



VigorAccess IP DSLAM

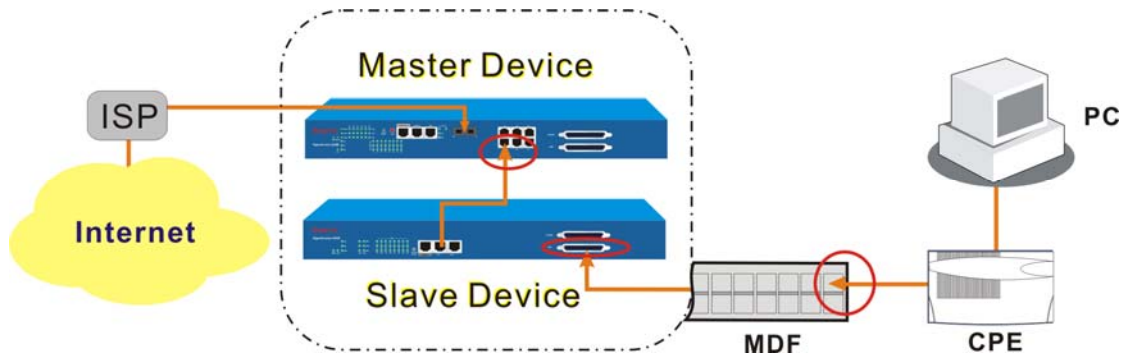
Quick Start Guide

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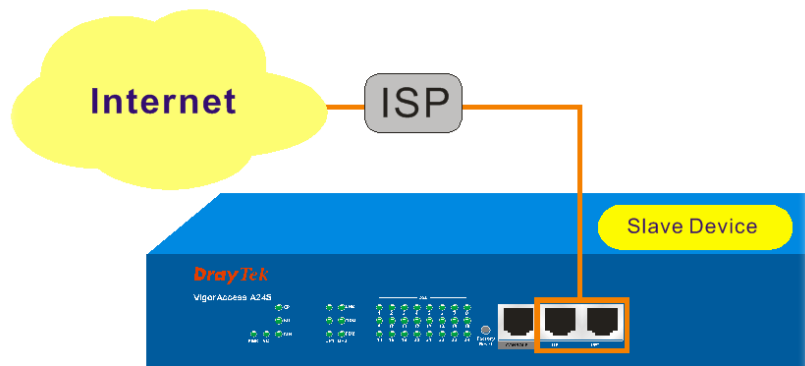
This quick start guide will guide you to finish the basic configuration for accessing Internet with VigorAccess IP DSLAM.

1 Network Topology Overview



Above diagram shows the basic network topology (example) among master device, slave device, MDF, CPE (ATU-R) router and user’s computer. One thing is important – always set the VPI/VCI value for the CPE the same as the ones configured in master and slave IP DSLAM. The default setting for VPI/VCI of IP DSLAM is 8/35. By the way, the values for these devices can be changed (yet must match with CPE) if necessary. Please finish all the connections according to the real situation of the environment for the devices.

Note: A master device connects to Internet through UP-G connector. Yet, a slave device also can work alone without connecting the master device. For a standalone slave device, please use UP1 or UP2 to access Internet with Ethernet cable.



2 Management for VigorAccess

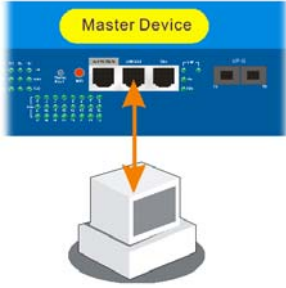
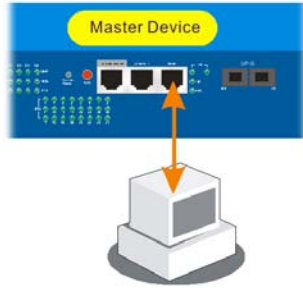

If users want to configure or monitor the devices, there are some methods provided here to utilize. The **MGN** port on the master device allows you to make control remotely; yet the **Console** port on the master/slave device only allows you to make control locally.

Note: If you are not used to configure the settings with terminal emulator software or Telnet commands, you can use VigorCMS (SNMP-based) software to manage these devices. For the detailed information, please contact your dealer.

VigorAccess can be managed via MGN, Console, even Uplink Ports. It depends on your necessity.

3 Port Connection for Management

No matter what tool you would like to use for managing master and/or slave device, the first thing you have to do is making correct port connection.

