# 12. Bridge management

# 12.1.1 Configuration management

# Insert the following bullet item, relettered if necessary to follow the existing list.

j) The ability to configure the functional elements of edge virtual bridging and to control their operation.

# 12.2 Managed objects

# Insert the following bullet item, relettered if necessary to follow the existing list.

p) The edge virtual bridging entities (12.24).

# 12.3 Data Types

# Insert the following bullet item, relettered if necessary to follow the existing list.

q) Timer Exp, an Unsigned value from 0-31 representing a positive integral number for the exponent of 2 which forms the multiplier of 10 microseconds, used for all EVB protocol timeout parameters.

## Insert a new Clause 12.24 as follows:

## 12.24 Edge Virtual Bridging management

The conformance requirements for edge virtual bridging Bridges (EVBBs) and servers (EVBSs) are defined in subclauses 5.19 and 5.21 respectively. Each C-VLAN component, edge relay component (5.20), and Port-mapping S-VLAN component of an EVB Bridge or server is managed using the component base Bridge objects of 12.4 and as described in subclause 12.24.2.

The C-VLAN component of an EVBB, including all its ports both internal and externally accessible, is managed using the managed objects defined in 12.4 through 12.12 and those of 12.24.2.

The edge relay components of an EVBS (5.21), including all their ports, are managed using the managed objects defined in 12.24.2, 12.6, 12.7, and 12.10.

The Port-mapping S-VLAN components of an EVB Bridge or server, including all their ports both internal and externally accessible are managed using the objects defined in 12.4 and 12.24.2. In addition, the Uplink Access Ports and S-Channel interfaces along with the internal LANs which connect the S-Channel Access Ports of the Port-mapping S-VLAN components with the Bridge Ports of the server's edge relay components or of the Bridge's C-VLAN component are managed using the managed objects defined in subclause 12.24.4.

To manage an EVB Bridge or server both the required base managed objects from 12.4-12.12 and the extension managed objects defined in this subclause are used. The extension managed objects are used to manage the EVB specific features of the edge relays components, Port-mapping S-VLAN components, and the internal LANs connecting the CAPs of the Port-mapping S-VLAN components with the Bridge Ports of the edge relay components or of the C-VLAN component. The additional managed objects beyond those of 12.4-12.12 and specific to the operation of EVB (see figure 12-3) defined here allow:

a) Support for an EVB system configuration managed object identifying all the EVB components and system default parameters specific to the EVB Edge Control Protocol (ECP) and Virtual Station Interface Discovery and Configuration Protocol (12.24.1);

- b) Identify all internal and external EVB components and ports (12.4, 12.24.2);
- c) Provide a Virtual Station Interface (VSI) database which includes both the current VSI state and the VSI Discovery and Configuration Protocol Instance state or each edge relay or C-VLAN component (12.24.3);
- d) Provide additional managed objects for configuring the Port-mapping S-VLAN components, the S-Channels, and the EVB protocols associated with each S-Channel (12.24.4).



Figure 12-3: Relationship among EVB managed objects

Each component of the EVB system is identified by a componentID listed in the Component table managed object specified in 12.24.2. The EVB system configuration managed object is located using any or the edge relay component or C-VLAN component Bridge Addresses (12.4.1.1.3a).

Every port of the EVB system is uniquely identified by a componentID and Port Number which together forming a Port Index listed in the EVB port type managed object. Each externally accessible port on an EVB system is identified by a unique Port Index (12.3n) formed using zero for the componentID, while the internal Ports of an EVB component are referenced using the componentID and Port Number (or their PortIndex). Externally accessible ports which are attached to a component Port therefore have two Port Indexes one for the external port (which can have no association with a component) and one for the internal Port (which is always on a component). The edge relay component or C-VLAN component Port Numbers are used to reference the required management objects 12.4-12.12, while the Port Index is used to reference the managed objects defined in this subclause. A Port Number is only unique within a Bridge component while a Port Index is unique within a system.



Figure 12-4: EVB Bridge and server internal ports

Each externally accessible port of an EVBS is either unassociated or associated with an internal Uplink Access Port (UAP), while each externally accessible port of an EVBB is either unassociated or is associated with an internal UAP or C-VLAN Bridge Ports (CBP). Each of these externally accessible Ports is identified by a unique Port Index assigned by the system and listed in the EVB port configuration managed object (12.24.2). Each external UAP attaches to a Port-mapping S-VLAN component while each external CBP attaches to a C-VLAN component.

