# ZebOS-XP Interface SMI Reference IP Infusion Inc.

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## **Chapter 1**

## **Data Structure Index**

### 1.1 Data Structures

Here are the data structures with brief descriptions:

interfaceBriefInfo
smi_bridge_info
smi_bridge_list
smi_fdb_list
smi_fdb_mac_table
smi_if
smi_if_desc
smi_if_desc_list
smi_if_list
smi_if_stats
smi_msg_if
smi_static_channel_group
smi_static_channel_list
smiInterfaceBriefList

## Chapter 2

## File Index

## 2.1 File List

Here is a list of all documented files with brief descriptions:	
smi_if.h	??
smi_if_msg.h (Provides APIs for managing interfaces)	25

4 File Index

## **Chapter 3**

## **Data Structure Documentation**

### 3.1 interfaceBriefInfo Struct Reference

#### **Data Fields**

- char **ifName** [INTERFACE\_NAMSIZ]
- char **ifAddr** [16]
- enum smi\_if\_status ifState
- u\_char flags
- u\_char gmpls\_type
- u\_char vrx\_flag
- $u_int32_t vrf_id$

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

## 3.2 smi\_bridge\_info Struct Reference

#### **Data Fields**

- char bridge\_name [SMI\_BRIDGE\_NAMSIZ]
- struct smi\_fdb\_list fdb\_list

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

## 3.3 smi\_bridge\_list Struct Reference

#### **Data Fields**

- u\_int32\_t br\_count
- char **br\_name** [32][SMI\_BRIDGE\_NAMSIZ]

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

## 3.4 smi\_fdb\_list Struct Reference

#### **Data Fields**

- u\_int32\_t list\_cnt
- u\_int32\_t have\_more
- struct list \* fdb\_table

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

### 3.5 smi\_fdb\_mac\_table Struct Reference

#### **Data Fields**

- u\_int32\_t vlan\_id
- u\_int32\_t ageing
- char name [INTERFACE\_NAMSIZ]
- u\_int32\_t type
- u\_int8\_t hw\_addr [SMI\_ETHER\_ADDR\_LEN]

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

### 3.6 smi\_if Struct Reference

#### **Data Fields**

- char name [INTERFACE\_NAMSIZ+1]
- char **hw\_type** [40]
- u\_int8\_t hw\_addr [INTERFACE\_HWADDR\_MAX]
- s\_int32\_t hw\_addr\_len
- s\_int32\_t ifindex
- u\_int32\_t flags
- s\_int32\_t metric
- s\_int32\_t mtu
- u\_int32\_t duplex
- u\_int32\_t arp\_ageing\_timeout
- char vrfname [INTERFACE\_NAMSIZ+1]
- char admin\_group\_name [40]
- float64\_t bandwidth
- int bc\_mode
- struct prefix ipv4\_prefix
- struct prefix dest\_ipv4
- struct prefix ipv6\_prefix
- char connected\_label [40]
- struct smi\_if\_stats ifstats

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

## 3.7 smi\_if\_desc Struct Reference

#### **Data Fields**

- char **ifname** [INTERFACE\_NAMSIZ+1]
- bool\_t admin\_shutdown
- bool\_t protocol
- char \* description

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

## 3.8 smi\_if\_desc\_list Struct Reference

#### **Data Fields**

- int have\_more
- int start\_index
- int end\_index
- int count
- struct list \* if\_desc\_list

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

## 3.9 smi\_if\_list Struct Reference

#### **Data Fields**

- int have\_more
- int start\_index
- int end\_index
- int count
- struct list \* if\_list

