

Part I

DrayTek VigorAccess IP DSLAM Test Report V.1.0

Project Headline

The 24-port ADSL2/2+ IP DSLAM VigorAccess is a member of DrayTek 's CO solution. It supports DSL subscriber interface with 10/100/1000Base-T Ethernet uplink. It is a stackable design for expansion up to 168 DSL ports. It provides transparent bridging, multicasting, quality of service (QoS), security, SNMP-network management, and command line interface.

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09/14/04	Jimmy	Add test scenario steps	V.02
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6/30/04	Jenny	Add Tender test approval and Reliability test	V.1.0

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1. Introduction

This document describes the VigorAccess IP DSLAM SQA test Report.

2. Test Resource and Plan Reference

2.1. Man-power:

Test project engineer:

Test engineer: 2 engineers

2.2. Test Equipment:

Please refer to each test item.

2.3. Test duration:

10 working days for full functional tests

2.4. Test Phases:

1. SQA Test

2. Field Test

3. Functionality

The system provides two ways for configuration, management, and status monitoring:

1. Console Command Line Interface
2. SNMP interface

Each test case has to use these two interfaces to set the commands & parameters and get results.

3.1. ATM Layer

3.1.1. Multiple ATU-R

Introduction

This test is to verify whether the functionality of multiple ATU-Rs.

Environment Setup and Equipment:

DUT: Factory Default Setting

ATU-R: 24 units

LAN tester (SmartBits or sniffer)

Refer to figure 1 for test setup.

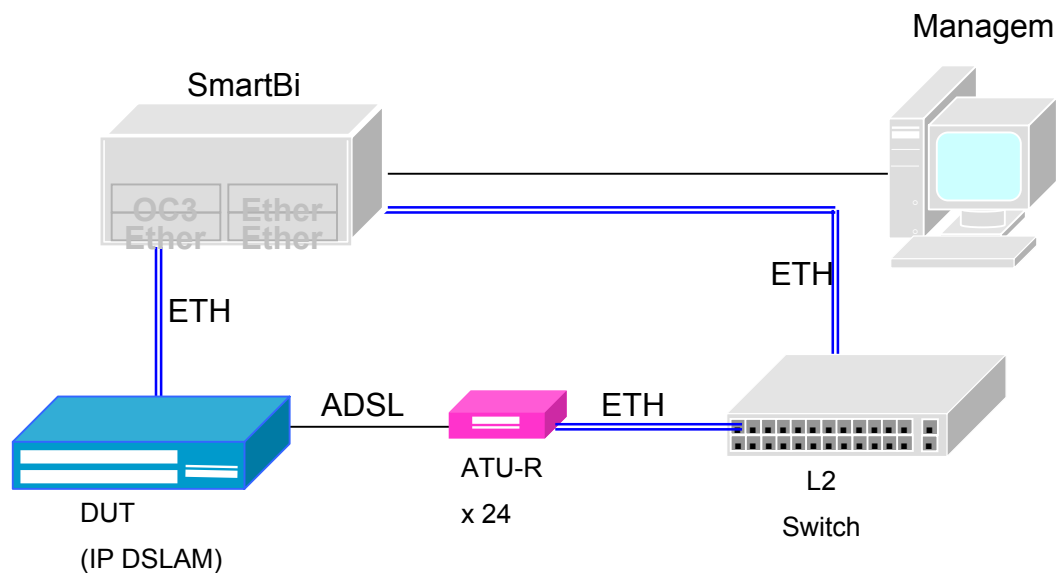


Figure 1

Test case

Use CLI to configure PVCs for each ADSL port in the following modes respectively, and perform data throughput test:

1. RFC 2684 bridged mode, LLC encapsulation
2. RFC 2684 bridged mode, VCMUX encapsulation

Test duration: 5 minutes

Frame size: 1024 bytes

Total upstream data rate: 512 kbps

Total downstream data rate: 8 Mbps

Uni-direction and bi-direction tests need to be run for all test cases.

Acceptance Criteria

Data should pass through each ADSL port simultaneously without any error. The data rate of each PVC should be almost the same.

Test Scenario

As the configuration above.

Test Result

Pass for ADSL/100M Ethernet. (4.5M down/400k up, no packet loss)

Pass for ADSL2+/1G Ethernet. (8M down/512k up, no packet loss)

3.1.2. Multiple PVC Per ATU-R

Introduction

This test is to verify whether the functionality of multiple PVCs per ATU-R.

Environment Setup and Equipment:

DUT: Factory Default Setting

ATU-R: 1 units

LAN tester (SmartBits or sniffer)

Refer to figure 1 for test setup but using only one ATU-R.

Test case

Use CLI to configure 8 PVCs for one ADSL port in the following modes respectively, and perform data throughput test:

1. RFC 2684 bridged mode, LLC encapsulation
2. RFC 2684 bridged mode, VCMUX encapsulation

Test duration: 5 minutes

Frame size: 1024 bytes

Total upstream data rate: 512 kbps

Total downstream data rate: 16 Mbps

Uni-direction and bi-direction tests need to be run for all test cases.

Acceptance Criteria

Data should pass through 8 PVCs of the ADSL port simultaneously without any error. The data rate of each PVC should be almost the same.

Test Scenario

As the configuration above.

Test Result

Pass for ADSL/100M Ethernet. (4.5M down/400k up, no packet loss)

Pass for ADSL2+/1G Ethernet. (16M down/512k up, no packet loss)

3.1.3. VPI/VCI Range

Introduction

This test is to verify each ADSL port of the DUT can be set to all possible valid range of VPI/VCI.

Environment Setup:

DUT: Factory Default Setting

ATU-R: 1 units

LAN tester (SmartBits or sniffer)

Refer to figure 1 for test setup.

Test cases:

Use CLI to configure following VPI/VCI for each ADSL port in the following modes respectively, and perform data throughput test:

Use CLI to configure

1. VPI: 0, VCI: 65535

2. VPI: 255, VCI: 0

3. VPI: 255, VCI: 65535

4. VPI: 0, VCI: 32

5. Negative test cases:

Input duplicated PVC, negative values (-123/-9999...), invalid range (256/999999...), characters (aaa/bbb...), and symbol (\$%^/&*#...) for VPI/VCI setting, system should reject input and prompt related message.

Run data throughput as following condition:

Test duration: 5 minutes

Frame size: 1024 bytes

Total upstream data rate: 600kbps

Total downstream data rate: 6.5Mbps

Encapsulation: RFC 2684 bridged mode for LLC and VCMUX;

Uni-direction and bi-direction tests need to be run for all test cases and data

should be no error.

Acceptance Criteria

1. Invalid VPI/VCI setting should be rejected.
2. Data should pass through PVCs simultaneously. The data rate of each PVC should be almost the same.

Test Scenario

(Step A) Change the value of VCI to be 65535.

<disable>

\$get atm vc intf ifname aal5-0

```
VC IfName      : aal5-0   Low IfName     : atm-0
VPI            : 0        VCI            : 33
Admin Status   : Up      Oper Status    : Up
Aal5 Tx Size   : 1536    Aal5 Rx Size  : 1536
AAL Type       : AAL5    AAL5 Encap    : LLC Mux
Channel        : Interleaved Last Change (sec) : 0
MgmtMode       : Data    Row Status     : active
VC Type        : PVC     VC Topology    : Point to Point
Max simultaneous protocol : 1      Auto Status   : Disable
$
```

\$get oam lpbk vc ifname aal5-0

```
If-Name       : aal5-0   VPI        : 0      VCI       : 33
LB Type       : e2e
OAM Location Id : 0xffffffffffffffff
OAM LB Result  : E2e Succeeded
```

\$modify atm vc intf ifname aal5-0 disable

```
VC IfName      : aal5-0   Low IfName     : atm-0
VPI            : 0        VCI            : 33
Admin Status   : Up      Oper Status    : Up
Aal5 Tx Size   : 1536    Aal5 Rx Size  : 1536
AAL Type       : AAL5    AAL5 Encap    : LLC Mux
Channel        : Interleaved Last Change (sec) : 0
MgmtMode       : Data    Row Status     : active
VC Type        : PVC     VC Topology    : Point to Point
Max simultaneous protocol : 1      Auto Status   : Disable
```

Set Done

VC IfName : aal5-0 Low IfName : atm-0
VPI : 0 VCI : 33
Admin Status : Down Oper Status : Down
Aal5 Tx Size : 1536 Aal5 Rx Size : 1536
AAL Type : AAL5 AAL5 Encap : LLC Mux
Channel : Interleaved Last Change (sec) : 0
MgmtMode : Data Row Status : active
VC Type : PVC VC Topology : Point to Point
Max simultaneous protocol : 1 Auto Status : Disable

<modify>

\$modify atm vc intf ifname aal5-0 vci 65535

VC IfName : aal5-0 Low IfName : atm-0
VPI : 0 **VCI : 33**
Admin Status : Down Oper Status : Down
Aal5 Tx Size : 1536 Aal5 Rx Size : 1536
AAL Type : AAL5 AAL5 Encap : LLC Mux
Channel : Interleaved Last Change (sec) : 0
MgmtMode : Data Row Status : active
VC Type : PVC VC Topology : Point to Point
Max simultaneous protocol : 1 Auto Status : Disable

Set Done

VC IfName : aal5-0 Low IfName : atm-0
VPI : 0 **VCI : 65535**
Admin Status : Down Oper Status : Down
Aal5 Tx Size : 1536 Aal5 Rx Size : 1536
AAL Type : AAL5 AAL5 Encap : LLC Mux
Channel : Interleaved Last Change (sec) : 0
MgmtMode : Data Row Status : active
VC Type : PVC VC Topology : Point to Point
Max simultaneous protocol : 1 Auto Status : Disable

<enable>

\$modify atm vc intf ifname aal5-0 enable

VC IfName : aal5-0 Low IfName : atm-0
VPI : 0 VCI : 65535
Admin Status : Down Oper Status : Down
Aal5 Tx Size : 1536 Aal5 Rx Size : 1536

AAL Type : AAL5 AAL5 Encap : LLC Mux
Channel : Interleaved Last Change (sec) : 0
MgmtMode : Data Row Status : active
VC Type : PVC VC Topology : Point to Point
Max simultaneous protocol : 1 Auto Status : Disable

Set Done

VC IfName : aal5-0 Low IfName : atm-0
VPI : 0 VCI : 65535
Admin Status : Up Oper Status : Down
Aal5 Tx Size : 1536 Aal5 Rx Size : 1536
AAL Type : AAL5 AAL5 Encap : LLC Mux
Channel : Interleaved Last Change (sec) : 0
MgmtMode : Data Row Status : active
VC Type : PVC VC Topology : Point to Point
Max simultaneous protocol : 1 Auto Status : Disable

<if the VCI value is different from CPE>

\$modify oam lpbk vc ifname aal5-0

If-Name : aal5-0 VPI : 0 VCI : 65535
LB Type : e2e
OAM Location Id : 0xffffffffffffffff

Set Done

If-Name : aal5-0 VPI : 0 VCI : 65535
LB Type : e2e
OAM Location Id : 0xffffffffffffffff

\$modify oam lpbk vc ifname aal5-0

If-Name : aal5-0 VPI : 0 VCI : 65535
LB Type : e2e
OAM Location Id : 0xffffffffffffffff
Error: Loopback test already in progress on this VC

\$get oam lpbk vc ifname aal5-0

If-Name : aal5-0 VPI : 0 VCI : 65535
LB Type : e2e
OAM Location Id : 0xffffffffffffffff

OAM LB Result : E2e Failed

<modify VCI value in CPE>

=> Use management tool (browser) to modify the value in CPE site.

<send ATM cell for testing>

\$modify oam lpbk vc ifname aal5-0

If-Name : aal5-0 VPI : 0 VCI : 65535
LB Type : e2e
OAM Location Id : 0xffffffffffffffff

Set Done

If-Name : aal5-0 VPI : 0 VCI : 65535
LB Type : e2e
OAM Location Id : 0xffffffffffffffff

\$get oam lpbk vc ifname aal5-0

If-Name : aal5-0 VPI : 0 VCI : 65535
LB Type : e2e
OAM Location Id : 0xffffffffffffffff
OAM LB Result : E2e Succeeded

(Step B) Repeat the procedures in Step A to change VPI, VCI values.

\$modify atm vc intf ifname aal5-0 vpi 255 vci 0

VC IfName : aal5-0 Low IfName : atm-0
VPI : 0 VCI : 65535
Admin Status : Down Oper Status : Down
Aal5 Tx Size : 1536 Aal5 Rx Size : 1536
AAL Type : AAL5 AAL5 Encap : LLC Mux
Channel : Interleaved Last Change (sec) : 0
MgmtMode : Data Row Status : active
VC Type : PVC VC Topology : Point to Point
Max simultaneous protocol : 1 Auto Status : Disable

Set Done

VC IfName : aal5-0 Low IfName : atm-0
VPI : 255 VCI : 0
Admin Status : Down Oper Status : Down

Aal5 Tx Size : 1536 Aal5 Rx Size : 1536
AAL Type : AAL5 AAL5 Encap : LLC Mux
Channel : Interleaved Last Change (sec) : 0
MgmtMode : Data Row Status : active
VC Type : PVC VC Topology : Point to Point
Max simultaneous protocol : 1 Auto Status : Disable

\$modify atm vc intf ifname aal5-0 vpi 255 vci 65535

VC IfName : aal5-0 Low IfName : atm-0
VPI : 255 VCI : 0
Admin Status : Down Oper Status : Down
Aal5 Tx Size : 1536 Aal5 Rx Size : 1536
AAL Type : AAL5 AAL5 Encap : LLC Mux
Channel : Interleaved Last Change (sec) : 0
MgmtMode : Data Row Status : active
VC Type : PVC VC Topology : Point to Point
Max simultaneous protocol : 1 Auto Status : Disable

Set Done

VC IfName : aal5-0 Low IfName : atm-0
VPI : 255 VCI : 65535
Admin Status : Down Oper Status : Down
Aal5 Tx Size : 1536 Aal5 Rx Size : 1536
AAL Type : AAL5 AAL5 Encap : LLC Mux
Channel : Interleaved Last Change (sec) : 0
MgmtMode : Data Row Status : active
VC Type : PVC VC Topology : Point to Point
Max simultaneous protocol : 1 Auto Status : Disable

\$modify atm vc intf ifname aal5-0 vpi 0 vci 32

VC IfName : aal5-0 Low IfName : atm-0
VPI : 255 VCI : 65535
Admin Status : Down Oper Status : Down
Aal5 Tx Size : 1536 Aal5 Rx Size : 1536
AAL Type : AAL5 AAL5 Encap : LLC Mux
Channel : Interleaved Last Change (sec) : 0
MgmtMode : Data Row Status : active
VC Type : PVC VC Topology : Point to Point
Max simultaneous protocol : 1 Auto Status : Disable

Set Done

VC IfName : aal5-0 Low IfName : atm-0

VPI : 0 **VCI** : 32

Admin Status	: Down	Oper Status	: Down
Aal5 Tx Size	: 1536	Aal5 Rx Size	: 1536
AAL Type	: AAL5	AAL5 Encap	: LLC Mux
Channel	: Interleaved Last Change (sec) : 0		
MgmtMode	: Data	Row Status	: active
VC Type	: PVC	VC Topology	: Point to Point
Max simultaneous protocol	: 1	Auto Status	: Disable

(Step C) Negative test

\$modify atm vc intf ifname aal5-0 vpi 0 vci -9999

Error: Invalid parameter value specified

vci <decvalue>

Test Result

Pass

3.1.4. AAL5 Encapsulation

Introduction

This test is to verify the DUT is able to configure and use the different AAL5 PVCs simultaneously:

Environment Setup:

DUT: Factory Default Setting

ATU-R: 24 units

LAN tester (SmartBits or sniffer)

Management Host (Desktop PC or Notebook)

Server / Workstation: FTP, WEB, DHCP

BRAS: PPPoE Server

Refer to Figure 2 for test setup.

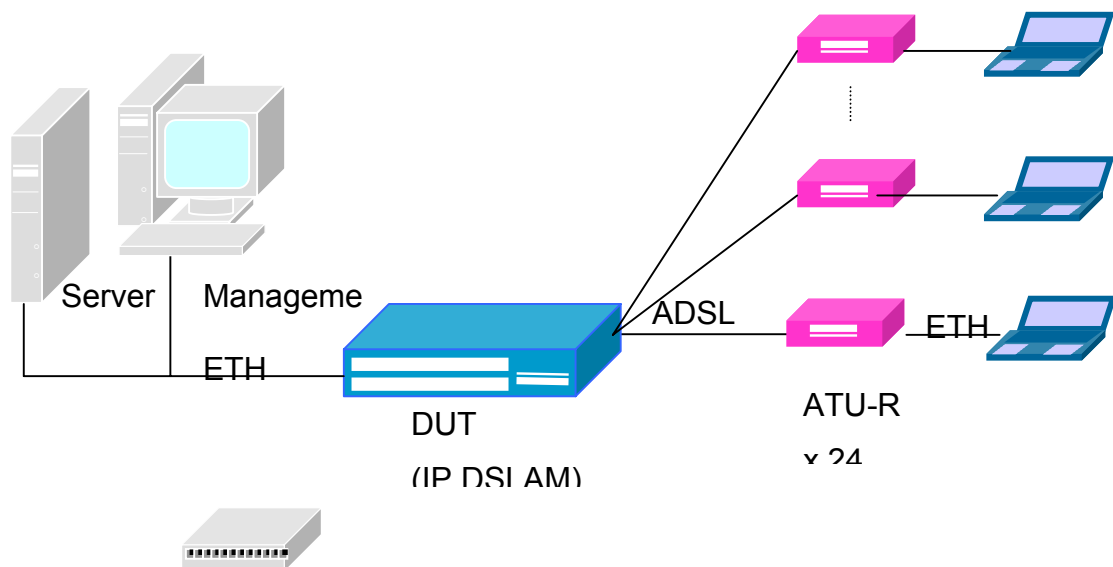


Figure 2

Test cases:

Configure each ADSL Port and use the following AAL5 PVCs simultaneously:

1. RFC2684 bridged LLC encapsulation
2. RFC2684 bridged VCMUX encapsulation

Perform following test:

1. Ping from PC to Server with all valid frame length
2. Ping from PC to Server with excessive frame length
3. ftp test (30MB file for download, 5MB for upload)

Acceptance Criteria

All tests through Ethernet ports of DUT should work properly for all AAL5 PVCs simultaneously.

Test Scenario

(Step A) Change encapsulation mode to be VCMUX.

<delete the current interface>

bridge interface -> eoa interface -> atm vc interface

\$delete bridge port intf portid 1

Port Id : 1 IfName : eoa-0
Max Unicast Addresses : 16 Learning Status : Enable
Port Oper Status : Disable Port Admin Status: Disable
Sticky Status : Disable FDB Modify : Enable
Acl Global Deny Apply : Enable
Acl Global Track Apply: Enable
Sensed IfIndex : -

Entry Deleted

\$delete eoa intf ifname eoa-0

IfName : eoa-0 LowIfName : aal5-0
FCS : False
Pkt Type : ALL
InActivity Tmr Interval: 0
Config Status : Normal
Oper Status : Up Admin Status : Up

Entry Deleted

\$delete atm vc intf ifname aal5-0

VC IfName : aal5-0 Low IfName : atm-0
VPI : 0 VCI : 33
Admin Status : Up Oper Status : Up

Aal5 Tx Size : 1536 Aal5 Rx Size : 1536
AAL Type : AAL5 AAL5 Encap : VC Mux
Channel : Interleaved Last Change (sec) : 0
MgmtMode : Data Row Status : active
VC Type : PVC VC Topology : Point to Point
Max simultaneous protocol : 1 Auto Status : Disable

Entry Deleted

<create a new interface>

atm vc interface -> eoa interface -> bridge interface

\$create atm vc intf ifname aal5-0 vpi 0 vci 33 lowif atm-0 vcmux enable

Entry Created

VC IfName : aal5-0 Low IfName : atm-0
VPI : 0 VCI : 33
Admin Status : Up Oper Status : Up
Aal5 Tx Size : 1536 Aal5 Rx Size : 1536
AAL Type : AAL5 AAL5 Encap : VC Mux
Channel : Interleaved Last Change (sec) : 0
MgmtMode : Data Row Status : active
VC Type : PVC VC Topology : Point to Point
Max simultaneous protocol : 1 Auto Status : Disable

\$create eoa intf ifname eoa-0 lowif aal5-0 enable

Entry Created

IfName : eoa-0 LowIfName : aal5-0
FCS : False
Pkt Type : ALL
InActivity Tmr Interval: 0
Config Status : Normal
Oper Status : Up Admin Status : Up
\$

\$create bridge port intf portid 1 ifname eoa-0 status enable

Entry Created

Port Id : 1 IfName : eoa-0
Max Unicast Addresses : 16 Learning Status : Enable
Port Oper Status : Enable Port Admin Status: Enable
Sticky Status : Disable FDB Modify : Enable
Acl Global Deny Apply : Enable
Acl Global Track Apply: Enable
Sensed IfIndex : -

<ping message before modifying this mode in CPE>

➔ no reply

<modify encapsulation mode in CPE site>

=> Use management tool (browser) to modify the value in CPE site.

<ping message before modifying this mode in CPE>

➔ ping ok

(Step B) Change encapsulation mode to be LLC.

=> Repeat the procedures in Step A.

Test Result

Pass

3.1.5. F5 OAM test

Introduction

This test is to verify the DUT can support OAM F5 end-to-end loopback generations and responses.

Environment Setup:

DUT: Factory Default Setting

ATU-R: 1 unit

Host (Desktop PC or Notebook)

Refer to Figure 3 for test setup.

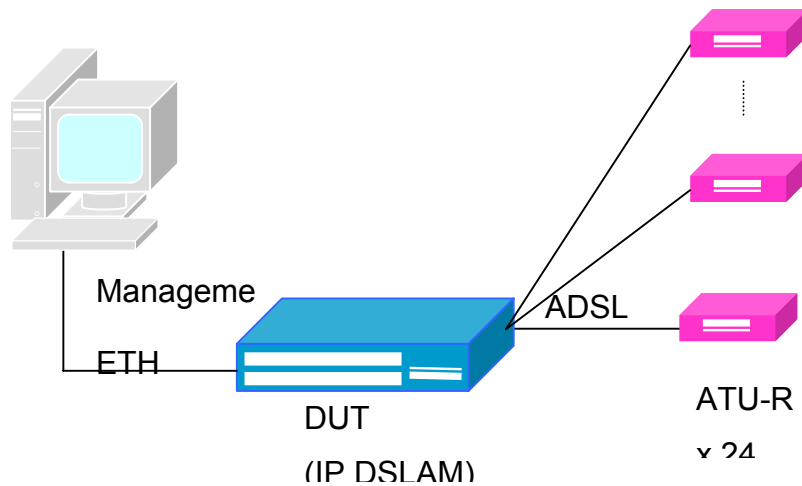


Figure 3

Acceptance Criteria

The DUT should be able to send and reply the OAM loopback cells. The statistics of OAM loopback cell should be able to display in CLI.

Test Cases:

1. OAM-F5 Loopback test; End-to-End loopback

Test Scenario

(Step A) ADSL cable link up

\$get oam lpbk vc ifname aal5-0

If-Name : aal5-0 VPI : 0 VCI : 33
LB Type : e2e
OAM Location Id : 0xffffffffffffffff
OAM LB Result : E2e Succeeded
\$

<Send ATM cell out>

\$modify oam lpbk vc ifname aal5-0

If-Name : aal5-0 VPI : 0 VCI : 33
LB Type : e2e
OAM Location Id : 0xffffffffffffffff

Set Done

If-Name : aal5-0 VPI : 0 VCI : 33
LB Type : e2e
OAM Location Id : 0xffffffffffffffff

\$get oam lpbk vc ifname aal5-0

If-Name : aal5-0 VPI : 0 VCI : 33
LB Type : e2e
OAM Location Id : 0xffffffffffffffff
OAM LB Result : E2e Succeeded ← got reply message
\$

(Step B) ADSL cable link down

\$get oam lpbk vc ifname aal5-0

If-Name : aal5-0 VPI : 0 VCI : 33
LB Type : e2e
OAM Location Id : 0xffffffffffffffff
OAM LB Result : E2e Succeeded

\$

\$modify oam lpbk vc ifname aal5-0

If-Name : aal5-0 VPI : 0 VCI : 33

LB Type : e2e

OAM Location Id : 0xffffffffffffffffffffffff

Error: VC is not currently operational

\$get oam lpbk vc ifname aal5-0

If-Name : aal5-0 VPI : 0 VCI : 33

LB Type : e2e

OAM Location Id : 0xffffffffffffffffffffffff

OAM LB Result : Result Unavailable ← Got none reply

Test Result

Pass

3.2. Bridging Test

3.2.1. MAC Address Table Timeouts

Introduction

This test is to verify the DUT can set filter age time and work correctly accordingly.

