



ZebOS-XP[®]

Network Platform

Version 1.4

Extended Performance

Protocol Implementation
Conformance Statement

DOCUMENT HISTORY

Date	Status	Changes	Pending
31-July 2013	Initial version		
2-Aug-2013	Version 0.2	Updated changes for Edge Virtual Bridging [EVb]	
30-Aug-2013	Version 0.3	Updated for LLDP: 802.1AB-2009	
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1 Purpose

The purpose of the document is to provide the Protocol Implementation Conformance Statement (PICS) for ZebOS-XP.

2 IEEE 802.1D-2004

2.1 Major Capabilities

Item	Feature	Status	References	Support in ZebOS
MAC	Do the implementations of MAC Technologies and sup- port of the MAC Internal Sublayer Service conform to MAC standards as specified in 6.4 and 6.5? (If support of a specific MAC technology is claimed any PICS Proforma(s) required by the Standard specifying that technology shall also be completed.)	M	6.4, 6.5. A.6	Yes
LLC	Is a class of LLC supporting Type 1 operations supported on all Bridge Ports in conformance with IEEE 802.2? (The PICS Proforma required by IEEE 802.2 shall also be completed.)	M	7.2, 7.3, 7.12. IEEE 802.2	Yes
RLY BFS	Does the implementation relay and filter frames as specified? Does the implementation maintain the information required to make frame filtering decisions and support Basic Filtering Services?	M M	7.1, 7.5, 7.6, and 7.7. A.7 7.1, 7.5, 7.8, and 7.9. A.8	Yes Yes
ADDR	Does the implementation conform to the provisions for addressing?	M	7.12 A.9	Yes
RSTP	Is the Rapid Spanning Tree Protocol implemented?	M	17 A.10	Yes
BPDU	Are transmitted BPDUs encoded and received BPDUs validated as specified?	M	9, 17.21.19, 17.21.20, and 17.21.21. A.11	Yes
IMP	Are the required implementation parameters included in this completed PICS?	M	7.9 A.12	Yes
PERF	Are the required performance parameters included in this completed PICS? (Operation of the Bridge within the specified parameters shall not violate any of the other conformance provisions of this standard.)	M	16 A.13	Yes
MGT	Is management of the Bridge supported?	O	14 A.14	Yes
RMGT	Is a remote management protocol supported?	MGT:O	5.2 A.15	Yes
TC	Are multiple Traffic Classes supported for relaying frames?	O	7.7.3, 7.7.4. A.16	No
EFS	Are Extended Filtering Services supported for relaying and filtering frames?	O	7.12 A.17	Yes
GMRP	Is the GARP Multicast Registration Protocol	EFS:M	10	Yes

Item	Feature	Status	References	Support in ZebOS
	(GMRP) implemented?		A.18	
GARP	Is the Generic Attribute Registration Protocol (GARP) implemented in support of the GMRP Application?	GMRP:M	12 A.18	Yes

2.2 Media Access Control Methods

Item	Feature	Status	References	Support in ZebOS
	Which Media Access Control methods are implemented in conformance with the relevant MAC Standards?		6.4, 6.5	
MAC-802.3	CSMA/CD, IEEE 802.3	O.1		Yes
MAC-802.5	Token Ring, IEEE 802.5	O.1		No
MAC-9314-2	FDDI, ISO 9314-2	O.1		No
MAC-802.11	Wireless LAN, IEEE 802.11	O.1		No
MAC-1	Has a PICS been completed for each of the Media Access Control methods implemented as required by the relevant MAC Standards?	M		Yes
MAC-2	Do all the Media Access Control methods implemented support the MAC Internal Sublayer Service as specified.	M	6.4, 6.5	Yes
MAC-3	Are the adminPointToPointMAC and operPoint- ToPointMAC parameters implemented on all Ports?	M	6.4, 6.5	Yes
MAC-4	Does the implementation support the use of the adminEdgePort and operEdgePort parameters on any Ports?	O	6.4.2	Yes
MAC-4a	State which Bridge Ports support the adminEdge- Port and operEdgePort parameters			Ports_____
MAC-5	Is the user_priority of received frames set to the Default User Priority where specified for the MAC?	M	6.5.1, 6.5.4	Yes
MAC-6	Can the Default User Priority be set for each Port	O	6.5.1, 6.5.4	Yes Yes
MAC-7	Can the Default User Priority be set to any of 0–7?	MAC-6:M	6.5.1, 6.5.4	
MAC-8	Is an M_UNITDATA.indication generated by the FDDI MAC entity for a Port on receipt of frame transmitted by that entity?	FDDI:X	6.5.3, ISO 9314-2	N/A
MAC-9	Is only Asynchronous service used on FDDI rings?	FDDI:M	ISO 9314-2 Clause 8.1.4	N/A
MAC-10	Is the C indicator set on receipt of a frame for forwarding from an FDDI ring?	FDDI:O.2	6.5.3, ISO 9314-2 Clause 7.3.8	N/A
	Is the C indicator unaltered on receipt of a	FDDI:O.2	6.5.3,	N/A

MAC-11	frame for forwarding from an FDDI ring?		ISO 9314-2 Clause 7.3.8	
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2.3 Relay and Filtering of Frames

Item	Feature	Status	References	Support in ZebOS	HIM
RLY-1	Are received frames with media access method errors discarded?	M	6.4, 7.5	Yes	
RLY-2	Are user data frames the only type of frame relayed?	M	7.5, 7.6	Yes	
RLY-3	Is the user priority of each frame relayed regenerated as specified?	M	7.5.1, 7.7.5	Yes	
RLY-4	Are the default values of the User Priority Regeneration Table as specified for each Port?	M	7.5.1, Table 7-1	Yes	
RLY-5	Can the User Priority Regeneration Table be modified?	O	7.5.1, Table 7-1	No	
RLY-6	Can the entries in the User Priority Regeneration Table be set independently for each user priority and Port and to any of the full range of values?	RLY-5: M	7.5.1, Table 7-1	No	
RLY-7	Are frames transmitted by an LLC User attached at a Bridge Port also submitted for relay?	M	7.6	Yes	
RLY-8	Are correctly received user data frames relayed subject to the conditions imposed by the Forwarding Process?	M	7.7, 7.7.1, 7.7.2, 7.7.2, 7.9, Tables 7-6, 7-7, 7-8	Yes	
RLY-9	Is the order of relayed frames preserved as required by the forwarding process?	M	7.7.3		
RLY-10	Is a relayed frame submitted to a MAC Entity for transmission only once?	M	7.7.3	Yes	
RLY-11	Is a maximum bridge transit delay enforced for relayed frames?	M	7.7.3, Table 7-3	No	HIM*
RLY-12	Are queued frames discarded if a Port leaves the Forwarding State?	M	7.7.3	No	
RLY-13	Is the default algorithm for selecting frames for transmission supported?	M	7.7.4	Yes	
RLY-14	Is the access priority of each transmitted frame as specified for each media access method?	M	7.7.5, Table 7-4	Yes	
RLY-15	Is the FCS of frames relayed between Ports of the same MAC type preserved?	O	7.7.6	Yes	
RLY-16	Is the undetected frame error rate greater than X that achievable by preserving the FCS?	X	7.7.6	No	

2.4 Basic Filtering Services

Item	Feature	Status	References	Support in ZebOS
BFS-1	Are correctly received user data frames submitted to the Learning Process?	M	7.5	Yes
BFS-2	Are correctly received frames of types other than user data frames submitted to the Learning Process?	O	7.5	Yes
BFS-3	Does the Filtering Database support creation and update of Dynamic Filtering Entries by the Learning Process?	M	7.8, 7.9, 7.9.2	Yes
BFS-4	Are Dynamic Filtering Entries created and updated if and only if the Port State permits?	M	7.8, 7.9.2	Yes
BFS-5	Are Dynamic Filtering Entries created on receipt of frames with a group source address?	X	7.8, 7.9.2	No
BFS-6	Can a Dynamic Filtering Entry be created that conflicts with an existing Static Filtering Entry?	X	7.8, 7.9, 7.9.1, 7.9.2	No
BFS-7	Are existing Dynamic Filtering Entries removed to allow creation of a new entry if the Filtering Database is full?	O	7.8, 7.9.2	Yes
BFS-8	Does the Filtering Database contain Static Filtering Entries?	M	7.9.1	Yes
BFS-9	Are Static Filtering Entries aged out?	X	7.9	No
BFS-10	Can Static Filtering Entries be created, modified, and deleted by management?	O	7.9	
BFS-11	Can Static Filtering Entries be made for individual and Group MAC Addresses?	10:M	7.9.1	N/A
BFS-12	Can a Static Filtering Entry be made for the broadcast MAC Address?	10:M	7.9.1	N/A
BFS-13	Can a Static Filtering Entry specify a forwarding Port Map?	10:M	7.9.1	N/A
BFS-14	Can a Static Filtering Entry specify a filtering Port Map?	10:M	7.9.1	N/A
BFS-15	Does the creation of a Static Filtering Entry remove any conflicting information in a Dynamic Filtering Entry for the same address?	M	7.9.1, 7.9.2	Yes
BFS-16	Can a separate Static Filtering Entry with a Port Map be created for each inbound Port?	O	7.9.1	No
BFS-17	Are Dynamic Filtering Entries aged out of the Filtering Database if not updated?	M	7.9.2	Yes
BFS-18	Can more than one Dynamic Filtering Entry be created for the same MAC Address?	X	7.9.2	No
BFS-19	Can the Bridge be configured to use the recommended default Ageing Time?	O	7.9.2, Table 7-5	Yes

Item	Feature	Status	References	Support in ZebOS
BFS-20	Can the Bridge be configured to use any value in the range specified for Ageing Time?	O	7.9.2, Table 7-5	Yes
BFS-21	Is the Filtering Database initialized with the entries contained in the Permanent Database?	M	7.9.6	Yes

2.5 Addressing

Item	Feature	Status	References	Support in ZebOS
ADDR-1	Does each Port have a separate MAC Address?	M	7.12.2	Yes
ADDR-2	Are frames addressed to a MAC Address for a Port and received from or relayed to the attached LAN submitted to LLC Service User for the destination LLC Address?	M	7.5, 7.12.2	Yes
ADDR-3	Are all BPDUs and GARP PDUs transmitted using the Bridge Spanning Tree Protocol LLC Address?	M	7.12.3, Table 7-9	Yes
ADDR-4	Are PDUs addressed to the Bridge Spanning Tree Protocol Address with an unknown Protocol Identifier discarded on receipt	M		Yes
ADDR-5	Are all BPDUs transmitted to the Bridge Group Address?	M	7.12.3, Table 7-10	Yes
ADDR-6	Are all GARP PDUs transmitted to the Group Address assigned for the GARP Application?	M	7.12.3, Table 12-1	Yes
ADDR-7	Is it possible to create entries in the Permanent or Filtering Databases for unsupported GARP application addresses or delete or modify entries for supported application addresses?	X	7.12.3	No
ADDR-8	Is the source MAC address of BPDUs and GARP PDUs for GARP Applications supported by the Bridge the address of the transmitting Port?	M	7.12.3	Yes
ADDR-9	Is Bridge Management accessible through a Port using the MAC Address of the Port?	MGT:O	7.12.4	Yes
ADDR-10	Is a 48-bit Universally Administered MAC Address assigned to each Bridge as its Bridge Address?	M	7.12.5	Yes
ADDR-11	Is the Bridge Address the Address of a Port?	O	7.12.5	Yes
ADDR-12	Is the Bridge Address the Address of Port 1?	ADDR-11: O	7.12.5	No
ADDR-13	Are frames addressed to any of the Reserved Addresses relayed by the Bridge?	X	7.12.6	No
ADDR-14	Is it possible to delete or modify entries in the Permanent and Filtering Databases for the Reserved Addresses?	X	7.12.6	No

2.6 Rapid Spanning Tree Protocol

Item	Feature	Status	References	Support in ZebOS
RSTP-1	Does each Bridge have a unique identifier based on the Bridge Address, and a unique identifier for each Port?	M	17.2	Yes
RSTP-2	Can each Port be configured as an edge port by setting the adminEdgePort parameter?	O	17.3	Yes
RSTP-3	Can each Port be configured to automatically determine if it an edge port by setting the autoEdgePort parameter?	O	17.3	No
RSTP-4	Are learned MAC addresses transferred from a retiring Root Port to a new Root Port?	O	17.11	Yes
RSTP-5	Is the Spanning Tree Protocol Entity reinitialized if the Force Protocol Version parameter is modified?	M	17.13	No
RSTP-6	Are spanning tree priority vectors and Port Role assignments recomputed if the Bridge Identifier Priority, Port Identifier Priority, or Port Path Costs change?	M	17.13	Yes
RSTP-7	Is the txCount variable for a Port set to zero if the Port's Transmit Hold Count is modified?	M	17.13	Yes
RSTP-8	Are the recommended default values of Migrate Time, Bridge Hello Time, Bridge Max Age, Bridge Forward Delay, and Transmit Hold Count used?	O	17.14	Yes
RSTP-9	Can the Bridge Max Age, Bridge Forward Delay, and Transmit Hold Count parameters be set?	O	17.13, 17.14	Yes
RSTP-10	Can Bridge Max Age, Bridge Forward Delay, Transmit Hold Count be set to any value in the permitted range?	RSTP-9: M	17.2, 17.15, Table 17-1	Yes
RSTP-11	Are the relationships between Bridge Hello Time, Bridge Max Age, and Bridge Forward Delay enforced?	RSTP-9: M	17.14	Yes
RSTP-12	Are the recommended values of Bridge Identifier Priority, Port Path Costs, and Port Identifier Priorities used?	O	17.14	Yes
RSTP-13	Can the Bridge Identifier Priority, Port Path Costs, and Port Identifier Priorities be set?	O	17.1, 17.3.1, 17.13, 17.14, 17.18, 17.19	Yes
RSTP-14	Can the Bridge Identifier Priority and Port Identifier Priorities be set to any of the values in the ranges specified?	RSTP-13: M	17.14	Yes
RSTP-15	Can the Port Path Cost for each Port be set to any	RSTP-13: M	17.14	Yes

Item	Feature	Status	References	Support in ZebOS
	of the values in the specified range?			
RSTP-16	Are Port Path Costs changed automatically by default if port speeds change?	X	17.14	No
RSTP-17	Is one instance of the Port Role Selection state machine implemented for the Bridge; one instance of each of the Port Timers, Port Receive, Port Protocol Migration, Bridge Detection, Port Transmit, Port Information, Port Role Transition, Port State Transition, and Topology Change state machines implemented per Port; and the referenced definitions and declarations followed for all machines?	M	17.15, 17.28, 17.22, 17.23, 17.24, 17.25, 17.26, 17.27, 17.29, 17.29, 17.30, 17.31	Yes
RSTP-18	Is it possible to set each Port Protocol Migration state machine's mcheck variable?	O	17.19.13	No
RSTP-19	Is a single instance of each of the timer variables implemented per Port?	M	17.22	Yes
RSTP-20	Are the values for maximum RSTP processing delay and maximum BPDU transmission delay ever exceeded for any of the specified external events, actions, internal events, or transmissions?	X	17.32, Table 17-5	No

2.7 BPDU Encoding

Item	Feature	Status	References	Support in ZebOS
BPDU-1	Do all BPDUs contain an integral number of octets?	M	9.1.1	Yes
BPDU-2	Are all the following BPDU parameter types encoded as specified? Protocol Identifiers Protocol Version Identifiers BPDU Types Flags Bridge Identifiers Root Path Cost Port Identifiers Timer Values	M	9.1.1, 9.2 9.2.1 9.2.2 9.2.3 9.2.4 9.2.5 9.2.6 9.2.7 9.2.8	Yes
BPDU-3	Do Configuration BPDUs have the format, parameters, and parameter values specified?	M	9.3.1, 17.21.19	Yes
BPDU-4	Do Topology Change Notification BPDUs have the format, parameters, and parameter values specified?	M	9.3.2, 17.21.21	Yes

BPDU-5	Do Rapid Spanning Tree BPDUs have the format, parameters, and parameter values specified?	M	9.3.3, 17.21.20	Yes
BPDU-6	Are received BPDUs validated as and only as specified?	M	9.3.4	Yes
BPDU-7	Does the implementation process BPDUs of prior and possible later protocol versions as specified?	M	9.3.4	Yes

2.8 Bridge Management

Item	Feature	Status	Reference	Support in ZteAC
	Are each of the following management operations supported?			
MGT-1	Discover Bridge	MGT:M	14.4.1.1	Yes
MGT-2	Read Bridge	MGT:M	14.4.1.2	Yes
MGT-3	Set Bridge Name	MGT:M	14.4.1.3	Yes
MGT-4	Reset Bridge	MGT:M	14.4.1.4	Yes
MGT-5	Read Port	MGT:M	14.4.2.1	Yes
MGT-6	Set Port Name	MGT:M	14.4.2.2	Yes
MGT-7	Read Forwarding Port Counters	MGT:M	14.6.1.1	Yes
MGT-8	Read Port Default User Priority	MGT: M	14.6.2.1	Yes
MGT-9	Set Port Default User Priority	MGT AND MAC-6: M	14.6.2.2	Yes
MGT-10	Read Port User Priority Regeneration Table	MGT AND RLY-5: M	14.6.2.3	N/A
MGT-11	Set Port User Priority Regeneration Table	MGT AND RLY-5: M	14.6.2.4	N/A
MGT-12	Read Port Traffic Class Table	MGT AND TC: M	14.6.3.1	N/A
MGT-13	Set Port Traffic Class Table	MGT AND TC-3: M	14.6.3.2	N/A
MGT-14	Read Outbound Access Priority Table	MGT : M	14.6.3.3	Yes
MGT-15	Read Filtering Database	MGT:M	14.7.1.1	Yes
MGT-16	Set Filtering Database Ageing Time	MGT:M	14.7.1.2	Yes
MGT-17	Read Permanent Database	MGT:M	14.7.5.1	Yes
MGT-18	Create Filtering Entry	MGT:M	14.7.6.1	Yes
MGT-19	Delete Filtering Entry	MGT:M	14.7.6.2	Yes
MGT-20	Read Filtering Entry	MGT:M	14.7.6.3	Yes
MGT-21	Read Filtering Entry Range	MGT:M	14.7.6.4	Yes
MGT-22	Read Spanning Tree Protocol Parameters	MGT:M	14.8.1.1	Yes
MGT-23	Set Spanning Tree Protocol Parameters	MGT:M	14.8.1.2	Yes
MGT-24	Read Port Parameters	MGT:M	14.8.2.1	Yes
MGT-25	Force Port State	MGT:M	14.8.2.2	
MGT-26	Set Port Parameters	MGT:M	14.8.2.3	Yes
MGT-27	Force BPDU Migration Check	MGT AND RSTP: M	14.8.2.4	Yes
MGT-28	Read GARP Timers	MGT AND GARP: M	14.9.1.1	Yes
MGT-29	Set GARP Timers	MGT AND GARP: M	14.9.1.2	Yes
MGT-30	Read GARP Applicant Controls	MGT AND GARP: M	14.9.2.1	Yes
MGT-31	Set GARP Applicant Controls	MGT AND GARP: M	14.9.2.2	Yes
MGT-32	Read GARP State	MGT AND GARP: M	14.9.3.1	Yes

2.9 Remote Management

Item	Feature	Status	References	Support in ZebOS
RMGT-1	What Management Protocol standard(s) or specification(s) are supported?	RMGT:M	5.2	SNMP V2
RMGT-2	What standard(s) or specifications for Managed Objects and Encodings are supported?	RMGT:M	5.2	SMUX

2.10 Expedite traffic class

Item	Feature	Status	References	Support in ZebOS	HIM
TC-1	Does the implementation provide more than one transmission queue for (a) Bridge Port(s)?	TC: M	7.7.3	N/A	HIM*
TC-2	Is the recommended mapping of user_priority to traffic classes supported for each Port?	TC: O	7.7.3	No	
TC-3	Can the traffic class tables be managed?	TC: O	7.7.3, Table 7-2	No	
TC-4	Is the default algorithm for selecting frames for transmission supported?	M	7.7.4	Yes	
TC-5	Are additional algorithms for selecting frames for transmission supported?	O	7.7.4	No	

2.11 Extended filtering services

Item	Feature	Status	References	Support in ZebOS
EFS-1	Can Group Registration Entries be created, updated and removed from the Filtering Data- base by GMRP?	EFS:M	7.9, 7.9.3, 10	Yes
EFS-2	Can a Static Filtering Entry be created with an address specification that represents a Group Address, or All Group Addresses, or All Unregistered Group Addresses, and with a control element for each Port that specifies unconditional forwarding, or unconditional filtering, or the use of dynamic or default group filtering information?	EFS:M	7.9.1	Yes
EFS-3	Can a Static Filtering Entry be created with an address specification that represents an Individual Address and with a control element for each Port that specifies unconditional forwarding, or unconditional filtering?	M	7.9.1	Yes
EFS-4	Can a Static Filtering Entry be created with an address specification that represents an Individual Address and with a control element for each Port that specifies unconditional forwarding, or unconditional filtering, or the use of	EFS:O	7.9.1	Yes

dynamic fil-tering information?			
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2.12 GMRP

Item	Feature	Status	References	Support in ZebOS
GMRP-1	Does GMRP operate within the Base Spanning Tree Context, with the GIP Context identifier of 0, and propagate registration information only on the active topology?	GMRP:M	10.3.1.1, 10.4.1, 12.2.3, 12.2.4	Yes
GMRP-2	Is the GMRP Address used as the destination MAC Address in all GMRP protocol exchanges?	GMRP:M	10.3.1.2, 10.4.1, Table 12-1	Yes
GMRP-3	Do the PDUs exchanged by the GARP state machines use the PDU formats, attribute types, and value encodings defined for GMRP?	GMRP:M	10.3.1, 10.4.1, 12.3, 12.4, 12.10	Yes
GMRP-4	Are GMRP PDUs and the messages they contain processed in the order received?	GMRP:M	12.10	Yes
GMRP-5	Do values of the Group Attribute type include indi- vidual MAC Addresses?	GMRP:X	10.3.1.4	No
GMRP-6	Does the GMRP application operate as defined?	GMRP:M	10, 10.3, 10.4.1	Yes
GMRP-7	Can the Static Filtering Entry that specifies All Groups with Registration Fixed for all Ports be deleted from the Permanent Database?	GMRP:O	10.3.2.3	No
GMRP-8	Is the use of the Restricted Group Registration parameter supported for each Port?	GMRP:O	10.3.2.2, 10.3.2.3	Yes
GMRP-9	Is the creation or modification of Dynamic Group Registration Entries restricted as specified if the Restricted Group Registration control is TRUE?	GMRP-8:O	10.3.2.2, 10.3.2.3	Yes
GMRP-10	Is the Restricted Group Registration control FALSE for all Ports?	¬GMRP-8:O	10.3.2.3	Yes
GMRP-11	Does the implementation support the operation of the GARP Applicant, Registrar, and Leave All state machines?	GMRP:M	10.4.1, 12.7, 13	Yes

2.13 GARP

Item	Feature	Status	References	Support in ZebOS
GARP-1	Does the GARP Entity transmit PDUs to or process PDUs from any port that is not MAC_Operational or is not authorized?	GARP:X	12.1	No
GARP-2	Are GARP PDUs destined for Applications that the Bridge supports relayed by the Bridge?	GARP:X	7.12.3, 12.4	No
GARP-3	Are all GARP PDUs destined for Applications that the Bridge does not support relayed by the Bridge?	M	7.12.3, 12.4, 12.10	Yes
GARP-4	Do GARP protocol exchanges use LLC Type 1 procedures, and the Bridge Spanning Tree Protocol LLC address?	GARP:M	12.3, 12.4, Table 7-9	Yes
GARP-5	Are received GARP PDUs that are not well formed for the GARP Applications supported, discarded?	GARP:M	12.3, 12.4, 12.9.1, 12.10	Yes
GARP-6	Are information items that are received in well formed PDUs but not understood, individually discarded?	GARP:M	12.9.1, 12.10.3	Yes
GARP-7	Are the state machines, administrative controls, and procedures required by each supported application implemented as specified?	GARP:M	12.7, 12.8, 12.9	Yes
GARP-8	Are the generic elements of GARP PDUs formatted for transmission and processed on reception by each GARP Application as specified?	GARP:M	12.10	Yes
GARP-9	Is the resolution of GARP timers as specified?	GARP:M	12.11.2	Yes