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

#### 3.10 smi\_if\_stats Struct Reference

#### **Data Fields**

- u\_int64\_t good\_octets\_rcv
- u\_int32\_t bad\_octets\_rcv
- u\_int32\_t in\_unicasts
- u\_int32\_t brdc\_pkts\_rcv
- u\_int32\_t mc\_pkts\_rcv
- u\_int32\_t in\_pause
- u\_int32\_t undersize\_pkts
- u\_int32\_t fragments\_pkts
- u\_int32\_t oversize\_pkts
- u\_int32\_t jabber\_pkts
- u int32 t in rx err
- u int32 t bad crc
- u\_int32\_t in\_pkts\_64\_octets
- u int32 t in pkts 65 127 octets
- u\_int32\_t in\_pkts\_128\_255\_octets
- u\_int32\_t in\_pkts\_256\_511\_octets
- u\_int32\_t in\_pkts\_512\_1023\_octets
- u\_int32\_t in\_pkts\_1024\_max\_octets
- u\_int64\_t good\_octets\_sent
- u\_int32\_t out\_unicasts
- u\_int32\_t brdc\_pkts\_sent
- u\_int32\_t mc\_pkts\_sent
- u\_int32\_t out\_pause
- u\_int32\_t deferred
- u\_int32\_t collisions
- u\_int32\_t single\_collision\_frame
- u\_int32\_t multiple\_collision\_frame
- u\_int32\_t excess\_collision\_drop
- u\_int32\_t late\_collision\_detect
- u\_int32\_t out\_fcs\_err
- u\_int32\_t out\_pkts\_64\_octets
- u\_int32\_t out\_pkts\_65\_127\_octets
- u\_int32\_t out\_pkts\_128\_255\_octets
- u\_int32\_t out\_pkts\_256\_511\_octets
- u\_int32\_t out\_pkts\_512\_1023\_octets
- u\_int32\_t out\_pkts\_1024\_max\_octets
- u\_int32\_t policy\_in\_discards
- u\_int16\_t policy\_in\_filtered
- u\_int16\_t policy\_out\_filtered

#### 3.10.1 Field Documentation

#### 3.10.1.1 u\_int32\_t smi\_if\_stats::bad\_crc

packets received with bad Frame Check Sequence

#### 3.10.1.2 u\_int32\_t smi\_if\_stats::bad\_octets\_rcv

No. of bad octets received

#### 3.10.1.3 u\_int32\_t smi\_if\_stats::brdc\_pkts\_rev

Broadcast packets received

#### 3.10.1.4 u\_int32\_t smi\_if\_stats::brdc\_pkts\_sent

Broadcast packets Sent

#### 3.10.1.5 u\_int32\_t smi\_if\_stats::collisions

Number of times a collision occurred before the interface transmitted a frame to the media successfully

#### 3.10.1.6 u\_int32\_t smi\_if\_stats::deferred

Number of frames that have been transmitted successfully after they wait because media was busy

#### 3.10.1.7 u\_int32\_t smi\_if\_stats::excess\_collision\_drop

Number of times an interface made maximum number of attempts to transmit a packet, each attempt resulting into collision

