

ZyXEL

Firmware Release Note

ZyWALL 70

Release 4.00(WM.12)

Date:
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ZyXEL ZyWALL 70 Standard Version

Release 4.00(WM.12)

Release Note

Date: Oct. 11, 2006

Supported Platforms:

ZyXEL ZyWALL 70

Versions:

ZyNOS Version: V4.00(WM.12) | 10/11/2006 13:37:01

BootBase : V1.08 | 07/04/2005 10:24:41

Notes:

1. **Restore to Factory Defaults Setting Requirement: No.**
2. The setting of ignore triangle route is on in default ROM FILE. Triangle route network topology has potential security crisis. If you are not clear about it, please refer to Appendix for the triangle route issue.
3. IKE process in phase 2 will check ID information between system and the peer. If you found that the IPSec connection is failed, please check your settings.
4. When firewall turns from "off" to "on", the firewall initialization procedure will disconnect all connections running through the ZyWALL.
5. SUA/NAT address loopback feature was enabled on ZyWALL by default, however, if users do not need it, a C/I command "ip nat loopback off" could turn it off.
6. In WLAN configuration, a switch for enable / disable WLAN is added. The default value is "**disable**" since WLAN without any security setting is vulnerable. Please configure MAC filter, WEP, 802.1X and WPA when you enable WLAN feature.
7. When UPnP is on, and then reboot the ZyWALL, Windows XP will not detect UPnP and refresh "My Network Places→Local Network". Plug in network wire again can solve this problem.
8. If the encapsulation type of WAN1 and WAN2 are both PPTP, The PPTP IP settings (My IP Addr, My IP Mask and Server IP Addr) on WAN1 and WAN2 must be different subnet.
9. The first two entries for static route are reserved for creating WAN1 and WAN2 default routes and are READ-ONLY.
10. In bridge mode, If LAN side DHCP clients want to get DHCP address from WAN side DHCP server, you may need to add and turn on the firewall rule for BOOT_CLIENT service type in WAN→LAN direction.
11. In previous 3.64 firmware, the VID value of DPD is not correct. VID change will

cause current version doesn't work with the wrong value. Please be sure to connect with devices which has updated VID, or the DPD may not work correctly.

12. In SMT menu 24.1, "WCRD" only represents the WLAN card status when you insert WLAN card into the ZyWALL. If you insert TRUBO card, you will see "WCRD" is always down.
13. If you do not want a mail to be scanned by Anti-Spam feature, you can add this mail into white list in eWC->Anti-Spam->Lists
14. If you had activated content filtering service but the registration service state is "Inactive" after upgrading to 4.00, please click "Service License Refresh" in "eWC->REGISTRATION->Registration" or wait until device synchronize with myzyxel.com
15. Support Vantage CNM – version 2.3.49.61.00.

Known Issues:

[Interface]

1. Currently, ZyWALL Multiple WAN does not support WAN 1/WAN 2 on the same sub-net. If you configure WAN 1 and WAN 2 to "Ethernet" encapsulation, you should not connect then to the same IP subnet.
2. You must notice those metric values of WAN 1, WAN 2, Traffic-Redirect and Dial-backup. You should better give those values, Dial-backup > Traffic-Redirect > WAN 2 > WAN 1. For example, WAN 1(1), WAN 2(2), Traffic-Redirect(14), Dial-backup(15).

[UPnP]

1. Sometimes on screen the "Local Area Connection" icon for UPnP disappears. The icon shows again when restarting PC.
2. When you use MSN messenger, sometimes you fail to open special applications, such as whiteboard, file transfer and video etc. You have to wait more than 3 minutes and retry these applications..

[Bandwidth Management]

1. Bandwidth Management doesn't work on wireless LAN.
2. Bandwidth management H.323 service does not support Netmeeting H.323 application.
3. Using BWM in PPPoE/PPTP mode, there are two filters for FTP and H323 ALG
 - (1) If we execute FTP first then H323 can not pass through ZyWALL.
 - (2) If we execute H323 before FTP, all functions work properly.
4. In some cases, BWM (Fairness-Based mode) cannot manage bandwidth accurately. Ex. In WAN interface, there are two subclasses for FTP service, their speed are 100Kbps and 500Kbps, the traffic match the filter which speed is 500Kbps may only use half of it's bandwidth.

[Content Filter]

1. Can't block ActiveX in some case.(Windows will cache it in C:\WINNT\Downloaded Program Files\)

[Bridge Mode]

1. When device boots in Bridge Mode, some CI command error messages will be displayed on console. This is because some predefined CI commands in autoexec.net is forbidden to execute in Bridge Mode.
2. Under Bridge Mode, all DMZ ports will behave as a hub.
3. Don't use CI command "bridge rstp bridge enable" to enable RSTP, it will change the initial Path Cost value to an incorrect value..

[WLAN]

1. G-100 WLAN card, does not support the fragment size below 800.
2. Device sometimes crash when use wireless for a long time.

[Firewall]

1. Some limitations on Firewall CLI configuration, (1) User can not delete specific address or custom port entry from a rule. (2) CLI doesn't support Modify and Move for rules implemented in eWC. (3) eWC can not display firewall rule field correctly if rule is added by CI command and its type is port/address range.

[ALG]

1. Symptom:P2002 can not connect with each other in Peer-to-Peer mode.
Condition
Topology:
P2002--(LAN)ZyWALL_A(WAN, IP=172.21.2.151)--(WAN, IP=172.21.1.134)ZyWALL_B(LAN)--P2002
(1) In ZyWALL_A and ZyWALL_B, add a "WAN to LAN" firewall rule to pass traffic with port "5060".
(2) In ZyWALL_A and ZyWALL_B, add a port forwarding rule "5060" to P2002.
(3) In ZyWALL_A and ZyWALL_B, enable SIP ALG.
(4) Setup both P2002 to Peer-to-Peer mode.
(5) Making the SIP connection by P2002 will be failed.
(6) Turn off firewall in ZyWALL_A and ZyWALL_B, sometimes the connection can be built up if we dial from P2002 which is behind ZyWALL_A.

[Anti-Virus]

1. The log description is not clear if packet is forwarded when exceeding maximum session number.

[Anti-Spam]

1. Symptom: Mail can not be delivered successfully.
Condition:
Topology: Mail Client ----- ZyWALL_A---- ZyWALL_B--- Mail Server
(1) Turn on Anti-Spam at ZyWALL A and B.
(2) Mail Client send mail to Mail Server.
(3) Sometimes mail can not be sent successfully.
(4) The situation also happens when mail client receive mail.

[VPN]

1. Symptom: PC can't ping remote gateway through VPN tunnel under this special topology.

Condition:

PC-----LAN ZyWALL_A WAN-----LAN ZyWALL_B WAN-----Internet
(192.168.1.33) (192.168.100.33) (192.168.100.1) (172.202.77.145)

- (1) VPN configuration in ZyWALL_A: WAN IP Address=192.168.100.33, WAN IP Subnet Mask=255.255.255.0, Gateway IP Address=192.168.100.1. Gateway policy, Name=IKE1, Remote Gateway Address=192.168.100.1, Pre-Shared Key=12345678. Network policy for IKE1, Active=enable, Name=IPSec1, Local Network/Starting IP Address=192.168.1.33, Remote Network/Starting IP Address=0.0.0.0
 - (2) VPN configuration in ZyWALL_B
WAN IP Address=172.202.77.145, WAN IP Subnet Mask=255.255.0.0, Gateway IP Address=172.202.77.1.
Gateway policy, Name=IKE1, Remote Gateway Address=192.168.100.33, Pre-Shared Key=12345678.
Network policy for IKE1, Active=enable, Name=IPSec1, Local Network/Starting IP Address=0.0.0.0, Remote Network/Starting IP Address=192.168.1.33.
 - (3) When we established the VPN tunnel between ZyWALL_A and ZyWALL_B, we can access ZyWALL_B (192.168.100.1) with the remote management, such as Telnet, FTP..., these traffic will go through VPN tunnel. However, we can not ping ZyWALL_B (192.168.100.1) successfully because this ICMP traffic did not go through VPN tunnel to ZyWALL_B.
2. In initiator, set up remote address as 0.0.0.0 in policy rule. In Responder, set up a dynamic rule with local/remote address = 0.0.0.0. After tunnel is up, traffic can not pass through VPN tunnel.
 3. SNMP tools get ZYWALL VPN MIB data, the index of received data are wrong if rules are larger than 1.
 4. Symptom: Disconnect local VPN tunnel but remote's VPN tunnel can't be disconnect.
Condition:
PC A --- ZW70(A) ----- ZW70(B) --- PC B
1. ZW70(A) LAN IP:192.168.5.1, ZW70(B) LAN IP:192.168.1.1, DMZ IP:192.168.2.1, WLAN IP:192.168.3.1.
2. ZW70(A) add 3 VPN rules (3IKE+3IPsec) match with ZW70(B) 3 VPN rule (1IKE+ 3IPsec)(Local Policy IP are 192.168.1.x 192.168.2.x 192.168.3.x).
3. Dial VPN from ZW70(B),
4. Disconnect all tunnels from ZW70(B) on eWC/VPN/SA Monitor in a very short time, check ZW70(A) SA Monitor, sometimes 2or3 VPN tunnel exist.

[MISC]

1. Symptom: ZyWALL crashes with WAN2 interface.
Condition:
 (1) Connect internet with WAN2.
 (2) Generate heavy traffic from LAN to WAN.
 (3) When the WAN2's metric is down, pull and plug WAN2 and router crashes.
 2. When device is performing (a) device registration, (b) service registration or refresh, or (c) signature update, users will see the following message in centralized log: "Due to error code(11), cert not trusted: SSL/TLS peer certif..." This is an expected condition and will not impact the correct behavior of registration or signature update. Please do not worry about this message. This issue will be solved in future patch release.
 3. Symptom: After system password hash, downgrade F/W, user can't use GUI
Condition:
 (1) In patch 6 support password encrypted, CLI "sys pwdEncryption on". "sys md5 1234" will display a string "xxxxxxx"
 (2) Downgrade F/W to patch2 (not support password encrypted), SMT can use password "xxxxxxx" login but GUI can't
- [CNM]
1. Device (Vantage agent) can't register to Vantage from WAN2.
 2. Vantage will treat some different encryption keys as the same one, such as 12345678 and 12345679.
 3. Vantage server would not retry to trigger TA inform again if SGMP trigger TA is fail.

Features:

Modifications in V 4.00(WM.12) | 10/11/2006

Modify for formal release

Modifications in V 4.00(WM.12)b1 | 09/27/2006

1. [BUG FIX] 060802135
Symptom: Device crashes because of memory double free in Content Filter.
Condition:
 (1) Enable Content Filter and Web site customization.
 (2) After a while, the device will crash sometimes.
2. [BUG FIX] 060711547
Symptom: "Don't block Java/ActiveX/Cookies/Web proxy to trust Web site" function in content filter cannot work.
Condition:
 (1) In eWC->SECURITY->CONTENT FILTER->General page, enable "Content filter" and block "Java Applet/ActiveX/Cookies/Web Proxy".
 (2) In eWC->SECURITY->CONTENT FILTER->Customization page, enable "Web site customization" and "Don't block Java/ActiveX/Cookies/Web proxy to trusted Web sites". Add "web.haccpsoft.it" to "Trusted Web Sites".
 (3) A PC in ZYWALL's LAN side browses "http://web.haccpsoft.it:8080" website.
 (4) Login in and click the date, the popup window should show a calendar instead of another login page.

- (5) It is blocked by content filter.
3. [BUG FIX] 060802136
Symptom: ZyWALL serial cannot connect one CDMA terminal RWT FCT CDMA.24.
Condition:
Russia raised this issue that our ZyWALL cannot connect one kind of CDMA terminal RWT FCT CDMA.24, but it is okay when this Terminal connect to P662 and D-Link route. After check, they found when short-circuit the CTR and DTS can make it work (ZyWALL connect to the CDMA).
 4. [BUG FIX] 060726734
Symptom: Firewall bypass triangle route does not work.
Condition:
Topology,
PC1(192.168.2.33)--(192.168.2.1)Router(192.168.1.34)

|
 PC2 (192.168.1.33)-- --(192.168.1.1)DUT

Problem:
 (1) PC1 can reach PC2 but PC2 can not reach PC1.
 (2) If downgrade to patch 8, problem disappears.
 5. [BUG FIX] 060804283
Symptom: Device crash under mail server station stress testing.
Condition:
PC1----(LAN)DUT(WAN1)-----{PQA LAB}-----PC2
 (1) Enable Firewall.
 (2) Enable AS with External DB counting threshold score.
 (3) Enable Bandwidth Management with WAN(limit the SMTP traffic).
 (4) PC1 and PC2 send and receive large number of mails each other.
 (5) Device will crash over one night.
 6. [BUG FIX] 060512714
Symptom: PPTP can not pass through ZyWALL from time to time.
Condition:
Topology:

PPTP server – (LAN) ZYWALL WAN 1--PPPoE—internet
 WAN 2--PPPoE--internet

 (1) Choose Active/Active mode in WAN setting.
 (2) Build PPPoE connection both on WAN1 and WAN2
 (3) Set Port forwarding 1723 to LAN PPTP server both on WAN1 and WAN2
 (4) PPTP client builds connection, and disconnect it through WAN1; then PPTP client an not builds PPTP connection through WAN2.
 7. [BUG FIX] 060809598
Symptom: PC can not access the web server (www.fapa.com.pl) via DUT.
Condition:
 PC---(LAN)DUT(WAN)---internet
 (1) Get a DUT with default romfile.
 (2) Let PC try to access www.fapa.com.pl.
 (3) PC can not access the web server.
 (4) It is OK without DUT.

