

DrayTek Vigor Router

Command Line Reference

Version: 1.0

Firmware Version: **V3.8.2**

(For future update, please visit [DrayTek web site](#))

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ADSL Commands

These commands provide diagnostic information and functions for the router's ADSL modem interface.

adsl txpct /adsl rxpct

This command allows the user to adjust the percentage of data transmission (receiving/transmitting) for QoS application.

Syntax

adsl txpct [*auto:percent*]

adsl rxpct [*auto:percent*]

Syntax	Description
auto	It means auto detection of ADSL transmission packet.
percent	It means to specify the percentage of ADSL transmission packet. Available range is 10-100.

Example

```
> adsl txpct auto
% tx percentage : 80
> adsl txpct 75
% tx percentage : 75
```

adsl status

This command is used to display current status of ADSL setting.

Syntax

adsl status

Example

```
> adsl status
----- ATU-R Info (hw: annex A, f/w: annex Unknown) -----
Running Mode           : T1.413   State           :
TRAINING
DS Actual Rate         :          0 bps US Actual Rate       :          0 bps
DS Attainable Rate     :          0 bps US Attainable Rate:          0 bps
DS Path Mode           :          Fast US Path Mode       :          Fast
DS Interleave Depth    :          0   US Interleave Depth:          0
NE Current Attenuation :          0 dB   Cur SNR Margin    :          0 dB
DS actual PSD          :          0.0 dB US actual PSD      :          0.0 dB
ADSL Firmware Version  : 05-04-08-00-00-06
----- ATU-C Info -----
```

```
Far Current Attenuation : 0 dB Far SNR Margin : 0 dB
CO ITU Version[0] : 00000000 CO ITU Version[1] : 00000000
DSLAM CHIPSET VENDOR : < ADI >
>
```

adsl ppp

This command can set the Internet Access mode for the router.

Syntax

adsl ppp [? | *pvc_no vci vpi Encap Proto modu acqIP idle [Username Password]*]

Syntax Description

Parameter	Description
?	Display the command syntax of “adsl ppp”.
pvc_no	It means the PVC number and the adjustable range is from 0 (Channel-1) to 7(Channel-8).
Encap	Different numbers represent different modes. 0 : VC_MUX, 1: LLC/SNAP, 2: LLC_Bridge, 3: LLC_Route, 4: VCMUX_Bridge 5: VCMUX_Route, 6: IPoE.
Proto	It means the protocol used to connect Internet. Different numbers represent different protocols. 0: PPPoA, 1: PPPoE, 2: MPoA.
Modu	0: T1.413, 2: G.dmt, 4: Multi, 5: ADSL2, 7:ADSL2_AnnexM 8:ADSL2+ 14:ADSL2+_AnnexM.
acqIP	It means the way to acquire IP address. Type the number to determine the IP address by specifying or assigned dynamically by DHCP server. 0 : fix_ip, 1: dhcp_client/PPPoE/PPPoA.(acquire IP method)
idle	Type number to determine the network connection will be kept for always or idle after a certain time. 1: always on, else idle timeout secs. Only for PPPoE/PPPoA.
Username	This parameter is used only for PPPoE/PPPoA
Password	This parameter is used only for PPPoE/PPPoA

You have to reboot the system when you set it on Route mode.

Example

```
> adsl ppp o 35 8 1 1 4 1 -1 draytek draytek
pvc no.=0
vci=35
```

```
vpi=8
encap=LLC(1)
proto=PPPoE(1)
modu=MULTI(4)
AcquireIP: Dhcp_client(1)
Idle timeout:-1
Username=draytek
Password=draytek
```

adsl bridge

This command can specify a LAN port (LAN1 to LAN4) for mapping to certain PVC, and the mapping port/PVC will be operated in bridge mode.

adsl bridge [*pvc_no/status/save/enable/disable*] [*on/off/clear/tag tag_no*] [*service type*] [*px ...*]

Syntax Description

Parameter	Description
<i>pvc_no</i>	It means <i>pvc</i> number and must be between 0(Channel 1) to 7(Channel 8).
<i>status</i>	It means to shown the whole bridge status.
<i>save</i>	It means to save the configuration to flash.
<i>enable</i>	It means to enable the Multi-VLAN function.
<i>disable</i>	It means to disable the Multi-VLAN function.
<i>on/off</i>	It means to turn on/off bridge mode for the specific channel.
<i>clear</i>	It means to turn off and clear all the PVC settings.
<i>tag tag_no</i>	No tag: -1 Available number for tag: 0-4095
<i>pri pri_no</i>	The number 0 to 7 can be set to indicate the priority. "7" is the highest.
<i>service type</i>	Two number can be set: 0: for Normal (all the applications will be processed with the same PVC). 1: for the IGMP with different PVC which is used for special ISP.
<i>px...</i>	It means the number of LAN port (x=2~4). Port 1 is locked for NAT.

Example

```
> adsl bridge 4 on p2 p3
PVC Bridge p1 p2 p3 p4 Service Type Tag Pri
```

```
-----  
4   ON      0   0   1   0   Normal   -1(OFF)  0  
PVC 0 & 1 can't set for bridge mode.  
Please use 'save' to save config.
```

adsl idle

This command can make the router accessing into the idle status. If you want to invoke the router again, you have to reboot the router by using “reboot” command.

Example

```
> adsl idle  
%Idle Mode!  
You has to use {adsl reboot} to restart booting.
```

adsl drivemode

This command is useful for laboratory to measure largest power of data transmission. Please follow the steps below to set adsl drivermode.

1. Please connect dsl line to the DSLAM.
2. Waiting for dsl SHOWTIME.
3. Drop the dsl line.
4. Now, it is on continuous sending mode, and adsl2/2+ led is always ON.
5. Use 'adsl reboot' to restart dsl to normal mode.

adsl reboot

This command can wake up the idle router.

Example

```
> adsl reboot  
% Adsl is Rebooting...
```


adsl oamlb

This command is used to test if the connection between CPE and CO is OK or not.

adsl oamlb [*n*][*type*]

adsl oamlb chklink [*on/off*]

adsl oamlb [*log_on/log_off*]

Syntax Description

Parameter	Description
<i>n</i>	It means the total number of transmitted packets.
<i>type</i>	It means the protocol that you can use. 1 – for F4 Seg-to-Seg (VP level) 2 – for F4 End-to-End (VP level) 4 – for F5 Seg-to-Seg (VC level) 5 – for F5 End-to-End (VC level)
<i>chklink</i>	Check the DSL connection.
<i>Log_on/log_off</i>	Enable or disable the OAM log for debug.

Example

```
> adsl oamlb chklink on
  OAM checking dsl link is ON.
> adsl oamlb F5 4
Tx cnt=0
Rx Cnt=0
>
```

adsl vcilimit

This command can cancel the limit for vci value.

Some ISP might set the vci value under 32. In such case, we can cancel such limit manually by using this command. Do not set the number greater than 254.

adsl vcilimit [*n*]

Syntax Description

Parameter	Description
<i>n</i>	The number shall be between 1 ~ 254.

Example

```
> adsl vcilimit 33
change VCI limitation from 32 to 33.
```

adsl annex

This command can display the annex interface of this router.

Example

```
> adsl annex
% hardware is annex B.
% modem code is annex B; built at 01/15,07:34.
```

adsl automode

This command is used to add or remove ADSL modes (such as ANNEXL, ANNEXM and ANNEXJ) supported by Multimode.

adsl automode [*add|remove|set|default|show*] [*adsl_mode*]

Syntax Description

Parameter	Description
<i>add</i>	It means to add ADSL mode.
<i>remove</i>	It means to remove ADSL mode.
<i>set</i>	It means to use default settings plus the new added ADSL mode.
<i>default</i>	It means to use default settings.
<i>show</i>	It means to display current setting.
<i>adsl_mode</i>	There are three modes to be choose, ANNEXL, ANNEXM and ANNEXJ.

Example

```
> Vigor> adsl automode set ANNEXJ
Automode supported : T1.413, G.DMT, ADSL2, ADSL2+, ANNEXJ,

Vigor> adsl automode default
Automode supported : T1.413, G.DMT, ADSL2, ADSL2+,
```

adsl optn

At present ,this command allows you to enable and disable dual-latency only.

adsl optn FUNC [*value/on/off*]

Syntax Description

Parameter	Description
<i>FUNC</i>	Available setting is “dual” only. It means dual-latency.

<i>value</i>	The value shall be hex digits.
<i>on/off</i>	Type “on” for enabling such function. Type “off” for disabling such function.

Example

```
> adsl optn dual on
dsl dual-latency is ON.
```

adsl savecfg

This command can save the configuration into FLASH with a file format of cfg.

Example

```
> adsl savecfg
% Xdsl Cfg Save OK!
```

adsl vendorid

This command allows you to configure user-defined CPE vendor ID.

adsl vendorid [*status/on/off/ set vid0 vid1*]

Syntax Description

Parameter	Description
<i>status</i>	Display current status of user-defined vendor ID.
<i>on</i>	Enable the user-defined function.
<i>off</i>	Disable the user-defined function.
<i>set vid0 vid1</i>	It means to set user-defined vendor ID with vid0 and vid1. The vendor ID shall be set with HEX format, ex: 00fe7244:79612f21.

Example

```
> adsl vendorid status
% User define CPE Vendor ID is OFF
% vid0:vid1 = 0x00fe7244:79612f21
> adsl vendorid on set vid0 vid1
% User define CPE Vendor ID is ON
```

adsl atm

This command can set QoS parameter for ATM.

adsl atm pcr [*pvc_no*][*PCR*][*max*][*status*]

adsl atm scr [*pvc_no*][*SCR*]

adsl atm mbs [*pvc_no*][*MBS*]

adsl atm status

Syntax Description

Parameter	Description
<i>pvc_no</i>	It means <i>pvc</i> number and must be between 0(Channel 1) to 7(Channel 8).
<i>PCR</i>	It means Peak Cell Rate for upstream. The range for the number is "1" to "2539".
<i>max</i>	It means to get the highest speed for the upstream.
<i>SCR</i>	It means Sustainable Cell Rate.
<i>MBS</i>	It means Maximum Burst Size.
<i>status</i>	It means to display PCR/SCR/MBS setting.

Example

```
> adsl atm pcr 1 200 max
% PCR is 200 for pvc 1.

> adsl atm pcr status
 pvc   channel      PCR
-----
  0     1           0
  1     2          200
  2     3           0
  3     4           0
  4     5           0
  5     6           0
  6     7           0
  7     8           0

> adsl atm mbs 2 300 max
% MBS is 300 for pvc 2.
```

adsl pvcbinding

This command can configure PVC to PVC binding. Such command is available only for PPPoE and MPoA 1483 Bridge mode.

adsl pvcbinding [*pvc_x pvc_y* | *status* | -1]

Syntax Description

Parameter	Description
<i>pvc_x</i>	It means the PVC number for the source.

<i>pvc_y</i>	It means the PVC number that the source PVC will be bound to.
<i>status</i>	Display a table for PVC binding group.
<i>-1</i>	It means to clear specific PVC binding.

Example

```
> adsl pvcbinding 3 5
set done. bind pvc3 to pvc5.
```

The above example means PVC3 has been bound to PVC5.

```
> adsl pvcbinding 3 -1
clear pvc-1 binding
```

The above example means the PVC3 binding group has been removed.

adsl snr

This command is used to configure the value of SNR (Signal-to-noise ratio). Greater value results in stable network connection. Smaller value results in better Up/Down speed but easy to disconnect.

adsl snr [*delta*]

Syntax Description

Parameter	Description
<i>delta</i>	It means SNR margin delta. The range is from -50 to 50. Current ADSL SNR Margin is 0 dB.

Example

```
> vdsl snr 25
ADSL SNR update successfully !
Restarting ADSL modem ...
```

adsl inventory

This command is used to display information about CO or CPE.

adsl inventory [*co/cpe*]

Syntax Description

Parameter	Description
<i>co</i>	It means DSLAM (Digital Subscriber Line Access Multiplexer) or CO (Central Office).
<i>cpe</i>	It means CPE (Customer Premise Equipment).

Example

```
> adsl inventory co
xDSL inventory info only available in showtime.
> adsl inventory cpe
G.994 vendor ID           : 0XB5004946544E5444
  G.994.1 country code    : 0XB500
  G.994.1 provider code   : IFTN
  G.994.1 vendor info     : 0X5444
System vendor ID         : 0XB5004946544E0000
  System country code     : 0XB500
  System provider code    : IFTN
  System vendor info      : 0X000
Version number           : 3.8.2_RC4a_STD
Version number(16 octets) : 0X332E382E325F524334615F5354440000
Self-test result         : PASS
Transmission mode capability : 0X40004004C010400
>
```

APM (Access Point Management) Commands

apm show /clear/discover/query

The apm command(s) is used to display, remove, discover or query the information of VigorAP registered to Vigor2860.

Syntax

apm show
apm clear
apm discover
apm query

Syntax Description

Parameter	Description
<i>show</i>	It displays current information of APM profile.
<i>clear</i>	It is used to remove all of the APM profile.
<i>discover</i>	It is used to search VigorAP on LAN.
<i>query</i>	It is used to query any VigorAP which has been registered to APM (Central AP Management) in Vigor2860. Information related to the registered AP will be send back to Vigor2860 for updating the web page of Central AP Management.

Example

```
> apm clear ?  
Clear all clients ... done
```

apm profile

This command allows to configure wireless profiles to be used in Central AP Management.

Syntax

apm profile clone [*from index*][*to index*][*new name*]

apm profile del [*index*]

apm profile reset apm profile summary

apm profile [*show* [*profile index*]]

apm profile apply [*profile index*] [*client index1* [*index2 .. index5*]]

Syntax Description

Parameter	Description
<i>clone</i>	It is used to copy the same parameters settings from one profile to another APM profile.
<i>del</i>	It is used to delete a specified APM profile. The default (index #1) should not be deleted.
<i>reset</i>	It is used to reset to factory settings for WLAN profile.
<i>summary</i>	It is used to list all of the APM profiles with required
<i>show</i>	It is used to display specified APM profile.
<i>apply</i>	It is used to apply the selected APM profile onto specified
<i>from index</i>	Type an index number in this field. It is the original APM profile to be cloned to other APM profile.
<i>to index</i>	Type an index number in this file. It is the target profile which will clone the parameters settings from an existed APM profile.
<i>new name</i>	Type a name for a new APM profile.
<i>profile index</i>	Type the index number of existed profile.
<i>client index1/2/3/4/5</i>	It is useful for applying the selected APM profile to the specified VigorAP.

Example

```
> apm profile clone 1 2 forcarrie
(Done)

> apm profile summary
# Name          SSID          Security      ACL      RateCtrl(U/D)
-----
0 Default      DrayTek-LAN-A  WPA+WPA2/PSK x      - / -
               DrayTek-LAN-B  WPA+WPA2/PSK x      - / -
1 -            -             -             -             -
2 forcarrie    DrayTek       Disable       x      - / -
3 -            -             -             -             -
4 -            -             -             -             -
```


apm cache

This command is used to display or remove the information of registered VigorAP, including MAC address, name, and authentication. Up to 30 entries of registered information can be stored and displayed.

Syntax

apm cache *[show]*

apm cache clear

Syntax Description

Parameter	Description
<i>show</i>	It means to display the information related to VigorAP registered Vigor2860.
<i>clear</i>	It means to remove the information related to VigorAP registered Vigor2860.

Example

```
> apm cache show
```

```
MAC           Name           Auth  
-----
```

apm lbcfg

This command allows to set parameters related to AP management control.

Syntax

apm lbcfg *[set]* *[value]*

apm lbcfg*[show]*

Syntax Description

Parameter	Description
<i>set</i>	It means to set the load balance configuration file for APM.
<i>Show</i>	It shows the configuration value.
<i>[value]</i>	<p>You need to type 10 numbers in this field. Each number represents different setting value.</p> <p>[1] – The first number means the load balance function. Type 1 – enable load balance, 0 – disable load balance.</p> <p>[2] – The second number means the station limit function. Type 1 - enable station limit, 0 - disable station limit.</p> <p>[3] – The third number means the traffic limit function. Type 1 – enable traffic limit, 0 – disable traffic limit.</p> <p>[4] – The forth number means the limit num of station. Available range is 3~64.</p> <p>[5] – The fifth number means the upload limit function. Type 1 – enable upload limit, 0 – disable upload limit.</p> <p>[6] – The sixth number means the download limit function. Type 1 – enable download limit, 0 – disable download limit.</p> <p>[7] – The seventh number means disassociation by idle time. Type 1 – enable disassociation, 0 – disable disassociation.</p> <p>[8] – The eighth number means to enable or disable disassociation by signal strength. Type 1 – enable disassociation, 0 – disable disassociation.</p> <p>[9] – The ninth number means to determine the unit of traffic limit (for upload) 1 – Mbps 0 – kbps</p> <p>[10] – The tenth number means to determine the unit of traffic limit (for download) 1 – Mbps 0 – kbps</p>

Example

```
> apm lbcfg show
apm LoadBalance Config :
1. Enable LoadBalance : 0
2. Enable station limit : 0
3. Enable traffic limit : 0
4. limit Number : 64
5. Upload limit : 0
6. Download limit : 0
7. Enable disassociation by idle time : 0
8. Enable disassociation by Signal strength : 0
9. Traffic limit unit (upload) : 0
10. Traffic limit unit (download) : 0
flag : 0
```

```
> apm lbcfg set 1 1 0 15 0 0 0 0 1 1
```

```
> apm lbcfg show
```

```
apm LoadBalance Config :
```

```
> apm stanum
```

```
% Show the APM AP Station Number data.
% apm stanum AP Index.
%   ex : apm stanum 1
%           Idx Nearby(2.4/5G) Conn(2.4/5G)
%           1 2 5           0 0
%           2 2 5           1 0
%           3 2 5           1 0
```

```
> apm stanum
```

```
% Show the APM AP Station Number data.
% apm stanum AP Index.
%   ex : apm stanum 1
%           Idx Nearby(2.4/5G) Conn(2.4/5G)
```

apm napdetect

This command is used to enable/disable AP detection function.

Syntax

`apm napdetect [get]`

`apm napdetect [set] [enable/disable AP Detection 1/0][Refresh Time].`

Syntax Description

Parameter	Description
<code>get</code>	It is used to get AP detection data from VigorAP (e.g., AP900).
<code>set</code>	It allows to set detect configuration to VigorAP.
<code>enable/disable AP Detection 1/0</code>	It is used to enable or disable the AP detection function. 0 – disable the function. 1 – enable the function.
<code>Refresh Time</code>	Available values are 1, 3 or 5 (minutes).

Example

Note: To check the scanning result of AP detection, use the command of “`wl scan show`”.

```
> apm napdetect set 1 1
> wl scan show 3
Sta Ch SSID          BSSID          BssType  Security Siganl(%) Beacon
Period First Detected  Last Detected
11 DrayTek-LAN-B    02:1d:aa:4c:bd:a8  AP      Mixed    26      100
11 DrayTek-LAN-A    00:1d:aa:4f:bd:a8  AP      Mixed    42      100
Dec 09,10:35:44 Dec 09,10:35:44
```

apm apsyslog

This command is used to display the AP syslog data coming from VigorAP.

Syntax

`apm apsyslog [AP_Index]`

Syntax Description

Parameter	Description
<code>AP_Index</code>	Specify the index number which represents VigorAP.

Example

```
> apm apsyslog 1
8d 02:46:09 syslog: [APM] Send Rogue AP Detection data.
8d 02:53:04 syslog: [APM] Run AP Detection / Discovery.
8d 02:56:09 syslog: [APM] Send Rogue AP Detection data.
8d 03:00:42 kernel: 60:fa:cd:55:f5:ea had disassociated.
8d 03:03:12 syslog: [APM] Run AP Detection / Discovery.
8d 03:06:09 syslog: [APM] Send Rogue AP Detection data.
8d 03:13:21 syslog: [APM] Run AP Detection / Discovery.
8d 03:16:10 syslog: [APM] Send Rogue AP Detection data.

8d 03:16:41 kernel: 60:fa:cd:55:f5:ea had associated successfully
8d 03:16:55 kernel: 60:fa:cd:55:f5:ea had disassociated.
```

apm syslog

This command is used to display related syslog data from central AP management.

Syntax

apm syslog

Example

```
> apm syslog
"2015-11-04 12:24:21", "[APM] [VigorAP900_01daa902080] Get Rogue AP Detection
Data from AP"
2015-11-04 12:24:56", "[APM] [VigorAP900_01daa902080] Get Rogue AP Detection
Data from AP Success"
2015-11-04 12:34:21", "[APM] [VigorAP900_01daa902080] Get Rogue AP Detection
Data from AP"
2015-11-04 12:34:57", "[APM] [VigorAP900_01daa902080] Get Rogue AP Detection
Data from AP Success"
```

apm stanum

This command is used to display the total number of the wireless clients, no matter what mode of wireless connection (2.4G WLAN or 5G WLAN) used by wireless clients to access into Internet through VigorAP.

Syntax

apm stanum [*AP_Index*]

Syntax Description

Parameter	Description
<i>AP_Index</i>	Specify the index number which represents VigorAP.

Example

```
> apm stanum

% Show the APM AP Station Number data.
% apm stanum AP Index.
%   ex : apm stanum 1
%           Idx Nearby(2.4/5G) Conn(2.4/5G)
%           1 2 5           0 0
%           2 2 5           1 0
%           3 2 5           1 0
```

BPA Command

bpa

This command allows to configure a network setting specified for Australia's ISP.

bpa m [-<command> <parameter> / ...]

Syntax Description

Parameter	Description
<i>m</i>	Available settings are 1 and 2.
-a <enable>	1/0 to enable/disable this entry
-n <UserName>	contact UserName(max. 24 characters)
-p <PassWord>	contact PassWord (max. 24 characters)
-s <select>	It means to specify an IP address for Server. 0 : no selection. 1 : NSW(61.9.192.13) 2 : QLD(61.9.208.13), 3 : VIC(61.9.128.13) 4 : SA(61.9.224.13), 5 : WA(61.9.240.13)
-l <List>	List all settings configured.

Example

```
> bpa 1 -a 1 -n testUser -p testPassword -s 4
> bpa -l
-----index: 1 active-----
UserName[1]: testUser
PassWord[1]: testPassword
ServerIP[1]:4

-----index: 2 inactive-----
UserName[2]:
PassWord[2]:
ServerIP[2]:0

>
```

Content Security Management Commands

csm appe prof

Commands under CSM allow you to set CSM profile to define policy profiles for different policy of IM (Instant Messenger)/P2P (Peer to Peer) application.

“csm appe prof “ is used to configure the APP Enforcement Profile name. Such profile will be applied in **Default Rule of Firewall>>General Setup** for filtering.

csm appe prof -i INDEX [-v | -n NAME]

Syntax Description

Parameter	Description
<i>INDEX</i>	It means to specify the index number of CSM profile, from 1 to 32.
-v	It means to view the configuration of the CSM profile.
-n	It means to set a name for the CSM profile.
<i>NAME</i>	It means to specify a name for the CSM profile, less than 15 characters.

Example

```
> csm appe prof -i 1 -n games
The name of APPE Profile 1 was setted.
```

csm appe im

It is used to configure IM settings for APP Enforcement Profile.

csm appe im -i INDEX [-v | -e AP | -d AP | -a AP [ACTION]]

Syntax Description

Parameter	Description
<i>INDEX</i>	It means to specify the index number of CSM profile, from 1 to 32.
-v	It means to view the IM configuration of the CSM profile.
-e	It means to enable the blocking for specific application.
-d	It means to disable the blocking for specific application.
-a	Set the action of specific application
<i>AP</i>	Specify one of the following applications for such profile. MSN : MSN YIM : YahooIM AIM : AIM ICQ : ICQ QQTM : QQ/TM iChat : iChat

	Jabber : Jabber/GoogleTalk GC : GoogleChat AliWW : AliWW Skype : Skype Kubao : Kubao Gizmo : Gizmo SIP : SIP/RTP TelTel : TelTel TeamSpk: TeamSpeak WIM : WebIMs RaidCall : RaidCall
<i>ACTION</i>	Specify the action of the application, 0 or 1. 0: Block. All of the applications meet the CSM rule will be blocked. 1: Pass. All of the applications meet the CSM rule will be passed.

Example

```
> csm appe im -i 1 -e ICQ Login -a ICQ 0
Profile 1 - : ICQ is enabled.
```

csM appe p2p

It is used to configure P2P settings for APP Enforcement Profile.

```
csM appe p2p -i INDEX [-v | -e AP | -d AP | -a AP [ACTION]]
```

Syntax Description

Parameter	Description
<i>INDEX</i>	It means to specify the index number of CSM profile, from 1 to 32.
<i>-v</i>	It means to view the P2P configuration of the CSM profile.
<i>-e</i>	It means to enable the blocking for specific application.
<i>-d</i>	It means to disable the blocking for specific application.
<i>-a</i>	Set the action of specific application, 0 or 1. 0: Block. All of the applications meet the CSM rule will be blocked. 1: Pass. All of the applications meet the CSM rule will be passed.
<i>AP</i>	Specify one of the following applications for such profile. SoulSeek: SoulSeek Protocol eDonkey: eDonkey Protocol FastTrack : FastTrack Protocol

	OpenFT: OpenFT Protocol Gnutella: Gnutella Protocol OpenNap: OpenNap Protocol BitTorrent: BitTorrent Protocol
<i>ACTION</i>	Specify the action of the application, 0 or 1. 0: Block. All of the applications meet the CSM rule will be blocked. 1: Pass. All of the applications meet the CSM rule will be passed.

Example

```
> csm appe p2p -i 1 -e BitTorrent -a BitTorrent 0
Profile 1 - : BitTorrent is enabled.
```

csm appe prot

It is used to configure protocol settings for APP Enforcement Profile.

csm appe misc

It is used to configure miscellaneous settings for APP Enforcement Profile.

csm appe misc *-i INDEX [-v | -e AP | -d AP | -a AP [ACTION]]*

Syntax Description

Parameter	Description
<i>INDEX</i>	It means to specify the index number of CSM profile, from 1 to 32.
<i>-v</i>	It means to view the protocol configuration of the CSM profile.
<i>-e</i>	It means to enable the blocking for specific application.
<i>-d</i>	It means to disable the blocking for specific application.
<i>-a</i>	Set the action of specific application, 0 or 1. 0: Block. All of the applications meet the CSM rule will be blocked. 1: Pass. All of the applications meet the CSM rule will be passed.
<i>AP</i>	Specify one of the following applications for such profile. Streaming: MMS: MMS RTSP: RTSP TVAnts: TVAnts

	PPStream: PPStream PPLive: PPLive FeiDian: FeiDian UUSee: UUSee NSPlayer: NSPlayer PCAST: PCAST TVKoo: TVKoo SopCast: SopCast UDLiveX: UDLiveX TVUPlayer: TVUPlayer MySee: MySee Joost: Joost FlashVideo: FlashVideo SilverLight: MS SilverLight Slingbox: Slingbox QVOD: QVOD QQLive: QQLive
ACTION:	Specify the action of the application, 0 or 1. 0: Block. All of the applications meet the CSM rule will be blocked. 1: Pass. All of the applications meet the CSM rule will be passed.

Example

```
> csm appe misc -i 1 -e TVUPlayer -a 0
Profile 1 - : TVUPlayer is enabled.
```

csm ucf

It is used to configure settings for URL control filter profile.

csm ucf show

csm ucf setdefault

csm ucf msg *MSG*

csm ucf obj *INDEX [-n PROFILE_NAME | -I [P|B|A|N] | uac | wf]*

csm ucf obj *INDEX -n PROFILE_NAME*

csm ucf obj *INDEX -p VALUE*

csm ucf obj *INDEX -I P|B|A|N*

csm ucf obj *INDEX uac*

csm ucf obj *INDEX wf*

Syntax Description

Parameter	Description
-----------	-------------

<i>show</i>	It means to display all of the profiles.
<i>setdefault</i>	It means to return to default settings for all of the profile.
<i>msg MSG</i>	It means de set the administration message. MSG means the content (less than 255 characters) of the message itself.
<i>obj</i>	It means to specify the object for the profile.
<i>INDEX</i>	It means to specify the index number of CSM profile, from 1 to 8.
<i>-n</i>	It means to set the profile name.
<i>PROFILE_NAME</i>	It means to specify the name of the profile (less than 16 characters)
<i>-p</i>	It means to set the priority for the profile.
<i>VALUE</i>	Available numbers you can define are listed below: 0: It means Bundle: Pass. 1: It means Bundle: Block. 2: It means Either: URL Access Control First. 3: It means Either: Web Feature First.
<i>-l</i>	It means the log type of the profile. They are: P: Pass, B: Block, A: All, N: None
<i>MSG</i>	It means to specify the Administration Message, less then 255 characters
<i>uac</i>	It means to set URL Access Control part.
<i>wf</i>	It means to set Web Feature part.

Example

```

> csm ucf obj 1 -n game -l B
Profile Index: 1
Profile Name:[game]
Log:[none]
Priority Select : [Bundle : Pass]

[ ]Enable URL Access Control
  Action:[pass]
[ ]Prevent web access from IP address.
  No  Obj NO.   Object Name
  -----
  No  Grp NO.   Group Name
  -----

```

csm ucf obj INDEX uac

It means to configure the settings regarding to URL Access Control (uac).

csm ucf obj INDEX uac -v

csm ucf obj INDEX uac -e

csm ucf obj INDEX uac -d

csm ucf obj INDEX uac -a P|B

csm ucf obj INDEX uac -i E|D

csm ucf obj INDEX uac -o KEY_WORD_Object_Index

csm ucf obj INDEX uac -g KEY_WORD_Group_Index

Syntax Description

Parameter	Description
<i>INDEX</i>	It means to specify the index number of CSM profile, from 1 to 8.
<i>-v</i>	It means to view the protocol configuration of the CSM profile.
<i>-e</i>	It means to enable the function of URL Access Control.
<i>-d</i>	It means to disable the function of URL Access Control.
<i>-a</i>	Set the action of specific application, P or B. B: Block. The web access meets the URL Access Control will be blocked. P: Pass. The web access meets the URL Access Control will be passed.
<i>-i</i>	Prevent the web access from any IP address. E: Enable the function. The Internet access from any IP address will be blocked. D: Disable the function.
<i>-o</i>	Set the keyword object.
<i>KEY_WORD_Object_Index</i>	Specify the index number of the object profile.
<i>-g</i>	Set the keyword group.
<i>KEY_WORD_Group_Index</i>	Specify the index number of the group profile.

Example

```
> csm ucf obj 1 uac -i E
Profile Index: 1
Profile Name:[game]
Log:[none]
Priority Select : [Bundle : Pass]
```

```

[ ]Enable URL Access Control
Action:[pass]
[v]Prevent web access from IP address.
  No  Obj NO.   Object Name
-----

  No  Grp NO.   Group Name
-----

> csm ucf obj 1 uac -a B
Profile Index: 1
Profile Name:[game]
Log:[none]
Priority Select : [Bundle : Pass]

[ ]Enable URL Access Control
Action:[block]
[v]Prevent web access from IP address.
  No  Obj NO.   Object Name
-----

  No  Grp NO.   Group Name
-----

```

csm ucf obj INDEX wf

It means to configure the settings regarding to Web Feature (wf).

csm ucf obj INDEX wf -v

csm ucf obj INDEX wf -e

csm ucf obj INDEX wf -d

csm ucf obj INDEX wf -a P|B

csm ucf obj INDEX wf -s WEB_FEATURE

csm ucf obj INDEX wf -u WEB_FEATURE

csm ucf obj INDEX wf -f File_Extension_Object_index

Syntax Description

Parameter	Description
<i>INDEX</i>	It means to specify the index number of CSM profile, from 1 to 8.
<i>-v</i>	It means to view the protocol configuration of the CSM profile.
<i>-e</i>	It means to enable the restriction of web feature.
<i>-d</i>	It means to disable the restriction of web feature.
<i>-a</i>	Set the action of web feature, P or B. B: Block. The web access meets the web feature will be blocked. P: Pass. The web access meets the web feature will be passed.
<i>-s</i>	It means to enable the the Web Feature configuration. Features available for configuration are: c: Cookie p: Proxy u: Upload
<i>-u</i>	It means to cancel the web feature configuration.
<i>-f</i>	It means to set the file extension object index number.
<i>File_Extension_Object_index</i>	Type the index number (1 to 8) for the file extension object.