For Master Device		For Slave Device
Connect to a PC through CONSOLE port. It is useful for controlling the device locally.	Connect to a PC through MGN port. It is useful for controlling the master device remotely.	Connect to a PC through CONSOLE port. It is useful for controlling the device locally.
		

4 Configuration by Using Terminal Emulator Software

▲ How to Login with a Terminal Emulator Software

For Master Device	For Slave Device
<ol style="list-style-type: none"> The default setting is “baud rate 9600, no parity, and 8 bit with 1 stop bit (N,8,1)”. Use any terminal emulator software for executing commands. Username – admin Password – 1234 	<ol style="list-style-type: none"> The default setting is “baud rate 9600, no parity, and 8 bit with 1 stop bit (N,8,1)”. Use any terminal emulator software for executing commands. Username – admin; No Password

▲ How to Login to DSL Module for Managing DSLAM

Both master and slave devices have DSL module installed. The DSL module plays the core role for aggregating all ATM traffic coming from DSL ports to the uplink Ethernet interface, and vice versa. Through the master controller in the master device, administrator can login to the DSL module inside master or slave device for managing DSLAM.

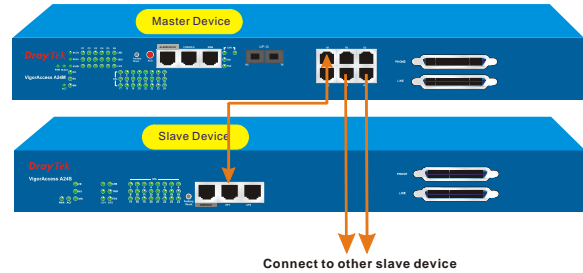
To DSL Module in Master Device	To DSL Module in Slave Device
<p>There are two ways provided:</p> <ul style="list-style-type: none"> - Admin>dsl -c (press <Ctrl-Z> to return) - Admin>dsl -m ('exit' to return) 	<p>Only one slave device can be logged in at one time.</p> <ul style="list-style-type: none"> - Admin>dsl -s n (type 'exit' to return), <i>n</i> is “1” to “6” indicating the port the slave device connects to

▲ How to Plug and Play Slave Device

By default, ports G1 to G6 on master device are disabled. If the slave connects to the master device, please refer to the picture below to ensure the connection is well.

Please turn on the interface that connected to a slave device. In the above picture, you have to turn ON the interface G1, G4 and G6 for they connect to different slave devices. Use the command below to turn on the interface.

- Admin>system link -m gn on
(n means "1" to "6")
- Admin>system link
(check the status)



▲ How to Check the Connectivity

<p>To check the connectivity between the Master and Slave Devices, please do the following:</p>	<p>The results</p>
<ol style="list-style-type: none"> 1. Login through terminal emulator software. 2. Type the following command - Admin>dsl 	<p>You will get the following results:</p> <pre> - Admin>dsl ----- Logic-Name Slave-IP Connection-Status ----- dsl-master 10.0.1.2 ON LINE dsl-slave-01 10.0.1.18 (NA) dsl-slave-02 10.0.1.34 ON LINE dsl-slave-03 10.0.1.50 ON LINE dsl-slave-04 10.0.1.66 (NA) dsl-slave-05 10.0.1.82 (NA) </pre>

▲ How to Check the Version Information

<p>To display the basic information of the controller inside the master device</p>	<p>The results</p>
<ol style="list-style-type: none"> 1. Login through terminal emulator software. 2. Type the following command - Admin>system basic 	<p>You will get the following results:</p> <pre> - Admin>system basic ----- SYSTEM BASIC INFORMATION ----- Machine Model : IP DSLAM MASTER Firmware Version : V2.1.12 Hardware Version : 0.0 Build Time : Wed Aug 17 14:44:10 CST 2005 System Uptime : 0 days 03h:43m:59s System Contact : admin@urcompany.com System Name : Taiwan001 System Location : urlocation CPU Usage : 01% Memory Usage : 49% Current Time : Thu Jan 01 11:43:42 1970 </pre>
<p>To display the DSL module information inside the master/slave device</p>	<p>The results</p>
<ol style="list-style-type: none"> 1. Login the specified DSL module. 2. Type the following command to get the DSL module information - \$get system info 	<p>You will get the following results:</p>

