t *sa*[IEEE80211_ADDR_LEN], const u_int8_t *da*[IEEE80211_ADDR_LEN], const u_int8_t *bssid*[IEEE80211_ADDR_LEN], const u_int8_t * *ssid*, size_t *ssidlen*, const void * *optie*, size_t *optielen*)

Definition at line 1105 of file ieee80211_output.c.

References ieee80211_frame::i_addr1, ieee80211com::ic_curchan, ieee80211com::ic_ifp, ieee80211com::ic_mgtq, ieee80211com::ic_stats, ieee80211_add_rates(), ieee80211_add_ssid(), ieee80211_add_xrates(), ieee80211_chan2ieee(), IEEE80211_DPRINTF, IEEE80211_FC0_SUBTYPE_PROBE_REQ, IEEE80211_FC0_TYPE_MGT, ieee80211_free_node(), ieee80211_get_suprates(), ieee80211_getmgtframe(), IEEE80211_MSG_DEBUG, IEEE80211_MSG_DUMPPKTS, IEEE80211_MSG_NODE, ieee80211_node_refcnt, IEEE80211_NODE_STAT, IEEE80211_NWID_LEN, IEEE80211_RATE_MAXSIZE, IEEE80211_RATE_SIZE, ieee80211_ref_node(), ieee80211_send_setup(), ieee80211_stats::is_tx_nobuf, ieee80211_node::ni_ic, and ieee80211_node::ni_macaddr.

Referenced by ieee80211_beacon_miss(), and ieee80211_probe_curchan().

Here is the call graph for this function:




#### 7.23.3.33 void ieee80211_set11gbasicrates (struct ieee80211_rateset *, enum *ieee80211_phymode*)

Definition at line 509 of file ieee80211_proto.c.

References IEEE80211_RATE_BASIC, IEEE80211_RATE_VAL, ieee80211_rateset::rs_nrates, and ieee80211_rateset::rs_rates.

Referenced by ieee80211_create_ibss().

#### 7.23.3.34 void ieee80211_set_shortslottime (struct ieee80211com *, int *onoff*)

Definition at line 461 of file ieee80211_proto.c.

References ieee80211com::ic_flags, ieee80211com::ic_ifp, ieee80211com::ic_updateslot, and IEEE80211_F_SHSLOT.

Referenced by ieee80211_node_join_11g(), ieee80211_node_leave_11g(), ieee80211_recv_mgmt(), and ieee80211_reset_erp().

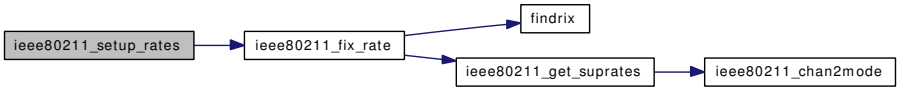
#### 7.23.3.35 int ieee80211_setup_rates (struct ieee80211_node * *ni*, const u_int8_t * *rates*, const u_int8_t * *xrates*, int *flags*)

Definition at line 835 of file ieee80211_input.c.

References ieee80211com::ic_stats, IEEE80211_DPRINTF, ieee80211_fix_rate(), IEEE80211_MSG_XRATE, IEEE80211_RATE_MAXSIZE, ieee80211_stats::is_rx_rstoobig, ieee80211_node::ni_ic, ieee80211_node::ni_macaddr, and ieee80211_node::ni_rates.

Referenced by ieee80211_add_scan(), ieee80211_init_neighbor(), and ieee80211_recv_mgmt().

Here is the call graph for this function:




#### 7.23.3.36 void ieee80211_wme_initparams (struct ieee80211com *)

Definition at line 609 of file ieee80211_proto.c.

References phyParamType::acm, phyParamType::aifsn, bssPhyParamForAC_BE, bssPhyParamForAC_VI, bssPhyParamForAC_VO, chanAccParams::cap_wmeParams, ieee80211com::ic_caps, ieee80211com::ic_curmode, ieee80211com::ic_opmode, ieee80211com::ic_wme, IEEE80211_C_WME, IEEE80211_DPRINTF, IEEE80211_M_HOSTAP, IEEE80211_MSG_WME, ieee80211_wme_acnames, phyParamType::logcwmax, phyParamType::logcwmin, phyParamForAC_BE, phyParamForAC_BK, phyParamForAC_VI, phyParamForAC_VO, phyParamType::txopLimit, WME_AC_BE, WME_AC_BK, WME_AC_VI, WME_AC_VO, WME_NUM_AC, ieee80211_wme_state::wme_wmeBssChanParams, ieee80211_wme_state::wme_wmeChanParams, wmeParams::wmep_acm, wmeParams::wmep_aifsn, wmeParams::wmep_logcwmax, wmeParams::wmep_logcwmin, and wmeParams::wmep_txopLimit.

Referenced by ieee80211_sta_join().

#### 7.23.3.37 void ieee80211_wme_updateparams (struct ieee80211com *)

Definition at line 813 of file ieee80211_proto.c.

References ieee80211com::ic_caps, IEEE80211_BEACON_LOCK, IEEE80211_BEACON_UNLOCK, IEEE80211_C_WME, and ieee80211_wme_updateparams_locked().

Referenced by ieee80211_ioctl_setwmeparam(), and ieee80211_recv_mgmt().

Here is the call graph for this function:


#### 7.23.3.38 void ieee80211_wme_updateparams_locked (struct ieee80211com *)

Definition at line 701 of file ieee80211_proto.c.

References chanAccParams::cap_wmeParams, ieee80211com::ic_bss, ieee80211com::ic_curmode, ieee80211com::ic_flags, ieee80211com::ic_opmode, ieee80211com::ic_wme, IEEE80211_DPRINTF,

IEEE80211_F_BURST, IEEE80211_F_WME, IEEE80211_M_HOSTAP, IEEE80211_M_STA, IEEE80211_MODE_MAX, IEEE80211_MSG_WME, IEEE80211_NODE_QOS, ieee80211_wme_acnames, ieee80211_node::ni_flags, WME_AC_BE, ieee80211_wme_state::wme_bssChanParams, ieee80211_wme_state::wme_chanParams, WME_F_AGGRMODE, ieee80211_wme_state::wme_flags, WME_NUM_AC, ieee80211_wme_state::wme_wmeBssChanParams, ieee80211_wme_state::wme_wmeChanParams, wmeParams::wmep_acm, wmeParams::wmep_aifsn, wmeParams::wmep_logcwmax, wmeParams::wmep_logcwmin, and wmeParams::wmep_txopLimit.

Referenced by ieee80211_beacon_update(), and ieee80211_wme_updateparams().

## 7.23.4 Variable Documentation

### 7.23.4.1 const char* ieee80211_mgt_subtype_name[ ]

Definition at line 60 of file ieee80211_proto.c.

Referenced by ieee80211_dump_pkt(), ieee80211_input(), ieee80211_mgmt_output(), and ieee80211_recv_mgmt().

### 7.23.4.2 const char* ieee80211_phymode_name[ ]

Definition at line 54 of file ieee80211.c.

Referenced by ieee80211_announce(), and ieee80211_begin_scan().

### 7.23.4.3 const char* ieee80211_state_name[IEEE80211_S_MAX]

Definition at line 72 of file ieee80211_proto.c.

Referenced by ieee80211_newstate().

### 7.23.4.4 const char* ieee80211_wme_acnames[ ]

Definition at line 79 of file ieee80211_proto.c.

Referenced by ieee80211_wme_initparams(), and ieee80211_wme_updateparams_locked().

# 7.24 /usr/src/sys/net80211/ieee80211_radiotap.h File Reference

## Data Structures

- struct ieee80211_radiotap_header

## Defines

- #define DLT_IEEE802_11_RADIO 127
- #define IEEE80211_RADIOTAP_HDRLEN 64
- #define IEEE80211_RADIOTAP_F_CFP 0x01
- #define IEEE80211_RADIOTAP_F_SHORTPRE 0x02
- #define IEEE80211_RADIOTAP_F_WEP 0x04
- #define IEEE80211_RADIOTAP_F_FRAG 0x08
- #define IEEE80211_RADIOTAP_F_FCS 0x10
- #define IEEE80211_RADIOTAP_F_DATAPAD 0x20
- #define IEEE80211_RADIOTAP_F_BADFCS 0x40

## Enumerations

- enum ieee80211_radiotap_type {

  IEEE80211_RADIOTAP_TSFT = 0, IEEE80211_RADIOTAP_FLAGS = 1, IEEE80211_-RADIOTAP_RATE = 2, IEEE80211_RADIOTAP_CHANNEL = 3,

  IEEE80211_RADIOTAP_FHSS = 4, IEEE80211_RADIOTAP_DBM_ANTSIGNAL = 5, IEEE80211_RADIOTAP_DBM_ANTNOISE = 6, IEEE80211_RADIOTAP_LOCK_QUALITY = 7,

  IEEE80211_RADIOTAP_TX_ATTENUATION = 8, IEEE80211_RADIOTAP_DB_TX_-ATTENUATION = 9, IEEE80211_RADIOTAP_DBM_TX_POWER = 10, IEEE80211_-RADIOTAP_ANTENNA = 11,

  IEEE80211_RADIOTAP_DB_ANTSIGNAL = 12, IEEE80211_RADIOTAP_DB_ANTNOISE = 13, IEEE80211_RADIOTAP_EXT = 31 }

## Variables

- ieee80211_radiotap_header __packed__

### 7.24.1 Define Documentation

#### 7.24.1.1 #define DLT_IEEE802_11_RADIO 127

Definition at line 51 of file ieee80211_radiotap.h.

#### 7.24.1.2 #define IEEE80211_RADIOTAP_F_BADFCS 0x40

Definition at line 215 of file ieee80211_radiotap.h.

#### 7.24.1.3 #define IEEE80211_RADIOTAP_F_CFP 0x01

Definition at line 197 of file ieee80211_radiotap.h.

#### 7.24.1.4 #define IEEE80211_RADIOTAP_F_DATAPAD 0x20

Definition at line 211 of file ieee80211_radiotap.h.

#### 7.24.1.5 #define IEEE80211_RADIOTAP_F_FCS 0x10

Definition at line 210 of file ieee80211_radiotap.h.

#### 7.24.1.6 #define IEEE80211_RADIOTAP_F_FRAG 0x08

Definition at line 207 of file ieee80211_radiotap.h.

#### 7.24.1.7 #define IEEE80211_RADIOTAP_F_SHORTPRE 0x02

Definition at line 200 of file ieee80211_radiotap.h.

#### 7.24.1.8 #define IEEE80211_RADIOTAP_F_WEP 0x04

Definition at line 204 of file ieee80211_radiotap.h.