Example

```
> csm ucf obj 1 wf -s c
Profile Index: 1
Profile Name:[game]
Log:[none]
Priority Select : [Bundle : Pass]

[ ]Enable URL Access Control
```

```

Action:[block]
[v] Prevent web access from IP address.
  No  Obj NO.   Object Name
-----
 
  No  Grp NO.   Group Name
-----

[ ]Enable Restrict Web Feature
Action:[pass]
File Extension Object Index : [0]           Profile Name : []
[V] Cookie [ ] Proxy [ ] Upload

```

csm wcf

It means to configure the settings regarding to web control filter (wcf).

- csm wcf show**
- csm wcf look**
- csm wcf cache**
- csm wcf server WCF_SERVER**
- csm wcf msg MSG**
- csm wcf setdefault**
- csm wcf obj INDEX -v**
- csm wcf obj INDEX -a P|B**
- csm wcf obj INDEX -n PROFILE_NAME**
- csm wcf obj INDEX -l N|P|B|A**
- csm wcf obj INDEX -o KEY_WORD Object Index**
- csm wcf obj INDEX -g KEY_WORD Group Index**
- csm wcf obj INDEX -w E|D|P|B**
- csm wcf obj INDEX -s CATEGORY|WEB_GROUP**
- csm wcf obj INDEX -u CATEGORY|WEB_GROUP**

Syntax Description

Parameter	Description
<i>show</i>	It means to display the web content filter profiles.
<i>Look</i>	It means to display the license information of WCF.
<i>Cache</i>	It means to set the cache level for the profile.
<i>Server WCF_SERVER</i>	It means to set web content filter server.
<i>Msg MSG</i>	It means de set the administration message. MSG means the content (less than 255 characters) of the message itself.

<i>setdefault</i>	It means to return to default settings for all of the profile.
<i>obj</i>	It means to specify the object profile.
<i>INDEX</i>	It means to specify the index number of web content filter profile, from 1 to 8.
<i>-v</i>	It means to view the web content filter profile.
<i>-a</i>	Set the action of web content filter profile, P or B. B: Block. The web access meets the web feature will be blocked. P: Pass. The web access meets the web feature will be passed.
<i>-n</i>	It means to set the profile name.
<i>PROFILE_NAME</i>	It means to specify the name of the profile (less than 16 characters)
<i>-l</i>	It means the log type of the profile. They are: P: Pass, B: Block, A: All, N: None
<i>-o</i>	Set the keyword object.
<i>KEY_WORD_Object_Index</i>	Specify the index number of the object profile.
<i>-g</i>	Set the keyword group.
<i>KEY_WORD_Group_Index</i>	Specify the index number of the group profile.
<i>-w</i>	It means to set the action for the black and white list. E:Enable, D:Disable, P:Pass, B:Block
<i>-s</i>	It means to choose the items under CATEGORY or WEB_GROUP.
<i>-u</i>	It means to discard items under CATEGORY or WEB_GROUP.
<i>WEB_GROUP</i>	Child_Protection, Leisure, Business, Chating, Computer Internet, Other
<i>CATEGORY</i>	Includes: Alcohol & Tobacco, Criminal Activity, Gambling, Hate & Intoleranc, Illegal Drug, Nudity, Pornography/Sexually Explicit, Weapons, Violence, School Cheating,Sex Education, Tasteless, Child Abuse Imges, Entertainment, Games, Sports, Travel, Leisure & Recreation, Fashin & Beauty, Business, Job Search, Web-based Emai, Chat, Instant Messaging, Anonymizers, Forums & Newsgroups, Computers & Technology, Download Sites, Streaming Media & Downloads, Phishing & Fraud, Search Engines & Portals, Social Networking, Spam Sites, Malware, Botnets, Hacking, Illegal Software, Information Security, Peer-to-eer, Advertisements & Pop-Ups, Arts, Transportation, Compromised, Dating &

	Personals, , Education, Finance, Government,Health & Medicine, News, Non-profits & NGOs, Personal Sites,Politics, Real Estate, Rligion, Restaurants & Dining,Shopping, Translators, General, Cults,Greetig cards, Image Sharing, Network Errors, Parked Domains, Private IP Addresses)
--	--

Example

```
> csm wcf obj 1 -n test_wcf
Profile Index: 1
Profile Name:[test_wcf]
[ ]White/Black list
Action:[block]
  No  Obj NO.   Object Name
-----
  No  Grp NO.   Group Name
-----
Action:[block]
Log:[block]
-----
child Protection Group:
  [v]Alcohol & Tobacco      [v]Criminal & Activity  [v]Gambling
  [v]Hate & Intolerance     [v]Illegal Drug        [v]Nudity
  [v]Pornography & Sexually explicit  [v]Violence            [v]Weapons

  [v]School Cheating       [v]Sex Education       [v]Tasteless
  [v]Child Abuse Images

-----
leisure Group:
  [ ]Entertainment         [ ]Games                [ ]Sports
  [ ]Travel                [ ]Leisure & Recreation [ ]Fashion & Beauty
.
.
>
```

DDNS Commands

ddns log

Displays the DDNS log.

Example

```
>ddns log
>
```

ddns time

Sets and displays the DDNS time.

ddns time <update in minutes>

Syntax Description

Parameter	Description
<i>Update in minutes</i>	Type the value as DDNS time. The range is from 1 to 1440.

Example

```
> ddns time
ddns time <update in minutes>
Valid: 1 ~ 1440
%Now: 1440
> ddns time 1000
ddns time <update in minutes>
Valid: 1 ~ 1440
%Now: 1000
```

DOS Defense Command

dos

This command allows users to configure the settings for DoS defense system.

```
dos [-V | D | A]
```

```
dos [-s ATTACK_F [THRESHOLD][ TIMEOUT]]
```

```
dos [-a | e [ATTACK_F][ATTACK_0] | d [ATTACK_F][ATTACK_0]]
```

Syntax Description

Parameter	Description
-V	It means to view the configuration of DoS defense system.
-D	It means to deactivate the DoS defense system.
-A	It means to activate the DoS defense system.
-s	It means to enable the defense function for a specific attack and set its parameter(s).
ATTACK_F	It means to specify the name of flooding attack(s) or portscan, e.g., synflood, udpflood, icmpflood, or postscan.
THRESHOLD	It means the packet rate (packet/second) that a flooding attack will be detected. Set a value larger than 20.
TIMEOUT	It means the time (seconds) that a flooding attack will be blocked. Set a value larger than 5.
-a	It means to enable the defense function for all attacks listed in ATTACK_0.
-e	It means to enable defense function for a specific attack(s).
ATTACK_0	It means to specify a name of the following attacks: ip_option, tcp_flag, land, teardrop, smurf, pingofdeath, traceroute, icmp_frag, syn_frag, unknow_proto, fraggle.
-d	It means to disable the defense function for a specific attack(s).

Example

```
>dos -A
The Dos Defense system is Activated
>dos -s synflood 50 10
Synflood is enabled! Threshold=50 <pke/sec> timeout=10 <pke/sec>
```

Exit Command

exit

Type this command will leave telnet window.

Internet (WAN Configuration) Commands

Internet

This command allows you to configure detailed settings for WAN connection.

internet *-W n -M n [-<command> <parameter> | ...]*

Syntax Description

Parameter	Description
<i>-M n</i>	M means to set Internet Access Mode (Mandatory) and n means different modes (represented by 0 – 3) n=0: Offline n=1: PPPoE n=2: Dynamic IP n=3: Static IP
<i><command><parameter> ...]</i>	The available commands with parameters are listed below. [...] means that you can type in several commands in one line.
<i>-S <isp name></i>	It means to set ISP Name (max. 23 characters).
<i>-P <on/off></i>	It means to enable PPPoE Service.
<i>-u <username></i>	It means to set username (max. 49 characters) for Internet accessing.
<i>-p <password></i>	It means to set password (max. 49 characters) for Internet accessing.
<i>-a n</i>	It means to set PPP Authentication Type and n means different types (represented by 0-1). n=0: PAP/CHAP (this is default setting) n=1: PAP Only
<i>-t n</i>	It means to set connection duration and n means different conditions. n=-1: Always-on n=1 ~ 999: Idle time for offline (default 180 seconds)
<i>-i <ip address></i>	It means that <i>PPPoE server</i> will assign an IP address specified here for CPE (PPPoE client). If you type 0.0.0.0 as the <i><ip address></i> , ISP will assign suitable IP address for you. However, if you type an IP address here, the router will use that one as a fixed IP.
<i>-w <ip address></i>	It means to assign WAN IP address for such connection. Please type an IP address here for WAN port.
<i>-n <netmask></i>	It means to assign netmask for WAN connection. You have to type 255.255.255.xxx (x is changeable) as the netmask for WAN port.
<i>-g <gateway></i>	It means to assign gateway IP for such WAN connection.

-V

It means to view Internet Access profile.

Example

```
>internet -M 1 -S tcom -u username -p password -a 0 -t -1 -i 0.0.0.0
WAN1 Internet Mode set to PPPoE/PPPoA
WAN1 ISP Name set to tcom
WAN1 Username set to username
WAN1 Password set successful
WAN1 PPP Authentication Type set to PAP/CHAP
WAN1 Idle timeout set to always-on
WAN1 Gateway IP set to 0.0.0.0
> internet -V
WAN1 Internet Mode:PPPoE
ISP Name: tcom
Username: username
Authentication: PAP/CHAP
Idle Timeout: -1
WAN IP: Dynamic IP
```

IP Commands

ip 2ndsubnet / ip pubsubnet

This command allows users to enable or disable the IP routing subnet for your router.

ip 2ndsubnet <Enable/Disable>

Syntax Description

Parameter	Description
<i>Enable</i>	Enable the function.
<i>Disable</i>	Disable the function.

Example

```
> ip 2ndsubnet enable
2nd subnet enabled!
```

ip 2ndaddr / ip pubaddr

This command allows users to set the second IP address for your router.

ip 2ndaddr ?

ip 2ndaddr <2nd subnet IP address>

Syntax Description

Parameter	Description
?	Display an IP address which allows users set as the public subnet IP address.
<i>2nd subnet IP address</i>	Specify an IP address. The system will set the one that you specified as the second subnet IP address.

Example

```
> ip 2ndaddr ?
% ip addr <2nd subnet IP address>
% Now: 192.168.2.1

> ip 2ndaddr 192.168.2.5
% Set 2nd subnet IP address done !!!
```

ip 2ndmask / ip pubmask

This command allows users to set the subnet mask for second subnet mask of your router.

ip 2ndmask ?

ip 2ndmask <public subnet mask>

Syntax Description

Parameter	Description
?	Display an IP address which allows users set as the public subnet mask.
<i>public subnet IP address</i>	Specify a subnet mask. The system will set the one that you specified as the public subnet mask.

Example

```
> ip 2ndmask ?
% ip 2ndmask <2nd subnet mask>
% Now: 255.255.255.0

> ip 2ndmask 255.255.0.0
% Set 2nd subnet mask done !!!
```

ip aux

This command is used for configuring WAN IP Alias.

ip aux add [IP] [Join to NAT Pool]

ip aux remove [index]

Syntax Description

Parameter	Description
<i>add</i>	It means to create a new WAN IP address.

<i>remove</i>	It means to delete an existed WAN IP address.
<i>IP</i>	It means the auxiliary WAN IP address.
<i>Join to NAT Pool</i>	0 (disable) or 1 (enable).
<i>index</i>	Type the index number of the table displayed on your screen.

Example

```
> ip aux add 192.168.1.65 1
% 192.168.1.65 has added in index 2.

> ip aux ?%% ip aux add [IP] [Join to NAT Pool]
%% ip aux remove [Index]

%%      Where IP = Auxiliary WAN IP Address.
%%      Join to NAT Pool = 0 or 1.
%%      Index = The Index number of table.

Now auxiliary WAN1 IP Address table:
Index no.      Status  IP address      NAT IP pool
-----
1              Disable 0.0.0.0 Yes
2              Enable  192.168.1.65   Yes
```

When you type *ip aux?*, the current auxiliary WAN IP Address table will be shown as the following:

Index no.	Status	IP address	IP pool
1	Enable	172.16.3.229	Yes
2	Enable	172.16.3.56	No
3	Enable	172.16.3.113	No

ip addr

This command allows users to set/add a specified LAN IP your router.

ip addr [*IP address*]

Syntax Description

Parameter	Description
<i>IP address</i>	It means the LAN IP address.

Example

```
>ip addr 192.168.50.1
```

```
% Set IP address OK !!!
```



Info

When the LAN IP address is changed, the start IP address of DHCP server are still the same. To make the IP assignment of the DHCP server being consistent with this new IP address (they should be in the same network segment), the IP address of the PC must be fixed with the same LAN IP address (network segment) set by this command for accessing into the web user interface of the router. Later, modify the start addresses for the DHCP server.

ip nmask

This command allows users to set/add a specified netmask for your router.

ip nmask [*IP netmask*]

Syntax Description

Parameter	Description
<i>IP netmask</i>	It means the netmask of LAN IP.

Example

```
> ip nmask 255.255.0.0  
% Set IP netmask OK !!!
```

ip arp

ARP displays the matching condition for IP and MAC address.

ip arp add [*IP address*] [*MAC address*] [*LAN or WAN*]

ip arp del [*IP address*] [*LAN or WAN*]

ip arp flush

ip arp status

ip arp accept [*0/1/2/3/4/5status*]

ip arp setCacheLife [*time*]

In which, **arp add** allows users to add a new IP address into the ARP table; **arp del** allows users to remove an IP address; **arp flush** allows users to clear arp cache; **arp status** allows users to review current status for the arp table; **arp accept** allows to accept or reject the source /destination MAC address; **arp setCacheLife** allows users to configure the duration in which ARP caches can be stored on the system. If **ip arp setCacheLife** is set with "60", it means you have an ARP cache at 0 second. Sixty seconds later without any ARP messages received, the system will think such ARP cache is expired. The system will issue a few ARP request to see if this cache is still valid.

Syntax Description

Parameter	Description
-----------	-------------

<i>IP address</i>	It means the LAN IP address.
<i>MAC address</i>	It means the MAC address of your router.
<i>LAN or WAN</i>	It indicates the direction for the arp function.
<i>0/1/2/3/4/5</i>	0: disable to accept illegal source mac address 1: enable to accept illegal source mac address 2: disable to accept illegal dest mac address 3: enable to accept illegal dest mac address 4: Decline VRRP mac into arp table 5: Accept VRRP mac into arp table status: display the setting status.
<i>Time</i>	Available settings will be 10, 20, 30,...2550 seconds.

Example

```
> ip arp accept status
Accept illegal source mac arp: disable

Accept illegal dest mac arp: disable

Accept VRRP mac into arp table: disable
> ip arp status
[ARP Table]
  Index IP Address          MAC Address          Netbios Name
  1    192.168.1.113        00-05-5D-E4-D8-EE    A1000351
```

ip dhcpc

This command is available for WAN DHCP.

ip dhcpc option

ip dhcpc option -h |

ip dhcpc option -d [idx]

ip dhcpc option -e [1 or 0] -w [wan unumber] -c [option number] -v [option value]

ip dhcpc option -e [1 or 0] -w [wan unumber] -c [option number] -x "[option value]"

ip dhcpc option -u [idx unumber]

ip dhcpc release

ip dhcpc renew

ip dhcpc status

Syntax Description

Parameter	Description
<i>option</i>	It is an optional setting for DHCP server.

	-h: display usage -l: list all custom set DHCP options -d: delete custom dhcp client option by index number -e: enable/disable option feature, 1:enable, 0:disable -w: set WAN number (e.g., 1=WAN1) -c: set option number: 0~255 -v: set option value by string -x: set option value by raw byte (hex) -u: update by index number
<i>release</i>	It means to release current WAN IP address.
<i>renew</i>	It means to renew the WAN IP address and obtain another new one.
<i>status</i>	It displays current status of DHCP client.

Example

```

>ip dhcpc status
I/F#3 DHCP Client Status:

DHCP Server IP      : 172.16.3.7
WAN Ipm             : 172.16.3.40
WAN Netmask         : 255.255.255.0
WAN Gateway         : 172.16.3.1
Primary DNS         : 168.95.192.1
Secondary DNS       : 0.0.0.0
Leased Time         : 259200
Leased Time T1      : 129600
Leased Time T2      : 226800
Leased Elapsed      : 259194
Leased Elapsed T1   : 129594
Leased Elapsed T2   : 226794
  
```

ip ping

This command allows users to ping IP address of WAN1/WAN2/PVC3/PVC4/PVC5 for verifying if the WAN connection is OK or not.

ip ping [*IP address*] [*WAN1 /PVC3/PVC4/PVC5*]

Syntax Description

Parameter	Description
<i>IP address</i>	It means the WAN IP address.
<i>WAN1/PVC3/PVC4/PVC5</i>	It means the WAN port /PVC that the above IP address passes through.

Example

```

>ip ping 172.16.3.229 WAN1
Pinging 172.16.3.229 with 64 bytes of Data:
Receive reply from 172.16.3.229, time=0ms
Receive reply from 172.16.3.229, time=0ms
Receive reply from 172.16.3.229, time=0ms
Packets: Sent = 5, Received = 5, Lost = 0 <0% loss>

```

ip tracert

This command allows users to trace the routes from the router to the host.

ip tracert [*Host/IP address*] [*WAN1/WAN2*] [*Udp/Icmp*]

Syntax Description

Parameter	Description
<i>IP address</i>	It means the target IP address.
<i>WAN1/WAN2</i>	It means the WAN port that the above IP address passes through.
<i>Udp/Icmp</i>	It means the UDP or ICMP.

Example

```

>ip tracert 22.128.2.62 WAN1
Traceroute to 22.128.2.62, 30 hops max
 1  172.16.3.710ms
 2  172.16.1.210ms
 3  Request Time out.
 4  168.95.90.66  50ms
 5  211.22.38.134  50ms
 6  220.128.2.62  50ms
Trace complete

```

ip telnet

This command allows users to access specified device by telnet.

ip telnet [*IP address*][*Port*]

Syntax Description

Parameter	Description
<i>IP address</i>	Type the WAN or LAN IP address of the remote device.
<i>Port</i>	Type a port number (e.g., 23). Available settings: 0 ~65535.

Example

```

> ip telnet 172.17.3.252 23
>

```

ip rip

This command allows users to set the RIP (routing information protocol) of IP.

ip rip [*0/1/2*]

Syntax Description

Parameter	Description
<i>0/1/2</i>	0 means disable; 1 means first subnet and 2 means second subnet.

Example

```
> ip rip 1
%% Set RIP 1st subnet.
```

ip wanrip

This command allows users to set the RIP (routing information protocol) of WAN IP.

ip wanrip [*ifno*] -e [*0/1*]

Syntax Description

Parameter	Description
<i>ifno</i>	It means the connection interface. 1: WAN1,2: WAN2, 3: PVC3,4: PVC4,5: PVC5 Note: PVC3 ~PVC5 are virtual WANs.
-e	It means to disable or enable RIP setting for specified WAN interface. 1: Enable the function of setting RIP of WAN IP. 0: Disable the function.

Example

```
> ip wanrip ?
Valid ex:ip wanrip <ifno> -e <0/1>
<ifno> 1: WAN1,2: WAN2
       3: PVC3,4: PVC4,5: PVC5
-e <0/1> 0: disable, 1: enable
Now status:
WAN[1] Rip Protocol disable
WAN[2] Rip Protocol disable
WAN[3] Rip Protocol disable
WAN[4] Rip Protocol disable
WAN[5] Rip Protocol disable
```

```

> ip wanrip 5 -e 1
> ip wanrip ?
Valid ex:ip wanrip <ifno> -e <0/1>
<ifno> 1: WAN1,2: WAN2
        3: PVC3,4: PVC4,5: PVC5
-e <0/1>  0: disable, 1: enable
Now status:
WAN[1] Rip Protocol disable
WAN[2] Rip Protocol disable
WAN[3] Rip Protocol disable
WAN[4] Rip Protocol disable
WAN[5] Rip Protocol enable
>

```

ip route

This command allows users to set static route.

ip route add *[dst] [netmask][gateway][ifno][rtype]*

ip route del *[dst] [netmask][rtype]*

ip route status

ip route cnc

ip route default *[wan1/wan2/off/?]*

ip route clean *[1/0]*

Syntax Description

Parameter	Description
<i>add</i>	It means to add an IP address as static route.
<i>del</i>	It means to delete specified IP address.
<i>status</i>	It means current status of static route.
<i>dst</i>	It means the IP address of the destination.
<i>netmask</i>	It means the netmask of the specified IP address.
<i>gateway</i>	It means the gateway of the connected router.
<i>ifno</i>	It means the connection interface. 3=WAN1 5=WAN3,6=WAN4,7=WAN5 However, WAN3, WAN4, WAN5 are router-borne WANs
<i>rtype</i>	It means the type of the route. default : default route; static: static route.
<i>cnc</i>	It means current IP range for CNC Network.
<i>default</i>	Set WAN1/WAN2/off as current default route.

clean	Clean all of the route settings. 1: Enable the function. 0: Disable the function.
-------	---

Example

```
> ip route add 172.16.2.0 255.255.255.0 172.16.2.4 3 static
> ip route status

Codes: C - connected, S - static, R - RIP, * - default, ~ - private
C~      192.168.1.0/    255.255.255.0 is directly connected, LAN1
S       172.16.2.0/    255.255.255.0 via 172.16.2.4, WAN1
```

ip igmp_proxy

This command allows users to enable/disable igmp proxy server.

ip igmp_proxy set

ip igmp_proxy reset

ip igmp_proxy wan

ip igmp_proxy t_home[on/off/show/help]

ip igmp_proxy query

ip igmp_proxy ppp [0/1]

ip igmp_proxy status

Syntax Description

Parameter	Description
<i>set</i>	It means to enable proxy server.
<i>reset</i>	It means to disable proxy server.
<i>wan</i>	It means to specify WAN interface for IGMP service.
<i>t_home</i>	It means to specify t_home proxy server for using.
<i>On/off/show/help</i>	It means to turn on/off/display or get more information of the T_home service.
<i>query</i>	It means to set IGMP general query interval. The default value is 125000 ms.
<i>ppp</i>	0 – No need to set IGMP with PPP header. 1 – Set IGMP with PPP header.
<i>status</i>	It means to display current status for proxy server.

Example

```
> ip igmp t_home on
%T-Home Setting:
%T-Home Service is turned on.
%WAN1 : Enabled, connection type: PPPoE, without tag for ADSL
%WAN5 : Enabled, connection type: DHCP, tag: 8
%: PVC4(WAN5) is bound to PVC0(WAN1), protocol=MPoA 1483 Bridge
%IGMP Proxy Interface: WAN5(PVC)
%WAN5 for Router-borne Application/ IPTV on/off: ON
> ip igmp_proxy query 130000
This command is for setting IGMP General Query Interval
The default value is 125000 ms
Current Setting is:130000 ms
>
```

ip wanaddr

This command is used to configure WAN IP address.

ip wanaddr [*IP address*]]<*IP netmask*] [*gateway ip*]

Syntax Description

Parameter	Description
<i>IP address</i>	Type the IP address for WAN.
<i>IP netmask</i>	Type the net mask for the IP address.
<i>gateway ip</i>	Type the IP address of the gateway.

Example

```
> ip wanaddr 172.16.3.221 255.255.0.0 172.16.3.2
% Set WAN IP address OK !!!
```

ip wanttr

This command is used to setup the time to return WAN1 from backup WAN.

ip wanttr [*time in seconds*]

Syntax Description

Parameter	Description
<i>time in seconds</i>	The available range is 0 ~600 (seconds).

Example

```
> ip ip wanttr 500
>
```

ip dmz

Specify MAC address of certain device as the DMZ host.

ip dmz [*mac*]

Syntax Description

Parameter	Description
<i>mac</i>	It means the MAC address of the device that you want to specify

Example

```
>ip dmz ?
% ip dmz <mac>, now : 00-00-00-00-00-00
> ip dmz 11-22-33-44-55-66
```

```

> ip dmz ?
% ip dmz <mac>, now : 11-22-33-44-55-66
>

```

ip session

This command allows users to set maximum session limit number for the specified IP; set message for exceeding session limit and set how many seconds the IP session block works.

ip session on

ip session off

ip session default [num]

ip session defaultp2p [num]

ip session status

ip session show

ip session timer [num]

ip session [block/unblock][IP]

ip session [add/del][IP1-IP2][num][p2pnum]

Syntax Description

Parameter	Description
<i>on</i>	It means to turn on session limit for each IP.
<i>off</i>	It means to turn off session limit for each IP.
<i>default [num]</i>	It means to set the default number of session num limit.
<i>Defaultlp2p [num]</i>	It means to set the default number of session num limit for p2p.
<i>status</i>	It means to display the current settings.
<i>show</i>	It means to display all session limit settings in the IP range.
<i>timer [num]</i>	It means to set when the IP session block works. The unit is second.
<i>[block/unblock][IP]</i>	It means to block/unblock the specified IP address. Block: The IP cannot access Internet through the router. Unblock: The specified IP can access Internet through the router.
<i>add</i>	It means to add the session limits in an IP range.
<i>del</i>	It means to delete the session limits in an IP range.
<i>IP1-IP2</i>	It means the range of IP address specified for this command.
<i>num</i>	It means the number of the session limits, e.g., 100.
<i>p2pnum</i>	It means the number of the session limits, e.g., 50 for P2P.

Example

```
>ip session default 100
> ip session add 192.168.1.5-192.168.1.100 100 50
> ip session on
> ip session status

IP range:
  192.168.1.5 - 192.168.1.100 : 100

Current ip session limit is turn on

Current default session number is 100
```

ip bandwidth

This command allows users to set maximum bandwidth limit number for the specified IP.

ip bandwidth *on*

ip bandwidth *off*

ip bandwidth *default [tx_rate][rx_rate]*

ip bandwidth *status*

ip bandwidth *show*

ip bandwidth [*add/del*] [*IP1-IP2*][*tx*][*rx*][*shared*]

Syntax Description

Parameter	Description
<i>on</i>	It means to turn on the IP bandwidth limit.
<i>off</i>	It means to turn off the IP bandwidth limit.
<i>default [tx_rate][rx_rate]</i>	It means to set default tx and rx rate of bandwidth limit. The range is from 0 – 65535 Kpbs.
<i>status</i>	It means to display the current settings.
<i>show</i>	It means to display all the bandwidth limits settings within the IP range.
<i>add</i>	It means to add the bandwidth within the IP range.
<i>del</i>	It means to delete the bandwidth within the IP range.
<i>IP1-IP2</i>	It means the range of IP address specified for this command.
<i>tx</i>	It means to set transmission rate for bandwidth limit.
<i>rx</i>	It means to set receiving rate for bandwidth limit.
<i>shared</i>	It means that the bandwidth will be shared for the IP range.

Example

```
> ip bandwidth default 200 800
> ip bandwidth add 192.168.1.50-192.168.1.100 10 60
> ip bandwidth status

IP range:
  192.168.1.50 - 192.168.1.100 : Tx:10K Rx:60K

Current ip Bandwidth limit is turn off

Auto adjustment is off
```

ip bindmac

This command allows users to set IP-MAC binding for LAN host.

ip bindmac on

ip bindmac off

ip bindmac strict_on

ip bindmac show

ip bindmac add [IP][MAC][Comment]

ip bindmac del [IP]/all

Syntax Description

Parameter	Description
<i>on</i>	It means to turn on IP bindmac policy. Even the IP is not in the policy table, it can still access into network.
<i>off</i>	It means to turn off all the bindmac policy.
<i>strict_on</i>	It means that only those IP address in IP bindmac policy table can access into network.
<i>show</i>	It means to display the IP address and MAC address of the pair of binded one.
<i>add</i>	It means to add one ip bindmac.
<i>del</i>	It means to delete one ip bindmac.
<i>IP</i>	It means to type the IP address for binding with specified MAC address.
<i>MAC</i>	It means to type the MAC address for binding with the IP address specified.
<i>Comment</i>	It means to type words as a brief description.
<i>All</i>	It means to delete all the IP bindmac settings.

Example

```
> ip bindmac add 192.168.1.46 00:50:7f:22:33:55 just for test
> ip bindmac show
ip bind mac function is turned ON
IP : 192.168.1.46 bind MAC : 00-50-7f-22-33-55 Comment : just
```

ip maxnatuser

This command is used to set the maximum number of NAT users.

ip maxnatuser *user no*

Syntax Description

Parameter	Description
<i>User no</i>	A number specified here means the total NAT users that Vigor router supports. 0 – It means no limitation.

Example

```
> ip maxnatuser 100
% Max NAT user = 100
```

IP6 (IPv6) Commands

ip6 addr

This command allows users to set the IPv6 address for your router.

```
ip6 addr -s [prefix] [prefix-length] [LAN|WAN1|WAN2|iface#]
```

```
ip6 addr -d [prefix] [prefix-length] [LAN|WAN1|WAN2|iface#]
```

```
ip6 addr -a [LAN|WAN1|WAN2|iface#]
```

Syntax Description

Parameter	Description
-s	It means to add a static ipv6 address.
-d	It means to delete an ipv6 address.
-a	It means to show current address(es) status.
-u	It means to show only unicast addresses.
prefix	It means to type the prefix number of IPv6 address.
prefix-length	It means to type a fixed value as the length of the prefix.
LAN WAN1 WAN2 iface#	It means to specify LAN or WAN interface for such address.

Example

```
> ip6 addr -a
LAN
Unicast Address:
  FE80::250:7FFF:FE00:0/64 (Link)
Multicast Address:
  FF02::2
  FF02::1:FF00:0
  FF02::1
```

ip6 dhcp req_opt

This command is used to configure option-request settings for DHCPv6 client.

```
ip6 dhcp req_opt [LAN|WAN1|WAN2|iface#] [-<command> <parameter>| ... ]
```

Syntax Description

Parameter	Description
req_opt	It means option-request.
LAN WAN1 WAN2 iface#	It means to specify LAN or WAN interface for such address.

<i>[<command> <parameter> ...]</i>	The available commands with parameters are listed below. <i>[...]</i> means that you can type in several commands in one line.
<i>-a</i>	It means to show current DHCPv6 status.
<i>-s</i>	It means to ask the SIP.
<i>-S</i>	It means to ask the SIP name.
<i>-d</i>	It means to ask the DNS setting.
<i>-D</i>	It means to ask the DNS name.
<i>-n</i>	It means to ask NTP.
<i>-i</i>	It means to ask NIS.
<i>-l</i>	It means to ask NIS name.
<i>-p</i>	It means to ask NISP.
<i>-P</i>	It means to ask NISP name.
<i>-b</i>	It means to ask BCMCS.
<i>-B</i>	It means to ask BCMCS name.
<i>-r</i>	It means to ask refresh time.
<i>Parameter</i>	1: the parameter related to the request will be displayed. 0: the parameter related to the request will not be displayed.

Example

```
> ip6 dhcp req_opt WAN2 -S 1
> ip6 dhcp req_opt WAN2 -r 1
> ip6 dhcp req_opt WAN2 -a
% Interface WAN2 is set to request following DHCPv6 options:
%      sip name
>
```

ip6 dhcp client

This command allows you to use DHCPv6 protocol to obtain IPv6 address from server.

ip6 dhcp client [*WAN1|WAN2|iface#*] [*-<command> <parameter>| ...*]

Syntax Description

Parameter	Description
<i>client</i>	It means the dhcp client settings.
<i>[<command> <parameter> ...]</i>	The available commands with parameters are listed below. <i>[...]</i> means that you can type in several commands in one line.
<i>-a</i>	It means to show current DHCPv6 status.