	<p>— \$get system info</p> <pre> Description : IP DSLAM Name : Taiwan001 Location : Contact : Vendor : LogThreshold : 0 Object-id : 1.3.6.1.4.1.7367.2.11.1 Up Time(HH:MM:SS) : 2:40:40 HwVersion : A-A-24-1GE-1.0 CPSwVersion : V1.1.1_G_016 DPSwVersion : DP_B02_08_07_21 System Time : Thu Jan 01 03:45:33 1970 Time Zone : GMT DST : off </pre>
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▲ How to Save the Configuration

To save the configuration for the controller	To save the configuration for the DSL module
Type the following command to save the configuration. - Admin>commit	Type the following command to save the configuration. - \$commit

5 Configuration by Using Telnet

To use Telnet for managing Master/Slave device, refer to the following sections.

Default IP Settings for Master Device	Default IP Settings for Slave Device
<ol style="list-style-type: none"> The default IP address of Outband (MGN port): 172.16.1.1/255.255.255.0 IP address for Inband (UPLINK port): 0.0.0.0 (disable) 	Proprietary DHCP is configured on UPLINK port in slave device by default. The IP address will be assigned automatically when it connects to the master device.

▲ How to Change Master IP Setting

Changing master IP address setting (for management) is allowed to suit personal requirement. Type the command below to change the settings.

For Outband (MGN port connection) , please set as the following

- Admin>network out <new-ip> <mask> [vlanid]

For Inband (UPLINK port connection) , please set as the following

- Admin>network in <new-ip> <mask> [vlanid]

For the Status, please set as the following

- Admin>network out or - Admin>network in

Note: The IP addresses for MGN port and UPLINK ports cannot belong to the same domain.

▲ How to Configure IP Address for Slave-Standalone Device

A slave device can work alone without connecting the master device. There are two types of slave device that user might have. One is the device with **two fast-ethernet** interface version; the other is the device with **one gigabit-ethernet** interface version.

For two fast-ethernet interface version, please set as the following

```
- $aggr intf ifname aggr-0 ip <new-ip> mask <mask> usedhcp false
```

For one gigabit-ethernet interface version, please set as the following

```
- $ethernet intf ifname eth-0 ip <new-ip> mask <mask> usedhcp false
```

Change back to master-slave architecture, please set as the following

```
- $aggr (ethernet) intf ifname aggr-0 (eth-0) ip 0.0.0.0 mask 0.0.0.0 usedhcp true
```

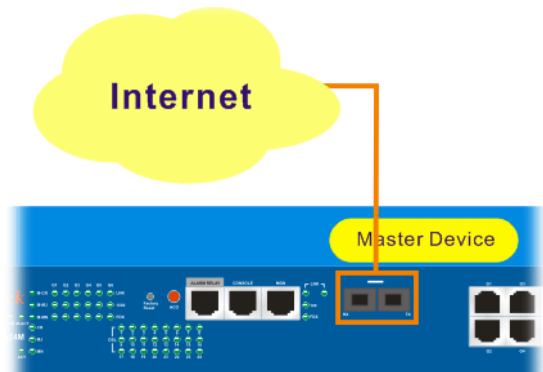
▲ How to Login with Telnet

For Master Device	For Slave Device
<ol style="list-style-type: none"> 1. Make sure the device IP has been configured well. 2. Make sure the connection of MGN port (for outband) or UPLINK port (for inband) is well done. 3. Open Telnet command screen. 4. Username/Password - admin/1234 (type 'exit' to return) 	<ol style="list-style-type: none"> 1. Make sure the device IP has been configured well. 2. Make sure the connection of UPLINK port is well done. 3. Open Telnet command screen. 4. Username/Password - admin/1234 (type 'exit' to return)

Now, please use Telnet commands to manage the master/slave device for your necessity.

▲ How to Set G5 and G6 as UPLINK Interface

For the environment with available Fiber connection, the UP-G connector in Master device is used as the channel to access Internet. For such condition, you can connect slave devices to G1 to G6.



However, for the environment without available Fiber connection, G5 and/or G6 in Master device can be used as the channel to access Internet. For such condition, only G1 to G4 connectors can be used for the slave devices.