#### 7.24.1.9 #define IEEE80211_RADIOTAP_HDRLEN 64

Definition at line 58 of file ieee80211_radiotap.h.

### 7.24.2 Enumeration Type Documentation

#### 7.24.2.1 enum ieee80211_radiotap_type

**Enumerator:**

*IEEE80211_RADIOTAP_TSFT*
*IEEE80211_RADIOTAP_FLAGS*
*IEEE80211_RADIOTAP_RATE*
*IEEE80211_RADIOTAP_CHANNEL*
*IEEE80211_RADIOTAP_FHSS*
*IEEE80211_RADIOTAP_DBM_ANTSIGNAL*
*IEEE80211_RADIOTAP_DBM_ANTNOISE*
*IEEE80211_RADIOTAP_LOCK_QUALITY*
*IEEE80211_RADIOTAP_TX_ATTENUATION*
*IEEE80211_RADIOTAP_DB_TX_ATTENUATION*
*IEEE80211_RADIOTAP_DBM_TX_POWER*
*IEEE80211_RADIOTAP_ANTENNA*

*IEEE80211_RADIOTAP_DB_ANTSIGNAL*
*IEEE80211_RADIOTAP_DB_ANTNOISE*
*IEEE80211_RADIOTAP_EXT*

Definition at line 166 of file ieee80211_radiotap.h.

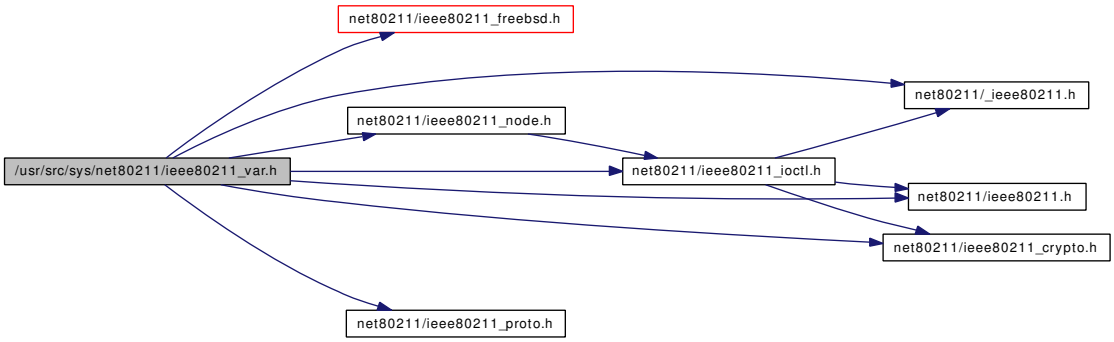
### 7.24.3 Variable Documentation

#### 7.24.3.1 struct ieee80211_radiotap_header __packed__

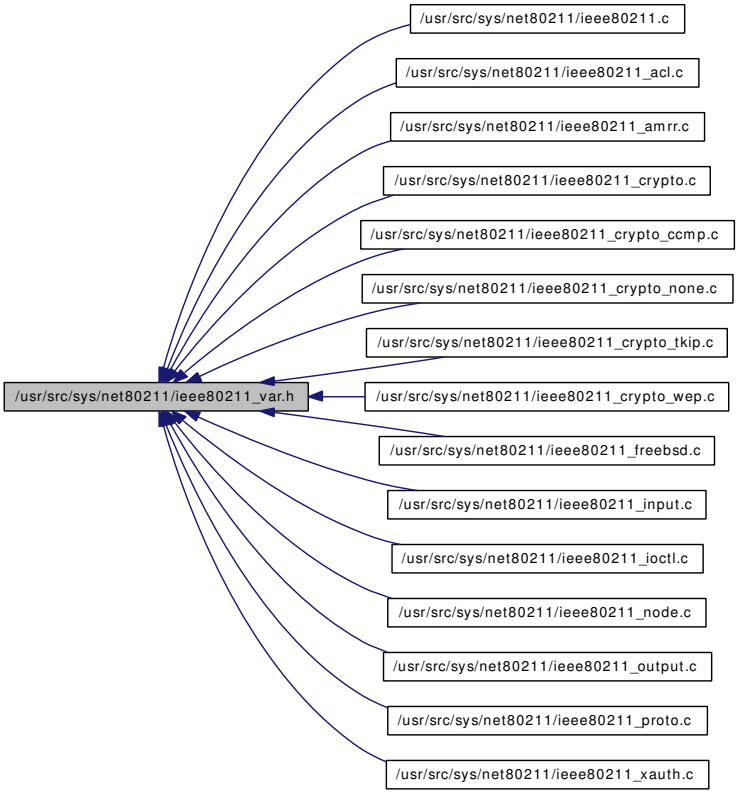
## 7.25 /usr/src/sys/net80211/ieee80211_var.h File Reference

```
#include <net80211/ieee80211_freebsd.h>
#include <net80211/_ieee80211.h>
#include <net80211/ieee80211.h>
#include <net80211/ieee80211_crypto.h>
#include <net80211/ieee80211_ioctl.h>
#include <net80211/ieee80211_node.h>
#include <net80211/ieee80211_proto.h>
```

Include dependency graph for ieee80211_var.h:




This graph shows which files directly or indirectly include this file:




## Data Structures

- struct ieee80211com

## Defines

- #define IEEE80211_DEBUG
- #define IEEE80211_TXPOWER_MAX 100
- #define IEEE80211_TXPOWER_MIN 0
- #define IEEE80211_DTIM_DEFAULT 1
- #define IEEE80211_BINTVAL_DEFAULT 100
- #define IEEE80211_BMISS_MAX 2
- #define IEEE80211_HWBMISS_DEFAULT 7
- #define IEEE80211_PS_SLEEP 0x1
- #define IEEE80211_PS_MAX_QUEUE 50
- #define IEEE80211_FIXED_RATE_NONE -1
- #define IEEE80211_MCAST_RATE_DEFAULT (2∗1)
- #define IEEE80211_RTS_DEFAULT IEEE80211_RTS_MAX
- #define IEEE80211_FRAG_DEFAULT IEEE80211_FRAG_MAX
- #define IEEE80211_MS_TO_TU(x) (((x) ∗ 1024) / 1000)
- #define IEEE80211_TU_TO_MS(x) (((x) ∗ 1000) / 1024)
- #define IEEE80211_TU_TO_TICKS(x) (((x) ∗ hz) / 1024)
- #define ic_nw_keys ic_crypto.cs_nw_keys
- #define ic_def_txkey ic_crypto.cs_def_txkey

- #define IEEE80211_ADDR_EQ(a1, a2) (memcmp(a1,a2,IEEE80211_ADDR_LEN) == 0)
- #define IEEE80211_ADDR_COPY(dst, src) memcpy(dst,src,IEEE80211_ADDR_LEN)
- #define IEEE80211_F_FF 0x00000001
- #define IEEE80211_F_TURBOP 0x00000002
- #define IEEE80211_F_BURST 0x00000004
- #define IEEE80211_F_PRIVACY 0x00000010
- #define IEEE80211_F_PUREG 0x00000020
- #define IEEE80211_F_SCAN 0x00000080
- #define IEEE80211_F_ASCAN 0x00000100
- #define IEEE80211_F_SIBSS 0x00000200
- #define IEEE80211_F_SHSLOT 0x00000400
- #define IEEE80211_F_PMGTON 0x00000800
- #define IEEE80211_F_DESBSSID 0x00001000
- #define IEEE80211_F_WME 0x00002000
- #define IEEE80211_F_BGSCAN 0x00004000
- #define IEEE80211_F_SWRETRY 0x00008000
- #define IEEE80211_F_TXPOW_FIXED 0x00010000
- #define IEEE80211_F_IBSSON 0x00020000
- #define IEEE80211_F_SHPREAMBLE 0x00040000
- #define IEEE80211_F_DATAPAD 0x00080000
- #define IEEE80211_F_USEPROT 0x00100000
- #define IEEE80211_F_USEBARKER 0x00200000
- #define IEEE80211_F_TIMUPDATE 0x00400000
- #define IEEE80211_F_WPA1 0x00800000
- #define IEEE80211_F_WPA2 0x01000000
- #define IEEE80211_F_WPA 0x01800000
- #define IEEE80211_F_DROPUNENC 0x02000000
- #define IEEE80211_F_COUNTERM 0x04000000
- #define IEEE80211_F_HIDESSID 0x08000000
- #define IEEE80211_F_NOBRIDGE 0x10000000
- #define IEEE80211_F_WMEUPDATE 0x20000000
- #define IEEE80211_FEXT_WDS 0x00000001
- #define IEEE80211_FEXT_BGSCAN 0x00000008
- #define IEEE80211_FEXT_ERPUPDATE 0x00000200
- #define IEEE80211_FEXT_SWBMISS 0x00000400
- #define IEEE80211_FEXT_PROBECHAN 0x00020000
- #define IEEE80211_C_WEP 0x00000001
- #define IEEE80211_C_TKIP 0x00000002
- #define IEEE80211_C_AES 0x00000004
- #define IEEE80211_C_AES_CCM 0x00000008
- #define IEEE80211_C_CKIP 0x00000020
- #define IEEE80211_C_FF 0x00000040
- #define IEEE80211_C_TURBOP 0x00000080
- #define IEEE80211_C_IBSS 0x00000100
- #define IEEE80211_C_PMGT 0x00000200
- #define IEEE80211_C_HOSTAP 0x00000400
- #define IEEE80211_C_AHDEMO 0x00000800
- #define IEEE80211_C_SWRETRY 0x00001000
- #define IEEE80211_C_TXPMGT 0x00002000
- #define IEEE80211_C_SHSLOT 0x00004000