8. [BUG FIX] 060720286

Symptom: Static routing is failed when enabling firewall and asymmetrical route function.

Condition:

Topolgy:

DUT

||

PC1(1.33) ----- (SWITCH) ----- (2.33)DUT2(10.1) ----- PC2(10.33)

(1) DUT's LAN subnet is 192.168.1.x with a LAN IP alias 192.168.2.x.

(2) There is a static route entry that will redirect the 192.168.10.x subnet to 192.168.2.33.

(3) Enable firewall and asymmetrical route. Set LAN to LAN default rule as permit in firewall.

(4) DUT2 disable NAT and firewall feature.

(5) Ping PC1 from PC2, no response.

9. [BUG FIX] 060731994

Symptom: Policy route is failed in a special topology.

Condition:

Topology:

DUT1

||

PC1(1.33)----- (SWITCH) ----- (2.33)DUT2(10.1)-----PC2(10.33)

(1) DUT's LAN subnet is 192.168.1.x with a LAN IP alias 192.168.2.x.

(2) DUT1 configure a policy route rule that will redirect the range 192.168.10.1 - 192.168.10.250 to 192.168.2.33.

(3) DUT1 disable firewall.

(4) DUT2 disable NAT and firewall feature.

(5) Ping PC1 from PC2, there is no response.

Modifications in V 4.00(WM.11) | 08/07/2006

Modify for formal release

Modifications in V 4.00(WM.11)b1 | 07/31/2006

1. [BUG FIX] 051012084

Symptom: Router crashes with special CLI.

Condition: In CI menu 24.8, type "ip url gen time always/01:01 12:12" and router will crash.

2. [BUF FIX] 060310883

Symptom: The specified web pages cannot be displayed.

Condition:

(1) Register content filter.

(2) Goto "eWC->CONTENT FILTER->General", select "Enable Content Filter" and click "Apply".

(3) Goto "eWC->CONTENT FILTER->Categories", click "Advance" bottom.

(4) Unselect "Block" of "Matched Web Pages", select all gategories and click

"Apply".

(5) Access web site: http://www.standardchartered.com.hk/chi/c_index.html.

(6) It takes 10 minutes to display the page.

3. [BUG FIX] 060406280

Symptom: FTP download speed in VPN Relay only have 6~8 Kb/sec.

Condition:

(FTP-Client)PCA---Branch A===HQ[DUT]====Branch B---PCB(Server-U).

(1) Branch A set all traffic go through DUT by VPN tunnel.

(2) Branch B set all traffic go through DUT by VPN tunnel.

(3) PCA download a file from PCB, the speed only have 6~8 Kb/sec.

(4) Disable Branch B VPN tunnel and set a port 21 forwarding to PCB.

(5) PCA download a file from PCB, the download speed can raise to 1500 Kb/sec.

4. [BUG FIX] 060502049

Symptom: Device crashes when sends large number of mails.

Condition:

(1) Enable Anti-SPAM and external database.

(2) Enable Bandwidth management in WAN and DMZ.

(3) Send and receive large number of mails between DMZ and WAN interface.

(4) Device will crash.

5. [BUG FIX] 060317299

Symptom: DUT crashes after working for a while.

Condition:

(1) Before the problem happened, the following message appeared.

192.168.10.24 :28475 203.204.137.74 :28475 216.32.77.139 :80 10 0 M1P

(2) User cannot access Internet and the device from LAN side when the problem happened.

(3) There is no response from the console when problem happened.

(4) It will auto reboot after few minutes.

6. [BUG FIX] 060331746

Symptom: MBuf double freed when antispam and bandwidth are enabled in bridge mode.

Condition:

(1) Enable bandwidth and antispam feature.

(2) Set up some rules in WAN for bandwidth to limit the traffic.

(3) Generate large amount of traffic at the same time to fill the bandwidth bucket with packets.

(4) Try to send mail via SMTP protocol.

7. [BUG FIX] 060317256

Symptom: MBuf double freed when antispam and bandwidth are enabled in bridge mode.

Condition:

(1) Enable bandwidth and antispam feature.

(2) Set up some rules in WAN for bandwidth to limit the traffic.

(3) Generate large amount of traffic at the same time to fill the bandwidth bucket with packets.

(4) Try to receive mail via POP3 protocol.

8. [BUG FIX] 060411601
Symptom: DUT WAN fixed 100/full negotiation fail against cisco 3550/2900.
Condition:
(1) Configure cisco 3550/2900 port to fixed 100/full.
(2) Configure DUT WAN to fixed 100/full.
(3) DUT WAN can not sync up; remain down.
9. [BUG FIX]
Symptom: When we set that the PPPoE should get the IP with the dynamic method, but it doesn't.
Condition:
(1) Go to eWC->Network->WAN->(WAN1/WAN2).
(2) Set the "encapsulation" as POE and set the "use fixed IP address" as 10.0.0.1 <Use the static My IP> .
(3) Re-set the "Get the automatically IP from ISP" <Use the dynamic IP> .
(4) Dial the correct POE server.
(5) Go to eWC->Home.
(6) We will see the WAN IP will be 10.0.0.1 not the dynamic negotiated IP and the WAN link could not work successfully.
10. [BUG FIX] 060607393
Symptom: software watchdog starts up.
Condition:
(1) Restore default romfile.
(2) After a while, the device will crash sometimes.
11. [BUG FIX] 060410475
Symptom: HTTP client leak happens when sending or receiving mail.
Condition:
(1) Enable Anti-Spam feature in eWC->SECURITY->ANTI-SPAM->General.
(2) Enable External Database in eWC->SECURITY->ANTI-SPAM->External DB.
(3) A PC in LAN side send(receive) mail to(from) a mail server in WAN side.
(4) The http client will leak.
12. [BUG FIX] 060526681
Symptom: Device crash with specific configuration.
Condition:
(1) Restore default romfile.
(2) Switch device to Active/Active mode, and confirm WAN1 and WAN2 can work fine.
(3) Set WAN2 ping check point to User-defined.
(4) After a while, the device somtimes will crash.
13. [BUG FIX] 060612687
Symptom: Device crashes under IXIA stress testing.
Condition:
PC1----(LAN)DUT(WAN2)---(WAN)Router(LAN)----PC2
 (WAN1)---internet.
(1) Enable IDP, AV, AS, Firewall. Enable External Database.
(2) Enable Active/Active mode. Disable ping check.
(3) Create VPN for PC1(server) and PC2(client).

- (4) DUT WAN2 connects to internet.
- (5) Set DUT port roles 1,2 as DMZ, and port roles 3, 4 as WLAN.
- (6) Run POP3, SMTP, HTTP, FTP from WLAN to DMZ.
- (7) Run POP3, SMTP, HTTP, FTP from PC2 to PC1.
- (8) Device crashes.
- 14. [BUG FIX] 060616936
Symptom: Device will crash in bridge mode AV testing.
Condition: PC(mail client)----(LAN)DUT(WAN)----Mail Server
(1) In bridge mode, enable AV and activate SMTP from LAN to WAN direction.
(2) Disable Outlook SMTP authentication in PC.
(3) PC on LAN and sent out Microsoft Outlook testing mail.
(4) Device will crash immediately.
- 15. [ENHANCEMENT]
Add CI command "av zipUnsupport". Processing ZIP file will destroy encrypted file if flag is on, otherwise pass it.
- 16. [ENHANCEMENT]
Add Vantage CNM device agent – 2.1.3(WM.0) which supported with Vantage CNM server -- version 2.3.49.61.00.

Modifications in V 4.00(WM.10) | 07/18/2006

Modify for formal release

Modifications in V 4.00(WM.10)b3 | 07/11/2006

- 1. [BUG FIX] 060705258
Symptom: LAN PC can't send mail if the mail server on the one-to-one rule's DMZ and enable AS.
Condition:
PC1----- (LAN)DUT(WAN)-----PQA Lab
PC2----- (DMZ)-/
(1) PC1(IP= 192.168.1.33) run mail client and connect to DUT's LAN.
(2) PC2 (IP= 192.168.2.33) run mail server and connect to DUT's DMZ.
(3) Set DUT's WAN Encapsulation= Ethernet & Network Address Translation= Full Feature.
(4) eWC> Advanced> NAT> Address Mapping, Insert one-to-one rule, Local IP= 192.168.2.33/ Global IP= 192.168.10.31.
(5) PC1 send mail to 192.168.10.31 OK.
(6) eWC> ANTI-VIRUS> Enable Anti-Virus.
(7) PC1 send mail to 192.168.10.31 FAIL.

Modifications in V 4.00(WM.10)b2 | 07/03/2006

- 1. [BUG FIX] 060517999
Symptom: Can't receive and send mail under NAT loopback .
Condition:
Mail server (DMZ) --- DUT(WAN) --- PQA ---- Mail client
Mail client (LAN)

1. Disabel Firewall, enable AS, WAN1 set default server on DMZ Mail server IP.
2. WAN side mail clent can Rx/Tx mail fine, but LAN side mail client can't Rx/x mail.

Modifications in V 4.00(WM.10)b1 | 06/28/2006

1. [ENHANCEMENT]
Upgrade GUI ROMPager to 4.50 version.
2. [ENHANCEMENT]
Let VPN DPD feature comply with RFC 3706.

Modifications in V 4.00(WM.9) | 06/19/2006

Modify for formal release

Modifications in V 4.00(WM.9)b3 | 06/06/2006

1. [BUG FIX] 060605272
Symptom: IDP&AV&AS fail on Bridge mode.
Condition:
(1) Edit SMT 21.2, Active = No.
(2) Set with CI command "idp commonDebug bwengine on".
(3) Set with CI command "idp commonDebug reengine on".
(4) Edit web eWC/Anti-Virus, Enable Anti Virus = disable.
(5) Edit web eWC/IDP/General, Enable Intrusion Detection and Prevention = enable, WAN 1 & LAN= active.
(6) Edit web eWC/IDP/Signature/Switch to query view, Signature Search = By ID, ID = 1050955, Active = enable, Log = enable, Alert = enable, Action = No Action.
(7) Victim launch FTP server.
(8) Attacker ftp to victim via DUT.
(9) No log on eWC and console. Downgrade firmware to 4.00(WM.9)b1 or 4.00(WM.8)C0, and it can work fine.

Modifications in V 4.00(WM.9)b2 | 05/24/2006

1. [BUG FIX] 060517999
Symptom: Can't receive and send mail under NAT loopback .
Condition:
Mail server (DMZ) --- DUT(WAN) --- PQA ---- Mail client
Mail client (LAN)
1. Disabel Firewall, enable AS, WAN1 set default server on DMZ Mail server IP.
2. WAN side mail clent can Rx/Tx mail fine, but LAN side mail client can't Rx/x mail.

Modifications in V 4.00(WM.9)b1 | 05/12/2006

1. [BUG FIX] 051228546
Symptom: ZyWALL (activate AS) cannot forward mail which inlcude attachment larger than 1.5M.
Condition:
(1) ZyWALL activates Anti-Spam.

- (2) Send a mail with attachment larger than 1.5M will cause mail stuck until timeout.
2. [BUG FIX] 060124226
Symptom: File transfer fails between MSN 7.5 and Windows Messenger 4.7.
Condition:
(1) Topology: MSN 7.5 <--> (LAN)ZyWALL(WAN) -- Internet -- Windows Messenger 4.7
(2) MSN 7.5 and Windows Messenger 4.7 cannot send file to each other.
3. [BUG FIX] 060217692
Symptom: Momory double free on Anti-Spam.
Condition:
(1) Enable AS.
(2) Goto 24.8, use CI command "idp tune" to turn on POP3 TCP Assembly mode and SMTP TCP Assembly mode.
(3) Set some rules on AS blacklist and whitelist.
(4) Try to receive or send a lots of mail which will match these blacklist or whitelist.
(5) Sometimes, ZyWALL crashes.
4. [BUG FIX] 060301023
Symptom: When enable AS, mail client cannot send mail to server with public IP on DMZ.
Condition:
Topology:
Mail Server ---(DMZ)
- ```

 |
 v
(LAN)DUT(WAN)----- PC(Mail Client)

```
- (1)Mail Server:10.0.1.33/24 Mail Client: 10.0.0.33/24  
DUT WAN:10.0.0.1/24, LAN:192.168.1.1, DMZ: 10.0.1.1/24  
(2)On DUT, turn off firewall, turn on Anti-Spam, and set WAN1 NAT to full feature.  
(3) Set a M-1 NAT address mapping: 192.168.1.1-192.168.1.254 => 10.0.0.1 for LAN.
5. [BUG FIX] 060216666  
Symptom: DUT crashes in VPN function.  
Condition:  
Topology:  
IBM iSeries server-----zywall70(HQ)----vpn----branch office.  
(1)Customer was using these tunnels, 3 policies to zywall 5, 1 policy to zywall 2, 1 policy to CheckPoint VPN ruter 1 policy to Cisco and 1 policy to Linux/freeswan vpn.  
(2)Customer comments that most crashes happened at night when there is no client traffic.
6. [BUG FIX] 060222081  
Symptom: X-Lite SIP phone software cannot be managed by ZyWALL BM.  
Condition:  
Topology:  
X-Lite Client(A)---(LAN)DUT(WAN)---+---X-Lite Client(B)

|  
SIP Server(supported X-Lite)