The edge relay components of an EVBS have two types of ports. These port types are the Uplink Relay Port (URP) and the C-VLAN Relay Port. Each edge relay component CRP faces toward a Virtual Machine within the server which is attached via an internal LAN (called a VSI) to the CRP. Each internal URP attaches to an S-Channel CAP by an internal LAN. Each URP is attached one to one and onto a single CAP by a point-to-point internal LAN. The S-Channel interface table entry managed object allows configuration and monitoring of the ECP instance and VDP instances for the URP (12.24.4).

The C-VLAN component of an EVBB has two types of ports. These port types are the Uplink Bridge Port (UBP) and the C-VLAN Bridge Port (CBP). Each C-VLAN component CBP is a common C-VLAN Bridge Port which is externally accessible and faces toward the datacenter network. Each internal UBP attaches to an S-Channel CAP by an internal LAN. Each UBP is attached one to one and onto a single CAP by a point-to-point internal LAN. The S-Channel interface table entry managed object allows configuration and monitoring of the ECP instance and VDP instances for the UBPP (12.24.4).

Within each EVBS and EVBB a database holding the current VSI state on each S-Channel allows monitoring of the active VSIs (12.24.3). VSIs within the VSI database are keyed on both the S-Channel (External UAP, S-VID) and on the VSI Identifier (VSIID). During the movement of Virtual Machines (VMs) within the datacenter it is possible to have a transient condition where the same VSIID exists at two locations within the DCN. When these two instances are at the same URP or UBP it is not possible to distinguish them and therefore the database holds only the state for the most recent VSI command, however when the movement between two different URPs or UBPs the database will hold two copies of the same VSIID differentiated by the S-Channel.

Each external port associated with an Uplink Access Port (UAP) on a Bridge or server automatically has a Portmapping S-VLAN component associated. Each internal Port of each Port-mapping S-VLAN component is an S- Channel Access Port (CAP), which is attached to an internal LAN that connects this port with a URP or UBP. For each Port-mapping S-VLAN component a default S-Channel with associated CAP, internal LAN, and URP or SRP is automatically created. This default S-Channel carries all the un-S-tagged traffic which traverses the Port-mapping S-VLAN component. Each S-Channel along with associated CAP, all internal connections, and URPs or UBPs are uniquely identified by the External Port Number of the UAP and the S-VID. Each CAP is attached to one and only one point-to-point internal LAN and one and only one URP or UBP. Management of the UAP and the Port-mapping S-VLAN component is achieved through the Uplink Access Port configuration managed object (12.24.4.1) and objects of subclause 12.4 and 12.24.2. The management of CAPs, UBPs, URPs, and internal LANs along with the EVB LLDP TLV exchange, ECP and VDP is accomplished by the S-Channel interface table entries (12.24.4.2).

A URP or UBP must be coupled to an S-Channel (either implicitly as in the default S-Channel or explicitly by configuration) through an internal LAN and corresponding internal CAP. This internal connection is identified by Port Index of the associated CAP and is configured as part of the S-Channels interface table managed object (12.24.4).

The management of the forwarding process, filtering data base, and S-VLANs of each Port-mapping S-VLAN component is achieved through the Uplink Access Port Configuration managed object (12.24.4).

For each UAP an instance of the S-Channel Discovery Protocol exists which is managed by the Uplink Access Port table entry managed object and the S-Channels interface table managed object defined in (12.24.4).

The following managed objects, illustrated in figure 12-3, define the semantics of the management operations specific to EVB Bridges and servers:

- a) The EVB system base managed object (12.24.1);
- b) The component table entry managed object (12.24.2.1);
- c) The port table entry managed object (12.24.2);
- d) The VSI database table entry managed object (12.24.3);
- e) The MAC/VID pair table entry managed object (12.24.3);
- f) The Uplink Access Port table entry managed object (12.24.4);
- g) The S-Channels interface table entry managed object (12.24.4).