#### 3.10.1.8 u\_int32\_t smi\_if\_stats::fragments\_pkts

Pakcets received < 64 Octets with Bad Frame Check Sequence

#### 3.10.1.9 u\_int64\_t smi\_if\_stats::good\_octets\_rcv

No.of good Octets received

#### 3.10.1.10 u\_int64\_t smi\_if\_stats::good\_octets\_sent

Number of good octets sent from this interface

#### 3.10.1.11 u\_int32\_t smi\_if\_stats::in\_pause

Number of Pause frames received

3.10.1.12 u\_int32\_t smi\_if\_stats::in\_pkts\_1024\_max\_octets

Packets received with octet length 1024 to max octet length

3.10.1.13 u\_int32\_t smi\_if\_stats::in\_pkts\_128\_255\_octets

Packets received with Octet length 128 to 255

3.10.1.14 u\_int32\_t smi\_if\_stats::in\_pkts\_256\_511\_octets

Packets received with octet length 256 to 511

3.10.1.15 u\_int32\_t smi\_if\_stats::in\_pkts\_512\_1023\_octets

Packets received with octet length 512 to 1023

3.10.1.16 u\_int32\_t smi\_if\_stats::in\_pkts\_64\_octets

packets having 64 Octets Of length

3.10.1.17 u int32 t smi if stats::in pkts 65 127 octets

Packets received with Octet length 65 to 127

3.10.1.18 u\_int32\_t smi\_if\_stats::in\_rx\_err

Frames received with RxErr from the PHY

3.10.1.19 u\_int32\_t smi\_if\_stats::in\_unicasts

Unicast Packets Received

3.10.1.20 u\_int32\_t smi\_if\_stats::jabber\_pkts

Packets with length > 1518 Bad FCS

3.10.1.21 u\_int32\_t smi\_if\_stats::late\_collision\_detect

Number of times late collision has been detected by an interface

#### 3.10.1.22 u\_int32\_t smi\_if\_stats::mc\_pkts\_rev

MultiCast Packets Receive

#### 3.10.1.23 u\_int32\_t smi\_if\_stats::mc\_pkts\_sent

MultiCast Packets sent

#### 3.10.1.24 u\_int32\_t smi\_if\_stats::multiple\_collision\_frame

Number of times an interface has experienced multiple collisions when attempting to transmit a given frame

#### 3.10.1.25 u\_int32\_t smi\_if\_stats::out\_fcs\_err

Frame check sequence error counter of an interface

#### 3.10.1.26 u\_int32\_t smi\_if\_stats::out\_pause

Number of Pause frames sent

#### 3.10.1.27 u\_int32\_t smi\_if\_stats::out\_pkts\_1024\_max\_octets

Packets sent with octet length 1024 to max octet length

#### 3.10.1.28 u\_int32\_t smi\_if\_stats::out\_pkts\_128\_255\_octets

Packets sent with octet length 128 to 255

#### $3.10.1.29 \quad u\_int32\_t \ smi\_if\_stats::out\_pkts\_256\_511\_octets$

Packets sent with octet length 256 to 511

#### 3.10.1.30 u\_int32\_t smi\_if\_stats::out\_pkts\_512\_1023\_octets

Packets sent with octet length 512 to 1023

#### 3.10.1.31 u\_int32\_t smi\_if\_stats::out\_pkts\_64\_octets

Packets sent with octet length 64

#### 3.10.1.32 u\_int32\_t smi\_if\_stats::out\_pkts\_65\_127\_octets

Packets sent with octet length 65 to 127

#### 3.10.1.33 u\_int32\_t smi\_if\_stats::out\_unicasts

Unicast Packets Sent

#### 3.10.1.34 u\_int32\_t smi\_if\_stats::oversize\_pkts

Packets received having length > than 1518 Octets

#### 3.10.1.35 u\_int32\_t smi\_if\_stats::policy\_in\_discards

Packets received on a discard interface

#### 3.10.1.36 u\_int16\_t smi\_if\_stats::policy\_in\_filtered

Packets received passing filtering policy

#### 3.10.1.37 u\_int16\_t smi\_if\_stats::policy\_out\_filtered

Packets sent passing filtering policy

#### 3.10.1.38 u\_int32\_t smi\_if\_stats::single\_collision\_frame

Number of times an interface has experienced a single collision when attempting to transmit a given frame