For example,

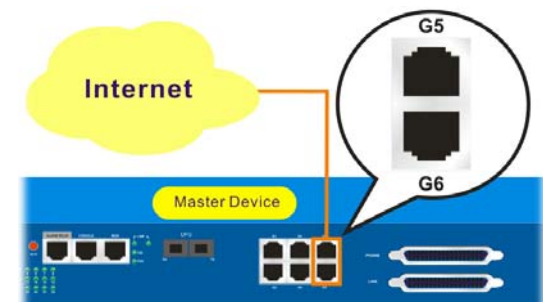
```
- Admin> system G6 up
```

or

```
- Admin>system uplink G6 up
```

Enable the port by typing:

```
- Admin>system link -m G6 on
```



6 Reference – Common Use Commands for Configuration

Part I:

Here provides some general and common commands used in IP DSLAM for users to configure the IP DSLAM Controller.

▲ How to configure Inband IP Address

Users can use the following commands to configure the inband IP address for the UP-LINK interface or inband management.

Command	Description
Admin> network	Enter network directory
Admin/network> inband ?	Help
Admin/network> inband -s	Display the settings
Admin/network> inband <IP_addr> <NetMask>	Edit the inband IP address without VLAN
Admin/network> inband <IP_addr> <NetMask> <vlan_id>	Edit the inband IP address with VLAN

▲ How to configure Outband IP Address

Users can use the following commands to configure the outband IP address for outband management.

Command	Description
Admin> network	Enter network directory
Admin/network> outband ?	Help
Admin/network> outband -s	Display the settings
Admin/network> outband <IP_addr> <NetMask>	Edit the outband IP address without VLAN
Admin/network> outband <IP_addr> <NetMask> <vlan_id>	Edit the outband IP address with VLAN

▲ How to configure Static Route

Users can use the following commands to configure the default route and some static routes.

Command	Description
Admin> network	Enter network directory
Admin/network> route ?	Help
Admin/network> route -r	Display the routing table
Admin/network> route -s	Display the static route entries
Admin/network> route default <RtIP>	Add a default route
Admin/network> route default 0.0.0.0	Delete the default route

<code>Admin/network> route -a <TargetIP> <NetMask> <GatewayIP></code>	Add a static route entry
<code>Admin/network> route -e <RtIdx> <TargetIP> <NetMask> <GatewayIP></code>	Edit the static route entry
<code>Admin/network> route -d <RtIdx></code>	Delete the static route entry
<code>Admin/network> route -D</code>	Delete all static route entries

▲ How to configure NTP and Time

Users can use the following commands to configure the NTP server IP and the polling interval or not to use the NTP by configuring the current time settings manually, including the time zone and the daylight saves time.

Command	Description
<code>Admin> service</code>	Enter service directory
<code>Admin/service> ntp -s</code>	Display the settings
<code>Admin/service> ntp ?</code>	Help
<code>Admin/service> ntp now</code>	Display the current time
<code>Admin/service> ntp -e <IP_addr> <interval></code>	Edit the NTP server IP address and the polling interval
<code>Admin/service> ntp -t <MMDDhhmmYYYY></code>	Edit the year, month, date, hour, and minute.
<code>Admin/service> ntp -z <time_zone> <DST></code>	Edit the time zone and the daylight saving time.
<code>Admin/service> ntp on/off</code>	Turn on/off the NTP

▲ How to configure SNMP

Users can use the following commands to configure the SNMP settings, including SNMP community, SNMP Trap port, and SNMP Trap host. Let the EMS can communicate with IP-DSLAM via SNMP.

Command	Description
<code>Admin> service</code>	Enter service directory
<code>Admin/service> snmp -l</code>	Display the general SNMP settings
<code>Admin/service> snmp -s</code>	Display the SNMP Trap host entries
<code>Admin/service> snmp -c <CommRO> <CommRW> <CommTrap></code>	Edit the read-only, read-write, and trap community
<code>Admin/service> snmp -a <HostIP></code>	Add a trap host
<code>Admin/service> snmp -e <EntryIdx> <HostIP></code>	Edit the trap host
<code>Admin/service> snmp -d <EntryIdx></code>	Delete the trap host entry
<code>Admin/service> snmp -D</code>	Delete all the trap host entries

▲ How to Upgrade Firmware

Users can use the following commands to upgrade new firmware. Make sure you have prepared a TFTP server on a host and put the firmware (ipdslam.all for example) in the right directory of the TFTP server

Command	Description
<code>Admin> system</code>	Enter system directory
<code>Admin/system> upgrade <ServIP> <FirmName></code>	Execute the firmware upgrading
<code>Admin/system> reboot</code>	Reboot the Controller to run the new firmware
<code>Admin/system> basicInfo</code>	After rebooting, check the firmware version

▲ How to Save Configuration

Users can use the following command to save the current configuration.