3 IEEE 802.1Q-2005

3.1 Major Capabilities

Item	Feature	Status	References	Support in ZebOS
(1a)*	Communications Support		{D}6.5	
	Which MAC types are supported on Bridge Ports, implemented in conformance with the relevant MAC standards?			
(1a.1)*	CSMA/CD, IEEE 802.3	0.1		Yes
(1a.2)*	Token Bus, IEEE 802.4	0.1		No
(1a.3)*	Token Ring, IEEE 802.5	0.1		No
(1a.4)*	FDDI, ISO 9314-2	0.1		No
(1a.5)*	DQDB, IEEE 802.6	0.1		No
(1a.6)*	ISLAN, IEEE 802.9	0.1		No
(1a.7)*	ISLAN 16-T, IEEE 802.9a	0.1		No
(1a.8)*	Demand Priority, IEEE 802.12 (IEEE Std 802.3 format)	0.1		No
(1a.9)*	Demand Priority, IEEE 802.12 (ISO/IEC 8802-5 format)	0.1		No
(1a.11)*	Wireless LAN, ISO/IEC 8802-11(IEEE Std 802.11)	0.1		No
(1b)	Is LLC Type 1 supported on all Bridge Ports in conformance with IEEE 802.2?	M	8.2, 8.3, 8.14, IEEE 802.2	Yes
(1c)*	Is Source-Routing Transparent Bridge operation supported on any of the Bridge Ports? (If support is claimed, the PICS proforma detailed in IEEE 802.1D, Annex D, shall also be completed).	0	{D}Annex C	Yes
(2)	Relay and filtering of frames (A.6)	M	8.5, 8.6, 8.7, 8.8, 8.9	Yes
(2a) (2b)*	Does the Bridge support Basic Filtering Services?	M 0	{D}6.6.5, 8.7.2	Yes
(2c)* (2d)	Does the Bridge support Extended Filtering Services?	2b:M	{D}6.6.5, 8.7.2	Yes Yes Yes
	If item (2b) is not supported, mark "N/A" and continue at (2e).	2b:0		
	Does the Bridge support dynamic Group forwarding and filtering behavior?		{D}6.6.5	
	Does the Bridge support the ability for static filtering information for individual MAC Addresses to specify a subset of Ports for which forwarding or filtering decisions are taken on the basis of dynamic filtering information?		{D}6.6.5	

Item	Feature	Status	References	Support in ZebOS
(2e)*	Does the Bridge support expedited traffic classes on any of its Ports?	O	8.1.2, 8.6.5	No
(4)*	Does the Bridge support management of the priority of relayed frames?	O	{D}6.5, 8.5.1, 8.6.5, 8.6.7, Table 8-1, Table 8-2, Table 8-3	Yes
(5)	Maintenance of filtering information (A.7)	M	8.8, 8.10	Yes

Item	Feature	Status	References	Support in ZebOS
(7a)	Can the Filtering Database be read by management?	O	8.10	Yes
(7c)*	Can Static Filtering Entries be created and deleted?	O	8.10.1	Yes
(7g)	Can Static Filtering Entries be created and deleted in the Permanent Database?	O	8.10.10	No
(7h)	Can Static Filtering Entries be created for a given MAC Address specification with a distinct Port Map for each inbound Port?	O	8.10.1	Yes
(7i)	Can Group Registration Entries be dynamically created, updated and deleted by GMRP?	2c:M	8.10.4, {D}10	Yes
(10)	Addressing (A.8)	M	8.14	Yes
(9a)*	Can the Bridge be configured to use 48-bit Universal Addresses?	O.3	8.14	Yes
(9b)*	Can the Bridge be configured to use 48-bit Local Addresses?	O.3	8.14	Yes
(13)*	Spanning Tree algorithm and protocol (A.9)	O.4	5, {D}8, {D}9	No
(rst)*	Rapid Spanning Tree algorithm and protocol	O.4	5, {D}9, {D}17	Yes
(mst)*	Multiple Spanning Tree algorithm and protocol	O.4	5, 7, 8.4.1, 8.4.2, 8.6.2, 8.10.7, 8.11, 8.12, 8.14.3, 11.2.3.4, 11.3.1, 13, 14	Yes
(msti)	Support the CIST plus a stated maximum number of MSTIs, where that number is at least 2 and at most 64	mst:M	5.2, 8.10.7, 13.14	Yes
(16)*	Does the Bridge support management of the Spanning Tree topology?	O	{D}8.2	Yes
(17)*	Does the Bridge support management of the protocol timers?	O	{D}8.10	Yes
(19)*	VLAN Bridge Management Operations	O	12	Yes

Item	Feature	Status	References	Support in ZebOS
(20a)*	Are the Bridge Management Operations supported via a Remote Management Protocol?	19:0.5	{D}5	Yes
(20b)*	Are the Bridge Management Operations supported via a local management interface?	19:0.5	{D}5	Yes

Item	Feature	Status	References	Support in ZebOS
(23a)*	Does the implementation support, on each Port, one or more of the permissible combinations of values for the Acceptable Frame Types parameter?	M	5.1, 8.4.3	Yes
(23a.1)		M		
(23a.2)	State which Ports support: — Admit only VLAN-tagged frames; — Admit all frames.	M	5.1, 8.4.3	
	On Ports that support both values, is the parameter configurable via management?		5.1, 8.4.3, 12.10	Yes
(23b)	Does the implementation support the ability to insert tag headers into, modify tag headers in, and remove tag headers from relayed frames, as required by the capabilities of each Bridge Port?	M	5.1, 6.1, 9	Yes
(23c)	Does the implementation support the ability to perform automatic configuration and management of VLAN topology information by means of GVRP on all Ports?	M	5.1, 11	Yes
(23d)	Does the implementation support the ability for the Filtering Database to contain static and dynamic configuration information for at least one VLAN, by means of Static and Dynamic VLAN Registration Entries?	M	5.1, 8.10	Yes
(23d.1)		M		
(23d.2)	State the maximum number of VLANs supported by the implementation.	M	5.1, 8.10, 9.3.2.3	
	State the range of VID values supported by the implementation.		8.10, 9.3.2.3	1-4094
(23e)*	VLAN Learning support		5.1, 8.10.3, 8.10.7, 8.10.8	
(23e.1)				
(23e.2)	Does the implementation support at least one	M		Yes
(23e.4)	FID?	M		Yes
(23e.5)	Can the implementation allocate at least one	M		4094
(23e.6)		23e.6:M		No

Item	Feature	Status	References	Support in ZebOS
(23e.7)	VID to each FID supported?		8.10.7	
(23e.8)	State the maximum number of FIDs that can be supported by the implementation.	O	8.10.7	_____ Constraints
	State the maximum number of VIDs that can be allocated to each FID.		5.2, 8.10.7, 12.10.3	No
	Does the implementation support configuration of VLAN Learning Constraints via management?		5.2, 8.10.7, 12.10.3	
	State the number of VLAN Learning Constraints that can be configured in the implementation.		5.2, 8.10.7.1, 12.10.3	
	Does the implementation support configuration of VID to FID allocations via management?			

Item	Feature	Status	References	Support in ZebOS
(23e.9)	Does the implementation take account of the allocation of VIDs to FIDs when making forwarding decisions relative to group MAC Addresses?	O	8.10.8	No
(23f)	On Ports that support untagged and priority-tagged frames, does the implementation support:		5.1, 8.4.4, 12.10	
(23f.1)	— A PVID value?	M M		Yes
(23f.2)	— The ability to configure one VLAN whose Untagged set includes that Port?	M M O		Yes
(23f.3)	— Configuration of the PVID value via management operations?			Yes
(23f.4)	— Configuration of Static Filtering Entries via management operations?			Yes
(23f.5)	— The ability to configure more than one VLAN whose Untagged set includes that Port?			Yes
(23g)*	Does the implementation support the ability to enable and disable Ingress Filtering?	O	5.2, 8.4.5	Yes
(23h)	Does the implementation support VLAN management operations?	19:0	5.2, 12.10.2, 12.10.3	Yes
(23i)	Is the minimum tagged frame length that can be transmitted on IEEE 802.3 Ports less than 68 (but 64 or more) octets?	1a.1:0	6.5	Yes
(23j)*	When transmitting untagged frames and the canonical_format_indicator parameter indicates that the mac_service_data_unit may contain		6.1, 6.4.2.2	

Item	Feature	Status	References	Support in ZebOS
(23j.1) (23j.2)	<p>embedded MAC Addresses in a format inappropriate to the destination MAC method, which of the following procedures is adopted by the Bridge:</p> <p>Convert any embedded MAC Addresses in the mac_service_data_unit to the format appropriate to the destination MAC method.</p> <p>Discard the frame without transmission on that Port.</p>	0.7 0.7		Yes No
(23k)	Does the Bridge perform frame translations, where necessary, in accordance with the procedures described in ISO/IEC 11802-5, IETF RFC 1042, and IETF RFC 1390?	TB:M	6.1, 6.4.2.2	N/A
(23l)*	Does the implementation support Port- and- Protocol-based classification of frames on any or all Ports?	0	8.6	Yes
(23m)*	Does the implementation support a Protocol Group Database?	23l:M	8.9.4	Yes

3.2 Relay and Filtering of Frames

Item	Feature	Status	References	Support	HIM
(2f)	Are received frames with MAC method errors discarded?	M	{D}6.4, 8.5	Yes	
(2g)	Are correctly received frames submitted to the Learning Process?	M	8.5	Yes	
(2h)	Are user data frames the only type of frame relayed?	M	8.5	Yes	
(2i)	Are request with no response frames the only frames relayed?	M	8.5	Yes	
(2j)	Are all frames addressed to the Bridge Protocol Entity submitted to it?	M	8.5	Yes	
(2k)	Are user data frames the only type of frame transmitted?	M	8.7	Yes	
(2l)	Are request with no response frames the only frames transmitted?	M	8.7	Yes	
(ingr)	Are frames assigned to VLANs, and discarded or permitted ingress, in accordance with classification rules?	M	8.6.1, 8.9	Yes	
(active)	Are frames allocated to spanning trees, and forwarded or discarded in accordance with the active topology for their spanning tree instance?	M	8.6.2	Yes	
(filter)	Are frames filtered as specified?	M	8.6.3	Yes	
(egrs)	Are frames filtered and formatted in accordance with egress rules?	M	8.6.4	Yes	
(pmap)	Is priority mapping performed as specified?	M	8.6.7		
(form)	Are frames formatted in accordance with the tagged frame format?	M	8.6.8, 9	Yes	
(2m)	Are relayed frames queued for transmission only under the conditions in 8.6.5?	M	8.6.5, {D}8.4	NO	HIM *
(2n)	Is the order of relayed frames preserved in accordance with the requirements of the forwarding process?	M	8.6.5, 8.1.1	Yes	
(2o)	Is a relayed frame submitted to a MAC Entity for transmission only once?	M	8.6.6, {D}6.3.4	Yes	
(2p)	Is a maximum bridge transit delay enforced for relayed frames?	M	8.6.5	NO	HIM *
(2q)	Are queued frames discarded if a Port leaves the Forwarding State?	M	8.6.5	Yes	
(2r)	Is the user priority of relayed frames preserved where possible?	M	{D}6.4	Yes	
(2s)	Is the user priority set to the Default User Priority for the reception Port otherwise?	M	{D}6.4	Yes	

Item	Feature	Status	References	Support
(2t)	Is the user priority regenerated by means of the User Priority Regeneration Table?	M	8.5.1, Table 8-1	Yes
(2u)	Is mapping of Regenerated User Priority to Traffic Class performed by means of the Traffic Class Table?	M	8.5.1, Table 8-2	
(2v)	Is the access priority derived from the Regenerated User Priority as defined by the values in Table 8-3 for each outbound MAC method supported by the Bridge?	M	8.6.7, Table 8-3	Yes
(2w)	Does the Bridge generate an M_UNITDATA.indication primitive on receipt of a valid frame transmitted by the Bridge Port's local MAC entity?	MS1:X	{D}6.5.4, ISO 9314-2	No
(2x)	Is only Asynchronous service used?	MS1:M	ISO 9314-2, 8.1.4	N/A
(2y)	On receiving a frame from an FDDI ring for forwarding, does the bridge set the C indicator?	MS1:O	{D}6.5.4, ISO 9314-2, 7.3.8	N/A
(2z)	On receiving a frame from an FDDI ring for forwarding, does the bridge leave the C indicator unaltered?	MS1:O	{D}6.5.4, ISO 9314-2, 7.3.8	N/A
	If item 4 is not supported, mark "N/A" and continue at item (4d).			N/A
(4a)*	Can the Default User Priority parameter for each Port be set to any value in the range 0 through 7?	4:O.6	{D}6.4	No
(4b)*	Can the entries in the User Priority Regeneration Table for each Port be set to the full range of values shown in Table 8-1?	4:O.6	8.5.1, Table 8-1	No
(4c)*	Can the entries in the Traffic Class Table for each Port be set to the full range of values shown in Table 8-2?	MS2:O	8.6.5, Table 8-2	N/A
	If item 4 is supported, mark "N/A" and continue at item (4g)			N/A
(4d)	Does the Bridge support the recommended default value of the Default User Priority parameter for each Port?	¬ 4:M	{D}6.4	No
(4e)	Does the Bridge support the recommended default mappings between received user priority and Regenerated User Priority for each Port as defined in Table 8-1?	¬ 4:M	8.5.1, Table 8-1	No
Item	Feature	Status	References	Support
(4f)	Does the Bridge support the recommended default user_priority to traffic class mappings shown in Table 8-2 for each Port?	MS3:M	8.6.5, Table 8-2	N/A
(4g)	Is the Bridge able to use any values other than those shown in Table 8-3 when determining the access priority for the MAC methods shown?	X	8.6.7, Table 8-3	No

3.3 Maintenance of Filtering Entries

Item	Feature	Status	References	Support
(5a)	Are Dynamic Filtering Entries created and updated if and only if the Port State permits?	M	8.10, 8.10.3, {D}8.4	Yes
(5b)	Are Dynamic Filtering Entries created on receipt of frames with a group source address?	X	8.10, 8.10.3	No
(5c)	Does the Filtering Database support Static Filtering Entries?	M	8.10.1	Yes
(5d)	Can a Dynamic Filtering Entry be created that conflicts with an existing Static Filtering Entry?	X	8.8, 8.10, 8.10.1, 8.10.3	No
(5e)	Does the Filtering Database support Dynamic Filtering Entries?	M	8.10.3	Yes
(5f)	Does the creation of a Static Filtering Entry remove any conflicting information in a Dynamic Filtering Entry for the same address?	M	8.10.1, 8.10.3	Yes
(5g)	Does each Static Filtering Entry specify a MAC Address specification and a Port Map?	M	8.10.1	Yes
(5h)	Are Dynamic Filtering Entries removed from the Filtering Database if not updated for the Ageing Time period?	M	8.10.3	Yes
(5i)	Does each Dynamic Filtering Entry specify a MAC Address specification and a Port Map?	M	8.10.3	Yes
(5j)	Is the Filtering Database initialized with the entries contained in the Permanent Database?	M	8.10.10	Yes
	If item (2c) is not supported, mark N/A and continue at item (6a).			N/A
(5k)	Does each Group Registration Entry specify a MAC Address specification and a Port Map?	2c:M	8.10.4	Yes

Item	Feature	Status	References	Support
(5l)	Can the MAC Address specification in Group Registration Entries represent All Groups, All Unregistered Groups, or a specific group MAC Address?	2c:M	8.10.4	Yes
(5m)	Are Group Registration Entries created, updated and removed from the Filtering Database in accordance with the specification of GMRP?	2c:M	8.10.4, {D}10	Yes
(5n)	Are Group Registration Entries created, updated and removed from the Filtering Database by any means other than via the operation of GMRP?	2c:X	8.10.4, {D}10	No
(6a)	State the Filtering Database Size.	M	8.10	
(6b)	State the Permanent Database Size.	M	8.10	
	If item (7c) is not supported, mark N/A and continue at item (8a).			
(7d)	Can Static Filtering Entries be made for individual MAC Addresses?	7c:M	8.10.1	Yes
(7e)	Can Static Filtering Entries be made for group MAC Addresses?	7c:M	8.10.1	Yes
(7f)	Can a Static Filtering Entry be made for the broadcast MAC Address?	7c:M	8.10.1	Yes
(8a)	Can the Bridge be configured to use the default value of Ageing Time recommended in Table 8-4?	O	8.10.3, Table 8-4	Yes
(8b)	Can the Bridge be configured to use any of the range of values of Ageing Time specified in Table 7-4?	O	8.10.3, Table 8-4	Yes

3.4 Addressing

Item	Feature	Status	References	Support
(10a)	Does each Port have a separate MAC Address?	M	8.14.3	Yes
(10b)	Are all BPDUs transmitted to the same group address?	M	8.14.3, {D}8.2	Yes
	If item (9a) is not supported, mark N/A and continue at item (10d1).			
(10c)	Are all BPDUs transmitted to the Bridge Protocol Group Address when Universal Addresses are used?	9a:M	8.14.3 {D}8.2	Yes
(10d)	Is the source address of BPDUs the address of the transmitting Port?	9a:M	8.14.3	Yes

Item	Feature	Status	References	Support
(10d1)	Is the LLC address of BPDUs the standard LLC address identified for the Spanning Tree Protocol?	M	8.14.3, Table 8-9	Yes
(10e)	Is the Bridge Address a Universal Address?	M	8.14.5, {D}8.2	Yes
(10f)	Are frames addressed to any of the Reserved Addresses relayed by the Bridge?	X	8.14.6	No
	If item (13) is not supported, mark N/A and continue at item (11c).			
(11a)	Is Bridge Management accessible through each Port using the MAC Address of the Port and the LSAP assigned?	13:O	8.14.4	Yes
(11b)	Is Bridge Management accessible through all Ports using the All LANs Bridge Management Group Address?	13:O	8.14.4	Yes
(11c)	Is the Bridge Address the Address of Port 1?	9a:O	8.14.5	No
(11d)*	Are Group Addresses additional to the Reserved Addresses pre-configured in the Permanent Database?	O	8.14.6	No
	If item (11d) is not supported, mark N/A and continue at item (12a).			N/A
(11e)	Can the additional pre-configured entries in the Filtering Database be deleted?	11d:O	8.14.6	
(12a)	Can a group MAC Address be assigned to identify the Bridge Protocol Entity?	9b:M	{D}8.2	Yes
(12c)	Does each Port of the Bridge have a distinct identifier?	M	{D}8.2, {D}8.5.5.1	Yes

3.5 Spanning Tree Protocol

Item	Feature	Status	References	Support
	If item (13) is not supported, mark N/A and continue at the start of A.10.			
(13a)	Are all the following Bridge Parameters maintained?	13:M	{D}8.5.3	Yes
	Designated Root		{D}8.5.3.1	
	Root Cost		{D}8.5.3.2	
	Root Port		{D}8.5.3.3	
	Max Age		{D}8.5.3.4	
	Hello Time		{D}8.5.3.5	
	Forward Delay		{D}8.5.3.6	

Item	Feature	Status	References	Support
	Bridge Identifier		{D}8.5.3.7	
	Bridge Max Age		{D}8.5.3.8	
	Bridge Hello Time		{D}8.5.3.9	
	Bridge Forward Delay		{D}8.5.3.10	
	Topology Change Detected		{D}8.5.3.11	
	Topology Change		{D}8.5.3.12	
	Topology Change Time		{D}8.5.3.13	
	Hold Time		{D}8.5.3.14	
(13b)	Are all the following Bridge Timers maintained?	13:M	{D}8.5.4	Yes
	Hello Timer		{D}8.5.4.1	
	Topology Change Notification Timer		{D}8.5.4.2	
	Topology Change Timer		{D}8.5.4.3	
(13c)	Are all the following Port Parameters maintained for each Port?	13:M	{D}8.5.5	Yes
	Port Identifier		{D}8.5.5.1	
	State		{D}8.5.5.2, {D}8.4	
	Path Cost		{D}8.5.5.3	
	Designated Root		{D}8.5.5.4	
	Designated Cost		{D}8.5.5.5	
	Designated Bridge		{D}8.5.5.6	
	Designated Port		{D}8.5.5.7	
	Topology Change Acknowledge		{D}8.5.5.8	
	Configuration Pending		{D}8.5.5.9	
	Change Detection Enabled		{D}8.5.5.10	
(13d)	Are all the following Timers maintained for each Port?	13:M	{D}8.5.6	Yes
	Message Age Timer		{D}8.5.6.1	
	Forward Delay Timer		{D}8.5.6.2	
	Hold Timer		{D}8.5.6.3	
(13e)	Are Protocol Parameters and Timers maintained, and BPDUs transmitted, as required on each of the following events?	13:M	{D}8.7, {D}8.9, {D}8.5.3, {D}8.5.4, {D}8.5.5, {D}8.5.6	Yes
	Received Configuration BPDU		{D}8.7.1	

Item	Feature	Status	References	Support
	Received Topology Change Notification BPDU		{D}8.7.2	
	Hello Timer Expiry		{D}8.7.3	
	Message Age Timer Expiry		{D}8.7.4	
	Forward Delay Timer Expiry		{D}8.7.5	
	Topology Change Notification Timer Expiry		{D}8.7.6	
	Topology Change Timer Expiry		{D}8.7.7	
	Hold Timer Expiry		{D}8.7.8	
(13f)	Do the following operations modify Protocol Parameters and Timers, and transmit BPDUs as required?	13:M	{D}8.8, {D}8.9, {D}8.5.3, {D}8.5.4, {D}8.5.5, {D}8.5.6	Yes
	Initialization		{D}8.8.1	
	Enable Port		{D}8.8.2	
	Disable Port		{D}8.8.3	
	Set Bridge Priority		{D}8.8.4	
	Set Port Priority		{D}8.8.5	
	Set Path Cost		{D}8.8.6	
(13g)	Does the implementation support the ability to set the value of the Change Detection Enabled parameter to Disabled?	13:O	{D}8.5.5.10	No
(14a)	Does the Bridge underestimate the increment to the Message Age parameter in transmitted BPDUs?	13:X	{D}8.10.1	No
(14b)	Does the Bridge underestimate Forward Delay?	13:X	{D}8.10.1	No
(14c)	Does the Bridge overestimate the Hello Time interval?	13:X	{D}8.10.1	No
(15a)	Does the Bridge use the specified value for Hold Time?	13:M	{D}8.10.2, {D}Table 8-3	Yes
	If item (16) is not supported, mark N/A and continue at (17a).			
(16a)	Can the relative priority of the Bridge be set?	13 AND 16:M	{D}8.2, {D}8.5.3.7, {D}8.8.4	Yes
(16b)	Can the relative priority of the Ports be set?	13 AND 16:M	{D}8.2, {D}8.5.5.1, {D}8.8.5	Yes
(16c)	Can the path cost for each Port be set?	13 AND 16:M	{D}8.2, {D}8.5.5.3, {D}8.8.6	Yes

Item	Feature	Status	References	Support
	If item (17) is not supported, mark N/A and continue at (18a).			
(17a)	Can Bridge Max Age be set to any of the range of values specified?	13 AND 17:M	{D}8.10.2, {D}8.5.3.8, {D}Table 8-3	Yes
(17b)	Can Bridge Hello Time be set to any of the range of values specified?	13 AND 17:M	{D}8.10.2, {D}8.5.3.9, {D}Table 8-3	Yes
(17c)	Can Bridge Forward Delay be set to any of the range of values specified?	13 AND 17:M	{D}8.10.2, {D}8.5.3.10, {D}Table 8-3	Yes
(18a)	Do all BPDUs contain an integral number of octets?	13:M	{D}9.1.1	Yes
(18b)	Are all the following BPDU parameter types encoded as specified?	13:M	{D}9.1.1, {D}9.2	Yes
	Protocol Identifiers		{D}9.2.1	
	Protocol Version Identifiers		{D}9.2.2	
	BPDU Types		{D}9.2.3	
	Flags		{D}9.2.4	
	Bridge Identifiers		{D}9.2.5	
	Root Path Cost		{D}9.2.6	
	Port Identifiers		{D}9.2.7	
	Timer Values		{D}9.2.8	
(18c)	Do Configuration BPDUs have the format and parameters specified?	13:M	{D}9.3.1	Yes
(18d)	Do Topology Change Notification BPDUs have the format and parameters specified?	13:M	{D}9.3.2	Yes
(18e)	Are received BPDUs validated as specified?	13:M	{D}9.3.3	Yes