- (1) DUT creates a BM filter on WAN1:  
100kb, SIP, source ip and destination ip = any, no "borrow".
- (2) Enable SIP ALG.
- (3) X-Lite Client(A) and X-Lite Client(B) both login to SIP server.
- (4) X-Lite Client(A) dials to X-Lite Client(B). Check BM monitor, the outgoing RTP traffics are not managed by BM.
7. [BUG FIX] 060222084  
Symptom: ZyWALL (active/active mode) WAN2 will lose connection when WAN1 is down.  
Condition:  
Topology: PC -- (LAN: 192.168.2.1)  
ZyWALL  
(WAN1:10.0.0.3) --PPPOE --  
10.0.0.2  
(WAN2:11.0.0.3) -- PPPOE -- 11.0.0.2  
(1) Set WAN1 & WAN2 in PPPoE encapsulation, and configure ACTIVE/ACTIVE mode with Load Balancing Algorithm = None.  
(2) Make a policy route in order to have all traffic go through WAN2.  
(3) Make a ftp connection. Download file from 11.0.0.2.  
(4) Be sure that all traffic go through WAN2  
(5) Disconnect your WAN1. FTP connection will lose.
8. [BUG FIX] 060303414  
Symptom:  
Mail server in mailzone.onetel.net.uk can not send mail to mail server (winmail) behind DUT.  
Condition:  
Topology: Mail  
Server(Winmail)---(LAN)DUT-----DSL(bridge)---Internet---Mailzone.onetel.net.uk (qmail)  
(1) On DUT, turn off Anti-Spam, enable port forwarding for TCP port 25 to Mail Server.  
(2) Mailzone.onetel.net.uk send mail to Mail Server behind DUT.  
(3) Mail can not be sent.
9. [BUG FIX] 060310863  
Symptom:  
PC behind DUT can not access some web.  
Condition:  
(1) PC behind ZyWALL cannot reach some websuite, ex: <http://www.xelion.it/>.
10. [Bug Fix] 060301056  
Symptom: IDP can not prevent FTP attacks by enabling Drop session.  
Condition:  
FTP client (192.168.1.33) --- (LAN) ZyWALL (WAN) --FTP server  
(1) Edit SMT 21.2, Active = No  
(2). eWC/IDP/General: Enable IDP in all directions

- (3) eWC/IDP/Signature/Switch to query view: Signature Search = By Name, and input "FTP User login attempt" in related field , Active = enable, Log = enable, Alert = enable, Action = Drop Session.
- (4) FTP client in 192.168.1.33 can FTP to server via DUT, and user can see the FTP attack log in eWC/LOGS.
11. [BUG FIX] 060118930  
Symptom: Too much repeat time in Anti-Spam log: Exceed maximum mail sessions (6). (Repeated: 820)  
Condition:  
(1) Topology: PC(A) -- (LAN)ZyWALL 5(WAN) -- Internet -- PC(B).  
(2) PC(A): Mail client (Foxmail), register 8 mail accounts in Mail server PC(B).  
(3) PC(B): Mail server (Any), activate SMTP server and POP3 server.  
(4) PC(A) sends 4 mails to all 8 mail accounts.  
(5) PC(A) receives mails from all accounts simultaneously.  
(6) The ZyWALL 5 log will show Exceed maximum mail sessions(6).(Repeated: 820).
12. [BUG FIX] 050922957  
Symptom:  
(1) Content filter block schedule time display error.  
(2) Content filter cannot block web features by CI command.  
Condition:  
(1) In CI cmd menu 24.8, type "ip url gen time 01:00 23:00", it will show "block from 01:01 to 23:23".  
(2) Step1.  
    Edit web eWC/Content Filter/Enable Content Filter=enable ,  
    ActiveX=enable, Java=enable, Cookie=enable.  
Step2.  
In CI cmd menu 24.8, type "ip url gen time 01:00 23:00".  
Step3.  
Connect to webpage "http://www.ocx.idv.tw/HomePage.htm", the eWC/LOGS doesn't show any BLOCK logs.

#### **Modifications in V 4.00(WM.8) | 03/16/2006**

Modify for formal release

#### **Modifications in V 4.00(WM.8)b1 | 03/10/2006**

1. [ENHANCEMENT]  
Support Green Product Turbo Card
2. [FEATURE CHANGE]  
Change the command usage for saving password with hashed by MD5 in the ROM file.  
WAS: sys pwdEncryption <on | off> [newPassword] [oldPassword]  
IS: sys pwdHash <on | off> [newPassword] [oldPassword]

#### **Modifications in V 4.00(WM.7) | 03/01/2006**

Modify for formal release

**Modifications in V 4.00(WM.7)b1 | 02/23/2006**

1. [BUG FIX]  
Symptom: Device crashes after about 5 minutes with default romfile.  
Condition:  
(1) Restore default romfile.  
(2) Only connect WAN port to internet.  
(3) Do NOT access eWC.  
(4) After about 5 minutes, device crashes with Prefetch Abort message.
2. [FEATURE CHANGE]  
WAS: Device accepts any ARP reply information if has its ARP entry.  
IS: Device does not accept ARP reply information which does not have corresponding ARP request by device itself.
3. [BUG FIX]  
Symptom: GUI and SMT behavior is not consistent.  
Condition:  
In eWC>VPN>Global Setting page, "Adjust TCP MSS" can be configured as uint16 but as an integer in SMT.
4. [BUG FIX]  
Symptom: ZyWALL crashes when receiving unsupported IKE packet.  
Condition:  
ZW70A------(tunnel)-----ZW70B  
|-----PC(send IKE unsupported packetl)  
(1) Edit an IKE rule and an IPSEC rule.  
(2) PC sends unsupported IKE exchange type packet.  
(3) ZyWALL will crash.
5. [ENHANCEMENT]  
Add a CI command "ip arp ackGratuitous", let ZyWALL to support gratuitous ARP request and update MAC mapping on ARP table for the sender of this ARP request. There are two subcommands under "ackGratuitous":  
(1) "active [yes|no]":  
Let ZyWALL accept gratuitous ARP request.  
(2) "forceUpdate [on|off]"  
If zywall ARP table already had target IP address ARP entry, forceUpdate option will update the exist MAC mapping to new one.
6. [ENHANCEMENT]  
Add a CI command, "ipsec initContactMode gateway|tunnel", to support multiple VPN clients which located behind the same NAT router can build VPN tunnel to ZyWALL.
7. [BUG FIX]  
Symptom: There is some issue in IKE procedure.(IKE last packet send out after ESP packet)  
Condition:  
(1) A PC continuously generates traffic from LAN and it matches a VPN tunnel.  
(2) ZyWALL should initiate the VPN tunnel.



- (3) After receiving the second packet of quick mode from the peer, ZyWALL send some ESP packets before sending the last quick mode packet.
- (4) It should send out the last quick mode packet first, and then send those ESP packet.
- 8. [ENHANCEMENT].  
Add a CI command "ip alg ftpPortNum [port number]" to support a different port number on FTP ALG. This port is an additional FTP ALG port, the original FTP port (21) still works.

#### **Modifications in V 4.00(WM.6) | 02/06/2006**

Modify for formal release

#### **Modifications in V 4.00(WM.6)b1 | 01/20/2006**

- 1. [ENHANCEMENT]  
Add CLI command "as scoreTimeout" to change AS rating server query timeout value.
- 2. [ENAHNCEMENT]  
CLI command "as display serverlist" shows information about rating server query round trip time.
- 3. [ENHANCEMENT]  
The password saved in ROM file can be encrypted by MD5.  
(1) "sys pwdEncryption <on | off> [newPassword] [oldPassword]"  
a. Use this CI command to turn on or off this feature. Once the feature is on in a ROM file, the F/W without this feature support can not deal the ROM file well. Ex. login problem.  
b. To turn off the feature, you must provide two password, "newPassword" is the new password that will be saved in the ROM file in plaintext. "oldPassword" is the original administration password that is for security issue.  
(2) "sys md5 <string>"  
Input a string, it will output the md5 code.
- 4. [ENHANCEMENT]  
Add CI command, "ipsc swSkipPPTP [on/off]", to let all traffic pass through VPN tunnel setting not to apply on PPTP traffics.
- 5. [ENHANCEMENT]  
ZyNOS adds device local port conflict protection. ZyWALL will avoid port 1029 as local port.
- 6. [FEATURE CHANGE]  
WAS: The DDNS of ZyWALL will not update IP when the ZyWALL's WAN IP is static.  
IS: The DDNS of ZyWALL will update IP when WAN IP changes, no matter the ZyWALL's WAN IP is static or dynamic.
- 7. [FEATURE CHANGE]  
WAS: If the zip session is over the maximum zip sessions, this session is bypassed.  
IS: Add CI command to decide this session is bypassed or blocked.
- 8. [FEATURE CHANGE]  
Expend dial backup initial string length from 31 characters to 63 characters.

9. [BUG FIX] SPR ID: 051111806  
Symptom: The registered username is wrong in WC-> REGISTRATION-> Registration page.  
Condition:  
(1) A registered device with username abcdefgh.  
(2) In 24.8, type "sys myZyxelCom load".  
(3) Type "sys myZyxelCom config username 1234567890".  
(4) Type "sys myZyxelCom save".  
(5) Type "sys myZyxelCom serviceRefresh". After the refresh is finished.  
(6) Type "sys myZyxelCom load".  
(7) Type "sys myZyxelCom display".  
(8) You can see the username field is wrong "abcdefgh90", it should be "abcdefgh".
10. [BUG FIX] SPR ID: 051123423  
Symptom: ZyWALL crashes when testing VPN by vulnerability tool.  
Condition:  
(1) Use a test suite provided by <http://www.ee.oulu.fi/research/ouspg/protos/testing/c09/isakmp/index.html>  
(2) Enable the ipsec debug message by CI command "ipsec debug type 1 on", "ipsec debug level 1"  
(3) The device will crash by #22 or #2480 test case. It can be reproduced.
11. [BUG FIX] SPR ID: 051123427  
Symptom: Can not change gateway IP address to "0.0.0.0".  
Condition:  
(1) In eWC->NETWORK->WAN->WAN1(WAN2), set WAN interface as static IP address and gateway = "10.0.0.1".  
(2) Change gateway IP address to 0.0.0.0 and click "Apply".  
(3) Goto eWC->NETWORK->WAN->WAN1(WAN2), the gateway IP address is still "10.0.0.1".
12. [BUG FIX] SPR ID: 050906236  
Symptom: ZyWALL ping check failed when the check point is a bridge.  
Condition:  
(1) Set a ZyWALL70\_A behind the ZyWALL70\_B.  
(2) ZyWALL70\_A is router mode and the check point is ZyWALL70\_B.  
(3) The ZyWALL70\_B is under bridge mode and activates Firewall.  
(4) The ZyWALL70\_A will ping check failed.
13. [BUG FIX] 051121269  
Symptom:After we rebooted ZyWALL, ZyWALL fails to transmit data through VPN.  
Condition:  
Topology: PC1------(LAN)ZW A(WAN)=====+(WAN)ZW B(LAN)  
          192.168.167.1                                |                                192.168.1.1  
          DHCP Server
- (1) On ZW A, WAN uses dynamic IP address and set a static VPN rule with policy as below:  
IKE: Nail-up is ON  
Local: Subnet Type  
      192.168.167.0/24

- Peer: Subnet Type  
192.168.1.0/24
- (2) On ZW70, set a Dynamic VPN rule with policy as below:  
Local: Subnet Type  
192.168.1.0/24  
Peer: Any
- (3) PC1 ping ZW B's LAN IP. Ping result is OK.
- (4) Reboot ZW A.
- (5) Check ZW A eWC SA monitor page, we can see a new VPN tunnel was successfully built up.
- (6) PC1 ping ZW B's LAN IP again. Ping result is fail.
14. [BUG FIX] 060105229  
Symptom: Anti Spam cannot work in NAT loopback situation.  
Condition:  
(1) Put PC1 and PC2 on LAN side of ZW70W.  
(2) ZW70W enables Anti Spam and disables External Database.  
(3) PC2 installs the ArgoSoft Mail Server.  
(4) PC1 uses the outlook express to send mail to itself by the mail server of PC2.  
(5) When the PC1 is receiving mails will cause mail stuck until timeout.
15. [BUG FIX] 051214873  
Symptom: VPN tunnel up time of ZyWALL private MIB has some problems.  
Condition:  
(1) Successfully build a VPN tunnel.  
(2) Use MIB browser to get the up time value from ZyWALL. The returned result is correct.  
(3) Add a new ipsec policy.  
(4) Get the up time value again. The returned result of the built VPN tunnel is "0(days) 00:00:00".
16. [BUG FIX] 051228572  
Symptom: AS log is not correct.  
Condition: The source/destination IP address in log "Exceed maximum mail session" are the same.

#### **Modifications in V 4.00(WM.5) | 01/06/2006**

Modify for formal release

#### **Modifications in V 4.00(WM.5)b1 | 01/04/2006**

1. [BUG FIX]  
Symptom: The incremental rules may not work after updating signature.  
Condition:  
(1). Register myzyxel.com and update the signature.  
(2). Enable the IDP feature.  
(3). For some time, update the signature.  
(4). The incremental rules may not work.