#### 3.10.1.39 u\_int32\_t smi\_if\_stats::undersize\_pkts

Packets received having length < 64 Octest long

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

### 3.11 smi\_msg\_if Struct Reference

#### **Data Fields**

- smi\_cindex\_t cindex
- smi\_cindex\_t cindex\_1
- smi cindex t cindex 2
- smi\_cindex\_t cindex\_3
- char **ifname** [INTERFACE\_NAMSIZ]
- char bridge\_name [SMI\_BRIDGE\_NAMSIZ]
- u\_int32\_t **mtu**
- u\_int32\_t start\_index
- u\_int32\_t end\_index
- · float bandwidth
- int autoneg
- u\_int8\_t hw\_addr [SMI\_ETHER\_ADDR\_LEN]
- int if\_status
- int flag
- int mcast
- u\_int32\_t fdb\_type
- u\_int32\_t duplex
- enum smi\_if\_link\_changed smi\_if\_link\_change
- struct smi\_if\_stats ifstats
- enum smi\_if\_cross\_over cross\_mode
- u int16 t vid
- u\_int8\_t is\_forward
- enum smi\_bridge\_pri\_ovr\_mac\_type ovr\_mac\_type
- u\_int8\_t **priority**
- u\_int8\_t user\_priority
- u\_char **traffic\_class\_table** [SMI\_BRIDGE\_MAX\_USER\_PRIO][SMI\_-BRIDGE\_MAX\_TRAFFIC\_CLASS+1]
- enum smi\_bridge\_topo\_type topo\_type
- enum smi\_bridge\_type type
- enum smi\_port\_conf\_state
- enum smi\_port\_conf\_state port\_switch\_state
- enum smi\_egress\_port\_mode egress\_mode
- u\_int8\_t spanning\_tree\_disable
- enum smi\_lacp\_mode if\_lacp\_mode
- u\_int32\_t if\_lacp\_admin\_key
- u\_int8\_t if\_lacp\_load\_balance\_method
- u\_int8\_t dot1q\_state
- enum smi\_dtag\_mode dtag\_mode
- enum smi\_if\_exist exist
- enum smi\_port\_learn\_state learn\_state
- struct smi\_if\_list smi\_iflist
- struct smi\_if\_desc\_list smi\_ifdesc

- struct smiInterfaceBriefList smiIfBriefList
- struct smi\_fdb\_list fdb\_list
- u\_int32\_t vr\_id
- u int32 t mode
- char mac\_add [255]
- u\_int16\_t v\_id
- int instance
- int vlan\_type
- int edge\_type
- u\_int16\_t vlan
- char **arp\_name** [255]
- struct pal\_in4\_addr ipv4\_addr
- u\_char prefixlen
- char **label** [255]
- char **vrf\_name** [255]
- · int secondary
- char **ip\_addr** [255]
- int dad\_attempts
- char **group\_name** [255]
- char **direct** [255]
- int enabled
- u\_int32\_t valid\_lifetime
- u\_int32\_t preferred\_lifetime
- char ct\_str [255]
- char **bc\_mode** [255]
- char admin\_name [255]
- char **bw\_str** [255]
- float32\_t bw\_constraint [SMI\_MAX\_BW\_CONST]
- struct smi\_static\_channel\_list smiStaticChannelList
- struct smi\_bridge\_list br\_list
- int vrrp
- int anycast
- char peer\_str [255]
- char vcName [255]
- char **vcType** [255]
- char vcMode [255]
- bool\_t vcStandbyMode
- bool\_t vcRevertiveMode
- char **groupName** [255]
- u\_int32\_t groupId
- char pwName [255]
- char pwDescr [255]
- · bool\_t isAdd
- u\_int32\_t vcId
- char **peer\_address** [255]
- bool\_t control\_word

- bool\_t is\_manual
- bool\_t is\_pw\_status
- bool\_t is\_passive
- u\_int32\_t local\_refresh\_timer
- u\_int32\_t tunnel\_id
- bool\_t tunnel\_direction
- char **agi** [255]
- char saii [255]
- char taii [255]
- u\_int32\_t cc\_types
- u\_int32\_t cv\_types
- char vcContainer1Name [255]
- char vcContainer2Name [255]
- char route\_type [255]
- char **mrouteifname** [255]

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

## 3.12 smi\_static\_channel\_group Struct Reference

#### **Data Fields**

- char port\_channel\_name [INTERFACE\_NAMSIZ]
- u\_int32\_t linkcnt
- char **member** [SMI\_NSM\_MAX\_AGGREGATOR\_LINKS][INTERFACE\_NAMSIZ]