Environment Setup:

The test setup is same as Figure 2.

Test cases:

1. Set 100, 200, 300, and 600 seconds for MAC address to age out.
2. MAC addresses created with different time should include all PVCs, and Ethernet interface.
3. Variable range of MAC addresses
4. Negative: Duplicated MAC addresses in different PVCs.

Acceptance Criteria

MAC address should ages out properly for all PVCs, Ethernet port

Test Scenario

(Step A) Configure an aging time value from 300 to 100 in DUT.

\$modify bridge tbg info aging 100

MacAddress : 00:BB:CC:DD:EE:FF
No. of Ports : 25
Base Type : Transparent
Aging Timeout(sec) : **300** Slaveaging TimeOut(sec) : 600
Netaging TimeOut(sec) : 600 Flood Support : Enable
BroadCast Support : Enable MultiCast Support : Enable
MultiCast Drop : Disable Bridging Mode : Residential
Throttling rate : 32766 Polling Interval (ms) : 1000
Drop If FDB full status : Enable ResidentialNetLearning : Enable

Set Done

MacAddress : 00:BB:CC:DD:EE:FF
No. of Ports : 25
Base Type : Transparent
Aging Timeout(sec) : 100 Slaveaging TimeOut(sec) : 600
Netaging TimeOut(sec) : 600 Flood Support : Enable
BroadCast Support : Enable MultiCast Support : Enable
MultiCast Drop : Disable Bridging Mode : Residential
Throttling rate : 32766 Polling Interval (ms) : 1000
Drop If FDB full status : Enable ResidentialNetLearning : Enable

(Step B) Using “Ping” command from a PC host connected with ATU to DUT.

(Step C) Show the forwarding table in DUT. It will record a MAC address entry in the table.

\$get bridge forwarding

MAC Addr	PortId	VlanId	Status
00:0E:A6:4F:0E:5F	193	1	Learned
00:40:45:11:AE:98	1	1	Learned

(Step D) Wait for 100 seconds, then show forwarding table in DUT again. This recorded MAC address will be removed in this table.

\$get bridge forwarding

MAC Addr	PortId	VlanId	Status
00:0E:A6:4F:0E:5F	193	1	Learned

(Step E) Modify the aging time value to 200 and 600. Then repeat the testing procedures from Step A to Step D.

\$modify bridge tbg info aging 200

(Step F) Using “Ping” command from a PC host connected with ATU-1 to DUT.

(Step G) Show the forwarding table in DUT. It will record a new MAC address entry in the table.

\$get bridge forwarding

MAC Addr	PortId	VlanId	Status
00:01:38:2B:07:C0	1	1	Learned
00:0E:A6:4F:0E:5F	193	1	Learned

(Step G) Change link from ATU-1 to ATU2.

(Step H) Using “Ping” command from a PC host connected with ATU-2 to DUT.

(Step I) Show the forwarding table in DUT. It will record a new MAC address entry in the table. Check the port id number to be a new one.

\$get bridge forwarding

MAC Addr	PortId	VlanId	Status
00:01:38:2B:07:C0	2	1	Learned
00:0E:A6:4F:0E:5F	193	1	Learned

Test Result

Pass

3.2.2. MAC Address Learning

Introduction

This test is to verify the DUT can learn MAC address from different bridge ports correctly.

Environment Setup:

The test setup is same as Figure 1.

Test cases

1. MAC address learning from PVC of each ADSL port
2. MAC address learning from Ethernet port

Acceptance Criteria

DUT should work properly for MAC address learning.

Test Scenario

These testing procedures are same as the procedures Step F to Step I in section 3.2.1.

Test Result

Pass

3.2.3. IGMP Snooping

Introduction

This test is to verify the functionality of IGMP Snooping.

Environment Setup:

Server: IGMP enabled

Router: IGMP enabled

Refer to Figure 4 for test setup.

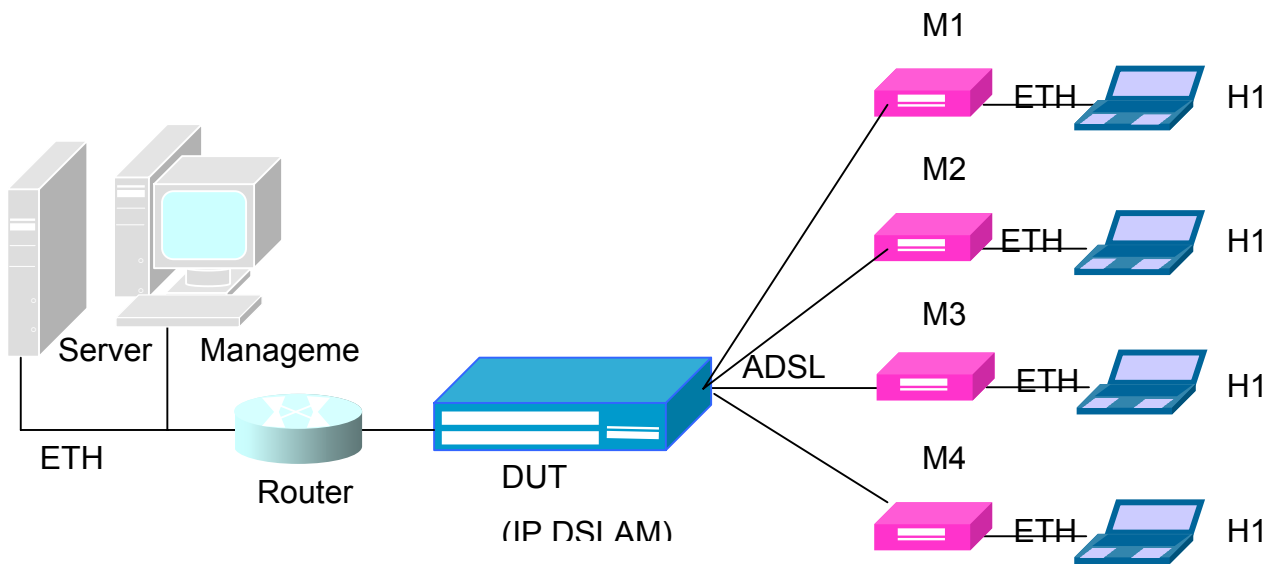


Figure 4

Test cases:

1. Host H1 joins Group A, the MTU learns the join message.
Multicast traffic to Group A should forward to H1 only.
2. Host H3 joins Group A, the MTU learns the join message.
Multicast traffic to Group A should forward to H1 and H3 only.
3. Host H2 joins Group B, the MTU learns the join message.
Multicast traffic to Group B should forward to H2 only.
Multicast traffic to Group A should forward to H1 and H3 only.
4. Host H4 joins Group B, the MTU learns the join message.

Multicast traffic to Group B should forward to H2 and H4 only.

Multicast traffic to Group A should forward to H1 and H3 only.

5. Host H1 leaves Group A, the MTU learns the leave message.

Multicast traffic to Group A should forward to H3 only.

Multicast traffic to Group B should forward to H2 and H4 only.

6. Host H2 leaves Group B, the MTU learns the leave message.

Multicast traffic to Group A should forward to H3 only.

Multicast traffic to Group B should forward to H4 only.

7. Host H3 leaves Group A, the MTU learns the leave message.

No multicast traffic to Group A should be forwarded.

Multicast traffic to Group B should forward to H4 only.

8. Host H4 leaves Group B, the MTU learns the leave message.

No multicast traffic to Group A should be forwarded. No multicast traffic to Group B should be forwarded.

Test Result

PASS

3.3. Firmware Upgrade

Introduction:

Upgrade new firmware image with utility via Ethernet.

Environment Setup:

Host: TFTP Server

Firmware: ready in the tftp root directory

Refer to Figure 6 for test setup.

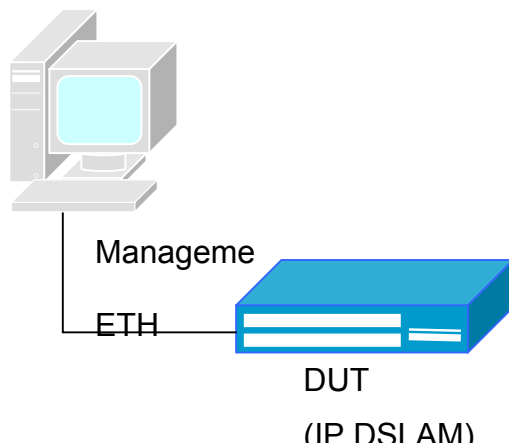


Figure 6

Test cases:

1. Prepare TFTP server to upgrade firmware from Ethernet port.
2. DUT can boot with upgraded firmware successfully.

Acceptance Criteria:

All test cases should work properly

Test Scenario

The main firmware file is "cp.bin.gz", all procedures are as below –

(Step A) Prepare TFTP server in someone PC host.

(Step B) Prepare vendor supplied CP.bin.gz file in TFTP server.

(Step C) Put CP.bin.gz into root directory of TFTP server.

(Step D) ***\$remove fname /nvram/bin/control/CP.bin.gz version 1***

(Step E) ***\$download src CP.bin.gz dest /nvram/bin/control/CP.bin.gz ip 192.168.1.1***

(Step F) ***\$upgrade fname /nvram/bin/control/CP.bin.gz version 2***

(Step G) Restart the whole system.

\$reboot

Test Result

Pass

3.4. Configuration Management

3.4.1. Factory Default Configuration

Introduction:

This test is to check the factory default configuration setting and load default operation.

Environment Setup

The test environment is same as Figure 2.

Test cases:

1. Following items of factory default setting need to be checked:
 - a. Ethernet aggregation (ip: 10.0.0.1/24)
 - b. 24 ADSL2+ auto mode
 - c. 24 PVCs, VPI(0), VCI(33), LLC mode for each PVC
 - d. IGMP Enabled
2. Try to change DUT's configuration, and then reset to default and reboot.

Acceptance Criteria

1. All factory default setting should be correct.
2. All load default function should work properly.

Test Scenario

(Step A) Input a reboot to default command.

\$reboot config default

We can read these messages,

Block 2 erase in progress

.....Flash block 2 erase successful...

FLASH program starts at ADDR 40000

#####

Block 3 erase in progress

.....Flash block 3 erase successful...

FLASH program starts at ADDR 60000

#####

Block 4 erase in progress

.....Flash block 4 erase successful...

FLASH program starts at ADDR 80000

#####

Block 5 erase in progress

.....Flash block 5 erase successful...

FLASH program starts at ADDR a0000

#####

Rebooting.....?

Welcome to VigorAccess

Software Release: COL2.7.6.0.040811 Date: Aug 23 2004

Copyright (c) 2004 DrayTek Corp.

Initializing Columbia Memories..... Success

Press 'F1' to enter interactive mode, 'Enter'to skip 5 Seconds left

User did not request for interactive mode.....Continuing

All the files are in Flash, No TFTP required

Mxu shall come up in normal mode

All the files have been successfully received.....

Transferring Control to Decompressor

Active copy of Ctrl Plane Bin was found in flash

Unzipping the Control Plane.....

.....

Transferring Control to Ctrl Plane Binary...

Free Memory available in SDRAM-A is 0x4905f0

System coming up in normal mode...

Checked Control Plane compatibility with creatfi image.....Success

Locking Control Plane Text Start: 0x460b000 End: 0x4a730b0CdbNvm:- Configuration Size is 2752972

CdbNvm:- NVM CFG1 size 262136

CdbNvm:- NVM CFG2 size 262136

The uncompress location for data plane is 0x400b000

Cin:- DataPlane present in NVRAM

Cin- Uncompressing Dataplane

Uncompressing "DP.bin.gz" (251715->546936) Done

Locked Data Plane Text - Start: 0x400b000 End: 0x408c328

CfgInit: System Coming up from [Default Configuration](#)

<-- "Default"

Initializing DataPlane

DataPlane Initialized successfullyThe DSL binary file to be opened is gsv_dsl_AD_DM_3C00000C.bin.gz
Uncompressing "gsv_dsl_AD_DM_3C00000C.bin.gz" (159580->366746) Done
The DSL bin size is 366746
Loading The system.....
Loading system over.....
Initializing system.....
Initializing system over.....

Welcome to VigorAccess

Software Release: COL2.7.6.0.040811 Date: Aug 20 2004
Copyright (c) 2004 DrayTek Corp.

\$
Thu Jan 01 00:00:43 1970 : STATUS ALARM : System Up

(Step B) Display the default settings

\$get aggr intf

Interface Index : aggr-0
IP Address : 10.0.0.1 Mask : 255.255.255.0
UseDhcp : False
Mgmt VLAN Index : -
Tagged Mgmt PDU Prio : 0
Admin Status : Up
Operational Status : Up

\$get adsl line profile ifname dsl-0

IfName : dsl-0

ADSL ATUC Configuration :

Rate Adaptation : adaptAtStartup
Target Snr Margin(dB/10) : 60 Max Snr Margin(dB/10) : 310
GsRsIntCorrectionUp : 125us Dnshift SnrMargin(dB/10) : 0
Upshift SnrMargin(dB/10) : 120 Min Upshift Time(sec) : 0
Min Dnshift Time(sec) : 0 Fast Min Tx Rate(bps) : 0x7d00
Intl Min Tx Rate(bps) : 0x7d00 Fast Max Tx Rate(bps) : 0x1f38300
Intl Max Tx Rate(bps) : 0x1f38300 Max Intl Delay(ms) : 0
GsTxStartBin : 0x6 GsTxEndBin : 0x1ff
GsRxStartBin : 0x6 GsRxEndBin : 0x1f
GsMaxBitsPerBin : 15 GsMaxDCo : 256
GsRxBinAdjust : Disable GsEraseProfiles : Disable
GsAdi2x : standard **GsStandard : adsl2PlusAuto**
GsInitiate : - GsTxPowerAtten : -

ADSL ATUR Configuration :

```
$get atm vc intf ifname aal5-0
```

33

\$get igmpsnoop cfg info

Query Interval : 12 Anxious Timer : 125
V1 Host Timer : 130 Last Member Query Interval : 10
Robustness Variable : 2 **Igmp Snoop Status : Enable**
Report Suppression Status : Disable

Test Result

Pass

3.4.2. CLI Management

Introduction:

This test is to verify the operation of all valid CLI commands. Also, verify it's password protected when telneted.

Environment Setup

Refer to Figure 2 for test setup.

Test cases:

1. All CLI commands in the CLI command reference manual should go through to verify the functionality.
2. To see the DSL state on CLI.
3. Configurable password (when telneted).
4. Boundary check tests: try to set exceeding PVC, OAM and so on.
5. Check help messages.

Acceptance Criteria

1. All commands listed in user's manual should work properly.
2. DSL state shown on CLI should be correct.
3. CLI should provide all function configuration
4. Out of boundary configuration should be rejected.

Test Scenario

(Step A) Check CLI commands after rebooting system.

```
*****  
Welcome to VigorAccess  
*****
```

Software Release: COL2.7.6.0.040811 Date: Aug 20 2004
Copyright (c) 2004 DrayTek Corp.

```
$  
Thu Jan 01 00:00:43 1970 : STATUS ALARM : System Up
```

\$get aggr intf

```

Interface Index      : aggr-0
IP Address           : 10.0.0.1      Mask       : 255.255.255.0
UseDhcp              : False
Mgmt VLAN Index      : -
Tagged Mgmt PDU Prio : 0
Admin Status         : Up
Operational Status   : Up
$

```

(Step B) Show the DSL state

```
$get adsl atur physical ifname dsl-0
```

```

Ifname           : dsl-0
Serial Number    : -
Vendor ID        : FFB54753504E0007
Version Number   :
Curr Status      : NoDefect
Curr Snr Margin(dB/10) : 55      Curr Atn(dB/10)      : 10
CurrAttainable Rate(bps) : 4636000  Curr Output Pwr(dB/10) : 0
AturGsConfig     : 0xD4B72300000000000000002200000000000000000000000000000000
000000000
Chan Perf CD      : 33509014  Chan Perf CU      : 0
Chan Perf BE      : 0      Delt HLINSCds      : 0
Delt HLOGMTds     : 0      Delt QLNMTds      : 0
DELT Last Tx State : dmtaturng9941
Overhead Channel   : 7561

```

```
$get adsl atuc physical ifname dsl-0
```

```

Ifname          : dsl-0
Serial Number   : (co-0123456)
Vendor ID       : FFB54753504E0000C.87.1.14
Version Number  : C.87.1.14
Curr Status     : NoDefect
Curr Snr Margin(dB/10) : 110      Curr Atn(dB/10) : 0
CurrAttainable Rate(bps): 24068000 Curr Output Pwr(dB/10): 83
GsOpState       : Data      GsActualStandard : adsl2Plus
GsTxAtmCellCounter : 0      GsRxAtmCellCounter : 72
GsStartProgress  : 0
GsIdleBertError  : 0        GsIdleBertCells   : 0
GsBertSync       : BertOutOfSync
GsParametricTestResult : Ok
GsBertError      : 0
GsSelfInfoValid  : NotConnected
GsSelfLoopLen (in Feet) : 0
GsSelfLoopEnd    : unknown
GsSelfLoopGauge  : -
DataBoost Status : Disable

```

GsSeltUpShannonCap (in bps) : 0
GsSeltDownShannonCap (in bps) : 0
Chan Perf CD : 1762303 Chan Perf BE : 0
Delt HLINSCus : 0 Delt HLOGMTus : 0
Delt QLNMtUs : 0 DELT Last Tx State : dmtatucg9941
PM State : idleop Chan Perf Cu : 72
Extended PSD Status : standard Chip Version : 25
Pilot Tone : 0 Overhead Channel : 6967
Psd Mask : Adsl

(Step B) Configure password

\$passwd draytek

Enter New Password:<haha>
Confirm New Password:<hihi>
Error: Mismatch in New/Confirm password
\$

\$passwd draytek

Enter New Password:<haha>
Confirm New Password:<haha>

Set Done
\$

(Step C) Boundary checking

\$get igmp ?

Error: Invalid command

(Step D) On-line help messages

\$?

Command	Description
alias	To Alias a command
commit	Commit the active config to the flash
create	Create a new entry of specified type
delete	Delete the specified entry
download	Download a file on to the Device
exit	To exit the CLI shell
get	Display info for the search
help	Provides help
modify	Modify information for specified entry
passwd	To modify user password
ping	The normal ping command
prompt	Change the user prompt
reboot	Reboot the device
reset	Reset info for the specified entry

traceroute *The normal traceroute command*
unalias *To undefine previously defined alias*
verbose *Switch ON/OFF the verbose mode*
apply *Apply configuration/image file*
list *List files*
remove *Remove file*
rdm *Read Memory*
rdf *Read Flash*
wrm *Write Memory*
memset *Memset*
upgrade *Upgrade*
\$

Test Result

Pass

3.4.3. SNMP MIB

Introduction

The test is designed for the remote controller to monitor the DUT configuration and performance. The SNMP manager must get ADSL running status correctly.

Environment Setup:

The test environment is same as Figure 2.

(Any) SNMP MIB browser is installed on server. Perform a remote management on the server.

Test cases:

Check the DUT can support SNMPv1/v2c GET and SET operations. Also, verify the supported MIBs of the DUT.

Test Scenario

(Step A) Configure SNMP server in DUT.

(A.1) Create R/W community string

\$create snmp comm community private01 rw

Entry Created

Community	Access
-----------	--------

private01	RW
-----------	----

(A.2) Create host server IP address

\$create snmp host ip 10.0.0.100 community public01

Entry Created

Host Address	Community
--------------	-----------

10.0.0.100	public01
------------	----------

(Step B) Configure SNMP browser in PC host.

We implemented GET/SET operations in SNMPv1/SNMPv2c to access MIB database in DUT. Got some results in the picture as below –

```
C:\SoftKits\SNMP_I>snpset -v 1 -c private01 10.0.0.1 1.3.6.1.2.1.1.5.0 s "goodman"
.1.3.6.1.2.1.1.5.0 = STRING: "goodman"

C:\SoftKits\SNMP_I>snpget -v 2c -c public01 10.0.0.1 1.3.6.1.2.1.1.5.0
.1.3.6.1.2.1.1.5.0 = STRING: "goodman"

C:\SoftKits\SNMP_I>snpset -v 1 -c private01 10.0.0.1 1.3.6.1.2.1.1.5.0 s "goodman01"
.1.3.6.1.2.1.1.5.0 = STRING: "goodman01"

C:\SoftKits\SNMP_I>snpget -v 1 -c public01 10.0.0.1 1.3.6.1.2.1.1.5.0
.1.3.6.1.2.1.1.5.0 = STRING: "goodman01"

C:\SoftKits\SNMP_I>snpset -v 2c -c private01 10.0.0.1 1.3.6.1.2.1.1.5.0 s "goodman02"
.1.3.6.1.2.1.1.5.0 = STRING: "goodman02"

C:\SoftKits\SNMP_I>snpget -v 2c -c public01 10.0.0.1 1.3.6.1.2.1.1.5.0
.1.3.6.1.2.1.1.5.0 = STRING: "goodman02"

C:\SoftKits\SNMP_I>
```

Test Result

Pass

3.4.4. System Level Configuration

Introductions:

This test is to verify all system level configuration can be “set/get” properly

Test Cases:

- Set system IP address
- Set system time/Date
- SNMP GET/SET community set up
- Set up SNMP trap destination

Acceptance Criteria

1. System IP can be set properly and user can log in to the system with new IP address
2. System time/date can be set/get properly and the advance of date is handled properly in all cases
3. SNMP GET/SET community string can be configured independently
4. All hosts specified in the destination list do receive the traps

Test Scenario

(Step A) Change ip address for aggregation port

\$modify aggr intf ifname aggr-0 ip 10.0.0.2

Telnet to the new ip address.

(Step B) Change system time

\$modify system info systime "Sep 15 14:26:54 2004"

...

System Time : Thu Jan 01 00:30:34 1970

Time Zone : GMT

DST : off

Services : physical datalink internet end-to-end end-to-end end-to-end applications

Set Done

...

System Time : **Wed Sep 15 14:26:54 2004**

Time Zone : GMT

DST : off

Services : physical datalink internet end-to-end end-to-end end-to-end applications

(Step C) SNMP GET/GET community is the same as section SNMP MIB

(Step D) This part will be tested on the integration testing with EMS .

Test Result

Pass

3.4.5. ADSL Configuration Profile Configuration

Introductions:

This test is to verify the setting of the ADSL configuration profile

Test Cases:

Configure each ADSL port with the following line profile field:

1. Standard(gDmt, ADSL2, ADSL2+)
2. Rate adaptation mode
3. Trellis code on/off
4. Channel type
5. Upstream/Downstream SNR Margin
6. Fast/Interleave min/max TX Rate
7. Interleaved delay

Acceptance Criteria

1. Line profile can be provisioned independently.
2. The ATU-R will respond to the ATU-C setting accordingly.

Test Scenario

(Step A) Change channel type to Fastonly mode for ADSL port.

Disable -> Modify -> Enable.