Command	Description
<code>Admin> commit</code>	Save the configuration

▲ How to Enable/Disable the Switch Port

Users can use the following commands to enable or disable the port on Controller. By default, G1 to G6 are off, but G0 and UP-G are on. If users find that when they connect the subnode slave machines to the master machine but the connection cannot be constructed, check the link status of the port connected to the master machine is enabled.

Command	Description
<code>Admin> system</code>	Enter system directory
<code>Admin/system> link_state -s</code>	Display the current status of all ports
<code>Admin/system> link_state -m <IntfName> on/off</code>	Turn on/off of the specific port

▲ How to Connect to DSL Module

Users can login to DSL module in master or slave units using the following command. Once entering into DSL module, the command described in Part II can be used.

Command	Description
<code>Admin> ds1</code>	Display the current connectivity with DSL modules
<code>Admin> ds1 -c</code>	Login to DSL module in master via serial channel
<code>Admin> ds1 -s m</code>	Login to DSL modules in master via Ethernet channel
<code>Admin> ds1 -s <salveId></code>	Login to DSL modules in slave via Ethernet channel

Part II:

Here provides some general and common commands used in IP DSLAM for users to configure the IP DSLAM DSL Module.

Note: Please refer to the Command Line Interface manual for getting more commands that IP DSLAM supports. Contact your dealer for advanced information.

▲ How to Monitor DSL Status

Users can use the following command to check the status for specified DSL port. The commands are listed as below.

Command	Description
<code>\$get adsl atuc physical ifname dsl-*</code>	for downstream (*: 0 ~ 23)
<code>\$get adsl atur physical ifname dsl-*</code>	for upstream (*: 0 ~ 23)

▲ How to Enable/Disable a DSL Port

Users can use the following command to enable or disable DSL port for certain user. The commands are listed as below.

Command	Description
<code>\$modify adsl line intf ifname dsl-* enable</code>	Enable (*: 0 ~ 23)
<code>\$modify adsl line intf ifname dsl-* disable</code>	Disable (*: 0 ~ 23)

▲ How to Read DSL Training Rate

Users can use the following command to read DSL Training Rate for specified DSL port. The commands are listed as below.

Command	Description
<code>\$get adsl atuc channel ifname dsli-*</code>	for downstream/interleave channel (*: 0 ~ 23)
<code>\$get adsl atur channel ifname dslf-*</code>	for upstream/fast channel (*: 0 ~ 23)
<code>\$get adsl atuc channel ifname dsli-*</code>	for downstream/interleave channel (*: 0 ~ 23)
<code>\$get adsl atur channel ifname dslf-*</code>	for upstream/fast channel (*: 0 ~ 23)

▲ How to Change ADSL Line Profile

Users can use the following command to change the ADSL Line Profile for specified DSL port. The commands are listed as below.

Command	Description
<code>\$modify adsl line intf ifname dsl-* disable</code>	Disable (*: 0 ~ 23)
<code>\$modify adsl line profile ifname dsl-* ?</code>	(*: 0 ~ 23, ?: means to get more information)
<code>\$modify adsl line intf ifname dsl-*</code>	Enable (*: 0 ~ 23)

enable

▲ How to Change ADSL Line Rate

Users can use the following command to change the ADSL Line Rate for specified DSL port. The commands are listed as below.

Command	Description
<code>\$modify adsl line intf ifname dsl-* disable</code>	Disable (*: 0 ~ 23)
<code>\$modify adsl line profile ifname dsl-* atucintlmmaxtxrate 0x7e0000</code>	Necessary variables (*: 0 ~ 23)
<code>\$modify adsl line intf ifname dsl-* enable</code>	Enable (*: 0 ~ 23)

▲ How to Change ADSL to Fast Channel/Rate

Users can use the following command to change the ADSL to fast channel/rate for specified DSL port. The commands are listed as below.

Command	Description
<code>\$modify adsl line intf ifname dsl-* disable</code>	Disable (*: 0 ~ 23)
<code>\$modify adsl line profile ifname dsl-* type fastOnly atucfastmaxtxrate 0x7e0000</code>	Necessary variables (*: 0 ~ 23)
<code>\$modify adsl line intf ifname dsl-* enable</code>	Enable (*: 0 ~ 23)

▲ How to Set ADSL Alarm Profile

Users can use the following command to change the ADSL Alarm profile for specified DSL port. The commands are listed as below.