#### **Modifications in V 4.00(WM.4) | 12/16/2005**

Modify for formal release

#### **Modifications in V 4.00(WM.4)b1 | 12/13/2005**

1. [BUG FIX] 051202307  
Symptom: DUT can not block infected zip file.  
Condition:  
(1) In <http://www.vx.netlux.org>, try to get some virus samples which are zipped with weird sub-file.  
(2). DUT can not block the infected zip file since the sub-file name is not “.zip”.
2. [BUG FIX] 051208573  
Symptom: IDP/AV configuration may be lost because of updating signature.  
Condition:  
If user updated 1.092 version signature, IDP/AV configuration will be set to default.

#### **Modifications in V 4.00(WM.3) | 12/06/2005**

Modify for formal release

#### **Modifications in V 4.00(WM.3)b1| 11/29/2005**

1. [ENHANCEMENT] 051029160  
In eWC->VPN-> Global Setting page, add two fields "Adjust TCP Maximum Segment Size" and "VPN rules skip applying to the overlap range of local and remote IP addresses."
2. [ENHANCEMENT] 051024723, 05102475.  
In eWC->LAN (DMZ, WLAN)->LAN (DMZ, WLAN) page, the DHCP WINS servers must be configurable via GUI.
3. [FEATURE CHANGE] 051104289, 051104288  
Login-Name for PPPOE, PPTP need support 63 characters. Password needs to support 31 characters in GUI.
4. [BUG FIX] 051118236  
Symptom: Mail get stuck.  
Condition:  
Mail receive/send stuck when AS is on and mail is going through VPN tunnel.
5. [BUG FIX] 051017336  
Symptom: VPN Relay does not work.  
Topology:  
Branch A[ZyWALL30W] === HQ[ZyWALL70] ===== Branch B[ZyWALL30W]  
Condition:  
Dial up VPN in from both Branch A and Branch B to HQ. Then you can ping Branch B from Branch A, but you can not login any FTP server in Branch A from Branch B. In packets trace, it seems that ZYWALL70 with 4.00WM1C0 can not relay TCP packets in VPN from wan-to-wan.
6. [BUG FIX] 051004443  
Symptom: Under bad network environment, transmit a lot of packets by a VPN tunnel, there are a lot of "Replay Packet" log entries.  
Condition:

- (1) Network environment is bad (ex: heavy traffic).
  - (2) Build up a VPN tunnel.
  - (3) Transmit heavy traffic through the tunnel, after few days it shows a lot of "Replay Packet" log entries.
7. [BUG FIX] 050808266  
Symptom: Change Log Mail server, mail will send to old mail server.  
Condition:  
(1) Fill Log mail server "mail.zyxel.com.tw" and fill other fields by correct data (Enable SMTP Authentication)  
(2) Click "E-mail Log Now" and receive this log will successful  
(3) Modify Mail server to "mail.aaa.com.tw" click "E-mail Log Now", user also can receive this log mail
8. [BUG FIX] 051012085  
Symptom: VPN rule with subnet mask 0.0.0.0 should allow all traffic to pass through VPN, but it doesn't.  
Condition:  
(1) Restore default ROM file.  
(2) Set up a VPN policy with remote address type = subnet, remote starting IP address = 0.0.0.0, remote subnet mask = 0.0.0.0.  
(3) Trigger tunnel by local PC, and it will never trigger tunnel.
9. [BUG FIX] 051014147, 051014148, 051014149  
Symptom: PC can't send the mail (L to W: SMTP) when the device's bridge and IP is different subnet with the mail client.  
Condition:  
Topology: Mail  
Server(192.168.12.123/24)---Internet---Device(192.168.11.9/23)---PC(192.168.12.163/24)  
(1) Change the device to Bridge Mode, IP = 192.168.11.9, Mask = 255.255.254.0, Gateway = 192.168.10.11, DNS = 168.95.1.1.  
(2) Edit web eWC/Anti Spam, Enable Anti Spam = Enable.  
(3) Edit web eWC/Anti Spam/External DB Enable, threshold = 0.  
(4) PC can't send the mail to MailServer.  
(5) if we disable Anti-Spam or change the device's IP subnet to 192.168.12.x/24, it works.
10. [BUG FIX] 051027892  
Symptom: Mail stuck when enable Anti-Spam, because of checksum error.  
Condition:  
Topology: Client -----(W) ZYWALL (L) ----- Mail Server  
(1) Enable AS.  
(2) Set port forwarder default server to Mail server.  
(3) Client receive mails, sometimes mail stuck.
11. [BUG FIX]  
Symptom: In eWC->VPN>Global Setting page, warning messages is not correct.  
Condition:  
WAS:  
(Warning: When this checkbox is checked, you may not access device because of

- triggering VPN tunnels)  
IS:  
(Warning: When this checkbox is not checked, you may not access device because of triggering VPN tunnels)
12. [BUG FIX] 051115961  
Symptom: Using Outlook Express to receive mails with ZyWALL Anti-Spam enabled, it will stuck until timeout.  
Condition:  
(1) PC1 -- [LAN]ZW35\_A[WAN] -- [WAN]ZW35\_B[LAN] -- PC2.  
(2) ZW35\_A enables NAT + Firewall + Anti-Spam, and Anti-Spam enables external database, Spam Tag = "[\*\*SPAM\*\*]", Tag for No Spam Score = "".  
(3) ZW35\_B enables NAT + Firewall.  
(4) PC2 installs the ArgoSoft Mail Server.  
(5) PC1 uses the outlook express to send mail to itself by the mail server of PC2.  
(6) When the PC1 is receiving mails will cause mail stuck until timeout.

#### **Modifications in V 4.00(WM.2) | 10/24/2005**

Modify for formal release

#### **Modifications in V 4.00(WM.2)b2| 10/19/2005**

1. [BUG FIX] 051014198, 051014199, 051014200  
Symptom: Use registration wizard to enable service, and last page wording error.  
Condition:  
(1) In eWC->HOME->Internet Access button, go to the last page.  
(2) Registration status wording was wrong.
2. [BUG FIX] 051012087, 051012086  
Symptom: Zywall 70 wan 2 interface can not do port forwarding correctly when both wan interface build PPPOE connection.  
Condition:  
(1) Take a ZW70 device with 400WM1C0 firmware. Reset to default romfile.  
(2) In NETWORK >> WAN check ☒Active/Active Mode§ and select ☒Load Balancing Algorithm = NONE§.  
(3) Both of wan interfaces build PPPOE connection.  
(4) Set a firewall rule {source address = any destination address = 192.168.1.33 service type = FTP(TCP: 20, 21) action = permit} in FIREWALL >> Rule Summary >> WAN to LAN, and active firewall.  
(5) Set port forwarding rule {Incoming port = 21,21 service IP address = 192.168.1.33} both in NAT >> port Forwarding >> WAN1 and WAN2.  
(6) Connect a FTP server (ip 192.168.1.33) to ZYWALL 70 LAN interface (ip 192.168.1.1). Then reboot ZYWALL.  
(7) Initialize ftp connection pass through WAN 1 can access successfully but if to initialize a ftp connection pass through WAN 2 we can found WAN 2 interface do not forward the FTP packet to 192.168.1.33. And the log shows block FTP

packet "WAN to WAN" instead of "WAN to LAN".

3. [BUG FIX] 051014221, 051014222, 051014223  
Symptom: Spelling error in eWC->Registration page.  
Condition:
  - (1) In eWC->REGISTRATION-> Registration page, set two different passwords.
  - (2) Press "Apply" button, the status shows "Password and Confirm password are differencet".
  - (3) A word "differencet" spells error. It should be "different".
4. [BUG FIX]  
AS fail count will not be increased even the real timeout occurs
5. [BUG FIX] 050928542, 051012075, 051012076, 051012077  
Symptom: The added source IPs of Firewall rule will be lost.  
Condition:
  - (1) Go to GUI->FIREWALL->RULE EDIT page.
  - (2) Edit a firewall rule.
  - (3) Add a source IP(or destination IP) that exceeds its maximum size.
  - (4) The added item will be lost.
6. [FEATURE CHANGE] 051018364 , 051018365 , 051018366  
In eWC->Registration page, change Username field behavior.  
WAS: "-" character is not allowed to key in.  
IS: "-" character is allowed to key in.
7. [BUG FIX] 051018403  
Symptom: PPTP (GRE) cannot pass through NAT.  
Condition:  
PPTP Server(192.168.1.33) —(LAN:192.168.1.1)DUT(WAN:192.168.11.100)—PC  
(192.168.11.200)
  - (1) Add PPTP Server(192.168.1.33) as Default Server in Port Forwarding
  - (2) Firewall is disabled.
  - (3) PC(192.168.11.200) can not dial in PPTP on 192.168.11.100

#### **Modifications in V 4.00(WM.2)b1 | 10/08/2005**

1. [BUG FIX] 050906259  
Symptom: Disable bridge mode Firewall "Log Broadcast Frame". Broadcast logs always appear.  
Condition:
  - (1) In bridge mode, disable all Firewall -> Default Rule -> "Log Broadcast Frame".
  - (2) Broadcast logs always appear.
2. [BUG FIX] 050825052  
Symptom: Tfggen tool causes router crash.

Condition:

- (1) Use `tfgen` to send 40000 to 172.21.0.254 and turn it off.
- (2) Use `"dev chan disp enet3"` to make sure the sending bit is 1.
- (3) Unplug and plug wan2 and router will crash.

3. [BUG FIX]050912438

Symptom: Device will hang and reboot after "Email Log Now" in bridge mode.

Condition:

- (1) Topology(Public IP): PC(211.72.158.115) ---  
[LAN]ZW70\_BridgeMode(211.72.158.116)[WAN] ---  
Internet/MailServer/MailRecipient.
- (2) Set the device as Bridge mode.
- (3) Configure eWC->LOGS: "E-mail Log Settings".
- (4) Click eWC->"Email Log Now" to send log mail.
- (5) System will hang and then reboot by software watchdog.

4. [BUG FIX]050905192

Symptom: Anti-Spam causes memory leak in bridge mode.

Condition:

- (1) Topology: Mail Client --- ZyWALL --- Mail Server
- (2) Turn on Anti-Spam at ZyWALL (Bridge Mode).
- (3) Mail Client sends mail to Mail Server. (You can try 500 mails with 2 attachments, total size is about 30k).
- (4) ZyWALL memory leaks.

5. [BUG FIX] 050922955

Symptom: After updating signature, sometimes the server IP address is incorrect in centralized log.

Condition:

- (1) In SMT 24.8, type `"sys update signatureUpdate"`.
- (2) After updating signature, type `"sys log dis"`.
- (3) Sometimes you can see a signature update log with incorrect server IP `"127.0.0.1"`.

6. [ENHANCEMENT]

In eWC->FIREWALL->EDIT RULE page, we added the limitation on the number of source ip address and destination ip address. The limitation is 20.

7. [ENHANCEMENT]

The device will not retry to update the signature if the update is triggered by user. Ex. CI command `"sys update signatureUpdate"`, `"idp update start"`, `"av update start"` or "Update Now" button in eWC.

8. [ENHANCEMENT]

In eWC>Anti-Spam>General>Action taken when mail sessions threshold is reached, the wording of "Discard" will mislead user to think the system will "drop the mail"



when mail session reach the system's limit. In fact, the system doesn't drop the mail, it just drop the mail connection until system have an available mail session to process incoming connection. We replaced "Discard" with "Block" and the wording of "Block" will be explained in web help and User's Guide by "System will Block this mail until a mail session is available".

9. [BUG FIX]

Symptom: Sometimes device will crash when receiving special mails.

Condition:

Topology: Mail\_Client --- ZyWALL --- Mail\_Server

- (1) ZyWALL turn on Anti-Spam, turn on external DB, threshold = 0.
- (2) Mail\_Client receive mail from Mail Server
- (3) Sometimes ZyWALL will crash due to "Data Abort", "not mbuf cookie", "mbuf double free", or mail did not tagged with spam string.

10. [BUG FIX] SPR ID: 050926383,050926384,050926385

Symptom: AS+AV Enable, it can't send or receive mail if attached virus files.

Condition:

- (1) AS and AV enable.
- (2) AV General Setup select all.
- (3) Send or receive a mail with attached virus files.
- (4) It will can't send or receive mail.

11. [BUG FIX] 051003282

Symptom: PC can not transfer file from server (172.20.0.38)

Condition:

Topology: PC ---- ZyWALL(WAN:172.x.x.x)(Bridge/Router) --- trunk (172.20.0.38)

- (1) Restore default romfile.
- (2) PC get file from trunk, but it always fails after several seconds.

12. [BUG FIX] SPR ID: 050930643

Symptom: Edit NAT port forwarding default server = 192.168.1.33, then ping from DUT2 to DUT1, it should show W to L logs, but it show W to W logs.

Condition: PC1-----LAN DUT1 WAN-----PQA LAB-----WAN DUT2 LAN

- (1) Set with CI commend "sys romr|y"
- (2) Edit web eWC/WAN/WAN1, My WAN IP Address = 172.202.77.121, My WAN IP Subnet Mask = 255.255.0.0, Gateway IP Address = 172.202.77.1
- (3) Edit NAT port forwarding default server = 192.168.1.33, then ping from DUT2 to DUT1, it should show W to L logs, but it show W to W logs.
  - > If we telnet from DUT2 to DUT1, it shows W to L logs, and this right.
  - > If we ping from DUT2 to DUT1, it shows W to W logs, but it should show W to L logs.

