



Bridge Functions Consortium

Spanning Tree Protocol Operations Test Suite

Version 2.0

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Date: 200x-xx-xx

Mr./Mrs./Ms. Vendor Contact,
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1234 UNH-IOL Circle Drive
IOLville, NH 03829

Mr./Mrs./Ms. Vendor Contact,

Enclosed are the results of Spanning Tree Protocol (STP) Testing performed on:

Device tested: UNH-IOL Super Switch
SW/FW: v.1.00
S/N: 000000000

Port types: 10/100/1000 Copper Ethernet
Ports used: 1-4

This Testing pertains to a set of STP requirements, based on IEEE Std. 802.1D™-1998, and 802.1t™-2001. The Tests performed are part of the STP Operations Test Suite, which is available on the UNH InterOperability Lab's website:

<ftp://ftp.iol.unh.edu/pub/bfc/testsuites/stp.op.test.suite.pdf>

During the Testing process, the following issues were encountered:

Test Label	Result
STP.op.2.4b	The DUT encountered issues with BPDU Flags Field verification.
STP.op.2.6d	The DUT transmitted a RootPathCost of 0x00030D3F.
STP.op.4.1c	The Test produced the correct results for an RSTP Bridge running in STP-compatibility mode.
STP.op.4.5a	The DUT encountered issues with the Topology Change Acknowledgment interval.
STP.op.4.5a	The DUT encountered issues with the Topology Change Acknowledgment interval.
STP.op.4.8b	The DUT encountered issues with the ForwardDelay Timer.
STP.op.6.3a	The DUT encountered issues with the Listening Port State.
STP.op.7.1a	The DUT encountered issues with its MAC source addresses.

As always we welcome any comments regarding this Test Suite. If you have any questions about the Test procedures or results, please feel free to contact me via e-mail at tengineer@iol.unh.edu or by phone at 603-862-3525.

Regards,

Test Engineer

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RESULT LEVELS

PASS	The Device Under Test (DUT) demonstrated the specified behavior. No other abnormal behavior occurred as a result of the Test.
PASS with Comments	The specified behavior is demonstrated by the DUT, however, this result indicates that either a change(s) was made to the standard test procedure or results other than the expected results were observed (or both). Changes to the standard test procedure have been noted in "Comments on Test Procedure". Abnormal or unexpected behavior observed as a result of this Test has been noted in "Comments on Test Results".
FAIL	The results that were observed did not adhere to the conformance requirements set forth in the standard(s) that define the operation of STP.
INFO	This Test is designed for informational purposes only. While the results may help ensure the interoperability of the DUT, a PASS/FAIL result is not given for this test.
N/A	Not Applicable: The DUT does not contain the necessary hardware and/or functionality for this Test to be performed.
N/T	Not Tested: The specified behavior was not Tested (in most cases this is due to an (un)related failure.)

GROUP 1: Initialization

The following tests cover the Spanning Tree algorithm's initialization function.

Test # and Label	Result		
Test STP.op.1.1: Root ID Initialized to Bridge ID <i>Purpose:</i> To verify that the DUT sets the Root ID to its Bridge ID upon initialization.	<table border="1"> <tr> <td style="background-color: #00FF00;">A</td> <td style="background-color: #00FF00;">PASS</td> </tr> </table>	A	PASS
A	PASS		
Comments on Test Procedure			
A. The Test was completed using the standard procedure.			
Comments on Test Results			
A. The Test yielded the expected results.			

Test # and Label	Result		
Test STP.op.1.2: Root Path Cost Initialized to Zero <i>Purpose:</i> To verify that the DUT sets the Root Path Cost to zero upon initialization.	<table border="1"> <tr> <td style="background-color: #00FF00;">A</td> <td style="background-color: #00FF00;">PASS</td> </tr> </table>	A	PASS
A	PASS		
Comments on Test Procedure			
A. The Test was completed using the standard procedure.			
Comments on Test Results			
A. The Test yielded the expected results.			