<i>-p [IAID]</i>	It means to request identity association ID for Prefix Delegation.
<i>-n [IAID]</i>	It means to request identity association ID for Non-temporary Address.
<i>-c [parameter]</i>	It means to send rapid commit to server.
<i>-i [parameter]</i>	It means to send information request to server.
<i>-e[parameter]</i>	It means to enable or disable the DHCPv6 client. 1: Enable 0: Disable

Example

```

> ip6 dhcp client WAN2 -p 2008::1
> ip6 dhcp client WAN2 -a
  Interface WAN2 has following DHCPv6 client settings:
    DHCPv6 client enabled
    request IA_PD whose IAID equals to 2008
> ip6 dhcp client WAN2 -n 1023456
> ip6 dhcp client WAN2 -a
  Interface WAN2 has following DHCPv6 client settings:
    DHCPv6 client enabled
    request IA_NA whose IAID equals to 2008
> system reboot

```

ip6 dhcp server

This command allows you to configure DHCPv6 server.

ip6 dhcp server [*-<command>* *<parameter>*] *...*]

Syntax Description

Parameter	Description
<i>server</i>	It means the dhcp server settings.
<i>[<command></i> <i><parameter> ...]</i>	The available commands with parameters are listed below. <i>[...]</i> means that you can type in several commands in one line.
<i>-a</i>	It means to show current DHCPv6 status.
<i>-i<pool_min_addr></i>	It means to set the start IPv6 address of the address pool.
<i>-x<pool_max_addr></i>	It means to set the end IPv6 address of the address pool.
<i>-d<addr></i>	It means to set the first DNS IPv6 address.
<i>-D<addr></i>	It means to set the second DNS IPv6 address.
<i>-c<parameter></i>	It means to send rapid commit to server. 1: Enable 0: Disable

<i>-e<parameter></i>	It means to enable or disable the DHCPv6 server. 1: Enable 0: Disable
----------------------------	---

Example

```
> ip6 dhcp server -d FF02::1
> ip6 dhcp server -i ff02::1
> ip6 dhcp server -x ff02::3
> ip6 dhcp server -a
% Interface LAN has following DHCPv6 server settings:
%   DHCPv6 server disabled
%   maximum address of the pool: FF02::3
%   minimum address of the pool: FF02::1
%   1st DNS IPv6 Addr: FF02::1
```

ip6 internet

This command allows you to configure settings for accessing Internet.

ip6 internet *-W n -M n [-<command> <parameter> | ...]*

Syntax Description

Parameter	Description
<i>-W n</i>	W means to set WAN interface and n means different selections. Default is WAN1. n=1: WAN1 n=2: WAN2 n=3: WAN3 . . n=X: WANx
<i>-M n</i>	M means to set Internet Access Mode (Mandatory) and n means different modes (represented by 0 – 5) n= 0: Offline, n=1: PPP, n=2: TSPC, n=3: AICCU, n=4: DHCPv6, n=5: Static n=6:6in4-Static n=7:6rd

<i>[<command> <parameter> ...]</i>	The available commands with parameters are listed below. [...] means that you can type in several commands in one line.
<i>-m n</i>	It means to set IPv6 MTU. N = any value (0 means "unspecified").
<i>-u <username></i>	It means to set Username. <username>= type a name as the username (maximum 63 characters).
<i>-p <password></i>	It means to set Password. <password> = type a password (maximum 63 characters).
<i>-s <server></i>	It means to set Tunnel Server IP. <server>= IPv4 address or URL (maximum 63 characters).
<i>-d <server></i>	It means to set the primary DNS Server IP. <server>= type an IPv6 address for first DNS server.
<i>-D <server></i>	It means to set the secondary DNS Server IP. <server>= type an IPv6 address for second DNS server.
<i>-t <dhcp/ra/none></i>	It means to set IPv6 PPP WAN test mode for DHCP or RADVD. <dhcp/ra/none>= type IPv6 address.
<i>-V</i>	It means to view IPv6 Internet Access Profile.
<i>-o</i>	It means to set AICCU always on. 1=On, 0=Off

Example

```
> ip6 internet -W 2 -M 2 -u 88886666 -p draytek123456 -s amsterdam.freenet6.net
This setting will take effect after rebooting.
Please use "sys reboot" command to reboot the router.
> system reboot
```

ip6 neigh

This command allows you to display IPv6 neighbour table.

ip6 neigh -s [*inet6_addr*] [*eth_addr*] [*LAN|WAN1|WAN2*]

ip6 neigh -d [*inet6_addr*] [*LAN|WAN1|WAN2*]

ip6 neigh -a [*inet6_addr*] [*-N LAN|WAN1|WAN2*]

Syntax Description

Parameter	Description
<i>-s</i>	It means to add a neighbour.
<i>-d</i>	It means to delete a neighbour.

<i>-a</i>	It means to show neighbour status.
<i>inet6_addr</i>	Type an IPv6 address
<i>eth_addr</i>	Type submask address.
<i>LAN/WAN1/WAN2</i>	Specify an interface for the neighbor.

Example

```

> ip6 neigh -s 2001:2222:3333::1111 00:50:7F:11:ac:22:WAN2
      Neighbour 2001:2222:3333::1111 successfully added!
> ip6 neigh -a

I/F  ADDR                               MAC
STATE
-----
LAN  FF02::1                             33-33-00-00-00-01
CONNECTED
WAN2 2001:5C0:1400:B::10B8             00-00-00-00-00-00
CONNECTED
WAN2 2001:2222:3333::1111             00-00-00-00-00-00
CONNECTED
WAN2 2001:2222:6666::1111             00-00-00-00-00-00
CONNECTED
WAN2 ::                               00-00-00-00-00-00
CONNECTED
LAN  ::
NONE
>

```

ip6 pneigh

This command allows you to add a proxy neighbour.

ip6 pneigh -s *inet6_addr* [*LAN/WAN1/WAN2*]

ip6 pneigh -d *inet6_addr* [*LAN/WAN1/WAN2*]

ip6 pneigh -a [*inet6_addr*] [*-N LAN/WAN1/WAN2*]

Syntax Description

Parameter	Description
<i>-s</i>	It means to add a proxy neighbour.
<i>-d</i>	It means to delete a proxy neighbour.
<i>-a</i>	It means to show proxy neighbour status.
<i>inet6_addr</i>	Type an IPv6 address
<i>LAN/WAN1/WAN2</i>	Specify an interface for the proxy neighbor.

Example

```
> ip6 neigh -s FE80::250:7FFF:FE12:300 LAN
%      Neighbour FE80::250:7FFF:FE12:300 successfully added!
```

ip6 route

This command allows you to

```
ip6 route -s [prefix] [prefix-length] [gateway] [LAN|WAN1|WAN2|iface#]> [-D]
```

```
ip6 route -d [prefix] [prefix-length]
```

```
ip6 route -a [LAN|WAN1|WAN2|iface#]
```

Syntax Description

Parameter	Description
-s	It means to add a route.
-d	It means to delete a route.
-a	It means to show the route status.
-D	It means that such route will be treated as the default route.
<i>prefix</i>	It means to type the prefix number of IPv6 address.
<i>prefix-length</i>	It means to type a fixed value as the length of the prefix.
<i>gateway</i>	It means the gateway of the router.
<i>LAN WAN1 WAN2 iface#</i>	It means to specify LAN or WAN interface for such address.

Example

```
> ip6 route -s FE80::250:7FFF:FE12:500 16 FE80::250:7FFF:FE12:100 LAN
%      Route FE80::250:7FFF:FE12:500/16 successfully added!
> ip6 route -a LAN

PREFIX/PREFIX-LEN  _EXPIRES_  _NEXT-HOP_  I/F  METRIC  STATE  FLAGS
-----
FE80::/128
U
                                0  ::
                                LAN    0  UNICAST  U
FE80::250:7FFF:FE00:0/128
                                0  ::
                                LAN    0  UNICAST
FE80::/64
U
                                0
                                LAN   256  UNICAST
```

FE80::/16 UGA			LAN	1024	UNICAST
	0	FE80::250:7FFF:FE12:100			
FF02::1/128 UC			LAN	0	UNICAST
	0	FF02::1			
FF00::/8 U			LAN	256	UNICAST
	0				
::/0 UNREACHABLE !			LAN	-1	
	0				

ip6 ping

This command allows you to pin an IPv6 address or a host.

ip6 ping [*IPV6 address/Host*] [*LAN/WAN1/WAN2*]

Syntax Description

Parameter	Description
<i>IPV6 address/Host</i>	It means to specify the IPv6 address or host for ping.
<i>LAN/WAN1/WAN2</i>	It means to specify LAN or WAN interface for such address.

Example

```
> ip6 ping 2001:4860:4860::8888 WAN2

Pinging 2001:4860:4860::8888 with 64 bytes of Data:

Receive reply from 2001:4860:4860::8888, time=330ms
Receive reply from 2001:4860:4860::8888, time=330ms
Receive reply from 2001:4860:4860::8888, time=330ms
Receive reply from 2001:4860:4860::8888, time=330ms
Receive reply from 2001:4860:4860::8888, time=330ms

Packets: Sent = 5, Received = 5, Lost = 0 <% loss>
>
```

ip6 tracert

This command allows you to trace the routes from the router to the host.

ip6 tracert [*IPV6 address/Host*]

Syntax Description

Parameter	Description
<i>IPV6 address/Host</i>	It means to specify the IPv6 address or host for ping.

Example

```
> ip6 tracert 2001:4860:4860::8888
traceroute to 2001:4860:4860::8888, 30 hops max through protocol ICMP
 1 2001:5C0:1400:B::10B8      340 ms
 2 2001:4DE0:1000:A22::1     330 ms
 3 2001:4DE0:A::1           330 ms
 4 2001:4DE0:1000:34::1     340 ms
 5 2001:7F8:1: :A501:5169:1 330 ms
 6 2001:4860::1:0:4B3       350 ms
 7 2001:4860::8:0:2DAF      330 ms
 8 2001:4860::2:0:66E      340 ms
 9 Request timed out.        *
10 2001:4860:4860::8888     350 ms
Trace complete.
>
```

ip6 tspc

This command allows you to display TSPC status.

ip6 tspc [*ifno*]

Syntax Description

Parameter	Description
<i>ifno</i>	It means the connection interface. Ifno=1 (means WAN1) Info=2 (means WAN2)

Example

```
> ip6 tspc 2
Local Endpoint v4 Address : 111.243.177.223
Local Endpoint v6 Address : 2001:05c0:1400:000b:0000:0000:0000:10b9
Router DNS name : 8886666.broker.freenet6.net
Remote Endpoint v4 Address :81.171.72.11
Remote Endpoint v6 Address : 2001:05c0:1400:000b:0000:0000:0000:10b8
Tspc Prefixlen : 56
```



```
Tunnel Broker: Amsterdam.freenet.net
```

```
Status: Connected
```

```
>
```

ip6 radvd

This command allows you to enable or disable RADVD server.

```
ip6 radvd -s [1|0] [lifetime]
```

```
ip6 radvd -V
```

Syntax Description

Parameter	Description
-s	It means to enable or disable the default lifetime of the RADVD server. 1: Enable the RADVD server. 0: Disable the RADVD server.
<i>Lifetime</i>	It means to set the lifetime. The lifetime associated with the default router in units of seconds. It's used to control the lifetime of the prefix. The maximum value corresponds to 18.2 hours. A lifetime of 0 indicates that the router is not a default router and should not appear on the default router list. Type the number (unit: second) you want.
-V	It means to show the RADVD configuration.
-r	It means RA default test.
-r [num]	It means RA test for item [num].

Example

```
> ip6 radvd -s 1 1800
> ip6 radvd -V
% IPv6 Radvd Config:
Radvd : Enable, Default Lifetime : 1800 seconds
```

ip6 mngt

This command allows you to manage the settings for access list.

ip6 mngt list

ip6 mngt list [*add*<index> <prefix> <prefix-length>|*remove* <index>|*flush*]

ip6 mngt status

ip6 mngt [*http*|*telnet*|*ping*|*https*|*ssh*] [*on*|*off*]

Syntax Description

Parameter	Description
<i>list</i>	It means to show the setting information of the access list.
<i>status</i>	It means to show the status of IPv6 management.
<i>add</i>	It means to add an IPv6 address which can be used to execute management through Internet.
<i>index</i>	It means the number (1, 2 and 3) allowed to be configured for IPv6 management.
<i>prefix</i>	It means to type the IPv6 address which will be used for accessing Internet.
<i>prefix-length</i>	It means to type a fixed value as the length of the prefix.
<i>remove</i>	It means to remove (delete) the specified index number with IPv6 settings.
<i>flush</i>	It means to clear the IPv6 access table.
<i>http</i> <i>telnet</i> <i>ping</i> <i>https</i> <i>ssh</i>	These protocols are used for accessing Internet.
<i>on</i> <i>off</i>	It means to enable (on) or disable (off) the Internet accessing through http/telnet/ping.

Example

```
> ip6 mngt list add 1 FE80::250:7FFF:FE12:1010 128
> ip6 mngt list add 2 FE80::250:7FFF:FE12:1020 128
> ip6 mngt list add 3 FE80::250:7FFF:FE12:2080 128
> ip6 mngt list
% IPv6 Access List :
Index   IPv6 Prefix          Prefix Length
=====
1       FE80::250:7FFF:FE12:1010    128
2       FE80::250:7FFF:FE12:1020    128
3       FE80::250:7FFF:FE12:2080    128

> ip6 mngt status
% IPv6 Remote Management :
telnet : off,   http : off,   ping : off
```

ip6 online

This command allows you to check the online status of IPv6 LAN /WAN.

ip6 online [*ifno*]

Syntax Description

Parameter	Description
<i>ifno</i>	It means the connection interface. 0=LAN1 1=WAN1 2=WAN2

Example

```
> ip6 online 0
% LAN 1 online status :
% Interface : UP
% IPv6 DNS Server: :: Static
% IPv6 DNS Server: :: Static
% IPv6 DNS Server: :: Static
% Tx packets = 408, Tx bytes = 32160, Rx packets = 428, Rx bytes = 33636

> ip6 online 1
% WAN 1 online status :
% IPv6 WAN1 Disabled
% Default Gateway : ::
% UpTime : 0:00:00
% Interface : DOWN
% IPv6 DNS Server: :: Static
% IPv6 DNS Server: :: Static
% IPv6 DNS Server: :: Static
% Tx packets = 0, Tx bytes = 0, Rx packets = 0, Rx bytes = 0
```

ip6 aiccu

This command allows you to set IPv6 settings for WAN interface with connection type of AICCU.

ip6 aiccu [*ifno*]

ip6 aiccu subnet [*add* <*ifno*> <*prefix*> <*prefix-length*>|*remove* <*ifno*>|*show* <*info*>]

Syntax Description

Parameter	Description
<i>ifno</i>	It means the connection interface. 1=WAN1 2=WAN2
<i>add</i>	It means to add an IPv6 address which can be used to execute management through Internet.
<i>prefix</i>	It means to type the IPv6 address which will be used for accessing Internet.
<i>prefix-length</i>	It means to type a fixed value as the length of the prefix.
<i>remove</i>	It means to remove (delete) the specified index number with IPv6 settings.
<i>show</i>	It means to display the AICCU status.

Example

```
> ip6 aiccu subnet add 2 2001:1111:0000::1111 64
> ip6 aiccu 2
Status: Connecting

>ip6 aiccu subnet show 2
IPv6 WAN2 AICCU Subnet Prefix Config:
2001:1111::1111/64
>
```

ip6 ntp

This command allows you to set IPv6 settings for NTP (Network Time Protocols) server.

ip6 ntp -h

ip6 ntp -v

ip6 ntp -p [0/1]

Syntax Description

Parameter	Description
-h	It is used to display the usage of such command.
-v	It is used to show the NTP state.
-p <0/1>	It is used to specify NTP server for IPv6. 0 – Auto 1 – First Query IPv6 NTP Server.

Example

```
> ip6 ntp -p 1
% Set NTP Priority: IPv6 First
```

IPF (IP Filter) Commands

ipf view

IPF users to view the version of the IP filter, to view/set the log flag, to view the running IP filter rules.

ipf view [-VcdhrtzZ]

Syntax Description

Parameter	Description
-V	It means to show the version of this IP filter.
-c	It means to show the running call filter rules.
-d	It means to show the running data filter rules.
-h	It means to show the hit-number of the filter rules.
-r	It means to show the running call and data filter rules.
-t	It means to display all the information at one time.
-z	It means to clear a filter rule's statistics.
-Z	It means to clear IP filter's gross statistics.

Example

```
> ipf view -V -c -d
ipf: IP Filter: v3.3.1 (1824)
Kernel: IP Filter: v3.3.1
Running: yes
Log Flags: 0x80947278 = nonip
Default: pass all, Logging: available
```

ipf set

This command is used to set general rule for firewall.

ipf set [Options]

ipf set [SET_NO] rule [RULE_NO] [Options]

Syntax Description

Parameter	Description
Options	There are several options provided here, such as -v, -c [SET_NO], -d [SET_NO],... and etc.
SET_NO	It means to specify the index number (from 1 to 12) of filter set.
RULE_NO	It means to specify the index number (from 1 to 7) of filter rule set.
-v	Type "-v" to view the configuration of general set.

<code>-c [SET_NO]</code>	It means to setup Call Filter, e.g., -c 2 . The range for the index number you can type is "0" to "12" (0 means "disable").
<code>-d [SET_NO]</code>	It means to setup Data Filter, e.g., -d 3 . The range for the index number you can type is "0" to "12" (0 means "disable").
<code>-l [VALUE]</code>	It means to setup Log Flag, e.g., -l 2 Type "0" to disable the log flag. Type "1" to display the log of passed packet. Type "2" to display the log of blocked packet. Type "3" to display the log of non-matching packet.
<code>-p [VALUE]</code>	It means to setup actions for packet not matching any rule, e.g., -p 1 Type "0" to let all the packets pass; Type "1" to block all the packets.
<code>-M [P2P_NO]</code>	It means to configure IM/P2P for the packets not matching with any rule, e.g., -M 1 Type "0" to let all the packets pass; Type "1" to block all the packets.
<code>-U [URL_NO]</code>	It means to configure URL content filter for the packets not matching with any rule, e.g., -U 1 Type "0" to let all the packets pass; Type "1" to block all the packets.
<code>-a [AD_SET]</code>	It means to configure the advanced settings.
<code>-f [VALUE]</code>	It means to accept large incoming fragmented UDP or ICMP packets.
<code>-E [VALUE]</code>	It means to set the maximum count for session limitation.
<code>-F [VALUE]</code>	It means to configure the load-balance policy.
<code>-Q [VALUE]</code>	It means to set the QoS class.

Example

```

> ipf set -c 1 #set call filter start from set 1
Setting saved.

> ipf set -d 2 #set data filter start from set 2
Setting saved.
> ipf set -v

Call Filter: Enable (Start Filter Set = 1)
Data Filter: Enable (Start Filter Set = 2)
Log Flag    : None

Actions for packet not matching any rule:
Pass or Block : Pass

```

```

CodePage           : ANSI(1252)-Latin I
Max Sessions Limit: 60000
Current Sessions   : 0
Mac Bind IP        : Non-Strict
QOS Class          : None
APP Enforcement     : None
URL Content Filter: None
Load-Balance policy : Auto-select
-----
CodePage           : ANSI(1252)-Latin I
Window size        : 65535
Session timeout    : 1440
DrayTek Banner     : Enable
-----
Apply IP filter to VPN incoming packets           : Enable
Accept large incoming fragmented UDP or ICMP packets: Enable
-----
Strict Security Checking
  [ ]APP Enforcement
>

```

ipf rule

This command is used to set filter rule for firewall.

```
ipf rule s r [-<command> <parameter> | ...
```

```
ipf rule s r -v
```

Syntax Description

Parameter	Description
<i>s</i>	Such word means Filter Set, range form 1~12.
<i>r</i>	Such word means Filter Rule, range from 1~7.
<i><Command><parameter></i>	The following lists all of the available commands with parameters.
<i>-e</i>	It means to enable or disable the rule setting. 0- disable 1- enable
<i>-s o:g <obj></i>	It means to specify source IP object and IP group. o - indicates "object". g - indicates "group". obj - indicates index number of object or index number of group. Available settings range from 1-192. For example, "-s g 3" means the third source IP group profile.
<i>-s u <Address Type> <Start IP Address> <End</i>	It means to configure source IP address including address type, start IP address, end IP address and address mask.

<p><i>IP Address> <Address Mask></i></p>	<p>u – It means “user defined”.</p> <p><i>Address Type</i> - Type the number (representing different address type).</p> <p>0 - Subnet Address 1 - Single Address 2 - Any Address 3 - Range Address</p> <p>Example: Set Subnet Address => -s u 0 192.168.1.10 255.255.255.0 Set Single Address => -s u 1 192.168.1.10 Set Any Address => -s u 2 Set Range Address => -s u 3 192.168.1.10 192.168.1.15</p>
<p><i>-d u <Address Type> <Start IP Address> <End IP Address> <Address Mask></i></p>	<p>It means to configure destination IP address including address type, start IP address, end IP address and address mask.</p> <p>u – It means “user defined”.</p> <p><i>Address Type</i> - Type the number (representing different address type).</p> <p>0 - Subnet Address 1 - Single Address 2 - Any Address 3 - Range Address</p> <p>Example: Set Subnet Address => -d u 0 192.168.1.10 255.255.255.0 Set Single Address => -d u 1 192.168.1.10 Set Any Address => -d u 2 Set Range Address => -d u 3 192.168.1.10 192.168.1.15</p>
<p><i>-d o:g <obj></i></p>	<p>It means to specify destination IP object and IP group.</p> <p>o – indicates “object”.</p> <p>g – indicates “group”</p> <p><obj>– indicates index number of object or index number of group. Available settings range from 1-192. For example, “-d g 1” means the first destination IP group profile.</p>
<p><i>-S o:g <obj></i></p>	<p>It means to specify Service Type object and IP group.</p> <p>o – indicates “object”.</p> <p>g – indicates “group”</p> <p><obj> – indicates index number of object or index number of group. Available settings range from 1-96. For example, “-S 0 1” means the first service type object profile.</p>
<p><i>-S u <protocol> <source_port__value> <destination_port_vale></i></p>	<p>It means to configure advanced settings for Service Type, such as protocol and port range.</p> <p>u – it means “user defined”.</p> <p><protocol> – It means TCP(6),UDP(17), TCP/UDP(255). <source_port__value> –</p>

	<p>1 – Port OP, range is 0-3. 0:=, 1:!=, 2:>, 3:<</p> <p>3 – Port range of the Start Port Number, range is 1-65535.</p> <p>5 – Port range of the End Port Number, range is 1-65535.</p> <p><destination_port_value>:</p> <p>2 – Port OP, range is 0-3, 0:=, 1:!=, 2:>, 3:<</p> <p>4 – Port range of the Start Port Number, range is 1-65535.</p> <p>6 – Port range of the End Port Number, range is 1-65535.</p>
-F	<p>It means the Filter action you can specify.</p> <p>0 –Pass Immediately,</p> <p>1 – Block Immediately,</p> <p>2 – Pass if no further match,</p> <p>3 – Block if no further match.</p>
-q	<p>It means the classification for QoS.</p> <p>1– Class 1,</p> <p>2 – Class 2,</p> <p>3 – Class 3,</p> <p>4 – Other</p>
-l	<p>It means load balance policy.</p> <p>Such function is used for “debug” only.</p>
-E	<p>It means to enable APP Enforcement.</p>
-a<index>	<p>It means to specify which APP Enforcement profile will be applied.</p> <p><index> – Available settings range from 0 ~ 32. “0” means no profile will be applied.</p>
-u<index>	<p>It means to specify which URL Content Filter profile will be applied.</p> <p><index> – Available settings range from 0 ~ 8. “0” means no profile will be applied.</p>
-c	<p>It means to set code page. Different number represents different code page.</p> <p>0. None</p> <p>1. ANSI(1250)-Central Europe</p> <p>2. ANSI(1251)-Cyrillic</p> <p>3. ANSI(1252)-Latin I</p> <p>4. ANSI(1253)-Greek</p> <p>5. ANSI(1254)-Turkish</p> <p>6. ANSI(1255)-Hebrew</p> <p>7. ANSI(1256)-Arabic</p> <p>8. ANSI(1257)-Baltic</p> <p>9. ANSI(1258)-Viet Nam</p>

	10. OEM(437)-United States 11. OEM(850)-Multilingual Latin I 12. OEM(860)-Portuguese 13. OEM(861)-Icelandic 14. OEM(863)-Canadian French 15. OEM(865)-Nordic 16. ANSI/OEM(874)-Thai 17. ANSI/OEM(932)-Japanese Shift-JIS 18. ANSI/OEM(936)-Simplified Chinese GBK 19. ANSI/OEM(949)-Korean 20. ANSI/OEM(950)-Traditional Chinese Big5
-C <Windows Size> <Session_Timeout>	It means to set Window size and Session timeout (Minute). <Windows Size> - Available settings range from 1 ~ 65535. <Session_Timeout> - Make the best utilization of network resources.
-v	It is used to show current filter/rule settings.

Example

```

> ipf rule 2 1 -e 1 -s "o 1" -d "o 2" -S "o 1" -F 2
> ipf rule 2 1 -v

Filter Set 2 Rule 1:

Status   : Enable
Comments: xNetBios -> DNS
Index(1-15) in Schedule Setup: <null>, <null>, <null>, <null>

Direction      : LAN -> WAN
Source IP       : Group1,
Destination IP: Group2,
Service Type    : TCP/UDPGroup1,
Fragments      : Don't Care

Pass or Block   : Block Immediately
Branch to Other Filter Set: None
Max Sessions Limit : 32000
Current Sessions : 0
Mac Bind IP     : Non-Strict
Qos Class       : None
APP Enforcement  : None
URL Content Filter : None
Load-Balance policy : Auto-select
Log             : Disable
-----

```

```

CodePage           : ANSI(1252)-Latin I
Window size        : 65535
Session timeout    : 1440
DrayTek Banner     : Enable

```

```

-----
Strict Security Checking
[ ]APP Enforcement

```

ipf flowtrack

This command is used to set and view flowtrack sessions.

ipf flowtrack set [-re]

ipf flowtrack view [-f]

ipf flowtrack [-i][-p][-t]

Syntax Description

Parameter	Description
-r	It means to refresh the flowtrack.
-e	It means to enable or disable the flowtrack. 0: Disable 1: Enable
-f	It means to show the sessions state of flowtrack. If you do not specify any IP address, then all the session state of flowtrack will be displayed.
-b	It means to show all of IP sessions state.
-i [IP address]	It means to specify IP address (e.g., -i 192.168.2.55).
-p[value]	It means to type a port number (e.g., -p 1024). Available settings are 0 ~ 65535.
-t [value]	It means to specify a protocol (e.g., -t tcp). Available settings include: tcp udp icmp

Example

```

>ipf flowtrack set -r
Refresh the flowstate ok
> ipf flowtrack view -f
Start to show the flowtrack sessions state:

```

```
ORIGIN>> 192.168.1.11:59939 ->      8.8.8.8: 53 ,ifno=0
REPLY >>      8.8.8.8: 53 ->      192.168.1.11:59939 ,ifno=3
          proto=17, age=93023180(3920), flag=203
ORIGIN>> 192.168.1.11:15073 ->      8.8.8.8: 53 ,ifno=0
REPLY >>      8.8.8.8: 53 ->      192.168.1.11:15073 ,ifno=3
          proto=17, age=93025100(2000), flag=203
ORIGIN>> 192.168.1.11: 7247 ->      8.8.8.8: 53 ,ifno=0
REPLY >>      8.8.8.8: 53 ->      192.168.1.11: 7247 ,ifno=3
          proto=17, age=93020100(7000), flag=203
End to show the flowtrack sessions state
```

Log Command

Log

This command allows users to view log for WAN interface such as call log, IP filter log, flush log buffer, etc.

`log [-cfhiptwx?] [-F a | c | f | w]`

Syntax Description

Parameter	Description
-c	It means to show the latest call log.
-f	It means to show the IP filter log.
-F	It means to show the flush log buffer. a: flush all logs c: flush the call log f: flush the IP filter log w: flush the WAN log
-h	It means to show this usage help.
-p	It means to show PPP/MP log.
-t	It means to show all logs saved in the log buffer.
-w	It means to show WAN log.
-x	It means to show packet body hex dump.

Example

```
> log -w
25:36:25.580 ---->DHCP (WAN-5) Len = 548XID = 0x7880fdd4
    Client IP      = 0.0.0.0
    Your IP        = 0.0.0.0
    Next server IP = 0.0.0.0
    Relay agent IP = 0.0.0.0
25:36:33.580 ---->DHCP (WAN-5) Len = 548XID = 0x7880fdd4
    Client IP      = 0.0.0.0
    Your IP        = 0.0.0.0
    Next server IP = 0.0.0.0
    Relay agent IP = 0.0.0.0
25:36:41.580 ---->DHCP (WAN-5) Len = 548XID = 0x7880fdd4
    Client IP      = 0.0.0.0
    Your IP        = 0.0.0.0
    Next server IP = 0.0.0.0
    Relay agent IP = 0.0.0.0
25:36:49.580 ---->DHCP (WAN-5) Len = 548XID = 0x7880fdd4
    Client IP      = 0.0.0.0
```

```
Your IP          = 0.0.0.0
Next server IP = 0.0.0.0
Relay agent IP = 0.0.0.0
25:36:57.580 ---->DHCP (WAN-5) Len = 548XID = 0x7880fdd4
Client IP       = 0.0.0.0
Your IP        = 0.0.0.0
--- MORE ---   ['q': Quit, 'Enter': New Lines, 'Space Bar': Next Page] ---
```

MNGT (Management) Commands

mngt ftpport

This command allows users to set FTP port for management.

mngt ftpport [*FTP port*]

Syntax Description

Parameter	Description
<i>FTP port</i>	It means to type the number for FTP port. The default setting is 21.

Example

```
> mngt ftpport 21
% Set FTP server port to 21 done.
```

mngt httpport

This command allows users to set HTTP port for management.

mngt httpport [*Http port*]

Syntax Description

Parameter	Description
<i>Http port</i>	It means to enter the number for HTTP port. The default setting is 80.

Example

```
> mngt httpport 80
% Set web server port to 80 done.
```

mngt httpsport

This command allows users to set HTTPS port for management.

mngt httpsport [*Https port*]

Syntax Description

Parameter	Description
<i>Https port</i>	It means to type the number for HTTPS port. The default setting is 443.

Example

```
> mngt httpsport 443
% Set web server port to 443 done.
```

mngt telnetport

This command allows users to set telnet port for management.

mngt telnetport [*Telnet port*]

Syntax Description

Parameter	Description
<i>Telnet port</i>	It means to type the number for telnet port. The default setting is 23.

Example

```
> mngt telnetport 23
% Set Telnet server port to 23 done.
```

mngt sshport

This command allows users to set SSH port for management.

mngt sshport [*ssh port*]

Syntax Description

Parameter	Description
<i>ssh port</i>	It means to type the number for SSH port. The default setting is 22.

Example

```
> mngt sshport 23
% Set ssh port to 23 done.
```

mngt ftpserver

This command can enable/disable FTP server.

mngt ftpserver [*enable*]

mngt ftpserver [*disable*]

Syntax Description

Parameter	Description
<i>enable</i>	It means to activate FTP server function.
<i>disable</i>	It means to inactivate FTP server function.

Example

```
> mngt ftpserver enable
%% FTP server has been enabled.

> mngt ftpserver disable
```

```
%% FTP server has been disabled.
```

mngt noping

This command is used to pass or block Ping from LAN PC to the internet.

mngt noping *[on]*

mngt noping *[off]*

mngt noping *[viewlog]*

mngt noping *[clearlog]*

Syntax Description

Parameter	Description
<i>on</i>	All PING packets will be forwarded from LAN PC to Internet.
<i>off</i>	All PING packets will be blocked from LAN PC to Internet.
<i>viewlog</i>	It means to display a log of ping action, including source MAC and source IP.
<i>clearlog</i>	It means to clear the log of ping action.