3.6 Rapid Spanning Tree Protocol

Item	Feature	Status	References	Support
	If item (rst) is not supported, mark N/A and continue at the start of A.11.			
(ids)	Provision of identifiers for Bridge and Ports	rst:M	{D}17.2	Yes
(par1)	Not exceed the values in {D}17.28.2 for max Bridge transit delay, max message age increment overestimate and max BPDU transmission delay	rst:M	{D}5.1, {D}17.28.2	No
(par2)	Use the value given in {D}Table 17-5 for Transmission Limit	rst:M	{D}5.1, {D}Table 17-5	Yes

Item	Feature	Status	References	Support	HIM
(inc)	Inclusion of active Ports in computation of the active topology	rst:M	{D}17.5	Yes	
(pro)	Processing of BPDUs received on Ports included in the computation of the active topology	rst:M	{D}17.5	Yes	
(dis)	Discarding received frames in the Discarding state	rst:M	{D}17.5	Yes	
(lrm)	Incorporating station location information to the Filtering Database in the Learning and Forwarding states	rst:M	{D}17.5	Yes	
(nlrm)	Not incorporating station location information to the Filtering Database in the Discarding state	rst:M	{D}17.5	Yes	
(rlrm)	Transfer learned MAC addresses from a retiring Root Port to a new Root Port	rst:O	{D}17.10	Yes	
(sm)	A single instance of the Port Role Selection state machine per Bridge and an instance of all other state machines per Port	rst:M	{D}17.13	Yes	
(ptmr)	Port Timers state machine support	rst:M	{D}17.15, {D}17.20	Yes	
(pism)	Port Information state machine support	rst:M	{D}17.15, {D}17.21	Yes	
(prssm)	Port Role Selection state machine support	rst:M	{D}17.15, {D}17.22	Yes	
(prtsm)	Port Role Transitions state machine support	rst:M	{D}17.15, {D}17.23	Yes	
(pstsm)	Port State Transition state machine support	rst:M	{D}17.15, {D}17.24	Yes	
(tcsn)	Topology Change state machine support	rst:M	{D}17.15, {D}17.25	Yes	
(ppmsm)	Port Protocol Migration state machine support	rst:M	{D}17.15, {D}17.26	Yes	
(ptsm)	Port Transmit state machine support	rst:M	{D}17.15, {D}17.27	Yes	
(cde)	Not support Change Detection Enabled parameter	rst:M	{D}5.2	NO	
(estm)	Not: Underestimate the increment to the Message Age parameter in transmitted BPDUs. Underestimate Forward Delay. Overestimate the Hello Time interval when acting as the Root.	rst:M	{D}17.28.1		
(htim)	Use of Transmission Limit	rst:M	{D}Table 17-5	NO	HIM '
(prel)	Enforcement of parameter relationships	rst:M	{D}17.28.2	Yes	
(pcst)	No defaulting to use of automatic path cost changes	rst:M	{D}17.28.2	Yes	
(prv)	Range and granularity of priority values	rst:M	{D}17.28.2	Yes	

Item	Feature	Status	References	Support
(pcv)	Range and granularity of path cost values	rst:M	{D}17.28.2	Yes
	If item (16) is not supported, mark N/A and continue at (tmr1)			
(mgt1)	Can the relative priority of the Bridge be set?	rst AND 16:M	{D}17.2, {D}17.4, {D}17.13	Yes
(mgt2)	Can the relative priority of the Ports be set?	rst AND 16:M	{D}17.2, {D}17.4, {D}17.13	Yes
(mgt3)	Can the path cost for each Port be set?	rst AND 16:M	{D}17.2, {D}17.4, {D}17.13	Yes
	If item (17) is not supported, mark N/A and continue at (pdu1)			
*(tmr1)	Can Bridge Max Age be set to any of the range of values specified?	rst AND 17:M	{D}17.2, {D}17.13, {D}Table 17-5	Yes
(tmr2)	Can Bridge Hello Time be set to any of the range of values specified?	rst AND 17:M	{D}17.2, {D}17.13, {D}Table 17-5	Yes
(tmr3)	Can Bridge Forward Delay be set to any of the range of values specified?	rst AND 17:M	{D}17.2, {D}17.13, {D}Table 17-5	Yes
*(pdu1)	Do all BPDUs contain an integral number of octets?	rst:M	{D}9.1.1	Yes
(pdu2)	Are all the following BPDU parameter types encoded as specified?	rst:M	{D}9.1.1, {D}9.2	Yes
	Protocol Identifiers		{D}9.2.1	
	Protocol Version Identifiers		{D}9.2.2	
	BPDU Types		{D}9.2.3	
	Flags		{D}9.2.4	
	Bridge Identifiers		{D}9.2.5	
	Root Path Cost		{D}9.2.6	
	Port Identifiers		{D}9.2.7	
	Timer Values		{D}9.2.8	
(pdu3)	Do Configuration BPDUs have the format, parameters, and parameter values specified?	rst:M	{D}9.3.1	Yes

Item	Feature	Status	References	Support
(pdu4)	Do Topology Change Notification BPDUs have the format, parameters, and parameter values specified?	rst:M	{D}9.3.2	Yes
(pdu5)	Do Rapid Spanning Tree BPDUs have the format, parameters, and parameter values specified?	rst:M	{D}9.3.3	Yes
(pdu6)	Are received BPDUs validated as specified?	rst:M	{D}9.3.4	Yes

3.7 Multiple Spanning Tree Protocol

Item	Feature	Status	References	Support
	If item (mst) is not supported, mark N/A and continue at the start of A.12.			
(maxfid)	Support at least as many FIDs as MSTIs	mst:M	5.1, 5.2, 8.10.7	Yes
(assfid)	Associate each FID to a spanning tree	mst:M	5.1, 8.11.3	Yes
(confid)	Transmit and receive MST Configuration Identifier information	mst:M	5.1, 8.11.2	Yes
(pstate)	Support a set of port state information per spanning tree per port	mst:M	5.1, 8.4.1, 8.4.2, 13.34	Yes
(proto)	Support an instance of spanning tree protocol per spanning tree per port	mst:M	5.1, 8.12, 13	Yes
(baddr)	Use the Bridge Group Address as specified	mst:M	5.1, 8.14.3	Yes
(default)	Support default Bridge Forward Delay and Bridge Priority parameter values as specified	mst:M	5.1, 13.23	Yes
(gvrptcx)	Support GVRP in multiple spanning tree contexts	mst:M	5.1, 11.2.3.3, 11.2.3.4	Yes
(manage)	Support VLAN bridge management for the bridge protocol entity in all supported spanning trees	mst:M	5.1, 12.8	Yes
(manag1)	Support independent management of bridge and port priority and path cost per spanning tree	mst:M	5.1, 12.8.1	Yes
(manag2)	Support VLAN management per spanning tree	mst:M	5.1, 12.10.1	Yes
(manag3)	Support MSTI configuration management	mst:M	5.1, 12.12	Yes
(mids)	Provision of identifiers for Bridge and Ports	mst:M	13.23.2, 13.24.21, {D}17.2	Yes
(mpar1)	Not exceed the values in {D}17.28.2 for max Bridge transit delay, max message age increment overestimate and max BPDU transmission delay	mst:M	13.36, {D}5.1, {D}17.28.2	Yes
(mpar2)	Use the value given in {D}Table 17-5 for Transmission Limit	mst:M	13, {D}5.1, {D}Table 17-5	Yes
(minc)	Inclusion of active Ports in computation of the active topology for a given spanning tree	mst:M	13, {D}17.5	Yes

Item	Feature	Status	References	Support
(mpro)	Processing of BPDUs received on Ports included in the computation of the active topology for a given spanning tree	mst:M	13, {D}17.5	Yes
(mdis)	Discarding received frames in the Discarding state for a given spanning tree	mst:M	13, {D}17.5	Yes
(mlm)	Incorporating station location information to the Filtering Database in the Learning and Forwarding states for a given spanning tree	mst:M	13, {D}17.5	Yes
(mnlm)	Not incorporating station location information to the Filtering Database in the Discarding state for a given spanning tree	mst:M	13, {D}17.5	Yes
(mrlm)	Transfer learned MAC addresses from a retiring Root Port to a new Root Port for a given spanning tree	mst:O	13, {D}17.10	Yes
(msm)	Instances of state machines per Bridge, per Port and per spanning tree instance, as specified	mst:M	13.19	Yes
(mptmr)	Port Timers state machine support	mst:M	13.21, 13.27	Yes
(mprsm)	Port Receive state machine support	mst:M	13.21, 13.28	Yes
(mmsm)	Port Protocol Migration state machine support	mst:M	13.21, 13.29	Yes
(mptsm)	Port Transmit state machine support	mst:M	13.21, 13.30	Yes
(mpism)	Port Information state machine support	mst:M	13.21, 13.31	Yes
(mprssm)	Port Role Selection state machine support	mst:M	13.21, 13.32	Yes
(mprtsm)	Port Role Transitions state machine support	mst:M	13.21, 13.33	Yes
(mpstsm)	Port State Transition state machine support	mst:M	13.21, 13.34	Yes
(mtcsm)	Topology Change state machine support	mst:M	13.21, 13.35	Yes
(mcde)	Not support Change Detection Enabled parameter	mst:M	{D}5.2	Yes
(mestm)	Not: Underestimate the increment to the Message Age parameter in transmitted BPDUs. Underestimate Forward Delay. Overestimate the Hello Time interval.	mst:M	13.35, {D}17.28.1	Yes
(mhtim)	Use of Transmission Limit	mst:M	13.35, {D}Table 17-5	Yes
(mprel)	Enforcement of parameter relationships	mst:M	13.35, {D}17.28.2	Yes
(mprv)	Range and granularity of priority values	mst:M	13.35, {D}17.28.2	Yes
(mpcv)	Range and granularity of path cost values	mst:M	13.35, {D}17.28.2	Yes
	If item (16) is not supported, mark N/A and continue at (mtmr1)			

Item	Feature	Status	References	Support
(mmgt1)	Can the relative priority of the Bridge be set?	mst AND 16:M	{D}17.2, {D}17.4, {D}17.13	Yes
(mmgt2)	Can the relative priority of the Ports be set?	mst AND 16:M	{D}17.2, {D}17.4, {D}17.13	Yes
(mmgt3)	Can the path cost for each Port be set?	mst AND 16:M	{D}17.2, {D}17.4, {D}17.13	Yes
	If item (17) is not supported, mark N/A and continue at (mpdu1)			
*(mtmr1)	Can Bridge Max Age be set to any of the range of values specified?	mst AND 17:M	{D}17.2, {D}17.13, {D}Table 17-5	Yes
(mtmr2)	Can Port Hello Time (13.22) be set to any of the range of values specified?	mst AND 17:M	{D}17.2, {D}17.13, {D}Table 17-5	Yes
(mtmr3)	Can Bridge Forward Delay be set to any of the range of values specified?	mst AND 17:M	{D}17.2, {D}17.13, {D}Table 17-5	Yes
*(mpdu1)	Do all BPDUs contain an integral number of octets?	mst:M	14.1.1	Yes
(mpdu2)	Are all the BPDU parameter types encoded as specified?	mst:M	14.2, {D}9.1.1, {D}9.2	Yes
(mpdu3)	Do Configuration BPDUs have the format, parameters, and parameter values specified?	mst:M	{D}9.3.1	Yes
(mpdu4)	Do Topology Change Notification BPDUs have the format, parameters, and parameter values specified?	mst:M	{D}9.3.2	Yes
(mpdu5)	Do Rapid Spanning Tree BPDUs have the format, parameters, and parameter values specified?	mst:M	{D}9.3.3	Yes
(mpdu6)	Do Multiple Spanning Tree BPDUs have the format, parameters, and parameter values specified?	mst:M	14.3	Yes
(mpdu7)	Are received BPDUs validated as specified?	mst:M	14.4, 14.6	Yes
(mpdu8)	Are Configuration, TCN, RST and MST BPDUs encoded and transmitted as specified?	mst:M	14.5, 14.6	Yes

3.8 Bridge Management

Item	Feature	Status	References	Support
	If item (19) is not supported, mark N/A and continue at (20c).			
(19a)	Discover Bridge	19:M	12.4.1.1	HO
(19b)	Read Bridge	19:M	12.4.1.2	HO
(19c)	Set Bridge Name	19:M	12.4.1.3	Yes
(19d)	Reset Bridge	19:M	12.4.1.4	Yes
(19e)	Read Port	19:M	12.4.2.1	HO
(19f)	Set Port Name	19:M	12.4.2.2	HO
(19g)	Read Forwarding Port Counters	19:M	12.6.1.1	
(19g.1)	Are the Forwarding Port Counters maintained per VLAN?	19:O		Yes
(19g.2)	Does the implementation support the Discard on Error Details parameter?	19:O		Yes
(19h)	Read Filtering Database	19:M	12.7.1.1	Yes []
(19i)	Set Filtering Database Ageing Time	19:M	12.7.1.2	Yes
(19j)	Read Permanent Database	19:M	12.7.6.1	HO
(19k)	Create Filtering Entry	19:M	12.7.7.1	Yes []
(19l)	Delete Filtering Entry	19:M	12.7.7.2	HO
(19m)	Read Filtering Entry	19:M	12.7.7.3	HO
(19n)	Read Filtering Entry Range	19:M	12.7.7.4	HO
(19o)	Read CIST Bridge Protocol Parameters	19:M	12.8.1.1	HO
(m19o)	Read MSTI Bridge Protocol Parameters	19 AND mst:M	12.8.1.2	HO
(19p)	Set CIST Bridge Protocol Parameters	19:M	12.8.1.3	Yes
(m19p)	Set MSTI Bridge Protocol Parameters	19 AND mst:M	12.8.1.4	Yes
(19q)	Read CIST Port Parameters	19:M	12.8.2.1	HO
(m19q)	Read MSTI Port Parameters	19 AND mst:M	12.8.2.2	HO
(19r)	Force CIST Port State	19:M	12.8.2.3	HO
(m19r)	Force MSTI Port State	19 AND mst:M	12.8.2.4	HO
(19s)	Set CIST Port Parameters	19:M	12.8.2.5	Yes
(m19s)	Set MSTI Port Parameters	19 AND mst:M	12.8.2.6	Yes
(migr)	Force BPDU Migration Check	19 AND (rst OR mst):M	12.8.2.7	HO

Item	Feature	Status	References	Support
(19t)	Read Port Default User Priority	MS4:M	12.6.2.1	NO
(19u)	Set Port Default User Priority	MS4:M	12.6.2.2	Yes
(19v)	Read Port User Priority Regeneration Table	MS5:M	12.6.2.3	NO
(19w)	Set Port User Priority Regeneration Table	MS5:M	12.6.2.4	NO
(19x)	Read Port Traffic Class Table	MS7:M	12.6.3.1	NO
(19y)	Set Port Traffic Class Table	MS7:M	12.6.3.2	NO
(19z)	Read Outbound Access Priority Table	MS6:M	12.6.2.5	NO
(19aa)	Read GARP Timers	MS8:M	12.9.1.1	NO
(19ab)	Set GARP Timers	MS8:M	12.9.1.2	Yes
(19ac)	Read GARP Protocol Controls	MS8:M	12.9.2.1	NO
(19ad)	Set GARP Protocol Controls	MS8:M	12.9.2.2	Yes
(19ae)	Read GARP State	MS8:M	12.9.3.1	NO
(19af)	Read Bridge VLAN Configuration	19:M	12.10.1.1	NO
(19ah)	Configure PVID values	19:M	12.10.1.2	NO
(19ai)	Configure Acceptable Frame Types parameter	23a.2:M	12.10.1.3	Yes
(19aj)	Configure Enable Ingress Filtering parameters	23g:M	12.10.1.4	Yes
(19ak)	Reset Bridge VLAN Bridge.	19:M	12.10.1.5	Yes
(19al)	Notify VLAN Registration Failure	19:M	12.10.1.6	Yes
(19am)	Read VLAN Configuration	19:M	12.10.2.1	NO
(19an)	Create VLAN Configuration	19:M	12.10.2.2	Yes
(19ao)	Delete VLAN Configuration	19:M	12.10.2.3	Yes
	If item (mst) is not supported, mark N/A and continue at (19ap)			N/A
(rmst)	Read MSTI List	19 AND mst:M	12.12.1.1	
(cmst)	Create MSTI	19 AND mst:M	12.12.1.2	
(dmst)	Delete MSTI	19 AND mst:M	12.12.1.3	
(rfmst)	Read FID to MSTI allocation	19 AND mst:M	12.12.2.1	
(sfmst)	Set FID to MSTI allocation	19 AND mst:M	12.12.2.2	
(rmste)	Read MST Configuration Table Element	19 AND mst:M	12.12.3.1	
(rmstv)	Read VIDs assigned to MSTID	19 AND mst:M	12.12.3.2	

Item	Feature	Status	References	Support
(rmstc)	Read MSTI Configuration Identifier	19 AND mst:M	12.12.3.3	
(smstc)	Set MSTI Configuration Identifier	19 AND mst:M	12.12.3.4	
	If Item (23e.6) is not supported, mark N/A and continue at Item (19at).			N/A
(19ap)	Read VLAN Learning Constraints	23e.6:M	12.10.3.1	
(19aq)	Read VLAN Learning Constraints for VID	23e.6:M	12.10.3.2	
(19aq)	Set VLAN Learning Constraint	23e.6:M	12.10.3.3	
(19ar)	Delete VLAN Learning Constraint	23e.6:M	12.10.3.4	
(19as)	Notify Learning Constraint Violation	23e.6:M	12.10.3.10	
	If Item (23e.8) is not supported, mark N/A and continue at Item (20c).			N/A
(19at)	Read VID to FID allocations	23e.8:M	12.10.3.5	
	Read FID allocation for VID	23e.8:M	12.10.3.6	
	Read VIDs allocated to FID	23e.8:M	12.10.3.7	
	Set VID to FID allocation	23e.8:M	12.10.3.8	
	Delete VID to FID allocation	23e.8:M	12.10.3.9	
	If item (20a) is not supported, mark N/A and continue at (20e).			N/A []
(20c)	What Management Protocol standard(s) or specification(s) are supported?	20a:M	{D}5	SHMP V2
(20d)	What standard(s) or specifications for Managed Objects and Encodings are supported?	20a:M	{D}5	SMUX
	If item (20b) is not supported, mark N/A and continue at A.11.			
(20e)	What specification of the local management interface is supported?	20b:M	{D}5	CLI

3.9 GMRP and GARP

Item	Feature	Status	References	Support
	If Item 2b is not supported, mark N/A and continue at item (22i).			
(22a)	Is the GMRP Application address used as the destination MAC Address in all GMRP protocol exchanges?	2b:M	{D}10.4.1, {D}Table 12-1	Yes
(22b)	Are GMRP protocol exchanges achieved by means of LLC Type 1 procedures, using the LLC address for Spanning Tree protocol?	2b:M	{D}12.4, {D}12.5, {D}Table 7-8	Yes

Item	Feature	Status	References	Support
(22c)	Are GMRP protocol exchanges achieved using the GARP PDU formats, and the definition of the attribute type and value encodings defined for GMRP?	2b:M	10, {D}10.3.1, {D}12.4, {D}12.5, {D}12.11	Yes
(22d)	Does the implementation support the operation of the Applicant, Registrar, and Leave All state machines?	2b:M	{D}12.8	Yes
(22e)	Does the Bridge propagate registration GMRP information only on Ports that are part of the active topology of the GIP Context for the VLAN on which the registration was received?	2b:M	10, {D}12.3.3, {D}12.3.4	Yes
(22f)	Are GARP PDUs received on Ports that are in the Forwarding State forwarded, filtered or discarded in accordance with the requirements for handling GARP Application addresses?	2b:M	{D}7.12.3, {D}12.5	Yes
(22g)	Does the GMRP application operate as defined in Clause 10 of IEEE Std 802.1D, 1998 Edition, as modified by Clause 10 of this standard?	2b:M	10, {D}10, {D}10.3	Yes
(22h)	Are received GARP PDUs that are not well formed for any GARP Applications supported, discarded?	2b:M	10, {D}10.3.1, {D}12.4, {D}12.5, {D}12.10, {D}12.11	Yes
(22i)	Does the implementation support the use of the Restricted Group Registration parameter for each Port?	2b:O	5.2, {D}10.3.2	Yes
(22j)	Are all GARP PDUs that are (a) Received on Ports that are in the Forwarding State, and are (b) Destined for GARP applications that the Bridge does not support, forwarded on all other Ports that are in Forwarding?	M	8.14.3, {D}12.5	Yes
(22k)	Are any GARP PDUs that are (a) Received on any Port, and (b) Destined for GARP applications that the Bridge does not support, submitted to any GARP Participants?	X	8.14.3, {D}12.5	No
(22l)	Are any GARP PDUs that are (a) Received on any Ports that are not in the Forwarding State, and are (b) Destined for GARP applications that the Bridge does not support, forwarded on any other Ports of the Bridge?	X	8.14.3, {D}12.5	No

Item	Feature	Status	References	Support
(22m)	Are any GARP PDUs that are (a) Received on any Ports that are in the Forwarding State, and are (b) Destined for GARP applications that the Bridge supports, forwarded on any other Ports of the Bridge?	X	8.14.3, {D} 12.5	No
(22n)	Are all GARP PDUs that are: (a) Received on any Port, and (b) Destined for GARP applications that the Bridge supports, submitted to the appropriate GARP Participants?	M	8.14.3, {D} 12.5	Yes
22o	Are all GARP PDUs received on disabled Ports discarded?	M	{D} 12.2	Yes

3.10 VLAN Support

Item	Feature	Status	References	Support
	Ingress rules			
(24a)	Can the PVID or the VID in any member of the VID Set for any Port be assigned the value of the null VLAN ID?	X	8.4.4, Table 9-2	No
(24b)	Are frames discarded (or not discarded) in accordance with the settings of the Acceptable Frame Types parameters?	M	8.6.1	Yes
(24c)	Are all frames received classified as belonging to exactly one VLAN, as defined in the ingress rules?	M	8.6.1	Yes
(24d)	Is Ingress Filtering performed in accordance with the value of the Enable Ingress Filtering parameter?	M	8.6.1	Yes
(24e)	Are all frames that are not discarded as a result of the application of the ingress rules submitted to the Forwarding Process and to the Learning Process?	M	8.6.1	Yes
(24f)	State which Ports support Port-and-Protocol-based classification rules.	23I:M	8.4.4	Yes
(24f.1)	For each Port that supports Port-and-Protocol-based classification rules, is a VID Set supported?	23I:M	8.4.4	
(24f.2)	For each Port that supports Port-and-Protocol-based classification rules, state how many entries are supported in the VID Set.	23I:M	8.4.4	
(24f.3)	For each Port that supports Port-and-Protocol-based classification rules, is the VID Set configurable via management?	23I:M	12.10.1.2	

Item	Feature	Status	References	Support
(24g.1)	State how many entries are supported in the Protocol Group Database.	23m:M	8.9.4	
(24g.2)	Is the Protocol Group Database configurable via management?	23m:O	12.10.2.1	No
(24g.3)	Does the Protocol Group Database support entries of format Ethernet?	23m:O	8.9.4	No
(24g.4)	Does the Protocol Group Database support entries of format RFC_1042?	23m:O	8.9.4	No
(24g.5)	Does the Protocol Group Database support entries of format SNAP_8021H?	23m:O	8.9.4	No
(24g.6)	Does the Protocol Group Database support entries of format SNAP_Other?	23m:O	8.9.4	No
(24g.7)	Does the Protocol Group Database support entries of format LLC_Other?	23m:O	8.9.4	No
(24g.8)	Does the Protocol Group Database support entries of at least one of the following formats: Ethernet, RFC_1042, SNAP_8021H, SNAP_Other, LLC_Other?	23m: M	8.9.4	No
	Egress rules			
(25a)	Are frames discarded if the transmission Port is not present in the Member set for the frame's VID?	M	8.6.4, 8.10.9	Yes
(25b)	Are frames discarded if the value of the include_tag parameter is False, and the Bridge does not support the ability to translate embedded MAC Address information from the format indicated by the canonical_format_indicator parameter to the format appropriate to the media type on which the data request will be carried?	23j.2:M	8.6.4	Yes
(25c)	Are frames transmitted as VLAN-tagged frames or as untagged frames in accordance with the value of the untagged set for the frame's VID?	M	8.6.4	Yes
	Filtering Database			
(26a)	Does the implementation support Static VLAN Registration Entries as defined in 8.11.2?	M	8.10.2	Yes
(26b)	Does the implementation support the creation of a separate Static VLAN Registration Entry with a distinct Port Map for each VLAN from which frames are received by the Forwarding Process?	O	8.10.2	Yes
(26c)	Does the implementation support Dynamic VLAN Registration Entries as defined in 8.11.5?	M	8.10.5	Yes