13. [BUG FIX] 051003323

Symptom: NAT many one to one cannot work.

Condition:

- (1) Edit web eWC/NAT/Address Mapping, WAN Interface =WAN2, Insert a Many One-to-One rule (Local Start IP=192.168.1.41, Local End IP=192.168.1.42, Global Start IP=192.168.12.100, Global End IP=192.168.12.101) on eWC/NAT/Address Mapping page
- (2) Set with CI command "ip nat reset enif1"
- (3) 192.168.12.110 do port scan 192.168.12.100(port 1-100) and 192.168.12.101(port 1-100)
- (4) 192.168.1.41 and 192.168.1.42 cannot capture all port scan packets.

14. [BUG FIX] 050930647

Symptom: Some mails should have SPAM tag or NoScore tag but they didn't have any tag

Condition:

- (1) Enable AS
- (2) eWC->AS->ExternalDB-: Enable external DB, set the threshold=0, fill the tag for no spam score
- (3) MS Outlook Express received a lot of mails from the mail server
- (4) Some mails did not have any Spam/No Score tag.

15. [FEATURE CHANGE]

WAS: Allow timeouted ConeNAT session to recreate NAT session from WAN to LAN.

IS: Do not allow timeouted ConeNAT session traffic to recreate NAT session from WAN to LAN.

**Modifications in V 4.00(WM.1) | 09/29/2005**

Modify for formal release

**Modifications in V 4.00(WM.1)b2 | 09/21/2005**

1. [BUG FIX]

Symptom: Content filter was registered in router mode and changed to bridge mode without configure DNS server. One PC open a web site can make DUT crash.

Condition:

- (1) In router mode, register content filter and enable it. Edit eWC/Content Filter/Categories/Select Categories, and enable some items(Pornography, Business, Gambling,...,etc)
- (2) Change DUT to bridge mode without configure DNS server.
- (3) PC1 on LAN open a website, and IE would show "block(DNS resolving failed)"
- (4) DUT crashed.

**Modifications in V 4.00(WM.1)b1 | 09/12/2005**

1. [ENHANCEMENT]

Add CI command "ip urlfiler bypass [LAN/DMZ/WAN] [ON/OFF]" to let traffic matches LAN->LAN, DMZ->DMZ or WAN->WAN directions can be bypassed content filtering.

NOTE: (1) This is a runtime CI command, user can add it into autoexec.net.

(2) This command only support in router mode.

2. [ENHANCEMENT]  
Periodically sending the keep-alive zero window TCP ACK when the AS engine handles the mail. The default value is 5 seconds.
3. [BUG FIX] 050830189  
Symptom: Enable AS "Discard SMTP mail" and send a mail with attached file will cause the device hangs up (ZW 5,35,70)  
Condition:  
  - (1) Enable AS "Discard SMTP mail"
  - (2) Send a over 20k sized mail
  - (3) The device hangs up
4. [BUG FIX] 050831205  
Symptom: Device will crash if users turn on myZyxelCom debug message then process device registration and trial service activation.  
Condition:  
  - (1) Turn on myzyxel.com debug message by "sys myZyxelCom debug type 3"
  - (2) Go to eWC>REGISTRATION, register device and activate trial service for Content Filter.
  - (3) Device will crash.
5. [BUG FIX] 050701018  
Symptom: DHCP client gets IP failed!  
Condition:  
  - (1) Topology  
original: PC --- (192.168.1.1) Router  
switch to: PC --- (192.168.70.250) DUT
  - (2) PC connects to the router LAN port with DHCP, and get an IP.
  - (3) DUT set a static DHCP rule for the PC.
  - (4) PC switch to DUT, and gets an IP failed. The user must release IP manually, then PC will get IP successfully.
6. [BUG FIX]  
Symptom: ZyWALL sends [HASH][DELETE] to delete VPN tunnel after output timed-out even though it keeps traffic via the tunnel.  
Condition: PC1 ----ZyWALL-----PC2(Zywall VPN client)  
                 (L)     (W)           |-----PC3(Zywall VPN client)  
  - (1). Configure a dynamic VPN-rule in the ZyWALL.
  - (2). Establish first VPN tunnel by PC2 using ZyWALL VPN client.
  - (3). Establish Second VPN tunnel by PC3 using ZyWALL VPN client.
  - (4). Both PC2 and PC3s' PCs keep ping to PC1.
  - (5). ZyWALL sends [HASH][DEL] to 2nd VPN peer only every 2 minutes which is output Idle time-out timer.
7. [BUG FIX] 050907311  
Symptom: Bridge mode VPN can't work if configure by Wizard.  
Condition:  
  - (1) Configure bridge mode VPN with wizard.
  - (2) Dial VPN rule and it always fail.
8. [BUG FIX] 050907308

Symptom: Device will hang forever when editing firewall custom service

Condition:

- (1) Enable firewall and add custom service, service name=test1, IP protocol=TCP/UDP , port range=2222-2223.
- (2) Edit eWC/firewall/rule summary, packet direction=WAN to WAN/ZyWALL, insert service "test1", Action for matched packet=permit.
- (3) Edit eWC/firewall/service and add another custom service, service name=test2, IP protocol=TCP , port range=100-200.
- (4) Edit eWC/firewall/rule summary, packet direction=LAN to WAN, insert service "test2", Action for matched packet=Drop.
- (5) Edit eWC/firewall/service and modify custom service "test2", change IP protocol to UDP then click apply.
- (6) Device will hang.

#### **Modifications in V 4.00(WM.0) | 09/02/2005**

Modify for formal release.

#### **Modifications in V 4.00(WM.0) b5 | 09/02/2005**

- i. [BUG FIX]

Device crashed because "mbuf double free" when doing FTP Stress test.

#### **Modifications in V 4.00(WM.0) b4 | 08/27/2005**

- ii. [BUG FIX]

Symptom: Device will crash.

Condition:

- (1) Enable Anti Spam.
- (2) Enable "Discard SMTP mail. Forward POP3 mail with tag in mail subject".
- (3) Send a spam mail.
- (4) Device will crash.

- iii. [BUG FIX]

Symptom: CPU loading will be very heavy.

Condition:

- (1) Set two IKE rules which secure gateways are both domain name.
- (2) Go to CI command "sys cpu display", CPU loading is 100%.

- iv. [BUG FIX]

Symptom: Sometimes system DNS cannot resolve domain name to IP address.

Condition:

- (1) In CLI, enter "ip dns query name myupdate.zywall.zyxel.com"
- (2) Try (1) more times and sometimes cannot be resolved.

- v. [BUG FIX]

Symptom: The IPSec rule swap without configuring ID Content will fail (XAUTH case).

Condition:

- (1) Add one static IPSec rule with XAuth (Rule one).
- (2) Add one dynamic IPSec rule with XAuth. Keep the "Peer ID Content" and "Local ID Content" unchanged "0.0.0.0" (Rule two).

- (3) Dial the VPN tunnel from peer gateway, the device won't swap to rule two, and the connection can not be built up.

vi. [BUG FIX]

Symptom: VPN can not be established if reponder has multiple rules and the correct rule's phase 2 ID type is subnet.

Condition:

Topology: ZyWALL\_A(WAN)----(Internet)----(WAN) ZyWALL\_B

(1) IPSec policy in ZyWALL\_A:

Policy 1:

Local: 192.168.3.10/255.255.255.0

Remote: 192.168.2.7/255.255.255.0

Policy 2:

Local: 192.168.1.10/255.255.255.0

Remote: 192.168.2.6/255.255.255.0

(2) IPSec policy in ZyWALL\_B:

Policy 1:

Local: 192.168.2.0/255.255.255.0

Remote: 192.168.1.0/255.255.255.0

(3) The other phase 1 and phase 2 parameters for ZyWALL\_A and ZyWALL\_B are the same.

(4) Establish policy 1 tunnel from ZyWALL\_B.

(5) ZyWALL\_A should establish VPN tunnel by using policy 2, but it fails.

vii. [ENHANCEMENT]

Add CI command "aux usrmdn [1/0]" to switch USR modem flag. If this flag is on, user can dial USR modem successfully.

Note:

(1) For USR modem, user should disable hardware flow control(initial string is "at&f1"); or the modem speed should be 38400 bps

(2) This is a runtime CI command, and this flag is not saved into flash. User can add this command into autoexec.net.

viii. [BUG FIX]

Symptom: IPSec check rule conflict on IP 0.0.0.0 is incorrect.

Condition:

(1) Restore default romfile.

(2) Configure the two IPSec rules shown as follow:

Rule A: local:0.0.0.0 remote:192.168.3.33

Rule B: local:192.168.70.94 remote:192.168.3.33

These two IPSec rules conflict and we should add check for it.

ix. [BUG FIX] 050823946, 050819858, 050820885

Symptom: The UPnP discovery mechanism cannot work normally.

Condition:

(1) Disable the UPnP function.

(2) Reboot device.

(3) Enable the UPnP function.

(4) The XP network place cannot show the UPnP icon.

x. [BUG FIX]

Symptom: Device crashes when doing VPN stress test.

Condition:

- (1) Create several VPN tunnels and do stress test.
- (2) Device will crash and output the following message on console.
  - Prefetch abort exception
  - Fault Status = 0xFFFFFFFF
  - Fault Addr = 0xFFFFFFFF

#### **Modifications in V 4.00(WM.0) b3 | 08/16/2005**

1. [BUG FIX]

Symptom: Spelling invalid in IDP eWC.

Condition:

- (3) In eWC>IDP>Signature, click the "Switch to query view".
- (4) The wording of the type selection item "Trojan Hourse" is not right. The word "Hourse" should be "Horse".

2. [BUG FIX]

Symptom: VPN can't update gateway domain.

Condition: PC A – ZyWALL A -- Internet – ZyWALL B -- PC B

- (1) ZyWALL A adds a DDNS rule with Policy "Use WAN IP address" and enable HA.
- (2) ZyWALL B adds a VPN tunnel and Remote Gateway is ZyWALL A's DDNS.
- (3) Set Global Setting>Gateway Domain Name Update Timer to 2 minutes in ZyWALL B.
- (4) Build up VPN, and change ZyWALL A link from WAN1 to WAN2.
- (5) Make sure that ZyWALL A DDNS been update.
- (6) Wait more than 2 min, ZyWALL B's VPN gateway was not updated.

3. [BUG FIX]

Symptom: Inactivate Wireless without wireless card will cause device hang.

Condition:

- (1) Insert wireless card, and enable wireless function.
- (2) After taking out B-100 card, upgrade firmware and disable wireless function.
- (3) Reboot the device, the device will hang and cannot finish the system booting.

4. [BUG FIX]

Symptom: The wireless clients with 802.1x + dynamic WEP cannot ping each other.

Condition:

- (1) Setup 802.1x+dynamic WEP environment.
- (2) We find that these wireless clients cannot ping each other after rebooting the device.

5. [ENHANCEMENT]

Make AntiVirus LOG be consistent with IDP LOG in signature Release Date format.

6. [ENHANCEMENT]

Change the strategy of the search by name to be case-insensitive in eWC->IDP->Signature->Query page.

7. [FEATURE CHANGE]

Change the wording "WLAN ZONE" to be "WLAN" in the SMT menu 7.1.

8. [BUG FIX]  
Symptom: Output idle timer should not be disabled.  
Condition: In eWC->VPN->Global Setting page and SMT 24.8, we should not allow users to set output idle timer = 0.
9. [FEATURE CHANGE]  
In SMT 24.1, Wording change: CARD -> WCRD.
10. [BUG FIX]  
Symptom: Execute SMT 24.1->Press Command->"9-Reset Counters", device will crash.  
Condition:
  - (1) Insert turbo card.
  - (2) Execute SMT 24.1->Press Command->"9-Reset Counters" many times, device will crash.
11. [ENHANCEMENT]
  - (1) In eWC>AV/IDP>Update, avoid a blank web page be displayed.
  - (2) In eWC>WIRELESS CARD>Wireless Card, remove "Your device must have a wireless card installed..." if the wireless card is installed.
  - (3) In eWC>AV>General/IDP>General, remove "Your device must have a turbo card installed..." if the turbo card is installed.
12. [BUG FIX]  
Symptom: System crashes sometimes while signature update or service license refresh.  
Condition:
  - (1) Disconnect WAN interface when you update signature. Hence, the update will fail.
  - (2) Re-connect the device WAN interface to Internet.
  - (3) After the update fail, the device will crash sometimes.
13. [FEATURE CHANGE]  
Change Anti-Spam concurrent session number.  
WAS: 30  
IS: 15
14. [ENHANCEMENT]  
Include "WLAN to WLAN" for FireWall hint message.  
WAS :In eWC>FireWall>Default Rule page, update message is "Warning:When this box is checked, all LAN to LAN, WAN to WAN, DMZ to DMZ and packets will bypass the Firewall check."  
IS: In eWC>FireWall>Default Rule page, change message to "Warning: When this box is checked, all LAN to LAN, WAN to WAN, DMZ to DMZ and WLAN to WLAN packets will bypass the Firewall check."
15. [ENHANCEMENT]  
Message in signature update needs to be update.  
WAS :In eWC>IDP>signature update>waiting page, update message is "This may take up a few seconds. Please wait..."  
IS :In eWC>IDP>signature update>waiting page, change message to "This may take up to minutes. Please wait..."
16. [ENHANCEMENT]

WAS: In eWC>REGISTRATION>Service page, when service is expired, the Expiration Day field and Registration Type is empty.