Example

```
> mngt noping off  
No Ping Packet Out is OFF!!
```

mngt defenseworm

This command can block specified port for passing through the router.

mngt defenseworm *[on]*

mngt defenseworm *[off]*

mngt defenseworm *[add port]*

mngt defenseworm *[del port]*

mngt defenseworm *[viewlog]*

mngt defenseworm *[clearlog]*

Syntax Description

Parameter	Description
<i>on</i>	It means to activate the function of defense worm packet out.
<i>off</i>	It means to inactivate the function of defense worm packet out.
<i>add port</i>	It means to add a new TCP port for block.
<i>del port</i>	It means to delete a TCP port for block.

<i>viewlog</i>	It means to display a log of defense worm packet, including source MAC and source IP.
<i>clearlog</i>	It means to remove the log of defense worm packet.

Example

```
> mngt defenseworm add 21
Add TCP port 21
Block TCP port list: 135, 137, 138, 139, 445, 21
> mngt defenseworm del 21
Delete TCP port 21
Block TCP port list: 135, 137, 138, 139, 445
```

mngt rmtcfg

This command can allow the system administrators to login from the Internet. By default, it is not allowed.

mngt rmtcfg [*status*]

mngt rmtcfg [*enable*]

mngt rmtcfg [*disable*]

mngt rmtcfg [*http/https/ftp/telnet/ssh/tr069*] [*on/off*]

Syntax Description

Parameter	Description
<i>status</i>	It means to display current setting for your reference.
<i>enable</i>	It means to allow the system administrators to login from the Internet.
<i>disable</i>	It means to deny the system administrators to login from the Internet.
<i>http/https/ftp/telnet/ssh/tr069</i>	It means to specify one of the servers/protocols for enabling or disabling.
<i>on/off</i>	on – enable the function. off – disable the function.

Example

```
> mngt rmtcfg ftp on
Enable server fail
Remote configure function has been disabled
please enable by enter mngt rmtcfg enable

> mngt rmtcfg enable
%% Remote configure function has been enabled.

> mngt rmtcfg ftp on
%% FTP server has been enabled.
```

mngt lanaccess

This command allows users to manage accessing into Vigor router through LAN port.

mngt lanaccess -e [0/1] -s [value] -i [value]

mngt lanaccess -f

mngt lanaccess -d

mngt lanaccess -v

mngt lanaccess -h

Syntax Description

Parameter	Description
-e[0/1]	It means to enable/disable the function. 0-disable the function. 1-enable the function.
-s[value]	It means to specify service offered. Available values include: FTP, HTTP, HTTPS, TELNET, SSH, None, All
-i[value]	It means the interface which is allowed to access. Available values include: LAN2~LAN6, DMZ, IP Routed Subnet, None, All Note: LAN1 is always allowed for accessing into the router.
-f	It means to flush all of the settings.
-d	It means to restore the factory default settings.
-v	It means to view current settings.
-h	It means to get the usage of such command.

Example

```
> mngt lanaccess -e 1
> mngt lanaccess -s FTP,TELNET
> mngt lanaccess -i LAN3
>> mngt lanaccess -v
Current LAN Access Control Setting:
* Enable:Yes
* Service:
  - FTP:Yes
  - HTTP:No
  - HTTPS:No
  - TELNET:Yes
  - SSH:No
* Subnet:
  - LAN 2: disabled
  - LAN 3: enabled
```

- LAN 4: disabled
- LAN 5: disabled
- LAN 6: disabled
- DMZ: disabled
- IP Routed Subnet: disabled

Note: the settings do NOT apply to LAN1, LAN1 is always allowed to access the router

mngt echoicmp

This command allows users to reject or accept PING packets from the Internet.

mngt echoicmp *[enable]*

mngt echoicmp *[disable]*

Syntax Description

Parameter	Description
<i>enable</i>	It means to accept the echo ICMP packet.
<i>disable</i>	It means to drop the echo ICMP packet.

Example

```
> mngt echoicmp enable
%% Echo ICMP packet enabled.
```

mngt accesslist

This command allows you to specify that the system administrator can login from a specific host or network. A maximum of three IPs/subnet masks is allowed.

mngt accesslist *list*

mngt accesslist *add* [*index*][*ip addr*][*mask*]

mngt accesslist *remove* [*index*]

mngt accesslist *flush*

Syntax Description

Parameter	Description
<i>list</i>	It can display current setting for your reference.
<i>add</i>	It means adding a new entry.
<i>index</i>	It means to specify the number of the entry.
<i>ip addr</i>	It means to specify an IP address.
<i>mask</i>	It means to specify the subnet mask for the IP address.
<i>remove</i>	It means to delete the selected item.
<i>flush</i>	It means to remove all the settings in the access list.

Example

```
> mngt accesslist add 1 192.168.1.89 255.255.255.0
%% Set OK.
> mngt accesslist list
%% Access list :
  Index IP address      Subnet mask
=====
  1      192.168.1.89     255.255.255.0
```

mngt snmp

This command allows you to configure SNMP for management.

mngt snmp [*-<command>* *<parameter>* | ...]

Syntax Description

Parameter	Description
<i>[<command></i> <i><parameter> ...]</i>	The available commands with parameters are listed below. <i>[...]</i> means that you can type in several commands in one line.
<i>-e <1/2></i>	1: Enable the SNMP function. 2: Disable the SNMP function.
<i>-g<Community name></i>	It means to set the name for getting community by typing a proper character. (max. 23 characters)

<code>-s <Community name></code>	It means to set community by typing a proper name. (max. 23 characters)
<code>-m <IP address></code>	It means to set one host as the manager to execute SNMP function. Please type in IPv4 address to specify certain host.
<code>-t <Community name></code>	It means to set trap community by typing a proper name. (max. 23 characters)
<code>-n <IP address></code>	It means to set the IPv4 address of the host that will receive the trap community.
<code>-T <seconds></code>	It means to set the trap timeout <0~999>.
<code>-V</code>	It means to list SNMP setting.

Example

```
> mngt snmp -e 1 -g draytek -s DK -m 192.168.1.1 -t trapcom -n 10.20.3.40 -T 88
SNMP Agent Turn on!!!
Get Community set to draytek
Set Community set to DK
Manager Host IP set to 192.168.1.1
Trap Community set to trapcom
Notification Host IP set to 10.20.3.40
Trap Timeout set to 88 seconds
```

MSubnet (Multiple Subnet) Commands

msubnet switch

This command is used to configure multi-subnet.

msubnet switch [2/3/4/5/6][On/Off]

Syntax Description

Parameter	Description
<i>2/3/4/5/6</i>	It means LAN interface. 2=LAN2 3=LAN3 4=LAN4 5=LAN5 6=LAN6
<i>On/Off</i>	On means turning on the subnet for the specified LAN interface. Off means turning off the subnet.

Example

```
> ms subnet switch 2 On
```

```
% LAN2          Subnet On!
```

This setting will take effect after rebooting.

Please use "sys reboot" command to reboot the router.

msubnet addr

This command is used to configure IP address for the specified LAN interface.

msubnet addr [2/3/4/5/6][IP address]

Syntax Description

Parameter	Description
<i>2/3/4/5/6</i>	It means LAN interface. 2=LAN2 3=LAN3 4=LAN4 5=LAN5 6=LAN6
<i>IP address</i>	Type the private IP address for the specified LAN interface.

Example


```
> msubnet addr 2 192.168.5.1
% Set LAN2 subnet IP address done !!!
```

This setting will take effect after rebooting.
Please use "sys reboot" command to reboot the router.

msubnet nmask

This command is used to configure net mask address for the specified LAN interface.

msubnet nmask [2/3/4/5/6][IP address]

Syntax Description

Parameter	Description
<i>2/3/4/5/6</i>	It means LAN interface. 2=LAN2 3=LAN3 4=LAN4 5=LAN5 6=LAN6
<i>IP address</i>	Type the subnet mask address for the specified LAN interface.

Example

```
> msubnet nmask 2 255.255.0.0
% Set LAN2 subnet mask done !!!
```

This setting will take effect after rebooting.
Please use "sys reboot" command to reboot the router.

msubnet status

This command is used to display current status of subnet.

msubnet status [2/3/4/5/6]

Syntax Description

Parameter	Description
<i>2/3/4/5/6</i>	It means LAN interface. 2=LAN2 3=LAN3 4=LAN4 5=LAN5 6=LAN6

Example

```
> msubnet status 2
% LAN2          Off: 0.0.0.0/0.0.0.0, PPP Start IP: 0.0.0.60
% DHCP server: Off
% Dhcp Gateway: 0.0.0.0, Start IP: 0.0.0.10, Pool Count: 50
```

msubnet dhcps

This command allows you to enable or disable DHCP server for the subnet.

msubnet dhcps [2/3/4/5/6][On/Off]

Syntax Description

Parameter	Description
2/3/4/5/6	It means LAN interface. 2=LAN2 3=LAN3 4=LAN4 5=LAN5 6=LAN6
On/Off	On means enabling the DHCP server for the specified LAN interface. Off means disabling the DHCP server.

Example

```
> msubnet dhcps 3 off
% LAN3          Subnet DHCP Server disabled!

This setting will take effect after rebooting.
Please use "sys reboot" command to reboot the router.
```

msubnet nat

This command is used to configure the subnet for NAT or Routing usage.

msubnet nat [2/3/4/5/6] [On/Off]

Syntax Description

Parameter	Description
2/3/4/5/6	It means LAN interface. 2=LAN2 3=LAN3 4=LAN4 5=LAN5 6=LAN6
On/Off	On – It means the subnet will be configured for NAT usage.

Off - It means the subnet will be configured for Routing usage.

Example

```
>msubnet nat 2 off
% LAN2 Subnet is for Routing usage!
%Note: If you have multiple WAN connections, please be reminded to setup a Load-Balance policy so that packets from this subnet will be forwarded to the right WAN interface!
```

This setting will take effect after rebooting.
Please use "sys reboot" command to reboot the router.

msubnet gateway

This command is used to configure an IP address as the gateway used for subnet.

msubnet gateway [2/3/4] [Gateway IP]

Syntax Description

Parameter	Description
2/3/4/5/6	It means LAN interface. 2=LAN2 3=LAN3 4=LAN4 5=LAN5 6=LAN6
Gateway IP	Specify an IP address as the gateway IP.

Example

```
> msubnet gateway 2 192.168.1.13
% Set LAN2 Dhcp Gateway IP done !!!
```

This setting will take effect after rebooting.
Please use "sys reboot" command to reboot the router.

msubnet ipcnt

This command is used to defined the total number allowed for each LAN interface.

msubnet ipcnt [2/3/4] [IP counts]

Syntax Description

Parameter	Description
2/3/4/5/6	It means LAN interface. 2=LAN2

	3=LAN3 4=LAN4 5=LAN5 6=LAN6
<i>IP counts</i>	Specify a total number of IP address allowed for each LAN interface. The available range is from 0 to 220.

Example

```
> msubnet ipcnt 2 15
This setting will take effect after rebooting.
Please use "sys reboot" command to reboot the router.
```

msubnet talk

This command is used to establish a route between two LAN interfaces.

msubnet talk [1/2/3/4/5/6] [1/2/3/4/5/6] [On/Off]

Syntax Description

Parameter	Description
1/2/3/4/5/6	It means LAN interface. 1=LAN1 2=LAN2 3=LAN3 4=LAN4 5=LAN5 6=LAN6
On/Off	On – It means Off - It means

Example

```
> msubnet talk 1 2 on
% Enable routing between LAN1          and LAN2          !

This setting will take effect after rebooting.
Please use "sys reboot" command to reboot the router.
> msubnet talk ?
% msubnet talk <1/2/3/4/5/6> <1/2/3/4/5/6> <On/Off>
% where 1:LAN1, 2:LAN2, 3:LAN3, 4:LAN4, 5:LAN5, 6:LAN6
% Now:
%          LAN1  LAN2  LAN3  LAN4  LAN5  LAN6
% LAN1      V
% LAN2      V    V
% LAN3                V
```

```

% LAN4                V
% LAN5                V
% LAN6                V
>

```

msubnet startip

This command is used to configure a starting IP address for DHCP.

msubnet startip [2/3/4/5/6] [Gateway IP]

Syntax Description

Parameter	Description
2/3/4/5/6	It means LAN interface. 2=LAN2 3=LAN3 4=LAN4 5=LAN5 6=LAN6
Gateway IP	Type an IP address as the starting IP address for a subnet.

Example

```

> msubnet startip 2 192.168.2.90
%Set LAN2 Dhcp Start IP done !!!

This setting will take effect after rebooting.
Please use "sys reboot" command to reboot the router.
> msubnet startip ?
% msubnet startip <2/3/4/5/6> <Gateway IP>
% Now: LAN2 192.168.2.90; LAN3 192.168.3.10; LAN4 192.168.4.10; LAN5 192.168.5.10; LAN6 192.168.6.10

```

msubnet pppip

This command is used to configure a starting IP address for PPP connection.

msubnet pppip [2/3/4/5/6] [Start IP]

Syntax Description

Parameter	Description
2/3/4/5/6	It means LAN interface. 2=LAN2 3=LAN3 4=LAN4 5=LAN5 6=LAN6

<i>Start IP</i>	Type an IP address as the starting IP address for PPP connection.
-----------------	---

Example

```
> msubnet pppip 2 192.168.2.250
% Set LAN2 PPP(IPCP) Start IP done !!!

This setting will take effect after rebooting.
Please use "sys reboot" command to reboot the router.

> msubnet pppip ?
% msubnet pppip <2/3/4/5/6> <Start IP>
% Now: LAN2 192.168.2.250; LAN3 192.168.3.200; LAN4 192.168.4.200; LAN5
192.168.5.200; LAN6 192.168.6.200
```

msubnet nodetype

This command is used to specify the type for node which is required by DHCP option.

msubnet nodetype [2/3/4/5/6][count]

Syntax Description

Parameter	Description
<i>2/3/4/5/6</i>	It means LAN interface. 2=LAN2 3=LAN3 4=LAN4 5=LAN5 6=LAN6
<i>count</i>	Choose the following number for specifying different node type. 1= B-node 2= P-node 4= M-node 8= H-node 0= Not specify any type for node.

Example

```
> msubnet nodetype ?
% msubnet nodetype <2/3/4/5/6> <count>
% Now: LAN2 0; LAN3 0; LAN4 0; LAN5 0; LAN6 0

% count: 1. B-node 2. P-node 4. M-node 8. H-node

> msubnet nodetype 2 1
% Set LAN2 Dhcp Node Type done !!!
```

```

> msubnet nodetype ?
% msubnet nodetype <2/3/4/5/6> <count>
% Now: LAN2 1; LAN3 0; LAN4 0; LAN5 0; LAN6 0

% count: 1. B-node 2. P-node 4. M-node 8. H-node

```

msubnet primWINS

This command is used to configure primary WINS server.

msubnet primWINS [2/3/4/5/6] [WINS IP]

Syntax Description

Parameter	Description
2/3/4/5/6	It means LAN interface. 2=LAN2 3=LAN3 4=LAN4 5=LAN5 6=LAN6
WINS IP	Type the IP address as the WINS IP.

Example

```

> > msubnet primWINS ?
% msubnet primWINS <2/3/4/5/6> <WINS IP>
% Now: LAN2 0.0.0.0; LAN3 0.0.0.0; LAN4 0.0.0.0; LAN5 0.0.0.0; LAN6 0.0.0.0

> msubnet primWINS 2 192.168.3.5
% Set LAN2 Dhcp Primary WINS IP done !!!

> msubnet primWINS ?
% msubnet primWINS <2/3/4/5/6> <WINS IP>
% Now: LAN2 192.168.3.5; LAN3 0.0.0.0; LAN4 0.0.0.0; LAN5 0.0.0.0; LAN6 0.0.0.0

```

msubnet secWINS

This command is used to configure secondary WINS server.

msubnet secWINS [2/3/4/5/6] [WINS IP]

Syntax Description

Parameter	Description
2/3/4/5/6	It means LAN interface. 2=LAN2 3=LAN3

	4=LAN4 5=LAN5 6=LAN6
<i>WINS IP</i>	Type the IP address as the WINS IP.

Example

```
> > msubnet secWINS 2 192.168.3.89
% Set LAN2 Dhcp Secondary WINS IP done !!!

> msubnet secWINS ?
% msubnet secWINS <2/3/4/5/6> <WINS IP>
% Now: LAN2 192.168.3.89; LAN3 0.0.0.0; LAN4 0.0.0.0; LAN5 0.0.0.0; LAN6 0.0.0.0
```


msubnet tftp

This command is used to set TFTP server for multi-subnet.

msubnet tftp [*2/3/4/5/6*] [*TFTP server name*]

Syntax Description

Parameter	Description
<i>2/3/4/5/6</i>	It means LAN interface. 2=LAN2 3=LAN3 4=LAN4 5=LAN5 6=LAN6
<i>TFTP server name</i>	Type a name to indicate the TFTP server.

Example

```
> ms subnet tftp ?
% ms subnet tftp <2/3/4/5/6> <TFTP server name>
% Now: LAN2
      LAN3
      LAN4
      LAN5
      LAN6

> ms subnet tftp 2 publish
% Set LAN2 TFTP Server Name done !!!

> ms subnet tftp ?
% ms subnet tftp <2/3/4/5/6> <TFTP server name>
% Now: LAN2 publish
      LAN3
      LAN4
      LAN5
      LAN6
```

msubnet mtu

This command allows you to configure MTU value for LAN/DMZ/IP Routed Subnet.

msubnet mtu [*interface*][*value*]

Syntax Description

Parameter	Description
<i>interface</i>	Available settings include LAN1~LAN6, IP_Routed_Subnet, and DMZ.

<i>value</i>	1000 ~ 1508 (Bytes), default: 1500 (Bytes)
--------------	--

Example

```
> msubnet mtu LAN1 1492
> msubnet mtu ?
Usage:

>msubnet mtu <interface> <value>

<interface>: LAN1~LAN6,IP_Routed_Subnet,DMZ
<value>:      1000 ~ 1508 (Bytes), default: 1500 (Bytes)

e.x: >msubnet mtu LAN1 1492

Current Settings:

LAN1 MTU:          1492 (Bytes)
LAN2 MTU:          1500 (Bytes)
LAN3 MTU:          1500 (Bytes)
LAN4 MTU:          1500 (Bytes)
LAN5 MTU:          1500 (Bytes)
LAN6 MTU:          1500 (Bytes)
DMZ MTU:           1500 (Bytes)
IP Routed Subnet MTU: 1500 (Bytes)
```

Object Commands

object ip obj

This command is used to create an IP object profile.

object ip obj setdefault

object ip obj INDEX -v

object ip obj INDEX -n NAME

object ip obj INDEX -i INTERFACE

object ip obj INDEX -s INVERT

object ip obj INDEX -a TYPE [START_IP] [END/MASK_IP]

Syntax Description

Parameter	Description
<i>setdefault</i>	It means to return to default settings for all profiles.
<i>INDEX</i>	It means the index number of the specified object profile.
<i>-v</i>	It means to view the information of the specified object profile. Example: <i>object ip obj 1 -v</i>
<i>-n NAME</i>	It means to define a name for the IP object. NAME: Type a name with less than 15 characters. Example: <i>object ip obj 9 -n bruce</i>
<i>-i INTERFACE</i>	It means to define an interface for the IP object. INTERFACE=0, means any INTERFACE=1, means LAN INTERFACE=3, means WAN Example: <i>object ip obj 8 -i 0</i>
<i>-s INVERT</i>	It means to set invert selection for the object profile. INVERT=0, means disableing the function. INVERT=1, means enabling the function. Example: <i>object ip obj 3 -s 1</i>
<i>-a TYPE</i>	It means to set the address type and IP for the IP object profile. TYPE=0, means Mask TYPE=1, means Single TYPE=2, means Any TYPE=3, means Rang Example: <i>object ip obj 3 -a 2</i>
<i>[START_IP]</i>	When the TYPE is set with 2, you have to type an IP address as a starting point and another IP address as end point. Type an IP address.

<i>[END/MASK_IP]</i>	Type an IP address (different with START_IP) as the end IP address.
----------------------	---

Example

```
> object ip obj 1 -n marketing
> object ip obj 1 -a 1 192.168.1.45
> object ip obj 1 -v
IP Object Profile 1
Name      :[marketing]
Interface:[Any]
Address type:[single]
Start ip address:[192.168.1.45]
End/Mask ip address:[0.0.0.0]
Invert Selection:[0]
```

object ip grp

This command is used to integrate several IP objects under an IP group profile.

object ip grp setdefault

object ip grp *INDEX* -v

object ip grp *INDEX* -n *NAME*

object ip grp *INDEX* -i *INTERFACE*

object ip grp *INDEX* -a *IP_OBJ_INDEX*

Syntax Description

Parameter	Description
<i>setdefault</i>	It means to return to default settings for all profiles.
<i>INDEX</i>	It means the index number of the specified group profile.
-v	It means to view the information of the specified group profile. Example: <i>object ip grp 1 -v</i>
-n <i>NAME</i>	It means to define a name for the IP group. NAME: Type a name with less than 15 characters. Example: <i>object ip grp 8 -n bruce</i>
-i <i>INTERFACE</i>	It means to define an interface for the IP group. INTERFACE=0, means any INTERFACE=1, means LAN INTERFACE=2, means WAN Example: <i>object ip grp 3 -i 0</i>
-a <i>IP_OBJ_INDEX</i>	It means to specify IP object profiles for the group profile. Example: <i>object ip grp 3 -a 1 2 3 4 5</i>

The IP object profiles with index number 1,2,3,4 and 5 will be group under such profile.
--

Example

```
> object ip grp 2 -n First
IP Group Profile 2
Name    :[First]
Interface:[Any]
Included ip object index:
[0:][0]
[1:][0]
[2:][0]
[3:][0]
[4:][0]
[5:][0]
[6:][0]
[7:][0]

> object ip grp 2 -i 1
> object ip grp 2 -a 1 2
IP Group Profile 2
Name    :[First]
Interface:[Lan]
Included ip object index:
[0:][1]
[1:][2]
[2:][0]
[3:][0]
[4:][0]
[5:][0]
[6:][0]
[7:][0]
```

object ipv6 obj

This command is used to create an IP object profile.

object ip obj setdefault

object ip obj INDEX -v

object ip obj INDEX -n NAME

object ip obj INDEX -i INTERFACE

object ip obj INDEX -s INVERT

object ip obj INDEX -a TYPE [START_IP] [END/MASK_IP]

Syntax Description

Parameter	Description
<i>setdefault</i>	It means to return to default settings for all profiles.
<i>INDEX</i>	It means the index number of the specified object profile.
<i>-v</i>	It means to view the information of the specified object profile. Example: <i>object ip obj 1 -v</i>
<i>-n NAME</i>	It means to define a name for the IP object. NAME: Type a name with less than 15 characters. Example: <i>object ip obj 9 -n bruce</i>
<i>-i INTERFACE</i>	It means to define an interface for the IP object. INTERFACE=0, means any INTERFACE=1, means LAN INTERFACE=3, means WAN Example: <i>object ip obj 8 -i 0</i>
<i>-s INVERT</i>	It means to set invert selection for the object profile. INVERT=0, means disabling the function. INVERT=1, means enabling the function. Example: <i>object ip obj 3 -s 1</i>
<i>-a TYPE</i>	It means to set the address type and IP for the IP object profile. TYPE=0, means Mask TYPE=1, means Single TYPE=2, means Any TYPE=3, means Rang Example: <i>object ip obj 3 -a 2</i>
<i>[START_IP]</i>	When the TYPE is set with 2, you have to type an IP address as a starting point and another IP address as end point. Type an IP address.
<i>[END/MASK_IP]</i>	Type an IP address (different with START_IP) as the end IP address.

Example

```
> object ip obj 1 -n marketing
> object ip obj 1 -a 1 192.168.1.45
> object ip obj 1 -v
IP Object Profile 1
Name      :[marketing]
Interface:[Any]
Address type:[single]
Start ip address:[192.168.1.45]
End/Mask ip address:[0.0.0.0]
Invert Selection:[0]
```

object ipv6 grp

This command is used to integrate several IP objects under an IP group profile.

object ip grp setdefault

object ip grp INDEX -v

object ip grp INDEX -n NAME

object ip grp INDEX -i INTERFACE

object ip grp INDEX -a IP_OBJ_INDEX

Syntax Description

Parameter	Description
<i>setdefault</i>	It means to return to default settings for all profiles.
<i>INDEX</i>	It means the index number of the specified group profile.
<i>-v</i>	It means to view the information of the specified group profile. Example: <i>object ip grp 1 -v</i>
<i>-n NAME</i>	It means to define a name for the IP group. NAME: Type a name with less than 15 characters. Example: <i>object ip grp 8 -n bruce</i>
<i>-i INTERFACE</i>	It means to define an interface for the IP group. INTERFACE=0, means any INTERFACE=1, means LAN INTERFACE=2, means WAN Example: <i>object ip grp 3 -i 0</i>
<i>-a IP_OBJ_INDEX</i>	It means to specify IP object profiles for the group profile. Example: <i>object ip grp 3 -a 1 2 3 4 5</i> The IP object profiles with index number 1,2,3,4 and 5 will be group under such profile.

Example

```

> object ip grp 2 -n First
IP Group Profile 2
Name      :[First]
Interface:[Any]
Included ip object index:
[0:][0]
[1:][0]
[2:][0]
[3:][0]
[4:][0]
[5:][0]
[6:][0]
[7:][0]

> object ip grp 2 -i 1
> object ip grp 2 -a 1 2
IP Group Profile 2
Name      :[First]
Interface:[Lan]
Included ip object index:
[0:][1]
[1:][2]
[2:][0]
[3:][0]
[4:][0]
[5:][0]
[6:][0]
[7:][0]

```

object service obj

This command is used to create service object profile.

object service obj setdefault

object service obj INDEX -v

object service obj INDEX -n NAME

object service obj INDEX -p PROTOCOL

object service obj INDEX -s CHK [START_P] [END_P]

object service obj INDEX -d CHK [START_P] [END_P]

Syntax Description

Parameter	Description
<i>setdefault</i>	It means to return to default settings for all profiles.
<i>INDEX</i>	It means the index number of the specified service object profile.

-v	It means to view the information of the specified service object profile. Example: <i>object service obj 1 -v</i>
-n NAME	It means to define a name for the IP object. NAME: Type a name with less than 15 characters. Example: <i>object service obj 9 -n bruce</i>
-i PROTOCOL	It means to define a PROTOCOL for the service object profile. PROTOCOL =0, means any PROTOCOL =1, means ICMP PROTOCOL =2, means IGMP PROTOCOL =6, means TCP PROTOCOL =17, means UDP PROTOCOL =255, means TCP/UDP Other values mean other protocols. Example: <i>object service obj 8 -i 0</i>
CHK	It means the check action for the port setting. 0=equal(=), when the starting port and ending port values are the same, it indicates one port; when the starting port and ending port values are different, it indicates a range for the port and available for this service type. 1=not equal(!=), when the starting port and ending port values are the same, it indicates all the ports except the port defined here; when the starting port and ending port values are different, it indicates that all the ports except the range defined here are available for this service type. 2=larger(>), the port number greater than this value is available.. 3=less(<), the port number less than this value is available for this profile.
-s CHK [START_P] [END_P]	It means to set source port check and configure port range (1~65565) for TCP/UDP. END_P, type a port number to indicate source port. Example: <i>object service obj 3 -s 0 100 200</i>
-d CHK [START_P] [END_P]	It means to set destination port check and configure port range (1~65565) for TCP/UDP. END_P, type a port number to indicate destination port. Example: <i>object service obj 3 -d 1 100 200</i>

Example

```
> object service obj 1 -n limit
> object service obj 1 -p 255
> object service obj 1 -s 1 120 240
> object service obj 1 -d 1 200 220
> object service obj 1 -v
Service Object Profile 1
```

```
Name      :[limit]
Protocol:[255]
Source port check action:[!=]
Source port range:[120~240]
Destination port check action:[!=]
Destination port range:[200~220]
```

object service grp

This command is used to integrate several service objects under a service group profile.

object service grp setdefault

object service grp INDEX -v

object service grp INDEX -n NAME

object service grp INDEX -a SER_OBJ_INDEX

Syntax Description

Parameter	Description
<i>setdefault</i>	It means to return to default settings for all profiles.
<i>INDEX</i>	It means the index number of the specified group profile.
<i>-v</i>	It means to view the information of the specified group profile. Example: <i>object service grp 1 -v</i>
<i>-n NAME</i>	It means to define a name for the service group. NAME: Type a name with less than 15 characters. Example: <i>object service grp 8 -n bruce</i>
<i>-a SER_OBJ_INDEX</i>	It means to specify service object profiles for the group profile. Example: <i>:object service grp 3 -a 1 2 3 4 5</i> The service object profiles with index number 1,2,3,4 and 5 will be group under such profile.