Item	Feature	Status	References	Support
(26d)	Does the implementation support the creation of a separate Dynamic VLAN Registration Entry with a distinct Port Map for each VLAN from which frames are received by the Forwarding Process?	O	8.10.5	Yes
(26e)	Does the implementation allocate VIDs to FIDs in accordance with the specification in 8.11.7?	M	8.10.7, 8.10.7.2	Yes
(26f)	Does the implementation correctly detect Learning Constraint violations?	M	8.10.7.3	Yes
(26g)	Is determination of the Member set and the untagged set for a given VLAN achieved as defined in 8.11.9?	M	8.10.9	Yes
	Tagged frames			
(27a)	Do VLAN-tagged frames transmitted by the Bridge conform to the format defined in Clause 9 for the MAC type on which they are transmitted?	M	9	Yes
(27b)	Are all BPDUs transmitted untagged?	M	8.14.7	Yes
	VLAN use of GMRP. If item (2b) is not supported, mark N/A and continue at item (29a).			
(28a)	Does the implementation of GMRP recognize the use of VLAN Contexts for the transmission and reception of GMRP PDUs?	2b:M	10, 10.1, 10.2 10.3	Yes
(28b)	Does the implementation of GMRP support the creation of distinct GMRP Participants for each VLAN context?	2b:M	10.2	Yes
(28c)	Does the implementation support the identification of VLAN contexts in transmitted GMRP PDUs by means of VLAN-tagged or untagged frames, in accordance with the member set and untagged set for the VLAN Context concerned?	2b:M	10.3	Yes
(28d)	Are GMRP PDUs transmitted only on Ports that are part of the active topology for the VLAN Context concerned?	2b:M	10.1	Yes
	VLAN Topology Management			
(29a)	Does the implementation support the creation, updating and removal of Dynamic VLAN Registration Entries in the Filtering Database under the control of GVRP?	M	11	No
(29b)	Does the Permanent Database contain an entry for the Default VID that defines Registration Fixed on all Ports?	O	11.2.1.3	No
(29c)	Is the GVRP Application address used as the destination MAC Address in all GVRP protocol exchanges?	M	11, Table 11-1	Yes

Item	Feature	Status	References	Support
(29d)	Are GVRP protocol exchanges achieved by means of LLC Type 1 procedures, using the LLC address for Spanning Tree protocol?	M	11, {D}12.4, {D}12.5, {D}Table 7-8	Yes
(29e)	Are GVRP protocol exchanges achieved using the GARP PDU formats, and the definition of the attribute type and value encodings defined for GVRP?	M	11, 11.2.3.1, {D}12.4, {D}12.5, {D}12.11	Yes
(29f)	Does the implementation support the operation of the Applicant, Registrar, and Leave All state machines?	M	{D}12.8	Yes
(29g)	Does the Bridge propagate registration GVRP information only on Ports that are part of the active topology of the base Spanning Tree Context?	M	11, {D}12.3.3, {D}12.3.4	Yes
(29h)	Does the GVRP application operate as defined in Clause 11?	M	11	Yes
(29i)	Does the implementation support the use of the Restricted VLAN Registration parameter?	O	5.2, 11.2.3.2.2, 11.2.3.2.3	No

4 IEEE 802.1X-2004

4.1 Major Capabilities and Options

Item	Feature	Status	References	support in ZebOS
*authO4	Support the ability to transmit key information to the Supplicant, and the ability to modify the KeyTransmissionEnabled parameter by management action.	auth:O	5.2, 8.1.9, 8.2.5, 9.4.1	Yes
authO5	Support the ability to transmit and receive key information to and from the Supplicant using alternative but compatible key machines.	auth:O	5.2, 8.1.9, 8.2.5, 8.2.6	Yes
*suppO1	Support the ability to transmit key information to the Authenticator and the ability to modify the KeyTransmissionEnabled parameter by management action.	supp:O	5.2, 8.1.9, 8.2.6, 9.4.1	No
*ether	Support EAPOL encapsulation over IEEE 802.3/Ethernet MACs.	O.2	7.2	Yes
*trfddi	Support EAPOL encapsulation over Token Ring/FDDI MACs.	O.2	7.3	No
mgt	Support remote management, using the functionality defined in Clause 9, by means of the Port Access Control SNMP MIB.	O	10	Yes

4.2 EAPOL Frame Formats

Item	Feature	Status	References	support in ZebOS
eapol	The EAPOL encapsulation used between Authenticator and Supplicant PAs.	M	7	Yes
norif	RIF shall not be present in EAPOL frames encapsulated on Token Ring/FDDI.	trfddi:M	7.3	N/A
vtag	EAPOL frames shall not be VLAN tagged.	M	7.4	Yes
ptag1	Support for the reception of priority tagged EAPOL frames.	M	7.4	Yes
ptag2	Support for the transmission of priority tagged EAPOL frames.	O	7.4	Yes
petype	PAE Ethernet Type field in transmitted EAPOL frames is as defined.	ether:M	7.5.1	Yes
psnap	SNAP-encoded Ethernet Type field in transmitted EAPOL frames is as defined.	trfddi:M	7.5.2	N/A
pver	Protocol version used in transmitted EAPOL frames is as defined.	M	7.5.3	Yes
ptype	Reserved values of Packet Type shall not be used in transmitted EAPOL frames.	M	7.5.4	Yes
pvalid	Frames shall be processed and interpreted according to the validation rules.	M	7.5.7	Yes
ppvi	Checking of Protocol Version Identifier on receipt.	X	7.5.7	No

Item	Feature	Status	References	support in ZebOS
pad1	Individual MAC address used as destination address in EAPOL frames, as specified.	M	7.8	Yes
pad2	Group MAC address used as destination address in EAPOL frames, as specified.	M	7.8	Yes
pad3	Individual MAC address values used as source address in EAPOL frames.	M	7.8	Yes

4.3 PAE Support

Item	Feature	Status	References	support in ZebOS
	Relaying EAP and EAPOL frames.			
reap	Relay function does not modify EAP frames.	auth:M	8.1.7	Yes
reapol	EAPOL-Start, EAPOL-Logoff, and EAPOL-Key frames are not relayed to EAP.	auth:M	8.1.7	Yes
	State machine support.			
mach	The implementation supports the required set of state machines on each Port, in accordance with the PAE role(s) that each Port supports.	M	8.2, Table 8-1	Yes
timers	The Port Timers state machine is supported as defined.	M	8.2.3, 8-9, 8.2.2.1	Yes
apasm	The Authenticator PAE state machine is supported as defined.	auth:M	8.2.4, Table 8-10, 8.2.2, 8.2.4.1	
akey	The Authenticator Key Transmit state machine is supported as defined.	authO4:M	8.2.5, Table 8-11, 8.2.2, 8.2.5.1	Yes
skey	The Supplicant Key Transmit state machine is supported as defined.	suppO1:M	8.2.6, Table 8-12, 8.2.2, 8.2.6.1	NO
rtsm	The Reauthentication Timer state machine is supported as defined.	auth:M	8.2.8, Table 8-14, 8.2.2, 8.2.8.1	Yes
basmm	The Backend Authentication state machine is supported as defined.	auth:M	8.2.9, Table 8-18, 8.2.2, 8.2.9.1	Yes
cdsm	The Controlled Directions state machine is supported as defined.	auth:M	8.2.10, Table 8-16, 8.2.2, 8.2.10.1	Yes
cdbd	The Bridge Detection state machine is supported as defined on any Bridge Ports.	bridge:M	8.2.10, Clause 17 of IEEE Std 802.1D	Yes
spsm	The Supplicant PAE state machine is supported as defined.	supp:M	8.2.11, Table 8-17, 8.2.2, 8.2.11.1	NO

Item	Feature	Status	References	support in ZebOS
spbe	The Supplicant Backend state machine is supported as defined.	supp:M	8.2.12, 8-18, 8.2.2, 8.2.12.1	NO
skey	The Key Receive state machine is supported as defined.	M	8.2.7, 8-13, 8.2.2, 8.2.7.1	Yes

5 IEEE 802.1AB-2005 for LLDP

5.1 Major Capabilities and Options

Item	Feature	Status	References	Support
cntrlport	Are LLDP exchanges through a controlled port if port access is controlled by 802.1X	M	Clause 6	Yes
addr	Are LLDP addressing and LLDP Ethertype encoding in conformance with the defined requirements DA = LLDP_Multicast address SA = station MAC address LLDP Ethertype encoding	M M M	8.1 8.2 8.3	Yes Yes Yes
lldpdu	Is the LLDPDU encapsulation in conformance with the TLV order specified by the LLDPDU format	M	8.3	Yes
tlvfmt	Is the basic TLV capability implemented	M	9.4	Yes
basictlv	Is each TLV in the basic management set implemented End Of LLDPDU TLV Chassis ID TLV Port ID TLV Time To Live TLV Port Description TLV System Name TLV System Description TLV System Capabilities TLV Management Address TLV	M M M M M M M M M	9.5.1 9.5.2 9.5.3 9.5.4 9.5.5 9.5.6 9.5.7 9.5.8 9.5.9	Yes Yes Yes Yes Yes Yes Yes Yes Yes
xtlvfmt	Is the Organizationally Specific TLV capability implemented	M	9.6	Yes

Item	Feature	Status	References	Support
oprmmode	Which of the following operational modes are implemented (one is mandatory, all are allowed)			
	Transmit and receive (if yes, answer both items txmode and rxmode)	0.1	7.1	Yes
	Transmit only (if yes, answer item txmode, skip rxmode)	0.1	7.1	Yes
	Receive only (if yes, skip item txmode, answer rxmode)	0.1	7.1	Yes
txmode	If the transmit mode is implemented, is the transmit mode in conformance with all operational specifications indicated for the Tx mode in Table 10-1	M	Clause 10	Yes
rxmode	If the receive mode is implemented, is the receive module in conformance with all operational specifications indicated for the Tx mode in Table 10-1	M	Clause 10	Yes
lldpmib	Which type of data store/retrieval is implemented (one is mandatory)			
	SNMPbasic MIB is supported (if yes, answer item snmpmib and skip equivstor)	0.2	12.2	Yes
	SNMP is not supported (if yes, answer equivstor and skip snmpmib)	0.2	11.1	No
snmpmib	If the SNMP MIB is implemented, is the MIB module in conformance with the MIB sections indicated in Table 12-1 for the operating mode being implemented	M	12.2	Yes (lldpNotificationsGroup is not supported)
equivstor	If the SNMP is not supported, is functionally equivalent storage and retrieval capability specified in Clause 8, Clause 9, Clause 10, and Clause 11 provided for the operating mode being implemented	M	11.1	No

6 IEEE 802.1AB-2009 for LLDP

6.1 Major Capabilities and Options

Item	Feature	Status	References	Support
cntrlport	Are LLDP exchanges through a controlled port if port access is controlled by IEEE 802.1X?	M	Clause 6	Yes
addr	Are LLDP addressing and LLDP Ethertype encoding in conformance with the defined requirements?	M	7.1	Yes
	DA = LLDP_Multicast address	M	7.2	Yes
	SA = station MAC address	M	7.3	Yes
	LLDP Ethertype encoding			
lldpdu	Is the LLDPDU encapsulation in conformance with the TLV order specified by the LLDPDU format?	M	7.3	Yes
tlvfmt	Is the basic TLV capability implemented?	M	8.4	Yes
basictlv	Is each TLV in the basic management set implemented?			
	End Of LLDPDU TLV	M	8.5.1	Yes
	Chassis ID TLV	M	8.5.2	Yes
	Port ID TLV	M	8.5.3	Yes
	Time To Live TLV	M	8.5.4	Yes
	Port Description TLV	M	8.5.5	Yes
	System Name TLV	M	8.5.6	Yes
	System Description TLV	M	8.5.7	Yes
	System Capabilities TLV	M	8.5.8	Yes
	Management Address TLV	M	8.5.9	Yes
xtlvfmt	Is the Organizationally Specific TLV capability implemented?	M	8.6	Yes
oprmmode	Which of the following operational modes are implemented (one is mandatory, all are allowed)?			
	Transmit and receive (if yes, answer both items txmode and	O.1	6.1	Yes

	rxmode) Transmit only (if yes, answer item txmode, skip rxmode) Receive only (if yes, skip item txmode, answer rxmode)	0.1 0.1	6.1 6.1	Yes Yes
txmode	If the transmit mode is implemented, is the transmit mode in conformance with all operational specifications indicated for the Tx mode in Table 9-1?	M	Clause 9	Yes

Item	Feature	Status	References	Support
rxmode	If the receive mode is implemented, is the receive module in conformance with all operational specifications indicated for the Tx mode in Table 9-1?	M	Clause 9	Yes
ldpmib	Which type of data store/retrieval is implemented? (One is mandatory): SNMP MIB is supported (if yes, answer items snmpmib and snmpsupport, and skip equivstor) SNMP MIB is not supported (if yes, answer equivstor and skip snmpmib)	0.2 0.2	11.5, 5.3 10.1, 5.3	Yes yes
snmpmib	Is the MIB module in conformance with the MIB sections indicated in Table 11-1 for the operating mode being implemented?	M	11.5, 5.3	Yes
snmpsupport	Which of the transport mappings defined by IETF RFC 3417 or IETF RFC 4789 is used to support SNMP? (Support of at least one is mandatory): IETF RFC 3417 IETF RFC 4789	0.3 0.3	5.3, 5.4 5.3, 5.4	Yes No
equivstor	If the SNMP is not supported, is functionally equivalent storage and retrieval capability specified in Clause 8, Clause 9, Clause 10 provided for the operating mode being Implemented?	M	10.1	Yes

7 IEEE 802.1AX-D3.1 for LACP and MC-LAG

7.1 Major capabilities/options

Item	Feature	Subclause	Value/Comment	Status	Support
	The items below are relevant to the ports of a System for which support is claimed				
LA	Is Link Aggregation supported as specified in Clause 6	6.2	Support the Link Aggregation Sublayer and conform to the state machines and procedures in 6.2	M	Yes
LACP	Does the Link Aggregation Control Protocol	6.3, 6.4	Support the Link Aggregation Control Protocol and conform to the state machines and procedures in 6.3 and 6.4	M	Yes
V1LA	Are Version 1 LACPDUs supported?	6.4.2	Transmit and receive version 1 LACPDUs in the formats specified in 6.4.2	M	Yes
V2LA	Are Version 2 LACPDUs supported	6.4.2	Transmit and receive version 1 LACPDUs in the formats specified in 6.4.2	O CSCD: M	Yes
MG	Is the Marker Generator/Receiver supported?	6.2.5		O	No
MGT	Is Management supported?	Clause 7	Support the management functionality for Link Aggregation as specified in Clause 7	O	Yes
MIB	Does the implementation support management operations using SMIv2 MIB modules?	Annex D	Support SMIv2 MIB modules for the management of Link Aggregation capabilities	MGT: O	No
AM	Is there Aggregation Port Debug Information package support?	7.3		MGT: O	No
CM	Does the implementation support the Churn Detection machine?	6.4.17	Required if Aggregation Port Debug Information package supported	AM: M IAM: O	Yes
PSFD	Is Per-service frame distribution supported?	8.2		O	No
CSCD	Is Conversation-sensitive frame collection and distribution supported?	A.2.27		PSFD: M	Yes
DRNI	Is Distributed Resilient Network Interconnect supported?	A.2.30		O	Yes

7.2 LLDP Port connectivity

Item	Feature	Subclause	Value/Comment	Status	Support
LLDP	Does the System support LLDP?	6.1.3		O	Yes
LLDPP M	Does the System support LLDP Parser/Multiplexers on the Aggregation Ports?	6.1.3		LLDP: M	N/A

7.3 Protocol Parser/Multiplexer support

Item	Feature	Subclause	Value/Comment	Status	Support
LLDPP M	Does the System support Proto- col Parser/Multiplexer for a pro- tocol that is supported by the System but not specified in this standard?	6.2.7		O	N/A

7.4 Frame Collector

Item	Feature	Subclause	Value/Comment	Status	Support
FC1	Frame Collector function	6.2.3	As specified in the state machine shown in Figure 6-3 and associated definitions in 6.2.3.1	M	Yes
FC2	Frame Collector function—CollectorMaxDelay	6.2.3.1.4	Deliver or discard frames within CollectorMaxDelay	M	Yes

7.5 Frame Distributor

Item	Feature	Subclause	Value/Comment	Status	Support
	Distribution algorithm ensures the following, when frames received by Frame Collector:	6.2.4			
FD1	Frame misordering		None	M	Yes
FD2	Frame duplication		None	M	Yes
FD3	Frame Distributor function	6.2.4	Function as specified in the state machine shown in Figure 6-4 and associated definitions in 6.2.4.1	M	Yes

7.6 Marker protocol

Item	Feature	Subclause	Value/Comment	Status	Support
MGR1	Marker Generator/Receiver	6.2.5		MG:M	N/A
MGR2	Marker Responder	6.2.6	Function specified in 6.5.4.2	!DRNI1:M DRNI1:O	Yes

7.7 Aggregator Parser/Multiplexer

Item	Feature	Subclause	Value/Comment	Status	Support
APM1	Aggregator Multiplexer	6.2.8	Transparent pass-	M	Yes

			through of frames		
APM2	Aggregator Multiplexer	6.2.8	Discard of TX frames when Aggregation Port not Distributing	M	Yes
APM3	Aggregator Parser	6.2.8	Function specified by state machine shown in Figure 6-6 and associated definitions in 6.2.8.1	M	Yes
APM4	Aggregator Parser	6.2.8	Discard of RX frames when Aggregation Port not Collecting	M	Yes (HW functionality)

7.8 Control Parser/Multiplexer

Item	Feature	Subclause	Value/Comment	Status	Support
CPM1	Control Multiplexer	6.2.10	Transparent pass-through of frames	M	Yes
CPM2	Control Parser	6.2.10	Function specified by state machine shown in Figure 6-5 and associated definitions in 6.2.10.1 and 6.2.9	M	Yes (HW functionality)

7.9 System identification

Item	Feature	Subclause	Value/Comment	Status	Support
SID1	Globally unique identifier	6.3.2	Globally administered individual MAC address plus System Priority	M	Yes
SID2	MAC address chosen	6.3.2	MAC address associated with one of the Aggregation Ports	O	Yes

7.10 Aggregator identification

Item	Feature	Subclause	Value/Comment	Status	Support
AID1	Globally unique identifier	6.3.3	Globally administered individual MAC address	M	Yes
AID2	Integer identifier	6.3.3	Uniquely identifies the Aggregator within the System	M	Yes
*AID3	Unique identifier allocated	6.3.3	Unique identifier assigned to one of its bound Aggregation Ports	O	Yes
AID4			Unique identifier not assigned to any other Aggregator	!AID3 :M	N/A

7.11 Port identification

Item	Feature	Subclause	Value/Comment	Status	Support
PID1	Port Identifiers	6.3.4	Unique within a System; Port Number 0 not used for any Aggregation Port	M	Yes

7.12 Capability identification

Item	Feature	Subclause	Value/Comment	Status	Support
CID1	Administrative and operational Key values associated with each Aggregation Port	6.3.5		M	Yes
CID2	Administrative and operational Key values associated with each Aggregator	6.3.5		M	Yes

7.13 Link Aggregation Group identification

Item	Feature	Subclause	Value/Comment	Status	Support
LAG1	LAG ID component values	6.3.6.1	Actor's values non-zero. Partner's admin values only zero for Individual Aggregation Ports	M	Yes

7.14 Detaching a link from an Aggregator

Item	Feature	Subclause	Value/Comment	Status	Support
DLA1	Effect on conversation reallocated to a different link	6.3.14	Frame ordering preserved	M	Yes (HW functionality)

7.15 LACPDU structure

Item	Feature	Subclause	Value/Comment	Status	Support
LPS2	LACPDU structure	6.4.2.3	As shown in Figure 6-7 and as described	M	Yes
LPS3	LACPDU structure	6.4.2	All Reserved octets ignored on receipt and transmitted as zero	M	Yes

7.16 Version 2 LACPDU

Item	Feature	Subclause	Value/Comment	Status	Support
	If V2LA is not supported, mark N/A and ignore the remainder of this table				
V2LA1	Is the Long LACPDU machine supported?	6.4.18	As shown in Figure 6-25 and as described	V2LA:M	Yes
V2LA2	Is the Port Algorithm TLV supported?	6.4.2.4.1	As shown in Figure 6-9 and as described	V2LA:M	Yes
V2LA3	Is the Port Conversation ID Digest TLV supported?	6.4.2.4.2	As shown in Figure 6-10 and as described	V2LA:M	Yes
V2LA4	Is the Port Conversation Mask	6.4.2.4.3	As shown in Figure 6-	V2LA:M	Yes

	TLVs supported?		11, Figure 6-12, Figure 6-13, Figure 6-14 and as described		
V2LA5	Is the Port Conversation Service Mapping TLV supported?	6.4.2.4.4	As shown in Figure 6-16 and as described	V2LA:0 V2LA AND PSFD2: M	No

7.17 State machine variables

Item	Feature	Subclause	Value/Comment	Status	Support
SMV1	Partner_Admin_Port_State	6.4.7	Collecting set to the same value as Synchronization	M	Yes
SMV2	LACP_Enabled	6.4.8	TRUE for point-to-point links, otherwise FALSE	M	Yes

7.18 Receive machine

Item	Feature	Subclause	Value/Comment	Status	Support
RM1	Receive machine	6.4.12	As defined in Figure 6-18 and associated parameters	M	Yes
RM2	Validation of LACPDUs		No validation of Version Number, TLV_type, or Reserved fields	M	Yes

7.19 Periodic Transmission machine

Item	Feature	Subclause	Value/Comment	Status	Support
PM1	Periodic Transmission machine	6.4.13	As defined in Figure 6-19 and associated parameters	M	Yes

7.20 Selection Logic

Item	Feature	Subclause	Value/Comment	Status	Support
	Selection logic requirements	6.4.14.1			
SLM1	Aggregator support		At least one Aggregator per System	M	Yes
SLM2	Aggregation Port Keys		Each Aggregation Port assigned an operational Key	M	Yes
SLM3	Aggregator Keys		Each Aggregator assigned an operational Key	M	Yes
SLM4	Aggregator Identifiers		Each Aggregator assigned an identifier	M	Yes
SLM5	Aggregator selection		If same Key assignment as Aggregation Port	M	Yes
SLM6	Aggregation Ports that are members of the same Link Aggregation Group		Aggregation Ports select same Aggregator	M	Yes
SLM7	Pair of Aggregation Ports connected in loopback		Not select same Aggregator as each other	M	Yes

SLM8	Aggregation Port required to be Individual		Not select same Aggregator as any other Aggregation Port	M	Yes
SLM9	Aggregation Port is Aggregateable		Not select same Aggregator as any Individual Aggregation Port	M	Yes
SLM10	Aggregation Port unable to select an Aggregator		Aggregation Port not attached to any Aggregator	M	Yes
SLM11	Further aggregation constraints		Aggregation Ports may be selected as standby	O	Yes
SLM12	Selected variable		Set to SELECTED or STANDBY once Aggregator is determined	M	Yes
SLM13	Port enabled		Only when selected and attached to an Aggregator	M	Yes
SLM14	Recommended default operation of Selection Logic	6.4.14.2	Meets requirements of 6.4.14.2	O	No

7.21 Mux machine

Item	Feature	Subclause	Value/Comment	Status	Support
XM1	Mux machine	6.4.15	As defined in Figure 6-21 or Figure 6-22, and associated parameters	M	Yes

7.22 Transmit machine

Item	Feature	Subclause	Value/Comment	Status	Support
	Transmitted in outgoing LACP-DUs	6.4.16			
TM1	Actor_Port and Actor_Port_Priority	6.4.16		M	Yes
TM2	Actor_System and Actor_System_Priority	6.4.16		M	Yes
TM3	Actor_Key	6.4.16		M	Yes
TM4	Actor_State	6.4.16		M	Yes
TM5	Partner_Port and Partner_Port_Priority	6.4.16		M	Yes
TM6	Partner_System and Partner_System_Priority	6.4.16		M	Yes
TM7	Partner_Key	6.4.16		M	Yes
TM8	Partner_State	6.4.16		M	Yes
TM9	CollectorMaxDelay	6.4.16		M	Yes
TM10	Action when Periodic machine is in the NO_PERIODIC state	6.4.16	Set NTT to FALSE, do not transmit	M	Yes
TM11	Action when LACP_Enabled is	6.4.16	Properly formatted	M	Yes