\$modify adsl line intf ifname dsl-0 disable

```
IfName      : dsl-0
Line Type   : interleavedOnly   Coding Type   : dmt
GsUtopia L2TxAddr : 0           GsUtopia L2RxAddr : 0
Gs Clock Type  : oscillator      Gs Action      : startup
Admin Status   : Up             Oper Status    : Up
Trans Atuc Cap  : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923Readsl2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
apped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : q9923Adsl2PotsNonOverlapped
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis   : trellisOn
Trans Atur Cap  : q9923Readsl2PotsNonOverlapped q9925Adsl2PlusPotsNonOverlappedq9925Adsl2PlusPotsOverlapped
q9923Adsl2PotsNonOverlapped
PM Conf PMSF    : -
Line DELT Conf LDSF : inhibit
```

Set Done

Thu Jan 01 22:21:46 1970 : MAJOR ALARM : ADSL ATUC Down : Interface - dsl-0

```
IfName      : dsl-0
Line Type   : interleavedOnly  Coding Type    : dmt
GsUtopia L2TxAddr : 0          GsUtopia L2RxAddr : 0
Gs Clock Type : oscillator      Gs Action      : startup
Admin Status  : Down           Oper Status     : Down
Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923ReadsI2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
apped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : -
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis   : trellisOn
Trans Atur Cap  : -
PM Conf PMSF    : -
Line DELT Conf LDSF : inhibit
```

\$modify adsl line profile ifname dsl-0 type fastonly

IfName : dsl-0

ADSL ATUC Configuration :

```
-----
Rate Adaptation      : adaptAtStartup
Target Snr Margin(dB/10) : 60          Max Snr Margin(dB/10) : 310
GsRsIntCorrectionUp    : 125us         Dnshift SnrMargin(dB/10) : 0
Upshift SnrMargin(dB/10) : 120         Min Upshift Time(sec) : 0
Min Dnshift Time(sec)  : 0             Fast Min Tx Rate(bps) : 0x7d00
Intl Min Tx Rate(bps)  : 0x7d00        Fast Max Tx Rate(bps) : 0x1f38300
Intl Max Tx Rate(bps)  : 0x1f38300     Max Intl Delay(ms) : 0
GsTxStartBin           : 0x6           GsTxEndBin           : 0x1ff
GsRxStartBin           : 0x6           GsRxEndBin           : 0x1f
GsMaxBitsPerBin        : 15            GsMaxDCo             : 256
GsRxBinAdjust          : Disable       GsEraseProfiles      : Disable
GsAdi2x                : standard      GsStandard           : adsl2PlusAuto
GsInitiate             : -             GsTxPowerAtten       : -
GsCodingGain           : Auto          GsRsFastOvrhdDown    : Disable
GsRsIntCorrectionDown  : 1Ms           GsRsFastOvrhdUp      : Disable
GsDrStby               : Disable       GsExpandedExchange   : Expanded
GsEscapeFastRetrain    : Disable       GsFastRetrain        : Disable
GsBitSwap              : Enable         GsNtr                : LocalOcs
GsAnnexType            : adsl2         GsAlctIUsVer         : Unknown
GsUseCustomBin         : Disable       GsFullRetrain        : Enable
GsPsdMaskType          : -             DmtConfMode          : fdmMode
GsExtRsMemory          : notpresent     ParamHybridLossTestStart : 0x2
```

ADSL ATUR Configuration :

Set Done

ADSL ATUC Configuration :

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```
GsUseCustomBin          : Disable      GsFullRetrain         : Enable
GsPsdMaskType           : -            DmtConfMode             : fdmMode
GsExtRsMemory           : notpresent    ParamHybridLossTestStart : 0x2
GsParamHybridLossTestEnd : 0x40        GsDmtTrellis           : on
GsAdvertisedCapabilities : AnnexA
GslTriggerMode          : Disable
Type                    : fastOnly
GsDnBinUsage            : 0xFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
ParametricTestInputFile : -
Data Boost              : Enable        Upstream PSD            : Standard
Conf PM Mode           :
Conf PML0 Time(sec)     : 0
Conf PML2 Time(sec)     : 0            Conf PML2 ATPR (dB/10)   : 0
Conf PML2 Rate(bps)     : 0x0
MSG Min Ds              : 0            Minimum Snr Margin(dB/10) : 0
```

ADSL ATUR Configuration :

Target Snr Margin(dB/10) : 60	Dnshift SnrMargin(dB/10) : 0
Upshift SnrMargin(dB/10) : 120	Min Upshift Time(sec) : 0
Min Dnshift Time(sec) : 0	Fast Min Tx Rate(bps) : 0x7d00
Intl Min Tx Rate(bps) : 0x7d00	Fast Max Tx Rate(bps) : 0x109a00
Intl Max Tx Rate(bps) : 0x109a00	Max Intl Delay(ms) : 16
MSG Min Us : 0	Minimum Snr Margin(dB/10) : 0

```
$modify adsl line intf ifname dsl-0 enable
```

```

IfName          : dsl-0
Line Type       : fastOnly      Coding Type       : dmt
GsUtopia L2TxAddr : 0          GsUtopia L2RxAddr : 0
Gs Clock Type    : oscillator    Gs Action        : startup
Admin Status     : Down        Oper Status      : Down
Trans Atuc Cap   : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923ReadsI2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
apped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : -
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis     : trellisOn
Trans Atur Cap    : -
PM Conf PMSF      : -
Line DELT Conf LDSE : inhibit

```

Set Done

```
IfName          : dsl-0
Line Type       : fastOnly      Coding Type      : dmt
GsUtopia L2TxAddr : 0          GsUtopia L2RxAddr : 0
```

Gs Clock Type : oscillator Gs Action : startup
Admin Status : **Up** Oper Status : Down
Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923Readsl2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
apped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : -
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis : trellisOn
Trans Atur Cap : -
PM Conf PMSF : -
Line DELT Conf LDSF : inhibit

Thu Jan 01 22:00:25 1970 : STATUS ALARM : ADSL ATUC Up : Interface - dsl-0

Thu Jan 01 22:00:28 1970 : WARNING : ADSL ATUC Tx Rate Changed : Interface - dsl
-0 : Current - 11393200 : Previous - 0

(Step B) Change min Tx rate on Fastonly mode for ADSL port.

Disable -> Modify -> Enable.

\$modify adsl line intf ifname dsl-0 disable

IfName : dsl-0
Line Type : interleavedOnly Coding Type : dmt
GsUtopia L2TxAddr : 0 GsUtopia L2RxAddr : 0
Gs Clock Type : oscillator Gs Action : startup
Admin Status : **Up** Oper Status : Up
Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923Readsl2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
apped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : q9923Adsl2PotsNonOverlapped
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis : trellisOn
Trans Atur Cap : q9923Readsl2PotsNonOverlapped q9925Adsl2PlusPotsNonOverlappedq9925Adsl2PlusPotsOverlapped
q9923Adsl2PotsNonOverlapped
PM Conf PMSF : -
Line DELT Conf LDSF : inhibit

Set Done

Thu Jan 01 22:55:42 1970 : MAJOR ALARM : ADSL ATUC Down : Interface - dsl-0

IfName : dsl-0
Line Type : interleavedOnly Coding Type : dmt
GsUtopia L2TxAddr : 0 GsUtopia L2RxAddr : 0
Gs Clock Type : oscillator Gs Action : startup
Admin Status : **Down** Oper Status : Down
Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923Readsl2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl

Trans Atuc Actual : -

GsDmtTrellis : trellisOn

PM Conf PMSF : -

Line DELT Conf LDSF : inhibit

```
$modify adsl line profile ifname dsl-0 atucfastmintxrate 0x9d00
```

ADSL ATUC Configuration :

Target Snr Margin(dB/10) : 60 Max Snr Margin(dB/10) : 310

Upshift SnrMargin(dB/10) : 120 Min Upshift Time(sec) : 0

Intl Min Tx Rate(bps) : 0x8000 Fast Max Tx Rate(bps) : 0x1f38300

GsTxStartBin : 0x6 GsTxEndBin : 0x1ff

GsRxStartBin : 0x6 GsRxEndBin : 0x1f

GsMaxBitsPerBin	: 15	GsMaxDCo	: 256
-----------------	------	----------	-------

GsRxBinAdjust : Disable GsEraseProfiles : Disable

GsAdi2x : standard GsStandard : adsl2PlusAuto

GsInitiate : - GsTxPowerAtten : -

GsCodingGain : Auto GsRsFastOvrhdDown : Disable

GsRsIntCorrectionDown : 1Ms GsRsFastOvrhdUp : Disable

GsDrStby : Disable GsExpandedExchange : Expanded

GsEscapeFastRetrain : Disable GsFastRetrain : Disable

GsBitSwap : Enable GsNtr : LocalOcs

GsAnnexType : adsl2 GsAlctlUsVer : Unknown

GsUseCustomBin : Disable GsFullRetrain : Enable

GsPsdMaskType : - DmtConfMode : fdmMode

GsExtRsMemory : notpresent ParamHybridLossTestStart : 0x2

GsParamHybridLossTestEnd : 0x40 GsDmtTrellis : on

GsAdvertisedCapabilities : AnnexA

GslTriggerMode : Disable

Type : **fastOnly**

```
GsDnBinUsage      : 0xFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
```

[illegible]

ParametricTestInputFile :-

Data Boost : Enable Upstream PSD : Standard

Conf PM Mode :

Conf PML0 Time(sec) : 0

Conf PML2 Time(sec) : 0 Conf PML2 ATPR (dB/10) : 0

Conf PML2 Rate(bps) : 0x0

MSG Min Ds : 0 Minimum Snr Margin(dB/10) : 0

ADSL ATUR Configuration :

```
-----
Target Snr Margin(dB/10) : 60      Dnshift SnrMargin(dB/10) : 0
Upshift SnrMargin(dB/10) : 120     Min Upshift Time(sec) : 0
Min Dnshift Time(sec) : 0          Fast Min Tx Rate(bps) : 0x7d00
Intl Min Tx Rate(bps) : 0x7d00     Fast Max Tx Rate(bps) : 0x109a00
Intl Max Tx Rate(bps) : 0x109a00   Max Intl Delay(ms) : 16
MSG Min Us : 0                    Minimum Snr Margin(dB/10) : 0
-----
```

Set Done

IfName : dsl-0

ADSL ATUC Configuration :

```
-----
Rate Adaptation : adaptAtStartup
Target Snr Margin(dB/10) : 60      Max Snr Margin(dB/10) : 310
GsRsIntCorrectionUp : 125us        Dnshift SnrMargin(dB/10) : 0
Upshift SnrMargin(dB/10) : 120     Min Upshift Time(sec) : 0
Min Dnshift Time(sec) : 0          Fast Min Tx Rate(bps) : 0x9d00
Intl Min Tx Rate(bps) : 0x8000     Fast Max Tx Rate(bps) : 0x1f38300
Intl Max Tx Rate(bps) : 0x110000   Max Intl Delay(ms) : 0
GsTxStartBin : 0x6                 GsTxEndBin : 0x1ff
GsRxStartBin : 0x6                 GsRxEndBin : 0x1f
GsMaxBitsPerBin : 15               GsMaxDCo : 256
GsRxBinAdjust : Disable            GsEraseProfiles : Disable
GsAdi2x : standard                 GsStandard : adsl2PlusAuto
GsInitiate : -                     GsTxPowerAtten : -
GsCodingGain : Auto                GsRsFastOvrhdDown : Disable
GsRsIntCorrectionDown : 1Ms        GsRsFastOvrhdUp : Disable
GsDrStby : Disable                 GsExpandedExchange : Expanded
GsEscapeFastRetrain : Disable      GsFastRetrain : Disable
GsBitSwap : Enable                 GsNtr : LocalOcs
GsAnnexType : adsl2                GsAlctlUsVer : Unknown
GsUseCustomBin : Disable           GsFullRetrain : Enable
GsPsdMaskType : -                  DmtConfMode : fdmMode
GsExtRsMemory : notpresent         ParamHybridLossTestStart : 0x2
GsParamHybridLossTestEnd : 0x40    GsDmtTrellis : on
GsAdvertisedCapabilities : AnnexA
GslTriggerMode : Disable
Type : fastOnly
GsDnBinUsage : 0xFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
ParametricTestInputFile : -
Data Boost : Enable                Upstream PSD : Standard
Conf PM Mode :
Conf PML0 Time(sec) : 0
Conf PML2 Time(sec) : 0            Conf PML2 ATPR (dB/10) : 0
-----
```

Conf PML2 Rate(bps) : 0x0
MSG Min Ds : 0 Minimum Snr Margin(dB/10) : 0

ADSL ATUR Configuration :

Target Snr Margin(dB/10) : 60 Dnshift SnrMargin(dB/10) : 0
Upshift SnrMargin(dB/10) : 120 Min Upshift Time(sec) : 0
Min Dnshift Time(sec) : 0 Fast Min Tx Rate(bps) : 0x7d00
Intl Min Tx Rate(bps) : 0x7d00 Fast Max Tx Rate(bps) : 0x109a00
Intl Max Tx Rate(bps) : 0x109a00 Max Intl Delay(ms) : 16
MSG Min Us : 0 Minimum Snr Margin(dB/10) : 0

\$modify adsl line intf ifname dsl-0 enable

IfName : dsl-0
Line Type : fastOnly Coding Type : dmt
GsUtopia L2TxAddr : 0 GsUtopia L2RxAddr : 0
Gs Clock Type : oscillator Gs Action : startup
Admin Status : **Down** Oper Status : Down
Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923Readsl2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
apped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : -
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis : trellisOn
Trans Atur Cap : -
PM Conf PMSF : -
Line DELT Conf LDSF : inhibit

Set Done

IfName : dsl-0
Line Type : fastOnly Coding Type : dmt
GsUtopia L2TxAddr : 0 GsUtopia L2RxAddr : 0
Gs Clock Type : oscillator Gs Action : startup
Admin Status : **Up** Oper Status : Down
Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923Readsl2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
apped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : -
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis : trellisOn
Trans Atur Cap : -
PM Conf PMSF : -
Line DELT Conf LDSF : inhibit

\$

Thu Jan 01 23:05:03 1970 : STATUS ALARM : ADSL ATUC Up : Interface - dsl-0

\$

Thu Jan 01 23:05:06 1970 : WARNING : ADSL ATUC Tx Rate Changed : Interface - dsl
-0 : Current - 11397200 : Previous - 11296100

```
$get adsl line profile ifname dsl-0
```

IfName : dsl-0

ADSL ATUC Configuration :

```
Rate Adaptation      : adaptAtStartup
Target Snr Margin(dB/10) : 60          Max Snr Margin(dB/10)   : 310
GsRsIntCorrectionUp    : 125us         Dnshift SnrMargin(dB/10) : 0
Upshift SnrMargin(dB/10) : 120        Min Upshift Time(sec)   : 0
Min Dnshift Time(sec)  : 0            Fast Min Tx Rate(bps)   : 0x9d00
Intl Min Tx Rate(bps)  : 0x8000       Fast Max Tx Rate(bps)   : 0x1f38300
Intl Max Tx Rate(bps)  : 0x110000     Max Intl Delay(ms)      : 0
GsTxStartBin           : 0x6          GsTxEndBin             : 0x1ff
GsRxStartBin           : 0x6          GsRxEndBin             : 0x1f
GsMaxBitsPerBin        : 15           GsMaxDCo               : 256
GsRxBinAdjust          : Disable      GsEraseProfiles        : Disable
GsAdi2x                : standard     GsStandard              : adsl2PlusAuto
GsInitiate             : -            GsTxPowerAtten         : -
GsCodingGain           : Auto          GsRsFastOvrhdDown      : Disable
GsRsIntCorrectionDown  : 1Ms          GsRsFastOvrhdUp        : Disable
GsDrStby               : Disable      GsExpandedExchange     : Expanded
GsEscapeFastRetrain    : Disable      GsFastRetrain          : Disable
GsBitSwap              : Enable        GsNtr                  : LocalOcs
GsAnnexType            : adsl2        GsAlctlUsVer           : Unknown
GsUseCustomBin         : Disable      GsFullRetrain          : Enable
GsPsdMaskType          : -            DmtConfMode            : fdmMode
GsExtRsMemory          : notpresent   ParamHybridLossTestStart : 0x2
GsParamHybridLossTestEnd : 0x40       GsDmtTrellis           : on
GsAdvertisedCapabilities : AnnexA
GslTriggerMode         : Disable
Type                   : fastOnly
GsDnBinUsage           : 0xFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
ParametricTestInputFile : -
Data Boost             : Enable        Upstream PSD           : Standard
Conf PM Mode          :
Conf PML0 Time(sec)   : 0
Conf PML2 Time(sec)   : 0            Conf PML2 ATPR (dB/10) : 0
Conf PML2 Rate(bps)   : 0x0
MSG Min Ds             : 0            Minimum Snr Marqin(dB/10) : 0
```

ADSL ATUR Configuration :

Target Snr Margin(dB/10) : 60	Dnshift SnrMargin(dB/10) : 0
Upshift SnrMargin(dB/10) : 120	Min Upshift Time(sec) : 0
Min Dnshift Time(sec) : 0	Fast Min Tx Rate(bps) : 0x7d00

Intl Min Tx Rate(bps) : 0x7d00 Fast Max Tx Rate(bps) : 0x109a00
Intl Max Tx Rate(bps) : 0x109a00 Max Intl Delay(ms) : 16
MSG Min Us : 0 Minimum Snr Margin(dB/10) : 0

(Step C) Change Max Tx rate on Fastonly mode for ADSL port.

Disable -> Modify -> Enable.

\$modify adsl line intf ifname dsl-0 disable

IfName : dsl-0
Line Type : **fastOnly** Coding Type : dmt
GsUtopia L2TxAddr : 0 GsUtopia L2RxAddr : 0
Gs Clock Type : oscillator Gs Action : startup
Admin Status : **Up** Oper Status : Up
Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923ReadsI2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
apped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : q9923Adsl2PotsNonOverlapped
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis : trellisOn
Trans Atur Cap : q9923ReadsI2PotsNonOverlapped q9925Adsl2PlusPotsNonOverlappedq9925Adsl2PlusPotsOverlapped
q9923Adsl2PotsNonOverlapped
PM Conf PMSF : -
Line DELT Conf LDSF : inhibit

Set Done

Thu Jan 01 23:06:12 1970 : MAJOR ALARM : ADSL ATUC Down : Interface - dsl-0

IfName : dsl-0
Line Type : fastOnly Coding Type : dmt
GsUtopia L2TxAddr : 0 GsUtopia L2RxAddr : 0
Gs Clock Type : oscillator Gs Action : startup
Admin Status : **Down** Oper Status : Down
Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923ReadsI2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
apped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : -
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis : trellisOn
Trans Atur Cap : -
PM Conf PMSF : -
Line DELT Conf LDSF : inhibit

\$modify adsl line profile ifname dsl-0 atucfastmaxtxrate 0x2009a00

ADSL ATUC Configuration :

ADSL ATUR Configuration :

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IfName : dsl-0

ADSL ATUR Configuration :

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MSG Min Us : 0 Minimum Snr Margin(dB/10) : 0

\$modify adsl line intf ifname dsl-0 enable

IfName : dsl-0
Line Type : **fastOnly** Coding Type : dmt
GsUtopia L2TxAddr : 0 GsUtopia L2RxAddr : 0
Gs Clock Type : oscillator Gs Action : startup
Admin Status : **Down** Oper Status : Down
Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923Readsl2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
apped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : -
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis : trellisOn
Trans Atur Cap : -
PM Conf PMSF : -
Line DELT Conf LDSF : inhibit

Set Done

IfName : dsl-0
Line Type : **fastOnly** Coding Type : dmt
GsUtopia L2TxAddr : 0 GsUtopia L2RxAddr : 0
Gs Clock Type : oscillator Gs Action : startup
Admin Status : **Up** Oper Status : Down
Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923Readsl2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
apped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : -
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis : trellisOn
Trans Atur Cap : -
PM Conf PMSF : -
Line DELT Conf LDSF : inhibit

\$

Thu Jan 01 23:13:34 1970 : STATUS ALARM : ADSL ATUC Up : Interface - dsl-0

\$

Thu Jan 01 23:13:38 1970 : WARNING : ADSL ATUC Tx Rate Changed : Interface - dsl

-0 : Current - 795900 : Previous - 11397200

\$get adsl line profile ifname dsl-0

IfName : dsl-0

ADSL ATUC Configuration :

ADSL ATUR Configuration :

(Step D) Change channel type to Interleavedonly mode for ADSL port.

Disable -> Modify -> Enable.

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IfName : dsl-0
Line Type : **fastOnly** Coding Type : dmt
GsUtopia L2TxAddr : 0 GsUtopia L2RxAddr : 0
Gs Clock Type : oscillator Gs Action : startup
Admin Status : **Up** Oper Status : Up
Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923Readsl2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
apped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : q9923Adsl2PotsNonOverlapped
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis : trellisOn
Trans Atur Cap : q9923Readsl2PotsNonOverlapped q9925Adsl2PlusPotsNonOverlappedq9925Adsl2PlusPotsOverlapped
q9923Adsl2PotsNonOverlapped
PM Conf PMSF : -
Line DELT Conf LDSF : inhibit

Set Done

Thu Jan 01 22:13:54 1970 : MAJOR ALARM : ADSL ATUC Down : Interface - dsl-0

IfName : dsl-0
Line Type : **fastOnly** Coding Type : dmt
GsUtopia L2TxAddr : 0 GsUtopia L2RxAddr : 0
Gs Clock Type : oscillator Gs Action : startup
Admin Status : **Down** Oper Status : Down
Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923Readsl2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
apped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : -
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis : trellisOn
Trans Atur Cap : -
PM Conf PMSF : -
Line DELT Conf LDSF : inhibit

\$modify adsl line profile ifname dsl-0 type interleavedonly

IfName : dsl-0

ADSL ATUC Configuration :

```
Rate Adaptation      : adaptAtStartup
Target Snr Margin(dB/10) : 60          Max Snr Margin(dB/10)   : 310
GsRsIntCorrectionUp    : 125us        Dnshift SnrMargin(dB/10) : 0
Upshift SnrMargin(dB/10) : 120        Min Upshift Time(sec)   : 0
Min Dnshift Time(sec)  : 0            Fast Min Tx Rate(bps)   : 0x7d00
Intl Min Tx Rate(bps)  : 0x7d00       Fast Max Tx Rate(bps)   : 0x1f38300
Intl Max Tx Rate(bps)  : 0x1f38300    Max Intl Delay(ms)     : 0
GsTxStartBin           : 0x6          GsTxEndBin             : 0x1ff
GsRxStartBin           : 0x6          GsRxEndBin             : 0x1f
GsMaxBitsPerBin        : 15           GsMaxDCo                : 256
GsRxBinAdjust          : Disable      GsEraseProfiles         : Disable
GsAdi2x                : standard     GsStandard              : adsl2PlusAuto
GsInitiate              : -           GsTxPowerAtten          : -
GsCodingGain           : Auto         GsRsFastOvrhdDown      : Disable
GsRsIntCorrectionDown  : 1Ms          GsRsFastOvrhdUp        : Disable
GsDrStby               : Disable      GsExpandedExchange     : Expanded
GsEscapeFastRetrain    : Disable      GsFastRetrain          : Disable
GsBitSwap              : Enable       GsNtr                  : LocalOcs
GsAnnexType            : adsl2        GsAlctlUsVer           : Unknown
GsUseCustomBin         : Disable      GsFullRetrain          : Enable
GsPsdMaskType          : -           DmtConfMode            : fdmMode
GsExtRsMemory          : notpresent    ParamHybridLossTestStart : 0x2
GsParamHybridLossTestEnd : 0x40       GsDmtTrellis           : on
GsAdvertisedCapabilities : AnnexA
GSITriggerMode         : Disable
Type                   : fastOnly
GsDnBinUsage           : 0xFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
ParametricTestInputFile : -
Data Boost             : Enable        Upstream PSD            : Standard
Conf PM Mode          :
Conf PML0 Time(sec)    : 0
Conf PML2 Time(sec)    : 0            Conf PML2 ATPR (dB/10)  : 0
Conf PML2 Rate(bps)    : 0x0
MSG Min Ds             : 0            Minimum Snr Margin(dB/10) : 0
```

ADSL ATUR Configuration :

Target Snr Margin(dB/10) : 60	Dnshift SnrMargin(dB/10) : 0
Upshift SnrMargin(dB/10) : 120	Min Upshift Time(sec) : 0
Min Dnshift Time(sec) : 0	Fast Min Tx Rate(bps) : 0x7d00
Intl Min Tx Rate(bps) : 0x7d00	Fast Max Tx Rate(bps) : 0x109a00
Intl Max Tx Rate(bps) : 0x109a00	Max Intl Delay(ms) : 16
MSG Min Us : 0	Minimum Snr Margin(dB/10) : 0

Set Done

IfName : dsl-0

=====

Type : interleavedOnly