Example

```
>object service grp 1 -n Grope_1
Service Group Profile 1
Name      :[Grope_1]
Included service object index:
[0:][0]
[1:][0]
[2:][0]
[3:][0]
[4:][0]
[5:][0]
[6:][0]
```

```

[7:][0]

> object service grp 1 -a 1 2
Service Group Profile 1
Name      :[Grope_1]
Included service object index:
[0:][1]
[1:][2]
[2:][0]
[3:][0]
[4:][0]
[5:][0]
[6:][0]
[7:][0]

```

object kw

This command is used to create keyword profile.

object kw obj setdefault

object kw obj show PAGE

object kw obj INDEX -v

object kw obj INDEX -n NAME

object kw obj INDEX -a CONTENTS

Syntax Description

Parameter	Description
<i>setdefault</i>	It means to return to default settings for all profiles.
<i>show PAGE</i>	It means to show the contents of the specified profile. PAGE: type the page number.
<i>show</i>	It means to show the contents for all of the profiles.
<i>INDEX</i>	It means the index number of the specified keyword profile.
<i>-v</i>	It means to view the information of the specified keyword profile.
<i>-n NAME</i>	It means to define a name for the keyword profile. NAME: Type a name with less than 15 characters.
<i>-a CONTENTS</i>	It means to set the contents for the keyword profile. Example: <i>object kw obj 40 -a test</i>

Example

```

> object kw obj 1 -n children
Profile 1
Name      :[children]
Content:[]

```

```

> object kw obj 1 -a gambling
Profile 1
Name    :[children]
Content:[gambling]

> object kw obj 1 -v
Profile 1
Name    :[children]
Content:[gambling]

```

object fe

This command is used to create File Extension Object profile.

object fe show

object fe setdefault

object fe obj *INDEX* *-v*

object fe obj *INDEX* *-n* *NAME*

object fe obj *INDEX* *-e* *CATEGORY|FILE_EXTENSION*

object fe obj *INDEX* *-d* *CATEGORY|FILE_EXTENSION*

Syntax Description

Parameter	Description
<i>show</i>	It means to show the contents for all of the profiles.
<i>setdefault</i>	It means to return to default settings for all profiles.
<i>INDEX</i>	It means the index number (from 1 to 8) of the specified file extension object profile.
<i>-v</i>	It means to view the information of the specified file extension object profile.
<i>-n</i> <i>NAME</i>	It means to define a name for the file extension object profile. NAME: Type a name with less than 15 characters.
<i>-e</i>	It means to enable the specific CATEGORY or FILE_EXTENSION.
<i>-d</i>	It means to disable the specific CATEGORY or FILE_EXTENSION
<i>CATEGORY FILE_EXTENSION</i>	CATEGORY: Image, Video, Audio, Java, ActiveX, Compression, Execution Example: <i>object fe obj 1 -e Image</i> FILE_EXTENSION: ".bmp", ".dib", ".gif", ".jpeg", ".jpg", ".jpg2", ".jp2", ".pct", ".pcx", ".pic", ".pict", ".png", ".tif", ".tiff", ".asf", ".avi",

```

".mov", ".mpe", ".mpeg", ".mpg", ".mp4", ".qt", ".rm",
".wmv",
".3gp", ".3gpp", ".3gpp2", ".3g2", ".aac", ".aiff", ".au",
".mp3",
".m4a", ".m4p", ".ogg", ".ra", ".ram", ".vox", ".wav", ".wma",
".class", ".jad", ".jar", ".jav", ".java", ".jcm", ".js", ".jse",
".jsp", ".jtk", ".alx", ".apb", ".axs", ".ocx", ".olb", ".ole",
".tlb", ".viv", ".vrm", ".ace", ".arj", ".bzip2", ".bz2", ".cab",
".gz", ".gzip", ".rar", ".sit", ".zip", ".bas", ".bat", ".com",
".exe", ".inf", ".pif", ".reg", ".scr"
Example: object fe obj 1 -e .bmp

```

Example

```

> object fe obj 1 -n music
> object fe obj 1 -e Audio
> object fe obj 1 -v
Profile Index: 1
Profile Name:[music]

-----

Image category:
[.]bmp [.]dib [.]gif [.]jpeg [.]jpg [.]jpg2 [.]jp2 [.]pct
[.]pcx [.]pic [.]pict [.]png [.]tif [.]tiff

-----

Video category:
[.]asf [.]avi [.]mov [.]mpe [.]mpeg [.]mpg [v].mp4 [.]qt
[.]rm [v].wmv [.]3gp [.]3gpp [.]3gpp2 [.]3g2

-----

Audio category:
[v].aac [v].aiff [v].au [v].mp3 [v].m4a [v].m4p [v].ogg [v].ra
[v].ram [v].vox [v].wav [v].wma

-----

Java category:
[.]class [.]jad [.]jar [.]jav [.]java [.]jcm [.]js [.]jse
[.]jsp [.]jtk

-----

ActiveX category:
[.]alx [.]apb [.]axs [.]ocx [.]olb [.]ole [.]tlb [.]viv
[.]vrm

-----

Compression category:
[.]ace [.]arj [.]bzip2 [.]bz2 [.]cab [.]gz [.]gzip [.]rar
[.]sit [.]zip

-----

Execution category:

```

[].bas [].bat [].com [].exe [].inf [].pif [].reg [].scr

Port Command

port

This command allows users to set the speed for specific port of the router.

port [1, 2, 3, 4, 5, 6, wan2, all] [AN, 100F, 100H, 10F, 10H, status]

port status

port sniff [on,off,port,txrx,restart,status]

port 802.1x[enable,disable,status,addport,delpport]

port jumbo

port wanfc

Syntax Description

Parameter	Description
1, 2, 3, 4, 5, 6, wan2, all	It means the number of LAN port and WAN port.
AN... 10H	It means the physical type for the specific port. AN: auto-negotiate. 100F: 100M Full Duplex. 100H: 100M Half Duplex. 10F: 10M Full Duplex. 10H: 10M Half Duplex.
status	It means to view the Ethernet port status.
sniff [on,off,port,txrx,restart, status]	
802.1x[enable,disable, status,addport,delpport]	
wanfc	It means to set WAN flow control.

Example

```
> port 1 100F
%Set Port 1 Force speed 100 Full duplex OK !!!
```

Portmaptime Command

portmaptime

This command allows you to set a time of keeping the session connection for specified protocol.

portmaptime [-<command> <parameter> | ...]

Syntax Description

Parameter	Description
[<command> <parameter> ...]	The available commands with parameters are listed below. [...] means that you can type in several commands in one line.
-t <sec>	It means "TCP" protocol. <sec>: Type a number to set the TCP session timeout.
-u <sec>	It means "UDP" protocol. <sec>: Type a number to set the UDP session timeout.
-i <sec>	It means "IGMP" protocol. <sec>: Type a number to set the IGMP session timeout.
-w <sec>	It means "TCP WWW" protocol. <sec>: Type a number to set the TCP WWW session timeout.
-s <sec>	It means "TCP SYN" protocol. <sec>: Type a number to set the TCP SYN session timeout.
-f	It means to flush all portmaps (useful for diagnostics).
-l <List>	List all settings.

Example

```
> portmaptime -t 86400 -u 300 -i 10
> portmaptime -l
----- Current setting -----
TCP Timeout      : 86400 sec.
UDP Timeout      : 300 sec.
IGMP Timeout     : 10 sec.
TCP WWW Timeout: 60 sec.
TCP SYN Timeout: 60 sec.
```


Prn (Printer) Command

prn

This command allows you to view current status (interface and driver) of USB printer.

prn status

prn debug

Example

```
> prn status
Interface: USB bus 2.0
Printer: NotReady

> prn debug
conn[0] :
none
conn[1] :
none
conn[2] :
none
conn[3] :
none
LPD_data_total=0

usbip_ptr=0
UsbPrintReady=0, UsbIsPrinting=0
```

QOS (Quality of Service) Commands

qos setup

This command allows user to set general settings for QoS.

qos setup [-<command> <parameter> | ...]

Syntax Description

Parameter	Description
[<command> <parameter> ...]	The available commands with parameters are listed below. [...] means that you can type in several commands in one line.
-h	Type it to display the usage of this command.
-m <mode>	It means to define which traffic the QoS control settings will apply to and enable QoS control. 0: disable. 1: in, apply to incoming traffic only. 2: out, apply to outgoing traffic only. 3: both, apply to both incoming and outgoing traffic. Default is enable (for outgoing traffic).
-i <bandwidth>	It means to set inbound bandwidth in kbps (Ethernet WAN only) The available setting is from 1 to 100000.
-o <bandwidth>	It means to set outbound bandwidth in kbps (Ethernet WAN only). The available setting is from 1 to 100000.
-r <index:ratio>	It means to set ratio for class index, in %.
-u <mode>	It means to enable bandwidth control for UDP. 0: disable 1: enable Default is disable.
-p <ratio>	It means to enable bandwidth limit ratio for UDP.
-t <mode>	It means to enable/disable Outbound TCP ACK Prioritize. 0: disable 1: enable
-V	Show all the settings.
-D	Set all to factory default (for all WANs).
[...]	It means that you can type in several commands in one line.

Example

```
> qos setup -m 3 -i 9500 -o 8500 -r 3:20 -u 1 -p 50 -t 1
```

```
WAN1 QoS mode is both
Wan 1 is XDSL model ,don,t need to set up
Wan 1 is XDSL model ,don,t need to set up
WAN1 class 3 ratio set to 20
WAN1 udp bandwidth control set to enable
WAN1 udp bandwidth limit ratio set to 50
WAN1 Outbound TCP ACK Prioritizel set to enable
QoS WAN1 set complete; restart QoS
>
```

qos class

This command allows user to set QoS class.

```
qos class -c [no] [-a|e|d] [no][<command> <parameter> | ... ]
```

Syntax Description

Parameter	Description
[<command> <parameter> ...]	The available commands with parameters are listed below. [...] means that you can type in several commands in one line.
-h	Type it to display the usage of this command.
-c <no>	Specify the inde number for the class. Available value for <no> contains 1, 2 and 3. The default setting is class 1.
-n <name>	It means to type a name for the class.
-a	It means to add rule for specified class.
-e <no>	It means to edit specified rule. <no>: type the index number for the rule.
-d <no>	It means to delete specified rule. <no>: type the index number for the rule.
-m <mode>	It means to enable or disable the specified rule. 0: disable, 1: enable
-l <addr>	Set the local address. <i>Addr1</i> – It means Single address. Please specify the IP address directly, for example, “-l 172.16.3.9”. <i>addr1:addr2</i> – It means Range address. Please specify the IP addresses, for example, “-l 172.16.3.9: 172.16.3.50.” <i>addr1:subnet</i> – It means the subnet address with start IP address. Please type the subnet and the IP address, for example, “-l 172.16.3.9:255.255.0.0”.0 <i>any</i> – It means Any address. Simple type “-l” to specify any address for this command.
-r <addr>	Set the remote address. <i>addr1</i> – It means Single address. Please specify the IP address directly, for example, “-l 172.16.3.9”. <i>addr1:addr2</i> – It means Range address. Please specify the IP addresses, for example, “-l 172.16.3.9: 172.16.3.50.” <i>addr1:subnet</i> – It means the subnet address with start IP address. Please type the subnet and the IP address, for example, “-l 172.16.3.9:255.255.0.0”.0 <i>any</i> – It means Any address. Simple type “-l” to specify any address for this command.
-p <DSCP id>	Specify the ID.

<code>-s <Service type></code>	Specify the service type by typing the number. The available types are listed as below: 1:ANY 2:DNS 3:FTP 4:GRE 5:H.323 6:HTTP 7:HTTPS 8:IKE 9:IPSEC-AH 10:IPSEC-ESP 11:IRC 12:L2TP 13:NEWS 14:NFS 15:NNTP 16:PING 17:POP3 18:PPTP 19:REAL-AUDIO 20:RTSP 21:SFTP 22:SIP 23:SMTP 24:SNMP 25:SNMP-TRAPS 26:SQL-NET 27:SSH 28:SYSLOG 29:TELNET 30:TFTP
<code>-S <d/s></code>	Show the content for specified DSCP ID/Service type.
<code>-V <1/2/3></code>	Show the rule in the specified class.
<code>[...]</code>	It means that you can type in several commands in one line.

Example

```
> qos class -c 2 -n draytek -a -m 1 -l 192.168.1.50:192.168.1.80
```

Following setting will set in the class2

class 2 name set to draytek

Add a rule in class2

Class2 the 1 rule enabled

Set local address type to Range, 192.168.1.50:192.168.1.80

qos type

This command allows user to configure protocol type and port number for QoS.

qos type [`-a <service name>` | `-e <no>` | `-d <no>`].

Syntax Description

Parameter	Description
<code>-a <name></code>	It means to add rule.
<code>-e <no></code>	It means to edit user defined service type. "no" means the index number. Available numbers are 1~40.
<code>-d <no></code>	It means to delete user defined service type. "no" means the index number. Available numbers are 1~40.
<code>-n <name></code>	It means the name of the service.
<code>-t <type></code>	It means protocol type. 6: tcp(default) 17: udp 0: tcp/udp <1~254>: other
<code>-p <port></code>	It means service port. The typing format must be [start:end] (ex., 510:330).
<code>-l</code>	List user defined types. "no" means the index number. Available numbers are 1~40.

Example

```
> qos type -a draytek -t 6 -p 510:1330
```

```
service name set to draytek
```

```
service type set to 6:TCP
```

```
Port type set to Range
```

```
Service Port set to 510 ~ 1330
```

```
>
```

Quit Command

quit

This command can exit the telnet command screen.

Show Commands

show lan

This command displays current status of LAN IP address settings.

Example

```
> show lan
The LAN settings:
      ip          mask      dhcp  star_ip      pool
gateway
-----
[V]LAN1 192.168.1.1 255.255.255.0 [V] 192.168.1.10 200
192.168.1.1
[X]LAN2 192.168.2.1 255.255.255.0 [V] 192.168.2.10 100
192.168.2.1
[X]LAN3 192.168.3.1 255.255.255.0 [V] 192.168.3.10 100
192.168.3.1
[X]LAN4 192.168.4.1 255.255.255.0 [V] 192.168.4.10 100
192.168.4.1
[X]LAN5 192.168.5.1 255.255.255.0 [V] 192.168.5.10 100
192.168.5.1
[X]LAN6 192.168.6.1 255.255.255.0 [V] 192.168.6.10 100
192.168.6.1
[X]Route 192.168.0.1 255.255.255.0 [V] 0.0.0.0 0 192.168.0.1
```


show dmz

This command displays current status of DMZ host.

Example

```
> show dmz
%      WAN1 DMZ mapping status:
Index  Status  WAN1 aux IP    Private IP
-----
  1     Disable 172.16.3.221
  2     Disable 192.168.1.65
```

show dns

This command displays current status of DNS setting

Example

```
> show dns
%%      Domain name server settings:
%      Primary DNS: [Not set]
%      Secondary DNS: [Not set]
```

show openport

This command displays current status of open port setting.

Example

```
> show openport
%%      Openport settings:
Index  Status  Comment          Local IP Address
*****
No data entry.
```

show nat

This command displays current status of NAT.

Example

```
> show nat
Port Redirection Running Table:

Index  Protocol  Public Port  Private IP  Private Port
  1           0           0  0.0.0.0           0
  2           0           0  0.0.0.0           0
  3           0           0  0.0.0.0           0
  4           0           0  0.0.0.0           0
```

5	0	0	0.0.0.0	0
6	0	0	0.0.0.0	0
7	0	0	0.0.0.0	0
8	0	0	0.0.0.0	0
9	0	0	0.0.0.0	0
10	0	0	0.0.0.0	0
11	0	0	0.0.0.0	0
12	0	0	0.0.0.0	0
13	0	0	0.0.0.0	0
14	0	0	0.0.0.0	0
15	0	0	0.0.0.0	0
16	0	0	0.0.0.0	0
17	0	0	0.0.0.0	0
18	0	0	0.0.0.0	0
19	0	0	0.0.0.0	0
20	0	0	0.0.0.0	0
--- MORE --- ['q': Quit, 'Enter': New Lines, 'Space Bar': Next Page]				

show portmap

This command displays the table of NAT Active Sessions.

Example

```
> show portmap
-----
Private_IP:Port Pseudo_IP:Port Peer_IP:Port [Timeout/Protocol/Flag]
-----
```

show pmtime

This command displays the reuse time of NAT session.

Level0: It is the default setting.

Level1: It will be applied when the NAT sessions are smaller than 25% of the default setting.

Level2: It will be applied when the NAT sessions are smaller than the eighth of the default setting.

Example

```
> show pmtime
Level0 TCP=86400001 UDP=300001 ICMP=10001
Level1 TCP=600000 UDP=90000 ICMP=7000
Level2 TCP=60000 UDP=30000 ICMP=5000
```

show session

This command displays current status of current session.

Example

```
> show session
% Maximum Session Number: 10000
% Maximum Session Usage: 49
% Current Session Usage: 0
% Current Session Used(include waiting for free): 0
% WAN1 Current Session Usage: 0
```

show status

This command displays current status of LAN and WAN connections.

Example

```
> show status
System Uptime:20:36:35
LAN Status
Primary DNS:8.8.8.8          Secondary DNS:8.8.4.4
IP Address:192.168.1.1      Tx Rate:12923      Rx Rate:8152

WAN 1 Status: Disconnected
Enable:Yes      Line:xDSL      Name:tcom
Mode:Static IP  Up Time:0:00:00      IP:172.16.3.221      GW IP:172.16.3.2
TX Packets:0      TX Rate:0      RX Packets:0      RX Rate:0

ADSL Information:      ADSL Firmware Version:05-04-04-04-00-01
Mode:      State:TRAINING      TX Block:0      RX Block:0
Corrected Blocks:0      Uncorrected Blocks:0
UP Speed:0      Down Speed:0      SNR Margin:0      Loop Att.:0
```

show adsl

This command displays current status of ADSL.

Example

```
> Vigor> show adsl
----- ATU-R Info (hw: annex A, f/w: annex A) -----
Running Mode      : T1.413      State      : TRAINING
DS Actual Rate    : 0 bps      US Actual Rate    : 0 bps
DS Attainable Rate : 0 bps      US Attainable Rate : 0 bps
DS Path Mode      : Fast      US Path Mode      : Fast
DS Interleave Depth : 0      US Interleave Depth : 0
NE Current Attenuation : 0 dB      Cur SNR Margin    : 0 dB
DS actual PSD     : 0.0 dB      US actual PSD     : 0.0 dB
ADSL Firmware Version : 05-04-04-04-00-01
----- ATU-C Info -----
Far Current Attenuation : 0 dB      Far SNR Margin    : 0 dB
CO ITU Version[0]      : 00000000      CO ITU Version[1] : 00000000
DSLAM CHIPSET VENDOR   : < ADI >
```

show statistic

This command displays statistics for WAN interface.

show statistic

show statistic reset *[interface]*

Syntax Description

Parameter	Description
<i>reset</i>	It means to reset the transmitted/received bytes to Zero.
<i>interface</i>	It means to specify WAN1 ~WAN5 (including multi-PVC) interface for displaying related statistics.

Example

```
> show statistic
WAN1 total TX: 0 Bytes ,RX: 0 Bytes
WAN2 total TX: 0 Bytes ,RX: 0 Bytes
WAN3 total TX: 0 Bytes ,RX: 0 Bytes
WAN4 total TX: 0 Bytes ,RX: 0 Bytes
WAN5 total TX: 0 Bytes ,RX: 0 Bytes
>
```

Srv (NAT & DHCP) Commands

srv dhcp badip

This command is reserved for future use.

srv dhcp badip

Example

```
> srv dhcp badip
>
```

srv dhcp public

This command allows users to configure DHCP server for second subnet.

srv dhcp public start [*IP address*]

srv dhcp public cnt [*IP counts*]

srv dhcp public status

srv dhcp public add [*MAC Addr XX-XX-XX-XX-XX-XX*]

srv dhcp public del [*MAC Addr XX-XX-XX-XX-XX-XX/all/ALL*]

Syntax Description

Parameter	Description
<i>start</i>	It means the starting point of the IP address pool for the DHCP server.
<i>IP address</i>	It means to specify an IP address as the starting point in the IP address pool.
<i>cnt</i>	It means the IP count number.
<i>IP counts</i>	It means to specify the number of IP addresses in the pool. The maximum is 10.
<i>status</i>	It means the execution result of this command.
<i>add</i>	It means creating a list of hosts to be assigned.
<i>del</i>	It means removing the selected MAC address.
<i>MAC Addr</i>	It means to specify MAC Address of the host.
<i>all/ALL</i>	It means all of the MAC addresses.

Example

```
Vigor> ip route add 192.168.1.56 255.255.255.0 192.168.1.12 3 default
Vigor> srv dhcp public status
Index    MAC Address
```

srv dhcp dns1

This command allows users to set Primary IP Address for DNS Server in LAN.

srv dhcp dns1 [?]

srv dhcp dns1 [DNS IP address]

Syntax Description

Parameter	Description
?	It means to display current IP address of DNS 1 for the DHCP server.
DNS IP address	It means the IP address that you want to use as DNS1. Note: The IP Routed Subnet DNS must be the same as NAT Subnet DNS).

Example

```
> srv dhcp dns1 168.95.1.1
% srv dhcp dns1 <DNS IP address>
% Now: 168.95.1.1
(IP Routed Subnet dns same as NAT Subnet dns)
```

srv dhcp dns2

This command allows users to set Secondary IP Address for DNS Server in LAN.

srv dhcp dns2 [?]

srv dhcp dns2 [DNS IP address]

Syntax Description

Parameter	Description
?	It means to display current IP address of DNS 2 for the DHCP server.
DNS IP address	It means the IP address that you want to use as DNS2. Note: The IP Routed Subnet DNS must be the same as NAT Subnet DNS).

Example

```
> srv dhcp dns2 10.1.1.1
% srv dhcp dns2 <DNS IP address>
% Now: 10.1.1.1
(IP Routed Subnet dns same as NAT Subnet dns)
```

srv dhcp frcdnsman1

This command can force the router to invoke DNS Server IP address.

srv dhcp frcdnsman1 [on]

srv dhcp frcdnsman1 [off]

Syntax Description

Parameter	Description
?	It means to display the current status.
on	It means to use manual setting for DNS setting.
Off	It means to use auto settings acquired from ISP.

Example

```
> srv dhcp frcdnsmanl on
% Domain name server now is using manual settings!
> srv dhcp frcdnsmanl off
% Domain name server now is using auto settings!
```

srv dhcp gateway

This command allows users to specify gateway address for DHCP server.

srv dhcp gateway [?]

srv dhcp gateway [Gateway IP]

Syntax Description

Parameter	Description
?	It means to display current gateway that you can use.
Gateway IP	It means to specify a gateway address used for DHCP server.

Example

```
> srv dhcp gateway 192.168.2.1
This setting will take effect after rebooting.
Please use "sys reboot" command to reboot the router.
```

srv dhcp ipcnt

This command allows users to specify IP counts for DHCP server.

srv dhcp ipcnt [?]

srv dhcp ipcnt [IP counts]

Syntax Description

Parameter	Description
?	It means to display current used IP count number.
IP counts	It means the number that you have to specify for the DHCP server.

Example


```

> srv dhcp ipcnt ?
% srv dhcp ipcnt <IP counts>
% Now: 150

```

srv dhcp off

This function allows users to turn off DHCP server. It needs rebooting router, please type "sys reboot" command to reboot router.

srv dhcp on

This function allows users to turn on DHCP server. It needs rebooting router, please type "sys reboot" command to reboot router.

srv dhcp relay

This command allows users to set DHCP relay setting.

srv dhcp relay servip [*server ip*]

srv dhcp relay subnet [*index*]

Syntax Description

Parameter	Description
<i>server ip</i>	It means the IP address that you want to used as DHCP server.
<i>Index</i>	It means subnet 1 or 2. Please type 1 or 2. The router will invoke this function according to the subnet 1 or 2 specified here.

Example

```

> srv dhcp relay servip 192.168.1.46
> srv dhcp relay subnet 2
> srv dhcp relay servip ?
% srv dhcp relay servip <server ip>
% Now: 192.168.1.46

```

srv dhcp startip

srv dhcp startip [*?*]

srv dhcp startip [*IP address*]

Syntax Description

Parameter	Description
<i>?</i>	It means to display current used start IP address.
<i>IP address</i>	It means the IP address that you can specify for the DHCP server as the starting point.

Example

```
> srv dhcp startip 192.168.1.53
This setting will take effect after rebooting.
Please use "sys reboot" command to reboot the router.
```

srv dhcp status

This command can display general information for the DHCP server, such as IP address, MAC address, leased time, host ID and so on.

Example

```
> srv dhcp status
DHCP server: Relay Agent
Default gateway: 192.168.1.1
Index   IP Address      MAC Address      Leased Time      HOST ID
1       192.168.1.113  00-05-5D-E4-D8-EE  17:20:08        A1000351
```

srv dhcp leasetime

This command can set the lease time for the DHCP server.

srv dhcp leasetime [?]

srv dhcp leasetime [Lease Time (sec)]

Syntax Description

Parameter	Description
?	It means to display current leasetime used for the DHCP server.
<i>Lease Time (sec)</i>	It means the lease time that DHCP server can use. The unit is second.

Example

```
> srv dhcp leasetime ?
% srv dhcp leasetime <Lease Time (sec.)>
% Now: 86400
>
```

srv dhcp nodetype

This command can set the node type for the DHCP server.

srv dhcp nodetype <count>

Syntax Description

Parameter	Description
<i>count</i>	It means to specify a type for node. 1. B-node 2. P-node 4. M-node 8. H-node

Example

```
> srv dhcp nodetype 1
> srv dhcp nodetype ?
%% srv dhcp nodetype <count>
%% 1. B-node 2. P-node 4. M-node 8. H-node
% Now: 1
```

srv dhcp primWINS

This command can set the primary IP address for the DHCP server.

srv dhcp primWINS [*WINS IP address*]

srv dhcp primWINS clear

Syntax Description

Parameter	Description
<i>WINS IP address</i>	It means the IP address of primary WINS server.
<i>clear</i>	It means to remove the IP address settings of primary WINS server.

Example

```
> srv dhcp primWINS 192.168.1.88
> srv dhcp primWINS ?
%% srv dhcp primWINS <WINS IP address>
%% srv dhcp primWINS clear
% Now: 192.168.1.88
```

srv dhcp secWINS

This command can set the secondary IP address for the DHCP server.

```
srv dhcp secWINS [WINS IP address]
```

```
srv dhcp secWINS clear
```

Syntax Description

Parameter	Description
<i>WINS IP address</i>	It means the IP address of secondary WINS server.
<i>clear</i>	It means to remove the IP address settings of second WINS server.

Example

```
> srv dhcp secWINS 192.168.1.180
> srv dhcp secWINS ?
%% srv dhcp secWINS <WINS IP address>
%% srv dhcp secWINS clear
% Now: 192.168.1.180
```

srv dhcp expired_RecycleIP

This command can set the time to check if the IP address can be assigned again by DHCP server or not.

```
srv dhcp expRecycleIP <sec time>
```

Syntax Description

Parameter	Description
<i>sec time</i>	It means to set the time (5~300 seconds) for checking if the IP can be assigned again or not.

Example

```
Vigor> srv dhcp expRecycleIP 250
% DHCP expired_RecycleIP = 250
```

srv dhcp tftp

This command can set the TFTP server as the DHCP server.

```
srv dhcp tftp <TFTP server name>
```

Syntax Description

Parameter	Description
<i>TFTP server name</i>	It means to type the name of TFTP server.

Example

```

> srv dhcp tftp TF123
> srv dhcp tftp ?
%% srv dhcp tftp <TFTP server name>
% Now: TF123

```

srv dhcp option

This command can set the custom option for the DHCP server.

srv dhcp option -h

srv dhcp option -l

srv dhcp option -d [idx]

srv dhcp option -e [1 or 0] -c [option number] -v [option value]

srv dhcp option -e [1 or 0] -c [option number] -a [option value]

srv dhcp option -e [1 or 0] -c [option number] -x [option value]

srv dhcp option -u [idx unumber]

Syntax Description

Parameter	Description
-h	It means to display usage of this command.
-l	It means to display all the user defined DHCP options.
-d[idx]	It means to delete the option number by specifying its index number.
-e [1 or 0]	It means to enable/disable custom option feature. 1:enable 0:disable
-c	It means to set option number. Available number ranges from 0 to 255.
-v	It means to set option number by typing string.
-a	It means to set the option value by specifying the IP address.
-x	It means to set option number with the format of Hexadecimal characters.
-u	It means to update the option value of the sepecified index.
idx number	It means the index number of the option value.

Example

```

> srv dhcp option -e 1 -c 18 -v /path
> srv dhcp option -l
% state   idx interface          opt type    data
% enable  1   ALL LAN                18  ASCII    /path

```

srv nat dmz

This command allows users to set DMZ host. Before using this command, please set WAN IP Alias first.

Srv nat dmz n m [*-<command> <parameter> | ...*]

Syntax Description

Parameter	Description
<i>n</i>	It means to map selected WAN IP to certain host. 1: wan1 2: wan2
<i>m</i>	It means the index number of the DMZ host. Default setting is "1" (WAN 1). It is only available for Static IP mode. If you use other mode, you can set 1 ~ 8 in this field. If WAN IP alias has been configured, then the number of DMZ host can be added more.
[<i><command></i> <i><parameter> ...</i>]	The available commands with parameters are listed below. [...] means that you can type in several commands in one line.
<i>-e</i>	It means to enable/disable such feature. 1:enable 0:disable
<i>-i</i>	It means to specify the private IP address of the DMZ host.
<i>-r</i>	It means to remove DMZ host setting.
<i>-v</i>	It means to display current status.

Example

```
> srv nat dmz 1 1 -i 192.168.1.96
> srv nat dmz -v
%      WAN1 DMZ mapping status:
  Index  Status  WAN1 aux IP    Private IP
-----
      1   Disable 0.0.0.0 192.168.1.96
```

srv nat ipsecpass

This command allows users to enable or disable IPSec ESP tunnel passthrough and IKE source port (500) preservation.

Srv nat ipsecpass [*options*]

Syntax Description

Parameter	Description
[<i>options</i>]	The available commands with parameters are listed below.

<i>on</i>	It means to enable IPsec ESP tunnel passthrough and IKE source port (500) preservation.
<i>off</i>	It means to disable IPsec ESP tunnel passthrough and IKE source port (500) preservation.
<i>status</i>	It means to display current status for checking.

Example

```
> srv nat ipsecpass status
%% Status: IPsec ESP pass-thru and IKE src_port:500 preservation is OFF.
```

srv nat openport

This command allows users to set open port settings for NAT server.

srv nat openport n m [-<command> <parameter> | ...]

Syntax Description

Parameter	Description
<i>n</i>	It means the index number for the profiles. The range is from 1 to 20.
<i>m</i>	It means to specify the sub-item number for this profile. The range is from 1 to 10.
[<command> <parameter> ...]	The available commands with parameters are listed below. [...] means that you can type in several commands in one line.
-a <enable>	It means to enable or disable the open port rule profile. 0: disable 1:enable
-c <comment>	It means to type the description (less than 23 characters) for the defined network service.
-i <local ip>	It means to set the IP address for local computer. Local ip: Type an IP address in this field.
-w <idx>	It means to specify the public IP. 1: WAN1 Default, 2: WAN1 Alias 1, ...and so on.
-p <protocol>	Specify the transport layer protocol. Available values are TCP, UDP and ALL.
-s<start port>	It means to specify the starting port number of the service offered by the local host. The range is from 0 to 65535.
-e<end port>	It means to specify the ending port number of the service offered by the local host. The range is from 0 to 65535.

-v	It means to display current settings.
-r <remove>	It means to delete the specified open port setting. remove: Type the index number of the profile.
-f <flush>	It means to return to factory settings for all the open ports profiles.

Example

```

> srv nat openport 1 1 -a 1 -c games -i 192.168.1.100 -w 1 -p TCP -s 23 -e 83
> srv nat openport -v
%% Status: Enable
%% Comment: games
%% Private IP address: 192.168.1.100
Index   Protocol   Start Port   End Port
*****
  1.    TCP           23           83

%% Status: Disable
%% Comment:
%% Private IP address: 0.0.0.0
Index   Protocol   Start Port   End Port
*****

%% Status: Disable
%% Comment:
%% Private IP address: 0.0.0.0
Index   Protocol   Start Port   End Port
*****
>

```

srv nat portmap

This command allows users to set port redirection table for NAT server.

srv nat portmap add [idx][serv name][proto][pub port][pri ip][pri port][wan1/wan2]

srv nat portmap del [idx]

srv nat portmap disable [idx]

srv nat portmap enable [idx] [proto]

srv nat portmap flush

srv nat portmap table

Syntax Description

Parameter	Description
Add[idx]	It means to add a new port redirection table with an index number. Available index number is from 1 to 10.

<i>serv name</i>	It means to type one name as service name.
<i>proto</i>	It means to specify TCP or UDP as the protocol.
<i>pub port</i>	It means to specify which port can be redirected to the specified Private IP and Port of the internal host.
<i>pri ip</i>	It means to specify the private IP address of the internal host providing the service.
<i>pri port</i>	It means to specify the private port number of the service offered by the internal host.
<i>wan1/wan2</i>	It means to specify WAN interface for the port redirection.
<i>del [idx]</i>	It means to remove the selected port redirection setting.
<i>disable [idx]</i>	It means to inactivate the selected port redirection setting.
<i>enable [idx]</i>	It means to activate the selected port redirection setting.
<i>flush</i>	It means to clear all the port mapping settings.
<i>table</i>	It means to display Port Redirection Configuration Table.

Example

```
> srv nat portmap add 1 game tcp 80 192.168.1.11 100 wan1
> srv nat portmap table
```

NAT Port Redirection Configuration Table:

Index	Service Name	Protocol	Public Port	Private IP	Private Port	ifno
1	game	6	80	192.168.1.11	100	
-1						
2		0	0		0	-
2						
3		0	0		0	-
2						
4		0	0		0	-
2						
5		0	0		0	-
2						
6		0	0		0	-
2						
7		0	0		0	-
2						
8		0	0		0	-
2						
9		0	0		0	-
2						
10		0	0		0	-
2						
11		0	0		0	-
2						

12		0	0	0	-
2					
13		0	0	0	-
2					
14		0	0	0	-
2					
15		0	0	0	-
2					
16		0	0	0	-
2					
17		0	0	0	-
2					
18		0	0	0	-
2					
19		0	0	0	-
2					
20		0	0	0	-
2					

Protocol: 0 = Disable, 6 = TCP, 17 = UDP

srv nat status

This command allows users to view NAT Port Redirection Running Table.