- #define IEEE80211_C_SHPREAMBLE 0x00008000
- #define IEEE80211_C_MONITOR 0x00010000
- #define IEEE80211_C_TKIPMIC 0x00020000
- #define IEEE80211_C_WPA1 0x00800000
- #define IEEE80211_C_WPA2 0x01000000
- #define IEEE80211_C_WPA 0x01800000
- #define IEEE80211_C_BURST 0x02000000
- #define IEEE80211_C_WME 0x04000000
- #define IEEE80211_C_WDS 0x08000000
- #define IEEE80211_C_BGSCAN 0x20000000
- #define IEEE80211_C_TXFRAG 0x40000000
- #define IEEE80211_C_CRYPTO 0x0000002f
- #define IEEE80211_MSG_DEBUG 0x40000000
- #define IEEE80211_MSG_DUMPPKTS 0x20000000
- #define IEEE80211_MSG_CRYPTO 0x10000000
- #define IEEE80211_MSG_INPUT 0x08000000
- #define IEEE80211_MSG_XRATE 0x04000000
- #define IEEE80211_MSG_ELEMID 0x02000000
- #define IEEE80211_MSG_NODE 0x01000000
- #define IEEE80211_MSG_ASSOC 0x00800000
- #define IEEE80211_MSG_AUTH 0x00400000
- #define IEEE80211_MSG_SCAN 0x00200000
- #define IEEE80211_MSG_OUTPUT 0x00100000
- #define IEEE80211_MSG_STATE 0x00080000
- #define IEEE80211_MSG_POWER 0x00040000
- #define IEEE80211_MSG_DOT1X 0x00020000
- #define IEEE80211_MSG_DOT1XSM 0x00010000
- #define IEEE80211_MSG_RADIUS 0x00008000
- #define IEEE80211_MSG_RADDUMP 0x00004000
- #define IEEE80211_MSG_RADKEYS 0x00002000
- #define IEEE80211_MSG_WPA 0x00001000
- #define IEEE80211_MSG_ACL 0x00000800
- #define IEEE80211_MSG_WME 0x00000400
- #define IEEE80211_MSG_SUPERG 0x00000200
- #define IEEE80211_MSG_DOTH 0x00000100
- #define IEEE80211_MSG_INACT 0x00000080
- #define IEEE80211_MSG_ROAM 0x00000040
- #define IEEE80211_MSG_RATECTL 0x00000020
- #define IEEE80211_MSG_ANY 0xffffffff
- #define ieee80211_msg(_ic, _m) ((_ic) → ic_debug & (_m))
- #define IEEE80211_DPRINTF(_ic, _m, _fmt,)
- #define IEEE80211_NOTE(_ic, _m, _ni, _fmt,)
- #define IEEE80211_NOTE_MAC(_ic, _m, _mac, _fmt,)
- #define IEEE80211_NOTE_FRAME(_ic, _m, _wh, _fmt,)
- #define ieee80211_msg_debug(_ic) ((_ic) → ic_debug & IEEE80211_MSG_DEBUG)
- #define ieee80211_msg_dumppkts(_ic) ((_ic) → ic_debug & IEEE80211_MSG_DUMPPKTS)
- #define ieee80211_msg_input(_ic) ((_ic) → ic_debug & IEEE80211_MSG_INPUT)
- #define ieee80211_msg_radius(_ic) ((_ic) → ic_debug & IEEE80211_MSG_RADIUS)
- #define ieee80211_msg_dumpradius(_ic) ((_ic) → ic_debug & IEEE80211_MSG_RADDUMP)
- #define ieee80211_msg_dumpradkeys(_ic) ((_ic) → ic_debug & IEEE80211_MSG_RADKEYS)
- #define ieee80211_msg_scan(_ic) ((_ic) → ic_debug & IEEE80211_MSG_SCAN)
- #define ieee80211_msg_assoc(_ic) ((_ic) → ic_debug & IEEE80211_MSG_ASSOC)

## Functions

- void ieee80211_ifattach (struct ieee80211com ∗)
- void ieee80211_ifdetach (struct ieee80211com ∗)
- ieee80211_rateset ∗ ieee80211_get_suprates (struct ieee80211com ∗, const struct ieee80211_-channel ∗)
- void ieee80211_announce (struct ieee80211com ∗)
- void ieee80211_media_init (struct ieee80211com ∗, ifm_change_cb_t, ifm_stat_cb_t)
- ieee80211com ∗ ieee80211_find_vap (const u_int8_t mac[IEEE80211_ADDR_LEN])
- int ieee80211_media_change (struct ifnet ∗)
- void ieee80211_media_status (struct ifnet ∗, struct ifmediareq ∗)
- int ieee80211_ioctl (struct ieee80211com ∗, u_long, caddr_t)
- int ieee80211_cfgget (struct ieee80211com ∗, u_long, caddr_t)
- int ieee80211_cfgset (struct ieee80211com ∗, u_long, caddr_t)
- void ieee80211_watchdog (struct ieee80211com ∗)
- int ieee80211_rate2media (struct ieee80211com ∗, int, enum ieee80211_phymode)
- int ieee80211_media2rate (int)
- int ieee80211_mhz2ieee (u_int, u_int)
- int ieee80211_chan2ieee (struct ieee80211com ∗, const struct ieee80211_channel ∗)
- u_int ieee80211_ieee2mhz (u_int, u_int)
- int ieee80211_setmode (struct ieee80211com ∗, enum ieee80211_phymode)
- enum ieee80211_phymode ieee80211_chan2mode (struct ieee80211com ∗, const struct ieee80211_-channel ∗)
- static __inline void ieee80211_key_update_begin (struct ieee80211com ∗ic)
- static __inline void ieee80211_key_update_end (struct ieee80211com ∗ic)
- static __inline int ieee80211_hdrspace (struct ieee80211com ∗ic, const void ∗data)
- static __inline int ieee80211_anyhdrspace (struct ieee80211com ∗ic, const void ∗data)
- void ieee80211_note (struct ieee80211com ∗ic, const char ∗fmt,...)
- void ieee80211_note_mac (struct ieee80211com ∗ic, const u_int8_t mac[IEEE80211_ADDR_LEN], const char ∗fmt,...)
- void ieee80211_note_frame (struct ieee80211com ∗ic, const struct ieee80211_frame ∗wh, const char ∗fmt,...)

### 7.25.1 Define Documentation

#### 7.25.1.1 #define ic_def_txkey ic_crypto.cs_def_txkey

Definition at line 191 of file ieee80211_var.h.

#### 7.25.1.2 #define ic_nw_keys ic_crypto.cs_nw_keys

Definition at line 190 of file ieee80211_var.h.

Referenced by null_key_alloc().

#### 7.25.1.3 #define IEEE80211_ADDR_COPY(dst, src) memcpy(dst,src,IEEE80211_ADDR_LEN)

Definition at line 211 of file ieee80211_var.h.

Referenced by acl_add(), acl_getioctl(), ccmp_init_blocks(), get_scan_result(), get_sta_info(), ieee80211_add_scan(), ieee80211_beacon_alloc(), ieee80211_cfgget(), ieee80211_cfgset(), ieee80211_create_ibss(), ieee80211_decap(), ieee80211_deliver_l2uf(), ieee80211_dup_bss(), ieee80211_encap(), ieee80211_init_neighbor(), ieee80211_ioctl_getkey(), ieee80211_ioctl_set80211(), ieee80211_notify_michael_failure(), ieee80211_notify_node_join(), ieee80211_notify_node_leave(), ieee80211_notify_replay_failure(), ieee80211_send_mgmt(), ieee80211_send_setup(), ieee80211_setup_node(), ieee80211_tmp_node(), michael_mic_hdr(), wi_read_ap_result(), wi_read_prism2_result(), and wi_read_sigcache().

#### 7.25.1.4 #define IEEE80211_ADDR_EQ(a1, a2) (memcmp(a1,a2,IEEE80211_ADDR_LEN) == 0)

Definition at line 210 of file ieee80211_var.h.

Referenced by _find_acl(), _ieee80211_find_node(), acl_add(), ieee80211_defrag(), ieee80211_find_node_with_channel(), ieee80211_find_node_with_ssid(), ieee80211_find_vap(), ieee80211_ibss_merge(), ieee80211_input(), ieee80211_ioctl_delkey(), ieee80211_ioctl_getstainfo(), ieee80211_ioctl_set80211(), ieee80211_ioctl_setkey(), ieee80211_ioctl_setmlme(), ieee80211_match_bss(), and ieee80211_recv_mgmt().

#### 7.25.1.5 #define IEEE80211_BINTVAL_DEFAULT 100

Definition at line 65 of file ieee80211_var.h.

Referenced by ieee80211_ifattach().

#### 7.25.1.6 #define IEEE80211_BMISS_MAX 2

Definition at line 67 of file ieee80211_var.h.

Referenced by ieee80211_proto_attach().

#### 7.25.1.7 #define IEEE80211_C_AES 0x00000004

Definition at line 258 of file ieee80211_var.h.

Referenced by cap2cipher(), cipher2cap(), and ieee80211_node_lateattach().

#### 7.25.1.8 #define IEEE80211_C_AES_CCM 0x00000008

Definition at line 259 of file ieee80211_var.h.

Referenced by cap2cipher(), and cipher2cap().

#### 7.25.1.9 #define IEEE80211_C_AHDEMO 0x00000800

Definition at line 266 of file ieee80211_var.h.

Referenced by ieee80211_cfgset(), and ieee80211_media_init().

#### 7.25.1.10 #define IEEE80211_C_BGSCAN 0x20000000

Definition at line 280 of file ieee80211_var.h.

#### 7.25.1.11 #define IEEE80211_C_BURST 0x02000000

Definition at line 276 of file ieee80211_var.h.

Referenced by ieee80211_ifattach(), and ieee80211_ioctl_set80211().

#### 7.25.1.12 #define IEEE80211_C_CKIP 0x00000020

Definition at line 260 of file ieee80211_var.h.

Referenced by cap2cipher(), cipher2cap(), and ieee80211_node_lateattach().

#### 7.25.1.13 #define IEEE80211_C_CRYPTO 0x0000002f

Definition at line 284 of file ieee80211_var.h.

#### 7.25.1.14 #define IEEE80211_C_FF 0x00000040

Definition at line 261 of file ieee80211_var.h.

#### 7.25.1.15 #define IEEE80211_C_HOSTAP 0x00000400

Definition at line 265 of file ieee80211_var.h.

Referenced by ieee80211_cfgset(), and ieee80211_media_init().

#### 7.25.1.16 #define IEEE80211_C_IBSS 0x00000100

Definition at line 263 of file ieee80211_var.h.

Referenced by ieee80211_cfgset(), and ieee80211_media_init().

#### 7.25.1.17 #define IEEE80211_C_MONITOR 0x00010000

Definition at line 271 of file ieee80211_var.h.

Referenced by ieee80211_media_init().

#### 7.25.1.18 #define IEEE80211_C_PMGT 0x00000200

Definition at line 264 of file ieee80211_var.h.

Referenced by ieee80211_cfgset(), and ieee80211_ioctl_set80211().

#### 7.25.1.19 #define IEEE80211_C_SHPREAMBLE 0x00008000

Definition at line 270 of file ieee80211_var.h.

Referenced by ieee80211_node_leave_11g(), and ieee80211_reset_erp().

#### 7.25.1.20 #define IEEE80211_C_SHSLOT 0x00004000

Definition at line 269 of file ieee80211_var.h.

Referenced by ieee80211_node_leave_11g(), ieee80211_reset_erp(), and ieee80211_send_mgmt().

#### 7.25.1.21 #define IEEE80211_C_SWRETRY 0x00001000

Definition at line 267 of file ieee80211_var.h.

#### 7.25.1.22 #define IEEE80211_C_TKIP 0x00000002

Definition at line 257 of file ieee80211_var.h.