```
$modify adsl line intf ifname dsl-0 enable
```

IfName : dsl-0
Line Type : **interleavedOnly** Coding Type : dmt
GsUtopia L2TxAddr : 0 GsUtopia L2RxAddr : 0
Gs Clock Type : oscillator Gs Action : startup
Admin Status : **Down** Oper Status : Down
Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923Readsl2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
apped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : -
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis : trellisOn
Trans Atur Cap : -
PM Conf PMSF : -
Line DELT Conf LDSF : inhibit

Set Done

IfName : dsl-0
Line Type : **interleavedOnly** Coding Type : dmt
GsUtopia L2TxAddr : 0 GsUtopia L2RxAddr : 0
Gs Clock Type : oscillator Gs Action : startup
Admin Status : **Up** Oper Status : Down
Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923Readsl2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
apped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : -
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis : trellisOn
Trans Atur Cap : -
PM Conf PMSF : -
Line DELT Conf LDSF : inhibit

(Step E) Change min Tx rate on Interleavedonly mode for ADSL port.
Disable -> Modify -> Enable.
\$modify adsl line intf ifname dsl-0 disable

IfName : dsl-0
Line Type : **interleavedOnly** Coding Type : dmt
GsUtopia L2TxAddr : 0 GsUtopia L2RxAddr : 0

Gs Clock Type : oscillator Gs Action : startup
 Admin Status : **Up** Oper Status : Up
 Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923Readsl2PotsNonOverlapped
 q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverlapped
 apped q9923Adsl2PotsNonOverlapped
 Trans Atuc Actual : q9923Adsl2PotsNonOverlapped
 Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
 GsDmtTrellis : trellisOn
 Trans Atur Cap : q9923Readsl2PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverlapped
 q9923Adsl2PotsNonOverlapped
 PM Conf PMSF : -
 Line DELT Conf LDSF : inhibit

Set Done

Thu Jan 01 22:21:46 1970 : MAJOR ALARM : ADSL ATUC Down : Interface - dsl-0

IfName : dsl-0
 Line Type : **interleavedOnly** Coding Type : dmt
 GsUtopia L2TxAddr : 0 GsUtopia L2RxAddr : 0
 Gs Clock Type : oscillator Gs Action : startup
 Admin Status : **Down** Oper Status : Down
 Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923Readsl2PotsNonOverlapped
 q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverlapped
 apped q9923Adsl2PotsNonOverlapped
 Trans Atuc Actual : -
 Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
 GsDmtTrellis : trellisOn
 Trans Atur Cap : -
 PM Conf PMSF : -
 Line DELT Conf LDSF : inhibit

\$modify adsl line profile ifname dsl-0 atucintlmintxrate 0x8000

IfName : dsl-0

ADSL ATUC Configuration :

 Rate Adaptation : adaptAtStartup
 Target Snr Margin(dB/10) : 60 Max Snr Margin(dB/10) : 310
 GsRsIntCorrectionUp : 125us Dnshift SnrMargin(dB/10) : 0
 Upshift SnrMargin(dB/10) : 120 Min Upshift Time(sec) : 0
 Min Dnshift Time(sec) : 0 Fast Min Tx Rate(bps) : 0x7d00
Intl Min Tx Rate(bps) : 0x7d00 Fast Max Tx Rate(bps) : 0x1f38300
 Intl Max Tx Rate(bps) : 0x1f38300 Max Intl Delay(ms) : 0
 GsTxStartBin : 0x6 GsTxEndBin : 0x1ff
 GsRxStartBin : 0x6 GsRxEndBin : 0x1f
 GsMaxBitsPerBin : 15 GsMaxDCo : 256
 GsRxBinAdjust : Disable GsEraseProfiles : Disable

ADSL ATUR Configuration :

Set Done

ADSL ATUC Configuration :

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```
GsRxStartBin      : 0x6      GsRxEndBin      : 0x1f
GsMaxBitsPerBin   : 15      GsMaxDCo       : 256
GsRxBinAdjust     : Disable  GsEraseProfiles : Disable
GsAdi2x           : standard GsStandard      : adsl2PlusAuto
GsInitiate        : -       GsTxPowerAtten    : -
GsCodingGain      : Auto    GsRsFastOvrhdDown : Disable
GsRsIntCorrectionDown : 1Ms  GsRsFastOvrhdUp   : Disable
GsDrStby          : Disable  GsExpandedExchange : Expanded
GsEscapeFastRetrain : Disable GsFastRetrain     : Disable
GsBitSwap         : Enable   GsNtr          : LocalOcs
GsAnnexType       : adsl2    GsAlctlUsVer    : Unknown
GsUseCustomBin    : Disable  GsFullRetrain   : Enable
GsPsdMaskType     : -       DmtConfMode      : fdmMode
GsExtRsMemory     : notpresent ParamHybridLossTestStart : 0x2
GsParamHybridLossTestEnd : 0x40 GsDmtTrellis   : on
GsAdvertisedCapabilities : AnnexA
GslTriggerMode    : Disable
Type              : interleavedOnly
GsDnBinUsage      : 0xFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
ParametricTestInputFile : -
Data Boost        : Enable   Upstream PSD      : Standard
Conf PM Mode      :
Conf PML0 Time(sec) : 0
Conf PML2 Time(sec) : 0      Conf PML2 ATPR (dB/10) : 0
Conf PML2 Rate(bps) : 0x0
MSG Min Ds        : 0      Minimum Snr Margin(dB/10) : 0
```

ADSL ATUR Configuration :

```
-----
Target Snr Margin(dB/10) : 60      Dnshift SnrMargin(dB/10) : 0
Upshift SnrMargin(dB/10) : 120     Min Upshift Time(sec) : 0
Min Dnshift Time(sec) : 0      Fast Min Tx Rate(bps) : 0x7d00
Intl Min Tx Rate(bps) : 0x7d00    Fast Max Tx Rate(bps) : 0x109a00
Intl Max Tx Rate(bps) : 0x109a00  Max Intl Delay(ms) : 16
MSG Min Us        : 0      Minimum Snr Margin(dB/10) : 0
```

\$modify adsl line intf ifname dsl-0 enable

```
IfName           : dsl-0
Line Type        : interleavedOnly Coding Type : dmt
GsUtopia L2TxAddr : 0      GsUtopia L2RxAddr : 0
Gs Clock Type    : oscillator Gs Action      : startup
Admin Status     : Down    Oper Status     : Down
Trans Atuc Cap   : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923Readsl2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
apped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : -
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis     : trellisOn
```

Trans Atur Cap : -
 PM Conf PMSF : -
 Line DELT Conf LDSF : inhibit

Set Done

IfName : dsl-0
 Line Type : **interleavedOnly** Coding Type : dmt
 GsUtopia L2TxAddr : 0 GsUtopia L2RxAddr : 0
 Gs Clock Type : oscillator Gs Action : startup
 Admin Status : **Up** Oper Status : Down
 Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923Readsl2PotsNonOverlapped
 q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
 apped q9923Adsl2PotsNonOverlapped
 Trans Atuc Actual : -
 Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
 GsDmtTrellis : trellisOn
 Trans Atur Cap : -
 PM Conf PMSF : -
 Line DELT Conf LDSF : inhibit
 \$
 Thu Jan 01 22:28:33 1970 : STATUS ALARM : ADSL ATUC Up : Interface - dsl-0

\$
 Thu Jan 01 22:28:36 1970 : WARNING : ADSL ATUC Tx Rate Changed : Interface - dsl
 -0 : Current - 11385200 : Previous - 11228100

\$get adsl line profile ifname dsl-0

IfName : dsl-0

ADSL ATUC Configuration :

 Rate Adaptation : adaptAtStartup
 Target Snr Margin(dB/10) : 60 Max Snr Margin(dB/10) : 310
 GsRsIntCorrectionUp : 125us Dnshift SnrMargin(dB/10) : 0
 Upshift SnrMargin(dB/10) : 120 Min Upshift Time(sec) : 0
 Min Dnshift Time(sec) : 0 Fast Min Tx Rate(bps) : 0x7d00
Intl Min Tx Rate(bps) : 0x8000 Fast Max Tx Rate(bps) : 0x1f38300
 Intl Max Tx Rate(bps) : 0x1f38300 Max Intl Delay(ms) : 0
 GsTxStartBin : 0x6 GsTxEndBin : 0x1ff
 GsRxStartBin : 0x6 GsRxEndBin : 0x1f
 GsMaxBitsPerBin : 15 GsMaxDCo : 256
 GsRxBinAdjust : Disable GsEraseProfiles : Disable
 GsAdi2x : standard GsStandard : adsl2PlusAuto
 GsInitiate : - GsTxPowerAtten : -
 GsCodingGain : Auto GsRsFastOvrhdDown : Disable
 GsRsIntCorrectionDown : 1Ms GsRsFastOvrhdUp : Disable
 GsDrStby : Disable GsExpandedExchange : Expanded

ADSL ATUR Configuration :

(Step F) Change Max Tx rate on Interleavedonly mode for ADSL port.

Disable -> Modify -> Enable.

```
$modify adsl line intf ifname dsl-0 disable
```

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Set Done

Thu Jan 01 22:29:56 1970 : MAJOR ALARM : ADSL ATUC Down : Interface - dsl-0

```
IfName      : dsl-0
Line Type   : interleavedOnly   Coding Type    : dmt
GsUtopia L2TxAddr : 0          GsUtopia L2RxAddr : 0
Gs Clock Type : oscillator      Gs Action      : startup
Admin Status  : Down           Oper Status    : Down
Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923Readsl2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
apped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : -
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis    : trellisOn
Trans Atur Cap   : -
PM Conf PMSF     : -
Line DELT Conf LDSF : inhibit
$
```

\$modify adsl line profile ifname dsl-0 atucintlmaxtxrate 0x110000

IfName : dsl-0

ADSL ATUC Configuration :

```
-----
Rate Adaptation : adaptAtStartup
Target Snr Margin(dB/10) : 60      Max Snr Margin(dB/10) : 310
GsRsIntCorrectionUp : 125us      Dnshift SnrMargin(dB/10) : 0
Upshift SnrMargin(dB/10) : 120      Min Upshift Time(sec) : 0
Min Dnshift Time(sec) : 0          Fast Min Tx Rate(bps) : 0x7d00
Intl Min Tx Rate(bps) : 0x8000      Fast Max Tx Rate(bps) : 0x1f38300
Intl Max Tx Rate(bps) : 0x1f38300      Max Intl Delay(ms) : 0
GsTxStartBin : 0x6          GsTxEndBin : 0x1ff
GsRxStartBin : 0x6          GsRxEndBin : 0x1f
GsMaxBitsPerBin : 15        GsMaxDCo : 256
GsRxBinAdjust : Disable     GsEraseProfiles : Disable
GsAdi2x : standard         GsStandard : adsl2PlusAuto
GsInitiate : -             GsTxPowerAtten : -
GsCodingGain : Auto         GsRsFastOvrhdDown : Disable
GsRsIntCorrectionDown : 1Ms      GsRsFastOvrhdUp : Disable
GsDrStby : Disable         GsExpandedExchange : Expanded
GsEscapeFastRetrain : Disable    GsFastRetrain : Disable
GsBitSwap : Enable         GsNtr : LocalOcs
GsAnnexType : adsl2         GsAlctlUsVer : Unknown
GsUseCustomBin : Disable     GsFullRetrain : Enable
GsPsdMaskType : -           DmtConfMode : fdmMode
GsExtRsMemory : notpresent    ParamHybridLossTestStart : 0x2
```

ADSL ATUR Configuration :

Set Done

ADSL ATUC Configuration :

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```
GsUseCustomBin      : Disable          GsFullRetrain       : Enable
GsPsdMaskType       : -                DmtConfMode         : fdmMode
GsExtRsMemory        : notpresent      ParamHybridLossTestStart : 0x2
GsParamHybridLossTestEnd : 0x40        GsDmtTrellis        : on
GsAdvertisedCapabilities : AnnexA
GslTriggrerMode     : Disable
Type                 : interleavedOnly
GsDnBinUsage         : 0xFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
ParametricTestInputFile : -
Data Boost           : Enable          Upstream PSD         : Standard
Conf PM Mode         :
Conf PML0 Time(sec)   : 0
Conf PML2 Time(sec)   : 0             Conf PML2 ATPR (dB/10) : 0
Conf PML2 Rate(bps)   : 0x0
MSG Min Ds            : 0             Minimum Snr Marqin(dB/10) : 0
```

ADSL ATUR Configuration :

Target Snr Margin(dB/10) : 60	Dnshift SnrMargin(dB/10) : 0
Upshift SnrMargin(dB/10) : 120	Min Upshift Time(sec) : 0
Min Dnshift Time(sec) : 0	Fast Min Tx Rate(bps) : 0x7d00
Intl Min Tx Rate(bps) : 0x7d00	Fast Max Tx Rate(bps) : 0x109a00
Intl Max Tx Rate(bps) : 0x109a00	Max Intl Delay(ms) : 16
MSG Min Us : 0	Minimum Snr Margin(dB/10) : 0

```
$modify adsl line intf ifname dsl-0 enable
```

```

IfName          : dsl-0
Line Type       : interleavedOnly   Coding Type      : dmt
GsUtopia L2TxAddr : 0              GsUtopia L2RxAddr : 0
Gs Clock Type   : oscillator        Gs Action        : startup
Admin Status    : Down              Oper Status      : Down
Trans Atuc Cap   : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923Readsl2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
apped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : -
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis    : trellisOn
Trans Atur Cap   : -
PM Conf PMSF     : -
Line DELT Conf LDSE : inhibit

```

Set Done

```

IfName          : dsl-0
Line Type       : interleavedOnly   Coding Type    : dmt
GsUtopia L2TxAddr : 0                GsUtopia L2RxAddr : 0

```

Gs Clock Type : oscillator Gs Action : startup
 Admin Status : **Up** Oper Status : Down
 Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923ReadsI2PotsNonOverlapped
 q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
 apped q9923Adsl2PotsNonOverlapped
 Trans Atuc Actual : -
 Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
 GsDmtTrellis : trellisOn
 Trans Atur Cap : -
 PM Conf PMSF : -
 Line DELT Conf LDSF : inhibit
 \$
 Thu Jan 01 22:50:39 1970 : STATUS ALARM : ADSL ATUC Up : Interface - dsl-0
 \$
 Thu Jan 01 22:50:42 1970 : WARNING : ADSL ATUC Tx Rate Changed : Interface - dsl
 -0 : Current - 1083900 : Previous - 11385200

\$get adsl line profile ifname dsl-0

IfName : dsl-0

ADSL ATUC Configuration :

```

-----
Rate Adaptation : adaptAtStartup
Target Snr Margin(dB/10) : 60      Max Snr Margin(dB/10) : 310
GsRsIntCorrectionUp : 125us      Dnshift SnrMargin(dB/10) : 0
Upshift SnrMargin(dB/10) : 120      Min Upshift Time(sec) : 0
Min Dnshift Time(sec) : 0      Fast Min Tx Rate(bps) : 0x7d00
Intl Min Tx Rate(bps) : 0x8000      Fast Max Tx Rate(bps) : 0x1f38300
Intl Max Tx Rate(bps) : 0x110000      Max Intl Delay(ms) : 0
GsTxStartBin : 0x6      GsTxEndBin : 0x1ff
GsRxStartBin : 0x6      GsRxEndBin : 0x1f
GsMaxBitsPerBin : 15      GsMaxDCo : 256
GsRxBinAdjust : Disable      GsEraseProfiles : Disable
GsAdi2x : standard      GsStandard : adsl2PlusAuto
GsInitiate : -      GsTxPowerAtten : -
GsCodingGain : Auto      GsRsFastOvrhdDown : Disable
GsRsIntCorrectionDown : 1Ms      GsRsFastOvrhdUp : Disable
GsDrStby : Disable      GsExpandedExchange : Expanded
GsEscapeFastRetrain : Disable      GsFastRetrain : Disable
GsBitSwap : Enable      GsNtr : LocalOcs
GsAnnexType : adsl2      GsAlctlUsVer : Unknown
GsUseCustomBin : Disable      GsFullRetrain : Enable
GsPsdMaskType : -      DmtConfMode : fdmMode
GsExtRsMemory : notpresent      ParamHybridLossTestStart : 0x2
GsParamHybridLossTestEnd : 0x40      GsDmtTrellis : on
GsAdvertisedCapabilities : AnnexA
GslTriggerMode : Disable
  
```

: interleavedOnly

```
: 0xFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
```

ParametricTestInputFile :-

Data Boost	: Enable	Upstream PSD	: Standard
------------	----------	--------------	------------

Conf PM Mode :

Conf PML0 Time(sec) : 0

Conf PML2 Time(sec) : 0 Conf PML2 ATPR (dB/10) : 0

Conf PML2 Rate(bps) : 0x0

MSG Min Ds : 0 Minimum Snr Margin(dB/10) : 0

ADSL ATUR Configuration :

Target Snr Margin(dB/10) : 60 Dnshift SnrMargin(dB/10) : 0

Upshift SnrMargin(dB/10) : 120 Min Upshift Time(sec) : 0

Min Dnshift Time(sec) : 0 Fast Min Tx Rate(bps) : 0x7d00

Intl Min Tx Rate(bps) : 0x7d00 Fast Max Tx Rate(bps) : 0x109a00

Intl Max Tx Rate(bps) : 0x109a00 Max Intl Delay(ms) : 16

MSG Min Us : 0 Minimum Snr Margin(dB/10) : 0

Test Result

Pass

3.4.6. ADSL Alarm Profile Configuration

Introductions:

This test is to verify the setting of the ADSL alarm profile

Test Cases:

Configure each ADSL port with the following alarm profile field:

1. LOFS
2. LOSS
3. LPRS
4. LOLS
5. ES
6. Fast Upshift Threshold
7. Interleave Upshift Threshold
8. Fast Downshift Threshold
9. Inter Downshift Threshold
10. Initial Fail;Enable/Disable

Acceptance Criteria

1. Alarm profiles can be provisioned independently.
2. Generate various types of events and verify traps are sent

Test Scenario

(Step A) Enable trap function in DUT.

\$modify adsl alarm profile ifname dsl-0 atucoptrapeable true

IfName : dsl-0

ADSL ATUC Configuration :

```
-----
Thresh 15Min Lofs(sec) : 0      Thresh 15Min Loss(sec) : 0
Thresh 15Min Lols(sec) : 0      Thresh 15Min Lprs(sec) : 0
Thresh 15Min Ess(sec) : 0      Thresh Fast Rate Up(bps) : 4000
Thresh Intl Rate Up(bps) : 4000 Thresh Fast Rate Down(bps) : 4000
Thresh Intl Rate Down(bps) : 4000 Init Fail Trap : False
OpStateTrapEnable : False
```

ADSL ATUR Configuration :

Thresh 15Min Lofs(sec) : 0
Thresh 15Min Loss(sec) : 0 Thresh 15Min Lprs(sec) : 0
Thresh 15Min Ess(sec) : 0 Thresh Fast Rate Up(bps) : 0
Thresh Intl Rate Up(bps) : 0 Thresh Fast Rate Down(bps) : 0
Thresh Intl Rate Down(bps) : 0

Set Done

IfName : dsl-0

ADSL ATUC Configuration :

Thresh 15Min Lofs(sec) : 0 Thresh 15Min Loss(sec) : 0
Thresh 15Min Lols(sec) : 0 Thresh 15Min Lprs(sec) : 0
Thresh 15Min Ess(sec) : 0 Thresh Fast Rate Up(bps) : 4000
Thresh Intl Rate Up(bps) : 4000 Thresh Fast Rate Down(bps) : 4000
Thresh Intl Rate Down(bps) : 4000 Init Fail Trap : False
OpStateTrapEnable : **True**

ADSL ATUR Configuration :

Thresh 15Min Lofs(sec) : 0
Thresh 15Min Loss(sec) : 0 Thresh 15Min Lprs(sec) : 0
Thresh 15Min Ess(sec) : 0 Thresh Fast Rate Up(bps) : 0
Thresh Intl Rate Up(bps) : 0 Thresh Fast Rate Down(bps) : 0
Thresh Intl Rate Down(bps) : 0

(Step B) Configure the value of LOFS to be 5.

Disable -> Modify -> Enable

\$modify adsl line intf ifname dsl-0 disable

IfName : dsl-0
Line Type : interleavedOnly Coding Type : dmt
GsUtopia L2TxAddr : 0 GsUtopia L2RxAddr : 0
Gs Clock Type : oscillator Gs Action : startup
Admin Status : **Up** Oper Status : Up
Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923Readsl2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
apped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : q9923Adsl2PotsNonOverlapped
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis : trellisOn
Trans Atur Cap : q9923Readsl2PotsNonOverlapped q9925Adsl2PlusPotsNonOverlappedq9925Adsl2PlusPotsOverlapped
q9923Adsl2PotsNonOverlapped
PM Conf PMSF : -
Line DELT Conf LDSF : inhibit

Set Done

Thu Jan 01 22:29:56 1970 : MAJOR ALARM : ADSL ATUC Down : Interface - dsl-0

IfName : dsl-0
Line Type : interleavedOnly Coding Type : dmt
GsUtopia L2TxAddr : 0 GsUtopia L2RxAddr : 0
Gs Clock Type : oscillator Gs Action : startup
Admin Status : **Down** Oper Status : Down
Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923Readsl2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
apped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : -
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis : trellisOn
Trans Atur Cap : -
PM Conf PMSF : -
Line DELT Conf LDSF : inhibit
\$

\$modify adsl alarm profile ifname dsl-0 atucthresh15minlofs 5

IfName : dsl-0

ADSL ATUC Configuration :

Thresh 15Min Lofs(sec) : 0 Thresh 15Min Loss(sec) : 0
Thresh 15Min Lols(sec) : 0 Thresh 15Min Lprs(sec) : 0
Thresh 15Min Ess(sec) : 0 Thresh Fast Rate Up(bps) : 4000
Thresh Intl Rate Up(bps) : 4000 Thresh Fast Rate Down(bps) : 4000
Thresh Intl Rate Down(bps) : 4000 Init Fail Trap : False
OpStateTrapEnable : True

ADSL ATUR Configuration :

Thresh 15Min Lofs(sec) : 0
Thresh 15Min Loss(sec) : 0 Thresh 15Min Lprs(sec) : 0
Thresh 15Min Ess(sec) : 0 Thresh Fast Rate Up(bps) : 0
Thresh Intl Rate Up(bps) : 0 Thresh Fast Rate Down(bps) : 0
Thresh Intl Rate Down(bps) : 0

Set Done

IfName : dsl-0

ADSL ATUC Configuration :

Thresh 15Min Lofs(sec) : 5 Thresh 15Min Loss(sec) : 0
Thresh 15Min Lols(sec) : 0 Thresh 15Min Lprs(sec) : 0

Thresh 15Min Ess(sec) : 0 Thresh Fast Rate Up(bps) : 4000
Thresh Intl Rate Up(bps) : 4000 Thresh Fast Rate Down(bps) : 4000
Thresh Intl Rate Down(bps) : 4000 Init Fail Trap : False
OpStateTrapEnable : True
ADSL ATUR Configuration :

Thresh 15Min Lofs(sec) : 0
Thresh 15Min Loss(sec) : 0 Thresh 15Min Lprs(sec) : 0
Thresh 15Min Ess(sec) : 0 Thresh Fast Rate Up(bps) : 0
Thresh Intl Rate Up(bps) : 0 Thresh Fast Rate Down(bps) : 0
Thresh Intl Rate Down(bps) : 0

\$modify adsl line intf ifname dsl-0 enable

IfName : dsl-0
Line Type : interleavedOnly Coding Type : dmt
GsUtopia L2TxAddr : 0 GsUtopia L2RxAddr : 0
Gs Clock Type : oscillator Gs Action : startup
Admin Status : **Down** Oper Status : Down
Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923ReadsI2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
apped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : -
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis : trellisOn
Trans Atur Cap : -
PM Conf PMSF : -
Line DELT Conf LDSF : inhibit

Set Done

Thu Jan 01 23:28:18 1970 : WARNING : The OP state of ADSL line dsl-0 has changed
from IDLE to HANDSHAKE

IfName : dsl-0
Line Type : interleavedOnly Coding Type : dmt
GsUtopia L2TxAddr : 0 GsUtopia L2RxAddr : 0
Gs Clock Type : oscillator Gs Action : startup
Admin Status : **Up** Oper Status : Down
Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923ReadsI2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
apped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : -
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis : trellisOn
Trans Atur Cap : -
PM Conf PMSF : -
Line DELT Conf LDSF : inhibit

\$get adsl alarm profile ifname dsl-0

IfName : dsl-0

ADSL ATUC Configuration :