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

## 3.13 smi\_static\_channel\_list Struct Reference

#### **Data Fields**

- u\_int32\_t list\_cnt
- u\_int32\_t have\_more
- struct list \* static\_channel

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

### 3.14 smiInterfaceBriefList Struct Reference

#### **Data Fields**

- int have\_more
- int start\_index
- int end\_index
- int count
- struct list \* ifBriefInfoList

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

## **Chapter 4**

## **File Documentation**

### 4.1 smi\_if\_msg.h File Reference

Provides APIs for managing interfaces. #include "smi\_message.h"

#### **Data Structures**

- struct smi\_if\_stats
- struct smi\_if
- struct smi\_if\_list
- struct smi\_if\_desc
- struct smi\_if\_desc\_list
- struct interfaceBriefInfo
- struct smiInterfaceBriefList
- struct smi\_fdb\_mac\_table
- struct smi\_fdb\_list
- struct smi\_static\_channel\_group
- struct smi\_static\_channel\_list
- struct smi\_bridge\_list
- struct smi\_bridge\_info
- struct smi\_msg\_if

#### **Defines**

- #define **SMI\_MSG\_IF\_SIZE** 4
- #define SMI\_IF\_LACP\_LINK\_ADMIN\_KEY\_MIN 1
- #define SMI\_IF\_LACP\_LINK\_ADMIN\_KEY\_MAX 65535
- #define **DEFAULT\_INTERFACE** "fe1"
- #define **SMI\_BRIDGE\_MIN\_VAL** 1
- #define **SMI\_BRIDGE\_MAX\_VAL** 32
- #define VLAN\_ID\_MIN\_VAL 2

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- #define VLAN ID MAX VAL 2094
- #define SMI\_INSTANCE\_MIN\_VAL 1
- #define SMI\_INSTANCE\_\_MAX\_VAL 63
- #define SMI IF PREFIX VALID LIFETIME MIN 0
- #define SMI\_IF\_PREFIX\_VALID\_LIFETIME\_MAX 4294967295U
- #define SMI\_IF\_PREFIX\_PREFERRED\_LIFETIME\_MIN 0
- #define SMI\_IF\_PREFIX\_PREFERRED\_LIFETIME\_MAX 4294967295U
- #define SMI\_IF\_IPV6\_ND\_DAD\_ATTEMPTS\_MIN 0
- #define SMI IF IPV6 ND DAD ATTEMPTS MAX 600
- #define SMI\_NSM\_STATIC\_AGG\_KEY\_MIN 1
- #define SMI\_NSM\_STATIC\_AGG\_KEY\_MAX 12
- #define SMI NSM MAU TYPE ZERO DOT ZERO 255
- #define SMI\_MIN\_MTU 64
- #define SMI\_MAX\_MTU 16360
- #define SMI BANDWIDTH MIN VAL 1
- #define SMI\_BANDWIDTH\_MAX\_VAL 10000000000U
- #define SMI\_MAX\_BW\_CONST 8
- #define SMI\_NSM\_MAX\_AGGREGATOR\_LINKS 6
- #define **SMI\_IF\_CTYPE\_NAME** 0
- #define SMI IF CTYPE MTU 1
- #define SMI\_IF\_CTYPE\_BW 2
- #define SMI\_IF\_CTYPE\_FLAG 3
- #define SMI IF CTYPE AUTONEG 4
- #define SMI\_IF\_CTYPE\_HWADDR 5
- #define SMI\_IF\_CTYPE\_DUPLEX 6
- #define SMI\_IF\_CTYPE\_MCAST 7
- #define **SMI\_IF\_CTYPE\_STATUS** 8
- #define **SMI\_IF\_CTYPE\_IFSTATUS** 9
- #define **SMI\_IF\_CTYPE\_STATISTICS** 10
- #define SMI\_IF\_CTYPE\_MDIX\_CROSSOVER 11
- #define **SMI\_IF\_CTYPE\_BRIDGE\_NAME** 12
- #define **SMI\_IF\_CTYPE\_VID** 13
- #define **SMI\_IF\_CTYPE\_FORWARD** 14
- #define SMI\_IF\_CTYPE\_TRAFFIC\_CLASSTBL 15
- #define **SMI\_IF\_CTYPE\_USRPRIORITY** 16
- #define SMI\_IF\_CTYPE\_TOPOTYPE 17
- #define SMI IF CTYPE BRIDGETYPE 18
- #define **SMI\_IF\_CTYPE\_PORT\_STATE** 19
- #define SMI\_IF\_CTYPE\_EGRESS\_PORT\_MODE 20
- #define **SMI\_IF\_CTYPE\_PORT\_SWITCH\_STATE** 21
- #define SMI\_IF\_CTYPE\_SPAN\_TREE\_DISABLE 22
- #define SMI IF LACP CTYPE MODE 23
- #define SMI\_IF\_LACP\_CTYPE\_KEY 24
- #define SMI\_IF\_CTYPE\_DOT1Q\_STATE 25
- #define SMI IF CTYPE DTAG MODE 26
- #define SMI\_IF\_CTYPE\_IF\_EXIST 27