Referenced by cap2cipher(), and cipher2cap().

#### 7.25.1.23 #define IEEE80211_C_TKIPMIC 0x00020000

Definition at line 272 of file ieee80211_var.h.

Referenced by ieee80211_crypto_newkey().

#### 7.25.1.24 #define IEEE80211_C_TURBOP 0x00000080

Definition at line 262 of file ieee80211_var.h.

#### 7.25.1.25 #define IEEE80211_C_TXFRAG 0x40000000

Definition at line 281 of file ieee80211_var.h.

Referenced by ieee80211_ioctl_set80211().

#### 7.25.1.26 #define IEEE80211_C_TXPMGT 0x00002000

Definition at line 268 of file ieee80211_var.h.

Referenced by ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.25.1.27 #define IEEE80211_C_WDS 0x08000000

Definition at line 278 of file ieee80211_var.h.

#### 7.25.1.28 #define IEEE80211_C_WEP 0x00000001

Definition at line 256 of file ieee80211_var.h.

Referenced by cap2cipher(), cipher2cap(), and ieee80211_cfgset().

#### 7.25.1.29 #define IEEE80211_C_WME 0x04000000

Definition at line 277 of file ieee80211_var.h.

Referenced by ieee80211_beacon_alloc(), ieee80211_ifattach(), ieee80211_ioctl_getwmeparam(), ieee80211_ioctl_set80211(), ieee80211_ioctl_setwmeparam(), ieee80211_wme_initparams(), and ieee80211_wme_updateparams().

#### 7.25.1.30 #define IEEE80211_C_WPA 0x01800000

Definition at line 275 of file ieee80211_var.h.

Referenced by ieee80211_beacon_alloc().

#### 7.25.1.31 #define IEEE80211_C_WPA1 0x00800000

Definition at line 273 of file ieee80211_var.h.

#### 7.25.1.32 #define IEEE80211_C_WPA2 0x01000000

Definition at line 274 of file ieee80211_var.h.

#### 7.25.1.33 #define IEEE80211_DEBUG

Definition at line 40 of file ieee80211_var.h.

#### 7.25.1.34 #define IEEE80211_DPRINTF(_ic, _m, _fmt)

**Value:**

```
do {                    \
        if (ieee80211_msg(_ic, _m))                                     \
                ieee80211_note(_ic, _fmt, __VA_ARGS__);         \
} while (0)
```

Definition at line 385 of file ieee80211_var.h.

Referenced by _ieee80211_crypto_delkey(), _ieee80211_find_node(), _ieee80211_free_node(), acl_add(), acl_free_all(), acl_remove(), acl_setpolicy(), alloc_challenge(), ccmp_decap(), ccmp_decrypt(), ccmp_setkey(), ieee80211_add_neighbor(), ieee80211_amrr_choose(), ieee80211_auth_open(), ieee80211_auth_shared(), ieee80211_beacon_alloc(), ieee80211_beacon_miss(), ieee80211_beacon_update(), ieee80211_begin_scan(), ieee80211_cancel_scan(), ieee80211_create_ibss(), ieee80211_crypto_decap(), ieee80211_crypto_encap(), ieee80211_crypto_newkey(), ieee80211_crypto_setkey(), ieee80211_encap(), ieee80211_fakeup_adhoc_node(), ieee80211_find_node_with_channel(), ieee80211_find_node_with_ssid(), ieee80211_find_rxnode_withkey(), ieee80211_find_txnode(), ieee80211_free_allnodes_locked(), ieee80211_free_node(), ieee80211_ibss_merge(), ieee80211_init_neighbor(),

ieee80211_mbuf_adjust(), ieee80211_mgmt_output(), ieee80211_newstate(), ieee80211_next_scan(), ieee80211_node_delucastkey(), ieee80211_node_join_11g(), ieee80211_node_leave(), ieee80211_node_-leave_11g(), ieee80211_node_pwrsave(), ieee80211_node_table_cleanup(), ieee80211_node_table_init(), ieee80211_node_table_reset(), ieee80211_notify_michael_failure(), ieee80211_notify_replay_failure(), ieee80211_notify_scan_done(), ieee80211_pwrsave(), ieee80211_recv_mgmt(), ieee80211_recv_-pspoll(), ieee80211_send_mgmt(), ieee80211_send_nulldata(), ieee80211_send_probereq(), ieee80211_-setmode(), ieee80211_setup_node(), ieee80211_setup_rates(), ieee80211_timeout_scan_candidates(), ieee80211_timeout_stations(), ieee80211_tmp_node(), ieee80211_wme_initparams(), ieee80211_wme_-updateparams_locked(), node_cleanup(), node_reclaim(), none_decap(), none_encap(), tkip_decap(), tkip_decrypt(), tkip_encap(), tkip_setkey(), wep_decap(), wep_decrypt(), and wep_encrypt().

#### 7.25.1.35 #define IEEE80211_DTIM_DEFAULT 1

Definition at line 64 of file ieee80211_var.h.

Referenced by ieee80211_ifattach().

#### 7.25.1.36 #define IEEE80211_F_ASCAN 0x00000100

Definition at line 222 of file ieee80211_var.h.

Referenced by ieee80211_begin_scan(), ieee80211_cancel_scan(), ieee80211_cfgget(), and ieee80211_-newstate().

#### 7.25.1.37 #define IEEE80211_F_BGSCAN 0x00004000

Definition at line 229 of file ieee80211_var.h.

#### 7.25.1.38 #define IEEE80211_F_BURST 0x00000004

Definition at line 217 of file ieee80211_var.h.

Referenced by ieee80211_ifattach(), ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), and ieee80211_wme_updateparams_locked().

#### 7.25.1.39 #define IEEE80211_F_COUNTERM 0x04000000

Definition at line 242 of file ieee80211_var.h.

Referenced by ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), ieee80211_recv_mgmt(), tkip_-decap(), and tkip_encap().

#### 7.25.1.40 #define IEEE80211_F_DATAPAD 0x00080000

Definition at line 234 of file ieee80211_var.h.

Referenced by ieee80211_anyhdrspace(), ieee80211_encap(), and ieee80211_hdrspace().

#### 7.25.1.41 #define IEEE80211_F_DESBSSID 0x00001000

Definition at line 227 of file ieee80211_var.h.

Referenced by ieee80211_create_ibss(), ieee80211_ioctl_set80211(), and ieee80211_match_bss().

#### 7.25.1.42 #define IEEE80211_F_DROPUNENC 0x02000000

Definition at line 241 of file ieee80211_var.h.

Referenced by ieee80211_input(), ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.25.1.43 #define IEEE80211_F_FF 0x00000001

Definition at line 215 of file ieee80211_var.h.

#### 7.25.1.44 #define IEEE80211_F_HIDESSID 0x08000000

Definition at line 243 of file ieee80211_var.h.

Referenced by ieee80211_beacon_alloc(), ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), and ieee80211_recv_mgmt().

#### 7.25.1.45 #define IEEE80211_F_IBSSON 0x00020000

Definition at line 232 of file ieee80211_var.h.

Referenced by ieee80211_cfgget(), and ieee80211_cfgset().

#### 7.25.1.46 #define IEEE80211_F_NOBRIDGE 0x10000000

Definition at line 244 of file ieee80211_var.h.

Referenced by ieee80211_deliver_data(), ieee80211_ioctl_get80211(), and ieee80211_ioctl_set80211().

#### 7.25.1.47 #define IEEE80211_F_PMGTON 0x00000800

Definition at line 226 of file ieee80211_var.h.

Referenced by ieee80211_cfgget(), ieee80211_cfgset(), ieee80211_ioctl_get80211(), and ieee80211_-ioctl_set80211().

#### 7.25.1.48 #define IEEE80211_F_PRIVACY 0x00000010

Definition at line 219 of file ieee80211_var.h.

Referenced by getcapinfo(), ieee80211_auth_shared(), ieee80211_cfgget(), ieee80211_cfgset(), ieee80211_create_ibss(), ieee80211_encap(), ieee80211_input(), ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), ieee80211_match_bss(), and ieee80211_send_mgmt().

#### 7.25.1.49 #define IEEE80211_F_PUREG 0x00000020

Definition at line 220 of file ieee80211_var.h.

Referenced by ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), and ieee80211_recv_mgmt().

#### 7.25.1.50 #define IEEE80211_F_SCAN 0x00000080

Definition at line 221 of file ieee80211_var.h.

Referenced by ieee80211_beacon_miss(), ieee80211_begin_scan(), ieee80211_cancel_scan(), ieee80211_cfgget(), ieee80211_input(), ieee80211_ioctl_set80211(), and ieee80211_recv_mgmt().

#### 7.25.1.51 #define IEEE80211_F_SHPREAMBLE 0x00040000

Definition at line 233 of file ieee80211_var.h.

Referenced by getcapinfo(), ieee80211_ibss_merge(), ieee80211_node_join_11g(), ieee80211_node_leave_11g(), ieee80211_recv_mgmt(), ieee80211_reset_erp(), and ieee80211_send_mgmt().

#### 7.25.1.52 #define IEEE80211_F_SHSLOT 0x00000400

Definition at line 225 of file ieee80211_var.h.

Referenced by getcapinfo(), ieee80211_ibss_merge(), ieee80211_recv_mgmt(), and ieee80211_set_shortslottime().

#### 7.25.1.53 #define IEEE80211_F_SIBSS 0x00000200

Definition at line 223 of file ieee80211_var.h.

Referenced by ieee80211_cfgset(), ieee80211_create_ibss(), and ieee80211_newstate().

#### 7.25.1.54 #define IEEE80211_F_SWRETRY 0x00008000

Definition at line 230 of file ieee80211_var.h.

#### 7.25.1.55 #define IEEE80211_F_TIMUPDATE 0x00400000

Definition at line 237 of file ieee80211_var.h.

Referenced by ieee80211_beacon_update(), and ieee80211_set_tim().

#### 7.25.1.56 #define IEEE80211_F_TURBOP 0x00000002

Definition at line 216 of file ieee80211_var.h.

#### 7.25.1.57 #define IEEE80211_F_TXPOW_FIXED 0x00010000

Definition at line 231 of file ieee80211_var.h.

#### 7.25.1.58 #define IEEE80211_F_USEBARKER 0x00200000

Definition at line 236 of file ieee80211_var.h.

Referenced by ieee80211_add_erp(), ieee80211_node_join_11g(), ieee80211_node_leave_11g(), ieee80211_recv_mgmt(), and ieee80211_reset_erp().

#### 7.25.1.59 #define IEEE80211_F_USEPROT 0x00100000

Definition at line 235 of file ieee80211_var.h.

Referenced by ieee80211_add_erp(), ieee80211_ibss_merge(), ieee80211_node_join_11g(), ieee80211_-node_leave_11g(), ieee80211_recv_mgmt(), and ieee80211_reset_erp().