## 12.24.1 EVB system base managed object

A single instance of the EVB system base managed object shall be implemented by an EVB Bridge or server. It comprises the identifiers for an EVB system (40.1) and system wide default parameters used to support EVB services (41.1), VSI discovery (42.2), and ECP (44.3).

Name	Data type	Operations supported <sup>a</sup>	Conformance <sup>b</sup>	References
evbSysMACAddress	MAC Address	R	BE	12.24
evbSysName	string (032)	RW	BE	12,24
evbSysNumExternalPorts	unsigned (1-4095)	R	BE	12.24
evbSysType	enumeration (12)	R	BE	5.19, 5.21
evbSysNumCorErComps	unsigned	R	BE	5.19, 5.21
evbSysNumSComps	unsigned	R	BE	5.19, 5.21
evbSysEvbLldpEnables	Boolean array 2	RW	BE	D.2.8, 41
evbSysEvbLldpDfltMode	Boolean array 16	RW	BE	D.2.8, 41
evbSysEvbLldpNumVsisSup	Unsigned 16b	RW	BE	D.2.8, 41
evbSysEvbLldpDfltNumVsisCfg	Unsigned 16b	RW	BE	D.2.8, 41
evbSysEcpDfltAckTimerInit	timer exp	RW	BE	D.2.8, 44.3.7.1
evbSysEcpDfltMaxRetries	unsigned (0-7)	RW	BE	D.2.8, 44.3.7.6
· ·	<b>_</b> , ,			
evbSysVdpDfltRsrcWaitDelay	timer exp	RW	BE	D.2.8, 42.2.6.8
evbSysVdpDfltReinitKeepAlive	timer exp	RW	BE	D.2.8, 42.2.6.7

### Table 12-15 — EVB system base managed object

 $^{a}R = Read only access;$ 

RW = Read/Write access

 ${}^{b}B = Required for a EVB Bridge system;$ 

E = Required for an EVB Server

e = Optional for an EVB Server

## 12.24.1.1 System identifiers

The evbSysMACAddress is any single MAC which uniquely identifies the system. This MAC may be chosen to be one of the MAC used to identify each component of the system. The evbSysName is a string which may to set by management to identify this system. The evbSysType determines if this is an EVB Bridge or EVB server. The enumeration types for evbSysType are:

- 1) EVB Bridge;
- 2) EVB Server.

# 12.24.1.2 System defaults for EVB

The parameter evbSysEvbLldpEnables is used to initialize the S-Channel interface table entry schLldpAdminEnables whenever a new S-Channel is created. The evbSysEvbLldpEnables parameter is composed of two booleans, one which enables EVB LLDP TLV generation and one which enables manual EVB operation. In manual operation the system may exchange the EVB TLV however does not use the information supplied to set the operating parameters for RR, ECP and VDP. The default value for the evbSysLldpEnables is LLDP on and manual off.

The parameters evbSysEvbLldpDfltMode, evbSysEvbLldpDfltNumVsisCap, evbSysEcpDfltAckTimerInit, evbSysEcpDfltMaxRetries, evbSysVdpDfltRsrcWaitDelay, evbSysVdpDfltReinitKeepAlive are used as the initial

value for the schLldpAdminMode, schLldpAdminNumVsisCfg, schEcpAdminAckTimerInit, schEcpAdminMaxRetries, schVdpAdminRsrcWaitDelay and schVdpAdminReinitKeepAlive parameters of the S-Channel interface table entry.

The setting for evbSysEvbLldpDfltMode reflects the capabilities of the EVB Server or Bridge as listed in D.2.8 for the EVB Capabilities field of the EVB TLV. The evbSysLldpNumVsisSup is the total number of VSIs which this system may support and is used to fill out the EVB TLV field for Number VSIs Supported. The evbSysDfltNumVsisCfg is the max number of VSIs available for this S-Channel and is used to fill in the schLldpAdminNumVsisCfg parameter of the S-Channel interface table entry when a new S-Channel is created.

The ECP timer and retry system defaults evbSysEcpDfltAckTimerInit and evbSysEcpDfltMaxRetries are both used for the initial value of the ECP Admin parameters or the S-Channel interface table entry. The VDP timer values evbSysVdpDfltRsrcWaitDelay and evbSysVdpDfltReinitKeepAlive are used to set the initial VDP Admin parameters for the S-Channel interface table entry.