- #define SMI IF CTYPE LEARN STATE 28
- #define SMI\_IF\_CTYPE\_OVR\_MAC\_TYPE 29
- #define **SMI\_IF\_CTYPE\_PRIORITY** 30
- #define SMI IF CTYPE EXTENDED 131
- #define SMI\_IF\_CTYPE\_SMI\_IFLIST 0
- #define SMI\_IF\_CTYPE\_SMI\_IFBRIEFLIST 1
- #define SMI\_IF\_LACP\_CTYPE\_LOAD\_BALANCE\_METHOD 2
- #define **SMI\_CTYPE\_FDB\_TYPE** 3
- #define SMI CTYPE SHOW FDB 4
- #define SMI CTYPE SHOW AGEING 5
- #define SMI\_CTYPE\_INDEXING 6
- #define SMI IF CTYPE VR ID 7
- #define SMI\_IF\_CTYPE\_MODE 8
- #define SMI\_IF\_CTYPE\_MAC\_ADD 9
- #define SMI IF CTYPE VLAN TYPE 10
- #define SMI\_IF\_CTYPE\_V\_ID 11
- #define SMI\_IF\_CTYPE\_INSTANCE 12
- #define SMI\_IF\_CTYPE\_EDGE\_TYPE 13
- #define SMI\_IF\_CTYPE\_VLAN 14
- #define SMI IF CTYPE ARP NAME 15
- #define SMI\_IF\_CTYPE\_IPV4\_ADDR 16
- #define SMI\_IF\_CTYPE\_PREFIXLEN 17
- #define SMI IF CTYPE LABEL 18
- #define SMI\_IF\_CTYPE\_VRF\_NAME 19
- #define SMI\_IF\_CTYPE\_SECONDARY 20
- #define SMI\_IF\_CTYPE\_IP\_ADDR 21
- #define SMI\_IF\_CTYPE\_DAD\_ATTEMPTS 22
- #define SMI\_IF\_CTYPE\_GROUP\_NAME 23
- #define SMI\_IF\_CTYPE\_DIRECT 24
- #define SMI\_IF\_CTYPE\_ENABLED 25
- #define SMI\_IF\_CTYPE\_VALID\_LIFETIME 26
- #define SMI\_IF\_CTYPE\_PREFERRED\_LIFETIME 27
- #define **SMI\_IF\_CTYPE\_BC\_MODE** 28
- #define SMI\_IF\_CTYPE\_CT\_STR 29
- #define SMI\_IF\_CTYPE\_BW\_STR 30
- #define **SMI\_IF\_CTYPE\_EXTENDED\_2** 31
- #define SMI\_IF\_CTYPE\_ADMIN\_NAME 0
- #define SMI\_IF\_CTYPE\_SMI\_IFDESCLIST 1
- #define SMI\_IF\_CTYPE\_BW\_CONSTRAINT 2
- #define SMI\_IF\_CTYPE\_STATIC\_CHANNEL\_LIST 3
- #define SMI\_IF\_CTYPE\_BRIDGE\_LIST 4
- #define SMI IF CTYPE MPLS VC NAME 5
- #define SMI\_IF\_CTYPE\_MPLS\_VC\_TYPE 6
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#### **Enumerations**