Test # and Label	Result				
Test STP.op.1.3: Topology Change and Topology Change Acknowledgement Flags <i>Purpose:</i> To verify that upon initialization, after the Topology Change timer has expired and in the absence of a Topology Change, the DUT does not set the Topology Change flag or the Topology Change Acknowledgement flag.	<table border="1"> <tr> <td style="background-color: #00FF00;">A</td> <td style="background-color: #00FF00;">PASS</td> </tr> <tr> <td style="background-color: #00FF00;">B</td> <td style="background-color: #00FF00;">PASS</td> </tr> </table>	A	PASS	B	PASS
A	PASS				
B	PASS				
Comments on Test Procedure					
A. The Test was completed using the standard procedure. B. The Test was completed using the standard procedure.					
Comments on Test Results					
A. The Test yielded the expected results. B. The Test yielded the expected results.					

Test # and Label	Result	
	Test STP.op.1.4: All Ports Initialized to Designated Ports <i>Purpose:</i> To verify that the DUT sets all of its Ports to Designated Ports upon initialization.	A
Comments on Test Procedure		
A. The Test was completed using the standard procedure.		
Comments on Test Results		
A. The Test yielded the expected results.		

Test # and Label	Result	
	Test STP.op.1.5: Static fields within Configuration BPDUs <i>Purpose:</i> To verify that Configuration BPDUs transmitted by the DUT contain the proper values for the following fields: length/type, Logical Link Control, Protocol ID, Protocol Version ID, and BPDU Type.	A
Comments on Test Procedure		
A. The Test was completed using the standard procedure.		
Comments on Test Results		
A. The Test yielded the expected results.		

Test # and Label	Result		
	Test STP.op.1.6: Dynamic fields within Configuration BPDUs <i>Purpose:</i> To verify that Configuration BPDUs transmitted by the DUT contain the proper values for the following fields: Bridge ID, Port ID, Bridge Max Age, Bridge Hello Time, and Bridge Forward Delay.	A	PASS
		B	PASS
		C	PASS
		D	PASS
		E	PASS
Comments on Test Procedure			
A. The Test was completed using the standard procedure. B. The Test was completed using the standard procedure. C. The Test was completed using the standard procedure. D. The Test was completed using the standard procedure. E. The Test was completed using the standard procedure.			
Comments on Test Results			
A. The Test yielded the expected results. B. The Test yielded the expected results. C. The Test yielded the expected results. D. The Test yielded the expected results. E. The Test yielded the expected results.			

GROUP 2: Configuration BPDU Reception and Frame Format

The following tests cover the processing and transmission of Configuration BPDUs containing a wide range of values.

Test # and Label	Result	
	Test STP.op.2.1: Protocol ID Verification <i>Purpose:</i> To verify that the DUT only processes Configuration BPDUs with a Protocol ID equal to 0x0000.	A
	B	PASS
Comments on Test Procedure		
A. The Test was completed using the standard procedure. B. The Test was completed using the standard procedure.		
Comments on Test Results		
A. The Test yielded the expected results. B. The Test yielded the expected results.		

Test # and Label	Result	
	Test STP.op.2.2: Protocol Version ID Verification <i>Purpose:</i> To verify that the DUT accepts Configuration BPDUs with varying Protocol Version IDs.	A
	B	PASS
Comments on Test Procedure		
A. The Test was completed using the standard procedure. B. The Test was completed using the standard procedure.		
Comments on Test Results		
A. The Test yielded the expected results. B. The Test yielded the expected results.		

Test # and Label	Result	
	Test STP.op.2.3: BPDU Type Field Verification <i>Purpose:</i> To verify that the DUT properly accepts or rejects Configuration BPDUs based on their BPDU Type field.	A
	B	PASS
Comments on Test Procedure		
A. The Test was completed using the standard procedure. B. The Test was completed using the standard procedure.		
Comments on Test Results		
A. The Test yielded the expected results. B. The Test yielded the expected results.		