The default values for the system parameters are:

System Parameter	Default Value	S-Channel Parameter
evbSysName	12 Octet Hex in ASCII String for the	N/A
	evbSysMACAddress	
evbSysEvbLldpEnables	Enable EVB LLDP, Disable Manual	schLldpAdminEnables
	Operation	
evbSysEvbLldpDfltMode	Enable STD, RR, RTE, ECP, VDP	schLldpAdminMode
evbSysEvbLldpNumVsisSup	System Dependent	N/A
evbSysEvbLldpDfltNumVsisCfg	evbSysEvbLldpNumVsisSup	schLldpAdminNumVsisCfg
evbSysEcpDfltAckTimerInit	14, for 164 milliseconds	schEcpAdminAckTimerInit
evbSysEcpDfltMaxRetries	4	schEcpAdminMaxRetries
evbSysVdpDfltRsrcWaitDelay	20, for 10.5 seconds	schVdpAdminRsrcWaitDelay
evbSysVdpDfltReinitKeepAlive	20, for 10.5 seconds	schVdpAdminReinitKeepAlive

### Table 12-16 — EVB system parameter defaults

### 12.24.2 Bridge component and port management entity

These management objects catalog all the components and ports within the system and provide refinements to subclause 12.4.

#### 12.24.2.1 Component table entry managed object

A single instance of the component table entry shall be implemented by a Bridge for each bridge component. It comprises the parameters for each component including the component type and capabilities.

The operations that shall be implemented on component table entries are as follows:

- a) Read component table entry;
- b) Update component table entry.

The operations that may be implemented on component table entries are as follows:

- a) Create component table entry for edge relay component;
- b) Delete component table entry for edge relay component.

The single C-VLAN component of an EVB Bridge is created when the EVB Bridge is initialized and may not be deleted. All Port-mapping S-VLAN components are created and deleted automatically whenever a UAP is created or deleted and can't be created or deleted explicitly. Create and delete component table entries is only used in EVB servers when an edge relay component is added or deleted from the system.

Name	Data type	Operations supported	Conformance	References
compComponentId	componentID	R	BE	12.4
compMACAddress	MAC Address	R	BE	12.4
compNumberPorts	unsigned (1-4095)	R	BE	12.4
compComponentType	componentType	R	BE	12.4
compDeviceCapabilities	boolean array (17)	R	BE	12.4
compTarfficClassesEnabled	boolean	RW	BE	12.4
compMmrpEnabledStatus	boolean	RW	BE	12.4

#### Table 12-16 — Component table entry managed object

 $^{a}R = Read only access;$ 

RW = Read/Write access

<sup>b</sup>B = Required for a EVB Bridge system;

E = Required for an EVB Server

e = Optional for an EVB Server

The compComponentType parameter can be assigned the following values in an EVB Bridge:

- a) cVlanComponent(3) A C-VLAN component of an EVB Bridge;
- b) sVlanComponent(4) A Port-mapping S-VLAN component of an EVB Bridge;

and assigned the following values in an EVB Server:

- c) erComponent(6) An Edge Relay component of an EVB Server;
- d) sVlanComponent(4) A Port-mapping S-VLAN component of an EVB Server.

## 12.24.2.2 Port table entry managed object

An instance of the port table entry shall be implemented by a Bridge for each Port of each component and for each external port. It comprises the parameters for each port including the port type, capabilities, and statistics.

The operations that shall be implemented on an EVB Port table are as follows:

- a) Read port table entry;
- b) Update port table entry.

The operations that may be implemented on an EVB Port table are as follows:

- c) Create CRP port table entry;
- d) Delete CRP port table entry.

All CAP, URP and UBP port table entries are created indirectly when an S-Channel interface table entry is created.