IS : In eWC>REGISTRATION>Service page, when service is expired, the Expiration Day field shows expired date, and Registration Type shows type of expired service.

17. [BUG FIX]

Symptom: Create two VPN rules which Remote Gateway IP are domain name, the second security gateway can't update automatically.

Condition: PC1 ---- ZW70\_1 (wan)----Internet ---- (wan) ZW70\_2 ---- PC2

(1) ZW70\_1 configuration:

- Set WAN Encapsulation = PPPoE mode.
- Set DDNS & active it.
- Create 2 IKE & 2 ipsec, both security gateway are IP address.

(2) ZW70\_2 configuration:

- Set WAN Encapsulation = Ethernet/ Static IP.
- Set DNS server= 168.95.1.1.
- Create 2 IKE & 2 ipsec, both security gateway are domain.
- eWC/ VPN/ Global Setting, Set " Gateway Domain Name

(3) Dial up 2 VPN tunnels.

(4) Drop ZW70\_1's PPPoE line then dial up again.

(5) After 2 minutes into ZW70\_2's menu 24.8, issue " ipsec ikeL" to check the security gateway IP --> The Second security gateway not update new IP .

18. [ENHANCEMENT]

Add a centralized LOG "Error: download signature file failed." for signature update fail due to not receive complete signature file. This situation most happens when the network connection is not stable so that device can not receive complete signature.

19. [BUG FIX]

Symptom:

Mail can not be sent or received when device turn on Anti-Spam.

Condition:

(1) Device turn on Anti-Spam

(2) Generate a lot of mail sessions with a lot of mails from LAN side hosts at the same time.

(3) Mail can not be sent or received in the following conditions:

- i. If queued 20k mail can not be sent successfully after query succeed, then that mail will send fail.
- ii. ACK packets generated by ZyWALL will cause the TCP connection between client and server abnormal.
- iii. Retransmitted packets from mail client or server may be dropped by ZyWALL.

20. [ENHANCEMENT]

Improve Anti-Spam external database query timeout rate by adjusting internal system parameters.

21. [BUG FIX] 050814513

Symptom: System timer will be exhausted when using TfGen to send heavy traffic to



LAN interface.

Condition:

- (1) Enable AV/IDP feature.
- (2) In LAN side PC, Use TfGen to generate heavy traffic to LAN interface. (Heavy traffic : 40000 kbps/sec up.)
- (3) In SMT 24.8, type "sys updateServer signatureUpdate", the router will crash.

22. [BUG FIX]

Symptom: Device crashes in Bridge Mode when enable IDP and Content filter

Condition:

- (1) Insert Turbo card and restart device to Bridge Mode.
- (2) Download signature to device and restart.
- (3) In "eWC->IDP->General", enable IDP and activate all interface.
- (4) In CLI command, type
  - (4.1) idp tune load
  - (4.2) idp tune con l7Httpasm on
  - (4.3) idp tune save
- (5) In "eWC->Content Filter->General", enable content filter.
- (6) In "eWC->Content Filter->Customization", enable customization and add a forbidden web site "www.zyxel.com".
- (7) Access <http://www.zyxel.com> from a LAN PC.
- (8) Device crashes.

23. [FEATURE CHANGE]

Change log behavior when mail session threshold is reached.

WAS: Only generate log when action is DISCARD.

IS: Generate log when action is FORWARD and DISCARD.

**Modifications in V 4.00(WM.0) b2 | 07/25/2005**

1. [FEATURE CHANGE]

WAS: After deleting the white/black rule via CLI, user needs to type the save command.

IS: After deleting the white/black rule via CLI, user needn't to type the save command.

2. [BUG FIX] 050614631

Symptom: IP overlapping check function in eWC->ADVANCED->NAT->Address Mapping sometimes will malfunction

Condition:

- (1) In eWC->ADVANCED->NAT->Address Mapping->Edit a rule.
- (2) Select Type "Many-To-Many Overload", set "Local Start IP" as "0.0.0.0", "Local End IP" as "1.0.0.5" "Global Start IP" as "1.0.0.2", "Global End IP" as "6.0.0.8".
- (3) Click "Apply", this rule will be saved, it should not.

3. [ENHANCEMENT] AS GUI wordings change

In eWC>IDP>Signature>Signature Groups Table, refine "select all", "select partial" and "select none" icons in Active / Log / Alert fields.

4. [BUG FIX] 050624163

Symptom: Host traffic can't pass through VPN tunnel with dial backup

Condition: PC1-----ZyWALL A-----Internet----- ZyWALL B-----PC2 Dial backup

- (1) ZyWALL A add one IKE and one Ipsec rules ,Enable Dial backup
- (2) ZyWALL B add one IKE and one Ipsec rules
- (3) Dial from ZyWALL A, and make sure VPN tunnel build up
- (4) PC1 ping PC2 and PC2 ping PC1 is successful
- (5) Pull out ZyWALL A WAN line ,Dial backup will dial up ,Dial from ZyWALL A, and make sure VPN tunnel is rebuild
- (6) PC1 ping PC2 is successful, but PC2 ping PC1 is fail

5. [BUG FIX] 050628469

Symptom: In bridge mode of the multiple-WAN devices, the LAN web site hits of eWC->LOGS->Reports on WAN2 have not any data.

Condition:

- (1) In Bridge mode, the WAN 1 is disconnected and WAN 2 is connected.
- (2) Enable LOGS->Reports "Collect Statistics" and "Send Raw Traffic Statistics to Syslog Server for Analysis".
- (3) A LAN PC uses IE to connect to "www.google.com".
- (4) Set "Statistics Report"->"Report type" is Web Site hits, and we cannot find any data.

6. [BUG FIX] 050701007

Symptom: After displaying the log by CI, you will see the logs related to Anti-spam are broken.

Condition:

- (1) Enable Anti-Spam and send a Email(not spam mail) through the ZyWALL.
- (2) Use CI->sys logs display to display the logs.
- (3) You will see the logs related to Anti-spam are broken like " !er1@192.168.70.20 Subject:EmailBomb".

7. [BUG FIX] 050705232

Symptom: In VPN rule name, when users key-in " ' ", GUI will corrupt.

Condition:

- (1) In eWC>VPN>VPN Rules(IKE) Summary Table, click "+" to add a gateway policy.
- (2) Fill in "Name" field with " ' ".
- (3) Key in "Pre-Shared Key" with 12345678 and click "Apply".
- (4) The GUI will refresh to VPN Rule(IKE) Summary Table page, but is abnormal.

8. [BUG FIX] 050628421

Symptom: ZyWALL will crash after testing dial backup a period time.

Condition:

- (1) Set WAN 1 as PPTP and enable Dial backup and Set Allocated Budget=1 minute, period=1 hour.
- (2) Ping 168.95.1.1 with DOS command from LAN site host successfully.
- (3) Dial backup will hang up after 1 minute.
- (4) ZyWALL will crash after pull out WAN and LAN and Dial Backup line for 10 mins.

9. [BUG FIX] 050707366

Symptom: Device cannot get DHCP IP after WAN IP is released.

Condition:

- (1) Device WAN port connects to DHCP server (WAN get DHCP IP).
- (2) Use SMT 24.4.2, "WAN DHCP Release" but not use "WAN DHCP Renewal".
- (3) LAN side PC ping outside, device cannot renew DHCP automatically.

10. [BUG FIX]

Symptom: Content filter cannot add keyword.

Condition:

- (1) Go to GUI->Content Filter->Customization page.
- (2) Add Trusted website to its maximum number.
- (3) Add Forbidden website to its maximum number.
- (4) Keyword cannot be added any more.

11. [BUG FIX] 050707368, 050708419

Symptom: In the eWC->Firewall Rule Summary page, insert a new rule and click "Back" button of IE. Then insert rule again, Firewall will have a null record rule.

Condition:

- (1) In eWC>Firewall>Rule Summary page, click "Insert" button, then click IE "Back" button.
- (2) Click "Insert" button again, and set one rule then "Apply".
- (3) Rule Summary page have an additional null record rule.

12. [BUG FIX] 050708444, 050708443

Symptom: When IDP/AV service expired, the expiration day displayed incorrect format in eWC/AV/Update page.

Condition:

- (1) DUT IDP/AV service expired.
- (2) The expiration day displayed incorrect format in eWC>IDP and AV>Update.

13. [ENHANCEMENT]

Change AV>Update error message.

WAS : In eWC>AV>Update, update message is "The signature search engine is not ready".

IS : In eWC>AV>Update, change message to "Can not find the signature , please update the signature!"

14. [BUG FIX] 050706310

Symptom: Hardware watchdog wake up and sometimes device hand.

Condition:

- (1) In SMT24.8, input "ip ping 168.95.1.1"
- (2) Use Ctrl+C to break it.
- (3) Repeat steps 1, 2 fast and you can see the watch dog wake up or device hand up.

15. [ENHANCEMENT]

Add firewall predefined services: POP3S/IMAP/IMAPS

16. [BUG FIX] 050627328

Symptom: ZyWALL will log "SMTP successfully" when SMTP authentication fail.

Condition:

- (1) In "eWC->LOGS->Log Settings", set "E-mail Log Settings".
- (2) Enable "SMTP Authentication" and set wrong "Mail Sender".
- (3) In "eWC->View Log", click "Email Log Now".

- (4) There will have a log "SMTP successfully".
  - (5) Actually, the mail was not sent because SMTP server return a error code (454).
17. [BUG FIX] 050725067  
Symptom: Fail in receiving the specific mail when the AV works  
Condition:
  - (1) Enable POP3 AV , Enable POP3 Assembly mode
  - (2) Run the POP3 Based-64 AV test
  - (3) Some mails couldn't be received
18. [FEATURE CHANGE]  
WAS: When Turbo card is not inserted, and accessing IDP at the moment, it shows "The turbo card is not ready , please insert the card and reboot! ".  
IS: When Turbo card is not inserted, and accessing IDP at the moment, it shows "The turbo card is not ready. Please power down the appliance, insert the card and reboot!".
19. [FEATURE CHANGE]  
WAS: Wording "WLAN" in the network status field in SMT menu 24.1 indicates the wireless card status. Wording "ZONE" indicates the WLANZONE channel status.  
IS: "WLAN" -> "CARD, "ZONE" -> "WLAN". So that Wording "CARD" in the network status field in SMT menu 24.1 indicates the wireless card status. Wording "WLAN" indicates the WLANZONE channel status.
20. [FEATURE CHANGE]  
When the ZyWALL sends registration information to MyZyXEL.com server, the router should send 3 digit country number.
21. [BUG FIX] 050713682  
Symptom: The ZyWALL should filter the country code when it is "0".  
Condition:
  - (1) In SMT 24.8, type "sys myZyXelCom register 123456 123456 1234@1.2.3.4 0" (the country code is 0 which is invalid).
  - (2) It should not be accepted by the router.
22. [BUG FIX] 050712614  
Symptom: In eWC>WIRELESS CARD>Wireless card page, the max length of "ESSID" field is too short.  
Condition:  
In eWC>WIRELESS CARD>Wireless card page, the max length of "ESSID" field is 30 characters, but user can key in 32 characters via SMT.
23. [BUG FIX] 050715784, 050715785, 050715786  
Symptom: In eWC->UPnP page, after saving the related items by Firefox will cause device crash sometimes.  
Condition:
  - (1) Open the Firefox browser and goto the eWC->UPnP page.
  - (2) Disable the UPnP function, and enable some items.
  - (3) Click the "Apply" button, the device will crash sometimes.
24. [ENHANCEMENT]  
Add help pages.
25. [FEATURE CHANGE]
  - (1) Modify "Update Server" and "myZyXEL.com" logs.