Test # and Label	Result	
Test STP.op.2.4: BPDU Flags Field Verification <i>Purpose:</i> To verify that the DUT accepts Configuration BPDUs with varying values in the BPDU Flags field of a Configuration BPDU.	A	PASS
	B	FAIL
Comments on Test Procedure		
A. The Test was completed using the standard procedure. B. The Test was completed using the standard procedure.		
Comments on Test Results		
A. The Test yielded the expected results. B. After Step 18 when Test Station 1 transmitted a Configuration BPDU with a Flags Field of 0xFF, Test Station 1 continued to receive TCN BPDUs. This indicates non-conformant behavior. IEEE Std. 802.1D-1998 sub-clause 9.3.3 (IEEE Std. 802.1D™ -2004 sub-clause 9.3.4) states that: “a Bridge Protocol Entity shall process a received BPDU as specified in 8.7 if and only if the BPDU contains at least four octets and the Protocol Identifier has the value specified for BPDUs (9.3.2), and a) The BPDU Type denotes a Configuration BPDU and the BPDU contains at least 35 octets, and the value of the BPDUs Message Age parameter is less than that of its Max Age parameter; or b) The BPDU Type denotes a Topology Change Notification BPDU.”		

Test # and Label	Result	
Test STP.op.2.5: Root ID Field Verification <i>Purpose:</i> To verify that the DUT accepts Configuration BPDUs with varying values in the Root ID field.	A	PASS
	B	PASS
Comments on Test Procedure		
A. The Test was completed using the standard procedure. B. The Test was completed using the standard procedure.		
Comments on Test Results		
A. The Test yielded the expected results. B. The Test yielded the expected results.		

Test # and Label	Result
Test STP.op.2.6: Root Path Cost Field Verification <i>Purpose:</i> To verify that the DUT accepts Configuration BPDUs with varying values in the Root Path Cost field.	A PASS
	B PASS
	C PASS
	D INFO
Comments on Test Procedure	
A. The Test was completed using the standard procedure. B. The Test was completed using the standard procedure. C. The Test was completed using the standard procedure. D. The Test was completed using the standard procedure.	
Comments on Test Results	
A. The Test yielded the expected results. B. The Test yielded the expected results. C. The Test yielded the expected results. D. The DUT propagated the RootID transmitted by Test Station 1 to Test Station 2 with a RootPathCost of 0x00030D3F. This is the rollover value when 0xFFFFFFFF is added to 0x00030D40.	

Test # and Label	Result
Test STP.op.2.7: Bridge ID Field Verification <i>Purpose:</i> To verify that the DUT accepts Configuration BPDUs with varying values in the Bridge ID field.	A PASS
	B PASS
	C PASS
Comments on Test Procedure	
A. The Test was completed using the standard procedure. B. The Test was completed using the standard procedure. C. The Test was completed using the standard procedure.	
Comments on Test Results	
A. The Test yielded the expected results. B. The Test yielded the expected results. C. The Test yielded the expected results.	

Test # and Label	Result
Test STP.op.2.8: Port ID Field Verification <i>Purpose:</i> To verify that the DUT accepts Configuration BPDUs with varying values in the Port ID field.	A PASS
	B PASS
	C PASS
Comments on Test Procedure	
A. The Test was completed using the standard procedure. B. The Test was completed using the standard procedure. C. The Test was completed using the standard procedure.	
Comments on Test Results	
A. The Test yielded the expected results. B. The Test yielded the expected results. C. The Test yielded the expected results.	

Test # and Label	Result	
Test STP.op.2.9: Message Age Field Verification <i>Purpose:</i> To verify that the DUT accepts only Configuration BPDUs containing a Message Age less than their Max Age, and that the Message Age value contained in Configuration BPDUs transmitted by the DUT (when it is not the Root Bridge) is incremented properly.	A	PASS
	B	PASS
	C	PASS
	D	PASS
Comments on Test Procedure		
A. The Test was completed using the standard procedure. B. The Test was completed using the standard procedure. C. The Test was completed using the standard procedure. D. The Test was completed using the standard procedure.		
Comments on Test Results		
A. The Test yielded the expected results. B. The Test yielded the expected results. C. The Test yielded the expected results. D. The Test yielded the expected results.		

Test # and Label	Result	
Test STP.op.2.10: Max Age Field Verification <i>Purpose:</i> To verify that the DUT propagates the Max Age properly.	A	PASS
	B	PASS
Comments on Test Procedure		
A. The Test was completed using the standard procedure. B. The Test was completed using the standard procedure.		
Comments on Test Results		
A. The Test yielded the expected results. B. The Test yielded the expected results.		