```
-----
Thresh 15Min Lofs(sec) : 5      Thresh 15Min Loss(sec) : 0
Thresh 15Min Lols(sec) : 0      Thresh 15Min Lprs(sec) : 0
Thresh 15Min Ess(sec) : 0       Thresh Fast Rate Up(bps) : 4000
Thresh Intl Rate Up(bps) : 4000 Thresh Fast Rate Down(bps) : 4000
Thresh Intl Rate Down(bps) : 4000 Init Fail Trap : False
OpStateTrapEnable : True
```

ADSL ATUR Configuration :

```
-----
Thresh 15Min Lofs(sec) : 0
Thresh 15Min Loss(sec) : 0      Thresh 15Min Lprs(sec) : 0
Thresh 15Min Ess(sec) : 0       Thresh Fast Rate Up(bps) : 0
Thresh Intl Rate Up(bps) : 0     Thresh Fast Rate Down(bps) : 0
Thresh Intl Rate Down(bps) : 0
```

(Step C) See a trap message to be prompted in terminal screen.

<LOFS trap>

\$

Fri Jan 02 00:18:42 1970 : MAJOR ALARM : ADSL ATUC Loss of Frame 15-Minute Thres
hold hit : Interface - dsl-0 : Current - 5 : Threshold - 5

<Init Fail Trap>

\$modify adsl line intf ifname dsl-0 disable