#### 7.25.1.60 #define IEEE80211_F_WME 0x00002000

Definition at line 228 of file ieee80211_var.h.

Referenced by ieee80211_beacon_alloc(), ieee80211_beacon_update(), ieee80211_fakeup_adhoc_node(), ieee80211_ifattach(), ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), ieee80211_send_mgmt(), and ieee80211_wme_updateparams_locked().

#### 7.25.1.61 #define IEEE80211_F_WMEUPDATE 0x20000000

Definition at line 245 of file ieee80211_var.h.

Referenced by ieee80211_beacon_alloc(), and ieee80211_beacon_update().

#### 7.25.1.62 #define IEEE80211_F_WPA 0x01800000

Definition at line 240 of file ieee80211_var.h.

Referenced by ieee80211_add_wpa(), ieee80211_beacon_alloc(), ieee80211_encap(), ieee80211_-ioctl_get80211(), ieee80211_ioctl_set80211(), ieee80211_newstate(), ieee80211_recv_mgmt(), and ieee80211_send_mgmt().

#### 7.25.1.63 #define IEEE80211_F_WPA1 0x00800000

Definition at line 238 of file ieee80211_var.h.

Referenced by ieee80211_add_wpa(), ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), and ieee80211_parse_wpa().

#### 7.25.1.64 #define IEEE80211_F_WPA2 0x01000000

Definition at line 239 of file ieee80211_var.h.

Referenced by ieee80211_add_wpa(), ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), and ieee80211_parse_rsn().

#### 7.25.1.65 #define IEEE80211_FEXT_BGSCAN 0x00000008

Definition at line 250 of file ieee80211_var.h.

#### 7.25.1.66 #define IEEE80211_FEXT_ERPUPDATE 0x00000200

Definition at line 251 of file ieee80211_var.h.

Referenced by ieee80211_beacon_update(), ieee80211_node_join_11g(), and ieee80211_node_leave_-11g().

#### 7.25.1.67 #define IEEE80211_FEXT_PROBECHAN 0x00020000

Definition at line 253 of file ieee80211_var.h.

Referenced by ieee80211_cancel_scan(), ieee80211_next_scan(), ieee80211_probe_curchan(), and ieee80211_recv_mgmt().

#### 7.25.1.68 #define IEEE80211_FEXT_SWBMISS 0x00000400

Definition at line 252 of file ieee80211_var.h.

Referenced by ieee80211_newstate().

#### 7.25.1.69 #define IEEE80211_FEXT_WDS 0x00000001

Definition at line 248 of file ieee80211_var.h.

#### 7.25.1.70 #define IEEE80211_FIXED_RATE_NONE -1

Definition at line 73 of file ieee80211_var.h.

Referenced by ieee80211_cfgget(), ieee80211_cfgset(), ieee80211_fix_rate(), ieee80211_media_status(), and ieee80211_proto_attach().

#### 7.25.1.71 #define IEEE80211_FRAG_DEFAULT IEEE80211_FRAG_MAX

Definition at line 77 of file ieee80211_var.h.

Referenced by ieee80211_proto_attach().

#### 7.25.1.72 #define IEEE80211_HWBMISS_DEFAULT 7

Definition at line 68 of file ieee80211_var.h.

Referenced by ieee80211_ifattach().

#### 7.25.1.73 #define IEEE80211_MCAST_RATE_DEFAULT (2∗1)

Definition at line 74 of file ieee80211_var.h.

Referenced by ieee80211_proto_attach().

#### 7.25.1.74 #define IEEE80211_MS_TO_TU(x) (((x) ∗ 1024) / 1000)

Definition at line 79 of file ieee80211_var.h.

#### 7.25.1.75 #define ieee80211_msg(_ic, _m) ((_ic) → ic_debug & (_m))

Definition at line 384 of file ieee80211_var.h.

#### 7.25.1.76 #define IEEE80211_MSG_ACL 0x00000800

Definition at line 373 of file ieee80211_var.h.

Referenced by acl_add(), acl_free_all(), acl_remove(), acl_setpolicy(), and ieee80211_recv_mgmt().

#### 7.25.1.77 #define IEEE80211_MSG_ANY 0xffffffff

Definition at line 381 of file ieee80211_var.h.

Referenced by ieee80211_beacon_alloc(), ieee80211_crypto_decap(), ieee80211_input(), ieee80211_-newstate(), ieee80211_pwrsave(), ieee80211_recv_mgmt(), ieee80211_send_mgmt(), and ieee80211_-setmode().

#### 7.25.1.78 #define ieee80211_msg_assoc(_ic) ((_ic) → ic_debug & IEEE80211_MSG_ASSOC)

Definition at line 420 of file ieee80211_var.h.

#### 7.25.1.79 #define IEEE80211_MSG_ASSOC 0x00800000

Definition at line 361 of file ieee80211_var.h.

Referenced by ieee80211_deliver_l2uf(), ieee80211_ibss_merge(), ieee80211_node_join_11g(), ieee80211_node_leave(), ieee80211_node_leave_11g(), ieee80211_recv_mgmt(), and ieee80211_-send_mgmt().

#### 7.25.1.80 #define IEEE80211_MSG_AUTH 0x00400000

Definition at line 362 of file ieee80211_var.h.

Referenced by alloc_challenge(), ieee80211_auth_open(), ieee80211_auth_shared(), ieee80211_mgmt_-output(), ieee80211_recv_mgmt(), and ieee80211_send_mgmt().

#### 7.25.1.81 #define IEEE80211_MSG_CRYPTO 0x10000000

Definition at line 356 of file ieee80211_var.h.

Referenced by _ieee80211_crypto_delkey(), ccmp_decap(), ccmp_decrypt(), ccmp_setkey(), ieee80211_-crypto_decap(), ieee80211_crypto_encap(), ieee80211_crypto_newkey(), ieee80211_crypto_setkey(), ieee80211_encap(), ieee80211_notify_michael_failure(), ieee80211_notify_replay_failure(), ieee80211_-recv_mgmt(), none_decap(), none_encap(), tkip_decap(), tkip_decrypt(), tkip_encap(), tkip_setkey(), wep_decap(), wep_decrypt(), and wep_encrypt().

#### 7.25.1.82 #define ieee80211_msg_debug(_ic) ((_ic) → ic_debug & IEEE80211_MSG_DEBUG)

Definition at line 406 of file ieee80211_var.h.

Referenced by ieee80211_input(), ieee80211_mgmt_output(), and ieee80211_newstate().

#### 7.25.1.83 #define IEEE80211_MSG_DEBUG 0x40000000

Definition at line 354 of file ieee80211_var.h.

Referenced by alloc_challenge(), ieee80211_auth_open(), ieee80211_auth_shared(), ieee80211_beacon_-miss(), ieee80211_node_leave(), ieee80211_recv_pspoll(), ieee80211_send_nulldata(), and ieee80211_-send_probereq().

#### 7.25.1.84 #define IEEE80211_MSG_DOT1X 0x00020000

Definition at line 367 of file ieee80211_var.h.

#### 7.25.1.85 #define IEEE80211_MSG_DOT1XSM 0x00010000

Definition at line 368 of file ieee80211_var.h.

#### 7.25.1.86 #define IEEE80211_MSG_DOTH 0x00000100

Definition at line 376 of file ieee80211_var.h.

#### 7.25.1.87 #define ieee80211_msg_dumppkts(_ic) ((_ic) → ic_debug & IEEE80211_MSG_DUMPPKTS)

Definition at line 408 of file ieee80211_var.h.

Referenced by ieee80211_input(), ieee80211_mgmt_output(), and ieee80211_pwrsave().

#### 7.25.1.88 #define IEEE80211_MSG_DUMPPKTS 0x20000000

Definition at line 355 of file ieee80211_var.h.

Referenced by ieee80211_send_nulldata(), and ieee80211_send_probereq().

#### 7.25.1.89 #define ieee80211_msg_dumpradius(_ic) ((_ic) → ic_debug & IEEE80211_MSG_RADDUMP)

Definition at line 414 of file ieee80211_var.h.

#### 7.25.1.90 #define ieee80211_msg_dumpradkeys(_ic) ((_ic) → ic_debug & IEEE80211_MSG_RADKEYS)

Definition at line 416 of file ieee80211_var.h.

#### 7.25.1.91 #define IEEE80211_MSG_ELEMID 0x02000000

Definition at line 359 of file ieee80211_var.h.

Referenced by ieee80211_parse_rsn(), ieee80211_parse_wmeparams(), ieee80211_parse_wpa(), and ieee80211_recv_mgmt().

#### 7.25.1.92 #define IEEE80211_MSG_INACT 0x00000080

Definition at line 377 of file ieee80211_var.h.

Referenced by ieee80211_timeout_stations().

#### 7.25.1.93 #define ieee80211_msg_input(_ic) ((_ic) → ic_debug & IEEE80211_MSG_INPUT)

Definition at line 410 of file ieee80211_var.h.

#### 7.25.1.94 #define IEEE80211_MSG_INPUT 0x08000000

Definition at line 357 of file ieee80211_var.h.

Referenced by ieee80211_input(), and ieee80211_recv_mgmt().

#### 7.25.1.95 #define IEEE80211_MSG_NODE 0x01000000

Definition at line 360 of file ieee80211_var.h.

Referenced by _ieee80211_find_node(), _ieee80211_free_node(), ieee80211_add_neighbor(), ieee80211_fakeup_adhoc_node(), ieee80211_find_node_with_channel(), ieee80211_find_node_-with_ssid(), ieee80211_find_rxnode_withkey(), ieee80211_free_allnodes_locked(), ieee80211_free_-node(), ieee80211_init_neighbor(), ieee80211_node_delucastkey(), ieee80211_node_table_cleanup(), ieee80211_node_table_init(), ieee80211_node_table_reset(), ieee80211_send_mgmt(), ieee80211_-send_probereq(), ieee80211_setup_node(), ieee80211_timeout_scan_candidates(), ieee80211_timeout_-stations(), ieee80211_tmp_node(), and node_reclaim().

#### 7.25.1.96 #define IEEE80211_MSG_OUTPUT 0x00100000

Definition at line 364 of file ieee80211_var.h.

Referenced by ieee80211_encap(), ieee80211_find_txnode(), and ieee80211_mbuf_adjust().

#### 7.25.1.97 #define IEEE80211_MSG_POWER 0x00040000

Definition at line 366 of file ieee80211_var.h.

Referenced by ieee80211_beacon_update(), ieee80211_node_pwrsave(), ieee80211_pwrsave(), ieee80211_recv_pspoll(), ieee80211_timeout_stations(), and node_cleanup().