Test # and Label	Result	
Test STP.op.2.11: Hello Time Field Verification <i>Purpose:</i> To verify that the DUT propagates the Hello Time properly.	A	PASS
	B	PASS
Comments on Test Procedure		
A. The Test was completed using the standard procedure. B. The Test was completed using the standard procedure.		
Comments on Test Results		
A. The Test yielded the expected results. B. The Test yielded the expected results.		

Test # and Label	Result	
Test STP.op.2.12: Forward Delay Field Verification <i>Purpose:</i> To verify that the DUT propagates the Forward Delay properly.	A	PASS
	B	PASS
Comments on Test Procedure		
A. The Test was completed using the standard procedure. B. The Test was completed using the standard procedure.		
Comments on Test Results		
A. The Test yielded the expected results. B. The Test yielded the expected results.		

Sample Report

GROUP 3: Root Port Selection Process

The following tests cover the Spanning Tree algorithm's root_selection function.

Test # and Label	Result		
Test STP.op.3.1: Root Bridge Selection: Root ID Values <i>Purpose:</i> To verify that the DUT properly identifies the Root Bridge and selects the proper Root Port when comparing Root IDs.	<table border="1"> <tr> <td style="background-color: #00FF00;">A</td> <td style="background-color: #00FF00;">PASS</td> </tr> </table>	A	PASS
A	PASS		
Comments on Test Procedure			
A. The Test was completed using the standard procedure.			
Comments on Test Results			
A. The Test yielded the expected results.			

Test # and Label	Result		
Test STP.op.3.2: Root Bridge Selection: Root Path Cost Values <i>Purpose:</i> To verify that the DUT properly identifies the Root Bridge and selects the proper Root Port when comparing Root Path Costs.	<table border="1"> <tr> <td style="background-color: #00FF00;">A</td> <td style="background-color: #00FF00;">PASS</td> </tr> </table>	A	PASS
A	PASS		
Comments on Test Procedure			
A. The Test was completed using the standard procedure.			
Comments on Test Results			
A. The Test yielded the expected results.			

Test # and Label	Result		
Test STP.op.3.3: Root Bridge Selection: Bridge ID Values <i>Purpose:</i> To verify that the DUT properly identifies the Root Bridge and selects the proper Root Port when comparing Root Path Costs.	<table border="1"> <tr> <td style="background-color: #00FF00;">A</td> <td style="background-color: #00FF00;">PASS</td> </tr> </table>	A	PASS
A	PASS		
Comments on Test Procedure			
A. The Test was completed using the standard procedure.			
Comments on Test Results			
A. The Test yielded the expected results.			

Test # and Label	Result	
Test STP.op.3.4 : Root Bridge Selection: Port ID Values <i>Purpose:</i> To verify that the DUT properly identifies the Root Bridge and selects the proper Root Port when comparing Port ID Values.	A	PASS
Comments on Test Procedure		
A. The Test was completed using the standard procedure.		
Comments on Test Results		
A. The Test yielded the expected results.		

Sample Report

GROUP 4: Topology Changes

The following tests are designed to help verify the operation of the DUT during a Topology Change. This includes Topology Change detection and propagation.

Test # and Label	Result
Test STP.op.4.1: Topology Change Detection: Case 1 <i>Purpose:</i> To verify that the DUT detects a topology change when one of its Designated Ports receives a Topology Change Notification BPDU (TCN), and that TCN BPDUs received by the Root Port on the DUT do not result in Topology Change Detection.	A PASS
	B PASS
	C PASS w/ Comments
Comments on Test Procedure	
<p>A. The Test was completed using the standard procedure.</p> <p>B. The Test was completed using the standard procedure.</p> <p>C. The Test was completed using the standard procedure.</p>	
Comments on Test Results	
<p>A. The Test yielded the expected results.</p> <p>B. The Test yielded the expected results.</p> <p>C. Test Station 1 received TCN BPDUs from the DUT. This indicates conformant behavior for Bridges running in STP-compatibility mode and seeking to conform to IEEE Std. 802.1D™ -2004, which states that when a Root Port receives a TCN BPDU, all Ports transmit Configuration BPDUs with the Topology Change Flag set. This indicates non-conformant behavior for a Bridge seeking to conform to IEEE Std. 802.1D-1998, as this test scenario does not satisfy a case defined in sub-clause 8.6.14.2.</p>	