Name	Data type	Operations supported	Conformance	References
portComponentId	componentID	R	BE	12.4
portInternalPortNumber	port number	R	BE	12.4
portMACAddress	MAC Address	R	BE	12.4.1.1.3a
portDelayExceededDiscards	counter	R	BE	12.4
portMtuExceededDiscards	counter	R	BE	12.4
portCapabilities	boolean array	R	BE	12.4
portTypeCapabilities	boolean array	R	BE	12.4
portType	enumberated	R	BE	12.4
portExternal	boolean	R	BE	12.4
portAdminPointToPoint	unsigned	RW	BE	12.4
portOperPointToPoint	boolean	R	BE	12.4
portName	string 032	R	BE	12.4

Table 12-17 — EVB port table entry managed object

 $^{a}R = Read only access;$ 

RW = Read/Write access

<sup>b</sup>B = Required for a EVB Bridge system;

E = Required for an EVB Server

e = Optional for an EVB Server

## 12.24.2.2.1 Internal and external Port Numbers

The evbPortComponentId along with the evbPortInternalPortNumber identify each Bridge Port of each Bridge component uniquely within a system. The special evbPortComponentId value of zero indicates the port described is not a Bridge Port, but instead is the external port reference number. Every external port may be identified with its external port number. The external port becomes a Bridge Port only when the evbPortType is a valid Bridge Port type. In this case the port will have two Port Numbers one is the external Port Number and the other is the internal Port Number which references the Bridge Port of the bridge component.

## 12.24.2.2.2 EVB port type capabilities and enumeration

The evbPortType may take one of the following values:

a) C-VLAN Bridge Port (CBP);

- b) Uplink Bridge Port (UBP);
- c) Uplink Access Port (UAP);
- d) S-Channel Access Port (CAP).

The evbPortTypeCapabilities array has a boolean variable for each port type the port may take. The ability to change port types directly is never needed since the system will determine the port type based on the coupling of the internal LANs which connect between UBPs and CAPs. When a new UAP is created the port of the C-VLAN component with an internal Port Number equal to the external Port Number of the UAP is automatically coupled to the default CAP and to the UAP. When a new S-Channel is created in the S-Channel interface table a new UBP and new CAP are automatically created and coupled internal VLAN.

### 12.24.3 VSI Database table

Each EVBB or EVBS maintains a database of the active Virtual Station Interfaces. This read only database provides the current operation parameters of each VSI along with the VDP state associated with the VSI. The database is keyed on both the S-Channel and the VSIID. It is possible for a single VSIID have two instances in the database, therefore the VSIID alone is not sufficient to uniquely identify the VSI. The operations which can be performed on the VSI database are:

- a) Read VSIID and S-Channel entry
- b) Read S-Channels with VSIID

Name	Data type	Operations supported	Conformance	References
evbVsiUapExtnPortNumber	port number	R	BE	12.24
evbVsiSvid	unsigned 1-4095	R	BE	12.24
evbVsiID	string 16	R	BE	42.2.2.7
evbVsiComponentId	componentID	R	BE	12.24.2
evbVsiPortNumber	port number	R	BE	12.24.2
evbVsiTimeSinceCreate	time interval	R	BE	42
evbVsiVdpOperCmd	enumerated (14)	R	BE	42.2.2.1
evbVsiOperRevert	Boolean	R	BE	42.2.2.2
evbVsiOperHard	Boolean	R	BE	42.2.2.2
evbVsiOperReason	Unsigned (015)	R	BE	42.2.2.2
evbVsiMgrID	String 1	R	BE	42.2.2.3
evbVsiType	String 3	R	BE	42.2.2.4
evbVsiTypeVersion	String 1	R	BE	42.2.2.5
evbVsiMvFormat	String 1	R	BE	42.2.2.7
evbVsiNumMACs	Unsigned	R	BE	42.2.2.8
evbVsiMachineState	Unsigned	R	BE	42.2.6.16
evbVsiCmdsSucceeded	counter	R	BE	42.2.6
evbVsiCmdsFailed	counter	R	BE	42.2.6
evbVsiCmdsReverts	counter	R	BE	42.2.6

### Table 12-19 — VSI Database entry

 $^{a}R = Read only access;$ 

RW = Read/Write access

 ${}^{b}B = Required for a EVB Bridge system;$ 

E = Required for an EVB Server

e = Optional for an EVB Server

Each EVBB or EVBS maintains a database of the VID/MACs on each Virtual Station Interfaces. This read only database provides the current GroupID/VID/MAC assignments for each VSI. The operations which can be performed on the VSI database are:

a) Read VID/MAC assignment for each VSIID, S-Channel and GroupID

b) Read GroupID/VID/MAC and S-Channel for each VSIID

Name	Data type	Operations supported	Conformance	References
evbMvUapExtnPortNumber	port number	R	BE	12.24
evbMvSvid	unsigned 1-4095	R	BE	12.24
evbMvVsiID	string 16	R	BE	42.2.2.7
evbMvGroupID	Unsigned (24bits)	R	BE	42.2.2.8
evbMvVsiVID	Unsigned (14095)	R	BE	42.2.2.8
evbMvVsiMAC	MAC Address	R	BE	42.2.2.8