Command	Description
<code>\$modify adsl line intf ifname dsl-* disable</code>	Disable (*: 0 ~ 23)
<code>\$modify adsl alarm profile ifname dsl-* ?</code>	(*: 0 ~ 23, ?: means to get more information)
<code>\$modify adsl line intf ifname dsl-* enable</code>	Enable (*: 0 ~ 23)

▲ How to Change VPI/VCI for Existing VCC

Users can use the following command to change VPI/VCI for existing VCC. The commands are listed as below.

Command	Description
<code>\$modify atm vc intf ifname aal5-* disable</code>	Disable (*: Existing aal5 interface)

<code>\$modify atm vc intf ifname aal5-* vpi <new-vpi> vci <new-vci></code>	(*: Existing aal5 interface)
<code>\$modify atm vc intf ifname aal5-* enable</code>	Enable (*: Existing aal5 interface)

▲ How to Change Management IP Address for Existing Ethernet Port

Users can use the following command to change management IP address for existing Ethernet port. The commands are listed as below.

Command	Description
<code>\$modify aggr intf ifname aggr-0 ip <new-ip> mask <new-mask></code>	Aggregation Ethernet
<code>\$modify ethernet intf ifname eth-* ip <new-ip> mask <new-mask></code>	Non-Aggregation Ethernet (*: 0 or 1)

▲ How to Create more VC/EOA/Bridge

Users can use the following command to create more VC/EOA/Bridge. The commands are listed as below.

Command	Description
<code>\$create atm vc intf ifname aal5-* vpi <vpi> vci <vci> lowif atm-* [vcmux/llcmux] [fast/interleaved]</code>	(*:0 ~ 23 is used for atm; 0~191 is used for aal5)
<code>\$create eoa intf ifname eoa-* lowif aal5-*</code>	(*:0~191 is used for aal5 and eoa)
<code>\$create bridge port intf portid <bridge-port-id> ifname eoa-*</code>	(*:0~191 is used for eoa,; 1~192 is used for <bridge-port-id>)

▲ How to Setup SNMP Community/Host/Trap

Users can use the following command to setup SNMP community/host/trap. The commands are listed as below.

Command	Description
<code>\$create snmp comm community <community> <RW RO></code>	Create SNMP community
<code>\$create snmp host ip <host-ip> community <community></code>	Create a host to manage the device through SNMP
<code>\$create snmp traphost ip <host-ip> community <community></code>	Create a host to capture the traps.

▲ How to Create VLAN

Users can use the following command to create VLAN. The commands are listed as below.

Command	Description
<code>\$create vlan static vlanname <vlan-name> valnid <vlan-id> [egressports <bridge ports>]</code>	Create VLAN

▲ How to Setup Port VLAN ID (PVID)

Users can use the following command to setup port VLAN ID. The commands are listed as below.

Command	Description
<pre>\$modify gvrp port info portid <bridge-port-id> portvalnid <default-pvid></pre>	Setup port VLAN ID

▲ How to Filter MAC Address by Port

Users can use the following command to filter MAC address by port. The commands are listed as below.

Command	Description
<pre>\$create acl port macentry portId <bridge-port-id> macaddr 00:00:00:01:02:03</pre>	Allow source address 00:00:00:01:02:03 access from bridge port; bridge-port-id means other source addresses from bridge port <bridge-port-id> are denied
<pre>\$create acl port macentry portId <bridge-port-id> macaddr 00:00:00:01:02:04</pre>	Allow source address 00:00:00:01:02:04 access from bridge port; bridge-port-id means other source addresses from bridge port <bridge-port-id> are denied

▲ How to Deny MAC Address Globally

Users can use the following command to deny MAC Address globally. The commands are listed as below.

Command	Description
<pre>\$create acl global macentry macaddr 00:00:00:01:02:03 deny enable</pre>	Mac source address 00:00:00:01:02:03,04 access from any bridge ports is denied

▲ How to Filter Net BIOS

Users can use the following command to filter Net BIOS. The commands are listed as below.