Test # and Label	Result
Test STP.op.4.2: Topology Change Detection: Case 2 <i>Purpose:</i> To verify that the DUT detects a topology change when one of its Designated Ports enters the Forwarding Port State.	A PASS
Comments on Test Procedure	
<p>A. The Test was completed using the standard procedure.</p>	
Comments on Test Results	
<p>A. The Test yielded the expected results.</p>	

Test # and Label	Result
Test STP.op.4.3: Topology Change Detection: Case 3 <i>Purpose:</i> To verify that the DUT detects a Topology Change when one of its Designated Ports enters the Blocking Port State.	A PASS
Comments on Test Procedure	
<p>A. The Test was completed using the standard procedure.</p>	
Comments on Test Results	
<p>A. The Test yielded the expected results.</p>	

Test # and Label	Result	
	Test STP.op.4.4: Topology Change Detection: Case 4 <i>Purpose:</i> To verify that the DUT detects a topology change when the information held on its Root Port expires and it becomes the Root Bridge.	A
Comments on Test Procedure		
A. The Test was completed using the standard procedure.		
Comments on Test Results		
A. The Test yielded the expected results.		

Test # and Label	Result	
	Test STP.op.4.5: Topology Change Acknowledgement <i>Purpose:</i> To verify that the DUT ceases transmitting TCN BPDUs on its Root Port once that Port has received a Configuration BPDU with the Topology Change Acknowledgement Flag set, and that the DUT sets the Topology Change Acknowledgement Flag when necessary.	A
	B	FAIL
Comments on Test Procedure		
A. The Test was completed using the standard procedure. B. The Test was completed using the standard procedure.		
Comments on Test Results		
A. The DUT transmitted TCN BPDUs at a rate equal to the Hello Time value contained in Configuration BPDUs sent from Test Station 1. This indicates non-conformant behavior for both IEEE Std. 802.1D™ -1998 and IEEE Std. 802.1D™-2004. IEEE Std. 802.1D™ -1998 sub-clause 8.5.3.11 states: “Topology Change Notification BPDUs are transmitted at regular intervals of Bridge Hello Time, until acknowledged.” IEEE Std. 802.1D™-2004 figure 17-17 states that TCN BPDUs are transmitted every HelloWhen interval and that HelloWhen = HelloTime, sub-clause 17.20.7 states that HelloTime is equal to the Hello Time component of designatedTimes, sub-clause 17.21.25e states that Hello Time is updated from BridgeTimes Hello Time. Table 17.1 states that Bridge Hello Time is equal to 2 seconds, with a compatibility range of 1-2 seconds. B. The DUT transmitted TCN BPDUs at a rate equal to the Hello Time value contained in Configuration BPDUs sent from Test Station 1. This indicates non-conformant behavior for both IEEE Std. 802.1D™ -1998 and IEEE Std. 802.1D™-2004. IEEE Std. 802.1D™ -1998 sub-clause 8.5.3.11 states: “Topology Change Notification BPDUs are transmitted at regular intervals of Bridge Hello Time, until acknowledged.” IEEE Std. 802.1D™-2004 figure 17-17 states that TCN BPDUs are transmitted every HelloWhen interval and that HelloWhen = HelloTime, sub-clause 17.20.7 states that HelloTime is equal to the Hello Time component of designatedTimes, sub-clause 17.21.25e states that Hello Time is updated from BridgeTimes Hello Time. Table 17.1 states that Bridge Hello Time is equal to 2 seconds, with a compatibility range of 1-2 seconds.		

Test # and Label	Result	
	Test STP.op.4.6: Topology Change Notification Timer <i>Purpose:</i> To verify that the DUT properly implements the Topology Change Notification (TCN) Timer.	A
Comments on Test Procedure		
A. The Test was completed using the standard procedure.		
Comments on Test Results		
A. The Test yielded the expected results.		

Test # and Label	Result	
	Test STP.op.4.7: Topology Change Timer <i>Purpose:</i> To verify that the DUT properly implements the Topology Change Timer.	A
Comments on Test Procedure		
A. The Test was completed using the standard procedure.		
Comments on Test Results		
A. The Test yielded the expected results.		