	TRUE, NTT is TRUE, and not rate limited		LACPDU transmitted		
TM12	Action when LACP_Enabled is TRUE and NTT is TRUE, when rate limit is in force	6.4.16	Transmission delayed until limit is no longer in force	M	Yes
TM13	Action when LACPDU has been transmitted	6.4.16	Set NTT to FALSE	M	Yes
TM14	Action when LACP_Enabled is FALSE	6.4.16	Set NTT to FALSE, do not transmit	M	Yes

7.23 Churn Detection machines

Item	Feature	Subclause	Value/Comment	Status	Support
CM1	Churn Detection machines	6.4.17	As defined in Figure 6-23 and Figure 6-24	CM:M	Yes

7.24 Marker protocol

Item	Feature	Subclause	Value/Comment	Status	Support
FP1	Respond to all received Marker PDUs	6.5.1	As specified by 6.5.4	!DRNI1:M DRNI1:O	Yes
FP2	Use of the Marker protocol	6.5.1	As specified by 6.5.4	O	Yes
FP3	MARKER.request service primitives request rate	6.5.4.1	Maximum of five during any one-second period	MG:M	N/A
FP6	Marker PDU structure	6.5.3.3	As shown in Figure 6-27 and as described	MG:M	N/A
FP7	Marker Response PDU structure	6.5.3.3	As shown in Figure 6-27 and as described	M	Yes
FP8	Marker Responder state machine	6.5.4.2	As specified in Figure 6-28 and 6.5.4.2.1 through 6.5.4.2.2	M	No
FP9	Validation of Marker Request PDUs	6.5.4.2.2	Marker Responder shall not validate the Version Number, Pad, or Reserved fields	M	Yes

7.25 Management

Item	Feature	Subclause	Value/Comment	Status	Support
	If MGT is not supported, mark N/A and ignore the remainder of this table				N/A
MGT1	Is the Basic package supported?	Table 7-1, 7.3.1.1.1, 7.3.2.1.1	Support of the Managed objects marked as members of the Basic package in Table 7-1	MGT: M	N/A Yes

Item	Feature	Subclause	Value/Comment	Status	Support
MGT2	Is the Mandatory package supported?	Table 7-1, 7.3.1.1.2, 7.3.1.1.3, 7.3.1.1.4, 7.3.1.1.5, 7.3.1.1.6, 7.3.1.1.7, 7.3.1.1.8, 7.3.1.1.9, 7.3.1.1.10, 7.3.1.1.11, 7.3.1.1.12, 7.3.1.1.13, 7.3.1.1.14, 7.3.1.1.15, 7.3.1.1.16, 7.3.1.1.19, 7.3.1.1.20, 7.3.1.1.31, 7.3.1.2.1, 7.3.1.2.2, 7.3.1.1.32, 7.3.2.1.2, 7.3.2.1.3, 7.3.2.1.4, 7.3.2.1.5, 7.3.2.1.6, 7.3.2.1.7, 7.3.2.1.8, 7.3.2.1.9, 7.3.2.1.10, 7.3.2.1.11, 7.3.2.1.12, 7.3.2.1.13, 7.3.2.1.14, 7.3.2.1.15, 7.3.2.1.16, 7.3.2.1.17, 7.3.2.1.18, 7.3.2.1.19, 7.3.2.1.20, 7.3.2.1.21, 7.3.2.1.22, 7.3.2.1.23, 7.3.2.1.24, 7.3.2.2.1, 7.3.2.2.1	Support of the Managed objects marked as members of the Mandatory package in Table 7-1	MGT: M	Yes

Item	Feature	Subclause	Value/Comment	Status	Support
MGT3	Is the Recommended package supported?	Table 7-1, 7.3.1.1.17, 7.3.1.1.18, 7.3.1.1.25, 7.3.1.1.26, 7.3.1.1.27, 7.3.1.1.28, 7.3.1.1.29, 7.3.1.1.30	Support of the Managed objects marked as members of the Recommended package in Table 7-1	MGT: O	No
MGT4	Is the Optional package supported?	Table 7-1, 7.3.1.1.21, 7.3.1.1.22, 7.3.1.1.23, 7.3.1.1.24	Support of the Managed objects marked as members of the Optional package in Table 7-1	MGT: O	No
MGT5	Is the Aggregation Port Statistics package supported?	Table 7-1, 7.3.3.1.1, 7.3.3.1.2, 7.3.3.1.3, 7.3.3.1.4, 7.3.3.1.5, 7.3.3.1.6, 7.3.3.1.7, 7.3.3.1.8, 7.3.3.1.9	Support of the Managed objects marked as members of the Aggregation Port Statistics package in Table 7-1	MGT: O	No
MGT6	Is the Aggregation Port Debug Information package supported?	Table 7-1, 7.3.4.1.1, 7.3.4.1.2, 7.3.4.1.3, 7.3.4.1.4, 7.3.4.1.5, 7.3.4.1.6, 7.3.4.1.7, 7.3.4.1.8, 7.3.4.1.9, 7.3.4.1.10, 7.3.4.1.11, 7.3.4.1.12, 7.3.4.1.13	Support of the Managed objects marked as members of the Aggregation Port Debug Information package in Table 7-1	MGT: O	Yes
MGT7	Is the Per-Service Frame Distribution package supported?	Table 7-1, 7.3.1.1.33, 7.3.1.1.34, 7.3.1.1.35, 7.3.1.1.36, 7.3.2.1.25, 7.3.2.1.26, 7.3.2.1.27	Support of the Managed objects marked as members of the Per-Service Frame Distribution package in Table 7-1	MGT AND PSFD: M	N/A

Item	Feature	Subclause	Value/Comment	Status	Support
MGT8	Are the CDS Churn Detection managed objects supported?	Table 7-1, 7.3.4.1.14, 7.3.4.1.15, 7.3.4.1.16, 7.3.4.1.17	These managed object are applicable only when Conversation-sensitive frame collection and distribution as specified in 6.6 is supported	MGT AND PSFD: O MGT6 AND PSFD: M	No
MGT9	Is the DRNI package supported?	Table 7-1, 7.4.1.1.1, 7.4.1.1.2, 7.4.1.1.3, 7.4.1.1.4, 7.4.1.1.5, 7.4.1.1.6, 7.4.1.1.7, 7.4.1.1.8, 7.4.1.1.10, 7.4.1.1.11, 7.4.1.1.12, 7.4.1.1.13, 7.4.1.1.17, 7.4.1.1.18, 7.4.2, 7.4.2.1.1, 7.4.2.1.2, 7.4.2.1.3, 7.4.2.1.4, 7.4.2.1.5, 7.4.2.1.6	Support of the Managed objects marked as members of the DRNI package in Table 7-1	MGT AND DRNI: M	N/A Yes
MGT10	Is the aDrniLoopBreakLink managed object supported?	7.4.1.1.9	This managed object is applicable only when the Portal Topology is that of three Portal Systems connected in a ring by three Intra-Portal Links	MGT AND DRNI5:M	N/A
MGT11	Is the aDrniEncapsulation-Method managed object supported?	7.4.1.1.14	This managed object is applicable only when Network / IPL sharing by time (9.3.2.1) or Network / IPL sharing by tag (9.3.2.2) or Network / IPL sharing by encapsulation (9.3.2.3) is supported	MGT AND DRNI9:M MGT AND DRNI10:M MGT AND DRNI11:M	N/A

Item	Feature	Subclause	Value/Comment	Status	Support
MGT12	Is the aDrniPLEncapMap man- aged object supported?	7.4.1.1.15	This managed object is applicable only when Network / IPL sharing by tag (9.3.2.2) or Network / IPL sharing by encapsulation (9.3.2.3) is supported	MGT AND DRNI10:M MGT AND DRNI11:M	N/A
MGT13	Is the aDrniNetEncapMap man- aged object supported?	7.4.1.1.16	This managed object is applicable only when Network / IPL sharing by tag (9.3.2.2) is supported	MGT AND DRNI10:M	N/A
MGT14	Is the IPP statistics package sup- ported?	Table 7-1, 7.4.3.1.1, 7.4.3.1.2, 7.4.3.1.3, 7.4.3.1.4	Support of the Man- aged objects marked as members of the IPP sta- tistics package in Table 7-1	MGT AND DRNI: O	N/A
MGT15	Is the IPP debug information package supported?	Table 7-1, 7.4.4.1.1, 7.4.4.1.2, 7.4.4.1.3, 7.4.4.1.4	Support of the Man- aged objects marked as members of the IPP debug information package in Table 7-1	MGT AND DRNI: O	N/A

7.26 Per-Service Frame Distribution

Item	Feature	Subclause	Value/Comment	Status	Support
	If PSFD is not supported, mark N/A and ignore the remainder of this table				N/A
PSFD1	Is Frame Distribution by VID supported?	8.2.2		PSFD: M	N/A Yes
PSFD2	Is Frame Distribution by I-SID supported?	8.2.2, 8.2.3	Relevant only if Per-ser- vice frame distribution is implemented	PSFD: O	N/A Yes No
PSFD3	Does the implementation sup- port Frame Distribution by other methods not covered by this standard?			CSCD: O	N/A Yes No

7.27 Conversation-sensitive frame collection and distribution

Item	Feature	Subclause	Value/Comment	Status	Support
	If CSCD is not supported, mark N/A and ignore the remainder of this table				
CSCD1	Are the Conversation-sensitive collection and distribution state diagrams supported?	6.6.1	As shown in Figure 6-29 and as described	CSCD: M	Yes HW Functionali- ty
CSCD2	Does the function Determine- PortConversationID involve	6.6.1.1.3, 7.3.1.1.36	Mapping ability required for classifica-	CSCD:O CSCD AND	No

	the application of local Service ID to Conversation ID mappings?		tion by I-SID	PSFD2: M	
CSCD3	Are the Verification state diagram (VER), the Report for Management Action state diagram (RMA), the Receive Long LACPDU state diagram (RXL) and the Update Mask state diagram (UM) supported?	6.6.2	As shown in Figure 6-31, Figure 6-32, Figure 6-33, Figure 6-34, and as described	CSCD: M	Yes
CSCD4	Are the Actor CDS Churn Detection machine state diagram and the Partner CDS Churn Detection machine state diagram supported?	6.6.2	As shown in Figure 6-35, Figure 6-36, and as described	CSCD:O CSCD AND AM: M	No

7.28 Configuration capabilities and restrictions

Item	Feature	Subclause	Value/Comment	Status	Support
CCR1	Algorithm used to determine subset of Aggregation Ports that will be aggregated in Systems that have limited aggregation capability	6.7.1	As specified in items a) to e) of 6.7.1	M	Yes
CCR2	Key value modification to generate optimum aggregation	6.7.2		O CCR2:M	No
CCR3	Key value modification when System has higher System Aggregation Priority			CCR2:X	N/A
CCR4	Key value modification when System has lower System Aggregation Priority				N/A

7.29 Link Aggregation on shared-medium links

Item	Feature	Subclause	Value/Comment	Status	Support
LSM1	Shared-medium links—Configuration	6.7.3	Configured as Individual links	M	Yes
LSM2	Shared-medium links—Operation of LACP	6.7.3	LACP is disabled	M	Yes

7.30 Distributed Resilient Network Interconnect

Item	Feature	Subclause	Value/Comment	Status	Support
	If DRNI is not supported, mark N/A and ignore the remainder of this table				
DRNI1	Is the DR Function and the emulation of a Distributed Relay in cooperation with a single other Portal System, which also conforms to the provisions of this standard for	9.2, 9.3	Support the state machines and procedures in 9.3 for a DR Function, constrained by the presence of up to a single IPL and up	DRNI:M	Yes

Item	Feature	Subclause	Value/Comment	Status	Support
	DRNI, supported?		to two Portal Systems in the Portal, as specified		
DRNI2	Is the DR Function and the emulation of a Distributed Relay, in cooperation with two other Portal Systems, which also conform to the provisions of this standard for DRNI, supported?	9.2, 9.3	Support the state machines and procedures in 9.3 for a DR Function, for a Portal of 3 Portal Systems, as specified	DRNI:O	No
DRNI3	Is the Distributed Relay Control Protocol (DRCP) supported for Portal of two Portal Systems?	9.4	Support the state machines and procedures in 9.4 as constrained by the presence of up to a single IPL and up to two Portal Systems in the Portal	DRNI:M	Yes
DRNI4	Is the Distributed Relay Control Protocol (DRCP) supported for a Portal of three Portal Systems?	9.4	Support the state machines and procedures in 9.4 for a Portal of 3 Portal Systems	DRNI2:M	N/A
DRNI5	Is a Portal Topology of three Portal Systems in a ring connected by three IPLs supported?	9.3.1, 9.4		DRNI4:O	N/A
DRNI6	Are DRCPDUs supported?	9.4.2	Transmit and receive DRCPDUs in the formats specified in 9.4.2	DRNI:M	Yes
DRNI7	Can the IPL supported by using separate physical links for IPLs and for the network links?	9.3.2	Support separate physical links for IPLs and network links, as specified in item a)	DRNI:M	Yes
DRNI8	Can the IPL be supported by a LAG and thus consisting of a number of physical links?	9.3.2	Support a separate Aggregation Port for the IPL, as specified in item b)	DRNI:O	Yes
DRNI9	Can the IPL be supported by the Network / IPL sharing by time method?	9.3.2.1		DRNI:O	No
DRNI10	Can the IPL be supported by the Network / IPL sharing by tag method?	9.3.2.2		DRNI:O	No
DRNI11	Can the IPL be supported by the Network / IPL sharing by encapsulation method?	9.3.2.3		DRNI:O	No
DRNI12	Is the Network/IPL Sharing Method TLV included in the exchanged DRCPDUs?	9.4.3.3.1	As shown in Figure 9-12 and as described	DRNI9:M DRNI10:M DRNI11:M	Yes
DRNI13	Is the Network/IPL Sharing Encapsulation TLV included in	9.4.3.3.2	As shown in Figure 9-	DRNI10:M	Yes

Item	Feature	Subclause	Value/Comment	Status	Support
	the exchanged DRCPDUs?		13 and as described	DRNI11:M	

7.31 DRCPDU structure

Item	Feature	Subclause	Value/Comment	Status	Support
	If DRNI6 is not supported, mark N/A and ignore the remainder of this table				
DRST1	DRCPDU structure	9.4.3	As shown in Figure 9-9 and as described	DRNI6:M	Yes

7.32 Bridge specific support

Item	Feature	Subclause	Value/Comment	Status	Support
BRG	Is the System implementing Link Aggregation is a IEEE Std 802.1Q Bridge? If not mark N/A and ignore the remainder of this table			0	Yes
BRG1	Is Per I-SID frame distribution supported on PIPs (Clause 6.10 of IEEE 802.1Q-2011) or CBPs (Clause 6.11 of IEEE 802.1Q-2011)	8.2.2, 8.2.3		BRG AND PSFD:M	N/A
BRG2	Is MAC Address Synchronization supported?	Annex G	Only required when the IPL is supported by the Network / IPL sharing by time method and the Per Service frame distribution is not used	BRG AND DRNI9:M	N/A

8 IEEE 802.1ad-draft 6 for Provider Bridging

8.1 Major Capabilities

Item	Feature	Status	References	Support in ZebOS
CB	Can the Bridge be configured to operate as a C-VLAN Bridge, recognizing and using C-TAGs?	0.2	5.7	Yes
PB	Are frames addressed to a MAC Address for a Port and received from or relayed to the attached LAN submitted to LLC Service User for the destination LLC Address?	0.2	5.8	Yes
PEB	Can the Bridge be configured to operate as a Provider Edge Bridge with one or more Ports operating as a Customer Edge Ports?	PB.0	5.8.2	Yes
PB-2	State which Ports support the following values for the Provider	PB.M	5.8	1. Provider Network Port 2. Customer Network Port

Item	Feature	Status	References	Support in ZebOS
	Bridge Port Type: — Provider Network Port; — Customer Network Port; — Customer Edge Port.			3. Customer Edge Port.

8.2 Addressing

Item	Feature	Status	References	Support in ZebOS
ADDR-1	Does each Port have a separate MAC Address?	M	8.13.2	Yes
ADDR-2	Are frames addressed to a MAC Address for a Port and received from or relayed to the attached LAN submitted to LLC Service User for the destination LLC Address?	M	8.5, 8.13.1	Yes
ADDR-3	Are all BPDUs and GARP PDUs transmitted using the Bridge Spanning Tree Protocol LLC Address?	M	8.13.3, Table 8-8	Yes
ADDR-4	Are PDUs addressed to the Bridge Spanning Tree Protocol Address with an unknown Protocol Identifier discarded on receipt	M	{D}9.3.4	Yes
ADDR-5	Are all BPDUs generated by a Spanning Tree Protocol Entity associated with a CVLAN component transmitted to the Bridge Group Address?	CB OR PEB:M	8.13.3, Table 8-1, Table 8-2	Yes
ADDR-6	Are all BPDUs generated by a Spanning Tree Protocol Entity associated with an SVLAN component transmitted to the Provider Bridge Group Address?	PB:M	Table 8-1	Yes
ADDR-7	Are all GARP PDUs transmitted to the Group Address assigned for the GARP Application?	M	8.13.3, {D}Table 12-1, Table 8-1	Yes
ADDR-8	Is it possible to create entries in the Permanent or Filtering Databases for unsupported GARP application addresses or delete or modify entries for supported application addresses?	X	8.13.3	No
ADDR-9	Is the source MAC address of BPDUs and GARP PDUs for GARP Applications supported by the Bridge the address of the transmitting Port?	M	8.13.3	Yes

Item	Feature	Status	References	Support in ZebOS
ADDR-10	Is the source MAC address of BPDUs generated by a Spanning Tree Entity associated with a C-VLAN component of a Provider Edge Bridge the address of the associated Customer Edge Port?	PEB:M	12.13	Yes
ADDR-11	Is Bridge Management accessible through a Port using the MAC Address of the Port?	MGT: O	8.13.7	No
ADDR-12	Is a 48-bit Universally Administered MAC Address assigned to each Bridge as its Bridge Address?	M	8.13.8	Yes
ADDR-13	Is the Bridge Address the Address of a Port?	O	8.13.8	Yes
ADDR-14	Is the Bridge Address the Address of Port 1?	ADDR-13: O	8.13.3	Yes
ADDR-15	Are frames addressed to any of the CVLAN component Reserved Addresses relayed by the Bridge a C-VLAN component?	CB OR PEB:X	8.13.4 Table 8-1	No
ADDR-16	Are frames addressed to any of the SVLAN component Reserved Addresses relayed by an S-VLAN component?	PB:X	Table 8-2	No
ADDR-17	Is it possible to delete or modify entries in the Permanent and Filtering Databases for the Reserved Addresses?	X	8.13.4, {D}7.12.6	No

8.3 Rapid Spanning Tree Protocol

Item	Feature	Status	References	Support in ZebOS
RSTP-21	Does each C-VLAN component of a Provider Edge Bridge operate an instance of Rapid Spanning Tree as modified for Customer Edge Ports?	RSTP and PEB:M	13.38	Yes

8.4 Bridge Management

Item	Feature	Status	References	Support in ZebOS
MGT-15	MGT-15 Read Port Priority Code Point Selection	MGT and VLAN-29:M	12.6.2.6	NA
MGT-16	Set Port Priority Code Point Selection	MGT AND VLAN-29:M	12.6.2.7	NA
MGT-17	Read Priority Code Point Decoding Table	MGT AND	12.6.2.8	NA

Item	Feature	Status	References	Support in ZebOS
		VLAN-29:M		
MGT-18	Set Priority Code Point Decoding Table	MGT AND VLAN-29: O	12.6.2.9	NA
MGT-19	Read Priority Code Point Encoding Table	MGT AND VLAN-29:M	12.6.2.10	NA
MGT-20	Set Priority Code Point Encoding Table	MGT AND VLAN-29: O	12.6.2.11	NA
MGT-21	Read Use_DEI parameter	MGT AND PB:M	12.6.2.12	NA
MGT-22	Set Use_DEI parameter	MGT AND PB: O	12.6.2.13	NA
MGT-23	Read Require Drop Encoding parameter	MGT AND VLAN-29:M	12.6.2.14	NA
MGT-24	Set Require Drop Encoding parameter	MGT AND VLAN-29:M	12.6.2.15	NA
MGT-25	Read Service Access Priority Selection	MGT AND VLAN-30:M	12.6.2.16	NA
MGT-26	Set Service Access Priority Selection	MGT AND VLAN-30:M	12.6.2.17	NA
MGT-27	Read Service Access Priority Table	MGT AND VLAN-30:M	12.6.2.18	NA
MGT-28	Set Service Access Priority Table	MGT AND VLAN-30: O	12.6.2.19	NA
MGT-86	Read Provider Bridge Port Type	MGT AND PB:M	12.13.1.1	Yes
MGT-87	Configure Provider Bridge Port Type	MGT AND PB: O	12.13.1.2	Yes

Item	Feature	Status	References	Support in ZebOS
MGT-88	Read VID Translation Table Entry	MGT AND VLAN- 31:M	12.13.2.1	Yes
MGT-89	Configure VID Translation Table Entry	MGT AND VLAN- 31:M	12.13.2.2	Yes
MGT-90	Read C-VID Registration Table Entry	MGT AND PEB:M	12.13.3.1	Yes
MGT-91	Configure C-VID Registration Table Entry	MGT AND PEB:M	12.13.3.2	Yes
MGT-92	Read Provider Edge Port Configuration	MGT AND PEB:M	12.13.3.3	Yes
MGT-93	Set Provider Edge Port Configuration	MGT AND PEB:M	12.13.3.4	Yes
MGT-94	Read Service Priority Regeneration Table	MGT AND PEB:M	12.13.3.5	NA
MGT-95	Set Service Priority Regeneration Table	MGT AND PEB: 0	12.13.3.6	NA

8.5 VLAN Support

Item	Feature	Status	References	Support in ZebOS
VLAN-1	Does the implementation support, on each Port, one or more of the permissible combinations of values for the Acceptable Frame Types parameter?	M	5.3	Yes
VLAN-2	Does the implementation support, on each Provider Bridge Port, the <i>Admit All Frames</i> value for the Acceptable Frame Types Parameter?	PB:M	5.6	Yes
VLAN-10	Does the implementation support the ability to enable and disable Ingress Filtering?	CB: 0 PB:M	5.4.1, 5.6, 8.4	Yes
VLAN-29	Is encoding of the drop_eligible parameter in the Priority Code Point field of the VLAN tag supported?	CB: 0 PB:M	5.5.1, 5.6, 6.7.3, 9.6, 9.7	NA
VLAN-30	Is Service Access Priority Selection supported?	CB: 0 PB:X	5.5.1, 5.6, 6.9	NA

Item	Feature	Status	References	Support in ZebOS
VLAN-31	Is the VID translation table supported?	CB:X PB:M	5.5, 5.6.1, 6.7	Yes

9 IEEE 802.1ak-draft 4 for MRP

9.1 Major Capabilities:

Item	Feature	Status	References	Support
MAC	Do the implementations of MAC Technologies and support of the MAC Internal Sublayer Service conform to MAC standards as specified in 6.4 and 6.5? (If support of a specific MAC technology is claimed any PICS Proforma(s) required by the Standard specifying that technology shall also be completed.)	M	A.6 6.4, 6.5,	Yes
LLC	Is a class of LLC supporting Type 1 operations supported on all Bridge Ports in conformance with IEEE Std 802.2? (The PICS Proforma required by IEEE Std 802.2 shall also be completed.)	M	8.2, 8.3, 8.13, {D}7.2, {D}7.3, {D}7.12, IEEE Std 802.2	Yes
RLY	Does the implementation relay and filter frames as specified?	M	8.5, 8.6, 8.7, 6.8, 8.8, A.7 {D}7.1, {D}7.5, {D}7.6, {D}7.7.	Yes]
BFS	Does the implementation maintain the information required to make frame filtering decisions and support Basic Filtering Services?	M	A.8 {D}7.1, {D}7.5, {D}7.8, {D}7.9.	Yes
ADDR	Does the implementation conform to the provisions for addressing?	M	A.9 {D}7.12	Yes
RSTP	Is the Rapid Spanning Tree Protocol implemented?	O.1	5, A.10, {D}9, {D}17	Yes
BPDU	Are transmitted BPDUs encoded and received BPDUs validated as specified?	M	A.11 {D}9, {D}17.21.19, {D}17.21.20, {D}17.21.21.	Yes