#### 7.25.1.98 #define IEEE80211_MSG_RADDUMP 0x00004000

Definition at line 370 of file ieee80211_var.h.

#### 7.25.1.99 #define ieee80211_msg_radius(_ic) ((_ic) → ic_debug & IEEE80211_MSG_RADIUS)

Definition at line 412 of file ieee80211_var.h.

#### 7.25.1.100 #define IEEE80211_MSG_RADIUS 0x00008000

Definition at line 369 of file ieee80211_var.h.

#### 7.25.1.101 #define IEEE80211_MSG_RADKEYS 0x00002000

Definition at line 371 of file ieee80211_var.h.

#### 7.25.1.102 #define IEEE80211_MSG_RATECTL 0x00000020

Definition at line 379 of file ieee80211_var.h.

Referenced by ieee80211_amrr_choose().

#### 7.25.1.103 #define IEEE80211_MSG_ROAM 0x00000040

Definition at line 378 of file ieee80211_var.h.

#### 7.25.1.104 #define ieee80211_msg_scan(_ic) ((_ic) → ic_debug & IEEE80211_MSG_SCAN)

Definition at line 418 of file ieee80211_var.h.

Referenced by ieee80211_add_scan(), ieee80211_match_bss(), and ieee80211_reset_scan().

#### 7.25.1.105 #define IEEE80211_MSG_SCAN 0x00200000

Definition at line 363 of file ieee80211_var.h.

Referenced by ieee80211_begin_scan(), ieee80211_cancel_scan(), ieee80211_create_ibss(), ieee80211_-next_scan(), and ieee80211_notify_scan_done().

#### 7.25.1.106 #define IEEE80211_MSG_STATE 0x00080000

Definition at line 365 of file ieee80211_var.h.

Referenced by ieee80211_beacon_miss(), and ieee80211_newstate().

#### 7.25.1.107 #define IEEE80211_MSG_SUPERG 0x00000200

Definition at line 375 of file ieee80211_var.h.

#### 7.25.1.108 #define IEEE80211_MSG_WME 0x00000400

Definition at line 374 of file ieee80211_var.h.

Referenced by ieee80211_beacon_update(), ieee80211_parse_wmeparams(), ieee80211_wme_-initparams(), and ieee80211_wme_updateparams_locked().

#### 7.25.1.109 #define IEEE80211_MSG_WPA 0x00001000

Definition at line 372 of file ieee80211_var.h.

Referenced by ieee80211_parse_rsn(), ieee80211_parse_wpa(), and ieee80211_recv_mgmt().

#### 7.25.1.110 #define IEEE80211_MSG_XRATE 0x04000000

Definition at line 358 of file ieee80211_var.h.

Referenced by ieee80211_recv_mgmt(), and ieee80211_setup_rates().

#### 7.25.1.111 #define IEEE80211_NOTE(_ic, _m, _ni, _fmt)

**Value:**

```
do {                    \
        if (ieee80211_msg(_ic, _m))                                     \
                ieee80211_note_mac(_ic, (_ni)->ni_macaddr, _fmt, __VA_ARGS__);\
} while (0)
```

Definition at line 389 of file ieee80211_var.h.

Referenced by ieee80211_deliver_l2uf(), and ieee80211_timeout_stations().

#### 7.25.1.112 #define IEEE80211_NOTE_FRAME(_ic, _m, _wh, _fmt)

**Value:**

```
do {            \
        if (ieee80211_msg(_ic, _m))                                     \
                ieee80211_note_frame(_ic, _wh, _fmt, __VA_ARGS__);      \
} while (0)
```

Definition at line 397 of file ieee80211_var.h.

#### 7.25.1.113 #define IEEE80211_NOTE_MAC(_ic, _m, _mac, _fmt)

**Value:**

```
do {            \
        if (ieee80211_msg(_ic, _m))                                     \
                ieee80211_note_mac(_ic, _mac, _fmt, __VA_ARGS__);       \
} while (0)
```

Definition at line 393 of file ieee80211_var.h.

#### 7.25.1.114 #define IEEE80211_PS_MAX_QUEUE 50

Definition at line 71 of file ieee80211_var.h.

Referenced by ieee80211_pwrsave().

#### 7.25.1.115 #define IEEE80211_PS_SLEEP 0x1

Definition at line 70 of file ieee80211_var.h.

#### 7.25.1.116 #define IEEE80211_RTS_DEFAULT IEEE80211_RTS_MAX

Definition at line 76 of file ieee80211_var.h.

Referenced by ieee80211_proto_attach().

#### 7.25.1.117 #define IEEE80211_TU_TO_MS(x) (((x) * 1000) / 1024)

Definition at line 80 of file ieee80211_var.h.

#### 7.25.1.118 #define IEEE80211_TU_TO_TICKS(x) (((x) * hz) / 1024)

Definition at line 81 of file ieee80211_var.h.

Referenced by ieee80211_newstate().

#### 7.25.1.119 #define IEEE80211_TXPOWER_MAX 100

Definition at line 61 of file ieee80211_var.h.

Referenced by ieee80211_ifattach(), and ieee80211_ioctl_set80211().

#### 7.25.1.120 #define IEEE80211_TXPOWER_MIN 0

Definition at line 62 of file ieee80211_var.h.

### 7.25.2 Function Documentation

#### 7.25.2.1 void ieee80211_announce (struct ieee80211com *)

Definition at line 531 of file ieee80211.c.

References ieee80211com::ic_ifp, ieee80211com::ic_modecaps, ieee80211com::ic_sup_rates, IEEE80211_MODE_11A, IEEE80211_MODE_MAX, ieee80211_phymode_name, ieee80211_rate2media(), IEEE80211_RATE_VAL, ieee80211_rateset::rs_nrates, and ieee80211_rateset::rs_rates.

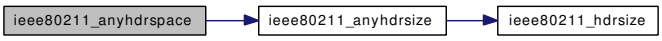
Here is the call graph for this function:


#### 7.25.2.2 static __inline int ieee80211_anyhdrspace (struct ieee80211com * *ic*, const void * *data*) [static]

Definition at line 346 of file ieee80211_var.h.

References ieee80211com::ic_flags, ieee80211_anyhdrsize(), and IEEE80211_F_DATAPAD.

Here is the call graph for this function:



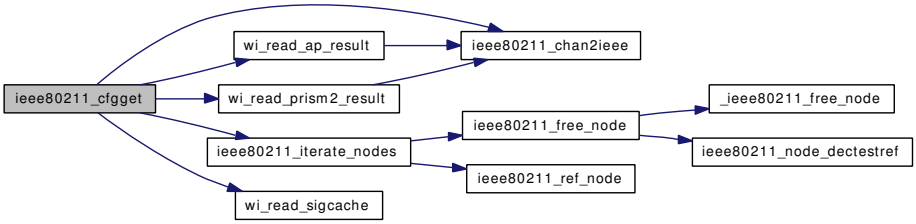

#### 7.25.2.3 int ieee80211_cfgget (struct ieee80211com *, u_long, caddr_t)

Definition at line 190 of file ieee80211_ioctl.c.

References wi_read_ap_args::ap, wi_read_sigcache_args::i, wi_read_prism2_args::i, wi_read_ap_args::i, ieee80211com::ic_bss, ieee80211com::ic_chan_active, ieee80211com::ic_curchan, ieee80211com::ic_curmode, ieee80211com::ic_des_essid, ieee80211com::ic_des_esslen, ieee80211com::ic_fixed_rate, ieee80211com::ic_flags, ieee80211com::ic_fragthreshold, ieee80211com::ic_ibss_chan, ieee80211com::ic_ifp, ieee80211com::ic_lintval, ieee80211com::ic_myaddr, ieee80211com::ic_node_getrssi, ieee80211com::ic_opmode, ieee80211com::ic_phytype, ieee80211com::ic_roaming, ieee80211com::ic_rtsthreshold, ieee80211com::ic_scan, ieee80211com::ic_state, ieee80211com::ic_sup_rates, IEEE80211_ADDR_COPY, IEEE80211_ADDR_LEN, ieee80211_chan2ieee(), IEEE80211_CHAN_MAX, IEEE80211_F_ASCAN, IEEE80211_F_IBSSON, IEEE80211_F_PMGTON, IEEE80211_F_PRIVACY, IEEE80211_F_SCAN, IEEE80211_FIXED_RATE_NONE, ieee80211_iterate_nodes(), IEEE80211_RATE_VAL, IEEE80211_S_RUN, IEEE80211_T_DS, IEEE80211_WEP_NKID, wi_read_sigcache_args::max, wi_read_prism2_args::max, wi_read_ap_args::max, ieee80211_node::ni_bssid, ieee80211_node::ni_essid, ieee80211_node::ni_esslen, ieee80211_node::ni_intval, ieee80211_node::ni_rates, ieee80211_node::ni_txrate, wi_read_prism2_args::res, ieee80211_rateset::rs_rates, wi_read_ap_result(), wi_read_prism2_result(), wi_read_sigcache(), and wi_read_sigcache_args::wsc.

Referenced by ieee80211_ioctl().

Here is the call graph for this function:




#### 7.25.2.4 int ieee80211_cfgset (struct ieee80211com *, u_long, caddr_t)

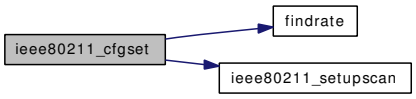
Definition at line 477 of file ieee80211_ioctl.c.

References findrate(), ieee80211com::ic_bss, ieee80211com::ic_caps, ieee80211com::ic_chan_active, ieee80211com::ic_chan_avail, ieee80211com::ic_channels, ieee80211com::ic_curmode, ieee80211com::ic_des_essid, ieee80211com::ic_des_esslen, ieee80211com::ic_fixed_rate, ieee80211com::ic_flags, ieee80211com::ic_fragthreshold, ieee80211com::ic_ibss_chan, ieee80211com::ic_ifp, ieee80211com::ic_lintval, ieee80211com::ic_modecaps, ieee80211com::ic_opmode, ieee80211com::ic_phytype, ieee80211com::ic_reset, ieee80211com::ic_roaming,

ieee80211com::ic_state, IEEE80211_ADDR_COPY, IEEE80211_ADDR_LEN, IEEE80211_AUTH_-WPA, IEEE80211_C_AHDEMO, IEEE80211_C_HOSTAP, IEEE80211_C_IBSS, IEEE80211_C_PMGT, IEEE80211_C_WEP, IEEE80211_CHAN_MAX, IEEE80211_CIPHER_WEP, IEEE80211_F_IBSSON, IEEE80211_F_PMGTON, IEEE80211_F_PRIVACY, IEEE80211_F_SIBSS, IEEE80211_FIXED_-RATE_NONE, IEEE80211_KEY_RECV, IEEE80211_KEY_XMIT, IEEE80211_KEYBUF_SIZE, IEEE80211_M_AHDEMO, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_M_-MONITOR, IEEE80211_M_STA, IEEE80211_MAX_LEN, IEEE80211_MODE_11A, IEEE80211_-MODE_AUTO, IEEE80211_MODE_MAX, ieee80211_new_state, IEEE80211_NWID_LEN, IEEE80211_ROAMING_MANUAL, IEEE80211_S_SCAN, ieee80211_setupscan(), IEEE80211_-T_DS, IEEE80211_WEP_KEYLEN, IEEE80211_WEP_NKID, IS_UP, IS_UP_AUTO, and ieee80211_-node::ni_authmode.