Example

```
> srv nat status
NAT Port Redirection Running Table:
```

Index	Protocol	Public Port	Private IP	Private Port
1	6	80	192.168.1.11	100
2	0	0	0.0.0.0	0
3	0	0	0.0.0.0	0
4	0	0	0.0.0.0	0
5	0	0	0.0.0.0	0
6	0	0	0.0.0.0	0
7	0	0	0.0.0.0	0
8	0	0	0.0.0.0	0
9	0	0	0.0.0.0	0
10	0	0	0.0.0.0	0
11	0	0	0.0.0.0	0
12	0	0	0.0.0.0	0
13	0	0	0.0.0.0	0
14	0	0	0.0.0.0	0

15	0	0	0.0.0.0	0
16	0	0	0.0.0.0	0
17	0	0	0.0.0.0	0
18	0	0	0.0.0.0	0
19	0	0	0.0.0.0	0
20	0	0	0.0.0.0	0
--- MORE --- ['q': Quit, 'Enter': New Lines, 'Space Bar': Next Page] ---				

srv nat showall

This command allows users to view a summary of NAT port redirection setting, open port and DMZ settings.

Example

```
> srv nat showall ?
```

Index	Proto	WAN IP:Port	Private IP:Port	Act

R01	TCP	0.0.0.0:80	192.168.1.11:100	Y
O01	TCP	0.0.0.0:23~83	192.168.1.100:23~83	Y
D01	All	0.0.0.0	192.168.1.96	Y

R:Port Redirection, O:Open Ports, D:DMZ

Switch (External Devices) Commands

switch -i

This command is used to obtain the TX (transmitted) or RX (received) data for each connected switch.

switch -i [*switch idx_no*] [*option*]

Syntax Description

Parameter	Description
<i>switch idx_no</i>	It means the index number of the switch profile.
<i>option</i>	The available commands with parameters are listed below. <i>cmd</i> <i>acc</i> <i>traffic [on/off/status/tx/rx]</i>
<i>cmd</i>	It means to send command to the client.
<i>acc</i>	It means to set the client authentication account and password.
<i>traffic</i> <i>[on/off/status/tx/rx]</i>	It means to turn on/off or display the data transmission from the client.

Example

```
> switch -i 1 traffic on
External Device NO. 1 traffic statistic function is enable
```

switch on

This command is used to turn on the auto discovery for external devices.

Example

```
> switch on
Enable Extrnal Device auto discovery!
```

switch off

This command is used to turn off the auto discovery for external devices.

Example

```
> switch off
Disable External Device auto discovery!
```

switch list

This command is used to display the connection status of the switch.

Example

```
> switch list?
No.      Mac          IP          status    Dur Time   Model_Name
-----
[1] 00-50-7f-cd-07-48 192.168.1.3 On-Line   00:01:01  Vigor2920 Series
```

switch clear

This command is used to reset the switch table and reboot the router.

switch clear [*idx*]

Syntax Description

Parameter	Description
<i>idx</i>	It means the index number of each item shown on the table. The range is from 1 to 8.
<i>-f</i>	It means to clear all of the data.

Example

```
> switch clear 1
Switch Data clear successful

> switch clear -f
Switch Data clear successful
```

switch query

This command is used to enable or disable the switch query.

Example

```
> switch query on
Extern Device status query is Enable
> switch query off
Extern Device status query is Disable
```

SWM (Switch Management) Commands

swm show

This command is used to display general setting of of VigorSwitch which connecting to Vigor router in LAN.

Syntax

swm show [*LAN_port*]

Syntax Description

Parameter	Description
<i>LAN_Port</i>	Specify the LAN port number (1 to 6).

Example

```
> swm show

** If you connected a VigorSwitch but does not display here.
** Please check the LLDP is enabled and VLAN ID is matched on
VigorSwitch.
*****
***** LAN Port Model Name MAC IP Address Con Port
-----
----- 1 G1241 00507FF105FD 192.168.1.10 23
-----
----
Internal VLAN is [Enable]
Only show P1 related VLAN settings here.
VLAN Subn Tag VID Pri LAN WLAN(2.4G) WLAN(5G)
-----
-
0 LAN1 Off 0 0 P1,P2,P3,P4,P5,P6 none none
1 LAN1 On 20 0 P1,P2,P3,P4,P5,P6 none none
2 LAN1 On 100 0 P1,P2,P3,P4,P5,P6 none none
```

swm get

This command is used to **get** configuration information of VigorSwitch which connecting to Vigor router in LAN.

Syntax

swm get [*LAN_port*]

Syntax Description

Parameter	Description
<i>LAN_port</i>	Specify the LAN port number (1 to 6).

Example

```
> swm get 1
Start get cfg from LAN (1) external switch
Please wait a few seconds...
Result: [OK].
>
```

swm post

This command is used to transfer switch configuration to VigorSwitch which connecting to Vigor router in LAN.

Syntax

swm post [*LAN_port*]

Syntax Description

Parameter	Description
<i>LAN_port</i>	Specify the LAN port number (1 to 6).

Example

```
> swm post 1
Start post cfg to LAN (1) external switch with current settings. Please
wait a few seconds...
Result: [OK]
>
```

swm auth

This command is used to display or remove the authentication record for external switch.

Syntax

swm auth [*show/clear*]

Syntax Description

Parameter	Description
<i>show</i>	Display recorded external switch MAC address list.
<i>clear</i>	Clear specific index of authentication record table. Index range: (1 - 30)

Example

```
> swm auth show
===== SWM Auth Records List=====
Index Model    Mac
-----
=====

> swm auth clear 1
Clear index (1) swm auth record OK
```

swm extvlan

This command is used to configure port VLAN of VigorSwitch.

Syntax

swm extvlan [*LAN_Port*][*VLAN_idx*][*Port_Description*]

Syntax Description

Parameter	Description
<i>LAN_Port</i>	Setting range is from 1 to 6.
<i>VLAN_idx</i>	Index number range for VLAN is from 0 to 7.
<i>Port_Description</i>	Setting range is from 1 to 24.

Example

```
> swm extvlan 1 1 13
Set OK.

> swm post 1
Start post cfg to LAN (1) external switch with current settings.//post cfg

Please wait a few seconds...
Result: [OK].
```

System will cover the original VLAN settings on your VigorSwitch. Please backup the configuration file before you run this function.

System also will select the physical connect port as trunk port and let it join each VLAN group. Before using such command, please use [swm show] to check valid VLAN index firstly.

Sys Commands

sys admin

This command is used for RD engineer to access into test mode of Vigor router.

sys adminuser

This command is used to create user account and specify LDAP server. The server will authenticate the local user who wants to access into the web user interface of Vigor router.

sys adminuser *[option]*

sys adminuser edit *[index] username password*

Syntax Description

Parameter	Description
<i>option</i>	Available options includes: Local [0-1] LDAP [0-1] edit [INDEX] delete [INDEX] view [INDEX]
<i>Local [0-1]</i>	0 – Disable the local user. 1 – Enable the local user.
<i>LDAP [0-1]</i>	0 – Disable the LDAP. 1 – Enable the LDAP.
<i>edit [INDEX] username password</i>	Edit an existed user account or create a new local user account. [INDEX] – 1 ~8. There are eight profiles to be added / edited. Username – Type a new name for local user. Password – Type a password for local user.
<i>delete [INDEX]</i>	Delete a local user account.
<i>view [INDEX]</i>	Show the user account/password detail information.

Example

```
> > sys adminuser Local 1
Local User has enabled!
> sys adminuser LDAP 1
LDAP has enabled!
>> sys adminuser edit 1 carrie test123
Updated!
>> sys adminuser view 1

Index:1
User Name:carrie
```

```
User Password:test123
```

sys bonjour

This command is used to disable/enable and configure the Bonjour service.

sys bonjour [-<command> <parameter> | ...]

Syntax Description

Parameter	Description
-e <enable>	It is used to disable/enable bonjour service (0: disable, 1: enable).
-h <enable>	It is used to disable/enable http (web) service (0: disable, 1: enable).
-t <enable>	It is used to disable/enable telnet service (0: disable, 1: enable).
-f <enable>	It is used to disable/enable FTP service (0: disable, 1: enable).
-s <enable>	It is used to disable/enable SSH service (0: disable, 1: enable).
-p <enable>	It is used to disable/enable printer service (0: disable, 1: enable).
-6 <enable>	It is used to disable/enable IPv6 (0: disable, 1: enable).

Example

```
> sys bonjour -s 1  
>
```

sys cfg

This command reset the router with factory default settings. When a user types this command, all the configuration will be reset to default setting.

sys cfg default

sys cfg status

Syntax Description

Parameter	Description
<i>default</i>	It means to reset current settings with default values.
<i>status</i>	It means to display current profile version and status.

Example

```
> sys cfg status
Profile version: 3.0.0      Status: 1 (0x491e5e6c)
> sys cfg default
>
```

sys cmdlog

This command displays the history of the commands that you have typed.

Example

```
> sys cmdlog
% Commands Log: (The lowest index is the newest !!!)
  [1] sys cmdlog
  [2] sys cmdlog ?
  [3] sys ?
  [4] sys cfg status
  [5] sys cfg ?
```

sys ftpd

This command displays current status of FTP server.

sys ftpd on

sys ftpd off

Syntax Description

Parameter	Description
<i>on</i>	It means to turn on the FTP server of the system.
<i>off</i>	It means to turn off the FTP server of the system.

Example

```
> sys ftpd on  
% sys ftpd turn on !!!
```

sys domainname

This command can set and remove the domain name of the system when DHCP mode is selected for WAN.

sys domainname [*wan1/wan2*] [*Domain Name Suffix*]

sys domainname [*wan1/wan2*] *clear*

Syntax Description

Parameter	Description
<i>wan1/wan2</i>	It means to specify WAN interface for assigning a name for it.
<i>Domain Name Suffix</i>	It means the name for the domain of the system. The maximum number of characters that you can set is 40.
<i>clear</i>	It means to remove the domain name of the system.

Example

```
> sys domainname wan1 clever
> sys domainname wan2 intellegent
> sys domainname ?
% sys domainname <wan1/wan2> <Domain Name Suffix (max. 40 characters)>
% sys domainname <wan1/wan2> clear
% Now: wan1 == clever, wan2 ==intelligent
>
```

sys iface

This command displays the current interface connection status (UP or Down) with IP address, MAC address and Netmask for the router.

Example

```
> sys iface
Interface 0 Ethernet:
Status: UP
IP Address: 192.168.1.1          Netmask: 0xFFFFFFFF (Private)
IP Address: 0.0.0.0           Netmask: 0xFFFFFFFF
MAC: 00-50-7F-00-00-00
Interface 4 Ethernet:
Status: DOWN
IP Address: 0.0.0.0           Netmask: 0x00000000
MAC: 00-50-7F-00-00-02
Interface 5 Ethernet:
Status: DOWN
IP Address: 0.0.0.0           Netmask: 0x00000000
MAC: 00-50-7F-00-00-03
Interface 6 Ethernet:
```

```

Status: DOWN
IP Address: 0.0.0.0           Netmask: 0x00000000
MAC: 00-50-7F-00-00-04
Interface 7 Ethernet:
Status: DOWN
IP Address: 0.0.0.0           Netmask: 0x00000000
MAC: 00-50-7F-00-00-05
Interface 8 Ethernet:
Status: DOWN
IP Address: 0.0.0.0           Netmask: 0x00000000
MAC: 00-50-7F-00-00-06

Interface 9 Ethernet:
Status: DOWN
IP Address: 0.0.0.0           Netmask: 0x00000000
MAC: 00-50-7F-00-00-07
--- MORE ---   ['q': Quit, 'Enter': New Lines, 'Space Bar': Next Page] ---
>

```

sys name

This command can set and remove the name for the router when DHCP mode is selected for WAN.

sys name [*wan1*] [*ASCII string*]

sys name [*wan1*] clear

Syntax Description

Parameter	Description
<i>wan1</i>	It means to specify WAN interface for assigning a name for it.
<i>ASCII string</i>	It means the name for router. The maximum character that you can set is 20.

Example

```

> sys name wan1 drayrouter
> sys name ?
% sys name <wan1/wan2> <ASCII string (max. 20 characters)>
% sys name <wan1/wan2> clear
% Now: wan1 == drayrouter, wan2 ==

```

Note: Such name can be used to recognize router's identification in SysLog dialog.

sys passwd

This command allows users to set password for the administrator.

sys passwd [*ASCII string*]

Syntax Description

Parameter	Description
<i>ASCII string</i>	It means the password for administrator. The maximum character that you can set is 23.

Example

```
> sys passwd admin123  
>
```

sys reboot

This command allows users to restart the router immediately.

Example

```
> sys reboot
>
```

sys autoreboot

This command allows users to restart the router automatically within a certain time.

sys autoreboot [*on/off/hour(s)*]

Syntax Description

Parameter	Description
<i>on/off</i>	On – It means to enable the function of auto-reboot. Off – It means to disable the function of auto-reboot.
<i>hours</i>	It means to set the time schedule for router reboot. For example, if you type “2” in this field, the router will reboot with an interval of two hours.

Example

```
> sys autoreboot on
  autoreboot is ON
> sys autoreboot 2
  autoreboot is ON
  autoreboot time is 2 hour(s)
```

sys commit

This command allows users to save current settings to FLASH. Usually, current settings will be saved in SRAM. Yet, this command will save the file to FLASH.

Example

```
> sys commit
>
```

sys tftpd

This command can turn on TFTP server for upgrading the firmware.

Example

```
> sys tftpd
% TFTP server enabled !!!
```

sys cc

This command can display current country code and wireless region of this device.

Example

```
> sys cc
Country Code          : 0x 0 [International]
Wireless Region Code: 0x30
>
```

sys version

This command can display current version for the system.

Example

```
> sys version
Router Model: VigorBX 2000Vn+   Version: 3.7.4.1 English
Profile version: 3.0.0        Status: 1 (0x49165e6c)
Router IP: 192.168.1.1        Netmask: 255.255.255.0
Firmware Build Date/Time: Mar 20 2014 14:09:50
Router Name: drayrouter
Revision: 40055 2860_374
VDSL2 Firmware Version: 05-04-08-00-00-06
```

sys qrybuf

This command can display the system memory status and leakage list.

Example

```
> sys qrybuf
System Memory Status and Leakage List

Buf sk_buff ( 200B), used#: 1647, cached#: 30
Buf KMC4088 (4088B), used#: 0, cached#: 8
Buf KMC2552 (2552B), used#: 1641, cached#: 42
Buf KMC1016 (1016B), used#: 7, cached#: 1
Buf KMC504 ( 504B), used#: 8, cached#: 8
Buf KMC248 ( 248B), used#: 26, cached#: 22
Buf KMC120 ( 120B), used#: 67, cached#: 61
Buf KMC56 ( 56B), used#: 20, cached#: 44
Buf KMC24 ( 24B), used#: 58, cached#: 70
Dynamic memory: 13107200B; 4573168B used; 190480B/0B in level 1/2 cache.

FLOWTRACK Memory Status
# of free = 12000
# of maximum = 0
# of flowstate = 12000
```

```
# of lost by signature = 0
# of lost by list = 0
```

sys pollbuf

This command can turn on or turn off polling buffer for the router.

sys pollbuf *[on]*

sys pollbuf *[off]*

Syntax Description

Parameter	Description
<i>on</i>	It means to turn on pulling buffer.
<i>off</i>	It means to turn off pulling buffer.

Example

```
> sys pollbuf on
% Buffer polling is on!

> sys pollbuf off
% Buffer polling is off!
```

sys britask

This command can improve triple play quality.

sys britask *[on]*

sys britask *[off]*

Syntax Description

Parameter	Description
<i>on</i>	It means to turn on the bridge task for improving the triple play quality.
<i>off</i>	It means to turn off the bridge task.

Example

```
> sys britask on
% bridge task is ON, now
```

sys tr069

This command can set CPE settings for applying in VigorACS.

sys tr069 get *[parm] [option]*

sys tr069 set *[parm] [value]*

sys tr069 getnoti *[parm]*

sys tr069 setnoti [*parm*] [*value*]

sys tr069 log

sys tr069 debug [*on/off*]

sys tr069 save

sys tr069 inform [*event code*]

sys tr069 port [*port num*]

sys tr069 cert_auth [*on/off*]

Syntax Description

Parameter	Description
<i>get</i> [<i>parm</i>] [<i>option</i>]	It means to get parameters for tr-069. option=<nextlevel>: only gets nextlevel for GetParameterNames.
<i>set</i> [<i>parm</i>] [<i>value</i>]	It means to set parameters for tr-069.
<i>getnoti</i> [<i>parm</i>]	It means to get parameter notification value.
<i>setnoti</i> [<i>parm</i>] [<i>value</i>]	It means to set parameter notification value.
<i>log</i>	It means to display the TR-069 log.
<i>debug</i> [<i>on/off</i>]	on: turn on the function of sending debug message to syslog. off: turn off the function of sending debug message to syslog.
<i>save</i>	It means to save the parameters to the flash memory of the router.
<i>Inform</i> [<i>event code</i>]	It means to inform parameters for tr069 with different event codes. [event code] includes: 0-"0 BOOTSTRAP", 1-"1 BOOT", 2-"2 PERIODIC", 3-"3 SCHEDULED", 4-"4 VALUE CHANGE", 5-"5 KICKED", 6-"6 CONNECTION REQUEST", 7-"7 TRANSFER COMPLETE", 8-"8 DIAGNOSTICS COMPLETE", 9-"M Reboot"
<i>port</i> [<i>port num</i>]	It means to change tr069 listen port number.
<i>cert_auth</i> [<i>on/off</i>]	on: turn on certificate-based authentication. off: turn off certificate-based authentication.

Example

```
> sys tr069 get Int. nextlevel
```

```

Total number of parameter is 24
Total content length of parameter is 915
InternetGatewayDevice.LANDeviceNumberOfEntries
InternetGatewayDevice.WANDeviceNumberOfEntries
InternetGatewayDevice.DeviceInfo.
InternetGatewayDevice.ManagementServer.
InternetGatewayDevice.Time.
InternetGatewayDevice.Layer3Forwarding.
InternetGatewayDevice.LANDevice.
InternetGatewayDevice.WANDevice.
InternetGatewayDevice.Services.
InternetGatewayDevice.X_00507F_InternetAcc.
InternetGatewayDevice.X_00507F_LAN.
InternetGatewayDevice.X_00507F_NAT.
InternetGatewayDevice.X_00507F_Firewall.
InternetGatewayDevice.X_00507F_Bandwidth.
InternetGatewayDevice.X_00507F_Applications.
InternetGatewayDevice.X_00507F_VPN.
InternetGatewayDevice.X_00507F_VoIP.
InternetGatewayDevice.X_00507F_WirelessLAN.
InternetGatewayDevice.X_00507F_System.
InternetGatewayDevice.X_00507F_Status.

InternetGatewayDevice.X_00507F_Diagnostics.
--- MORE ---   ['q': Quit, 'Enter': New Lines, 'Space Bar': Next Page] ---

```

sys sip_alg

This command can turn on/off SIP ALG (Application Layer Gateway) for traversal.

sys sip_alg [1]

sys sip_alg [0]

Syntax Description

Parameter	Description
1	It means to turn on SIP ALG.
0	It means to turn off SIP ALG.

Example

```

> sys sip_alg ?
usage: sys sip_alg [value]
  0 - disable SIP ALG
  1 - enable SIP ALG
current SIP ALG is disabled

```

sys license

This command can process the system license.

sys license *licmsg*

sys license *licauth*

sys license *regser*

sys license *licera*

sys license *licifno*

sys license *lic_wiz* [*set/reg/qry*]

sys license *dev_chg*

sys license *dev_key*

Syntax Description

Parameter	Description
<i>licmsg</i>	It means to display license message.
<i>licauth</i>	It means the license authentication time setting.
<i>regser</i>	It means the license register server setting.
<i>licera</i>	It means to erase license setting.
<i>licifno</i>	It means license and signature download interface setting.
<i>lic_wiz</i> [<i>set/reg/qry</i>]	It means the license wizard setting. qry: query service support status set [idx] [trial] [service type] [sp_id] [start_date] [License Key] reg: register service in portal
<i>dev_chg</i>	It means to change the device key.
<i>dev_key</i>	It means to show device key.

Example

```
> sys license licifno

License and Signature download interface setting:
licifno [AUTO/WAN#]

Ex: licifno wan1

Download interface is "auto-selected" now.
```

sys diag_log

This command is used for RD debug.

sys diag_log [*status*| *enable*| *disable*| *flush*| *lineno* [*w*] | *level* [*x*] | *feature* [*on/off*] [*y*] | *log*]

Syntax Description

Parameter	Description
<i>status</i>	It means to show the status of diagnostic log.
<i>enable</i>	It means to enable the function of diag_log.
<i>disable</i>	It means to disable the function of diag_log.
<i>flush</i>	It means the flush log buffer.
<i>lineno [w]</i>	It means the total lines for displaying message. w - Available value ranges from 100 to 50000.
<i>level[x]</i>	It determines the level of data displayed. x – Available value ranges from 0 to 12. The larger the number is, the detailed the data is displayed.
<i>feature [on/off][y]</i>	It is used to specify the function of the log. Supported features include SYS and DSL (Case-Insensitive). Default setting is “on” for “DSL”.
<i>voip_feature [on/off][vf_name]</i>	It means VoIP feature. Type on to enable the feature or type off to disable the feature. vf_name: available settings include DRVTAPI, DRVMMC, DRVMPS, DRVFXO, DRVHAL, PSMPHONE, PSMSUPP, PSM, FXO, PSMISDN, DTMFPSER, CALLERID (Case-Insensitive).
<i>log</i>	It means the dump log buffer.

Example

```

> sys diag_log status
Status:
diag_log is Enabled.
lineno : 10000.
level : 3.
Enabled feature: SYS DSL
> sys diag_log log
0:00:02 [DSL] Current modem firmware: AnnexA_548006_544401
0:00:02 [DSL] Modem firmware feature: 5, ADSL_A, VDSL2
0:00:02 [DSL] xtseCfg=04 00 04 00 0c 01 00 07
0:00:02 [DSL] don't have last showtime mode!! set next mode to VDSL!!
0:00:02 [DSL] Status has changed: Stopped(0) -> FwWait(3)
0:00:02 [DSL] Status has changed: FwWait(3) -> Starting(1)
0:00:02 [DSL] Status has changed: Starting(1) -> Running(2)
0:00:02 [DSL] Status was switched: firmwareReady(3) to Init(5)
0:00:02 [DSL] Status was switched: Init(5) to Restart(10)
0:00:02 [DSL] Status was switched: Restart(10) to FirmwareRequest(1)
0:00:02 [DSL] Line state has changed: 00000000 -> 000000FF
0:00:02 [DSL] Entering VDSL2 mode
0:00:03 [DSL] modem code: [05-04-08-00-00-06]
0:00:05 [DSL] Status was switched: FirmwareRequest(1) to firmwareReady(3)

```

```
0:00:05 [DSL] Status was switched: firmwareReady(3) to Init(5)
0:00:05 [DSL] >> nXtseA=0d, nXtseB=00, nXtseV=07, nFwFeatures=5
0:00:05 [DSL] >> nHsToneGroupMode=0, nHsToneGroup=106, nToneSet=43,
nCamState
=2
0:00:05 [DSL] Line state has changed: 000000FF -> 00000100
0:00:05 [DSL] Line state has changed: 00000100 -> 00000200
0:00:05 [DSL] Status was switched: Init(5) to Train(6)
```

Testmail Command

testmail

This command is used to display current settings for sending test mail.

Example

```
> testmail
Send out test mail
Mail Alert:[Disable]
SMTP_Server:[0.0.0.0]
Mail to:[]
Return-Path:[]
```


UPnP Commands

upnp off

This command can close UPnP function.

Example

```
>upnp off
UPNP say bye-bye
```

upnp on

This command can enable UPnP function.

Example

```
>upnp on
UPNP start.
```

upnp nat

This command can display IGD NAT status.

Example

```
> upnp nat ?
***** IGD NAT Status *****

((0))
InternalClient >>192.168.1.10<<, RemoteHost >>0.0.0.0<<
InternalPort >>21<<, ExternalPort >>21<<
PortMapProtocol >>TCP<<
The tmpvirtual server index >>0<<
PortMapLeaseDuration >>0<<, PortMapEnabled >>0<<
Ftp Example [MICROSOFT]
((1))
InternalClient >>0.0.0.0<<, RemoteHost >>0.0.0.0<<
InternalPort >>0<<, ExternalPort >>0<<
PortMapProtocol >><NULL><<
The tmpvirtual server index >>0<<
PortMapLeaseDuration >>0<<, PortMapEnabled >>0<<
PortMapProtocol >><NULL><<
The tmpvirtual server index >>0<<
PortMapLeaseDuration >>0<<, PortMapEnabled >>0<<
0<<

--- MORE ---  ['q!': Quit, 'Enter!': New Lines, 'Space Bar!': Next Page] ---
```

upnp service

This command can display the information of the UPnP service. UPnP service must be enabled first.

Example

```
> upnp on
UPNP start.

> upnp service
>>>> SERVICE TABLE1 <<<<<
  serviceType urn:schemas-microsoft-com:service:OSInfo:1
  serviceld   urn:microsoft-com:serviceld:OSInfo1
  SCPDURL     /upnp/OSInfo.xml
  controlURL  /OSInfo1
  eventURL    /OSInfoEvent1
  UDN         uuid:774e9bbe-7386-4128-b627-001daa843464

>>>> SERVICE TABLE2 <<<<<
  serviceType urn:schemas-upnp-org:service:WANCommonInterfaceConfig:1
  serviceld   urn:upnp-org:serviceld:WANCommonIFC1
  SCPDURL     /upnp/WComIFCX.xml
  controlURL  /upnp?control=WANCommonIFC1
  eventURL    /upnp?event=WANCommonIFC1
  UDN         uuid:2608d902-03e2-46a5-9968-4a54ca499148
.
.
.
```

upnp subscribe

This command can show all UPnP services subscribed.

Example

```
> upnp on
UPNP start.
> upnp subscribe
Vigor> upnp subscribe
>>>> (1) serviceType urn:schemas-microsoft-com:service:OSInfo:1

----- Subscription1 -----

  sid = 7a2bbdd0-0047-4fc8-b870-4597b34da7fb

  eventKey =1, ToSendEventKey = 1

  expireTime =6926

  active =1

  DeliveryURLs =<http://192.168.1.113:2869/upnp/eventing/twtnpnsiun>
```

```

>>>> (2) serviceType urn:schemas-upnp-org:service:WANCommonInterfaceConfig:1

----- Subscription1 -----

sid = d9cd47a5-d9c9-4d3d-8043-d03a82f27983

eventKey =1, ToSendEventKey = 1
.
.
.

```

upnp tmpvs

This command can display current status of temp Virtual Server of your router.

Example

```

Vigor> upnp tmpvs
***** Temp virtual server status *****

((0))
real_addr  >>192.168.1.10<<, pseudo_addr >>172.16.3.229<<
real_port  >>0<<, pseudo_port >>0<<
hit_portmap_index >>0<<
The protocol >>TCP<<
time >>0<<

((1))
real_addr  >>0.0.0.0<<, pseudo_addr >>0.0.0.0<<
real_port  >>0<<, pseudo_port >>0<<
hit_portmap_index >>0<<
The protocol >>0<<
time >>0<<

--- MORE ---  ['q': Quit, 'Enter': New Lines, 'Space Bar': Next Page] ---

```

upnp wan

This command is used to specify WAN interface to apply UPnP.

upnp wan [*n*]

Syntax Description

Parameter	Description
<i>n</i>	It means to specify WAN interface to apply UPnP. n=0, it means to auto-select WAN interface. n=1, WAN1 n=2, WAN2

Example

```
> upnp wan 1  
use wan1 now.
```

USB Commands

usb list

This command is use to display the information about the brand name and model name of the USB modems which are supported by Vigor router.

Example

```
> usb list ?
```

Brand	Module	Standard	
Aiko	Aiko 83D	3.5G	Y
BandRich	Bandlux C170	3.5G	Y
BandRich	Bandlux C270	3.5G	Y
BandRich	Bandlux C321	3.5G	Y
BandRich	Bandlux C330	3.5G	Y
BandRich	Bandlux C331	3.5G	Y
BandRich	Bandlux C502	3.5G	Y
Huawei	Huawei E169u	3.5G	Y
Huawei	Huawei E220	3.5G	Y
Huawei	Huawei E303D	3.5G	Y
Huawei	Huawei E392	3.5G	Y
Huawei	Huawei E398	3.5G	Y
Sony Eric	Sony Ericsson MD30	3.5G	Y
TP-LINK	TP-LINK MA180	3.5G	Y
TP-LINK	TP-LINK MA260	3.5G	Y
Vodafone	Vodafone K3765-Z	3.5G	Y
Vodafone	Vodafone K4605	3.5G	Y
ZTE	ZTE MF626	3.5G	Y
ZTE	ZTE MF627 plus	3.5G	Y
ZTE	ZTE MF633	3.5G	Y
ZTE	ZTE MF636	3.5G	Y
SpinCom	SpinCom GPRS Modem	3.5G	Y

- MORE - ['q': Quit, 'Enter': New Lines, 'Space Bar': Next Page] -

VDSL Commands

vdsl status

This command is used to display current status of VDSL setting.

Syntax

vdsl status [*more* | *counts* | *hlog* | *qln* | *snr* | *bandinfo* | *olr*]

vdsl idle

This command can make the router accessing into the idle status. If you want to invoke the router again, you have to reboot the router by using “reboot” command.

Syntax

vdsl idle [*on* | *tcpmessage* | *tcpmessage_off*]

Syntax Description

Parameter	Description
<i>on</i>	DSL is under test mode.
<i>tcpmessage</i>	DSL debug tool mode is
<i>tcpmessage_off</i>	DSL debug tool mode is

Example

```
> vdsl idle on
% DSL is under [IDLE/QUIET] test mode.
% DSL debug tool mode is off.
> vdsl idle tcpmessage
% Set DSL debug tool mode on. Please reboot system to take effect.
> vdsl idle tcpmessage_off
% Set DSL debug tool mode off. Please reboot system to take effect.
```

vdsl drivermode

This command is useful for laboratory to measure largest power of data transmission. Please follow the steps below to set vdsl drivermode.

1. Please connect dsl line to the DSLAM.
2. Waiting for dsl SHOWTIME.
3. Drop the dsl line.
4. Now, it is on continuous sending mode, and vdsl2/2+ led is always ON.
5. Use 'vdsl reboot' to restart dsl to normal mode.

vdsl reboot

This command can reboot the DSL router.

Example

```
> vdsl reboot
% Adsl is Rebooting...
```

vdsl annex

This command can display the annex interface of this router.

Example

```
> vdsl annex
% hardware is annex A.
% ADSL modem code is annex A
```

vdsl showbins

This command can display the allocation for each Bin (Tone) SNR, Gain, and Bits.

Syntax

```
vdsl showbins [startbin endbin | up]
```

Syntax Description

Parameter	Description
<i>startbin</i>	The number is between 0 ~ 4092.
<i>endbin</i>	The number is between 4 ~ 4095.
<i>up</i>	Show upstream information.

Example

```
> vdsl showbins 2 30
DOWNSTREAM :
```

```
-----
Bin SNR Gain Bi - Bin SNR Gain Bi - Bin SNR Gain Bi - Bin SNR Gain Bi
  dB .1dB ts      dB .1dB ts      dB .1dB ts      dB .1dB ts
-----
-----
Bin SNR Gain Bi - Bin SNR Gain Bi - Bin SNR Gain Bi - Bin SNR Gain Bi
  dB .1dB ts      dB .1dB ts      dB .1dB ts      dB .1dB ts
```

vdsl optn

This command allows you to configure DSL line feature.