Test # and Label	Result	
	Test STP.op.4.8: Ageing Time During Topology Change – DUT is the Root Bridge <i>Purpose:</i> To verify that the DUT uses the current Forward Delay value as the Ageing Timer (for Dynamic Filtering Database entries) during a Topology Change.	A
	B	N/A
Comments on Test Procedure		
A. The Test was completed using the standard procedure. B. The Test was completed using the standard procedure.		
Comments on Test Results		
A. The Test yielded the expected results. B. The DUT does not support setting the ForwardDelay Timer to 4 seconds. When the ForwardDelay Timer is configured through management it changes to 30 seconds and cannot be changed again until reboot.		

Test # and Label	Result	
Test STP.op.4.9 : Ageing Time During Topology Change – DUT is not the Root Bridge <i>Purpose:</i> To verify that the DUT uses the current Forward Delay value as the Ageing Timer (for Dynamic Filtering Database entries) during a Topology Change.	A	PASS
	B	PASS
Comments on Test Procedure		
A. The Test was completed using the standard procedure. B. The Test was completed using the standard procedure.		
Comments on Test Results		
A. The Test yielded the expected results. B. The Test yielded the expected results.		

Sample Report

GROUP 5: Bridge Timer Values

The following tests cover the Spanning Tree Algorithm and Protocol's various timers.

Test # and Label	Result
Test STP.op.5.1: Message Age Timer <i>Purpose:</i> To verify that the DUT implements the Bridge Message Age Timer properly.	A PASS
Comments on Test Procedure	
A. The Test was completed using the standard procedure.	
Comments on Test Results	
A. The Test yielded the expected results.	

Test # and Label	Result
Test STP.op.5.2: Bridge Hello Timer <i>Purpose:</i> To verify that the DUT implements the Hello Timer properly.	A PASS B PASS
Comments on Test Procedure	
A. The Test was completed using the standard procedure. B. The Test was completed using the standard procedure.	
Comments on Test Results	
A. The Test yielded the expected results. B. The Test yielded the expected results.	

Test # and Label	Result
Test STP.op.5.3: Bridge Forward Delay Timer <i>Purpose:</i> To verify that the device under test (DUT) implements the Bridge Forward Delay Timer properly.	A PASS
Comments on Test Procedure	
A. The Test was completed using the standard procedure.	
Comments on Test Results	
A. The Test yielded the expected results.	

Test # and Label	Result	
Test STP.op.5.4 : Parameter Restrictions <i>Purpose:</i> To verify that the device under test (DUT) enforces the restrictions placed on the relationship between Bridge Max Age, Bridge Forward Delay, and Bridge Hello Time.	A	PASS
Comments on Test Procedure		
A. The Test was completed using the standard procedure.		
Comments on Test Results		
A. The Test yielded the expected results.		

Sample Report

GROUP 6: Port States

The following tests are designed to verify that the DUT correctly implements the Disabled, Blocking, Listening, Learning, and Forwarding Port States.

Test # and Label	Result		
Test STP.op.6.1: The Disabled Port State <i>Purpose:</i> To verify that Ports which the DUT has placed in the Disabled Port State operate as required by the Spanning Tree Algorithm and Protocol.	<table border="1"> <tr> <td style="background-color: #00FF00;">A</td> <td style="background-color: #00FF00;">PASS</td> </tr> </table>	A	PASS
A	PASS		
Comments on Test Procedure			
A. The Test was completed using the standard procedure.			
Comments on Test Results			
A. The Test yielded the expected results.			

Test # and Label	Result		
Test STP.op.6.2: The Blocking Port State <i>Purpose:</i> To verify that Ports which the DUT has placed in the Blocking Port State operate as required by the Spanning Tree Algorithm and Protocol.	<table border="1"> <tr> <td style="background-color: #00FF00;">A</td> <td style="background-color: #00FF00;">PASS</td> </tr> </table>	A	PASS
A	PASS		
Comments on Test Procedure			
A. The Test was completed using the standard procedure.			
Comments on Test Results			
A. The Test yielded the expected results.			