Command	Description
<pre>\$create filter rule entry ruleid <id> action drop description NETBIOS-TCP</pre>	NETBIOS-NS: Name Service 137 TCP/UDP
<pre>\$create filter subrule tcp ruleid <id> subruleid 1 srcportfrom 137 srcportto 139 srcportcmp inrange</pre>	NETBIOS-DGM: Datagram Service 138 TCP/UDP
<pre>\$modify filter rule entry ruleid <id> status enable</pre>	NETBIOS-SSN: Session Service 139 TCP/UDP
<pre>\$create filter rule map ifname all ruleid <id> stageid 1</pre>	
<pre>\$create filter rule entry ruleid <id2> action drop description NETBIOS-UDP</pre>	
<pre>\$create filter subrule udp ruleid <id2> subruleid 1 srcportfrom 137 srcportto 139 srcportcmp inrange</pre>	
<pre>\$modify filter rule entry ruleid <id2></pre>	

```
status enable
$create filter rule map ifname all
ruleid <id2> stageid 1
```

▲ How to Enable Spanning Tree Protocol

Users can use the following command to enable spanning tree protocol. The commands are listed as below.

Command	Description
<code>\$modify stp info enable</code>	Enable STP globally
<code>\$modify stp port info portid <bridge-port-id> enable</code>	Bridge port id: 1~193
<code>\$get stp port info portid <bridge-port-id></code>	

▲ How to Enable IGMP Snooping

Users can use the following command to enable IGMP snooping. The commands are listed as below. Be aware that IGMP Snooping is the Factory Default Setting.

Command	Description
<pre>\$create filter rule entry ruleid <id> action sendtocontrol description IGMP \$create filter subrule ip ruleid <id> subruleid 1 prototypefrom 2 prototypecmp eq \$modify filter rule entry ruleid <id> status enable \$create filter rule map ifname all ruleid <id> stageid 1 \$modify igmpsnoop cfg info status enable \$modify igmpsnoop port info portid <bridge-port-id> status enable leavemode fastNormal or \$modify igmpsnoop port info portid <bridge-port-id> status enable leavemode Fast</pre>	The feature is enabled in default.

▲ How to Upgrade Control Plane Code Remotely

Users can use the following command to remotely upgrade control plane code. Make sure you have prepared TFTP server, vendor supplied CP.bin.gz , and put CP.bin.gz into root directory of TFTP server. The commands are listed as below.

Command	Description
<code>\$firmware upgrade CP.bin.gz CP <tftp-server-ip></code>	Upgrade the control plane code

▲ How to Upgrade Full Image Remotely

Users can use the following command to remotely upgrade full image. Make sure you have prepared TFTP server, vendor supplied TEImage.bin.gz, and put TEImage.bin.gz into root directory of TFTP server. The commands are listed as below.

Command	Description
<pre>\$reboot config safe</pre>	Reboot from Safe mode
<pre>\$create ethernet intf ifname eth-0 ip <ip_address> mask <mask> \$download src TEImage.bin.gz dest /nvram/TEImage.bin ip <server_ip> (or \$download src TEImage.bin.gz dest /nvram/image/ ip <server_ip> for version 2.10.x and onwards) Downloading the File. Download file size is 1991180 Check if TEImage.bin shall uncompress Uncompressing "TEImage.bin.gz" (11990111->4194304)..... TEImage.bin.gz is in proper format Unlocking Flash..... Unlock successful Erasing Flash Erasing successful Starting to Uncompress TEImage.bin.gz and Burn Flash Uncompressing "TEImage.bin.gz" (1990111->4194304)..... ##### Flash Programmed successfully Done. Download session Completed, Bytes received 1991180... \$</pre>	
<pre>\$reboot</pre>	Reboot from Default mode

▲ Wizard Commands

In addition to the primitive commands described as above. Several wizard commands are provided which is used easily. Type *wizard* to see the command syntax.

Command	Description
<pre>\$ wizard <List of Wizard Commands> ----- dsl show [fast] alarm show pvc show pvc create <dsl: 1~24> <vc: 1~8> <vpi> <vci> [<llcmux vcmux>] [<interleaved fast>] pvc delete <dsl: 1~24> <vc: 1~8> bridge delete <bridge id: 1~193> tca show <acked> critical show <acked> firmware upgrade [-]<source file> <CP DP FD DSL> <server ip> fd show port <disable enable restart> <dsl: 1~24> config backup <filename> <server ip> config restore <filename> <server ip> -----</pre>	
<pre>dsl show [fast]</pre>	Display all the 24 ports DSL status
<pre>firmware upgrade</pre>	Upgrade firmware without removing the existing one in advance
<pre>config backup/restore</pre>	Backup or restore the current configuration