```
IfName : dsl-0
Line Type : fastOnly      Coding Type : dmt
GsUtopia L2TxAddr : 0      GsUtopia L2RxAddr : 0
Gs Clock Type : oscillator Gs Action : startup
Admin Status : Up         Oper Status : Up
Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923ReadsI2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
apped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : q9923Adsl2PotsNonOverlapped
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis : trellisOn
Trans Atur Cap : q9923ReadsI2PotsNonOverlapped q9925Adsl2PlusPotsNonOverlappedq9925Adsl2PlusPotsOverlapped
q9923Adsl2PotsNonOverlapped
PM Conf PMSF : -
Line DELT Conf LDSF : inhibit
```

Set Done

Thu Jan 01 23:16:00 1970 : MAJOR ALARM : ADSL ATUC Down : Interface - dsl-0

IfName : dsl-0
Line Type : fastOnly Coding Type : dmt
GsUtopia L2TxAddr : 0 GsUtopia L2RxAddr : 0
Gs Clock Type : oscillator Gs Action : startup
Admin Status : **Down** Oper Status : Down
Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923Readsl2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverlapped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : -
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis : trellisOn
Trans Atur Cap : -
PM Conf PMSF : -
Line DELT Conf LDSF : inhibit

\$modify adsl alarm profile ifname dsl-0 atucinitfailtrap true

IfName : dsl-0

ADSL ATUC Configuration :

Thresh 15Min Lofs(sec) : 5 Thresh 15Min Loss(sec) : 0
Thresh 15Min Lols(sec) : 0 Thresh 15Min Lprs(sec) : 0
Thresh 15Min Ess(sec) : 0 Thresh Fast Rate Up(bps) : 4000
Thresh Intl Rate Up(bps) : 4000 Thresh Fast Rate Down(bps) : 4000
Thresh Intl Rate Down(bps) : 4000 **Init Fail Trap : False**
OpStateTrapEnable : True

ADSL ATUR Configuration :

Thresh 15Min Lofs(sec) : 0
Thresh 15Min Loss(sec) : 0 Thresh 15Min Lprs(sec) : 0
Thresh 15Min Ess(sec) : 0 Thresh Fast Rate Up(bps) : 0
Thresh Intl Rate Up(bps) : 0 Thresh Fast Rate Down(bps) : 0
Thresh Intl Rate Down(bps) : 0

Set Done

IfName : dsl-0

ADSL ATUC Configuration :

Thresh 15Min Lofs(sec) : 5 Thresh 15Min Loss(sec) : 0
Thresh 15Min Lols(sec) : 0 Thresh 15Min Lprs(sec) : 0

Thresh 15Min Ess(sec) : 0 Thresh Fast Rate Up(bps) : 4000
Thresh Intl Rate Up(bps) : 4000 Thresh Fast Rate Down(bps) : 4000
Thresh Intl Rate Down(bps) : 4000 **Init Fail Trap : True**
OpStateTrapEnable : True
ADSL ATUR Configuration :

Thresh 15Min Lofs(sec) : 0
Thresh 15Min Loss(sec) : 0 Thresh 15Min Lprs(sec) : 0
Thresh 15Min Ess(sec) : 0 Thresh Fast Rate Up(bps) : 0
Thresh Intl Rate Up(bps) : 0 Thresh Fast Rate Down(bps) : 0
Thresh Intl Rate Down(bps) : 0

\$modify adsl line intf ifname dsl-0 enable

IfName : dsl-0
Line Type : interleavedOnly Coding Type : dmt
GsUtopia L2TxAddr : 0 GsUtopia L2RxAddr : 0
Gs Clock Type : oscillator Gs Action : startup
Admin Status : Down Oper Status : Down
Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923ReadsI2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
apped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : -
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis : trellisOn
Trans Atur Cap : -
PM Conf PMSF : -
Line DELT Conf LDSF : inhibit

Set Done

Thu Jan 01 23:36:58 1970 : WARNING : The OP state of ADSL line dsl-0 has changed
from IDLE to HANDSHAKE

IfName : dsl-0
Line Type : interleavedOnly Coding Type : dmt
GsUtopia L2TxAddr : 0 GsUtopia L2RxAddr : 0
Gs Clock Type : oscillator Gs Action : startup
Admin Status : Up Oper Status : Down
Trans Atuc Cap : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9923ReadsI2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverl
apped q9923Adsl2PotsNonOverlapped
Trans Atuc Actual : -
Trans Atuc Config : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped q9923Adsl2PotsNonOverlapped
GsDmtTrellis : trellisOn
Trans Atur Cap : -
PM Conf PMSF : -
Line DELT Conf LDSF : inhibit

\$get adsl alarm profile ifname dsl-0

IfName : dsl-0

ADSL ATUC Configuration :

Thresh 15Min Lofs(sec) : 5 Thresh 15Min Loss(sec) : 0
Thresh 15Min Lols(sec) : 0 Thresh 15Min Lprs(sec) : 0
Thresh 15Min Ess(sec) : 0 Thresh Fast Rate Up(bps) : 4000
Thresh Intl Rate Up(bps) : 4000 Thresh Fast Rate Down(bps) : 4000
Thresh Intl Rate Down(bps) : 4000 **Init Fail Trap : True**
OpStateTrapEnable : True

ADSL ATUR Configuration :

Thresh 15Min Lofs(sec) : 0
Thresh 15Min Loss(sec) : 0 Thresh 15Min Lprs(sec) : 0
Thresh 15Min Ess(sec) : 0 Thresh Fast Rate Up(bps) : 0
Thresh Intl Rate Up(bps) : 0 Thresh Fast Rate Down(bps) : 0
Thresh Intl Rate Down(bps) : 0

(when ADSL port link down)

\$

Fri Jan 02 00:08:02 1970 : MAJOR ALARM : ADSL ATUC Init Fail : Interface - dsl-0
: Cause -Protocol Init Failure

Test Result

Pass

3.5. Fault Management

3.5.1. LEDs Checking

Introductions:

There are indicator LEDs for power, alarm, and line status.

All LEDs should work properly for certain defined situations.

Environment Setup and Equipment:

Pass/Fail	Label	Description
	PWR	When this light is ON, the DUT is receiving power.
	ALM	Need to defined
	Ethernet LINK	When this light is ON, link has been established on Enet port.
	Ethernet ACT	When the light is blinking, indicates that the LAN port is transmitting or receiving data.
	1 ~ 24	Blinking: ADSL port is training On : showtime Off : idle/handshake

Test Scenario

(Step A) PWR

=> Do the procedure of power on/off, we can see the light to be on/off.

(Step B) ALM

=> Under being defined.

(Step C) Ethernet LINK

=> When we link up/down the Ethernet port, we can see the light to be on/off.

(Step D) Ethernet ACT

=> When we link up the Ethernet port, we can see the light to be blinking if some packets are transmitted or receiving from this port.

(Step E) 1~24

Off – when this port is link down.

On – when this port is link up and on showtime status.

Blinking – when this port is under training status.

Test Result

Pass

3.5.2. Alarm Report

Introductions:

This test is to verify alarm reporting of the DUT.

Test Cases:

1. Display current alarm list and verify all alarms are shown in the list.
2. Alarm History.

Acceptance Criteria

Alarm list and LED behave consistently

Test Scenario

=> This part will be tested on the integration testing with EMS .

Test Result

Pass.

3.6. ADSL PM (Performance Management)

Introductions:

This test is to verify the performance monitoring function of ADSL line

Test Cases:

Reset all PM records

Generate LOS,LOF,LOS,LPR and verify all events are faithfully recorded in the PM records

Acceptance Criteria

All 96 15-min records and 7 24-record are properly maintained for each ADSL port.

Test Scenario

=> This part will be tested on the integration testing with EMS .

Test Result

Pass.

4. Interoperability/Compatibility

4.1. ADSL Interoperability

Introduction:

This test is to verify the DUT is interoperable with various ATU-R using different ADSL chip sets.

Environment Setup:

The test environment is same as Figure 3.

Test Cases:

1. A full (0-18kft) rate-reach test should be applied to each port with following ATU-Rs in G.DMT, ADSL2/2+ , RE-ADSL2mode.
 - a. Conexant
 - b. Broadcom
 - c. Infineon
 - d. TI
 - e. ADI
 - f. Trend Chip
2. Test run as following matrix. DUT need to be checked the actual training mode for all test cases.

Acceptance Criteria

1. DUT should train for corresponding ATU-R mode successfully.

Test Result

Pass.

4.2. Ethernet Adapter Compatibility

Introductions:

Determined the compatibility of the DUT connect to different vendor of Ethernet adapter.

Environment Setup:

The test environment is same as Figure 7

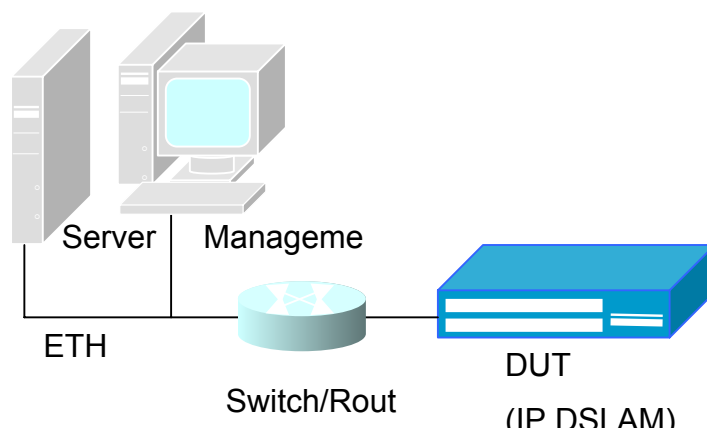


Figure 7

Tests Cases

Connect DUT to the various Ethernet adapters, and check the basic function.

1. Various of ethernet switch/hub/host

Acceptance Criteria

Ping valid size between following condition should be properly:

1. DUT to Server

Test Result

Pass

5. ADSL Maximum Reach

Purpose:

The test verifies each ADSL port can provide an acceptable transmission performance in different loop condition with both single load (one ATU-R) and full load (24 ATU-R).

Setup and Equipment:

DUT

Management Host (Desktop PC or Notebook)

Wireline Simulator: DLS TestWorks DLS400N ADSL wireline simulator 2 sets, (the No. #2 DLS400N should set to 400' Bridge Tap for White & Metallic test case.)

ATU-R: 1 set for single load

24 sets for full load

Refer to Figure 8 for single load and Figure 9 for full load test setup.

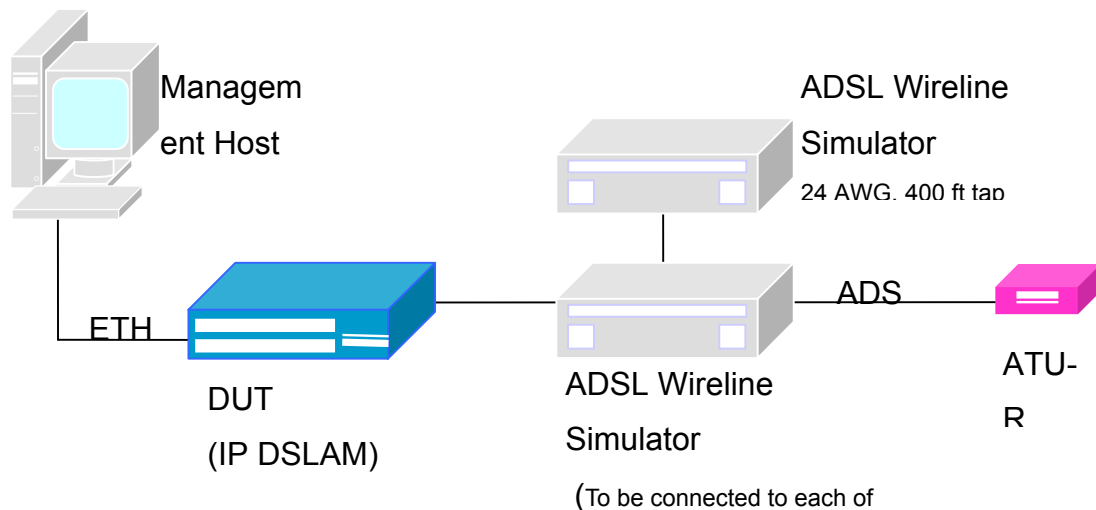


Figure 8 Single load ADSL PHY Performance Test Setup

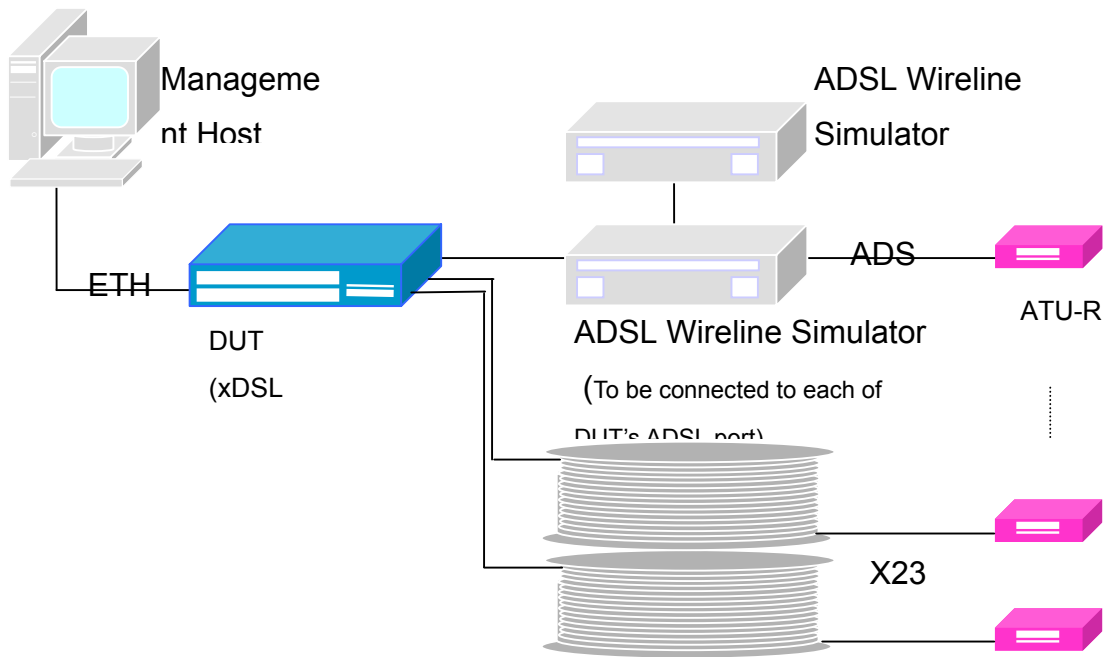


Figure 9 Full Load ADSL PHY Performance Test Setup

Test cases:

For single load (to be connected to each ADSL port of DUT) and full load:

1. Loop type and impairment as specified.

Acceptance criteria:

1. For each port , ATU-C and ATU-R must meet minimum data rate in both test case.

Test Loop	Disturber Type/Noise	Min. Data Rate (kbit/s)		Latency Path	Acutal Data Rate (kbit/s)	
		Downstream	Upstream		Downstream	Upstream
Null Loop	-140 dBm/Hz AWGN	16000	800	Interleaved		
6kft 26 AWG	-140 dBm/Hz AWGN	16000	800	Interleaved		
17kft 26 AWG	-140 dBm/Hz AWGN	832	448	Interleaved		
CSA #4	-140 dBm/Hz AWGN	8000	800	Fast		
CSA #4	24 HDSL	6464	512	Fast		
CSA #4	5 T1	2208	800	Fast		
CSA #4	24 DSL (ISDN)	7584	736	Fast		
T1.601	-140 dBm/Hz AWGN	3008	704	Fast		
T1.601	24 HDSL	1312	64	Fast		
T1.601	24 DSL (ISDN)	2432	288	Fast		
1.4km Loop#1	G1.FD+G2.FD+ G4	6144	640	Interleaved		
3.6km Loop#1	G1.FD+G2.FD+ G4	2048	512	Interleaved		
4.2km Loop#1	-140 dBm/Hz AWGN	1024	512	Interleaved		

Test Result

Pass.

Test Loop	Disturber Type/Noise	Min. Data Rate (kbit/s)		Latency Path	Acutal Data Rate (kbit/s)	
		Downstream	Upstream		Downstream	Upstream
Null Loop	-140 dBm/Hz AWGN	16000	800	Interleaved	22417	1006
6kft 26 AWG	-140 dBm/Hz AWGN	16000	800	Interleaved	16147	1006
14kft 26 AWG	-140 dBm/Hz AWGN	2336	704	Interleaved	2336	704
17kft 26 AWG	-140 dBm/Hz AWGN	832	448	Interleaved	974	633
CSA #4	-140 dBm/Hz AWGN	8000	800	Fast	8649	1006
	24 HDSL	6464	512	Fast	6855	700
	5 T1	2208	800	Fast	2297	987

	24 DSL (ISDN)	7584	736	Fast	8207	1006
T1.601	-140 dBm/Hz AWGN	3008	704	Fast	3104	848
	24 HDSL	1312	64	Fast	1544	188
	24 DSL (ISDN)	2432	288	Fast	2464	444
1.4km Loop#1	G1.FD+G2.FD+ G4	6144	640	Interleaved	11376	1006
3.6km Loop#1	G1.FD+G2.FD+ G4	2048	512	Interleaved	3887	1006
4.2km Loop#1	-140 dBm/Hz AWGN	1024	512	Interleaved	3285	981

6. Robustness

6.1. ADSL PHY Stability

Introductions:

Verify the DUT can stay link to the 24 ATU-Rs for at least 3 days under various selected loop conditions.

Environment Setup:

Refer to Figure 9 for test setup

Test case:

1. set loop condition as following condition continuously for 3 days
 - bypass to 18kft, 1kft step
 - ANSI #7 with Xtalk
 - ANSI #13 with Xtalk
 - CSA #4 with Xtalk

Acceptance Criteria:

1. For each loop condition, each ADSL port of the DUT should stay in data mode with ATU-R for at least 3 days.

Test Result

Pass

6.2. Bridging Stability

Introductions:

This test is to determine the DUT's ability of bridging stability.

Environment Setup:

The test setup is same as Figure 3.

Test case:

For each ADSL port, transfer bridging traffic to and from 24 different bridged PVCs with various type (unicast, broadcast) and MAC addresses.

Test duration: 3 day

Frame size: 1024 bytes

Total upstream data rate: 512 kbps

Total downstream data rate: 20 Mbps

Uni-direction and bi-direction tests need to be run for all test cases.

Acceptance Criteria:

No packets should be found lost.

Test Result

Pass.

7. Summary

Functionality

ATM Layer	Multiple ATU-R	Pass
	Multiple PVC Per ATU-R	Pass
	VPI/VCI Range	Pass
	AAL5 Encapsulation	Pass
	F5 OAM test	Pass
Bridging Test	MAC Address Table Timeouts	Pass
	MAC Address Learning	Pass
	IGMP Snooping	Pass
Firmware Upgrade	-	Pass
Configuration Management	Factory Default Configuration	Pass
	CLI Management	Pass
	SNMP MIB	Pass
	System Level Configuration	Pass
	ADSL Configuration Profile Configuration	Pass
	ADSL Alarm Profile Configuration	Pass
Fault Management	LEDs Checking	Pass
	Alarm Report	Pass
ADSL PM	-	Pass

Others

Interoperability/Compatibility	ADSL Interoperability	Pass
	Ethernet Adapter Compatibility	Pass
ADSL Maximum Reach	Loop and reach	Pass
Robustness	ADSL PHY Stability	Pass
	Bridging Stability	Pass

Part II

ADSL2+ IPDSLAM Configuration for Tender Type Approval

Revision 1.1

by Rafter Lin
March 22, 2005

Preface

This document describes the ADSL2+ IPDSLAM configuration for CHT Type Approval Testing. Following the procedures described in this document, the tester is assumed to be able to complete the testing easily.

All information here are used internally and confidentially.

Scope

This document contains only the configuration about CO side IPDSLAM. Others like CPE, testing equipment configuration, testing environment and specification explanation are out of the scope.

Preparation

The tester shall be familiar with ADSL2+ IPDSLAM manipulation via CLI and EMS, testing equipment (such as SmartBit, Loop Simulator, Noise Generator, and so on), CPE and the testing environment. The tester shall also have the knowledge about DSLAM, DSL loop, switching and networking.

Reference

CHT Type Approval Specification
IPDSLAM CLI Manual
IPDSLAM EMS Manual

Revision	Date	Description
1.0	Mar 21, 2005	Initial release
1.1	Mar 22, 2005	<i>Case 4.1.6, add the second VCC</i> Case 4.1.7, add SmartBit Setting

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Case 4.1.1: Multiple VCCs

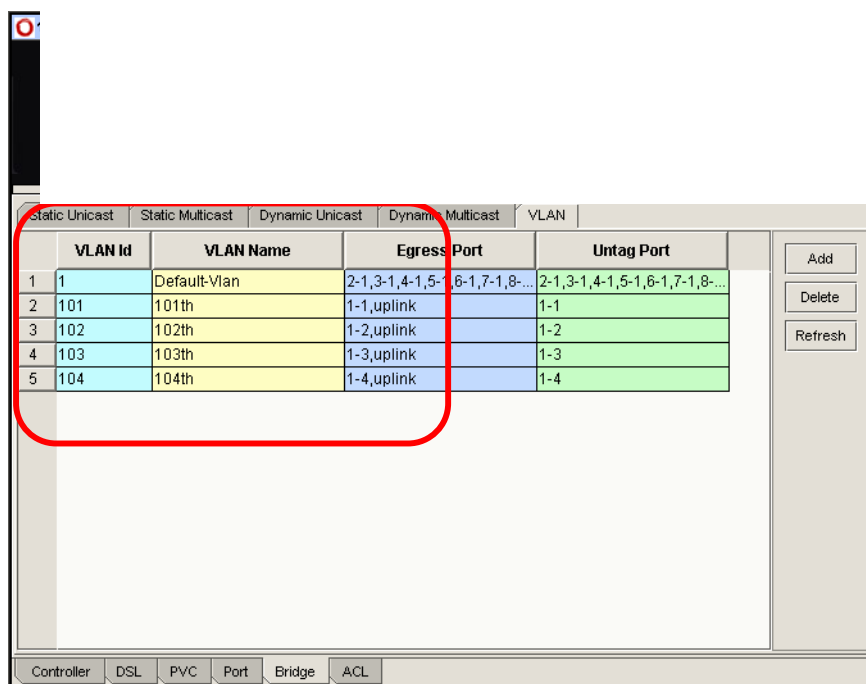
Purpose:

To verify if the DSLAM and ATU-R can support 4 VCCs simultaneously.

Configuration:

Port	VPCI	VLAN ID
1	0/33	101
1	0/34	102
1	0/35	103
1	0/36	104

HowTo:



	Port	PVC	VPI	VCI	BEC2684 Bridge Mode	Channel	VLAN
1	01	01	0	33	IlcMux	Interleaved	101th (101)
2	01	02	0	34	IlcMux	Interleaved	102th (102)
3	01	03	0	35	IlcMux	Interleaved	103th (103)
4	01	04	0	36	IlcMux	Interleaved	104th (104)
5	02	01	8	35	IlcMux	Interleaved	Default-Vlan (
6	03	01	8	35	IlcMux	Interleaved	Default-Vlan (
7	04	01	8	35	IlcMux	Interleaved	Default-Vlan (
8	05	01	8	35	IlcMux	Interleaved	Default-Vlan (
9	06	01	8	35	IlcMux	Interleaved	Default-Vlan (
10	07	01	8	35	IlcMux	Interleaved	Default-Vlan (
11	08	01	8	35	IlcMux	Interleaved	Default-Vlan (
12	09	01	8	35	IlcMux	Interleaved	Default-Vlan (
13	10	01	8	35	IlcMux	Interleaved	Default-Vlan (
14	11	01	8	35	IlcMux	Interleaved	Default-Vlan (
15	12	01	8	35	IlcMux	Interleaved	Default-Vlan (

Verification:

US/DS test streams (100K/1.5Mbps, 1500Bytes IP packet for each VCC) and lasts for 1 minute. Packets are received by Testers without packet loss and error for downstream and upstream.

2 Case 4.1.2: DS Priority

Purpose:

To verify if the DSLAM can support DS priority function.

Configuration:

The ADSL actual US/DS net data rate = 1M/6Mbps.

Port	VPCI	VLAN ID	802.1p	DN QoS
1	0/33	101	1	Low (0)
1	0/34	102	2	Medium (1)
1	0/35	103	3	High (2)

HowTo:



	Configuration	Current Value	Setting Value
1	Type	interleavedOnly	interleavedOnly
2	Atuc Target Snr Margin(dB/10)	60	60
3	Atuc Max Snr Margin(dB/10)	310	310
4	Atuc Min Snr Margin(dB/10)	8	8
5	Atuc Intl Max Tx Rate(bps)	6000000	6000000
6	Atuc Intl Min Tx Rate(bps)	32000	32000
7	Atuc Max Intl Delay(ms)	63	63
8	Atuc Fast Max Tx Rate(bps)	32730000	32730000
9	Atuc Fast Min Tx Rate(bps)	32000	32000
10	Atur Target Snr Margin(dB/10)	60	60
11	Atur Min Snr Margin(dB/10)	310	310
12	Atur Intl Max Tx Rate(bps)	1088000	1088000
13	Atur Intl Min Tx Rate(bps)	32000	32000
14	Atur Max Intl Delay(ms)	16	16

Static Unicast		Static Multicast		Dynamic Unicast		Dynamic Multicast		VLAN	
	VLAN Id	VLAN Name	Egress Port		Untag Port				
1	1	Default-Vlan	2-1,3-1,4-1,5-1,6-1,7-1,8-...		2-1,3-1,4-1,5-1,6-1,7-1,8-...				
2	101	101th	1-1,uplink		1-1				
3	102	102th	1-2,uplink		1-2				
4	103	103th	1-3,uplink		1-3				