Syntax

```
vdsl optn FUNC [us/ds/bi [value/on/off]]
```

Syntax Description

Parameter	Description
<i>FUNC</i>	Available settings contain: 'bitswap', 'sra', 'aelem', 'g.vector', 'status', 'trellis', 'retx', 'default'
<i>us/ds/bi</i>	us: upstream ds: downstream bi: bidirection. 'aelem' and 'g.vector' can be only on/off.
<i>value</i>	The value shall be hex digits. bitswap=0~2, sra=0,2,3,4.
<i>on/off</i>	Type "on" for enabling such function. Type "off" for disabling such function.

Example

```
> vdsl optn default
trellis      [US] =    ON, [DS] =    ON.
bitswap     [US] =    0, [DS] =    0.
             [0: default(ON), 1: ON, 2: OFF]
sra         [US] =    0, [DS] =    0.
             [0: default(=3), 2: OFF, 3: ON , 4: DYNAMIC SOS]
retx        [US] =    ON, [DS] =    ON.
aelem       ON
G.Vector     ON
```

vdsl savecfg

This command can save the configuration into FLASH with a file format of cfg.

Example

```
> vdsl savecfg
% Xdsl Cfg Save OK!
```

vdsl vendorid

This command allows you to configure user-defined CPE vendor ID.

Syntax

vdsl vendorid [*status/on/off/ set vid0 vid1*]

Syntax Description

Parameter	Description
<i>status</i>	Display current status of user-defined vendor ID.
<i>on</i>	Enable the user-defined function.
<i>off</i>	Disable the user-defined function.
<i>set vid0 vid1</i>	It means to set user-defined vendor ID with vid0 and vid1. The vendor ID shall be set with HEX format, ex: 00fe7244:79612f21.

Example

```
> vdsl vendorid status
% User define CPE Vendor ID is OFF
% vid0:vid1 = 0x00fe7244:79612f21
> vdsl vendorid on set vid0 vid1
% User define CPE Vendor ID is ON
```

vdsl inventory

This command is used to display information about CO or CPE.

Syntax

vdsl inventory [*co/cpe*]

Syntax Description

Parameter	Description
<i>co</i>	It means DSLAM (Digital Subscriber Line Access Multiplexer) or CO (Central Office).
<i>cpe</i>	It means CPE (Customer Premise Equipment).

Example

```
> vdsl inventory co
xDSL inventory info only available in showtime.
> vdsl inventory cpe
G.994 vendor ID           : 0XB5004946544E5444
  G.994.1 country code    : 0XB500
  G.994.1 provider code   : IFTN
  G.994.1 vendor info     : 0X5444
System vendor ID         : 0XB5004946544E0000
  System country code     : 0XB500
  System provider code    : IFTN
  System vendor info      : 0X000
Version number           : 3.8.2_RC4a_STD
Version number(16 octets) : 0X332E382E325F524334615F5354440000
Self-test result         : PASS
Transmission mode capability : 0X40004004C010400
>
```

Vigbrg (Bridge) Commands

vigbrg on

This command can make the router to be regarded as a modem but not a router.

Example

```
> vigbrg on
%Enable Vigor Bridge Function!
```

vigbrg off

This command can disable vigor bridge function.

Example

```
> vigbrg off
%Disable Vigor Bridge Function!
```

vigbrg status

This command can show whether the Vigor Bridge Function is enabled or disabled.

Example

```
> vigbrg status
%Vigor Bridge Function is enable!

%Wan1 management is disable!
```

vigbrg cfgip

This command allows users to transfer a bridge modem into ADSL router by accessing into and adjusting specified IP address. Users can access into Web UI of the router to manage the router through the IP address configured here.

vigbrg cfgip [*IP Address*]

Syntax Description

Parameter	Description
<i>IP Address</i>	It means to type an IP address for users to manage the router.

Example

```
> vigbrg cfgip 192.168.1.15
> vigbrg cfgip ?
% Vigor Bridge Config IP,
% Now: 192.168.1.15
```

vigbrg wan1on

This command is used to enable the bridge WAN1 management.

Example

```
> vigbrg wan1on
%Enable Vigor Bridge Wan1 management!
```

vigbrg wan1off

This command is used to disable the bridge WAN1 management.

Example

```
> vigbrg wan1off
%Disable Vigor Bridge Wan1 management!
```

VPN Commands

vpn l2lset

This command allows users to set advanced parameters for LAN to LAN function.

vpn l2lset [*list index*] **peerid** [*peerid*]

vpn l2lset [*list index*] **localid** [*localid*]

vpn l2lset [*list index*]**main** [*auto/proposal index*]

vpn l2lset [*list index*] **aggressive** [*g1/g2*]

vpn l2lset [*list index*]**pfs** [*on/off*]

vpn l2lset [*list index*] **phase1**[*lifetime*]

vpn l2lset [*list index*] **phase2**[*lifetime*]

Syntax Description

Parameter	Description
<i>list index</i>	It means the index number of L2L (LAN to LAN) profile.
<i>peerid</i>	It means the peer identity for aggressive mode.
<i>localid</i>	It means the local identity for aggressive mode.
<i>main</i>	It means to choose proposal for main mode.
<i>auto index</i>	It means to choose default proposals.
<i>proposal index</i>	It means to choose specified proposal.
<i>aggressive</i>	It means the chosen DH group for aggressive mode
<i>pfs</i>	It means “perfect forward secrete”.
<i>on/off</i>	It means to turn on or off the PFS function.
<i>phase1</i>	It means phase 1 of IKE.
<i>lifetime</i>	It means the lifetime value (in second) for phase 1 and phase 2.
<i>phase2</i>	It means phase 2 of IKE.

Example

```
> VPN l2lset 1 peerid 10226
```

vpn l2ldrop

This command allows users to terminate current LAN to LAN VPN connection.

Example

```
> vpn l2ldrop  
>
```

vpn dinset

This command allows users to configure setting for remote dial-in VPN profile.

vpn dinset <list index>

vpn dinset <list index> <on/off>

vpn dinset <list index> **motp** <on/off>

vpn dinset <list index> **pin_secret** <pin> <secret>

Syntax Description

Parameter	Description
<list index>	It means the index number of the profile.
<on/off>	It means to enable or disable the profile. on – Enable. off – Disable.
motp <on/off>	It means to enable or disable the authentication with mOTP function. on – Enable. off – Disable.
pin_secret<pin> <secret>	It means to set PIN code with secret. <pin> - Type the code for authentication (e.g, 1234). <secret> - Use the 32 digit-secret number generated by mOTP in the mobile phone (e.g., e759bb6f0e94c7ab4fe6)

Example

```
> vpn dinset 1

Dial-in profile index 1

Profile Name: ???
Status: Deactive

Mobile OTP: Disabled

Password:

Idle Timeout: 300 sec

> vpn dinset 1 on
% set profile active

> vpn dinset 1 motp on
% Enable Mobile OTP mode!>

> vpn dinset 1 pin_secret 1234 e759bb6f0e94c7ab4fe6
```

```

> vpn dinstet 1

Dial-in profile index 1

Profile Name: ???
Status: Active

Mobile OTP: Enabled

PIN: 1234

Secret: e759bb6f0e94c7ab4fe6

Idle Timeout: 300 sec

```

vpn subnet

This command allows users to specify a subnet selection for the specified remote dial-in VPN profile.

vpn subnet [*index*] [1/2/3/4/5/6]

Syntax Description

Parameter	Description
< <i>index</i> >	It means the index number of the VPN profile.
<1/2/3/4/5/6>	1 – it means LAN1 2 – it means LAN2. 3 – it means LAN3 4 – it means LAN4. 5 – it means LAN51 6 – it means LAN6.

Example

```

> vpn subnet 1 2
>

```

vpn setup

This command allows users to setup VPN for different types.

Command of PPTP Dial-Out

vpn setup <*index*> <*name*> **pptp_out** <*ip*> <*usr*> <*pwd*> <*nip*> <*nmask*>

Command of IPSec Dial-Out

vpn setup <*index*> <*name*> **ipsec_out** <*ip*> <*key*> <*nip*> <*nmask*>

Command of L2Tp Dial-Out

vpn setup <index> <name> **l2tp_out** <ip> <usr> <pwd> <nip> <nmask>

Command of Dial-In

vpn setup <index> <name> **dialin** <ip> <usr> <pwd> <key> <nip> <nmask>

Syntax Description

Parameter	Description
For PPTP Dial-Out	
<index>	It means the index number of the profile.
<name>	It means the name of the profile.
<ip>	It means the IP address to dial to.
<usr> <pwd>	It means the user and the password required for the PPTP connection.
<nip> <nmask>	It means the remote network IP and the mask. e.g., vpn setup 1 name1 pptp_out 1.2.3.4 vigor 1234 192.168.1.0 255.255.255.0
For IPsec Dial-Out	
<index>	It means the index number of the profile.
<name>	It means the name of the profile.
<ip>	It means the IP address to dial to.
<key>	It means the value of IPsec Pre-Shared Key.
<nip> <nmask>	It means the remote network IP and the mask. e.g., vpn setup 1 name1 ipsec_out 1.2.3.4 1234 192.168.1.0 255.255.255.0
For L2TP Dial-Out	
<index>	It means the index number of the profile.
<name>	It means the name of the profile.
<ip>	It means the IP address to dial to.
<usr> <pwd>	It means the user and the password required for the L2TP connection.
<nip> <nmask>	It means the remote network IP and the mask. e.g., vpn setup 1 name1 l2tp_out 1.2.3.4 vigor 1234 192.168.1.0 255.255.255.0
For Dial-In	
<index>	It means the index number of the profile.
<name>	It means the name of the profile.
<ip>	It means the IP address allowed to dial in.

<code><usr> <pwd></code>	It means the user and the password required for the PPTP/L2TP connection.
<code><key></code>	It means the value of IPsec Pre-Shared Key.
<code><nip> <nmask></code>	It means the remote network IP and the mask. e.g., vpn setup 1 name1 dialin 1.2.3.4 vigor 1234 abc 192.168.1.0 255.255.255.0

Example

```
> vpn setup 1 name1 dialin 1.2.3.4 vigor 1234 abc 192.168.1.0 255.255.255.0
% Profile Change Log ...

% Profile Index : 1
% Profile Name : name1
% Username : vigor
% Password : 1234
% Pre-share Key : abc
% Call Direction : Dial-In
% Type of Server : PPTP IPsec L2TP
% Dial from : 1.2.3.4
% Remote Network IP : 192.168.1.0
% Remote Network Mask : 255.255.255.0
>
```

vpn option

This command allows users to configure settings for LAN to LAN profile.

vpn option `<index> <cmd1>=<param1> [<cmd2>=<para2> | ...]`

Syntax Description

Parameter	Description
<code><index></code>	It means the index number of the profile. Available index numbers: 1 ~ 32
For Common Settings	
<code><index></code>	It means the index number of the profile.
<code>pname</code>	It means the name of the profile.
<code>ena</code>	It means to enable or disable the profile. on – Enable off - Disable
<code>thr</code>	It means the way that VPN connection passes through. Available settings are wlf, wlo, w2f, and w2o.

	<p>w1f – WAN1 First. w1o – WAN1 Only. w2f – WAN2 First. w2o – WAN2 Only.</p>
<i>nnpkt</i>	<p>It means the NetBios Naming Packet. on – Enable the function to pass the packet. off – Disable the function to block the packet.</p>
<i>dir</i>	<p>It means the call direction. Available settings are b, o and i. b – Both o – Dial-Out i – Dial-In.</p>
<i>idle=[value]</i>	<p>It means Always on and Idle Time out. Available values include: -1 – it means always on for dial-out. 0 – it means always on for dial-in. Other numbers (e.g., idle=200, idle=300, idle=500) mean the router will be idle after the interval (seconds) configured here.</p>
<i>palive</i>	<p>It means to enable PING to keep alive. -1 – disable the function. 1,2,3,4 – Enable the function and PING IP 1.2.3.4 to keep alive.</p>
For Dial-Out Settings	
<i>ctype</i>	<p>It means “Type of Server I am calling”. “ctype=t” means PPTP. “ctype=s” means IPsec. “ctype= l” means L2TP(IPsec Policy None). “ctype= l1” means L2TP(IPsec Policy Nice to Have). “ctype= l2” means L2TP(IPsec Policy Must).</p>
<i>dialto</i>	<p>It means Server IP/Host Name for VPN. (such as draytek.com or 123.45.67.89).</p>
<i>ltype</i>	<p>It means Link Type. “ltype=0” means “Disable”. “ltype=1” means “64kbps”. “ltype=2” means “128kbps”. “ltype=3” means “BOD”.</p>
<i>oname</i>	<p>It means Dial-Out Username. “oname=admin” means to set Username = admin.</p>
<i>opwd</i>	<p>It means Dial-Out Password “opwd=1234” means to set Password = 1234.</p>
<i>pauth</i>	<p>It means PPP Authentication. “pauth=pc” means to set PPP Authentication = PAP&CHAP.</p>

	"pauth=p" means to set PPP Authentication = PAP Only
<i>ovj</i>	It means VJ Compression. "ovj=on/off" means to enable/disable VJ Compression.
<i>okey</i>	It means IKE Pre-Shared Key. "okey=abcd" means to set IKE Pre-Shared Key = abcd.
<i>ometh</i>	It means IPSec Security Method. "ometh=ah/" means AH. "ometh=espd/espda/" means ESP DES without/with Authentication. "ometh=esp3/esp3a/" means ESP 3DES without/with Authentication. "ometh=espa/espaa" means ESP AES without/with Authentication.
<i>sch</i>	It means Index(1-15) in Schedule Setup. sch=1,3,5,7 Set schedule 1->3->5->7
<i>rcallb</i>	It means Require Remote to Callback. "rcallb=on/off" means to enable/disable Set Require Remote to Callback.
<i>ikeid</i>	It means IKE Local ID. "ikeid=vigor" means Set Local ID = vigor.
For Dial-In Settings	
<i>itype</i>	It means Allowed Dial-In Type. Available settings include: "itype=t" means PPTP. "itype=s" means IPSec. "itype=L1" means L2TP (None). "itype=L1" means L2TP(Nice to Have). "itype=l2" means L2TP(Must).
<i>peer</i>	It means specify Peer VPN Server IP for Remote VPN Gateway. Type "203.12.23.48" means to allow VPN dial-in with IP address of 203.12.23.48. Type "off" means any remote IP is allowed to dial in.
<i>peerid</i>	It means the peer ID for Remote VPN Gateway. Type "draytek" means the word is used as local ID.
<i>iname</i>	It means Dial-in Username. "iname=admin" means to set username as "admin".
<i>ipwd</i>	It means Dial-in Password. "ipwd=1234" means to set password as "1234".
<i>ivj</i>	It means VJ Compression. "ivj=on/off" means to enable /disable VJ Compression.
<i>ikey</i>	It means IKE Pre-Shared Key. "ikey=abcd" means to set IKE Pre-Shared Key = abcd.

<i>imeth</i>	It means IPSec Security Method “imeth=h” means “Allow AH”. “imeth=d” means “Allow DES”. “imeth=3” means “Allow 3DES”. “imeth=a” means “Allow AES”.
For TCP/IP Settings	
<i>mywip</i>	It means My WAN IP. “mywip=1.2.3.4” means to set My WAN IP as “1.2.3.4”.
<i>rgip</i>	It means Remote Gateway IP. “rgip=1.2.3.4” means to set Remote Gateway IP as “1.2.3.4”.
<i>rnip</i>	It means Remote Network IP. “rnip=1.2.3.0” means to set Remote Network IP as “1.2.3.0”.
<i>rnmask</i>	It means Remote Network Mask. “rnmask=255.255.255.0” means to set Remote Network Mask as “255.255.255.0”.
<i>rip</i>	It means RIP Direction. “rip=d” means to set RIP Direction as “Disable”. “rip=t” means to set RIP Direction as “TX”. “rip=r” means to set RIP Direction as “RX”. “rip=b” means to set RIP Direction as “Both”.
<i>mode</i>	It means the option of “From first subnet to remote network, you have to do”. “mode=r” means to set Route mode. “mode=n” means to set NAT mode.
<i>droute</i>	It means to Change default route to this VPN tunnel (Only single WAN supports this). droute=on/off means to enable/disable the function.

Example

```
> vpn option 1 idle=250
% Change Log..

% Idle Timeout = 250
```

vpn mroute

This command allows users to list, add or delete static routes for a certain LAN to LAN VPN profile.

vpn mroute <index> list

vpn mroute <index> add <network ip>/<mask>

vpn mroute <index> del <network ip>/<mask>

Syntax Description

Parameter	Description
<i>list</i>	It means to display all of the route settings.
<i>add</i>	It means to add a new route.
<i>del</i>	It means to delete specified route.
<i><index></i>	It means the index number of the profile. Available index numbers: 1 ~ 32
<i><network ip>/<mask></i>	Type the IP address with the network mask address.

Example

```
> vpn mroute 1 add 192.168.5.0/24
% 192.168.5.0/24
% Add new route 192.168.5.0/24 to profile 1
```

vpn list

This command allows users to view LAN to LAN VPN profiles.

vpn list <index> all

vpn list <index>com

vpn list<index>out

vpn list <index> in

vpn list<index>net

Syntax Description

Parameter	Description
<i>all</i>	It means to list configuration of the specified profile.
<i>com</i>	It means to list common settings of the specified profile.
<i>out</i>	It means to list dial-out settings of the specified profile.
<i>in</i>	It means to list dial-in settings of the specified profile.
<i>net</i>	It means to list Network Settings of the specified profile.
<i><index></i>	It means the index number of the profile. Available index numbers: 1 ~ 32

Example

```
> vpn list 32 all
% Common Settings

% Profile Name           : ???
```

```

% Profile Status          : Disable
% Netbios Naming Packet  : Pass
% Call Direction         : Both
% Idle Timeout           : 300
% PING to keep alive     : off

% Dial-out Settings

% Type of Server         : PPTP
% Link Type:             : 64k bps
% Username               : ???
% Password               :
% PPP Authentication     : PAP/CHAP
% VJ Compression         : on
% Pre-Shared Key         :
% IPsec Security Method : AH
% Schedule               : 0,0,0,0
% Remote Callback        : off
% Provide ISDN Number    : off
% IKE phase 1 mode       : Main mode
% IKE Local ID           :

% Dial-In Settings

--- MORE ---  ['q': Quit, 'Enter': New Lines, 'Space Bar': Next Page] ---
> vpn list 1 com
% Common Settings

% Profile Name           : ???
% Profile Status         : Disable
% Netbios Naming Packet : Pass
% Call Direction         : Both
% Idle Timeout           : 300
% PING to keep alive : off
>

```

vpn remote

This command allows users to enable or disable *PPTP/IPSec/L2TP* VPN service.

vpn remote [*PPTP/IPSec/L2TP*] [*on/off*]

Syntax Description

Parameter	Description
<i>PPTP/IPSec/L2TP</i>	There are four types to be selected.

<i>on/off</i>	on – enable VPN remote setting. off – disable VPN remote setting.
---------------	--

Example

```
> vpn remote PPTP on
Set PPTP VPN Service : On

Please restart the router!!
```

vpn 2ndsubnet

This command allows users to enable second subnet IP as VPN server IP.

vpn 2ndsubnet *on*

vpn 2ndsubnet *off*

Syntax Description

Parameter	Description
<i>on/off</i>	It means to enable or disable second subnet.

Example

```
> vpn 2ndsubnet on
%Enable second subnet IP as VPN server IP!
```

vpn NetBios

This command allows users to enable or disable NetBios for Remote Access User Accounts or LAN-to-LAN Profile.

vpn NetBios set *<H2I/L2I>* *<index>* *<Block/Pass>*

Syntax Description

Parameter	Description
<i><H2I/L2I></i>	H2I means Remote Access User Accounts. L2I means LAN-to-LAN Profile. Specify which one will be applied by NetBios.
<i><index></i>	The index number of the profile.
<i><Block/Pass></i>	Pass – Have an inquiry for data transmission between the hosts located on both sides of VPN Tunnel while connecting. Block – When there is conflict occurred between the hosts on both sides of VPN Tunnel in connecting, set it block data transmission of Netbios Naming Packet inside the tunnel.

Example

```
> vpn NetBios set H2I 1 Pass
% Remote Dial In Profile Index [1] :
% NetBios Block/Pass: [PASS]
```

vpn mss

This command allows users to configure the maximum segment size (MSS) for different TCP types.

vpn mss show

vpn mss default

vpn mss set <connection type> <TCP maximum segment size range>

Syntax Description

Parameter	Description
<i>show</i>	It means to display current setting status.
<i>default</i>	TCP maximum segment size for all the VPN connection will be set as 1360 bytes.
<i>set</i>	Use it to specify the connection type and value of MSS.
<connection type>	1~4 represent various type. 1 – PPTP 2 – L2TP 3 – IPSec 4 – L2TP over IPSec
<TCP maximum segment size range>	Each type has different segment size range. PPTP – 1 ~ 1412 L2TP – 1 ~ 1408 IPSec – 1 ~ 1381 L2TP over IPSec – 1 ~ 1361

Example

```
>vpn mss set 1 1400
% VPN TCP maximum segment size (MSS) :
  PPTP   = 1400
  L2TP   = 1360
  IPSec  = 1360
  L2TP over IPSec = 1360
>vpn mss show
VPN TCP maximum segment size (MSS) :
  PPTP   = 1400
  L2TP   = 1360
  IPSec  = 1360
```


vpn ike

This command is used to display IKE memory status and leakage list.

vpn ike -q

Example

```

> vpn ike -q
IKE Memory Status and Leakage List

# of free L-Buffer=95, minimum=94, leak=1
# of free M-Buffer=529, minimum=529 leak=3
# of free S-Buffer=1199, minimum=1198, leak=1
# of free Msgid-Buffer=1024, minimum=1024

```

vpn Multicast

This command allows users to pass or block the multi-cast packet via VPN.

vpn Multicast set <H2I/L2I> <index> <Block/Pass>

Syntax Description

Parameter	Description
<H2I/L2I>	H2I means Host to LAN (Remote Access User Accounts). L2I means LAN-to-LAN Profile.
<index>	The index number of the profile.
<Block/Pass>	Set Block/Pass the Multicast Packets. The default is Block.

Example

```

> vpn Multicast set L2I 1 Pass
% Lan to Lan Profile Index [1] :
% Status Block/Pass: [PASS]

```

vpn pass2nd

This command allows users to determine if the packets coming from the second subnet passing through current used VPN tunnel.

vpn pass2nd[on]

vpn pass2nd [off]

Syntax Description

Parameter	Description
-----------	-------------

<i>on/off</i>	on – the packets can pass through NAT. off – the packets cannot pass through NAT.
---------------	--

Example

```
> vpn pass2nd on
% 2nd subnet is allowed to pass VPN tunnel!
```

vpn pass2nat

This command allows users to determine if the packets passing through by NAT or not when the VPN tunnel disconnects.

vpn pass2nat [*on*]

vpn pass2nat [*off*]

Syntax Description

Parameter	Description
<i>on/off</i>	on – the packets can pass through NAT. off – the packets cannot pass through NAT.

Example

```
> vpn pass2nat on
% Packets would go through by NAT when VPN disconnect!!
```

WAN Commands

wan ppp_mru

This command allows users to adjust the size of PPP LCP MRU. It is used for specific network.

wan ppp_mru <WAN interface number> <MRU size >

Syntax Description

Parameter	Description
<WAN interface number>	Type a number to represent the physical interface. For Vigor130, the number is 1 (which means WAN1).
<MRU size >	It means the number of PPP LCP MRU. The available range is from 1400 to 1600.

Example

```
>wan ppp_mru 1 ?
% Now: 1492

> wan ppp_mru 1 1490
>
> wan ppp_mru 1 ?
% Now: 1490

> wan ppp_mru 1 1492
> wan ppp_mru 1 ?
% Now: 1492
```

wan mtu / wan mtu2

This command allows users to adjust the size of MTU for WAN1 / WAN2

wan mtu [value]

wan mtu2 [value]

Syntax Description

Parameter	Description
value	It means the number of MTU for PPP. The available range is from 1000 to 1500. For Static IP/DHCP, the maximum number will be 1500. For PPPoE, the maximum number will be 1492. For PPTP/L2TP, the maximum number will be 1460.

Example

```
> wan mtu 1100
```

```

> wan mtu ?
Static IP/DHCP (Max MSS: 1500)
PPPoE(Max MSS: 1492)
PPTP/L2TP(Max MSS: 1460)
% wan ppp_mss <MSS size: 1000 ~ 1500>
% Now: 1100

```

wan DF_check

This command allows you to enable or disable the function of DF (Don't fragment)

wan DF_check *[on]*

wan DF_check *[off]*

Syntax Description

Parameter	Description
<i>on/off</i>	It means to enable or disable DF.

Example

```

> wan DF_check on
%DF bit check enable!

```

wan disable

This command allows you to disable WAN connection.

Example

```

> wan disable WAN
%WAN disabled.

```

wan enable

This command allows you to disable wan connection.

Example

```

> wan enable WAN
%WAN1 enabled.

```

wan forward

This command allows you to enable or disable the function of WAN forwarding. The packets are allowed to be transmitted between different WANs.

wan forward *[on]*

wan forward *[off]*

Syntax Description

Parameter	Description
<i>on/off</i>	It means to enable or disable WAN forward.

Example

```
> wan forward ?
%WAN forwarding is Disable!

> wan forward on
%WAN forwarding is enable!
```

wan status

This command allows you to display the status of WAN connection, including connection mode, TX/RX packets, DNS settings and IP address.

Example

```
> wan status
WAN1: Offline, stall=N
  Mode: ---, Up Time=00:00:00
  IP=---, GW IP=---
  TX Packets=0, TX Rate(Bps)=0, RX Packets=0, RX Rate(Bps)=0
  Primary DNS=0.0.0.0, Secondary DNS=0.0.0.0

PVC_WAN3: Offline, stall=N
  Mode: ---, Up Time=00:00:00
  IP=---, GW IP=---
  TX Packets=0, TX Rate(Bps)=0, RX Packets=0, RX Rate(Bps)=0

PVC_WAN4: Offline, stall=N
  Mode: ---, Up Time=00:00:00
  IP=---, GW IP=---
  TX Packets=0, TX Rate(Bps)=0, RX Packets=0, RX Rate(Bps)=0

PVC_WAN5: Offline, stall=N
  Mode: ---, Up Time=00:00:00
  IP=---, GW IP=---
  TX Packets=0, TX Rate(Bps)=0, RX Packets=0, RX Rate(Bps)=0
```

wan vdsl

This command allows you to configure display current VDSL status and configure the fallback mode for WAN connection.

wan vdsl [*show basic*]

wan vdsl[*fbk_mode*]

Syntax Description

Parameter	Description
<i>show basic</i>	It means to display current VDSL status.
<i>fbk_mode</i>	It means to display current status of Fallback Mode used. Available modes to be set as fallback mode include, Auto Vdsl_only Adsl_only

Example

```

> wan vdsl show basic
ADSL
Link Status:    TRAINING
Firmware Version:    05-04-04-04-00-01
ADSL Profile:
Basic   Status  Upstream      Downstream      Unit
Actual Data Rate:    0      0      Kb/s
SNR:    0      0      0.1dB
> wan vdsl fbk_mode vdsl_only
Set VDSL fallback mode to VDSL ONLY
Reboot system to take effect
>

```

wan detect

This command allows you to Ping a specified IP to detect the WAN connection (static IP or PPPoE mode).

wan detect [*wan1*][*on/off/always_on*]

wan detect [*wan1*]**target** [*ip addr*]

wan detect [*wan1*]**ttl** [*1-255*]

wan detect status

Syntax Description

Parameter	Description
<i>on</i>	It means to enable ping detection. The IP address of the target shall be set.
<i>off</i>	It means to enable ARP detection (default).
<i>always_on</i>	disable link detect, always connected(only support static IP)
<i>target</i>	It means to set the ping target.
<i>ip addr</i>	It means the IP address used for detection. Type an IP address in this field.
<i>tth</i>	It means to set the ping TTL value (work as trace route) If you do not set any value for ttl here or just type 0 here, the system will use default setting (255) as the ttl value.

<i>status</i>	It means to show the current status.
---------------	--------------------------------------

Example

```

> wan detect status
WAN1: always on
WAN2: off
WAN3: off
WAN4: off
WAN5: off
> wan detect wan1 target 192.168.1.78
Set OK

> wan detect wan1 on
Set OK

> wan detect status
WAN1: on, Target=192.168.1.78, TTL=255
WAN2: off
WAN3: off
WAN4: off
WAN5: off
>

```

wan lb

This command allows you to Enable/Disable for each WAN to join auto load balance member.

wan lb [*wan1/wan2/...*] *on*

wan lb [*wan1/wan2/...*] *off*

Syntax Description

Parameter	Description
<i>wan1/wan2</i>	It means to specify which WAN will be applied with load balance.
<i>on</i>	It means to make WAN interface as the member of load balance.
<i>off</i>	It means to cancel WAN interface as the member of load balance.

Example

```

> wan lb status
WAN1: on
WAN2: on
WAN3: on
WAN4: on

```

```

WAN5: on
WAN6: on
WAN7: on

```

wan mvlan

This command allows you to configure multi-VLAN for WAN and LAN. It supports pure bridge mode (modem mode) between Ethernet WAN and LAN port 2~4.

wan mvlan [*pvc_no/status/save/enable/disable*] [*on/off/clear/tag tag_no*] [*service type/vlan priority*] [*px ...*] [*Keep Tag*]

Syntax Description

Parameter	Description
<i>pvc_no</i>	It means index number of PVC. There are 10 PVC, 0(Channel-1) to 9(Channel-9) allowed to be configured. However, only 2 to 9 are available for configuration.
<i>status</i>	It means to display the whole Bridge status.
<i>save</i>	It means to save the configuration into flash of Vigor router.
<i>enable/disable</i>	It means to enable/disable the Multi-VLAN function.
<i>on/off</i>	It means to turn on/off bridge mode for the specific channel.
<i>clear</i>	It means to turn off/clear the port.
<i>tag tag_no</i>	It means to tag a number for the VLAN. -1: No need to add tag number. 1-4095: Available setting numbers used as tagged number.
<i>service type</i>	It means to specify the service type for VLAN. 0: Normal. 1: IGMP.
<i>vlan priority</i>	It means to specify the priority for the VALN setting. Range is from 0 to 7.
<i>px</i>	It means LAN port. Available setting number is from 2 to 4. Port number 1 is locked for NAT usage.
<i>Keep Tag</i>	It means Multi-VLAN packets will keep their VLAN headers to LAN.

Example

PVC 7 will map to LAN port 2/3/4 in bridge mode; service type is Normal. No tag added.

```

> wan mvlan 7 on p2 p3 p4
PVC  Bridge  p1 p2 p3 p4 p5 p6  Service Type  Tag  Priority  Keep Tag
-----
  7  ON      0  0  1  1  0  0      Normal      0(OFF)  0
OFF
>

```


wan multifno

This command allows you to specify a channel (in Multi-PVC/VLAN) to make bridge connection to a specified WAN interface.

wan multifno [*channel #*] [*WAN interface #*]

wan multifno status

Syntax Description

Parameter	Description
<i>channel #</i>	There are 4 (?) channels including VLAN and PVC. Available settings are: 1=Channel 1 3=Channel 3 4=Channel 4 5=Channel 5
<i>WAN interface #</i>	Type a number to indicate the WAN interface. 1=WAN1
<i>status</i>	It means to display current bridge status.

Example

```
> wan multifno 5 1
% Configured channel 5 uplink to WAN1
> wan multifno status
% Channel 3 uplink ifno: 3
% Channel 4 uplink ifno: 3
% Channel 5 uplink ifno: 3
% Channel 6 uplink ifno: 3
% Channel 7 uplink ifno: 3
>
```

wan vlan

This command allows you to tag packets on WAN VLAN with specified number.

wan vlan wan [#] **tag** [*value*]

wan vlan wan [#] [*enable* | *disable*]

wan vlan stat

Syntax Description

Parameter	Description
<i>#</i>	It means the number of WAN interface. 1: means WAN1 2: means WAN2.