- enum port\_mode { SMI\_PORT\_MODE\_UNKNOWN, SMI\_PORT\_-MODE\_SGMII, SMI\_PORT\_MODE\_1000BASEX }
- enum smi\_if\_duplex { SMI\_IF\_HALF\_DUPLEX, SMI\_IF\_FULL\_DUPLEX, SMI\_IF\_AUTO\_NEGO }

Specifies duplex operation of an interface.

- enum smi\_if\_status { SMI\_IF\_DOWN, SMI\_IF\_UP }
  - Specify administrative state of a port.
- enum smi\_if\_link\_changed { SMI\_IF\_LINK\_UNCHANGED, SMI\_IF\_LINK\_-CHANGED }
- enum smi\_if\_cross\_over { SMI\_IF\_CROSS\_OVER, SMI\_IF\_CROSS\_OVER\_-NONE, SMI\_IF\_CROSS\_OVER\_AUTO }
- $\bullet \ \ enum \ smi\_bridge\_pri\_ovr\_mac\_type \ \{$ 
  - SMI\_BRIDGE\_MAC\_PRI\_OVR\_NONE, SMI\_BRIDGE\_MAC\_STATIC, SMI\_BRIDGE\_MAC\_STATIC\_PRI\_OVR, SMI\_BRIDGE\_MAC\_STATIC\_MGMT,
  - SMI\_BRIDGE\_MAC\_STATIC\_MGMT\_PRI\_OVR, SMI\_BRIDGE\_-MAC\_PRI\_OVR\_MAX }
- enum smi\_port\_conf\_state { SMI\_PORT\_DISABLE, SMI\_PORT\_ENABLE }

- enum smi\_egress\_port\_mode { SMI\_EGRESS\_PORT\_TAGGED, SMI\_EGRESS\_PORT\_UNMODIFIED }
- enum smi\_port\_learn\_state { SMI\_PORT\_LEARN\_ENABLE, SMI\_PORT\_-LEARN\_DISABLE }
- enum smi\_dtag\_mode { SMI\_DTAG\_MODE\_INTERNAL, SMI\_DTAG\_MODE\_EXTERNAL, SMI\_DTAG\_MODE\_INVALID }
- enum smi\_if\_exist { SMI\_EXIST\_NO, SMI\_EXIST\_YES }
- enum smi\_if\_lacp\_load\_balance\_method {

SMI\_LACP\_LOAD\_BALANCE\_DST\_MAC = 1, SMI\_LACP\_LOAD\_BALANCE\_SRC\_MAC, SMI\_LACP\_LOAD\_BALANCE\_SRC\_DST\_MAC, SMI\_LACP\_LOAD\_BALANCE\_SRC\_IP,

SMI\_LACP\_LOAD\_BALANCE\_DST\_IP, SMI\_LACP\_LOAD\_BALANCE\_-SRC\_DST\_IP, SMI\_LACP\_LOAD\_BALANCE\_SRC\_PORT, SMI\_LACP\_LOAD\_BALANCE\_DST\_PORT,

SMI\_LACP\_LOAD\_BALANCE\_SRC\_DST\_PORT }

Supported load balance methods for aggregators.