Add

Delete

Refresh

Controller

DSL

PVC

Port

Bridge

ACL

	Port	PVC	VPI	VCI	RFC2...	Chan...	VLAN	IGMP Sn...	802.1P						
1	01	01	0	33	IlcMux	Interle...	101th (101)	fastNormal	1						
2	01	02	0	34	IlcMux	Interle...	102th (102)	fastNormal	2						
3	01	03	0	35	IlcMux	Interle...	103th (103)	fastNormal	3						
4	02	01	8	35	IlcMux	Interle...	Default-Vlan (...	fastNormal	0						
5	03	01	8	35	IlcMux	Interle...	Default-Vlan (...	fastNormal	0						
6	04	01	8	35	IlcMux	Interle...	Default-Vlan (...	fastNormal	0						
7	05	01	8	35	IlcMux	Interle...	Default-Vlan (...	fastNormal	0						
8	06	01	8	35	IlcMux	Interle...	Default-Vlan (...	fastNormal	0						
9	07	01	8	35	IlcMux	Interle...	Default-Vlan (...	fastNormal	0						
10	08	01	8	35	IlcMux	Interle...	Default-Vlan (...	fastNormal	0						
11	09	01	8	35	IlcMux	Interle...	Default-Vlan (...	fastNormal	0						
12	10	01	8	35	IlcMux	Interle...	Default-Vlan (...	fastNormal	0						
13	11	01	8	35	IlcMux	Interle...	Default-Vlan (...	fastNormal	0						
14	12	01	8	35	IlcMux	Interle...	Default-Vlan (...	fastNormal	0						
15	13	01	8	35	IlcMux	Interle...	Default-Vlan (...	fastNormal	0						
16	14	01	8	35	IlcMux	Interle...	Default-Vlan (...	fastNormal	0						

Traffic Class Setting

Port Information

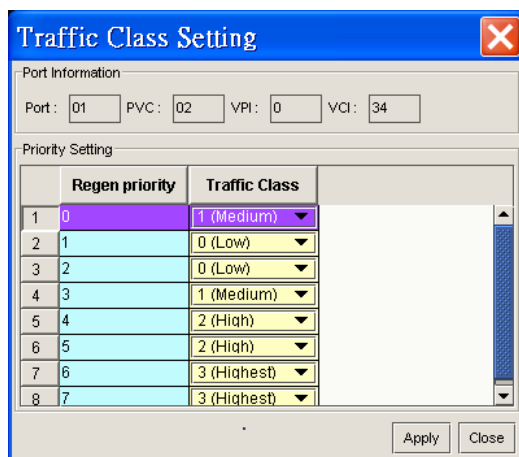
Port : 01
PVC : 01
VPI : 0
VCI : 33

Priority Setting

	Regen priority	Traffic Class
1	0	0 (Low)
2	1	0 (Low)
3	2	0 (Low)
4	3	1 (Medium)
5	4	2 (High)
6	5	2 (High)
7	6	3 (Highest)
8	7	3 (Highest)

Apply

Close



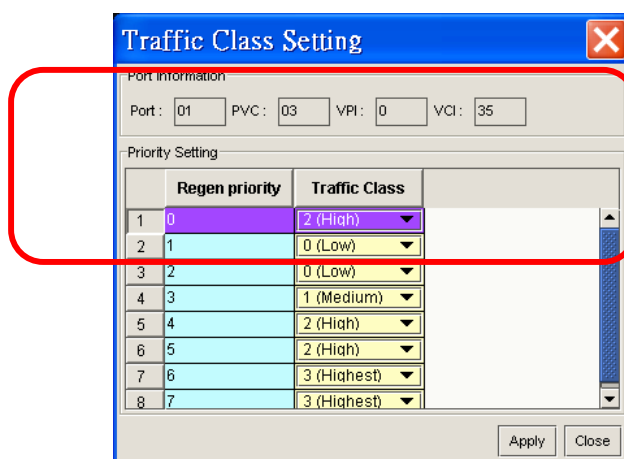
Traffic Class Setting

Port Information
 Port: 01 PVC: 02 VPI: 0 VCI: 34

Priority Setting

	Regen priority	Traffic Class
1	0	1 (Medium)
2	1	0 (Low)
3	2	0 (Low)
4	3	1 (Medium)
5	4	2 (High)
6	5	2 (High)
7	6	3 (Highest)
8	7	3 (Highest)

Apply Close



Traffic Class Setting

Port Information
 Port: 01 PVC: 03 VPI: 0 VCI: 35

Priority Setting

	Regen priority	Traffic Class
1	0	2 (High)
2	1	0 (Low)
3	2	0 (Low)
4	3	1 (Medium)
5	4	2 (High)
6	5	2 (High)
7	6	3 (Highest)
8	7	3 (Highest)

Apply Close

Verification:

US/DS test streams (100K/4Mbps, 1500Bytes IP packet for each VCC) and lasts for 1 minute. DS traffic of VCC 3 is delivered without packet loss and error, and the number of discarded packets of VCC 1 is more than that of VCC 2.

The packets of US traffic should be tagged with correctly VLAN IDs and user priority values.

3 Case 4.1.3: OAM_F5_LB

Purpose:

To verify if the DSLAM and ATU-R can support OAM F5 loopback function.

Configuration:

Port	VPCI	CPE
1	0/33	0/33
1	0/100	None

HowTo:



Verification:

The replied OAM F5 End-to-End loopback cells should be received by DSLAM.

4 Case 4.1.4: PPPoE

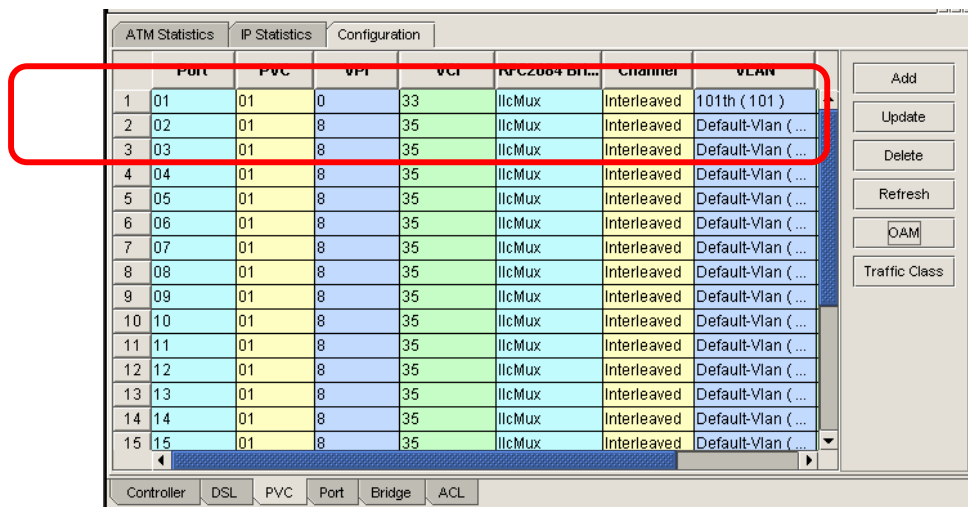
Purpose:

To verify if the DSLAM can support PPPoE packet forwarding function and the ATU-R can support PPPoE function.

Configuration:

Port	VPCI	VLAN ID
1	0/33	101

HowTo:



	Port	PVC	VPI	VCI	RFC2684 Brl...	Channel	VLAN
1	01	01	0	33	IlcMux	Interleaved	101th (101)
2	02	01	8	35	IlcMux	Interleaved	Default-Vlan (...)
3	03	01	8	35	IlcMux	Interleaved	Default-Vlan (...)
4	04	01	8	35	IlcMux	Interleaved	Default-Vlan (...)
5	05	01	8	35	IlcMux	Interleaved	Default-Vlan (...)
6	06	01	8	35	IlcMux	Interleaved	Default-Vlan (...)
7	07	01	8	35	IlcMux	Interleaved	Default-Vlan (...)
8	08	01	8	35	IlcMux	Interleaved	Default-Vlan (...)
9	09	01	8	35	IlcMux	Interleaved	Default-Vlan (...)
10	10	01	8	35	IlcMux	Interleaved	Default-Vlan (...)
11	11	01	8	35	IlcMux	Interleaved	Default-Vlan (...)
12	12	01	8	35	IlcMux	Interleaved	Default-Vlan (...)
13	13	01	8	35	IlcMux	Interleaved	Default-Vlan (...)
14	14	01	8	35	IlcMux	Interleaved	Default-Vlan (...)
15	15	01	8	35	IlcMux	Interleaved	Default-Vlan (...)

Verification:

CPE functionalities.

5 Case 4.1.5: VLAN bridge

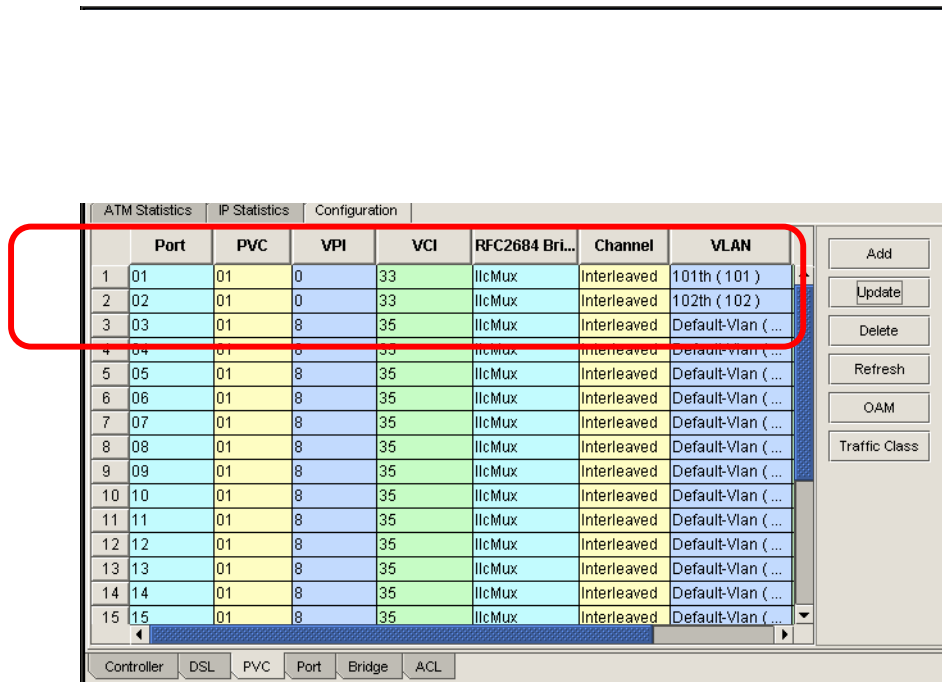
Purpose:

To verify if the DSLAM can support VLAN bridge and port isolation function.

Configuration:

Port	VPCI	VLAN ID
1	0/33	101
2	0/33	102

HowTo:



Verification:

US test streams (100Kbps, 1500Bytes IP packet for each US VCC) and DS test streams (1.5Mbps, 1500Bytes IP packet for each DS VCC) and lasts for 1 minute. Packets are received by Testers without packet loss and error for downstream and upstream. Tester1 and Tester2 do not receive the test streams generated from each other.

6 Case 4.1.6: Multicast_1

Purpose:

To verify if the DSLAM can support IGMP (server, snooping, or proxy) function.

Configuration:

Port	VPCI	VLAN ID
1	0/33	100
2	0/33	100

HowTo:

ATM Statistics

IP Statistics

Configuration

	Port	PVC	VPI	VCI	IFC2684 Bridge Mode	Channel	VLAN
1	01	01	0	33	IlcMux	Interleaved	100th (100)
2	02	01	0	33	IlcMux	Interleaved	100th (100)
3	03	01	8	35	IlcMux	Interleaved	Default-Vlan (
4	04	01	8	35	IlcMux	Interleaved	Default-Vlan (
5	05	01	8	35	IlcMux	Interleaved	Default-Vlan (
6	06	01	8	35	IlcMux	Interleaved	Default-Vlan (
7	07	01	8	35	IlcMux	Interleaved	Default-Vlan (
8	08	01	8	35	IlcMux	Interleaved	Default-Vlan (
9	09	01	8	35	IlcMux	Interleaved	Default-Vlan (
10	10	01	8	35	IlcMux	Interleaved	Default-Vlan (
11	11	01	8	35	IlcMux	Interleaved	Default-Vlan (
12	12	01	8	35	IlcMux	Interleaved	Default-Vlan (
13	13	01	8	35	IlcMux	Interleaved	Default-Vlan (
14	14	01	8	35	IlcMux	Interleaved	Default-Vlan (
15	15	01	8	35	IlcMux	Interleaved	Default-Vlan (

Add

Update

Delete

Refresh

OAM

Traffic Class

Controller

DSL

PVC

Port

Bridge

ACL

Verification:

As spec.

7 Case 4.1.7: Multicast_2

Purpose:

To verify if the DSLAM can support 6 multicast groups and 10 copies for each multicast group simultaneously.

Configuration:

Port	VPCI	VLAN ID
1	0/33	100
2	0/33	100
3	0/33	100
4	0/33	100
5	0/33	100
6	0/33	100
7	0/33	100
8	0/33	100
9	0/33	100
10	0/33	100
11	0/33	100
12	0/33	100
13	0/33	100
14	0/33	100
15	0/33	100
16	0/33	100
17	0/33	100
18	0/33	100
19	0/33	100
20	0/33	100

HowTo:

Skip.

Verification:

As spec. Tester1 should receive 6 multicast groups traffic without packet loss and error.

Comment:

Configuration sample for SmartBit..

You can ignore VIDs here if your SmartBit supports more than 20

Item(s)	Port(s)/Module(s)	State	Group Membership	Version	VLAN	pri	cfi	vid	IP Source	MAC Source	Filter M	End IP Source	Step IP Source	Variable
1	3A-01 LAN-3300A	Member	234.005.006.001	2	0	0	0	101	198.019.001.002	00:00:00:00:00:01				
2	3A-01 LAN-3300A	Member	234.005.006.002	2	0	0	0	101	198.019.001.002	00:00:00:00:00:01				
3	3A-01 LAN-3300A	Member	234.005.006.003	2	0	0	0	101	198.019.001.002	00:00:00:00:00:01				
4	3A-01 LAN-3300A	Member	234.005.006.001	2	0	0	0	102	198.019.001.002	00:00:00:00:00:02				
5	3A-01 LAN-3300A	Member	234.005.006.002	2	0	0	0	102	198.019.001.002	00:00:00:00:00:02				
6	3A-01 LAN-3300A	Member	234.005.006.003	2	0	0	0	102	198.019.001.002	00:00:00:00:00:02				
7	3A-01 LAN-3300A	Member	234.005.006.001	2	0	0	0	103	198.019.001.002	00:00:00:00:00:03				
8	3A-01 LAN-3300A	Member	234.005.006.002	2	0	0	0	103	198.019.001.002	00:00:00:00:00:03				
9	3A-01 LAN-3300A	Member	234.005.006.003	2	0	0	0	103	198.019.001.002	00:00:00:00:00:03				
10	3A-01 LAN-3300A	Member	234.005.006.001	2	0	0	0	104	198.019.001.002	00:00:00:00:00:04				
11	3A-01 LAN-3300A	Member	234.005.006.002	2	0	0	0	104	198.019.001.002	00:00:00:00:00:04				
12	3A-01 LAN-3300A	Member	234.005.006.003	2	0	0	0	104	198.019.001.002	00:00:00:00:00:04				
13	3A-01 LAN-3300A	Member	234.005.006.001	2	0	0	0	105	198.019.001.002	00:00:00:00:00:05				
14	3A-01 LAN-3300A	Member	234.005.006.002	2	0	0	0	105	198.019.001.002	00:00:00:00:00:05				
15	3A-01 LAN-3300A	Member	234.005.006.003	2	0	0	0	105	198.019.001.002	00:00:00:00:00:05				
16	3A-01 LAN-3300A	Member	234.005.006.001	2	0	0	0	106	198.019.001.002	00:00:00:00:00:06				
17	3A-01 LAN-3300A	Member	234.005.006.002	2	0	0	0	106	198.019.001.002	00:00:00:00:00:06				
18	3A-01 LAN-3300A	Member	234.005.006.003	2	0	0	0	106	198.019.001.002	00:00:00:00:00:06				
19	3A-01 LAN-3300A	Member	234.005.006.001	2	0	0	0	107	198.019.001.002	00:00:00:00:00:07				
20	3A-01 LAN-3300A	Member	234.005.006.002	2	0	0	0	107	198.019.001.002	00:00:00:00:00:07				
21	3A-01 LAN-3300A	Member	234.005.006.003	2	0	0	0	107	198.019.001.002	00:00:00:00:00:07				
22	3A-01 LAN-3300A	Member	234.005.006.001	2	0	0	0	108	198.019.001.002	00:00:00:00:00:08				
23	3A-01 LAN-3300A	Member	234.005.006.002	2	0	0	0	108	198.019.001.002	00:00:00:00:00:08				
24	3A-01 LAN-3300A	Member	234.005.006.003	2	0	0	0	108	198.019.001.002	00:00:00:00:00:08				
25	3A-01 LAN-3300A	Member	234.005.006.001	2	0	0	0	109	198.019.001.002	00:00:00:00:00:09				
26	3A-01 LAN-3300A	Member	234.005.006.002	2	0	0	0	109	198.019.001.002	00:00:00:00:00:09				
27	3A-01 LAN-3300A	Member	234.005.006.003	2	0	0	0	109	198.019.001.002	00:00:00:00:00:09				
28	3A-01 LAN-3300A	Member	234.005.006.001	2	0	0	0	110	198.019.001.002	00:00:00:00:00:10				

#	Len	Requested Rate(p/s)	Calculated Rate(p/s)	Requested Utilization(%)	Calculated Utilization(%)	Errors	MAC Dst	MAC Src	VLAN	pri	cfi	vid	Type	Network Source	Network Destination	Backg
1	1344	139	139	0.152122	0.152122		01:00:5e:05:06:01	00:00:00:10:51	0	0	0	100	IP	98.019.001.002	234.005.006.001	BG
2	1344	139	139	0.152122	0.152122		01:00:5e:05:06:02	00:00:00:10:51	0	0	0	100	IP	98.019.001.002	234.005.006.002	BG
3	1344	139	139	0.152122	0.152122		01:00:5e:05:06:03	00:00:00:10:51	0	0	0	100	IP	98.019.001.002	234.005.006.003	BG
4	1344	139	139	0.152122	0.152122		01:00:5e:05:06:04	00:00:00:10:51	0	0	0	100	IP	98.019.001.002	234.005.006.004	BG
5	1344	139	139	0.152122	0.152122		01:00:5e:05:06:05	00:00:00:10:51	0	0	0	100	IP	98.019.001.002	234.005.006.005	BG
6	1344	139	139	0.152122	0.152122		01:00:5e:05:06:06	00:00:00:10:51	0	0	0	100	IP	98.019.001.002	234.005.006.006	BG

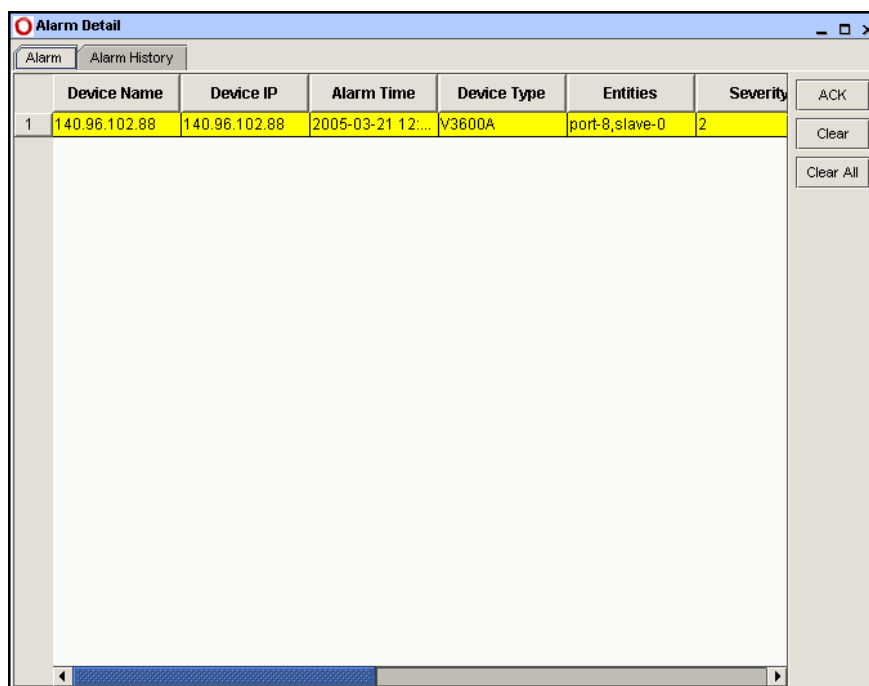
8 Case 4.1.8: NMS_FM

Purpose:

To verify if the NMS can provide fault management functions for DSLAM and ATU-R.

Requirement & HowTo:

1. Check that the NMS shall collect and display several categorized alarm and event messages from the managed NEs in real time.

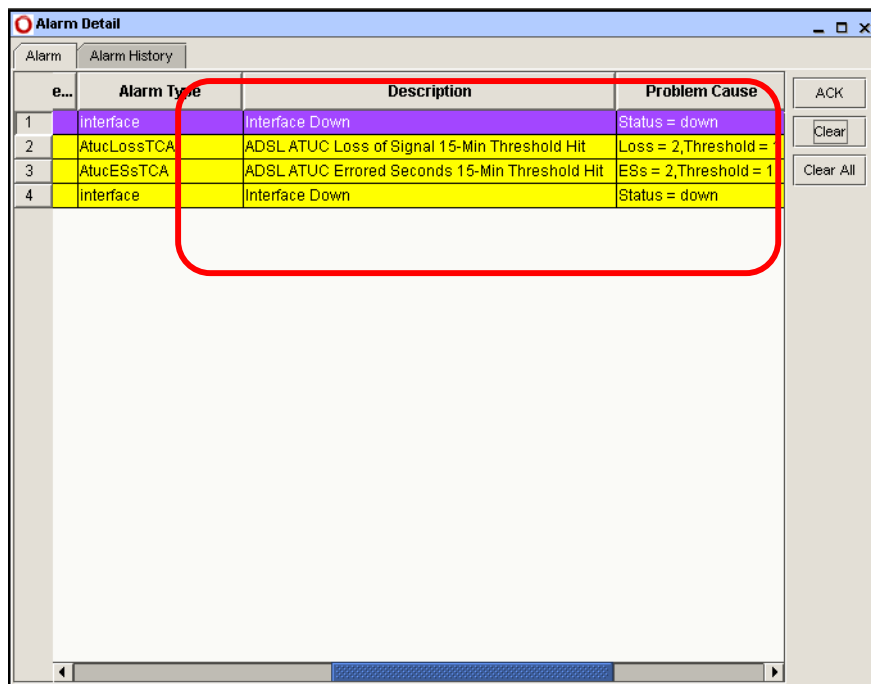


2. Check that the NMS shall provide on-line logging capability for historical alarms and events with sufficient information such as managed resources, alarm/event type, alarm severity, day and time of occurrence, etc. automatically. The retrieving functions with filtering capabilities for historical alarms and events such as alarm/event type, alarm severity, day and time of occurrence shall be provided as well.

Alarm Detail							
Alarm		Alarm History					
	Device Name	Device IP	Alarm Time	Clear Time	Device Type		
1	140.96.102.88	140.96.102.88	2005-03-18 10:...	2005-03-18 15:...	V3600A	Start Time:	2005-03-18
2	140.96.102.88	140.96.102.88	2005-03-18 11:...	2005-03-18 15:...	V3600A	End Time:	2005-03-21
3	140.96.102.88	140.96.102.88	2005-03-18 11:...	2005-03-18 15:...	V3600A	Alarm Type:	All
4	140.96.102.88	140.96.102.88	2005-03-18 12:...	2005-03-18 15:...	V3600A	Severity:	All
5	140.96.102.88	140.96.102.88	2005-03-18 12:...	2005-03-18 15:...	V3600A		1
6	140.96.102.88	140.96.102.88	2005-03-18 13:...	2005-03-18 15:...	V3600A		2
7	140.96.102.88	140.96.102.88	2005-03-18 13:...	2005-03-18 15:...	V3600A		3
8	140.96.102.88	140.96.102.88	2005-03-18 13:...	2005-03-18 15:...	V3600A		4
9	140.96.102.88	140.96.102.88	2005-03-18 13:...	2005-03-18 15:...	V3600A		5
10	140.96.102.88	140.96.102.88	2005-03-18 14:...	2005-03-18 15:...	V3600A		
11	140.96.102.88	140.96.102.88	2005-03-18 14:...	2005-03-18 15:...	V3600A		
12	140.96.102.88	140.96.102.88	2005-03-18 14:...	2005-03-18 15:...	V3600A		
13	140.96.102.88	140.96.102.88	2005-03-18 14:...	2005-03-18 15:...	V3600A		
14	140.96.102.88	140.96.102.88	2005-03-18 14:...	2005-03-18 15:...	V3600A		
15	140.96.102.88	140.96.102.88	2005-03-18 14:...	2005-03-18 15:...	V3600A		
16	140.96.102.88	140.96.102.88	2005-03-18 14:...	2005-03-18 15:...	V3600A		
17	140.96.102.88	140.96.102.88	2005-03-18 15:...	2005-03-18 15:...	V3600A		
18	140.96.102.88	140.96.102.88	2005-03-18 15:...	2005-03-18 15:...	V3600A		
19	140.96.102.88	140.96.102.88	2005-03-18 15:...	2005-03-18 15:...	V3600A		
20	140.96.102.88	140.96.102.88	2005-03-18 15:...	2005-03-18 15:...	V3600A		
21	140.96.102.88	140.96.102.88	2005-03-18 15:...	2005-03-18 15:...	V3600A		
22	140.96.102.88	140.96.102.88	2005-03-18 15:...	2005-03-18 15:...	V3600A		
23	140.96.102.88	140.96.102.88	2005-03-18 15:...	2005-03-18 15:...	V3600A		

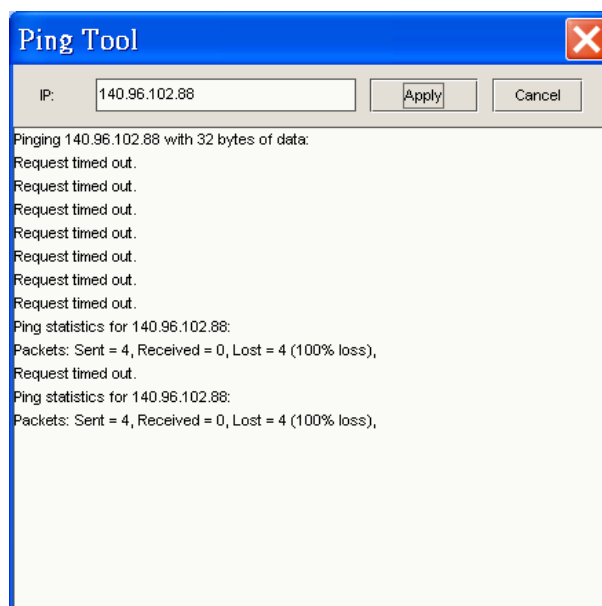
3. Check that the NMS shall be able to collect and display the maintenance signal alarms/events including LPR, LOS, LOF, and Link Up/Down for ADSL.

Configuration				Port Number :
		Current Value	Setting Value	
1	Atuc Thresh 15MinLofs	1	1	1
2	Atuc Thresh 15MinLoss	1	1	Apply
3	Atuc Thresh 15MinLols	1	1	Reset
4	Atuc Thresh 15MinLprs	1	1	Refresh
5	Atuc Thresh 15MinESs	1	1	
6	Atuc Thresh FastRateUp	0	0	
7	Atuc Thresh InterleaveRateUp	0	0	
8	Atuc Thresh FastRateDown	0	0	
9	Atuc Thresh InterleaveRateDown	0	0	
10	Atuc InitFailureTrapEnable	disable	disable	
11	Atur Thresh 15MinLofs	0	0	
12	Atur Thresh 15MinLoss	0	0	
13	Atur Thresh 15MinLprs	0	0	
14	Atur Thresh 15MinESs	0	0	
15	Atur Thresh FastRateUp	0	0	
16	Atur Thresh InterleaveRateUp	0	0	



e...	Alarm Type	Description	Problem Cause
1	Interface	Interface Down	Status = down
2	AtucLossTCA	ADSL ATUC Loss of Signal 15-Min Threshold Hit	Loss = 2,Threshold =
3	AtucESsTCA	ADSL ATUC Errored Seconds 15-Min Threshold Hit	ESs = 2,Threshold = 1
4	Interface	Interface Down	Status = down

4. Check that the NMS shall provide ping command for testing the Network equipment and path health.



Verification:

None.

9 Case 4.1.9: NMS_CM

Purpose:

To verify if the NMS can provide configuration management functions for DSLAM and ATU-R.

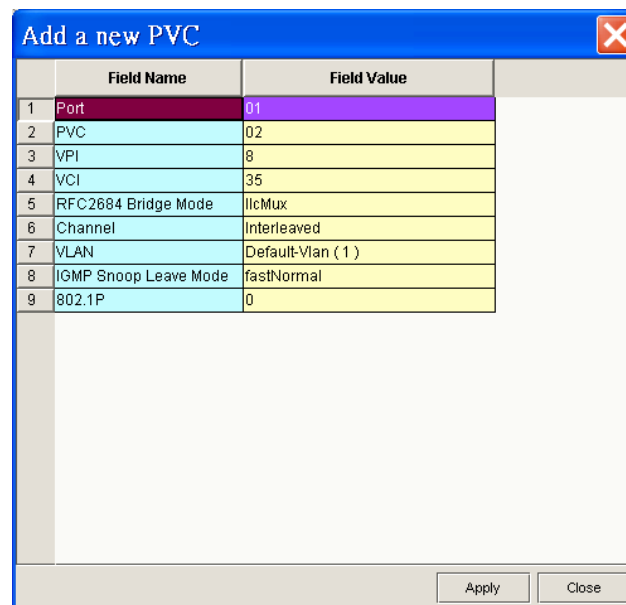
Requirement & HowTo:

1. Check that the NMS shall provide the capability to setup, backup and restore all the NE's configured database it managed.

Using Vigor CMS to do the configuration setup , backup and restore

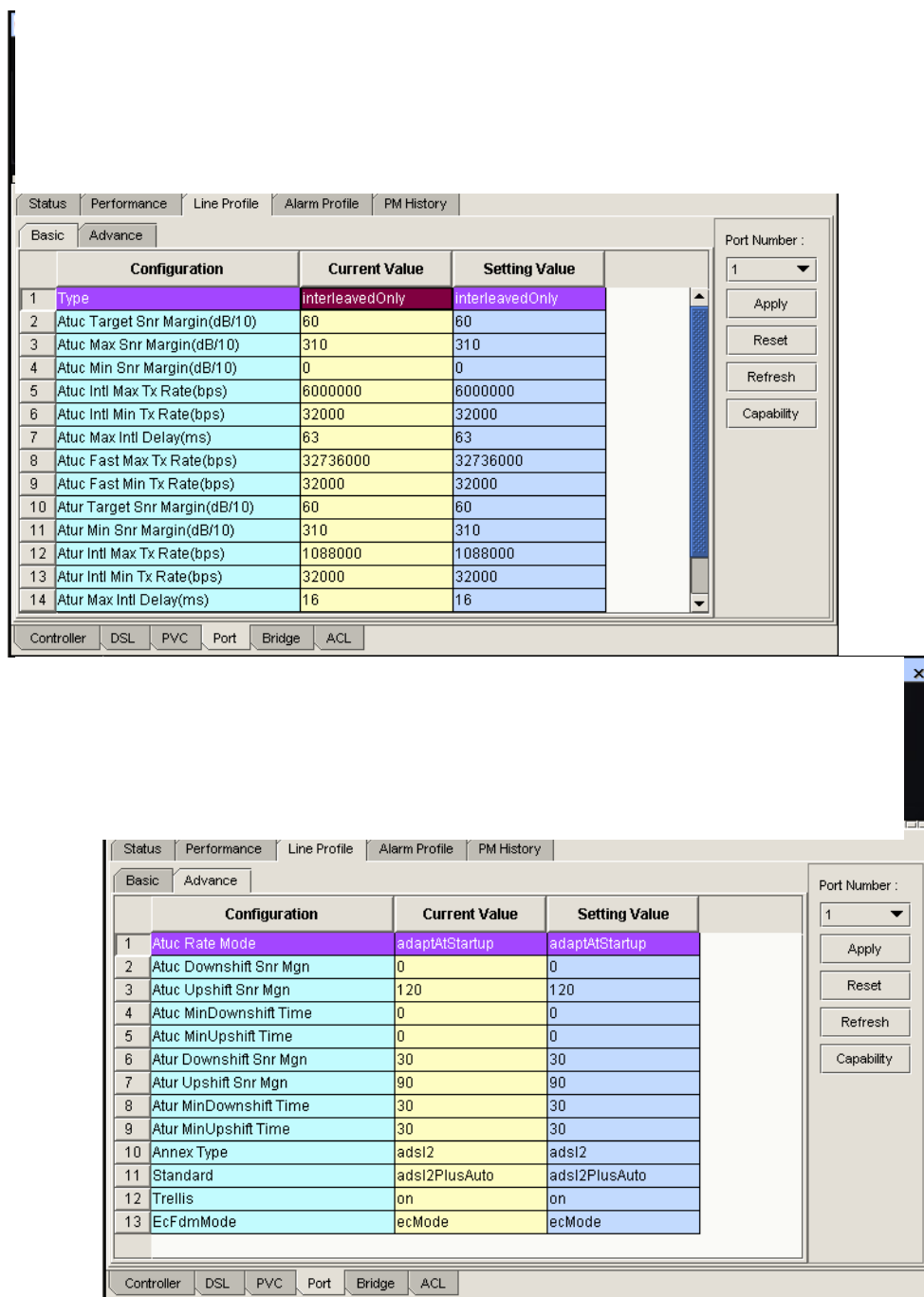
Pass

2. Check that the NMS shall be able to create and delete the ATM VPI/VCI values for each link.



	Field Name	Field Value
1	Port	01
2	PVC	02
3	VPI	8
4	VCI	35
5	RFC2684 Bridge Mode	IlcMux
6	Channel	Interleaved
7	VLAN	Default-Vlan (1)
8	IGMP Snoop Leave Mode	fastNormal
9	802.1P	0

3. Check that the NMS shall be able to configure and read the parameters including target noise margin, max. noise margin, min. noise margin, max interleaving delay, min. net data rate, max. net data rate and rate adaptation mode for each ADSL line.



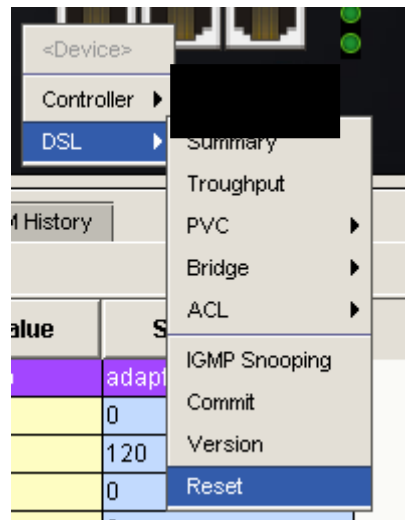
	Configuration	Current Value	Setting Value
1	Type	interleavedOnly	interleavedOnly
2	Atuc Target Snr Margin(dB/10)	60	60
3	Atuc Max Snr Margin(dB/10)	310	310
4	Atuc Min Snr Margin(dB/10)	0	0
5	Atuc Intl Max Tx Rate(bps)	6000000	6000000
6	Atuc Intl Min Tx Rate(bps)	32000	32000
7	Atuc Max Intl Delay(ms)	63	63
8	Atuc Fast Max Tx Rate(bps)	32736000	32736000
9	Atuc Fast Min Tx Rate(bps)	32000	32000
10	Atur Target Snr Margin(dB/10)	60	60
11	Atur Min Snr Margin(dB/10)	310	310
12	Atur Intl Max Tx Rate(bps)	1088000	1088000
13	Atur Intl Min Tx Rate(bps)	32000	32000
14	Atur Max Intl Delay(ms)	16	16

Port Number : 1

Apply Reset Refresh Capability

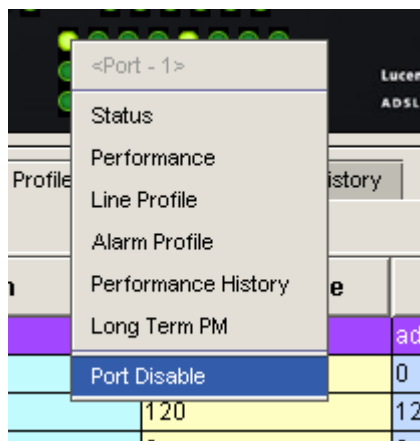
Controller DSL PVC Port Bridge ACL

4. Check that the NMS and CIT shall be able to reset DSLAM's ADSL subscriber interface unit.



CIT> reboot

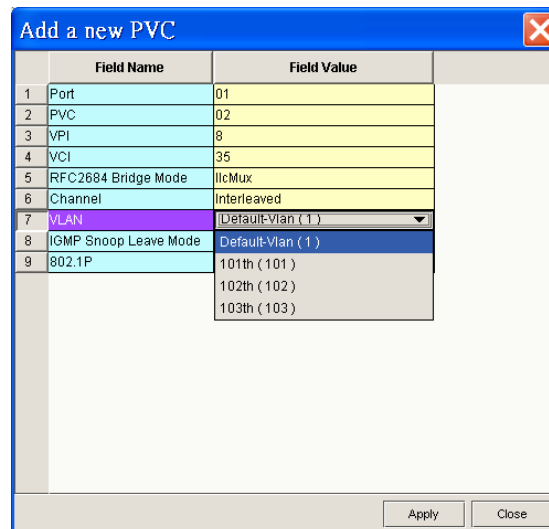
5. Check that the NMS and the CIT shall be able to enable/disable ADSL subscriber interface unit on per port basis.



CIT> modify adsl line intf ifname dsl-0 enable

CIT> modify adsl line intf ifname dsl-0 disable

6. Check that the NMS shall be able to configure the mapping function between one ATM PVC connection and one VLAN ID.

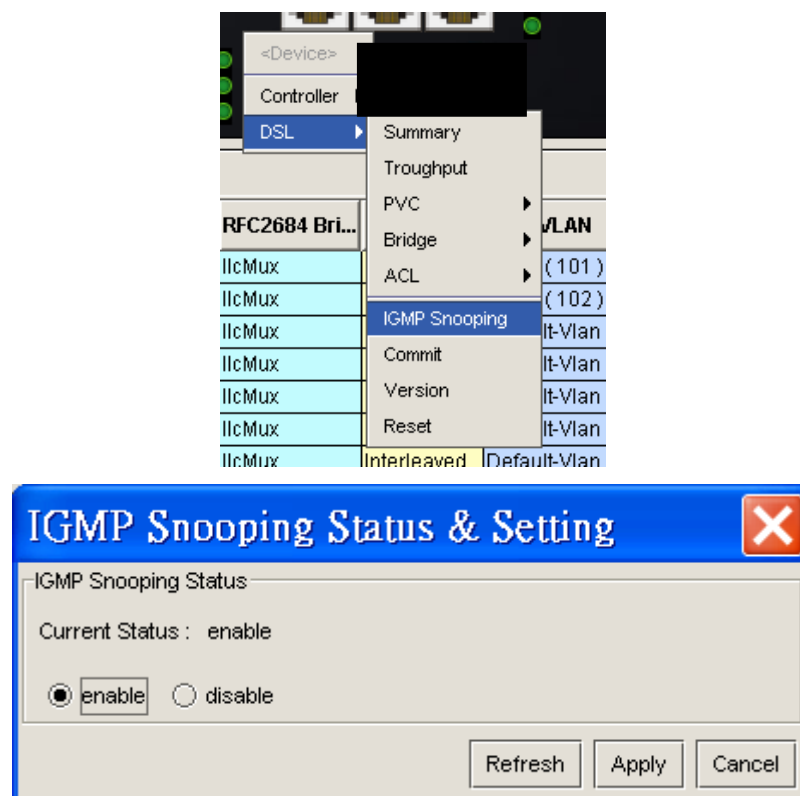