<i>value</i>	It means the number to be tagged on packets. The range of the value is between 32 ~ 4095.
<i>enable/disable</i>	It means to enable or disable the WAN interface for VLAN.
<i>stat</i>	It means to display the table of WAN VLAN status.

Example

```

> wan vlan stat
%Interface      Pri      Tag      Enabled
%=====
% WAN1 (ADSL)   0        0
% WAN1 (VDSL)   0        0
%WAN2           0        0

```

wan budget

This command allows you determine the data *traffic volume* for each WAN interface respectively to prevent from overcharges for data transmission by the ISP.

Syntax

```

wan budget wan [#] rdate [day] [hour]
wan budget wan [#] [enable|disable]
wan budget wan [#] thres [budget limit (MB)]
wan budget wan [#] gthres [budget limit (GB)]
wan budget wan [#] mode [monthly|periodic|none]
wan budget wan [#] psday [th day in periodic]
wan budget wan [#] action [action bitmap]
wan budget status

```

Syntax Description

Parameter	Description
<i>wan[#]</i>	Specify the WAN interface.
<i>rdate</i>	Specify the WAN budget refresh time. day – Available settings are from 1 to 30. hour – Available settings are from 1 to 23. E.g., wan budget wan 1 rdate 5 10 If monthly mode is selected: WAN budget will be refreshed on 5th day at 10:00 in each month If periodic mode is selected: WAN budget will be refreshed every 5

	days and 10 hours
<i>enable/disable</i>	enable - Enable the function of wan budget. disable - Disable the function of wan budget.
<i>thres [budget limit (MB)]</i>	Specify the maximum value for WAN budget limit. (Unit: MB) budget limit – Type a number.
<i>gthres [budget limit (GB)]</i>	Specify the maximum value of wan budget limit. (Unit: GB) budget limit – Type a number.
<i>mode [monthly periodic none]</i>	Specify the calculation mode (monthly, periodically, or none) for WAN budget.
<i>psday [th day in periodic]</i>	It is used only when mode is set with “periodic”. Specify the order of “today” in the cycle. E.g., wanbudgetwan5psday It means “today” is the 5 th day in the billing cycle.
<i>action [action bitmap]</i>	Determine the action to be performed when it reaches the WAN budget limit. <i>action bitmap</i> – Type a total number of actions to be executed. Different numbers represent different actions. 1: shutdown wan 2: send mail alert 4: send sms alert For example, if you type “5” (5=1+4), the system will send SMS alert when WAN shutdown is detected.
<i>status</i>	Display current configuration status of WAN budget.

Example

```
> wan budget wan 1 action 5
% WAN 1 budget action set to 5
> wan budget wan 1 gthres 10
```

wan detect_mtu

This command allows you to run a WAN MTU Discovery. The user can specify an IPv4 target to ping and find the suitable MTU size of the WAN interface.

Syntax

```
wan detect_mtu -w [number] -i [Host/IP address] -s [base_size] -d [decrease_size] (-c [count])
```

Syntax Description

Parameter	Description
<i>-w [number]</i>	Specify the WAN interface. Value: Type the number of WAN interface. 1: WAN1; 2:WAN2....and etc.
<i>-i [Host/IP address]</i>	Specify the IPv4 target to detect. If can be an IPv4 address or domain name. Host/IP address: Type the IP address/domain name of the target.
<i>-s [base_size]</i>	Set the MTU size base for Discovery. base_size: Available setting is 1000 ~ 1500.
<i>-d [decrease size]</i>	Set the MTU size to decrease between detections. decrease size: Available setting is 1 ~ 100.
<i>-c [count]</i>	Set the maximum times of ping failure during a Discovery. count: Available settings are 1 ~ 10. Default value is 3.

Example

```
> wan detect_mtu -w 2 -i 8.8.8.8 -s 1500 -d 30 -c 10
detecting mtu size:1500!!!

mtu size:1470!!!
```

wan detect_mtu6

This command allows you to run a WAN MTU Discovery. The user can specify an IPv6 target to ping and find the suitable MTU size of the WAN interface.

Syntax

```
wan detect_mtu6 -w [number] -i [IPv6 address] -s [base_size]
```

Syntax Description

Parameter	Description
-w [number]	Specify the WAN interface number: Type the number of WAN interface. 1: WAN1; 2:WAN2....and etc.
-i [IPv6 address]	Specify the IPv6 target to detect. It must be an IPv6 IP address. IPv6 address: Type the IPv6 address of the target.
-s [base_size]	Specify the size of MTU. base_size: Available setting is 1000 ~ 1500.

Example

```
> wan detect_mtu6 -w 2 -i 2404:6800:4008:c06::5e -s 1500
>
```

wan lte

This command allows you to configure LTE WAN (for L model only).

Syntax

```
wan lte auth [0/1]
wan lte band
wan lte del [index #/all]
wan lte pass [string]
wan lte quota [-<command><parameter>|...]
wan lte read [index #/all]
wan lte reboot [-<command><parameter>|...]
wan lte reply [-<command><parameter>|...]
wan lte send [number][message]
wan lte stus
wan lte tag [index #/all]
wan lte user [string]
wan lte wms [send[cdma/gwpp]/recv[cdma/gwgw]/setting]
```

Syntax Description

Parameter	Description
<i>auth</i> [0/1]	Set PPP authentication of LTE WAN. 0: None. 1: PAP or CHAP.
<i>band</i>	Display working band information for LTE network connection.
<i>del</i> [index #/all]	Delete an SMS from the LTE SIM card by specifying the index number. Use "all" to delete all.
<i>pass</i>	Set the password of LTE WAN.
<i>quota</i> [- <command><parameter>l...]	Set settings of SMS Quota Limit function. Available commands with parameter are listed below: [...] means that you can type in several commands in one line. -a <0/1>: Set whether to send an e-mail alert when SMS quota exceeded. (0: no 1: yes) -c <cycle>: Set the order of today in refresh cycle. -d <day>: Set the refresh day. -e <0/1>: Enable or disable SMS Quota Limit function. (0: disable 1: enable) -h <hour>: Set the refresh hour. -m <0/1/2>: Set SMS quota refresh mode. (0: None 1: monthly 2: periodically) -n <number>: Set SMS quota. The available number is between 1 and 1000000. -s <0/1>: Set whether to stop sending SMS after SMS quota exceeded. (0: no 1: yes)
<i>read</i>	Display information of an SMS in the LTE SIM card by specifying the index number. Use "all" to display all.
<i>reboot</i>	Set settings of Reboot on SMS Message function. <command> <parameter> ... The available commands with parameters are listed below. [...] means that you can type in several commands in one line. -a <0/1>: Enable or disable Access Control List. (0: disable 1: enable) -e <0/1>: Enable or disable Reboot on SMS Message function. (0: disable 1: enable) -p <password>: Set the Password / PIN. This setting is necessary if this function is enabled. -x <number>: Set the first phone number in Access Control List. -y <number>: Set the second phone number in Access Control List. -z <number>: Set the third phone number in Access Control List.

<i>reply</i>	<p>Set settings of Reply with Router Status Message function. <command> <parameter> ...</p> <p>The available commands with parameters are listed below. [...] means that you can type in several commands in one line.</p> <p>-a <0/1>: Enable or disable Access Control List. (0: disable 1: enable)</p> <p>-c <0/1>: Set whether to reply with MAC address. (0: no 1: yes)</p> <p>-e <0/1>: Enable or disable Reboot on SMS Message function. (0: disable 1: enable)</p> <p>-f <0/1>: Set whether to reply with WAN1 IP address. (0: no 1: yes)</p> <p>-g <0/1>: Set whether to reply with WAN2 IP address. (0: no 1: yes)</p> <p>-h <0/1>: Set whether to reply with LTE WAN IP address. (0: no 1: yes)</p> <p>-i <0/1>: Set whether to reply with WAN4 IP address. (0: no 1: yes)</p> <p>-j <0/1>: Set whether to reply with WAN1 data usage. (0: no 1: yes)</p> <p>-k <0/1>: Set whether to reply with WAN2 data usage. (0: no 1: yes)</p> <p>-l <0/1>: Set whether to reply with LTE WAN data usage. (0: no 1: yes)</p> <p>-m <0/1>: Set whether to reply with WAN4 data usage. (0: no 1: yes)</p> <p>-n <0/1>: Set whether to reply with Router name. (0: no 1: yes)</p> <p>-p <password>: Set the Password / PIN. This setting is necessary if this function is enabled.</p> <p>-u <0/1>: Set whether to reply with Router system uptime. (0: no 1: yes)</p> <p>-v <0/1>: Set whether to reply with Router firmware version. (0: no 1: yes)</p> <p>-x <number>: Set the first phone number in Access Control List.</p> <p>-y <number>: Set the second phone number in Access Control List.</p> <p>-z <number>: Set the third phone number in Access Control List.</p>
<i>send</i>	Send an SMS message to the specified phone number through the LTE SIM card.
<i>stus</i>	Display status of LTE connection.
<i>tag</i>	Set an SMS in the LTE SIM card as read state by specifying the index number. Use "all" to set all SMS as read state.
<i>user</i>	Set the UserName of LTE WAN.
<i>wms</i>	This command is for RD debug only. We use it to test new USB modems. Please don't use it without our advice.

Example

```
> wan lteband
Access technology : LTE
Access band information : E-UTRA Op Band 3
Interfere with 2.4G WLAN : NO
Active channel: 1725

>wan lte stus
Status: Operational. (Online)
Access Tech: LTE

Band: E-UTRA Op Band
3 ISP: Chunghwa

MCC: 466, MNC: 92, LAC: 65534, Cell ID: 81023501
Max Channel TX Rate: 50000000 bps
Max Channel RX Rate: 100000000 bps
IMEI: 356318040749422
IMSI: 466924200859808

RSSI: -61 dBm
Unread SMS: 4
SMSC address: +886932400821

SMS service status :
Ready Number of SMS
sent : 0
```

WL (Wireless LAN) Commands

wl acl

This command allows the user to configure wireless access control settings.

wl acl enable *[ssid1 ssid2 ssid3 ssid4]*

wl acl disable *[ssid1 ssid2 ssid3 ssid4]*

wl acl add *[MAC] [ssid1 ssid2 ssid3 ssid4] [isolate]*

wl acl del *[MAC]*

wl acl mode *[ssid1 ssid2 ssid3 ssid4] [white/black]*

wl acl show

wl acl showmode

wl acl clean

Syntax Description

Parameter	Description
<i>enable [ssid1 ssid2 ssid3 ssid4]</i>	It means to enable the settings for SSID1, SSID2, SSID3 and SSID4.
<i>disable [ssid1 ssid2 ssid3 ssid4]</i>	It means to disable the settings for SSID1, SSID2, SSID3 and SSID4.
<i>add [MAC] [ssid1 ssid2 ssid3 ssid4] [isolate]</i>	It means to associate a MAC address to certain SSID interfaces' access control settings. The isolate setting will limit the wireless client's network capabilities to accessing the wireless LAN only. [MAC] format: xx-xx-xx-xx-xx-xx OR xx:xx:xx:xx:xx:xx OR xx.xx.xx.xx.xx.xx
<i>del [MAC]</i>	It means to delete a MAC address entry defined in the access control list.
<i>mode [ssid1 ssid2 ssid3 ssid4] [white/black]</i>	It means to set white/black list for each SSID.
<i>wl acl show</i>	It means to show access control status.
<i>wl acl showmode</i>	It means to show the mode for each SSID.
<i>wl acl clean</i>	It means to clean all access control setting.

Example

```
> > wl acl showmode
ssid1: none
ssid2: none
ssid3: none
ssid4: none
```



```

> wl acl add 00-50-70-ff-12-70
Set Done !!
> wl acl add 00-50-70-ff-12-70 ssid1 ssid2 isolate
Set Done !!
> wl acl show
-----Enable Mac Address Filter-----
ssid1: dis  ssid2: dis  ssid3: dis  ssid4: dis
-----MAC Address Filter-----
Index  Attribute      MAC Address      Associated SSIDs
  0                00:50:70:ff:12:70  ssid1 ssid2 ssid3 ssid4
  1          s      00:50:70:ff:12:70  ssid1 ssid2

s: Isolate the station from LAN
>

```

wl config

This command allows users to configure general settings and security settings for wireless connection.

wl config mode *[value]*

wl config mode show

wl config channel *[number]*

wl config preamble *[enable]*

wl config txburst *[enable]*

wl config ssid *[ssid_num enable ssid_name [hidden_ssid]]*

wl config security *[SSID_NUMBER] [mode]*

wl config ratectl *[ssid_num enable upload download]*

wl config isolate *[ssid_num lan member]*

Syntax Description

Parameter	Description
<i>mode[value]</i>	It means to select connection mode for wireless connection. Available settings are: "11bgn", "11gn", "11n", "11bg", "11g", or "11b".
<i>mode show</i>	It means to display what the current wireless mode is.
<i>channel [number]</i>	It means the channel of frequency of the wireless LAN. The available settings are 0,1,2,3,4,5,6,7,8,9,10,11,12 and 13. number=0, means Auto number=1, means Channel 1 number=13, means Channel 13.

<i>preamble [enable]</i>	<p>It means to define the length of the sync field in an 802.11 packet.</p> <p>Most modern wireless network uses short preamble with 56 bit sync field instead of long preamble with 128 bit sync field. However, some original 11b wireless network devices only support long preamble.</p> <p>0: disable to use long preamble. 1: enable to use long preamble.</p>
<i>txburst [enable]</i>	<p>It means to enhance the performance in data transmission about 40%* more (by enabling Tx Burst). It is active only when both sides of Access Point and Station (in wireless client) invoke this function at the same time.</p> <p>0: disable the function. 1: enable the funciton.</p>
<i>ssid[ssid_num enable ssid_name [hidden_ssid]]</i>	<p>It means to set the name of the SSID, hide the SSID if required.</p> <p><i>ssid_num</i>: Type 1, 2, 3 or 4 to specify SSID1, SSID2, SSID3 or SSID4.</p> <p><i>ssid_name</i>: Give a name for the specified SSID.</p> <p><i>hidden_ssid</i>: Type 0 to hide the SSID or 1 to display the SSID</p>
<i>Security [SSID_NUMBER] [mode][key][index]</i>	<p>It means to configure security settings for the wireless connection.</p> <p><i>SSID_NUMBER</i>: Type 1, 2, 3 or 4 to specify SSID1, SSID2, SSID3 or SSID4.</p> <p><i>mode</i>: Available settings are:</p> <p>disable: No security. wpa1x: WPA/802.1x Only wpa21x: WPA2/802.1x Only wpamix1x: Mixed (WPA+WPA2/802.1x only) wep1x: WEP/802.1x Only wpapsk: WPA/PSK wpa2psk: WPA2/PSK wpamixpsk: Mixed (WPA+WPA2)/PSK wep: WEP</p> <p><i>key, index</i>: Moreover, you have to add keys for <i>wpapsk</i>, <i>wpa2psk</i>, <i>wpamixpsk</i> and <i>wep</i>, and specify index number of schedule profiles to be followed by the wireless connection.</p> <p>WEP keys must be in 5/13 ASCII text string or 10/26 Hexadecimal digit format; WPA keys must be in 8~63 ASCII text string or 64 Hexadecimal digit format.</p>
<i>ratectl [ssid_num enable upload download]</i>	<p>It means to set the rate control for the specified SSID.</p> <p><i>ssid_num</i>: Choose 1, 2, 3 or 4 to specify SSID1, SSID2, SSID3 or SSID4.</p> <p><i>enable</i>: It means to enable the function of the rate control for the specified SSID. 0: disable and 1:enable.</p>

	<p><i>upload</i>: It means to configure the rate control for data upload. The unit is kbps.</p> <p><i>download</i>: It means to configure the rate control for data download. The unit is kbps.</p>
<p><i>isolate [ssid_num lan member]</i></p>	<p>It means to isolate the wireless connection for LAN and/or Member.</p> <p><i>lan</i> – It can make the wireless clients (stations) with remote-dial and LAN to LAN users not accessing for each other.</p> <p><i>member</i> – It can make the wireless clients (stations) with the same SSID not accessing for each other.</p>

Example

```

> wl config mode 11bgn
Current mode is 11bgn
% <Note> Please restart wireless after you set the channel
> wl config channel 13
Current channel is 13
% <Note> Please restart wireless after you set the channel.
> wl config preamble 1
Long preamble is enabled
% <Note> Please restart wireless after you set the parameters.
> wl config ssid 1 enable dray
SSID  Enable  Hide_SSID  Name
1      1        0           dray
% <Note> Please restart wireless after you set the parameters.
> wl config security 1 wpa1x
%% Configured Wlan Security Setting:
% SSID1
%% Mode: wpa1x
%% Wireless card must be reset for configurations to take effect
%% (wl restart)

```

wl set

This command allows users to configure basic wireless settings.

wl set *[SSID] [CHAN[En]]*

wl set txburst *[enable]*

Syntax Description

Parameter	Description
<i>SSID</i>	It means to type the SSID for the router. The maximum character that you can use is 32.
<i>CHAN[En]</i>	It means to specify required channel for the router. <i>CHAN</i> : The range for the number is between 1 ~ 13.

	<i>En</i> : type <i>on</i> to enable the function; type <i>off</i> to disable the function.
<i>txburst [enable]</i>	It means to enhance the performance in data transmission about 40%* more (by enabling Tx Burst). It is active only when both sides of Access Point and Station (in wireless client) invoke this function at the same time. 0: disable the function. 1: enable the function.

Example

```
> wl set MKT 2 on
% New Wlan Setting is:
% SSID=MKT
% Chan=2
% Wl is Enable
```

wl act

This command allows users to activate wireless settings.

wl act [*En*]

Syntax Description

Parameter	Description
<i>En</i>	It means to enable or disable the function of VPN isolation. 0: diable 1: enable

Example

```
> wl act on
% Set Wlan to Enable.
```

wl scan

This command allows users to perform AP scanning.

wl scan [*start*]

wl scan set [*wlist/blist/stime*][*MAC*]

wl scan del [*wlist/blist*] [*MAC*]

wl scan filter [*ssid/channel/mac*]

wl scan show [*0/1/2/3*]

Syntax Description

Parameter	Description
<i>start</i>	It means to start AP scanning.

<i>set [wlist/blist/stime] [MAC]</i>	Set white list/block list/scan time. <i>wlist</i> – It means to set white list for passing. MAC address must be added in the end. e.g., <i>wl scan set wlist 001122aabbcc</i> <i>blist</i> – It means to set black list for blocking. MAC address must be added in the end. <i>stime</i> – It means to set scanning time. Time value (2~5 second) must be added in the end. e.g., <i>wl scan set time 5</i>
<i>del</i>	Remove white list/block list. e.g., <i>wl scan del wlist 001122aabbcc</i>
<i>filter</i>	Set which filter you want. <i>ssid</i> – scanning the AP based on SSID setting. <i>channel</i> - scanning the AP based on channel setting. <i>mac</i> - scanning the AP based on MAC address setting..
<i>show [0/1/2/3]</i>	It is used to show AP list. 0 - display white list 1 - display block list, 2 - display gray/unknown list, 3 - display all list

Example

```
> wl scan set wlist 001122aabbcc
> wl scan start
> wl scan show 3
>
```

wl stamgt

This command is used to configure connection time and reconnection time for each SSID that wireless client used for accessing into Internet.

wl stamgt *[enable/disable] [ssid_num]*.

wl stamgt *[show] [ssid_num]*.

wl stamgt set *[ssid_num] [c] [r]*

wl stamgt reset *[ssid_num]*.

Syntax Description

Parameter	Description
<i>enable/disable</i>	It means to enable/disable the station management control.
<i>ssid_num</i>	It means channel selection. Available channel for 2.4G: 0/1/2/3 Available channel for 5G: 4/5/6/7.

<i>show</i>	It means to display status or configuration of the selected channel.
<i>c</i>	It means connection time. The unit is minute.
<i>r</i>	It means reconnection time. The unit is minute.

Example

> wl stamgt enable 1			
% Station Management Status: enabled			
> wl stamgt set 1 60 60			
> wl stamgt show 1			
NO. SSID	BSSID	Connect time	Reconnect time
1. Draytek	00:11:22:aa:bb:cc	0d:0:58:26	0d:0:0

wl iso_vpn

This command allows users to activate the function of VPN isolation.

wl iso_vpn [*ssid*] [*En*]

Syntax Description

Parameter	Description
<i>ssid</i>	It means the number of SSID. 1: SSID1 2: SSID2 3: SSID3 4: SSID4
<i>En</i>	It means to enable or disable the function of VPN isolation. 0: disable 1: enable

Example

> wl iso_vpn 1 on
% ssid: 1 isolate vpn on :1

wl wpa

This command allows you to configure WPA wireless settings.

wl wpa 1/2/3

Syntax Description

Parameter	Description
<i>wl wpa</i>	Type 1/2/3 to represent different WPA modes.

1 – means WPA+WPA2
2 – means WPA2 Only
3 – means WPA Only

Example

```
> wl wpa 1  
>
```

wl wmm

This command allows users to set WMM for wireless connection. It defines the priority levels for four access categories derived from 802.1d (prioritization tabs).

wl wmm ap *QueIdx Aifsn Cwmin Cwmax Txop ACM*

wl wmm bss *QueIdx Aifsn Cwmin Cwmax Txop ACM*

wl wmm ack *Que0_Ack Que1_Ack Que2_Ack Que3_Ack*

wl wmm enable *SSID0 SSID1 SSID2 SSID3*

wl wmm apsd *value*

wl wmm show

Syntax Description

Parameter	Description
<i>ap</i>	It means to set WMM for access point.
<i>bss</i>	It means to set WMM for wireless clients.
<i>ack</i>	It means to map to the Ack policy settings of AP WMM.
<i>enable</i>	It means to enable the WMM for each SSID. 0: disable 1: enable
<i>Apsd [value]</i>	It means to enable / disable the ASPD(automatic power-save delivery) function. 0: disable 1: enable
<i>show</i>	It displays current status of WMM.
<i>QueIdx</i>	It means the number of the queue which the WMM settings will be applied to. There are four queues, best effort, background, voice, and video.
<i>Aifsn</i>	It controls how long the client waits for each data transmission.
<i>Cwmin/Cwmax</i>	CWMin means contention Window-Min and CWMax means contention Window-Max. Specify the value ranging from 1 to 15.
<i>Txop</i>	It means transmission opportunity. Specify the value ranging from 0 to 65535.
<i>ACM</i>	It can restrict stations from using specific category class if it is enabled. 0: disable 1: enable

Example

```
> wl wmm ap 0 3 4 6 0 0
```



```

QueIdx=0: APAifsn=3,APCwmin=4,APCwmax=6, APTxop=0,APACM=0
> wl wmm enable 1 0 1 0
WMM_SSID0 =1, WMM_SSID1 =0,WMM_SSID2 =1,WMM_SSID3 =0
> wl wmm show
Enable WMM: SSID0 =1, SSID1 =0,SSID2 =1,SSID3 =0
APSD=0
QueIdx=0: APAifsn=3,APCwmin=4,APCwmax=6, APTxop=0,APACM=0
QueIdx=1: APAifsn=7,APCwmin=4,APCwmax=10, APTxop=0,APACM=0
QueIdx=2: APAifsn=1,APCwmin=3,APCwmax=4, APTxop=94,APACM=0
QueIdx=3: APAifsn=1,APCwmin=2,APCwmax=3, APTxop=47,APACM=0
QueIdx=0: BSSAifsn=3,BSSCwmin=4,BSSCwmax=10, BSSTxop=0,BSSACM=0
QueIdx=1: BSSAifsn=7,BSSCwmin=4,BSSCwmax=10, BSSTxop=0,BSSACM=0
QueIdx=2: BSSAifsn=2,BSSCwmin=3,BSSCwmax=4, BSSTxop=94,BSSACM=0
QueIdx=3: BSSAifsn=2,BSSCwmin=2,BSSCwmax=3, BSSTxop=47,BSSACM=0
AckPolicy[0]=0: AckPolicy[1]=0,AckPolicy[2]=0,AckPolicy[3]=0

```

wl ht

This command allows you to configure wireless settings.

wl ht bw *value*

wl ht gi *value*

wl ht badecline *value*

wl ht autoba *value*

wl ht rdg *value*

wl ht msdu *value*

wl ht txpower *value*

wl ht antenna *value*

wl ht greenfield *value*

Syntax Description

Parameter	Description
<i>wl ht bw value</i>	The value you can type is 0 (for BW_20) and 1 (for BW_40).
<i>wl ht gi value</i>	The value you can type is 0 (for GI_800) and 1 (for GI_4001)
<i>wl ht badecline value</i>	The value you can type is 0 (for disabling) and 1 (for enabling).
<i>wl ht autoba value</i>	The value you can type is 0 (for disabling) and 1 (for enabling).
<i>wl ht rdg value</i>	The value you can type is 0 (for disabling) and 1 (for enabling).
<i>wl ht msdu value</i>	The value you can type is 0 (for disabling) and 1 (for enabling).

<i>wl ht txpower value</i>	The value you can type ranges from 1 – 6 (level).
<i>wl ht antenna value</i>	The value you can type ranges from 0-3. 0: 2T3R 1: 2T2R 2: 1T2R 3: 1T1R
<i>wl ht greenfield value</i>	The value you can type is 0 (for mixed mode) and 1 (for green field).

Example

```
> wl ht bw value 1
  BW=0
<Note> Please restart wireless after you set new parameters.
> wl restart
  Wireless restart.....
```

wl restart

This command allows you to restart wireless setting.

Example

```
> wl restart
  Wireless restart.....
```

wl btnctl

This command allows you to enable or disable wireless button control.

wl btnctl [*value*]

Syntax Description

Parameter	Description
<i>value</i>	0: disable 1: enable

Example

```
> wl btnctl 1
  Enable wireless button control
  Current wireless button control is on
>
```

wl iwpriv & wl wlanconfig

These two commands are reserved for RD debug. Do not use them.

wl efuse

This command is used to configure parameters related to wireless RF hardware. At present, it is not allowed for end user to operate.

WOL (Wake On LAN) Command

wol

This command allows Administrator to set the white list of WAN IP addresses/Subnets, that the magic packet from these IP addresses/Subnets will be eligible to pass through NAT and wake up the LAN client. You also need to set NAT rule for LAN client.

wol up *[MAC Address]/[IP Address]*

wol fromWan *[on/off/any]*

wol fromWan_Setting *[idx][ip address][mask]*

Syntax Description

Parameter	Description
<i>MAC Address</i>	It means the MAC address of the host.
<i>IP address</i>	It means the LAN IP address of the host. If you want to wake up LAN host by using IP address, be sure that that IP address has been bound with the MAC address (IP BindMAC).
<i>on/off/any</i>	It means to enable or disable the function of WOL from WAN. on: enable off: disable any: It means any source IP address can pass through NAT and wake up the LAN client. This command will allow the user to choose whether WoL packets can be passed from the Internet to the LAN network from a specific WAN interface.
<i>[idx][ip address] [mask]</i>	It means the index number (from 1 to 4). These commands will allow the user to configure the LAN clients that the user may wake up from the Internet through the use of the WoL packet. <i>ip address</i> - It means the WAN IP address. <i>mask</i> - It means the mask of the IP address.

Example

```
> wol fromWan on
> wol fromWan_Setting 1 192.168.1.45 255.255.255.0
>
```

User (User Management) Command

user

The command is used to create new user account profiles.

Syntax

user set [-e|-d|-c|-l|-o|-a|-r|-b]

user edit [PROFILE_IDX] [-e|-d|-n|-p|-t|-u|-i|-q|-r|-w|-s|-m|-x|-v]

user account [USER_NAME] [-t|-d|-q|-r|-w]

Syntax Description

Parameter	Description
<i>set</i>	It means to configure general setup for the user management.
<i>edit</i>	It means to modify the selected user profile.
<i>account</i>	It means to
User Set	
<i>-e</i>	Enable User management function.
<i>-d</i>	Disable User management function.
<i>-a</i> [Profile idx][User name][IP_Address]	It means to pass an IP Address. <i>Profile idx</i> - type the index number of the selected profile. <i>User name</i> - type the user name that you want it to pass. <i>IP_Address</i> - type the IP address that you want it to pass.
<i>-l all</i> <i>-l userl</i> <i>-l ip</i>	Show online user. <i>all</i> – all of the users will be displayed on the screen. <i>user name</i> – type the user name that you want to view on the screen. <i>ip</i> – type the IP address that you want to view on the screen.
<i>-o</i>	It means to show user account information. e.g.,- <i>o</i>
<i>-c</i> [user name] <i>-c all</i>	Clear the user record. <i>user name</i> – type the user name that you want to get clear corresponding record. <i>all</i> – all of the records will be removed.
<i>-buser</i> [user name] <i>-b ip</i> [ip address]	Block specifies user or IP address. <i>user name</i> – type the user name that you want to block. <i>ip address</i> — type the IP address that you want to block.
<i>-u user</i> [user name] <i>-u ip</i> [ip address]	Unblock specifies user or IP address. <i>user name</i> – type the user name that you want to unblock. <i>ip address</i> — type the IP address that you want to unblock.

<i>-r [user name all]</i>	Remove the user record. <i>user name</i> – type the name of the user profile. <i>all</i> – all of the user profile settings will be removed.
<i>-q</i>	It means to trigger the alert tool to do authentication.
<i>-s</i>	It means to set login service. 0:HTTPS 1:HTTP e.g., <i>-s 1</i>
User edit	
<i>PROFILE_IDX</i>	Type the index number of the profile that you want to edit.
<i>-e</i>	Enable User profile function.
<i>-d</i>	Disable User profile function.
<i>-n</i>	It means to set a user name for a profile. e.g., <i>-n forttest</i>
<i>-p</i>	It means to configure user password. e.g., <i>-p 60forttest</i>
<i>-t</i>	It means to enable /disable time quota limitation for user profile 0:Disable 1:Enable
<i>-u</i>	It means to enable /disable data quota limitation for user profile 0:Disable 1:Enable
<i>-i</i>	It means to set idle time. e.g., <i>-i 60</i>
<i>-q</i>	set time quota It means to set time quota of the user profile. e.g., <i>-q 200</i>
<i>-r</i>	It means to set data quota. e.g., <i>-r 1000</i>
<i>-w</i>	It means to specify the data quota unit (MB/GB). e.g., <i>-w MB</i>
<i>-s</i>	It means to set schedule index. Available settings are” sch_idx1,sch_idx2,sch_idx3, and sch_idx4.
<i>-m</i>	It means to set the maximum login user number. e.g., <i>-m 200</i>
<i>-x</i>	It means to set external server authentication 0: None

	1: LDAP 2: Radius 3: TACAS e.g., -x 2
-v	It means to view user profile(s).
User account	
<i>USER_NAME</i>	It means to type a name of the user account.
-t	It means to enable /disable time quota limitation for user account. 0:Disable 1:Enable
-d	It means to enable /disable data quota limitation for user account. 0:Disable 1:Enable
-q	It means to set account time quota. e.g., -q 200
-r	It means to set account data quota. e.g., -r 1000
-w	It means to set data quota unit (MB/GB).

Example

```
> user account admin -d 1
Enable the [admin] data quota limited
```

Nand Commands

nand bad /nand usage

“NAND usage” is used to display NAND Flash usage; “nand bad” is used to display NAND Flash bad blocks.

Syntax

nand bad

nand usage

Example

```
>nand usage
Show NAND Flash Usage:
Partition    Total          Used           Available      Use%
cfg          4194304        7920           4186384        0%
bin_web     33554432      11869493      21684939       35%
cfg-bak     4194304        7920           4186384        0%
bin_web-bak 33554432      11869493      21684939       35%
> nand bad
Show NAND Flash Bad Blocks:
Block  Address          Partition
1020   0x07f80000      unused
1021   0x07fa0000      unused
1022   0x07fc0000      unused
1023   0x07fe0000      unused
```