#### **Functions**

- void **smi\_interface\_dump** (struct lib\_globals \*zg, struct **smi\_msg\_if** \*msg)
- int smi\_encode\_ifmsg (u\_char \*\*, u\_int16\_t \*size, struct smi\_msg\_if \*msg)
- int smi\_decode\_ifmsg (u\_char \*\*pnt, u\_int16\_t \*size, struct smi\_msg\_if \*msg)
- int **smi\_parse\_if** (u\_char \*\*, u\_int16\_t \*, struct smi\_msg\_header \*, void \*, SMI\_CALLBACK)

#### 4.1.1 Detailed Description

Provides APIs for managing interfaces.

#### **4.1.2** Enumeration Type Documentation

#### 4.1.2.1 enum smi\_egress\_port\_mode

#### **Enumerator:**

SMI\_EGRESS\_PORT\_TAGGED Specifies tagged egress port mode
SMI\_EGRESS\_PORT\_UNTAGGED Specifies untagged egress port mode
SMI\_EGRESS\_PORT\_UNMODIFIED Specifies default egress port mode

#### 4.1.2.2 enum smi if cross over

#### **Enumerator:**

SMI\_IF\_CROSS\_OVER Specifies MDIX interface
SMI\_IF\_CROSS\_OVER\_NONE Specify an interface without any crossover
SMI\_IF\_CROSS\_OVER\_AUTO Specifies an Auto MDIX interface

#### 4.1.2.3 enum smi\_if\_duplex

Specifies duplex operation of an interface.

#### **Enumerator:**

SMI\_IF\_HALF\_DUPLEX Specifies half duplex operation SMI\_IF\_FULL\_DUPLEX Specifies full duplex operation

**SMI\_IF\_AUTO\_NEGO** Specifies auto negotiation capability. The interface automatically operates at half or full duplex depending on environmental factors

#### 4.1.2.4 enum smi\_if\_lacp\_load\_balance\_method

Supported load balance methods for aggregators.

#### **Enumerator:**

- SMI\_LACP\_LOAD\_BALANCE\_DST\_MAC Destination MAC Address based load balancing
- SMI\_LACP\_LOAD\_BALANCE\_SRC\_MAC Source MAC address based load balancing
- SMI\_LACP\_LOAD\_BALANCE\_SRC\_DST\_MAC Source and destination MAC address based load balancing
- **SMI\_LACP\_LOAD\_BALANCE\_SRC\_IP** Source IP address based load balancing
- **SMI\_LACP\_LOAD\_BALANCE\_DST\_IP** Destination IP address based load balancing
- **SMI\_LACP\_LOAD\_BALANCE\_SRC\_DST\_IP** Source and destination IP address based load balancing
- SMI\_LACP\_LOAD\_BALANCE\_SRC\_PORT Source TCP/UDP port based load balancing
- **SMI\_LACP\_LOAD\_BALANCE\_DST\_PORT** Destination TCP/UDP port based load balancing
- SMI\_LACP\_LOAD\_BALANCE\_SRC\_DST\_PORT Source and destination TCP/UDP port based load balancing

#### 4.1.2.5 enum smi\_if\_link\_changed

#### **Enumerator:**

SMI\_IF\_LINK\_UNCHANGED Specifies no change in interface state
SMI\_IF\_LINK\_CHANGED Specifies change in interface state

#### 4.1.2.6 enum smi\_if\_status

Specify administrative state of a port.

#### **Enumerator:**

SMI\_IF\_DOWN Specifies port is down
SMI\_IF\_UP Specifies port is Up

#### 4.1.2.7 enum smi\_port\_conf\_state

#### **Enumerator:**

**SMI\_PORT\_DISABLE** Specify if port configuration state is enabled **SMI\_PORT\_ENABLE** Specifies if port configuration state is disabled

#### 4.1.2.8 enum smi\_port\_learn\_state

#### **Enumerator:**

**SMI\_PORT\_LEARN\_ENABLE** Specifies Port learning state enabled **SMI\_PORT\_LEARN\_DISABLE** Specifies Port learning state disabled

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