Item	Feature	Status	References	Support
IMP	Are the required implementation parameters included in this completed PICS?	M	A.12 {D}7.9	Yes
PERF	Are the required performance parameters included in this completed PICS? (Operation of the Bridge within the specified parameters shall not violate any of the other conformance provisions of this standard.)	M	A.13 {D}16	Yes
MGT	Is management of the Bridge supported?	O	A.14 {D}14	Yes
RMGT	Is a remote management protocol supported?	MGT:O	A.15 {D}5.2	Yes
TC	Are multiple Traffic Classes supported for relaying frames?	O	A.16 {D}7.7.3, {D}7.7.4	No
EFS	Are Extended Filtering Services supported for relaying and filtering frames?	O	A.17 6.12	Yes
MMRP	Is the MRP Multicast Registration Protocol(MMRP) implemented?	EFS:M	A.18	Yes
MRP	Is the Multiple Attribute Registration Protocol(MRP) implemented in support of the MMRP Application	EFS:M	A.19	Yes
VLAN	Does the implementation support the ability to insert tag headers into, modify tag headers in, and remove tag headers from relayed frames?	M	5.4, 6.1, 6.6, 6.7, 8.6, 6.8, 9	Yes
MVRP	Does the implementation support the ability to perform automatic configuration and management of VLAN topology information by means of MVRP on all Ports?	M	5.4, 11, A.22	Yes
MRP2	Is the Multiple Attribute Registration Protocol(MRP) implemented in support of the MVRP Application	M	10	Yes
MSTP	Is the Multiple Spanning Tree protocol implemented?	O.1	5, 7, 8.4, 8.6.1, 8.8.7, 8.9, 8.10, 8.13.7, 11.2.3.4, 11.3.1, 13, 14, A.20	Yes
VMGT	Does the implementation support VLAN management operations?	MGT:O	5.4.1, 12.10.2, 12.10.3	Yes
CB	Can the Bridge be configured to operate as a C-VLAN Bridge, recognizing and using C-TAGs?	O.2	5.7	Yes

Item	Feature	Status	References	Support
PB	Can the Bridge be configured to operate as a Provider Bridge, recognizing and using S-TAGs?	O.2	5.8	Yes
PEB	Can the Bridge be configured to operate as a Provider Edge Bridge with one or more Ports operating as a Customer Edge Ports?	PB:O	5.8.2	Yes
PB-2	State which Ports support the following values for the Provider Bridge Port Type: — Provider Network Port; — Customer Network Port; — Customer Edge Port.	PB:M	5.8	Ports: _____ Ports: _____ Ports: _____

9.2 Extended Filtering Services

Item	Feature	Status	References	Support
EFS-1	Can Group Registration Entries be created, updated and removed from the Filtering Database by MVRP?	EFS:M	8.8, 8.8.4, 10,	Yes
EFS-2	Can a Static Filtering Entry be created with an address specification that represents a Group Address, or All Group Addresses, or All Unregistered Group Addresses, and with a control element for each Port that specifies unconditional forwarding, or unconditional filtering, or the use of dynamic or default group filtering information?	EFS:M	8.8.2	Yes
EFS-3	Can a Static Filtering Entry be created with an address specification that represents an Individual Address and with a control element for each Port that specifies unconditional forwarding, or unconditional filtering?	M	8.8.2	Yes
EFS-4	Can a Static Filtering Entry be created with an address specification that represents an Individual Address and with a control element for each Port that specifies unconditional forwarding, or unconditional filtering, or the use of dynamic filtering information?	EFS:O	8.8.2	Yes

9.3 MMRP

Item	Feature	Status	References	Support
	If item MMRP is not supported, mark N/A and continue at A.19.			
MMRP-1	Does MMRP operate withing Base Spanning Tree Context, with the MAP Context identifier of 0, and propagate registration information only on the active topology	MMRP:M	5.4.1.4, 10, 10.2.3, 10.2.4, 10.15.1.1	Yes
MMRP-2	Is the MMRP Address used as the destination MMRP-2 MAC Address in all MMRP protocol exchanges	MMRP:M	5.4.1.4, 10, 10.15.1.1, 10.15.1.3 Table 10-1	Yes
MMRP-3	Do the PDUs exchanged by the MRP state MMRP-3 machines use the PDU formats, attribute types, and vlane encodings defined for MMRP	MMRP:M	5.4.1.4, 10, 10.3, 10.4, 10.9,	Yes
MMRP-4	Are MMRPPDUs and the messages they contain processed in the order received?	MMRP:M	10, 10.9	Yes
MMRP-5	Do values of the Group Attribute type include individual MAC Addresses?	MMRP:X	10, 10.15.1	No
MMRP-6	Does the MMRP application operate as defined?	MMRP:M	5.4.1.4, 10, 10.15	Yes
MMRP-7	Can the Static Filtering Entry that specifies All Groups with Registration Fixed for all Ports be deleted from the Permanent Database?	MMRP:O	10, 10.15.2.3	No
MMRP-8	Is the use of the Restricted Group Registration parameter supported for each Port?	MMRP:O	10, 10.15.2.2, 10.15.2.3	Yes
MMRP-9	Is the creation or modification of Dynamic GroupRegistration Entries restricted as specified if the Restricted Group Registration control is TRUE?	MMRP:O	10, 10.15.2.2, 10.15.2.3	Yes
MMRP-10	Is the Restricted Group Registration control FALSE for all Ports?	MMRP:O	10, 10.15.2.3	Yes
MMRP-11	Does the implementation support the operation of the MRP Applicant, Registrar, and Leave All state machines?	MMRP:M	5.4.1.4, 10, 10.6	Yes

Item	Feature	Status	References	Support
MMRP-12	Does the implementation of MMRP recognize the use of VLAN Contexts for the transmission and reception of MMRPDUs?	MMRP AND MSTP:M	10, 10.15.1 10.1, 10.2, 10.3	Yes
MMRP-13	Does the implementation of MMRP support the creation of distinct MMRP Participants for each VLAN context?	MMRP AND MSTP:M	10.15.1 10.2	Yes
MMRP-14	Does the implementation support the identification of VLAN contexts in transmitted MMRPDUs by means of VLAN-tagged or untagged frames, in accordance with the member set and untagged set for the VLAN Context concerned?	MMRP AND MSTP:M	10.15.1 10.3	Yes
MMRP-15	Are MMRPDUs transmitted only on Ports that are part of the active topology for the VLAN Context concerned?	MMRP AND MSTP:M	10.15.1 10.1	Yes

9.4 MRP

Item	Feature	Status	References	Support
	If item MRP is not supported, mark N/A and continue at A.20.			
MRP-1	Does the MRP Entity transmit PDUs to or process PDU from any port that is not MAC_Operational or is not authorized?	X		No
MRP-2	Are MRP PDUs destined for Applications that the Bridge supports relayed by the Bridge?	X	10.4	No
MRP-3	Are all MRP PDUs destined for Applications that the Bridge does not support relayed by the Bridge?	M	10.4	Yes
MRP-4	Do MRP protocol exchanges use the EtherType allocated for the MRP Application concerned?	M	10.3, 10.4, Table 10-2	Yes
MRP-5	Are received MRPDUs that are not well formed for the MRP Applications supported, discarded?	M	10.3, 10.4, 10.8.1, 10.9	Yes
MRP-6	Are information items that are received in well formed PDUs but not understood, individually discarded?	M	10.8.1, 10.9.3	Yes
MRP-7	Are the state machines, administrative controls, and procedures required by each supported application implemented as specified?	M	10.6, 10.7, 10.8	Yes
MRP-8	Are the generic elements of MRPDUs formatted for transmission and processed on reception by each MRP Application as specified?	M	10.9	Yes
MRP-9	Is the resolution of MRP timers as specified?	M	10.10.2	Yes

9.5 MVRP

Item	Feature	Status	References	Support
MVRP-1	Does the implementation support the creation, updating and removal of Dynamic VLAN Registration Entries in the Filtering Database under the control of MVRP?	M	11	Yes
MVRP-2	Does the Permanent Database contain an entry for the Default VID that defines Registration Fixed on all Ports?	O	11.2.3.4.3	Yes
MVRP-3	Is the Application group MAC address used as the destination MAC Address in all MVRP protocol exchanges chosen as defined in 11.2.3.1.3?	M	11, 11.2.3.1.3, Table 8-1, Table 10-1	Yes
MVRP-4	Are MVRP protocol exchanges identified by the use of the MVRP EtherType?	M	11.2.3.2, Table 10-2	Yes
MVRP-5	Are MVRP protocol exchanges achieved using the MRPDU formats, and the definition of the attribute type and value encodings defined for MVRP?	M	11, 11.2.3.1	Yes
MVRP-6	Does the implementation support the operation of the Applicant, Registrar, and Leave All state machines?	M	10.6	Yes
MVRP-7	Does the Bridge propagate registration MVRP information only on Ports that are part of the active topology of the base Spanning Tree Context?	M	11, 10.2.3, 10.2.4	Yes
MVRP-8	Does the MVRP application operate as defined in Clause 11?	M	11	Yes
MVRP-9	Does the implementation support the use of the Restricted VLAN Registration parameter?	O	5.4.1.3, 11.2.3.4.2, 11.2.3.4.3	No
MVRP-10	Does the implementation support MVRP in multiple spanning tree contexts?	MSTP:M	5.4.1.3, 11.2.3.1.1, 11.2.3.1.2	Yes

9.6 IEEE 802.1ak-draft8 Support

1. Modified MRPDU's attribute type as per draft.
2. State Machine (applicant & leave-all) change as per draft.
3. Introduction of periodic timer state machine.
4. Ethertype changed as per draft.

10 IEEE 802.3.ah (2004) for Ethernet OAM

10.1 Major Capabilities

Item	Feature	Subclause	Status	Support in ZebOS
OM	OAM object class	30.3.6	O	No
CSI	OAM Client Services Interfaces	57.2.5	M	Yes
ISI	Internal Service Interfaces	57.2.8	M	Yes
*ACTV	Active Mode	57.2.9	O.1	Yes
*PASS	Passive Mode	57.2.9	O.1	Yes
*LB	OAM Remote loopback	57.2.11	O	Yes
UNI	Unidirectional Operation	57.2.12	O	Yes
*EVNT	Link events	57.4.3.2, 57.5.3	O	Yes
*VAR	Variable Retrieval	57.4.3.3, 57.4.3.4	O	No
*OSP	Organization-specific OAMPDU	57.4.3.6	O	Yes
*OSE	Organization-specific Events	57.5.3.5	O	Yes
OSI	Organization-specific Information TLV	57.5.2.3	O	Yes

10.2 Functional Specifications

Item	Feature	Subclause	Status	Support in ZebOS
OFS1	Passive mode limited transmission	57.2.9.2	PASS:M	Yes
OFS2	Discovery state diagram	57.3.2.1	M	Yes
OFS3	Transmit state diagram	57.3.2.2	M	Yes
OFS4	OAMPDU transmission when local_pdu is set to LF_INFO	57.3.2.2.6	M	Yes
OFS5	OAMPDU transmission when local_pdu is set to RX_INFO	57.3.2.2.6	M	Yes
OFS6	OAMPDU transmission when local_pdu is set to INFO	57.3.2.2.6	M	Yes
OFS7	OAMPDU transmission when local_pdu is set to ANY: OAM_CTL.request service primitive with one or more critical link event parameters OAMPDU.request service primitive	57.3.2.2.6	M	Yes
OFS8		57.3.2.2.6	M	Yes

Item	Feature	Subclause	Status	Support in ZebOS
OFS9	OAMPDU Flags field reserved encodings			
	Remote stable and remote evaluating bits	Table 57-3	M	Yes
OFS10	Local stable and local evaluating bits	Table 57-3	M	Yes
	Reserved bits	Table 57-3	M	Yes
OFS12	OAMPDU code field	57.4.2.2	M	Yes
OFS13	OAMPDU reception when local_pdu is not set to ANY	57.3.2.3	M	Yes
OFS14	OAMPDU reception when local_pdu is set to ANY	57.3.2.3	M	Yes
OFS15	Multiplexer state diagram	57.3.3	M	Yes
OFS16	Multiplexer transparent pass-through	57.3.3.2	M	Yes
OFS17	Effect of OAMPDU on a frame already submitted to subordinate sublayer	57.3.4	M	Yes
OFS18	Parser state diagram	57.3.4	M	Yes

10.3 Event Notification Generation and Reception

Item	Feature	Subclause	Status	Support in ZebOS
EV1	Response to critical events	57.2.10.3	M	Yes
EV2	Critical event reception	57.2.10.4	M	Yes
EV3	Link event reception	57.2.10.4	EVNT:M	Yes

10.4 OAMPDUs

Item	Feature	Subclause	Status	Support in ZebOS
PDU1	Tagging	57.4.2	M	Yes
PDU2	OAMPDU structure	57.4.2	M	Yes
PDU3	Minimum OAMPDU size	57.4.2	M	Yes
PDU4	Information OAMPDU frame structure	57.4.3.1	M	Yes
PDU5	Information OAMPDU when local_pdu set to LF_INFO	57.4.3.1	M	Yes
	Information OAMPDU when local_pdu not set to LF_INFO			
	Remote_state_valid=FALSE			

Item	Feature	Subclause	Status	Support in ZebOS
PDU6	Remote_state_valid=TRUE	57.4.3.1	M	Yes
PDU7		57.4.3.1	M	Yes
PDU8	Type values 0X03-0XFD	Table 57-6	M	Yes
PDU9	Type value 0XFF	Table 57-6	M	Yes
PDU10	Event notification OAMPDU frame structure	57.4.3.2	EVNT:M	Yes
PDU11	Event notification OAMPDU sequence number	57.4.3.2	EVNT:M	Yes
PDU12	Event notification OAMPDU events	57.4.3.2	EVNT:M	Yes
PDU13	Variable request OAMPDU frame structure	57.4.3.3	VAR* ACTV:M	No
PDU14	Variable request OAMPDU Data field	57.4.3.3	VAR* ACTV:M	No
PDU15	Variable response OAMPDU frame structure	57.4.3.4	VAR:M	No
PDU16	Variable response OAMPDU data field	57.4.3.4	VAR:M	No
PDU17	Loopback control OAMPDU frame structure	57.4.3.5	!PASS * LB:M	Yes
PDU18	Loopback control OAMPDU data field	57.4.3.5	!PASS * LB:M	Yes
PDU19	Command 0X00	Table 57-5	!PASS * LB:M	Yes
PDU20	Command values 0X03-0XFF	Table 57-5	!PASS * LB:M	Yes
PDU21	Organization specific OAMPDU frame structure	57.4.3.6	OSP:M	Yes
PDU22	Organization specific OAMPDU organizationally unique identifier field	57.4.3.6	OSP:M	Yes

10.5 Local Information TLVs

Item	Feature	Subclause	Status	Support in ZebOS
LIT1	Local information TLV	57.5.2.1	M	Yes
LIT2	Local information TLV OAM version field	57.5.2.1	M	Yes
LIT3	Local information TLV revision field	57.5.2.1	M	Yes
LIT4	Local information TLV state field	57.5.2.1	M	Yes
LIT5	Local information TLV state field parser action OX3 value	57.5.2.1	M	Yes
LIT6	Reserved bits	Table 57-7	M	Yes
LIT7	Local information TLV OAM configuration field	57.5.2.1	M	Yes
LIT8	Reserved bits	Table 57-8	M	Yes
LIT9	Local information TLV OAMPDU configuration field	57.5.2.1	M	Yes
LIT10	Local information TLV OUI field	57.5.2.1	M	Yes
LIT11	Reserved bits	Table 57-9	M	Yes
LIT12	Local information TLV vendor specific information field	57.5.2.1	M	Yes

10.6 Remote information TLVs

Item	Feature	Subclause	Status	Support in ZebOS
RIT1	Remote information TLV	57.5.2.2	M	Yes

10.7 Organization Specific Information TLVs

Item	Feature	Subclause	Status	Support in ZebOS
OIT1	Organization specific information TLV	57.5.2.3	M	Yes
OIT2	Organization specific information TLV OUI field	57.5.2.3	M	Yes

10.8 Link Event TLVs

Item	Feature	Subclause	Status	Support in ZebOS
ET1	Errored symbol period event TLV structure	57.5.3.1	EVNT:M	Yes
ET2	Errored Frame event TLV structure	57.5.3.2	EVNT:M	Yes
ET3	Errored Frame Period Event TLV structure	57.5.3.3	EVNT:M	Yes
ET4	Errored Frame Seconds Summary Event TLV structure	57.5.3.4	EVNT:M	Yes
ET5	Organization Specific Event TLV structure	57.5.3.5	EVNT* OSE:M	Yes
ET6	Organization specific event organizationally unique identifier field	57.5.3.5	EVNT * OSE:M	Yes
ET7	Type values 0X05-0XFD	Table 57-12	EVNT:M	Yes
ET8	Type value 0XFF	Table 57-12	EVNT:M	Yes

11 IEEE 802.1ah for Provider Backbone Bridge

11.1 Major Capability

Item	Feature	Status	References	Support
BEB	Can the Bridge be configured to operate as a Backbone Edge Bridge, recognizing and using I-TAGs?	O.2	5.11	Yes
BEB-B	Can the Bridge be configured to operate as a Backbone Edge Bridge with one or more Ports operating as a Customer Backbone Ports?	BEB: O.3	5.11	Yes
BEB-I	Can the Bridge be configured to operate as a Backbone Edge Bridge with one or more Ports operating as a Provider Instance Port?	BEB: O.3	5.11	Yes
BEB-I	State which Ports support the following values for the Provider Backbone Edge Bridge Port Type: - Provider Instance Port; - Customer Network Port; - Provider Network Port; - Customer Backbone Port.	BEB: M	5.11	PIP: Any CNP: Any PNP: Any CBP: Any

11.2 Addressing

Item	Feature	Status	References	Support
ADDR-6	Are all BPDUs generated by a Spanning Tree Protocol Entity associated with an S-VLAN component, <u>I-component</u> , or <u>B-component</u> transmitted to the Provider Bridge Group Address?	PB: M BEB: M	Table 8-1	Yes
ADDR-10	Are frames addressed to any of the S-VLAN component Reserved Address relayed by an S-VLAN component, <u>I-component</u> , or <u>B-component</u> ?	PB: X BEB: X	Table 8-2	Yes <u>B-component</u>
ADDR-17	Are PIPs capable of filtering frames received with a B-SA address matching the PIP MAC address?	BEB-I: O	5.7.1	N/A

11.3 Bridge Management

Item	Feature	Status	References	Support
MGI-86	Read Provider Bridge Port Type	MGT AND PB: M MGT AND BEB: M	12.13.1.1	Yes
MGI-87	Configure Provider Bridge Port Type	MGT AND PB: O MGT AND BEB: O	12.13.1.2	YES
MGI-96	Read BEB configuration	MGT AND BEB: M	12.16.1.1	Yes
MGI-97	Set BEB configuration	MGT AND BEB: M	12.16.1.2	Yes
MGI-98	Create BEB component	MGT AND BEB: O	12.16.1.3	YES
MGI-99	Delete BEB component	MGT AND BEB: O	12.16.1.4	YES
MGI-100	Create BEB Bridge Port	MGT AND BEB: O	12.16.1.5	YES
MGI-101	Create BEB PIP	MGT AND BEB: O	12.16.1.6	YES
MGI-102	Delete BEB Bridge Port	MGT AND BEB: O	12.16.1.7	YES
MGI-103	Delete BEB PIP	MGT AND BEB: O	12.16.1.8	YES
MGI-104	Read BEB/PB/VLAN Bridge port configuration	MGT AND BEB: M	12.16.2.1	Yes
MGI-105	Read VIP configuration	MGT AND BEB-I: M	12.16.3.1	Yes
MGI-106	Set VIP configuration	MGT AND BEB-I: M	12.16.3.2	Yes
MGI-107	Read PIP configuration	MGT AND BEB-I: M	12.16.4.1	Yes
MGI-108	Set PIP configuration	MGT AND BEB-I: O	12.16.4.2	YES
MGI-109	Read VIP to PIP mapping	MGT AND BEB-I: M	12.16.4.3	Yes
MGI-110	Set VIP to PIP mapping.	MGT AND BEB-I: O	12.16.4.4	YES
MGI-111	Read PIP Priority Code Point Selection	MGT AND BEB-I: M	12.16.4.5	N/A
MGI-112	Set PIP Priority Code Point Selection	MGT AND BEB-I: M	12.16.4.6	N/A
MGI-113	Read PIP Priority Code Point Decoding Table	MGT AND BEB-I: M	12.16.4.7	N/A
MGI-114	Set PIP Priority Code Point Decoding Table	MGT AND BEB-I: O	12.16.4.8	N/A
MGI-115	Read PIP Priority Code Point Encoding Table	MGT AND BEB-I: M	12.16.4.9	N/A
MGI-116	Set PIP Priority Code Point Encoding Table	MGT AND BEB-I: O	12.16.4.10	N/A
MGI-117	Read PIP Use_DEI parameter	MGT AND BEB-I: M	12.16.4.11	N/A
MGI-118	Set PIP Use_DEI parameter	MGT AND BEB-I: O	12.16.4.12	N/A
MGI-119	Read PIP Require Drop Encoding parameter	MGT AND BEB-I: M	12.16.4.13	N/A
MGI-120	Set PIP Require Drop Encoding parameter	MGT AND BEB-I: O	12.16.4.14	N/A
MGI-121	Read backbone service instance table entry	MGT AND BEB-B: M	12.16.5.1	Yes
MGI-122	Set backbone service instance table entry	MGT AND BEB-B: M	12.16.5.2	Yes

11.4 Multiple Spanning Tree Protocol

Item	Feature	Status	References	Support
MS1P-34	Are all Customer Network Ports capable of supporting the L2GP spanning tree protocol?	BEB-I: O	13.37	Yes
MS1P-35	Are all Provider Network Ports capable of supporting the L2GP spanning tree protocol?	PB: O	13.37	Yes
MS1P-36	Are Provider Instance Ports capable of supporting the encapsulation/decapsulation of BPDUs	BEB-I: O	5.7.1	Yes

11.5 VLAN Support

Item	Feature	Status	References	Support
VLAN-10	Does the implementation support the ability to enable and disable Ingress Filtering?	CB: O PB: M <u>BEB: M</u>	5.4.1, 5.6, 8.4	YES
VLAN-29	Is encoding of the drop_eligible parameter in the Priority Code Point field of the VLAN tag supported?	CB: O PB: M <u>BEB: M</u>	5.5.1, 5.6, 6.9.3, 9.6, 9.7	YES
VLAN-30	Is Service Access Priority Selection supported?	CB: O PB: X <u>BEB: X</u>	5.5.1, 5.6, 6.9	N/A
VLAN-31	Is the VID translation table supported?	CB: X PB: O <u>BEB: O</u>	5.5, 5.6.1, 6.9	N/A
VLAN-32	Is the VIP-ISID parameter supported?	BEB-I: M	6.10	Yes
VLAN-33	Is the default Backbone Destination supported?	BEB-I: M	6.10	YES
VLAN-34	Is the adminPointToPointMAC supported?	BEB-I: O	6.10	YES
VLAN-35	Is the Backbone Service Instance field in the backbone service instance table supported?	BEB-B: M	6.11	YES
VLAN-36	Is the Backbone VLAN identifier field in the backbone service instance table supported?	BEB-B: O	6.11	YES
VLAN-37	Is the Local Service Instance field in the backbone service instance table supported?	BEB-B: O	6.11	YES
VLAN-38	Is the Default Backbone Destination field in the backbone service instance table supported?	BEB-B: O	6.11	YES
VLAN-39	Is many-to-one S-VID to I-SID mapping supported?	BEB-I: O	5.7.1	YES

11.6 Connectivity Fault Management

Item	Feature	Status	References	Support
CFM-81	Can CFM monitor backbone service instances using Backbone Service Instance Multiplex Entities placed back-to-back?	<u>BEB: O</u>	5.7.1, 5.8.1	Yes

12 IEEE 802.1Qay for Provider Backbone Bridge – Traffic Engineering

12.1 Major Capability

Item	Feature	Status	References	Support
MGT	Is management of the Bridge supported?	O PBBTE: M	A.14 {D}14	Yes[X] No []
RMGT	Is a remote management protocol supported?	MGT: O PBBTE: M	A.15 {D}5.2	Yes[X] No []
CFM	Is Connectivity Fault Management implemented?	O PBBTE: M	5.4.1.3, 19, 20, 21,22	Yes[X] No []