- (2) Pop-up new browser in IDP security policy links.
26. [ENHANCEMENT]  
Add hyper link to pop up a new window to display certificate error reasons for certificate log message.
27. [ENHANCEMENT]  
Unify eWC>Logs datetime format to ISO 8601 (YYYY-MM-DD hh:mm:ss)
28. [ENHANCEMENT]  
Update AP F/W version from 1.0.4.3 to 1.2.8.0 for G100/110 AP F/W.
29. [ENHANCEMENT]  
Add the Anti-Virus decompress option in eWC>Anti-Virus->General.
30. [BUG FIX] 050715809  
Symptom: The ZyWALL will reboot in bridge mode when setting wireless authentication as 802.1x.
31. [ENHANCEMENT]  
In eWC>REGISTRATION>Registration page and eWC>HOME>wizard page, add username field format check for the myzyxel.com registration.
32. [ENHANCEMENT]  
(1) Add the available free memory to the eWC->Home->memory  
(2) GUI Memory bar will become red when the memory usage percentage is larger than 90%
33. [ENHANCEMENT]  
(1) Change signature version format from 001.001 to 1.001 in the eWC->IDP/AV->Update page  
(2) After signature updated, GUI shows "Get signature success". It should be "Get signature successfully."  
(3) Clear signature files by "idp/av clearAllSig".  
(4) When the Turbo card is not inserted, in the console: change "Current IDP Signatures: N/A" to "Turbo card is not installed" when Turbo card is not installed.  
(5) The severity sorting function should perform according to the severity ,not the string case in the eWC->IDP->Signature/Query page  
(6) There should be one space after the SID in the IDP log. Was: IDP:10578,Windows Ping Is: IDP:10578, Windows Ping  
(7) In LOG "Update the signature file successfully", it should be modified as "Signature updat OK - New pattern version: V1.001 Release Date: 2005-06-24".  
(8) The "idp/av update display" should be consistent to the eWC->IDP->Update page
34. [BUG FIX] 050714719 ,050714720, 050714735  
Symptom: If VPN policy enable NAT Traversal, VPN tunnel can't be built up.  
Condition:  
PC1(192.168.33.33)-----VPN1(192.168.1.33)--(L)DUT(W)(192.168.12.100)----(192.168.12.101)VPN2--(192.168.2.33)PC2  
(1) Edit DUT web eWC/NAT/Port Forwarding, index1/Incoming Port(s)=500-500, index1/Server IP Address=192.168.1.33  
(2) Edit VPN1 web eWC/VPN:  
- IKE: NAT-T=Enable, Name=IKE1, Remote Gateway

- Address=192.168.12.101, Pre-Shared Key=12345678, Local ID Content=192.168.1.33, Peer ID Content=192.168.12.101
- IPSec: Active=Yes, Name=IPSec1, Gateway Policy=IKE1, Local Network Starting IP Address=192.168.33.33 Remote Network Starting IP Address=192.168.2.33
- (3) Edit VPN2 web eWC/VPN:
  - IKE: NAT-T=Enable, Name=IKE1, Remote Gateway Address=192.168.12.100, Pre-Shared Key=12345678, Local ID Content=192.168.12.101, Peer ID Content=192.168.1.33
  - IPSec: Active=Yes, Name=IPSec1, Gateway Policy=IKE1, Local Network Starting IP Address=192.168.2.33, Remote Network Starting IP Address=192.168.33.33
- (4) To dial up VPN policy, and it will fail.
- 35. [ENHANCEMENT]
  - (1) In eWC>AV/IDP>General, add some warning messages if turbo card is not inserted but AV/IDP is activated. The behavior is similar with WLAN.
  - (2) When Turbo card is not inserted, in eWC>IDP/AV>Update>Current IDP Signatures will display "Turbo card is not installed".
  - (3) eWC> MAINTENANCE> Backup&Restore changes to eWC> MAINTENANCE> Backup & Restore.
- 36. [ENHANCEMENT]
 

Add centralized logs for signature updating events and errors.
- 37. [ENHANCEMENT]
 

Add a centralized log when WAN ping check fails.
- 38. [FEATURE CHANGE]
 

Change signature numbers displayed in "eWC->IDP->Signature" page.
- 39. [ENHANCEMENT]
 

Display IDP action in centralized log.
- 40. [BUG FIX] 050715787, 050715788, 050715789.
 

Symptom: In eWC "HOME" page , "System Time" display error.

Condition:

  - 1.Go to eWC>HOME Page.
  - 2."System Time" display error, the field length is too short.
- 41. [BUG FIX] 050719921
 

Symptom: Mail can't be received via POP3.

Condition: Topology:

PC ----- ZyWALL ----- Mail Server

  - (1) Enable Anti-Spam.
  - (2) PC receives mails from Mail Server.
  - (3) PC sometimes can't receive mail and mail client will timeout.
- 42. [ENHANCEMENT] 050708486, 050712606, 050719906, 050707395, 050712605
 

Add protection to avoid setting unsupported security in "eWC->Wireless Card" when inserted wireless card is B100. Note: B100 does not support WPA, WPA-PSK, 802.1x + Dynamic WEP.
- 43. [ENHANCEMENT] Wording
 

WAS: The ZyWALL will now reboot. As there will be no indication of when the

process is complete, please wait for one minute before attempting to access the router again

IS: The system will now reboot. As there will be no indication of when the process is complete, please wait for one minute before attempting to access the system again.

44. [FEATURE CHANGE] Update registration message

WAS:

- (1) When user upgrade IDP/AV/AS services, the LOGS shows "service upgrade successfully" but users can not know which service is upgraded"
- (2) When user activate trial service(s), the LOGS shows "trial service activation successfully" but users can not know which service is activated.

IS:

- (1) When user upgrade services, the LOGS will show "Content Filter service upgrade successfully" or "IDP/Anti-Virus service upgrade successfully" or "Anti-Spam service upgrade successfully" depends on which service license key is used.
- (2) When user activate trial service(s), the LOGS shows which trial service is activated. Ex. "Content Filter, IDP/Anti-Virus trial service(s) activation successfully"

**Modifications in V 4.00(WM.0) b1 | 07/01/2005**

1. [ENHANCEMENT]  
Change the input format of trap destination in eWC->Remote Management->SNMP from text to IP format.
2. [ENHANCEMENT]  
Support small font size on ZyWALL GUI.
3. [ENHANCEMENT]  
Replace the Cerberian logo by Blue Coat in Content Filter blocked page.
4. [ENHANCEMENT]  
Support Turbo Card (external IDP/AV signature search accelerator)
5. [ENHANCEMENT]  
Add ARP probe for DHCP server.
  1. Change probe type by CI command "sys probeType [icmp | arp]".
  2. Default type is "ICMP".
  3. ARP probe only works when you use arp probe type and dhcp mode should be "Server".
  4. This value will be saved in ROM.
6. [FEATURE CHANGE]  
Add ALG configuration in navigation panel.
7. [ENHANCEMENT]  
Re-layout ZyWALL navigation panel on GUI.
8. [ENHANCEMENT]  
Add "Service Status" and "Expiration Date" in Content Filter GUI. The modified GUIs are:  
eWC>CONTENT FILTER>Categories
9. [ENHANCEMENT]  
Add a sender email field in "E-mail Log Settings".

10. [ENHANCEMENT]  
When the daylight saving is activated, there should be a "DST" string trailed behind the time in eWC.
11. [ENHANCEMENT]  
WAS: DNS domain name is not case insensitive.  
IS: DNS domain name is case insensitive.
12. [ENHANCEMENT]  
Firewall "Available Services" add some common services which are
  1. Microsoft RDP (remote desktop protocol) - tcp:3389
  2. VNC (virtual network computer) - tcp:5900
  3. NTP - tcp/udp:123
13. [ENHANCEMENT]  
Consolidate log "Under SYN flood attack, sent TCP RST"
14. [ENHANCEMENT]
  1. Users cannot enter characters into eWC>VPN>GATEWAY POLICY >EDIT>SA Life Time (Seconds)
  2. User cannot enter characters in eWC>VPN>NETWORK POLICY >EDIT>Protocol
  3. Users cannot enter characters into eWC>VPN>NETWORK POLICY >EDIT>SA Life Time (Seconds)
15. [ENHANCEMENT]  
Add IDP, Anti-Virus and Anti-Spam features.
16. [ENHANCEMENT]  
Add the SMTP server to the log entry.
17. [ENHANCEMENT]  
Add sequence number and SPI in log for ESP / AH packets.
18. [ENHANCEMENT]  
DHCP log shows the hostname.
19. [ENHANCEMENT]  
Add VPN over Bridge feature.
20. [ENHANCEMENT]  
Add MyZyxel.Com and Registration features.
21. [ENHANCEMENT]  
Add Firewall Custom Service enhancements.  
Modifications are listed below:
  - (1) Allow user to configure ICMP type and code in Firewall ACL.
  - (2) Allow user to configure IP protocol in Firewall ACL.
  - (3) Add "Any IP Protocol" in default service.(GUI only)
  - (4) Replace "PING" with "Any ICMP" in default service. (GUI only)
  - (5) Allow user to configure Firewall rule name.
  - (6) Firewall (default/rule) action supports "permit", "drop" and "reject".
  - (7) Centralized LOGS shows descriptions for matched ICMP packet instead of displaying type/code value only.
22. [ENHANCEMENT]  
Enhance Firewall Custom Service
  1. In eWC>Firewall>add new page "Service", it displays the summary of custom



services and predefined services.

2. In eWC>Firewall>Service>Firewall Service Edit page, add two new options: IP protocol and ICMP.

23. [ENHANCEMENT]

On eWC>FIREWALL>Threshold, add a GUI option to enable/disable DoS Attack protection.

24. [ENHANCEMENT]

Each static route entry should have its own "Modify" and "Delete" icons.

25. [ENHANCEMENT]

Add dial backup support for CI command.

The following is the original SPR description.

Enhance SMT "sys rn accessblock 0" debug message.

1. CI "sys rn load 3"

2. CI "sys rn accessblock 0"

3. CI "sys rn save"

4. And SMT will occur message "[-6103] Bad entry number"

26. [ENHANCEMENT]

Enhance Firewall Edit GUI to make it more user-friendly.

Before: When users click Add/Modify/Delete button to configure an address or select a service from Available Service to Selected Service, the page will be submitted to the ZyWALL immediately to have a rule check and then refresh. It consumed too much time on editing a firewall rule for a user.

Now: When users click Add/Modify/Delete or select a service, the page will not be submitted to the ZyWALL immediately. The page will be submitted to the ZyWALL to have a rule check after users click "Apply" button. It reduces the refresh time and it is more convenient for the users.

27. [ENHANCEMENT]

1. Enhance WLAN to be an independent interface so that traffic passes through WLAN can be handled by firewall.

2. WLAN can be bound to LAN or DMZ for user's chosen.

3. DHCP sever can be applied on LAN, DMZ and WLAN.

28. [FEATURE CHANGE]

WAS: For firmware downgrade to V3.64 from V4.00 on ZW70w, this enhancement will modify model ID to original one.

IS: ZyWALL with new model ID will change its ID to old one when user downgrade firmware which only support old model ID.

29. [ENHANCEMENT]

For firmware downgrade to V3.64 from V4.00 on ZW70w, this enhancement will modify model ID to original one.

## Appendix 1 Remote Management Enhancement (Add SNMP & DNS Control)

### New function

- (1) You can change the server port.
- (2) You can set the security IP address for each type of server.
- (3) You can define the rule for server access. (WAN only/LAN only, None, ALL).
- (4) The secure IP and port of the SNMP server is read only
- (5) The port of the SNMP and DNS server is read only.
- (6) The default server access of the SNMP and DNS is ALL.

### Modification

- (1) The default value for Server access rule is **ALL**.
- (2) Under the default setting: You can setup the Menu 15 to forwarding the server to LAN IP address. Thus you can configure the router through the WAN and you don't need to modify the server management or filter.

#### Menu 24.11 - Remote Management Control

|                |                             |              |
|----------------|-----------------------------|--------------|
| TELNET Server: | Port = 23                   | Access = ALL |
|                | Secured Client IP = 0.0.0.0 |              |
| FTP Server:    | Port = 21                   | Access = ALL |
|                | Secured Client IP = 0.0.0.0 |              |
| SSH Server:    | Port = 22                   | Access = ALL |
|                | Secured Client IP = 0.0.0.0 |              |
| Web Server:    | Port = 80                   | Access = ALL |
|                | Secured Client IP = 0.0.0.0 |              |
| SNMP server:   | Port = 161                  | Access = ALL |
|                | Secured Client IP = 0.0.0.0 |              |
| DNS server:    | Port = 53                   | Access = ALL |
|                | Secured Client IP = 0.0.0.0 |              |

Press ENTER to Confirm or ESC to Cancel:

## Appendix 2 Trigger Port

### Introduction

Some routers try to get around this "one port per customer" limitation by using "triggered" maps. Triggered maps work by having the router watch *outgoing* data for a specific port number and protocol. When the router finds a match, it remembers the IP address of the computer that sent the matching data. When the requested data wants to come back *in* through the firewall, the router uses the port mapping rules that are linked to the trigger, and the IP address of the computer that "pulled" the trigger, to get the data back to the proper computer.

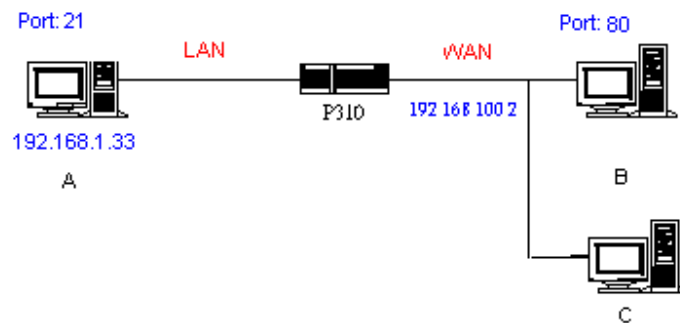
These triggered events can be timed so that they erase the port mapping as soon as they are done with the data transfer, so that the port mapping can be triggered by another Client computer. This gives the *illusion* that multiple computers can use the same port mapping at the same time, but the computers are really just taking turns using the mapping.

### How to use it

Following table is a configuration table.

| Name               | Incoming   | Trigger |
|--------------------|------------|---------|
| Napster            | 6699       | 6699    |
| Quicktime 4 Client | 6970-32000 | 554     |
| Real Audio         | 6970-7170  | 7070    |
| User               | 1001-1100  | 1-100   |

### How it works



For example, you are running a FTP Server on port 21 of machine A. And you may want this server accessible from the Internet without enabling NAT-based firewall. There are one Web Server on port 80 of machine B and another client C on the Internet.