Test # and Label	Result		
Test STP.op.6.3: The Listening Port State <i>Purpose:</i> To verify that Ports which the DUT has placed in the Listening Port State operate as required by the Spanning Tree Algorithm and Protocol.	<table border="1"> <tr> <td style="background-color: #FF0000;">A</td> <td style="background-color: #FF0000;">FAIL</td> </tr> </table>	A	FAIL
A	FAIL		
Comments on Test Procedure			
A. The Test was completed using the standard procedure.			
Comments on Test Results			
A. All traffic transmitted by Test Station 2 was received by Test Stations 1 and 3. All traffic transmitted by Test Station 3 was received by only Test Station 2. This indicates non-conformant behavior. IEEE Std. 802.1D™ - 1998, sub-clause 8.4.2 states that for a port in the Listening State: The Forwarding Process shall discard received frames. It shall not submit forwarded frames for transmission. The Learning Process shall not add station location information to the Filtering Database. IEEE Std. 802.1D™ -2004 sub-clause 7.4 states that a port in the Listening State corresponds to the Discarding Port State, and shall discard frames to prevent Data Loops and incorrect Learning.			

Test # and Label	Result	
Test STP.op.6.4: The Learning Port State <i>Purpose:</i> To verify that Ports which the DUT has placed in the Learning Port State operate as required by the Spanning Tree Algorithm and Protocol.	A	PASS
Comments on Test Procedure		
A. The Test was completed using the standard procedure.		
Comments on Test Results		
A. The Test yielded the expected results.		

Test # and Label	Result	
Test STP.op.6.5: The Forwarding Port State <i>Purpose:</i> To verify that Ports which the DUT has placed in the Forwarding Port State operate as required by the Spanning Tree Algorithm and Protocol.	A	PASS
Comments on Test Procedure		
A. The Test was completed using the standard procedure.		
Comments on Test Results		
A. The Test yielded the expected results.		

Sample Report

GROUP 7: Miscellaneous

The following tests cover features of the Spanning Tree Algorithm and Protocol and/or elements of the operation of Bridges which claim conformance to said Protocol that were not addressed by other Groups of Tests in this Test Suite.

Test # and Label	Result	
	A	FAIL
Test STP.op.7.1: MAC Addresses in Configuration BPDUs <i>Purpose:</i> To ensure that the source MAC address contained in Configuration BPDUs transmitted by each Port on the DUT uniquely identifies the transmitting Port, and that one and only one MAC address is used in the MAC address portion of the Bridge ID contained in all Configuration BPDUs.	B	PASS
Comments on Test Procedure		
A. The Test was completed using the standard procedure. B. The Test was completed using the standard procedure.		
Comments on Test Results		
A. The Configuration BPDUs captured by both Test Stations contained the same source MAC address. This indicates non-conformant behavior. IEEE Std 802.1D, 1998 Sub-clause 7.12.12 (IEEE Std. 802.1D™ -2004 sub-clause 7.12.2) states that the individual MAC Entity associated with each Bridge Port shall have a separate, individual MAC Address. B. The Test yielded the expected results.		

Test # and Label	Result	
	A	PASS
Test STP.op.7.2: The Hold Timer and Reply Generation <i>Purpose:</i> To verify that the DUT transmits Configuration BPDUs in response to received Configuration BPDUs containing worse information, and that the DUT observes the constraints placed by the Hold Timer on the transmission of Configuration BPDUs.	A	PASS
Comments on Test Procedure		
A. The Test was completed using the standard procedure.		
Comments on Test Results		
A. The Test yielded the expected results.		

Test # and Label	Result	
	A	PASS
Test STP.op.7.3: BPDUs Received via Loopback Condition Are Not Processed. <i>Purpose:</i> To verify that Ports on the DUT do not process Configuration BPDUs received as a result of a loopback condition.	A	PASS
Comments on Test Procedure		
A. The Test was completed using the standard procedure.		
Comments on Test Results		
A. The Test yielded the expected results.		

Test # and Label	Result	
Test STP.op.7.4: Timer Values Not Considered During BPDU Validation <i>Purpose:</i> This test is designed to determine whether the DUT validates Configuration BPDUs based upon the timer values they contain.	A	PASS
	B	PASS
Comments on Test Procedure		
A. The Test was completed using the standard procedure. B. The Test was completed using the standard procedure.		
Comments on Test Results		
A. The Test yielded the expected results. B. The Test yielded the expected results.		

Sample Report