Referenced by ieee80211_ioctl().

Here is the call graph for this function:




#### 7.25.2.5 int ieee80211_chan2ieee (struct ieee80211com *, const struct ieee80211_channel *)

Definition at line 348 of file ieee80211.c.

References ieee80211com::ic_channels, ieee80211_channel::ic_flags, ieee80211_channel::ic_freq, ieee80211com::ic_ifp, IEEE80211_CHAN_ANY, IEEE80211_CHAN_ANYC, and IEEE80211_-CHAN_MAX.

Referenced by ieee80211_beacon_alloc(), ieee80211_cfgget(), ieee80211_chan_init(), ieee80211_-end_scan(), ieee80211_ioctl_get80211(), ieee80211_ioctl_setchanlist(), ieee80211_match_bss(), ieee80211_mgmt_output(), ieee80211_newstate(), ieee80211_next_scan(), ieee80211_recv_mgmt(), ieee80211_reset_scan(), ieee80211_send_mgmt(), ieee80211_send_nulldata(), ieee80211_send_-probereq(), ieee80211_setmode(), wi_read_ap_result(), and wi_read_prism2_result().

#### 7.25.2.6 enum ieee80211_phymode ieee80211_chan2mode (struct ieee80211com *, const struct ieee80211_channel *)

Definition at line 1002 of file ieee80211.c.

References ieee80211com::ic_curmode, ieee80211_channel::ic_flags, IEEE80211_CHAN_-DYN, IEEE80211_CHAN_OFDM, IEEE80211_IS_CHAN_5GHZ, IEEE80211_IS_CHAN_FHSS, IEEE80211_IS_CHAN_T, IEEE80211_MODE_11A, IEEE80211_MODE_11B, IEEE80211_MODE_-11G, IEEE80211_MODE_FH, IEEE80211_MODE_TURBO_A, and IEEE80211_MODE_TURBO_G.

Referenced by ieee80211_create_ibss(), ieee80211_get_suprates(), and ieee80211_sta_join().

#### 7.25.2.7 struct ieee80211com* ieee80211_find_vap (const u_int8_t *mac*[IEEE80211_ADDR_LEN])

Definition at line 572 of file ieee80211.c.

References ieee80211com::ic_myaddr, IEEE80211_ADDR_EQ, ieee80211_list, and mac.

#### 7.25.2.8 struct ieee80211_rateset* ieee80211_get_suprates (struct ieee80211com *, const struct ieee80211_channel *)

Definition at line 519 of file ieee80211.c.

References ieee80211com::ic_sup_rates, ieee80211_chan2mode(), IEEE80211_IS_CHAN_HALF, IEEE80211_IS_CHAN_QUARTER, ieee80211_rateset_half, and ieee80211_rateset_quarter.

Referenced by ieee80211_fix_rate(), ieee80211_media_status(), ieee80211_next_scan(), ieee80211_send_probereq(), and ieee80211_set_chan().

Here is the call graph for this function:


#### 7.25.2.9 static __inline int ieee80211_hdrspace (struct ieee80211com * *ic*, const void * *data*) [static]

Definition at line 334 of file ieee80211_var.h.

References ieee80211com::ic_flags, IEEE80211_F_DATAPAD, and ieee80211_hdrsize().

Referenced by ccmp_encap(), ieee80211_input(), tkip_demic(), tkip_encap(), tkip_enmic(), and wep_encap().

Here is the call graph for this function:


#### 7.25.2.10 u_int ieee80211_ieee2mhz (u_int, u_int)

Definition at line 368 of file ieee80211.c.

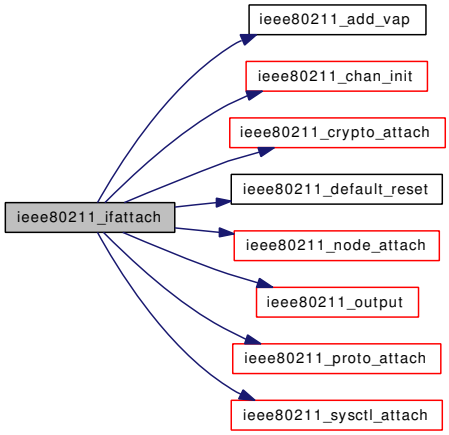
References IEEE80211_CHAN_2GHZ, IEEE80211_CHAN_5GHZ, IEEE80211_CHAN_GSM, IEEE80211_CHAN_HALF, and IEEE80211_CHAN_QUARTER.

#### 7.25.2.11 void ieee80211_ifattach (struct ieee80211com *)

Definition at line 207 of file ieee80211.c.

References ieee80211com::ic_bintval, ieee80211com::ic_bmissthreshold, ieee80211com::ic_caps, ieee80211com::ic_des_chan, ieee80211com::ic_dtim_period, ieee80211com::ic_flags, ieee80211com::ic_ifp, ieee80211com::ic_lintval, ieee80211com::ic_myaddr, ieee80211com::ic_rawbpf, ieee80211com::ic_reset, ieee80211com::ic_txpowlimit, ieee80211_add_vap(), IEEE80211_BEACON_LOCK_INIT, IEEE80211_BINTVAL_DEFAULT, IEEE80211_C_BURST, IEEE80211_C_WME, IEEE80211_CHAN_ANYC, ieee80211_chan_init(), ieee80211_crypto_attach(), ieee80211_default_reset(), IEEE80211_DTIM_DEFAULT, IEEE80211_F_BURST, IEEE80211_F_WME, IEEE80211_HWBMISS_DEFAULT, ieee80211_node_attach(), ieee80211_output(), ieee80211_proto_attach(), ieee80211_sysctl_attach(), and IEEE80211_TXPOWER_MAX.

Here is the call graph for this function:

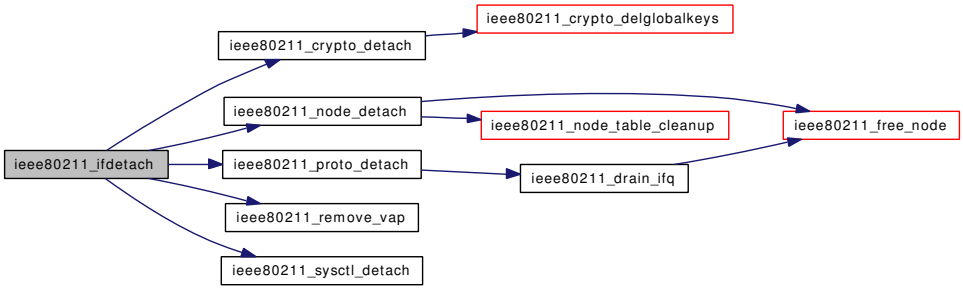



#### 7.25.2.12 void ieee80211_ifdetach (struct ieee80211com *)

Definition at line 263 of file ieee80211.c.

References ieee80211com::ic_ifp, ieee80211com::ic_media, IEEE80211_BEACON_LOCK_DESTROY, ieee80211_crypto_detach(), ieee80211_node_detach(), ieee80211_proto_detach(), ieee80211_remove_vap(), and ieee80211_sysctl_detach().

Here is the call graph for this function:

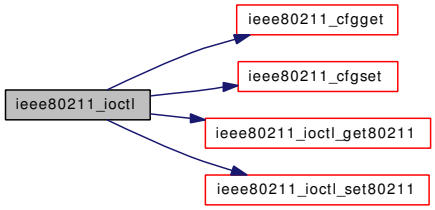



#### 7.25.2.13 int ieee80211_ioctl (struct ieee80211com *, u_long, caddr_t)

Definition at line 2678 of file ieee80211_ioctl.c.

References ieee80211com::ic_ifp, ieee80211com::ic_media, ieee80211com::ic_stats, ieee80211_cfgget(), ieee80211_cfgset(), ieee80211_ioctl_get80211(), ieee80211_ioctl_set80211(), IEEE80211_MTU_MAX, SIOCG80211, SIOCG80211STATS, and SIOCS80211.

Here is the call graph for this function:




#### 7.25.2.14 static __inline void ieee80211_key_update_begin (struct ieee80211com * *ic*) [static]

Definition at line 314 of file ieee80211_var.h.

References ieee80211_crypto_state::cs_key_update_begin, and ieee80211com::ic_crypto.

Referenced by ieee80211_crypto_delglobalkeys(), ieee80211_crypto_delkey(), ieee80211_ioctl_-set80211(), and ieee80211_ioctl_setkey().

#### 7.25.2.15 static __inline void ieee80211_key_update_end (struct ieee80211com * *ic*) [static]

Definition at line 319 of file ieee80211_var.h.

References ieee80211_crypto_state::cs_key_update_end, and ieee80211com::ic_crypto.

Referenced by ieee80211_crypto_delglobalkeys(), ieee80211_crypto_delkey(), ieee80211_ioctl_-set80211(), and ieee80211_ioctl_setkey().

#### 7.25.2.16 int ieee80211_media2rate (int)

Definition at line 1103 of file ieee80211.c.

References N.

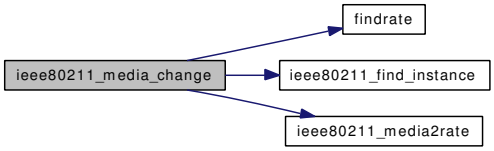
Referenced by ieee80211_media_change().

#### 7.25.2.17 int ieee80211_media_change (struct ifnet *)

Definition at line 600 of file ieee80211.c.

References findrate(), ieee80211com::ic_media, ieee80211com::ic_modecaps, ieee80211_find_instance(), IEEE80211_M_AHDEMO, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_M_-MONITOR, IEEE80211_M_STA, ieee80211_media2rate(), IEEE80211_MODE_11A, IEEE80211_-MODE_11B, IEEE80211_MODE_11G, IEEE80211_MODE_AUTO, IEEE80211_MODE_FH, IEEE80211_MODE_MAX, IEEE80211_MODE_TURBO_A, and IEEE80211_MODE_TURBO_G.