# Table 12-20 — VSI MAC/VLAN database entry

 $^{a}$ R = Read only access;

RW = Read/Write access

<sup>b</sup>B = Required for a EVB Bridge system;

E = Required for an EVB Server

e = Optional for an EVB Server

## 12.24.4 S-Channel Configuration and Management

Designating an external port an Uplink Access Port automatically creates a Port-mapping S-VLAN component associated with that port. This Port-mapping S-VLAN component automatically includes one internal S-Channel Access Port for the default S-Channel which is attached to an internal Uplink Bridge Port of the C-VLAN component of an EVB Bridge or the edge relay component of an EVB Server via an internal LAN.

#### 12.24.4.1 Uplink Access Port table entry managed object

Each Port-mapping S-VLAN component is identified by the Port Number of the external port designated as a UAP. Each default CAP is identified by the external Port Number or the UAP and the S-VID 1. Each UBP attached to a default CAP is identified by the componentID of the C-VLAN or edge relay component and the Port Number of the UBP. Within an EVB Bridge the Port Number of the UBP supporting each default CAP is the same as the Port Number of the single UAP which identifies the Port-mapping S-VLAN component supporting the default CAP. Within an EVB Server the ComponentID of the edge relay component and the Port Number on that component of the UBP supporting each default CAP is available in the S-Channel interface table. The UBP is also managed as a standard Bridge Port through the 12.4-12.12 managed objects and using the ComponentID and Port Number.

The Uplink Access Port table entry managed object applies to each externally accessible Uplink Access Port on an EVB Server. When a UAP is created by creating a new entry in the UAP table the following actions are taken automatically:

- a) The UAP is configured to:
  - a. Admit all frames (6.9)
  - b. A PVID parameter equal to the default S-Channel S-VVID of 1 (6.9)
  - c. The UAP is a member of the untagged set (8.8.2) for the S-VLAN identified by the default S-Channel S-VID of 1;
  - d. The UAP is a member of the tagged set (8.8.2) for all S-VLANs identified by the S-VID of an active S-Channel other than the default S-Channel.
- b) An S-Channel Interface table entry is created for the Default S-Channel. This table provides the equivalent functionality of:
  - 1. creating an internal S-Channel Access Port connected to a Uplink Bridge Port on the C-VLAN component;
  - 2. configuring the S-Channel Access Port to accept only untagged frames (6.9);
  - 3. setting the member set for the external S-VID to include the S-Channel Access Port;
  - 4. setting the S-Channel Access Port's PVID to the external S-VID and adding that port to that S-VID's untagged set;
  - 5. setting filters on the CAP for the Nearest Bridge and Nearest non-TPMR Bridge addresses;
  - 6. creating an internal Uplink Bridge Port on the C-VLAN component attached to the S-Channel.
- b) The CDCP protocol is started on the UAP and configured with the parameters specified when the UAP was created.
  - 1. If the CDCP role is 'B' then CDCP will wait for new S-Channel creation requests. As new request are found CDCP will create new S-Channel interface table entries for each new S-Channel and delete entries when S-Channels are removed.
  - 2. If the CDCP role is 'S' then CDCP will use the S-Channel interface table to create the list of wanted S-Channels it is requesting from the 'B' side.

The management operations that can be performed on the Uplink Access Port table entry managed object are as follows:

- a) Read UAP table entry;
- b) Update UAP table entry;
- c) Create UAP table entry;
- d) Delete UAP table entry.