Item	Feature	Status	References	Support
PBBTE	Can the Bridge be configured by an external agent to provide TE service instances?	O	8.4, 8.9, 25.10	Yes [X] No []
EXAG	Is the active topology, learning and forwarding of the TE service instances under the control of an external agent?	PBBTE: O.1	8.4, 8.9	Yes [X] No [] N/A []
TESI	Is the VID used by the external agent to identify the TE service instances?	EXAG: M	8.4, 8.9, 25.10	Yes [X] N/A []
PTESI	Can the Bridge support point-to-point TE service instances?	TESI: M	25.10	Yes [X] N/A []
MTESI	Can the Bridge support point-to-multipoint TE service instances?	TESI: O	25.10	Yes [X] N/A []
BCBTE	Can the Bridge be configured to operate as a Backbone Core Bridge that provides TE service instances?	PB AND PBBTE: O.5	5.10, 5.6.2	Yes [X] N/A []
BEBTE	Can the Bridge be configured to operate as a Backbone Edge Bridge that provides TE service instances?	BEB AND PBBTE: O.5	5.8.2, 5.11.1	Yes [X] N/A []
PS	Is protection switching supported?	BEBTE: M	5.8.2, 26.10.3	Yes [X] N/A []

12.2 Basic Filtering Services

Item	Feature	Status	References	Support
BFS-1	Are correctly received user data frames submitted to the Learning Process?	M TESI: X	8.6, 8.7	Yes [] No [X]
BFS-2	Are correctly received frames of types other than user data frames submitted to the Learning Process?	O TESI: X	8.6, 8.7	Yes [] No [X]
BFS-3	Does the Filtering Database support creation and update of Dynamic Filtering Entries by the Learning Process?	M TESI: X	8.7, 8.8, 8.8.3	Yes [] No [X]
BFS-10	Can Static Filtering Entries be created, modified, and deleted by management?	O TESI: M	8.8	Yes [X] No []
BFS-12	Is it possible to configure the Bridge to discard frames with unknown destination MAC addresses?	TESI:M -TESI:X	8.8.1:a3	Yes [X] No []

12.3 Addressing

Item	Feature	Status	References	Support
ADDR-18	Is the address of an internal PIP on Backbone Edge Bridge supporting a TE service instance configured to take the value of the MAC address of the connected CBP?	BEBTE:M	25.10	Yes [X] N/A []

12.4 Bridge Management

Item	Featur	Status	References	Support
MGT-200	Read TE protection group list	PBBTE: M	12.19.1.1	Yes [X]
MGT-201	Create TE protection group managed object	PBBTE: M	12.19.1.2	Yes [X]
MGT-202	Delete TE protection group managed object	PBBTE: M	12.19.1.3	Yes [X]
MGT-203	Read TE protection group managed object	PBBTE: M	12.19.2.1	Yes [X]
MGT-204	Write TE protection group managed object	PBBTE: M	12.19.2.2	Yes [X]

12.5 VLAN Support

Item	Feature	Status	Reference	Support
VLAN-33	Is the default Backbone Destination supported?	BEB: O BEBTE: M	6.10	Yes [X] No []
VLAN-36	Is the default backbone MAC address field in the service instance table supported?	BEB: O BEBTE: M	6.11	Yes [X] No []

12.6 Connectivity Fault Management

Item	Feature	Status	References	Support
CFM-26	Are the contents of an LBM, except for the source_address and OpCode, ignored and not interpreted by a non PBB-TE receiver?	CFM-91 AND CFM: M	20.2.2	Yes [X] N/A []
CFM-31	Can a MEP take longer to set rMEPCCMdefect than $(3.5 \times \text{CCMtime}(\text{CCMinterval}))$ seconds of the receipt of the last CCM?	CFM: X	20.5.7	Yes [X] No []

Item	Feature	Status	References	Support
CFM-82	Does the Bridge support the creation of a Maintenance Association (MA) on each TE service instance supported by the Bridge for each MD Level?	BEBTE: M	5.8.2, 26.9	Yes [X] N/A []
CFM-83	Does the Bridge support the creation of an Up MEPs on each TE service instance on each	BEBTE: M	5.8.2	Yes [X] N/A []
CFM-84	Does the Bridge support the creation of eight Up MEPs on each TE service instance on each CBP, each MEP at a different MD Level?	BEBTE: O	5.8.2	Yes [X] No [] N/A []
CFM-85	Does the Bridge support the creation of MIPs on TE service instances?	BEBTE: O	5.6.2	Yes [X] No [] N/A []
CFM-86	Can CFM monitor TE service instances using TE Service Instance Multiplex Entities placed back-to-back?	BEBTE: M	6:19	Yes [X] N/A []
CFM-87	Is the PBB-TE MIP TLV included in every LBM that is targeting a PBB-TE MIP?	BEBTE: M	20.2, 21.7.5	Yes [X] N/A []
CFM-88	Is the PBB-TE MIP TLV included in every LTM that is associated with a PBBTE MA?	BEBTE: M	20.3, 21.7.5	Yes [X] N/A []
CFM-89	Is the PBB-TE MIP TLV included in every LBM/LTM associated with point-to-multipoint service instances?	BEBTE: M AND MTESI: M	20.2, 20.3, 21.7.5	Yes [X] N/A []
CFM-90	Is the PBB-TE MIP TLV the first TLV in an LBM associated with a PBBTE MA?	CFM-87 OR CFM-89: M	20.2, 21.7.5	Yes [X] N/A []
CFM-91	Is the PBB-TE MIP TLV expected in a received LBM/LTR?	PBBTE: O	20.2, 20.3	Yes [X] No [] N/A []
CFM-92	Is a PBB-TE MIP TLV expected in a received LBM/LTR associated with a point-to-multipoint TE service instance?	MTESI: M	20.2, 20.3	Yes [X] N/A []

CFM-93	Does the PBB-TE MEP check the MAID in received CCMs?	BEBTE: O	20.1.3, 20.17.1	Yes [X] N/A []
CFM-94	Does the PBB-TE MEP set the Traffic field in the transmitted CCMs and process it in the received CCMs?	PS-6: M	20.11.1, 20.17.1, 21.6.1.2	Yes [X] N/A []
CFM-95	Is the per-PBB-TE MEP timer mmCCMwhile implemented?	PS-6: M	20.5.7	Yes [X] N/A []

12.7 Management Information Base

Item	Feature	Status	References	Support
MIB-21	Is the IEEE 8021-PBBTE-MIB module fully supported (per its MODULE-COMPLIANCE)?	MIB: O	17.5.11	Yes [X] No [] N/A []

12.8 Protection Switching

Item	Feature	Status	References	Support
	If item PS is not supported, mark N/A and continue at the subsequent subclause.			N/A []
PS-1	Is 1:1 protection switching supported?	PS: M	5.8.2, 26.10.3	Yes [X] N/A []
PS-2	Are the operator commands Forced Switch, Lockout of Protection, MStoWorking and MStoProtection implemented?	PS-1: M	26.10.3.3	Yes [X] No [] N/A []
PS-3	Is the WTRwhile timer implemented?	PS-1: O	26.10.3.2.1	Yes [X] No [] N/A []
PS-4	Is the hold-off timer implemented?	PS-1: O	26.10.3.2.2	Yes [X] No [] N/A []
PS-5	Is protection switching with load sharing supported?	PS: O	5.8.2, 12.19.1.2	Yes [X] No [] N/A []
PS-6	Is the detection of mismatch defects supported?	PS: O	26.11	Yes [X] No [] N/A []

13 IEEE 802.1ag 2007 for Connectivity Fault Management

13.1 Major Capability

Item	Feature	Status	References	Support in ZebOS
CFM Yes [] No []CB	Is Connectivity Fault Management implemented?	0	5.4.1.3, 19, 20, 21, 22	Yes
BRG	Is this system a Bridge, and not a Station, for the purposes of Connectivity Fault Management?	CFM: 0	22.4	Yes

13.2 Relay and Filtering of Frames

Item	Feature	Status	References	Support in ZebOS
RLY-17	Are CFM frames discarded if they enter the queue subsequent to the Port leaving the Forwarding state?	CFM:X	item 8.6.7) in 8.6.7	N/A. This is a forwarding plane requirement.
RLY-18	Are CFM frames discarded when the Port leaves the Forwarding state?	CFM: 0	8.6.7	N/A. This is a forwarding plane requirement.

13.3 Bridge Management

Item	Feature	Status	References	Support in ZebOS
MGT-96	Does the Bridge provide control of all of the required CFM managed objects?	BRG and CFM: M	item h) in 5.4.1.3, 12.14	Yes
MGT-97	What method is used by the Bridge to provide control of all of the required CFM managed objects?	CFM: 0.3	item n) in 5.4.1.3, 17.3, 17.5	Yes
MGT-98	The CFM Management Information Base (MIB) module defined in 17.5?	CFM: 0.3	17.3	Yes
MGT-98a	Some other method than the MIB module defined in 17.5? If by some other method, what method is used?	MGT-101: M	17.3	CLI and Propriety MIB
MGT-99	Does the Station provide control of all of the required CFM managed objects?	BRG AND CFM: M	item f) in 5.10, 12.14	Not Applicable. This is for End stations.

Item	Feature	Status	References	Support in ZebOS
MGT-100	What method is used by the Station to provide control of all of the required CFM managed objects?	BRG AND CFM: 0.4	item i) in 5.10, 17.3, 17.5	Not Applicable. This is for End stations.
MGT-101	The CFM Management Information Base (MIB) module defined in 17.5?			
MGT-101a	Some other method than the MIB module defined in 17.5? If by some other method, what method is used?	BRG AND CFM: 0.4 MGT-101: M	17.3 17.3	Not Applicable. This is for End stations. Not Applicable. This is for End stations.
MGT-102	Is an entire C-tagged service interface given a single row in the IETF RFC 2863 IF-MIB?	PEB AND CFM: 0	PEB AND CFM: 0	Yes
MGT-103	Is every Bridge Port assigned its own conceptual row in the IETF RFC 2863 IF-MIB with its own unique ifIndex?	MGT-100: M	MGT-100: M	Yes
MGT-104	Does the Bridge support IEEE 802.3 Clause 43 Link Aggregation?	CFM: 0	17.3, IEEE 802.3, Clause 43	Yes
MGT-105	Does every IEEE 802.3 MAC, when aggregated via IEEE 802.3 Link Aggregation, have its own unique ifIndex, separate from the ifIndex of the Bridge Port as a whole?	MGT-104: M	17.3	Yes
MGT-106	Read Maintenance Domain list	CFM: M	12.14.1.1	Yes
MGT-107	Create Maintenance Domain managed object	CFM: M	12.14.1.2	Yes
MGT-108	Delete Maintenance Domain managed object	CFM: M	12.14.1.3	Yes
MGT-109	Read CFM Stack managed object	CFM: M	12.14.2.1	Yes
MGT-110	Read Default MD Level managed object	CFM: M	12.14.3.1	Yes
MGT-111	Write Default MD Level managed object	CFM: M	12.14.3.2	Yes
MGT-112	Read Configuration Error List managed object	CFM: M	12.14.4.1	Yes
MGT-113	Read Maintenance Domain managed object	CFM: M	12.14.5.1	Yes
MGT-114	Write Maintenance Domain managed object	CFM: M	12.14.5.2	Yes

Item	Feature	Status	References	Support in ZebOS
MGT-115	Create Maintenance Association managed object	CFM: M	12.14.5.3	Yes
MGT-116	Delete Maintenance Association managed object	CFM: M	12.14.5.4	Yes
MGT-117	Read Maintenance Association managed object	CFM: M	12.14.6.1	Yes
MGT-118	Write Maintenance Association managed object	CFM: M	12.14.6.2	Yes
MGT-119	Create Maintenance association End Point managed object	CFM: M	12.14.6.3	Yes
MGT-120	Delete Maintenance association End Point managed object	CFM: M	12.14.6.4	Yes
MGT-121	Read Maintenance association End Point managed object	CFM: M	12.14.7.1	Yes
MGT-122	Total number of out-of-sequence CCMs received	CFM: O	item v) in 12.14.7.1.3, 20.16.12	No
MGT-123	Total number of LBRs received with data match Errors	CFM: O	item aa) in 12.14.7.1.3	Yes
MGT-124	Write Maintenance association End Point managed Object	CFM: M	12.14.7.2	Yes
MGT-125	Transmit Loopback Messages	CFM: M	12.14.7.3	Yes
MGT-126	Transmit Linktrace Message	CFM: M	12.14.7.4	Yes
MGT-127	Read Linktrace Reply	CFM: M	12.14.7.5	Yes
MGT-128	Read MEP Database	CFM: M	12.14.7.6	Yes
MGT-129	Read received Port Status TLV	CFM: O	item f) in 12.14.7.6.3, 20.19.3	Yes
MGT-130	Read received Interface Status TLV	CFM: O	item g) in 12.14.7.6.3, 20.19.4	Yes
MGT-131	Transmit MEP Fault Alarm	CFM: M	12.14.7.7	Yes

13.4 Connectivity Fault Management:

Item	Feature	Status	References	Support in ZebOS
CFM-1	Does the Bridge support the creation of Maintenance Domains at eight MD Levels, with multiple Maintenance Domains at each MD Level?	BRG AND CFM: M	item a) in 5.4.1.3	Yes
CFM-2	Does the Bridge support the creation of a Maintenance Association (MA) on each VLAN supported by the Bridge for each MD Level?	BRG AND CFM: M	item b) in 5.4.1.3	Yes
CFM-3	Does the Bridge support the creation of a single MIP for each Maintenance Domain on each Port, all MIPs being at the same MD Level?	BRG AND CFM: M	item c) in 5.4.1.3	Yes
CFM-4	Does the Bridge support the creation of eight Up MEPs on each VLAN on each Port, each MEP at a different MD Level?	BRG AND CFM: M	item d) in 5.4.1.3	Yes
CFM-5	Does the Bridge support the creation of eight Down MEPs on each VLAN on each Port, each MEP at a different MD Level?	BRG AND CFM: M	item e) in 5.4.1.3	Yes
CFM-6	Does the Bridge support the creation of eight Down MEPs associated with no VLAN on each Port, each MEP at a different MD Level?	BRG AND CFM: M	item f) in 5.4.1.3	Yes
CFM-7	Does the Bridge support the maintenance of a MEP CCM Database?	BRG AND CFM: M	item g) in 5.4.1.3	Yes
CFM-8	Does the Bridge conform to the state machines and procedures in Clause 20?	BRG AND CFM: M	item i) in 5.4.1.3, 20	Yes
CFM-9	Does the Bridge transmit and accept frames in the formats specified in Clause 21?	BRG AND CFM: M	item j) in 5.4.1.3	Yes
CFM-10	Does the Bridge support the creation of MIPs at different MD Levels on a single Port?	BRG AND CFM: O	item k) in 5.4.1.3, 22.3	Yes
CFM-11	Does the Bridge support the creation of MEPs at MD Levels equal to or higher than the MD Levels of MIPs on other VIDs on the same Port?	BRG AND CFM: O	item l) in 5.4.1.3, 22.3	Yes
CFM-12	Does the Bridge support the maintenance of a MIP CCM Database in MIPs and MEPs?	BRG AND CFM: O	item m) in 5.4.1.3, 19.2.8, 19.3	No

Item	Feature	Status	References	Support in ZebOS
CFM-13	Does the Bridge support the creation of MAs that are associated with more than one VLAN?	BRG AND CFM: O	item o) in 5.4.1.3	Yes
CFM-14	Does the Station support the creation of Maintenance Domains at eight MD Levels, with multiple Maintenance Domains at each MD Level?	BRG AND CFM: M	item a) in 5.10	NA. This is for end station
CFM-15	Does the Station support the creation of a Maintenance Association (MA) on each VLAN supported by the Bridge for each MD Level?	BRG AND CFM: M	item b) in 5.10	NA. This is for end station
CFM-16	Does the Station support the creation of MIPs?	BRG AND CFM: X	item b) in 22.4	NA. This is for end station
CFM-17	Does the Station support the creation of Up MEPs?	BRG AND CFM: X	item b) in 22.4	NA. This is for end station
CFM-18	Does the Station support the creation of eight Down MEPs on each VLAN on each Port, each MEP at a different MD Level?	BRG AND CFM: M	item c) in 5.10	NA. This is for end station
CFM-19	Does the Station support the creation of eight Down MEPs associated with no VLAN on each Port, each MEP at a different MD Level?	BRG AND CFM: M	item d) in 5.10	NA. This is for end station
CFM-20	Does the Station support the maintenance of a MEP CCM Database?	BRG AND CFM: M	item e) in 5.10	NA. This is for end station
CFM-21	Does the Station conform to the state machines and procedures in Clause 20?	BRG AND CFM: M	item g) in 5.10, 20	NA. This is for end station
CFM-22	Does the Station transmit and accept frames in the formats specified in Clause 21?	BRG AND CFM: M	item h) in 5.10	NA. This is for end station
CFM-23	Does the Station support the creation of MAs that are associated with more than one VLAN?	BRG AND CFM: O	item j) in 5.10	NA. This is for end station
CFM-24	Does the MP Level Demultiplexer discard frames that are too short to contain an MD Level header field?	CFM: M	19.2.6, 20.46.4.1	Yes
CFM-25	Is an LBM always discarded, and not replied to, if its source_address is a Group address?	CFM: M	20.2.2	Yes
CFM-26	Are the contents of an LBM, except for the source_address and OpCode, ignored and not interpreted by the receiver?	CFM: M	20.2.2	Yes
CFM-27	Is the LTFwhile timer implemented?	CFM: M	20.5, 20.5.1	Yes

Item	Feature	Status	References	Support in ZebOS
CFM-28	Are the per-MEP timers CCMwhile, errorCCMwhile, xconCCMwhile, LBLwhile, and FNGwhile implemented?	CFM: M	20.5, 20.5.2, 20.5.3, 20.5.4, 20.5.5, 20.5.6	Yes
CFM-29	Is the per-MEP per-remote MEP timer rMEPwhile implemented?	CFM: M	20.5, 20.5.7	No Per-MA per-remote MEP is supported
CFM-30	Can a MEP set rMEPCCMdefect within $(3.25 * \text{CCMtime} (\text{CCMinterval}))$ seconds of the receipt of a CCM?	X	20.5.7	No
CFM-31	Can a MEP take longer to set rMEPCCMdefect than $(3.5 * \text{CCMtime} (\text{CCMinterval}))$ seconds of the receipt of the last CCM?	CFM: M	20.5.7	Yes
CFM-32	Does the system transmit a non-0 value for the CCM Interval in CCMs?	CFM: M	20.8.1, item f) in 20.11.1	Yes
CFM-33	Does the Bridge transmit all CFM PDU fixed header fields in conformance with this standard?	CFM: M	20.46.2	Yes
CFM-34	Does the Bridge transmit all reserved bits and fields in CFM PDUs as 0?	CFM: M	20.46.2	Yes
CFM-35	Does the Bridge transmit additional fixed header fields not defined in this standard in CFM PDUs?	X	20.46.2	No
CFM-36	Does the Bridge transmit code points in any field that are reserved, either by this standard or by ITU-T Y.1731 (2006)?	X	20.46.2	No
CFM-37	Does the Bridge transmit additional fields in any CFM PDU in any TLV defined by this standard?	X	20.46.2	No
CFM-38	Does the Bridge determine the validity of those CFM PDUs that are validated, in a manner indistinguishable, by external observation of the Bridge, from the procedures described in this standard?	CFM: M	20.46.3	Yes
CFM-39	Is the version by which each PDU is processed selected correctly, and are the prohibited validation criteria not applied, by the System?	CFM: M	20.17.1, 20.17.2, 20.26.1, 20.31.1, 20.46.4.2	Yes
CFM-40	Does the System determine the validity of a CFM PDU in the	CFM: M	20.17.1, 20.17.2,	Yes

Item	Feature	Status	References	Support in ZebOS
	manner defined by this standard?		20.26.1, 20.31.1, 20.46.4.1, 20.46.4.3	
CFM-41	Are all CFM PDUs transmitted with an integral number of octets?	CFM: M	21.1	Yes
CFM-42	Does the Bridge transmit Organization-Specific TLVs?	CFM: O	20.46.2, 21.5.2	No
CFM-43	Does the Bridge transmit an Organization-Specific TLV that requires it or the receiver to violate any requirement of this standard?	X	21.5.2	No
CFM-44	Is the information transmitted in an Organization-Specific TLV independent from information in a TLV received from any other port?	CFM-42: M	21.5.2	NA. No support for organization- specific TLV
CFM-45	Do Organization-Specific TLV(s) transmitted by the Bridge provide a means for sending messages that are larger than would fit within a single CFM PDU?	X	21.5.2	No
CFM-46	Do the Organization-Specific TLV(s) transmitted by the Bridge conform to the validation and versioning rules of 20.46?	CFM-42: M	21.5.2	NA. No support for organization- specific TLV
CFM-47	Does the Management Address Domain field in the Sender ID TLV(s) transmitted by the Bridge (if any) conform to ITU-T X.690 8.19?	CFM: M	21.5.3.5	Yes
CFM-48	Can a MEP in a multiple spanning tree environment not statically restricted to a single MSTI generate a Port Status TLV?	X	21.5.4	No
CFM-49	Does the Bridge, in any case except when receiving an LBR, interpret the contents of the Data TLV?	X	21.5.6	No
CFM-50	Can the Bridge transmit the Data TLV in an LBM?	CFM: O	21.5.6	Yes
CFM-51	Is the Bridge able to receive and process all valid CCM PDUs that are 128 octets or less in length (from MD Level through End TLV)?	CFM: M	21.6	Yes
CFM-52	Does the Bridge discard, as invalid, CCM PDUs that exceed 128 octets in length?	CFM: O	21.6	Yes
CFM-53	Can the Bridge transmit a CCM PDU that is longer than 128 octets in length?	X	21.6	No
CFM-54	Is the length of the MAID transmitted in a CCM exactly 48	CFM: M	21.6.5	Yes

Item	Feature	Status	References	Support in ZebOS
	octets?			
CFM-55	Is the field Defined by ITU-T Y.1731 (2006) always transmitted as 0?	CFM: M	21.6.6	Yes
CFM-56	Does the First TLV Offset field contain the value as specified for the OpCode for each CFM message transmitted?	CFM: M	21.4.5, 21.6.2, 21.7.2, 21.8.2, 21.9.2	Yes
CFM-57	Does every transmitted LTM contain an LTM Egress Identifier TLV?	CFM: M	21.8.7	Yes
CFM-58	Does every transmitted LTR contain an LTR Egress Identifier TLV?	CFM: M	21.9.6	Yes
CFM-59	Does the receiving Bridge behave differently if the order of TLVs in a CFM PDU, other than the End TLV, or TLVs in an LBR, is altered?	X	21.6.7, 21.9.6	No
CFM-60	Does the Bridge support the creation of MPs at one or more MD Level on every Port?	CFM: M	22.3	Yes
CFM-61	Is every Down MEP on a Bridge Port assigned a MAC address different than any Down MEP on any other Bridge Port?	CFM: M	19.4	Yes
CFM-62	Does the Provider Edge Bridge support the creation of a Down MEP on the interface corresponding to a Customer Edge Port?	PEB AND BRG AND CFM: M	22.6.1	Yes
CFM-63	If the MIP CCM Database has insufficient resources to record a new entry, does it preferentially remove the oldest entry to make room for the new one?	BRG AND CFM-12: O	20.1.3	No
CFM-64	Does the Bridge transmit successive integer values in the Sequence Number field of a CCM?	CFM: O	20.1, item h) in 20.11.1	Yes
CFM-65	Does the Bridge transmit neither successive integer values nor 0 in the Sequence Number field of a CCM?	X	20.1, 20.11.1	No
CFM-66	Does the Bridge keep track of received CCMs' Sequence Number fields in the MEP CCM Database, and count out-of-sequence CCMs in CCMsequenceErrors?	CFM: O	20.1, 20.17.1	Yes
CFM-67	Does the Bridge check the validity of every received LTM, and LTR?	CFM: M	20.31.1, 20.39.1, 20.42.1	Yes

