
SNMP Test Procedure

Developed by



for

Oregon Department of Transportation

and based on previous work by

ENTERPRISE, Virginia DOT, and Iteris, Inc.

Session Name General

Trial Nam Set-Up

Step	Action	Notes
1	Record the values for the following variables: CommNameInvalid Object1 Object1ValidValue Object2 Object2InvalidValue Object2ValidValue Object3 Object3InvalidValue Object4 Object4Value Object5 Object5Value Too Big Object List	
2	Prepare the test environment.	
3	Prepare the initialization files.	
4	Start the NTCIP Exerciser in Central Mode and ensure that the community name drop number are properly set.	
5	Send unnumbered polls to the Drop # until an empty frame or no response is received.	
	<input type="checkbox"/> Pass	
	<input type="checkbox"/> Fail	Signature _____ Date _____

Session Name Get and Set Commands

Trial Nam Walk the MIB

Step	Action	Notes
1	Run the limgetnext.txt macro	
2	Select sysDescr.0 as the start node.	
3	Set globalTime.0 as the end node.	
4	Copy get-next.txt from the Exerciser Directory to the test directory.	
5	Evaluate the file.	
	<input type="checkbox"/> Pass	
	<input type="checkbox"/> Fail	Signature _____ Date _____

Trial Nam Get the Object

Step	Action	Notes
1	Send an SNMP 'get-request' for: Object1	
2	Verify that a valid response is received.	

Pass

Fail

Signature _____ Date _____

Trial Name Set an Object

Step	Action	Notes
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- 1 Send an SNMP 'set-request' as follows:
Object1 = a significantly different value than Trial 1
- 2 Verify that a valid response was received from the controller.

Pass

Fail

Signature _____ Date _____

Trial Name Get the Object Again

Step	Action	Notes
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- 1 Send an SNMP 'get-request' for:
Object1
- 2 Verify that a valid response is received and that the value was changed appropriate from Trial 1.

Pass

Fail

Signature _____ Date _____

Trial Name Set Multiple Objects in one Packet (positive)

Step	Action	Notes
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- 1 Send an SNMP 'get-request' for
Object1
Object2
- 2 Send an SNMP 'set-request' as follows:
Object1 = Object1ValidValue
Object2 = Object2ValidValue
- 3 Verify that a valid response is received.

Pass

Fail

Signature _____ Date _____

Trial Name Get Multiple Objects in One Data Packet

Step	Action	Notes
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- 1 Send an SNMP 'get-request' for
Object1
Object2
- 2 Verify that an appropriate response was received without any error and that the values were set appropriately.

Pass

Fail

Signature _____ Date _____

Session Name *SNMP Errors*

Trial Name Error In Get of Multiple Objects (Too Big)

Step	Action	Notes
1	Send an SNMP 'get-request' for the TooBig Object List.	
2	Verify that a error message is generated with an error status of "1" (too big), an index of 1, and a Variable Bindings list that is identical to what was sent.	
	<input type="checkbox"/> Pass	
	<input type="checkbox"/> Fail	Signature _____ Date _____

Trial Name Error in Set (Bad Value)

Step	Action	Notes
1	Send an SNMP 'set-request' as follows: Object2 = Object2InvalidValue	
2	Verify that an error was generated indicating a "3" (bad value), an index of 1 and contains a variable bindings list that is identical to the set request.	
3	Send an SNMP 'get-request' for Object2	
4	Verify that the object value was not changed.	
	<input type="checkbox"/> Pass	
	<input type="checkbox"/> Fail	Signature _____ Date _____

Trial Name Error In Set (Read-Only)

Step	Action	Notes
1	Send an SNMP 'set-request' as follows: Object3 = Object3InvalidValue	
2	Verify that an error was generated indicating a "4" (read only), index 1, and an identical variable bindings field.	
3	Send an SNMP 'get-request' for Object3	
4	Verify that the object value was not changed.	
	<input type="checkbox"/> Pass	
	<input type="checkbox"/> Fail	Signature _____ Date _____

Trial Name Error in Set (No Such Object)

Step	Action	Notes
1	Send an SNMP 'set-request' as follows: Object4 = Object4Value	
2	Verify that an error was generated indicating a status of "2" (no such object), an index of 1, and an identical variable bindings list.	
	<input type="checkbox"/> Pass	
	<input type="checkbox"/> Fail	Signature _____ Date _____

Trial Nam Error in Setting Multiple Objects (Bad Value)

Step	Action	Notes
1	Send an SNMP 'set-request' as follows: Object1 = Object1ValidValue (ensure that it is not the current setting) Object2 = Object2InvalidValue (ensure that Object 2 is the second item)	
2	Verify that an error was generated indicating a "3" (bad value), an index of 2, and identical variable bindings list.	
3	Send an SNMP 'get-request' for Object1 Object2	
4	Verify that neither of the values were changed.	
	<input type="checkbox"/> Pass	
	<input type="checkbox"/> Fail	
	Signature _____	Date _____

Session Name *Encoding Rules*

Trial Nam Invalid Community Name

Step	Action	Notes
1	Send an SNMP 'get-request' for Object1 with the community name set to CommNameInvalid.	
1	Prepare an SNMP 'get-request' as follows: Object1 and check the Edit Byte Stream box	
2	Ensure that there is no response or that a trap is received.	
2	Change the length field of the PDU (I.e., the number immediately after the 0x30 long form of 2 bytes. Then press Send.	
3	Ensure that a valid response is received.	
	<input type="checkbox"/> Pass	
	<input type="checkbox"/> Fail	
	Signature _____	Date _____

Trial Nam Encoding of "large" unsigned integers

Step	Action	Notes
1	Send an SNMP 'set-request' as follows: Object5 = Object5Value	
2	Ensure that a proper response is received.	
3	Send an SNMP 'get-request' for Object5	
4	Ensure that the reported value is positive and that there are no errors.	
	<input type="checkbox"/> Pass	
	<input type="checkbox"/> Fail	
	Signature _____	Date _____

Session Name *SNMP Conformance Group*

Trial Nam Get SNMP In Object

Step	Action	Notes
1	Send an SNMP 'get-request' for snmpInPkts.0	
2	Verify that the sign controller responds with a valid value. (non zero, positive int and record	
3	Send an SNMP 'get-request' for snmpInPkts.0	
4	Verify that the sign controller responds with a value that is one greater than the v recorded in step 3. (non zero, positive integers) and record.	
<input type="checkbox"/> Pass		
<input type="checkbox"/> Fail		
Signature _____		Date _____

Trial Nam Get SNMP Out Object

Step	Action	Notes
1	Send an SNMP 'get-request' for snmpOutPkts.0	
2	Verify that the sign controller responds with a valid value (non zero, positive inte and record.	
3	Send an SNMP 'get-request' for snmpOutPkts.0	
4	Verify that the sign controller responds with a value that is one greater than the v recorded in step 3 (non zero, positive integers) and record.	
<input type="checkbox"/> Pass		
<input type="checkbox"/> Fail		
Signature _____		Date _____