Name	Data type	Operations supported <sup>a</sup>	Conformance <sup>b</sup>	References
uapExtnPortNumber	Port number	R	BE	12.24
uapComponentID	ComponentID	R	BE	12.24
uapInternalPortNumber	Port number	R	BE	12.24
uapSchCdcpAdminEnable	boolean 2	RW	BE	43.1.5.4
uapSchCdcpAdminRole	enumerated 2	RW	BE	43.1.5.2
uapSchCdcpAdminChnCap	Unsigned 1-276	RW	BE	43.1.5.1
uapSchCdcpOperChnCap	Unsigned 1-276	R	BE	43.1.5.10
uapSchAdminCdcpSvidPoolLow	Unsigned 0,2-4095	RW	BE	43.1.5.9
uapSchAdminCdcpSvidPoolHigh	Unsigned 0,2-4095	RW	BE	43.1.5.9
uapSchOperState	Enumerated 2	R	BE	43.1.5.18
uapSchCdcpRemoteEnabled	Boolean 1	R	BE	43.1.5.17
uapSchCdcpRemoteRole	Enumerated 2	R	BE	43.1.5.15

## Table 12-21 — Uplink access port table entry managed object

 $^{a}$ R = Read only access;

RW = Read/Write access

<sup>b</sup>B = Required for a EVB Bridge system;

E = Required for an EVB Server

e = Optional for an EVB Server

## 12.24.4.2 Uplink Access Port table entry parameters

UAP Table Name	Default Values
uapSchCdcpAdminEnable	Enable CDCP TLV
	Disable manual operation
uapSchCdcpAdminRole	'S' if EVBS and 'B' if EVBB
uapSchCdcpAdminChnCap	1
uapSchAdminCdcpSvidPoolLow	0
apSchAdminCdcpSvidPoolHigh	0

## 12.24.4.2 S-Channel interface table entry managed object

The S-Channel interface table entry applies to each internal S-Channel configured on an EVB Bridge or EVB Server. The management operations that can be performed are as follows:

- a) Read S-Channel interface table entry;
- b) Update S-Channel interface table entry;
- c) Create S-Channel interface table entry;
- d) Delete S-Channel interface table entry.

## Table 12-22 — S-Channel interface table entry managed object

Name	Data type	Operations supported <sup>a</sup>	Conformance <sup>b</sup>	References
schUapExternalPortNumber	port number	R	BE	12.24
schSvid	unsigned 1-4095	R	BE	12.24
schComponentID	componentID	R	BE	12.24
schCapPortNumber	port number	R	BE	12.24
schScid	unsigned 1-4095	R	BE	43.1.5.2
schCbpCompentID	componentID	R	BE	
schCbpPortNumber	Port number	R	BE	
schLldpAdminEnables	Boolean array 2	RW	BE	D.2.8, 41
schLldpAdminMode	Boolean array 16	RW	BE	D.2.8, 41
schLldpOperMode	Boolean array 16	R	BE	D.2.8, 41
schLldpAdminVsisCfg	Unsigned 16b	RW	BE	D.2.8, 41
schEcpAdminStatus	Enumerated (0-2)	RW	BE	44
schEcpOperStatus	booean	R	BE	44
schEcpAdminAckTimerInit	timer exp	RW	BE	D.2.8, 44.3.7.1
schEcpOperAckTimerInit	timer exp	R	BE	D.2.8, 44.3.7.1
schEcpAdminMaxTries	unsigned (0-16)	RW	BE	D.2.8, 44.3.7.6
schEcpOperMaxRetries	unsigned (0-15)	R	BE	D.2.8, 44.3.7.6
schEcpTxFrameCount	counter	R	BE	44
schEcpTxRetryCount	counter	R	BE	44
schEcpTxFailures	counter	R	BE	44
schEcpRxFrameCount	counter	R	BE	44
schVdpAdminStatus	Unsigned (0-2)	RW	BE	42
schVdpOperStatus	boolean	R	BE	42
schVdpOperRsrcWaitDelay	timer exp	RW	BE	D.2.8, 42.2.6.8
schVdpOperRespWaitDelay	MRP Timeout	R	E	D.2.8, 42.2.6.10
schVdpOperReinitKeepAlive	timer exp	RW	BE	D.2.8, 42.2.6.7
schVdpOperToutKeepAlive	MRP Timeout	R	В	D.2.8, 42.2.6.14

 $^{a}$ R = Read only access;

RW = Read/Write access

 ${}^{b}B =$  Required for a EVB Bridge system;

E = Required for an EVB Server

e = Optional for an EVB Server