Item	Feature	Status	References	Support in ZebOS
CFM-68	Does the Bridge check the validity of every received CCM?	CFM: O	20.17.1, 20.17.2	Yes
CFM-69	Does the Bridge check the validity of every received LBM?	CFM: O	20.2.2, 20.26.1	Yes
CFM-70	Does the Bridge check the validity of every received LBR?	CFM: O	20.2.3, 20.31.1	Yes
CFM-71	Does the Bridge compare the received LBR bit-by-bit against the original LBM?	CFM: O	20.2.3, 20.31.1	No
CFM-72	Can the Bridge transmit LBMs at a rate fast enough to overflow output queues in the absence of other data traffic?	X	20.2.1	No
CFM-73	Can a high rate of incoming CFM PDUs increase the probability that the Bridge fails to protect the network against forwarding loops?	BRG:X	20.46.5	No
CFM-74	Are the Optional CCM TLVs included in every CCM?	CFM: O	21.6.7	Yes
CFM-75	Are Organization-Specific TLVs included in CCMs?	CFM: O	21.6.7	No
CFM-76	Is the Sender ID TLV included in every LBM?	CFM: O	21.5.3, 21.7.4	Yes
CFM-77	Is the Management Address included in the Sender ID TLV?	CFM-76: O	21.5.3	Yes
CFM-78	Are Organization-Specific TLVs included in LBMs?	CFM: O	21.7.4	No
CFM-79	Does the Station discard, and not process, all CFM PDUs not discarded or processed by its MEPs?	BRG AND CFM: M	item c) in 22.4	NA. This is for end station
CFM-80	Does the Station create entries in the Configuration Error List managed object other than CFM leak errors?	X	item d) in 22.4, 12.14.4	NA. This is for end station

14 IEEE 1588 for Precision Time Protocol 2008

Item	Feature	Status	References	Support in ZebOS
PTP-1	Management and Signaling messages are not supported			No
PTP-2	End to End Transport Clock			Yes
PTP-3	Unicast Messages			Yes
PTP-4	IPv6 Support			Yes

15 IEEE 802.1Qau draft 2.4 – Congestion Notification

Item	Feature	Status	References	Support in ZebOS
MIB	Does the system implementation support management operations using SMIPv2 MIB modules?	MGT: 0	8.12, 17	No
CN	Is congestion notification implemented?	0	5.4.3, 30, 31, 32, 33	Yes
BRG-1	Is this system a bridge, and not an end station, for the purposes of congestion notification?	CN: 0		Yes
CN-1	Does the system conform to the required provisions of IEEE 802.1AB-2005?	CN: M	5.4.3:j, 5.10:n	Yes
CN-2	Does the system support the use of the Congestion Notification TLV in LLDP?	CN: M	5.4.3:f, 5.10:g	Yes
CN-3	Does the system transmit more than one Congestion Notification TLV in a single LLDPDU?	CN: M	33.5	No
CN-4	Does the system transmit a Congestion Notification TLV with 0 in all of the Per-priority CNPV indicators?	CN:M	33.5	No
CN-5	Does the system implement the Congestion Notification Domain defense variables, procedures, and state machine?	CN:M	32.4, 32.5, 32.6	Yes
CN-6	Does the Bridge support the creation of at least one CP on at least one Port?	BRG-1 AND CN: M	5.4.3:a	Yes
CN-7	Does the Bridge support the creation of more than one CP on at least one Port?	BRG-1 AND CN: 0	5.4.3.i	Yes
CN-8	Does the Bridge support the creation of more than seven CPs on any Port?	BRG-1 AND CN: M	5.4.3.i	No
CN-9	Does every CP on the bridge support all four defense modes separately on each CNPV?	BRG-1 AND CN: M	5.4.3:d, 31.1.1, 32.1.1	Yes
CN-10	Is each CP on the Bridge able to remove CN-TAGs?	BRG-1 AND CN: M	5.4.3:b	NA. In scope of data plane.
CN-11	Does the PIP perform CNM translation on the return path?	BEB-I AND CN:M	5.4.3:g	Not supported.
CN-12	Does the Provider Edge Port perform CNM translation on the return path?	PEB AND CN:M	5.4.3:h	Not supported.
CN-13	Is each CP on the system able to generate CNMs?	CN AND (BRG-1 OR	5.4.3:b, 5.10:c	NA. In scope of data plane.

Item	Feature	Status	References	Support in ZebOS
		CN-32): M		
CN-14	Does the bridge override the priority of a frame entering a port on a CNPV when in mode cptEdge?	BRG-1 AND CN: M	32.1.1	NA. In scope of data plane.
CN-15	Does the bridge allow any other priority to be remapped to a CNPV when in any mode other than cptDisabled?	BRG-1 AND CN: M	32.1.1	No
CN-16	Does the system's CPs implement the specified variables and procedures?	CN AND (BRG-1 OR CN-32): M	32.7:a, 32.8, 32.9	Yes. Most of it is in scope of data plane.
CN-17	Is the CP's Random () function initialized to a different value each time the system is reset?	CN AND (BRG-1 OR CN-32): M	32.9.1	NA. In scope of data plane.
CN-18	Does a system's CP interpret a CN-TAG to any degree beyond simply copying it to the CNM?	CN AND (BRG-1 OR CN-32): M	33.2.1	NA. In scope of data plane.
CN-19	Does the CP transmit a 0 in the CNM's Version field?	CN AND (BRG-1 OR CN-32): M	33.4.1	NA. In scope of data plane.
CN-20	Does the CP transmit a 0 in the CNM's ReservedV field?	CN AND (BRG-1 OR CN-32): M	33.4.2	NA. In scope of data plane.
CN-21- CN-46	Requirements are for not BRG-1 and hence not in scope of ZebOS.	!BRG-1		NA. Not in scope of ZebOS.

16 IEEE 802.1Qaz draft 2.5 – ETS, PFC, APP, DCBx

Item	Feature	Status	References	Support in ZebOS
MIB-26	Is the DCBX extension to the LLDP IEEE 8021-FQTSS MIB supported?	DCBX: O	17.7.1	No
ETS	Does the implementation support bandwidth management using ETS?	ETS: O	37	Yes
PFC	Does the implementation support priority management using PFC?	PFC: O		Yes
DCBX	Does the system conform to the required provisions of IEEE 802.1AB-2005?	DCBX: M	38	Yes
ETS-1	Support at least 3 traffic classes	ETS: M	37	NA. In scope of data plane.
ETS-2	Support bandwidth configuration with a granularity of 1% or finer	ETS: M	37	NA. In scope of data plane.
ETS-3	Support bandwidth allocation with a precision of 10%	ETS:M	37	NA. In scope of data plane.
ETS-4	Support allocation of a portion of available bandwidth to each traffic class	ETS:M	37	NA. In scope of data plane.
ETS-5	Support DCBX.	ETS:M	38	Yes
DCBX-1	Support the DCBX asymmetric state machine	DCBX:M	38.4.1	Yes
DCBX-2	Support the DCBX symmetric state machine	DCBX:M	38.4.2	Yes
DCBX-TLV1	Is ETS Configuration TLV supported?	DCBX:M	D.2.9	Yes
DCBX-TLV2	Is ETS Recommendation TLV supported?	DCBX:M	D.2.10	Yes
DCBX-TLV3	Is Priority-based Flow Control Configuration TLV supported?	DCBX:M	D.2.11	Yes
DCBX-TLV4	Is Application Priority TLV supported?	DCBX:M	D.2.12	Yes

17 Remote Network Monitoring MIB

Item	Feature	Status	References	Support in ZebOS
Rmon_Stats_1	Ethernet Statistics Group	RMON1: 0	RFC-2819 Ethernet Statistics Group	Yes
Rmon_History_2	The History Control Group	RMON2: 0	RFC-2819 History Control Group	Yes
Rmon_Alarm_3	The Alarm Control Group	RMON3: 0	RFC-2819 Alarm Control Group	Yes
Rmon_Hosts_4	The Host Group	RMON4: 0	RFC-2819 Host Group	No
Rmon_HostTopN_5	The Host TOP N Group	RMON5: 0	RFC-2819 Host TOP N Group	No
Rmon_Matrix_6	The Matrix group	RMON6: 0	RFC-2819 Matrix group	No
Rmon_filter_7	The Filter Group	RMON7: 0	RFC-2819 The Filter Group	No
Rmon_Capture_8	The Capture Group	RMON8: 0	RFC-2819 Filter Group	No
Rmon_Event_9	The Event Group	RMON9: 0	RFC-2819 Event Group	Yes

18 Link Layer Discovery Protocol MIB

Item	Feature	Status	References	Support in ZebOS
Lldp_configuration_1	LLDP CONFIGURATION OBJECTS	LLDP1: 0	IEEE 802.1AB LLDP CONFIGURATION OBJECTS	Yes
Lldp_Statistics_2	LLDP STATISTICS OBJECTS	LLDP2: 0	IEEE 802.1AB LLDP STATISTICS OBJECTS	Yes
Lldp_local_system_data_3	LLDP LOCAL SYSTEM DATA	LLDP3: 0	IEEE 802.1AB LLDP LOCAL SYSTEM DATA	Yes
Lldp_remote_system_data_4	LLDP REMOTE SYSTEM DATA	LLDP4: 0	IEEE 802.1AB LLDP REMOTE SYSTEM DATA	Yes
Lldp_remote_system_extension_data_5	LLDP REMOTE SYSTEM EXTENSION DATA	LLDP5: 0	RFC-2819 LLDP REMOTE SYSTEM EXTENSION DATA	No
Lldp_Notifications_6	LLDP MIB NOTIFICATIONS	LLDP6: 0	LLDP MIB NOTIFICATIONS	No

19 Ethernet in the First Mile MIB

Item	Feature	Status	References	Support
Efm_dot3OamTable_1	Ethernet OAM Control group	EFM1:	RFC-4878 Ethernet OAM Control group	Yes
Efm_dot3OamPeerTable_2	Ethernet OAM Peer group	EFM2:	RFC-4878 Ethernet OAM Peer group	Yes
Efm_dot3OamEventConfigTable_3	Ethernet OAM Event Configuration group	EFM3:	RFC-4878 Ethernet OAM Event Configuration group	Yes
Efm_dot3OamEventLogTable_4	Ethernet OAM Event Log group	EFM4:	RFC-4878 Ethernet OAM Event Log group	Yes
Efm_dot3OamLoopbackTable_5	Ethernet OAM Loopback group	EFM5:	RFC-4878 Ethernet OAM Loopback group	Yes
Efm_dot3OamStatsTable_6	Ethernet OAM Statistics group	EFM6:	RFC-4878 Ethernet OAM Statistics group	Yes

20 Ethernet Local Management Interface (E-LMI)

Item	Feature	Status	References	Support in ZebOS
ZEBOS.ETH-0010	Ethernet Local Management Interface	UNI Type -2 support depends on E-LMI support. The lowest granularity of timers supported may be higher than the lowest limit set by the E-LMI protocol due to performance concerns.	MEF-16	Yes

21 IEEE 802.1aq D4.6 Shortest Path Bridging (SPB)

Item	Feature	Status	References	Support in ZebOS
SPB	Is Shortest Path Bridging supported?	0.1	5.4.5, 27	Yes
MGT-84	Read VID Translation Table Entry	MGT AND VLAN-31:M	12.10.1	Yes
MGT-85	Configure VID Translation Table Entry	MGT AND VLAN-31:M	12.10.1.8	Yes
MGT-86	Read Egress VID Translation Table Entry	MGT AND VLAN-32:M	12.10.1.1	Yes
MGT-87	Configure Egress VID Translation Table Entry	MGT AND VLAN-32:M	12.10.1.8.2	Yes
MGT-??	Does the implementation support the SPB managed objects?	MGT AND SPB:M	5.4.5, 12.25	No (Support of SPBM managed objects through CLI is present)
VLAN-31	Is the VID translation table supported?	¬SPBV: O SPBV:M	5.4.1, 5.4.5, 6.9	Yes
VLAN-32	Is the Egress VID translation table supported?	¬VLAN-31:X ¬SPBV AND VLAN-31:O SPBV:M	5.4.1, 5.4.5, 6.9	Yes
MIB-???	Is the IEEE 8021-AQ-MIB module fully supported (per its MODULE-COMPLIANCE)?	MIB AND SPB: O	5.4.5, 17.7.19	No. Only CLI is supported.
SPB-1	Does the Bridge support IS-IS Link State Protocol with procedures to ensure Loop Prevention?	SPB:M	5.4.5, 28	Yes
SPB-2	Encode, decode, and validate SPT BPDUs for the Agreement Protocol (AP) and support AP logic in IS-IS?	SPB:M	5.4.5, 28	Yes
SPB-3	State the maximum number of FIDs supported. Minimum is three for SPB	SPB:M	5.4.5,	16 FIDs
SPB-4	Support VLAN Registration and filtering of frames with unregistered VIDs	SPB: O	5.4.5	No
SPBV	Is Shortest Path Bridging VID mode supported?	SPB: 0.6	5.4.5	Yes
SPBM	Is Shortest Path Bridging MAC mode supported?	SPB: 0.6	5.4.5	Yes

22 SATOP

Item	Feature	Status	References	Support in ZebOS
SATOP-1	Is ALL the E1/T1/E3/T3 TDM lines are supported	All the TDM lines can be configured	RFC 5287	Yes
SATOP-2	Is PW encapsulation Supported	IWF implementation should be in H/W	RFC 4553	No
SATOP-3	Is H/W provisioning available	Jitter buffer and Error Timers can be configured	RFC 4553	Yes
SATOP-4	Is TDM line properties supported	All three SAToP related properties are supported	RFC 5287	Yes

23 IEEE 802.1qbg D2.2 for Edge Virtual Bridging

23.1 Major Capability

EVB-B	Does the implementation support the functionality of an EVB Bridge?	O	5.22	Yes
EVB-S	Does the implementation support the functionality of an EVB station?	O	5.23	No

23.2 MVRP

MVRP1	Does the implementation support the exchange of MMRPDUs, using the generic MRPDU format defined in 11.2 to exchange MVRP-specific information as defined in 10.122	M	5.4.2, 10.8, 11.2	Yes
MVRP2	Is the MVRP Application supported as defined in 11.2?	M	5.4.2, 11.2	Yes

23.3 EVB Bridge

Item	Feature	Status	Reference	Support
	If EVB Bridge functionality (EVB-B in Table A.5) is not supported, mark N/A and ignore the remainder of this table.			
EVB-B-1	Does the implementation comprise a single conformant C-VLAN component?	M	5.5, 5.6, 5.22	Yes
EVB-B-2	Is each externally accessible port capable of being configured as either a C-VLAN Bridge Port or a Station Facing Bridge Port (SBP)?	M	5.22, 40	Yes
EVB-B-3	Does the implementation support the functionality of a C-VLAN component?	M	5.5, 5.22	Yes
EVB-B-4	Does the implementation support at least one SBP on the C-VLAN component?	M	5.22, 40	Yes
EVB-B-5	Does the implementation support the EVB status parameters for EVBMode = EVB Bridge?	M	5.22, 6.6.5	Yes
EVB-B-6	Does the implementation support an LLDP nearest Customer Bridge database including the EVB TLV on each SBP?	M	5.22, D.2.13	Yes
EVB-B-7	Does the implementation support ECP on each SBP?	M	5.22, 43	Yes
EVB-B-8	Does the implementation support the Bridge role of VDP on each SBP?	M	5.22, 41	Yes
EVB-B-9	Does the implementation support at least one Port-mapping S-VLAN component and associated UAP configured as specified in 40.2 (a)-(d)?	O	5.22, 22.6.4, 40.2 (a)-(d)	Yes
EVB-B-10	Is each externally accessible port capable of being configured as an Uplink Access Port (UAP)?	O	5.22, 40	Yes

Item	Feature	Status	Reference	Support
EVB-B-11	Does the implementation support CDCP, as specified in Clause 42, operating in Bridge mode?	EVB-B-9:M	42, 42.3	Yes
EVB-B-12	Does the implementation support the enhanced filtering utility criteria and not support the default filtering utility criteria (8.7)?	EVB-B-9:M	8.7	N/A
EVB-B-13	Does the implementation support configuration of reflective relay on each SBP of the C-VLAN component?	O	5.22, 6.6.5, 8.6.1	Yes
EVB-B-14	Does the implementation support management for the EVB components?	O	5.22, 12.4-12.12, 12.26	Yes
EVB-B-15	Does the implementation support an SNMP management MIB module?	O	5.22, 17.7.15	No
EVB-B-16	Does the implementation support assignment of VIDs to GroupIDs?	O	5.22, 41.2.9	No
EVB-B-17	Does the implementation support the use of the M and S bits in VDP?	O	5.22, 41.2.3	No
EVB-B-18	Does the Bridge reserve the S-channel identifier (SCID) value 1 and S-VID value 1 for the exclusive use as the un-S- tagged default S-channel	M	42.1	Yes

23.4 EVB station

Item	Feature	Status	Reference	Support
	If EVB station functionality (EVB-S in Table A.5) is not supported, mark N/A and ignore the remainder of this table.			N/A
EVB-S-1	Does the EVB station comprise one or more conformant ER components?	M	5.6, 5.23.1	
EVB-S-2	Is each externally accessible port capable of being configured as at least one of: - An Uplink Access Port (UAP); - An Uplink relay port (URP)?	M	5.23, 40	
EVB-S-3	Is each DRP capable of attaching its ER to one or more VSIs?	M	5.23, 40	
EVB-S-4	Is each URP capable of attaching its ER to a point-to-point LAN connecting the URP to a CAP, or to the LAN connecting to an EVB Bridge in the case where no Port-mapping S-VLAN component is present?	M	5.23, 40	
EVB-S-5	Does the implementation support at least one ER?	M	5.23, 40	
EVB-S-6	Does the implementation support at least one accessible URP?	M	5.23, 40	
EVB-S-7	Does the implementation support the EVB status parameters for EVBMode = EVB station on each URP?	M	5.23, 6.6.5	
EVB-S-8	Does the implementation support an LLDP Nearest Customer Bridge database including the EVB TLV on each URP of each ER?	M	5.23, D.2.13	
EVB-S-9	Does the implementation support ECP on each URP of each ER?	M	5.23, 43	
EVB-S-10	Does the implementation support the station role of VDP for each URP of each ER?	M	5.23, 41	
EVB-S-11	Does the implementation support a Port- mapping S-VLAN component on each Port configured as a UAP, configured as specified in 40.2 (a)-(d)?	O	5.23, 22.6.4, 40.2 (a)-(d)	
EVB-S-12	Does the implementation support CDCP, as specified in Clause 42, operating in Station mode?	EVB-S-11:M	42, 42.3	
EVB-S-13	Does the implementation support the enhanced filtering utility criteria (8.7.2) and not support the default filtering utility criteria (8.7.1)?	EVB-S-11:M	8.7.1, 8.7.2	
EVB-S-14	Does the implementation support multiple	O	5.23, 40	

Item	Feature	Status	Reference	Support
	ERs?			
EVB-S-15	Does the implementation support management for the EVB components?	O	5.23, 12.26	
EVB-S-16	Does the implementation support an EVB station SNMP management MIB module?	O	5.23, 17.7.15	
EVB-S-17	Does the implementation support assignment of VIDs to GroupIDs?	O	5.23, 41.2.9	
EVB-S-18	Does the implementation support Support the use of the M and S bits in VDP?	O	5.23, 41.2.3	

23.5 Edge Relay

Item	Feature	Status	Reference	Support
	If EVB station functionality (EVB-S in Table A.5) is not supported, mark N/A and ignore the remainder of this table.			N/A
ERC-1	Does the ER conform to the relevant standard for the Media Access Control technology implemented at each Port in support of the MAC ISS, as specified in 6.6, 6.7, and 6.14?	M	6.6, 6.7, 6.14	
ERC-2	Does the ER support the MAC Enhanced Internal Sublayer Service at each Port, as specified in 6.8 and 6.9?	M	6.8, 6.9	
ERC-3	Does the ER recognize and use C-TAGs?	M	6.9	
ERC-4	Does the ER relay and filter frames as described in 8.1 and specified in 8.5, 8.6, 8.7, and 8.8?	M	8.5, 8.6, 8.8	
ERC-5	Does the ER support a PVID value, and configuration of at least one VID whose untagged set includes that Port, on each DRP that supports untagged and priority- tagged frames?	M	6.9, 8.8.2	
ERC-6	Does the ER support setting the Acceptable Frame Types parameter to Admit Only VLAN Tagged Frames on the URP?	M	5.23.1, 6.9	
ERC-7	Does the ER allow tag headers to be inserted, modified, and removed from relayed frames, as specified in 8.1 and Clause 9, as required by the value(s) of the Acceptable Frame Types parameter supported on each Port, and by the ability of each Port to transmit VLAN-tagged and/or untagged frames?	M	8.1, Clause 9	
ERC-8	Does the ER support at least one FID?	M	6.6, 8.8.3, 8.8.8, 8.8.9	

Item	Feature	Status	Reference	Support
ERC-9	Does the ER allow allocation of at least one VID to each FID that is supported?	M	6.6, 8.8.3, 8.8.8, 8.8.9	
ERC-10	Does the ER support exactly one URP supporting the parameters of 6.6.5 for EVBMode = EVB station?	M	5.23.1, 6.6.5, 40	
ERC-11	Does the ER support one or more DRPs each supporting access to VSIs?	M	5.23.1, 40	
ERC-12	Does the ER filter the Reserved MAC Addresses?	M	5.23.1, Table 8-1	
ERC-13	Does the ER support more than one DRP?	O	5.23.1	
ERC-14	Does the ER support setting the Enable Ingress Filtering parameter (8.6.2) on each DRP?	ERC-13:M	5.23.1, 8.6.2	
ERC-15	Does the ER support setting the Enable Ingress Filtering parameter (8.6.2) on each URP?	ERC-13:M	5.23.1, 8.6.2	
ERC-16	Does the ER support the requirements of either a VEB ER or a VEPA ER?	M	5.23.1, 5.23.1.1, 5.23.1.2	
ERC-17	Does the ER support a PVID value, and configuration of at least one VID whose untagged set includes that Port, if the URP supports untagged and priority-tagged frames?	O	6.9, 8.8.2	
ERC-18	Does the ER comprise a single conformant C-VLAN component?	O	5.4	
ERC-19	Does the ER support disabling of learning on each DRP?	O	5.23.1, 8.6.1	
ERC-20	Does the ER support discarding frames with unregistered source addresses at each DRP?	O	5.23.1, 8.8.1	
ERC-21	Does the ER support the operation of the learning process?	O	8.7	

23.6 VEB and VEPA edge relay components

Item	Feature	Status	Reference	Support
	If EVB station functionality (EVB-S in Table A.5) is not supported, mark N/A and ignore the remainder of this table.			N/A
VERC-1	Does the ER component support VEB functionality ?	O.6	5.23.1.1	
VERC-2	Does the ER component support VEPA functionality ?	O.6	5.23.1.2	

Item	Feature	Status	Reference	Support
VERC-3	Does the ER component request that reflective relay service not be provided by setting adminReflectiveRelayRequest to FALSE?	VERC-1:M	5.23.1.1	
VERC-4	Does the VEPA ER disable learning on the	VERC-2:M	5.23.1.2, 8.6.1	
VERC-5	Does the VEPA ER filter frames received at each URP that are destined to a DRP that originated the frame?	VERC-2:M	5.23.1.2, 8.6.1	
VERC-6	Does the VEPA ER request reflective relay service by setting adminReflectiveRelayRequest to True?	VERC-2:O	5.23.1.2, 6.6.5	
VERC-7	Does the ER filter frames received at each DRP that are destined for the URP until reflective relay is enabled?	VERC-2:O	5.23.1.2, 8.6.1.1	
VERC-8	Does the ER forward frames as specified in 8.6.3.1?	VERC-2:M	5.23.1.2, 8.6.3.1	

23.7 VDP, CDCP, and ECP

Item	Feature	Status	Reference	Support
	If neither EVB station functionality (EVB-S in Table A.5) nor EVB Bridge functionality (EVB-B in Table A.5) is supported, mark N/A and ignore the remainder of this table.			
VDP-1	Does the implementation support the Bridge VDP state machine as specified in Clause 41?	EVB-B:M	41, 41.5.2	Yes
VDP-2	Does the implementation support the Station VDP state machine as specified in Clause 41?	EVB-S:M	41, 41.5.3	N/A
CDCP-1	Does the implementation support the CDCP configuration state machine for the Bridge role, as specified in Clause 42?	EVB-B AND EVB-B-9: M	42, 42.3	Yes
CDCP-2	Does the implementation support the CDCP configuration state machine for the station role, as specified in Clause 42?	EVB-S AND EVB-S-11: M	42, 42.3	N/A
ECP-1	Does the implementation support the ECP transmit state machine as specified in Clause 43?	M	43, 43.3.4	Yes
ECP-2	Does the implementation support the ECP receive state machine as specified in Clause 43?	M	43, 43.3.5	Yes