Add a new PVC

	Field Name	Field Value
1	Port	01
2	PVC	02
3	VPI	8
4	VCI	35
5	RFC2684 Bridge Mode	IicMux
6	Channel	Interleaved
7	VLAN	(Default-Vlan (1))
8	IGMP Snoop Leave Mode	Default-Vlan (1)
9	802.1P	101th (101) 102th (102) 103th (103)

Apply Close

7. Check that the NMS shall be able to enable/disable the IGMP server, snooping, or proxy function.



IGMP Snooping Status & Setting

IGMP Snooping Status

Current Status : enable

☒ enable ☐ disable

Refresh Apply Cancel

8. Check that the NMS shall be able to configure the mapping function between multiple ATM PVC connections and one VLAN ID.

ATM Statistics		IP Statistics		Configuration				
	Port	PVC	VPI	VCI	RFC2684 Bri...	Channel	VLAN	
1	01	01	0	33	IlcMux	Interleaved	101th (101)	<div>Add</div> <div>Update</div> <div>Delete</div> <div>Refresh</div> <div>OAM</div> <div>Traffic Class</div>
2	01	02	0	34	IlcMux	Interleaved	101th (101)	
3	02	01	8	35	IlcMux	Interleaved	101th (101)	
4	03	01	8	35	IlcMux	Interleaved	Default-Vlan (...)	
5	04	01	8	35	IlcMux	Interleaved	Default-Vlan (...)	
6	05	01	8	35	IlcMux	Interleaved	Default-Vlan (...)	
7	06	01	8	35	IlcMux	Interleaved	Default-Vlan (...)	
8	07	01	8	35	IlcMux	Interleaved	Default-Vlan (...)	
9	08	01	8	35	IlcMux	Interleaved	Default-Vlan (...)	
10	09	01	8	35	IlcMux	Interleaved	Default-Vlan (...)	
11	10	01	8	35	IlcMux	Interleaved	Default-Vlan (...)	
12	11	01	8	35	IlcMux	Interleaved	Default-Vlan (...)	
13	12	01	8	35	IlcMux	Interleaved	Default-Vlan (...)	
14	13	01	8	35	IlcMux	Interleaved	Default-Vlan (...)	
15	14	01	8	35	IlcMux	Interleaved	Default-Vlan (...)	
<div>◀ ▶</div>								
Controller		DSL	PVC	Port	Bridge	ACL		

9. Check that the NMS shall be able to configure the mapping function between ATM PVC connection and 802.1p priority queue.

Update PVC data

Field Name	Field Value
1 Port	02
2 PVC	01
3 VPI	8
4 VCI	35
5 RFC2684 Bridge Mode	IlcMux
6 Channel	Interleaved
7 VLAN	101th (101)
8 IGMP Snoop Leave Mode	fastNormal
9 802.1P	<div> <div>U</div> <div>0</div> <div>1</div> <div>2</div> <div>3</div> <div>4</div> <div>5</div> <div>6</div> <div>7</div> </div>

Apply

Close

10. Check that the NMS shall be able to configure the parameters for RFC2684 bridged mode.

Update PVC data

	Field Name	Field Value
1	Port	01
2	PVC	01
3	VPI	0
4	VCI	33
5	RFC2684 Bridge Mode	IlcMux
6	Channel	vcMux
7	VLAN	IlcMux
8	IGMP Snoop Leave Mode	fastNormal
9	802.1P	1

Apply

Close

Verification:

PASS.

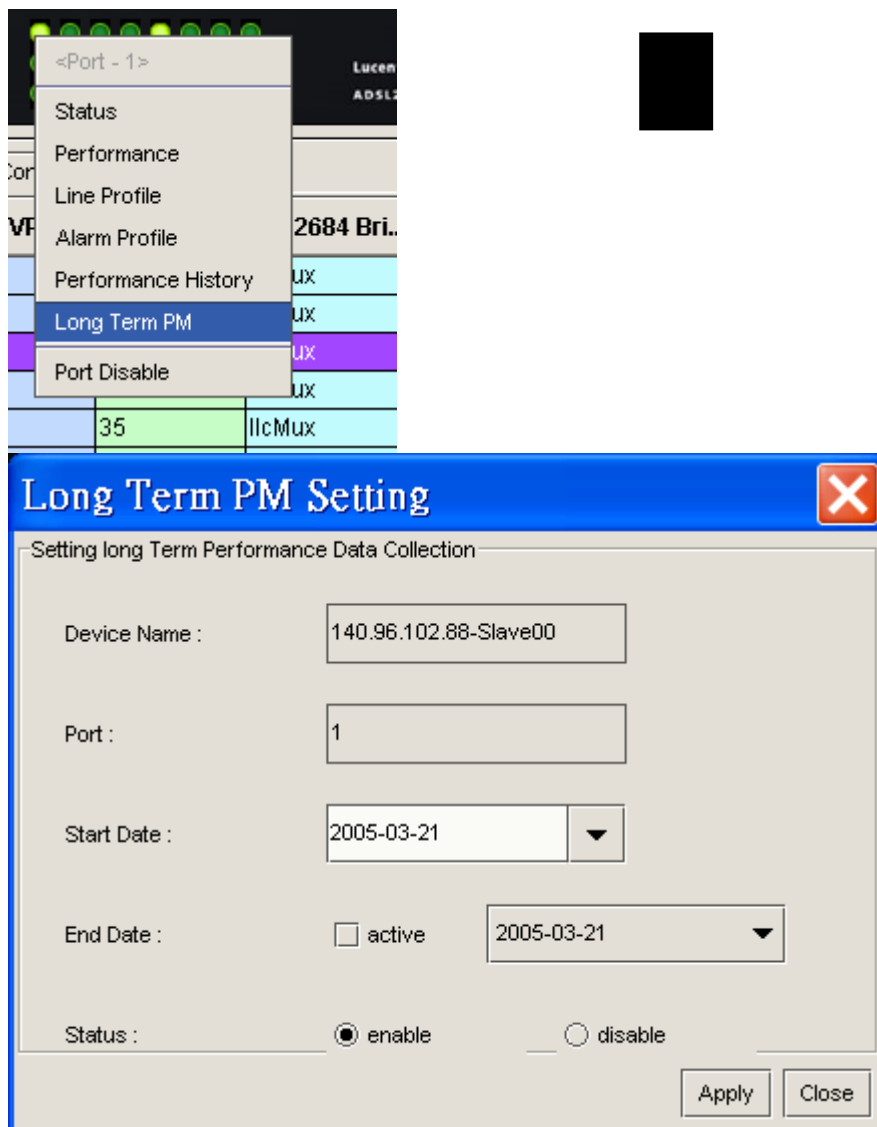
10Case 4.1.10: NMS_PM

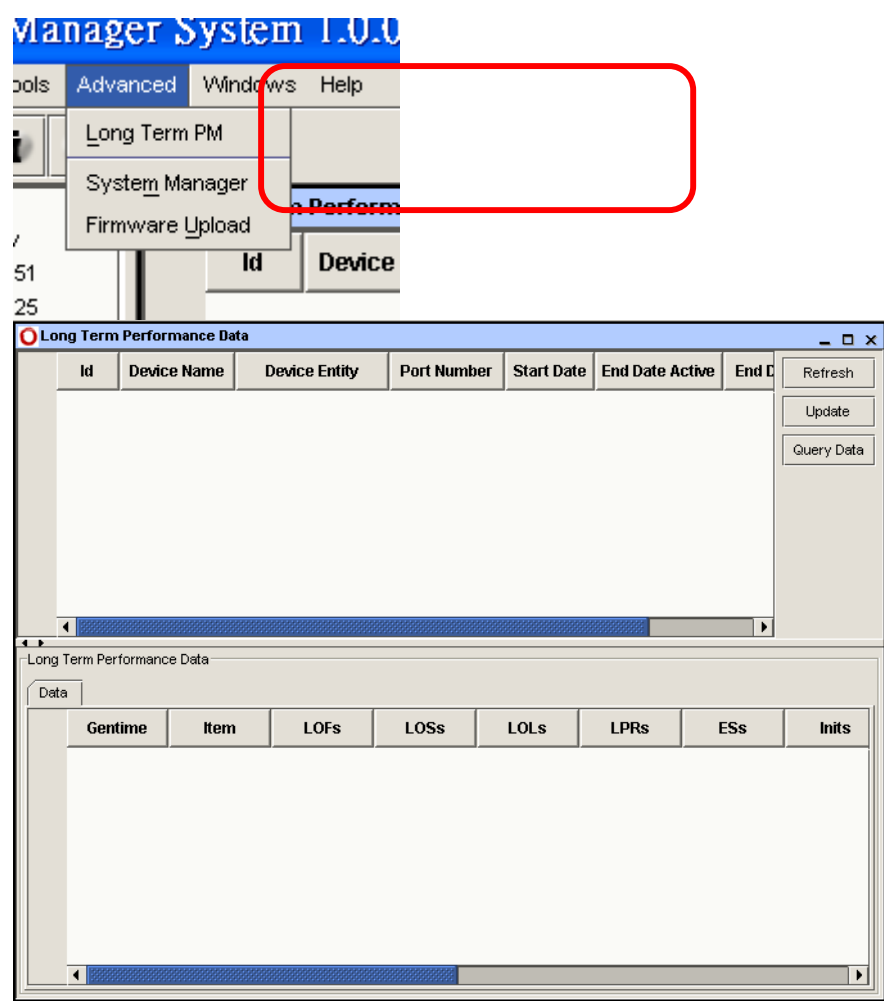
Purpose:

To verify if the NMS can provide performance management functions for DSLAM and ATU-R.

Requirement & HowTo:

1. Check that NMS shall be able to periodically receive and indicate the performance data from the managed NEs.





2. Check that NMS shall be able to retrieve the performance parameters of error packets and discarded packets on demand for each network interface.

The screenshot shows the DrayTek Manager System 1.0.0 interface with the 'Throughput' window open. The window displays a table with columns: Interfaces, InOctets, OutOctets, InDiscards, OutDiscards, InErrors, and OutErrors. The table contains 8 rows of data for interfaces G0 through UP1. To the right of the table is a sidebar with buttons: Commit, Version, Reset, and FW Upgrade. At the bottom of the window are tabs for Controller, DSL, PVC, Port, Bridge, and ACL.

	Interfaces	InOctets	OutOctets	InDiscards	OutDiscards	InErrors	OutErrors
1	G0	785894342	633106494	0	0	0	0
2	G1	635817	2933453560	0	0	0	0
3	G2	0	3795572064	0	0	0	0
4	G3	2368	564802123	0	0	0	0
5	G4	1524	564797591	0	0	0	0
6	G5	27515	564809553	0	0	0	0
7	G6	991051968	647264688	0	0	1846157	1846157
8	UP1	0	0	0	0	0	0

3. Check that the NMS shall be able to retrieve the status parameters of ADSL line for both downstream and upstream directions including line attenuation, SNR margin, actual net data rate.

Status	Performance	Line Profile	Alarm Profile	PM History																																												
Version : <input type="text" value="D.57.1.9"/>																																																
Op Status : <input type="text" value="data"/>																																																
Actual Standard : <input type="text" value="adsl2Plus"/>																																																
<table border="1"> <thead> <tr> <th></th> <th>Item</th> <th>Up Steam</th> <th>Down Steam</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Noise Margin(dB/10)</td> <td>95</td> <td>330</td> </tr> <tr> <td>2</td> <td>Output Power(dB/10)</td> <td>5</td> <td>83</td> </tr> <tr> <td>3</td> <td>Attainable Bitrate(kbps)</td> <td>1329066</td> <td>25566600</td> </tr> <tr> <td>4</td> <td>Attenuation(dB/10)</td> <td>0</td> <td>3</td> </tr> <tr> <td>5</td> <td>Interleave Current Rate</td> <td>1088000</td> <td>5984000</td> </tr> <tr> <td>6</td> <td>Interleave Previous Rate</td> <td>1088800</td> <td>5975500</td> </tr> <tr> <td>7</td> <td>Interleave Delay</td> <td>13</td> <td>7</td> </tr> <tr> <td>8</td> <td>Fast Current Rate</td> <td>0</td> <td>0</td> </tr> <tr> <td>9</td> <td>Fast Previous Rate</td> <td>0</td> <td>0</td> </tr> <tr> <td>10</td> <td>Current Status</td> <td>noDefect</td> <td>noDefect</td> </tr> </tbody> </table>						Item	Up Steam	Down Steam	1	Noise Margin(dB/10)	95	330	2	Output Power(dB/10)	5	83	3	Attainable Bitrate(kbps)	1329066	25566600	4	Attenuation(dB/10)	0	3	5	Interleave Current Rate	1088000	5984000	6	Interleave Previous Rate	1088800	5975500	7	Interleave Delay	13	7	8	Fast Current Rate	0	0	9	Fast Previous Rate	0	0	10	Current Status	noDefect	noDefect
	Item	Up Steam	Down Steam																																													
1	Noise Margin(dB/10)	95	330																																													
2	Output Power(dB/10)	5	83																																													
3	Attainable Bitrate(kbps)	1329066	25566600																																													
4	Attenuation(dB/10)	0	3																																													
5	Interleave Current Rate	1088000	5984000																																													
6	Interleave Previous Rate	1088800	5975500																																													
7	Interleave Delay	13	7																																													
8	Fast Current Rate	0	0																																													
9	Fast Previous Rate	0	0																																													
10	Current Status	noDefect	noDefect																																													
Port Number : <input type="text" value="1"/>																																																
<input type="button" value="Refresh"/>																																																
<input type="button" value="Bin Map"/>																																																
<input type="button" value="Enable"/>																																																
<input type="button" value="Disable"/>																																																

4. Check that NMS shall be able to retrieve the Tx/Rx traffic data, which at least include raw values for each network interface and ADSL subscriber interface.

Status	Performance	Line Profile	Alarm Profile	PM History	
TYPE	PERF	15MIN CURR	1DAY CURR	1DAY PREV	
1 Time Elapsed	----	647	80747	86400	
2 LOfs	0	0	0	0	
3 LOSs	1	0	0	0	
4 LOfs	0	0	0	0	
5 LPRs	0	0	0	0	
6 ESs	561	2	183	202	
7 Inits	8	0	0	0	
8 Interleave RxBLKS	14666888	38173	4764073	5097600	
9 Interleave TxBLKS	14666888	38173	4764073	5097600	
10 Interleave CoBLKS	1498	2	424	443	
11 Interleave UnCoBL...	912	2	219	244	
12 Fast RxBLKS	0	0	0	0	
13 Fast TxBLKS	0	0	0	0	
14 Fast CoBLKS	0	0	0	0	
15 Fast UnCoBLKS	0	0	0	0	

Port Number :

1

☒ ATU-C
☐ ATU-R

Refresh

Controller

DSL

PVC

Port

Bridge

ACL

ATM Statistics		IP Statistics		Configuration					
	Port	VPI	VCI	RxCells	TxCells	RxCLPO	Discards		Refresh
1	1	0	33	15246958	217756829	0	0		
2	1	0	34	5945247	473481	0	0		
3	2	8	35	0	0	0	0		
4	3	8	35	0	0	0	0		
5	4	8	35	0	0	0	0		
6	5	8	35	22	0	0	0		
7	6	8	35	0	0	0	0		
8	7	8	35	0	0	0	0		
9	8	8	35	22	0	0	0		
10	9	8	35	0	0	0	0		
11	10	8	35	22	0	0	0		
12	11	8	35	0	0	0	0		
13	12	8	35	22	0	0	0		
14	13	8	35	22	0	0	0		
15	14	8	35	22	0	0	0		
16	15	8	35	0	0	0	0		

	Port	PVC	InOctets	OutOctets	InUcastPkts	OutUcastPkts	Int	Refresh
1	1	1	1590621874	454172328	6805068	83561647	92	
2	1	2	23304688	283940800	15490	189800	87	
3	2	1	0	0	0	0	0	
4	3	1	0	0	0	0	0	
5	4	1	0	0	0	0	0	
6	5	1	0	850	0	0	0	
7	6	1	0	0	0	0	0	
8	7	1	0	0	0	0	0	
9	8	1	0	850	0	0	0	
10	9	1	0	0	0	0	0	
11	10	1	0	850	0	0	0	
12	11	1	0	0	0	0	0	
13	12	1	0	850	0	0	0	
14	13	1	0	850	0	0	0	
15	14	1	0	850	0	0	0	

Verification:

Pass.

11Case 4.1.11: ES reporting

Purpose:

To verify the reporting functionality of the ES by ATU-R.

Configuration:

Interleaved as D= 1(D is the interleaving depth of the latency path)

HowTo:

	Configuration	Current Value	Setting Value
1	Type	interleavedOnly	interleavedOnly
2	Atuc Target Snr Margin(dB/10)	60	60
3	Atuc Max Snr Margin(dB/10)	310	310
4	Atuc Min Snr Margin(dB/10)	0	0
5	Atuc Intl Max Tx Rate(bps)	32736000	32736000
6	Atuc Intl Min Tx Rate(bps)	32000	32000
7	Atuc Max Intl Delay(ms)	1	1
8	Atuc Fast Max Tx Rate(bps)	32736000	32736000
9	Atuc Fast Min Tx Rate(bps)	32000	32000
10	Atur Target Snr Margin(dB/10)	60	60
11	Atur Min Snr Margin(dB/10)	310	310
12	Atur Intl Max Tx Rate(bps)	1088000	1088000
13	Atur Intl Min Tx Rate(bps)	32000	32000
14	Atur Max Intl Delay(ms)	1	1

Verification:

No more than 3 consecutive errors of initialization are allowed. And the link status should be stable for 3 minutes at least.

12 ES report at least is achieved from NMS.

Status	Performance	Line Profile	Alarm Profile	PM History	
	TYPE	PERF	15MIN CURR	1DAY CURR	1DAY PREV
1	Time Elapsed	-----	647	80747	86400
2	LOFs	0	0	0	0
3	LOSs	1	0	0	0
4	LOLs	0	0	0	0
5	LPRs	0	0	0	0
6	ESS	561	2	183	202
7	Initis	8	0	0	0
8	Interleave RxBLKS	14666888	38173	4764073	5097600
9	Interleave TxBLKS	14666888	38173	4764073	5097600
10	Interleave CoBLKS	1498	2	424	443
11	Interleave UnCoBL...	912	2	219	244
12	Fast RxBLKS	0	0	0	0
13	Fast TxBLKS	0	0	0	0
14	Fast CoBLKS	0	0	0	0
15	Fast UnCoBLKS	0	0	0	0

Port Number : 1

☒ ATU-C
☐ ATU-R

Refresh

Controller DSL PVC Port Bridge ACL

Status	Performance	Line Profile	Alarm Profile	PM History	
	TYPE	PERF	15MIN CURR	1DAY CURR	1DAY PREV
1	Time Elapsed	-----	879	1779	86400
2	LOFs	0	1	2	1
3	LOSs	0	0	0	0
4	LOLs	-----	-----	-----	-----
5	LPRs	0	850	1633	84501
6	ESS	0	0	0	0
7	Initis	-----	-----	-----	-----
8	Interleave RxBLKS	15072267	53514	102591	5066861
9	Interleave TxBLKS	15071643	52890	101967	5066861
10	Interleave CoBLKS	0	0	0	0
11	Interleave UnCoBL...	1	0	0	0
12	Fast RxBLKS	0	0	0	0
13	Fast TxBLKS	0	0	0	0
14	Fast CoBLKS	0	0	0	0
15	Fast UnCoBLKS	0	0	0	0

Port Number : 1

☐ ATU-C
☒ ATU-R

Refresh

Controller DSL PVC Port Bridge ACL

CIT> get adsl atuc perf ifname dsl-0

CIT> get adsl atur perf ifname dsl-0

12Case 4.1.12: ADSL fixed loop/5kfts

Purpose:

To verify the performance of the ADSL broadband system defined in ITU-T G.992.5 under CXT test. Then verify the ADSL ATM Cell Forwarding rate at least can support US/DS 1Mbps/16Mbps.

Configuration:

Line profile as default. VPCI as CPE.

HowTo:

Status	Performance	Line Profile	Alarm Profile	PM History
Basic	Advance			
	Configuration	Current Value	Setting Value	
3	Atuc Max Snr Margin(dB/10)	310	310	
4	Atuc Min Snr Margin(dB/10)	0	0	
5	Atuc Intl Max Tx Rate(bps)	32736000	32736000	
6	Atuc Intl Min Tx Rate(bps)	32000	32000	
7	Atuc Max Intl Delay(ms)	63	63	
8	Atuc Fast Max Tx Rate(bps)	32736000	32736000	
9	Atuc Fast Min Tx Rate(bps)	32000	32000	
10	Atur Target Snr Margin(dB/10)	60	60	
11	Atur Min Snr Margin(dB/10)	310	310	
12	Atur Intl Max Tx Rate(bps)	1088000	1088000	
13	Atur Intl Min Tx Rate(bps)	32000	32000	
14	Atur Max Intl Delay(ms)	16	16	
15	Atur Fast Max Tx Rate(bps)	1088000	1088000	
16	Atur Fast Min Tx Rate(bps)	32000	32000	

Port Number :
1
Apply
Reset
Refresh
Capability

Controller DSL PVC Port Bridge ACL

Verification:

Actual net data rate (DS/US) \geq 16000k/1024kbps with SNR margin \geq 5 and no ES occurs. US/DS test streams (900K/14.1Mbps, 1500Bytes IP packet) and lasts for 1 minute. Packets are received by Testers without packet loss and error for downstream and upstream. Enhance the noise power level = 6dB. The connection persists alive and should not break down for 3 minutes at least.

13Case 4.1.13: ADSL fixed loop/14kfts

Purpose:

To verify the performance of the ADSL broadband system defined in ITU-T G.992.5 under CXT test.

Configuration:

Line profile as default. VPCI as CPE.

HowTo:

Status	Performance	Line Profile	Alarm Profile	PM History
Basic Advance				
	Configuration	Current Value	Setting Value	
3	Atuc Max Snr Margin(dB/10)	310	310	
4	Atuc Min Snr Margin(dB/10)	0	0	
5	Atuc Intl Max Tx Rate(bps)	32736000	32736000	
6	Atuc Intl Min Tx Rate(bps)	32000	32000	
7	Atuc Max Intl Delay(ms)	63	63	
8	Atuc Fast Max Tx Rate(bps)	32736000	32736000	
9	Atuc Fast Min Tx Rate(bps)	32000	32000	
10	Atur Target Snr Margin(dB/10)	60	60	
11	Atur Min Snr Margin(dB/10)	310	310	
12	Atur Intl Max Tx Rate(bps)	1088000	1088000	
13	Atur Intl Min Tx Rate(bps)	32000	32000	
14	Atur Max Intl Delay(ms)	16	16	
15	Atur Fast Max Tx Rate(bps)	1088000	1088000	
16	Atur Fast Min Tx Rate(bps)	32000	32000	

Port Number :
1
Apply
Reset
Refresh
Capability

Controller DSL PVC Port Bridge ACL

Verification:

Actual net data rate (DS/US) \geq 2336k/704kbps with SNR margin \geq 5 and no ES occurs. US/DS test streams (622K/2066Kbps, 1500Bytes IP packet) and lasts for 1 minute. Packets are received by Testers without packet loss and error for downstream and upstream. Enhance the noise power level = 6dB. The connection persists alive and should not break down for 3 minutes at least.

14Case 4.1.14: ADSL_NA_Loop/T1.601#13

Purpose:

To verify the performance of the ADSL broadband system defined in ITU-T G.992.5 under CXT test.

Configuration:

Interleaved as D= 1(D is the interleaving depth of the latency path)

HowTo:

	Configuration	Current Value	Setting Value
1	Type	interleavedOnly	interleavedOnly
2	Atuc Target Snr Margin(dB/10)	60	60
3	Atuc Max Snr Margin(dB/10)	310	310
4	Atuc Min Snr Margin(dB/10)	0	0
5	Atuc Intl Max Tx Rate(bps)	32736000	32736000
6	Atuc Intl Min Tx Rate(bps)	32000	32000
7	Atur Max Intl Delay(ms)	1	1
8	Atuc Fast Max Tx Rate(bps)	32736000	32736000
9	Atuc Fast Min Tx Rate(bps)	32000	32000
10	Atur Target Snr Margin(dB/10)	60	60
11	Atur Min Snr Margin(dB/10)	310	310
12	Atur Intl Max Tx Rate(bps)	1088000	1088000
13	Atur Intl Min Tx Rate(bps)	32000	32000
14	Atur Max Intl Delay(ms)	1	1

Port Number : 1

Buttons: Apply, Reset, Refresh, Capability

Controller DSL PVC Port Bridge ACL

Verification:

Actual net data rate (DS/US) \geq 2432/288kbps with SNR margin \geq 5 and no ES occurs. Call phone at ATU-R and ring 5 times. ADSL connection persists alive and no ES occur. Enhance the noise power level = 6dB. The connection persists alive and should not break down for 3 minutes at least.

15Case 4.1.15: ADSL endurance

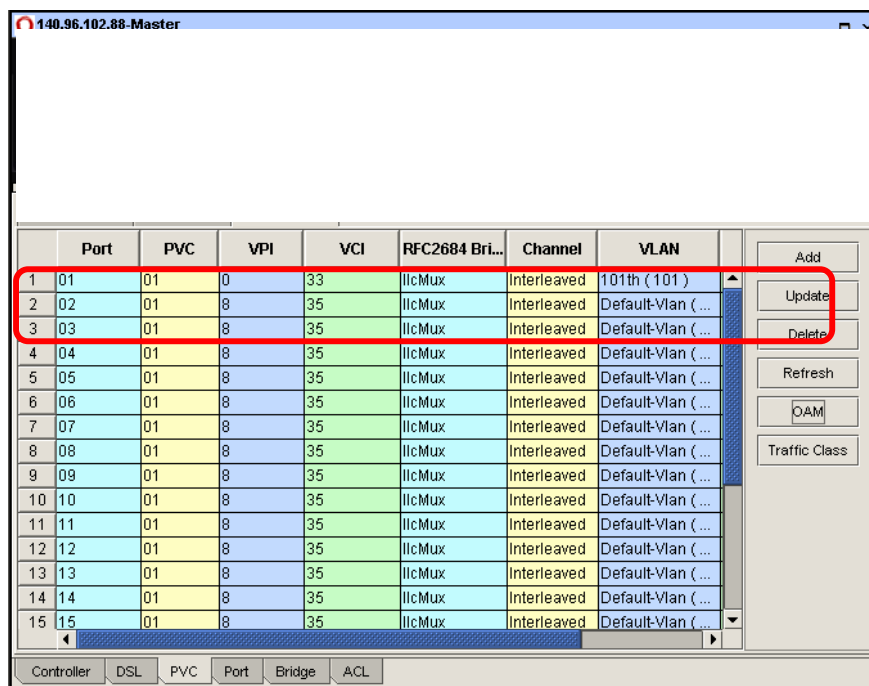
Purpose:

To verify the stability of the ADSL broadband system through 24-hour test and bit error ratio test (BERT).

Configuration:

Port	VPCI	VLAN ID
1	0/33	101

HowTo:



Verification:

The connection persists alive for at least 24 hours in chamber (*). Then check from the NMS whether the ADSL line break down or not.

Tester1 and Tester2 generate US/DS test streams (223k/1889kbps, 494Bytes IP packet) for ADSL line to perform bidirectional BERT for 20 minutes. $BER \leq 10^{-7}$.

Comment:

(^{*}): Operating temperature and relative humidity in chamber shall comply with 65°C and 90% respectively for Medium Capacity DSALM, or 40°C and 85% respectively for High Capacity DSALM.

Part III

Reliability Test for High Temperature

The operation temperature is from –10 to 65 degree.



"Ipdslam_Dest_Reliability test_For_65degF"

Test Result:

Pass