Here is the call graph for this function:

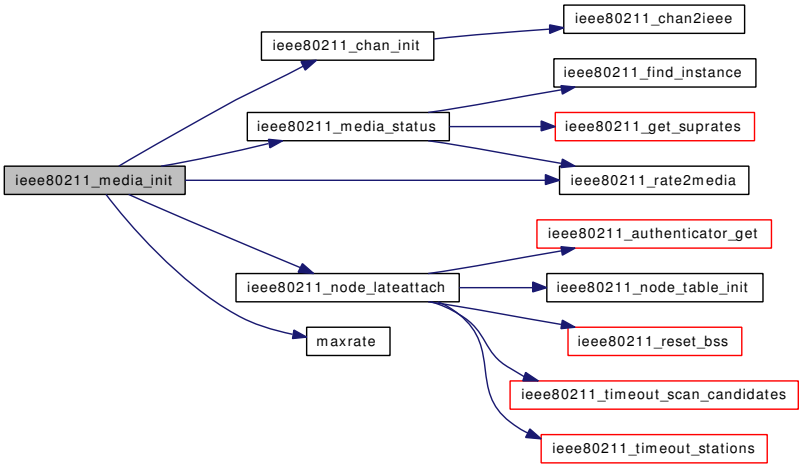


#### 7.25.2.18 void ieee80211_media_init (struct ieee80211com *, ifm_change_cb_t, ifm_stat_cb_t)

Definition at line 403 of file ieee80211.c.

References ADD, ieee80211com::ic_caps, ieee80211com::ic_ifp, ieee80211com::ic_media, ieee80211com::ic_modecaps, IEEE80211_C_AHDEMO, IEEE80211_C_HOSTAP, IEEE80211_C_IBSS, IEEE80211_C_MONITOR, ieee80211_chan_init(), ieee80211_media_status(), IEEE80211_MODE_AUTO, IEEE80211_MODE_MAX, ieee80211_node_lateattach(), ieee80211_rate2media(), IEEE80211_RATE_VAL, maxrate(), ieee80211_rateset::rs_nrates, and ieee80211_rateset::rs_rates.

Here is the call graph for this function:



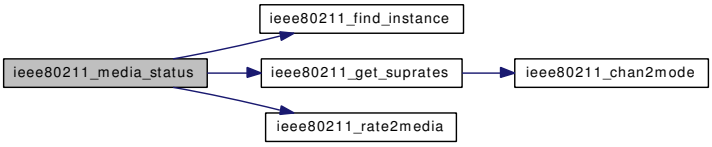

#### 7.25.2.19 void ieee80211_media_status (struct ifnet *, struct ifmediareq *)

Definition at line 772 of file ieee80211.c.

References ieee80211com::ic_bss, ieee80211com::ic_curchan, ieee80211com::ic_curmode, ieee80211com::ic_fixed_rate, ieee80211com::ic_opmode, ieee80211com::ic_state, ieee80211_find_instance(), IEEE80211_FIXED_RATE_NONE, ieee80211_get_suprates(), IEEE80211_M_AHDEMO, IEEE80211_M_HOSTAP, IEEE80211_M_IBSS, IEEE80211_M_MONITOR, IEEE80211_M_STA, IEEE80211_MODE_11A, IEEE80211_MODE_11B, IEEE80211_MODE_11G, IEEE80211_MODE_FH, IEEE80211_MODE_TURBO_A, IEEE80211_MODE_TURBO_G, ieee80211_rate2media(), IEEE80211_S_RUN, ieee80211_node::ni_rates, ieee80211_node::ni_txrate, and ieee80211_rateset::rs_rates.

Referenced by ieee80211_media_init().

Here is the call graph for this function:

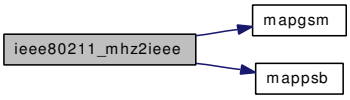


#### 7.25.2.20 int ieee80211_mhz2ieee (u_int, u_int)

Definition at line 306 of file ieee80211.c.

References IEEE80211_CHAN_2GHZ, IEEE80211_CHAN_5GHZ, IEEE80211_CHAN_GSM, IEEE80211_CHAN_HALF, IEEE80211_CHAN_QUARTER, mapgsm(), and mappsb().

Here is the call graph for this function:




#### 7.25.2.21 void ieee80211_note (struct ieee80211com * *ic*, const char * *fmt*, ...)

#### 7.25.2.22 void ieee80211_note_frame (struct ieee80211com * *ic*, const struct ieee80211_frame * *wh*, const char * *fmt*, ...)

#### 7.25.2.23 void ieee80211_note_mac (struct ieee80211com * *ic*, const u_int8_t *mac*[IEEE80211_ADDR_LEN], const char * *fmt*, ...)

#### 7.25.2.24 int ieee80211_rate2media (struct ieee80211com *, int, enum *ieee80211_phymode*)

Definition at line 1029 of file ieee80211.c.

References ieee80211com::ic_phytype, IEEE80211_MODE_11A, IEEE80211_MODE_11B, IEEE80211_MODE_11G, IEEE80211_MODE_AUTO, IEEE80211_MODE_FH, IEEE80211_MODE_-TURBO_A, IEEE80211_MODE_TURBO_G, IEEE80211_RATE_VAL, IEEE80211_T_FH, and N.

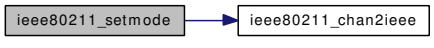
Referenced by ieee80211_announce(), ieee80211_media_init(), and ieee80211_media_status().

#### 7.25.2.25 int ieee80211_setmode (struct ieee80211com *, enum *ieee80211_phymode*)

Definition at line 878 of file ieee80211.c.

References ieee80211com::ic_chan_active, ieee80211com::ic_channels, ieee80211com::ic_curchan, ieee80211_channel::ic_flags, ieee80211com::ic_modecaps, ieee80211_chan2ieee(), IEEE80211_CHAN_-108G, IEEE80211_CHAN_A, IEEE80211_CHAN_B, IEEE80211_CHAN_FHSS, IEEE80211_CHAN_-MAX, IEEE80211_CHAN_PUREG, IEEE80211_CHAN_T, IEEE80211_DPRINTF, IEEE80211_IS_-CHAN_T, IEEE80211_MODE_AUTO, IEEE80211_MSG_ANY, and N.

Here is the call graph for this function:




#### 7.25.2.26 void ieee80211_watchdog (struct ieee80211com *)

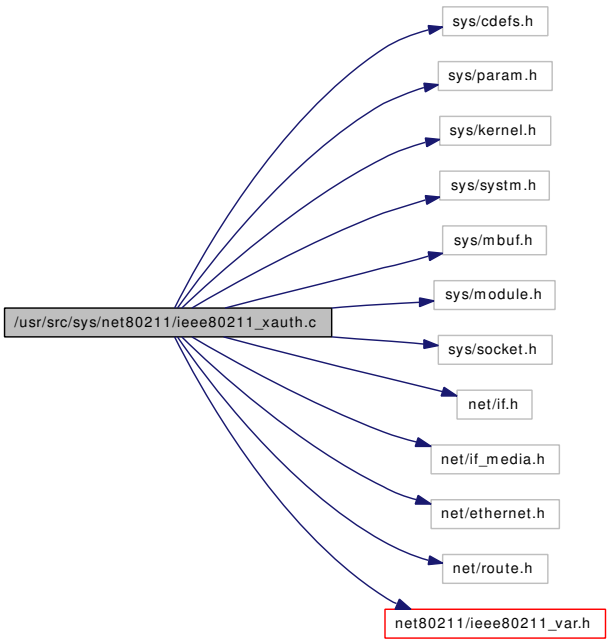
Definition at line 846 of file ieee80211.c.

References ieee80211com::ic_ifp, ieee80211com::ic_mgt_timer, ieee80211com::ic_scan, ieee80211com::ic_sta, ieee80211com::ic_state, ieee80211_new_state, IEEE80211_S_INIT, IEEE80211_S_SCAN, ieee80211_node_table::nt_inact_timer, and ieee80211_node_table::nt_timeout.

## 7.26 /usr/src/sys/net80211/ieee80211_xauth.c File Reference

```
#include <sys/cdefs.h>
#include <sys/param.h>
#include <sys/kernel.h>
#include <sys/systm.h>
#include <sys/mbuf.h>
#include <sys/module.h>
#include <sys/socket.h>
#include <net/if.h>
#include <net/if_media.h>
#include <net/ethernet.h>
#include <net/route.h>
#include <net80211/ieee80211_var.h>
```

Include dependency graph for ieee80211_xauth.c:




### Functions

- __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_xauth.c,v 1.2 2004/12/31 22:42:38 sam Exp $")
- static int wlan_xauth_modevent (module_t mod, int type, void *unused)
- DECLARE_MODULE (wlan_xauth, wlan_xauth_mod, SI_SUB_DRIVERS, SI_ORDER_FIRST)
- MODULE_VERSION (wlan_xauth, 1)
- MODULE_DEPEND (wlan_xauth, wlan, 1, 1, 1)

## Variables

- static struct ieee80211_authenticator xauth
- static moduledata_t wlan_xauth_mod

### 7.26.1 Function Documentation

#### 7.26.1.1 __FBSDID ("$FreeBSD: src/sys/net80211/ieee80211_xauth. *c*, v 1.2 2004/12/31 22:42:38 sam Exp $")

#### 7.26.1.2 DECLARE_MODULE (wlan_xauth, wlan_xauth_mod, SI_SUB_DRIVERS, SI_ORDER_FIRST)

#### 7.26.1.3 MODULE_DEPEND (wlan_xauth, wlan, 1, 1, 1)

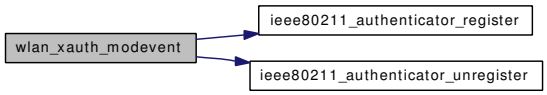
#### 7.26.1.4 MODULE_VERSION (wlan_xauth, 1)

#### 7.26.1.5 static int wlan_xauth_modevent (module_t *mod*, int *type*, void * *unused*) [static]

Definition at line 79 of file ieee80211_xauth.c.

References IEEE80211_AUTH_8021X, IEEE80211_AUTH_WPA, ieee80211_authenticator_register(), ieee80211_authenticator_unregister(), and xauth.

Here is the call graph for this function:




### 7.26.2 Variable Documentation

#### 7.26.2.1 moduledata_t wlan_xauth_mod [static]

**Initial value:**

```
{
        "wlan_xauth",
        wlan_xauth_modevent,
        0
}
```

Definition at line 94 of file ieee80211_xauth.c.

#### 7.26.2.2 struct ieee80211_authenticator xauth [static]

**Initial value:**

```
{
        .ia_name        = "external",
        .ia_attach      = NULL,
        .ia_detach      = NULL,
```

```
        .ia_node_join   = NULL,
        .ia_node_leave  = NULL,
}
```

Definition at line 67 of file ieee80211_xauth.c.

Referenced by wlan_xauth_modevent().

# Index