- (1) As Prestige receives a packet from a local client A destined for the outside Internet machine B, it will check the destination port in the TCP/UDP header to see if it matches the setting in "Trigger Port" (80). If it matches, Prestige records the source IP of A (192.168.1.33) in its internal table.
- (2) Now client C (or client B) tries to access the FTP server in machine A. When Prestige to forward any un-requested traffic generated from Internet, it will first check the rules in port forwarding set. When no matches are found, it will then check the

"Incoming Port". If it matches, Prestige will forward the packet to the recorded IP address in the internal table for this port. (This behavior is the same as we did for port forwarding.)

- (3) The recorded IP in the internal table will be cleared if machine A disconnect from the sessions that matches the "Trigger Port".

**Notes**

- (1) Trigger events can't happen on data coming from *outside* the firewall because the NAT router's sharing function doesn't work in that direction.
- (2) Only one computer can use a port or port range at a time on a given real (ISP assigned) IP address.

### Appendix 3 Hard-coded packet filter for "NetBIOS over TCP/IP" (NBT)

The new set C/I commands is under "sys filter netbios" sub-command. Default values of any direction are "Forward", and trigger dial is "Disabled".

There are two CI commands:

(1) "sys filter netbios disp": It will display the current filter mode.

Example output:

```
===== NetBIOS Filter Status =====
LAN to WAN: Block
WAN to LAN: Forward
IPSec Packets: Forward
Trigger Dial: Disabled
```

(2) "sys filter netbios config <type> {on|off}": To configure the filter mode for each type. Current filter types and their description are:

| Type | Description        | Default mode |
|------|--------------------|--------------|
| 0    | LAN to WAN         | Forward      |
| 1    | WAN to LAN         | Forward      |
| 6    | IPSec pass through | Forward      |
| 7    | Trigger dial       | Disabled     |

Example commands:

```
sys filter netbios config 0 on => block LAN to WAN NBT packets
sys filter netbios config 1 on => block WAN to LAN NBT packets
sys filter netbios config 6 on => block IPSec NBT packets
sys filter netbios config 7 off => disable trigger dial
```

## Appendix 4 Traffic Redirect/Static Route Application Note

### Why traffic redirect/static route be blocked by ZyWALL

ZyWALL is the ideal secure gateway for all data passing between the Internet and the LAN. For some reasons (load balance or backup line), users want traffics be re-routed to another Internet access devices while still be protected by ZyWALL. The network topology is the most important issue. Here is the common example that people misemploy the LAN traffic redirect and static route.

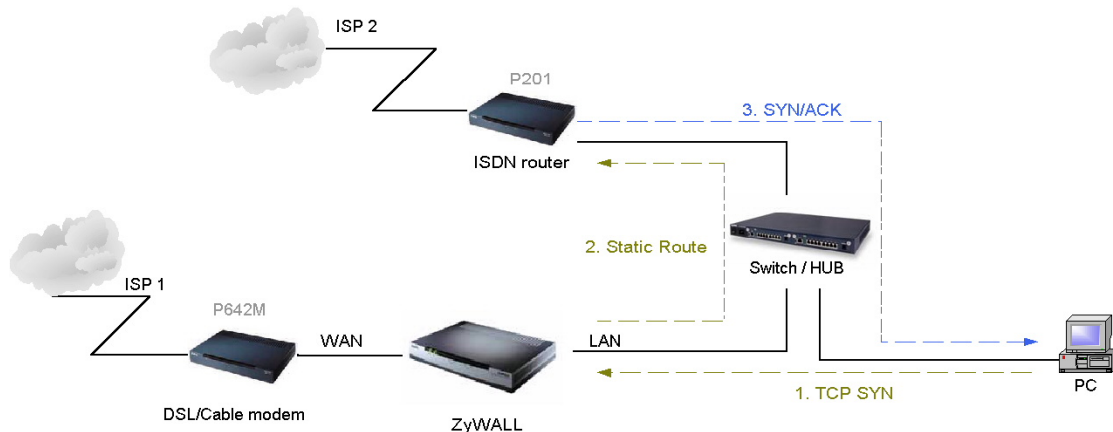


Figure 5-1 Triangle Route

Figure 5-1 indicates the triangle route topology. It works fine with turn off firewall. Let's take a look into the perspective toward this situation.

- Step 1. PC sends outgoing traffics through ZyWALL because default gateway assigned to it.
- Step 2. Then, ZyWALL will redirect the traffics to another gateway (ISDN/Router) as we expect.
- Step 3. But the return traffics do not go through ZyWALL because the gateway (say, P201) and the PC are on the same IP network. **Any traffic will easily inject into the protected network area through the unprotected gateway.**
- Step 4. When firewall turns on, it could be worse. ZyWALL will check the outgoing traffics by ACL and create dynamic sessions to allow legal return traffics. For Anti-DoS reason, ZyWALL will send RST packets to the PC and the peer because it never received TCP SYN/ACK packet.

That causes all of outgoing TCP traffics being reset!

### How traffic redirect/static route works under protection - Solutions

#### (1) Gateway on alias IP network

IP alias allows you to partition a physical network into different logical IP networks over the same Ethernet interface. The ZyWALL supports three logical LAN interfaces via its single physical Ethernet interface with the ZyWALL itself as the gateway for each LAN network. Division of protected LAN and the other gateway into different subnets will trigger the incoming traffic back to ZyWALL and it can work as

normal function.

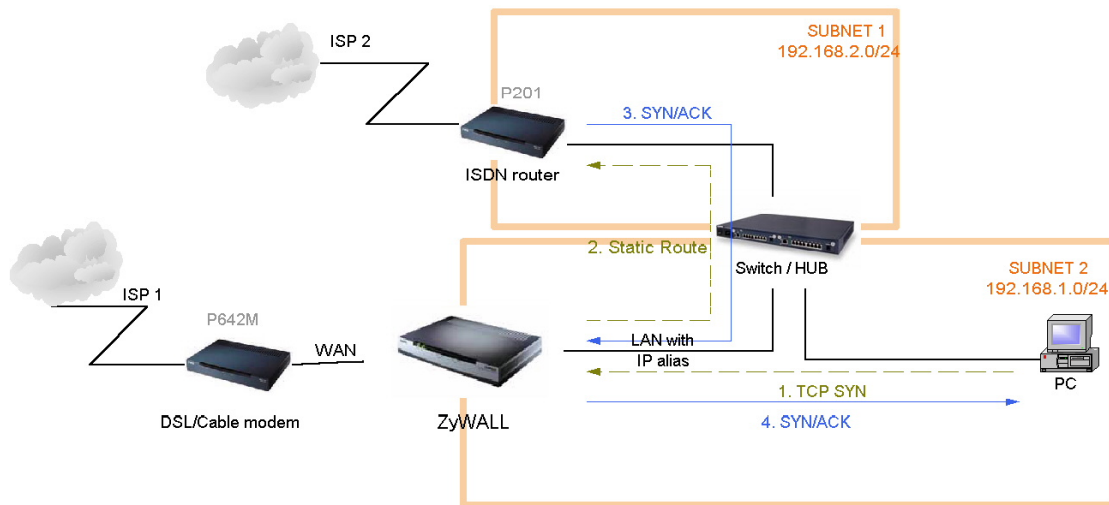


Figure 5-2 Gateway on alias IP network

## (2) Gateway on WAN side

A working topology is suggested as below.

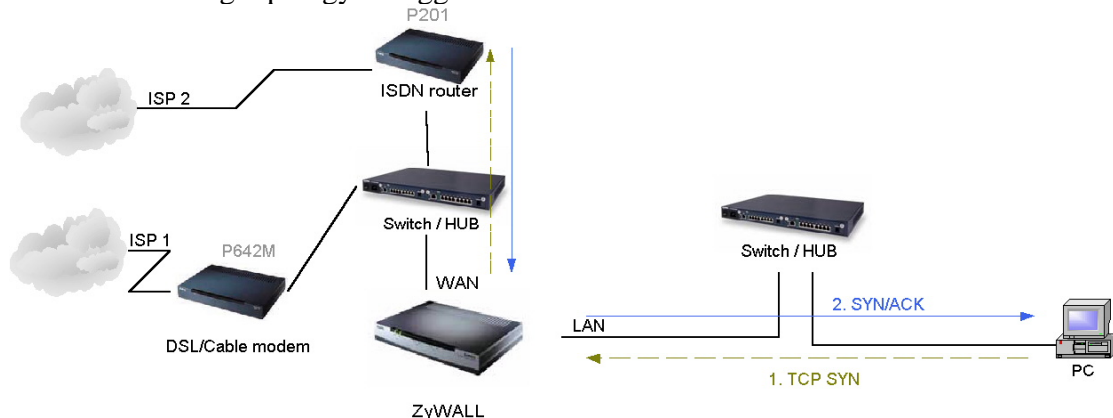


Figure 5-3 Gateway on WAN side

## Appendix 5 IPSec FQDN support

ZyWALL A-----Router C (with NAT) -----ZyWALL B  
(WAN) (WAN) (LAN) (WAN)

If ZyWALL A wants to build a VPN tunnel with ZyWALL B by passing through Router C with NAT, A can not see B. It has to secure gateway as C. However, ZyWALL B will send it packet with its own IP and its ID to ZyWALL A. The IP will be NATed by Router C, but the ID will remain as ZyWALL B sent.

In FQDN design, all three types, IP, DNS, E-Mail, can set ID content. For ID type is DNS or E-mail, the behavior is simple. ZyWALL A and ZyWALL B only checks the ID

contents are consistent and they can connect.

Basically the story is the same when ID type is IP. If user configures ID content, then ZyWALL will use it as a check. So the ID content also has to match each other. For example, ID type and ID content of incoming packets must match “Peer ID Type” and “Peer ID content”. Or ZyWALL will reject the connection.

However, user can leave “ID content” blank if the ID type is IP. ZyWALL will put proper value in it during IKE negotiation. This appendix describes all combinations and behaviors of ZyWALL.

We can put all combinations in to these two tables:

(Local ID Type is IP):

| Configuration         |                             | **Run-time status |                                          |
|-----------------------|-----------------------------|-------------------|------------------------------------------|
| My IP Addr            | Local ID Content            | My IP Addr        | Local ID Content                         |
| 0.0.0.0               | *blank                      | My WAN IP         | My WAN IP                                |
| 0.0.0.0               | a.b.c.d (it can be 0.0.0.0) | My WAN IP         | a.b.c.d ( 0.0.0.0, if user specified it) |
| a.b.c.d (not 0.0.0.0) | *blank                      | a.b.c.d           | a.b.c.d                                  |
| a.b.c.d (not 0.0.0.0) | e.f.g.h (or 0.0.0.0)        | a.b.c.d           | e.f.g.h (or 0.0.0.0)                     |

\*Blank: User can leave this field as empty, doesn't put anything here.

\*\*Runtime status: During IKE negotiation, ZyWALL will use “My IP Addr” field as source IP of IKE packets, and put “Local ID Content” in the ID payload.

(Peer ID Type is IP):

| Configuration       |                 | *Run-time check                                                                                                                                                                                       |
|---------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Secure Gateway Addr | Peer ID Content |                                                                                                                                                                                                       |
| 0.0.0.0             | blank           | Just check ID types of incoming packet and machine's peer ID type. If the peer's ID is IP, then we accept it.                                                                                         |
| 0.0.0.0             | a.b.c.d         | System checks both type and content                                                                                                                                                                   |
| a.b.c.d             | blank           | 1. System will check the ID type and the content.<br>2. The contents will match only if the ID content of coming packet is a.b.c.d because system will put Secure Gateway Address as Peer ID content. |
| a.b.c.d             | e.f.g.h         | 1. System will check the ID type and the content.<br>2. The contents will match only if the ID content of coming packet is e.f.g.h.                                                                   |

\*Runtime Check: During IKE negotiation, we will check ID of incoming packet and see if it matches our setting of “Peer ID Type” and “Peer ID Content”.

**Summary:**



1. When Local ID Content is blank which means user doesn't type anything here, during IKE negotiation, my ID content will be "My IP Addr" (if it's not 0.0.0.0) or local's WAN IP.
2. When "Peer ID Content" is not blank, ID of incoming packet has to match our setting. Or the connection request will be rejected.
3. When "Secure Gateway IP Addr" is 0.0.0.0 and "Peer ID Content" is blank, system can only check ID type. This is a kind of "dynamic rule" which means it accepts incoming request from any IP, and these requests' ID type is IP. So if user put a such kind of rule in top of rule list, it may be matched first. To avoid this problem, we will enhance it in the future.

## **Appendix 6 Embedded HTTPS proxy server**

HTTPS (Hypertext Transfer Protocol over Secure Socket Layer, or HTTP over SSL) is a Web protocol developed by Netscape and built into its browser that encrypts and decrypts user page requests as well as the pages that are returned by the Web server. HTTPS is really just the use of Netscape's Secure Socket Layer (SSL) as a sublayer under its regular HTTP application layering.

The ZyWALL's embedded HTTPS proxy server is basically an SSL server which performs SSL transactions, on behalf of the embedded HTTP server, with an SSL client such as MSIE or Netscape. As depicted by the figure below, when receiving a secure HTTPS request from an SSL-aware Web browser, the HTTPS proxy server converts it into a non-secure HTTP request and sends it to the HTTP server. On the other hand, when receiving a non-secure HTTP response from the HTTP server, the HTTPS proxy server converts it into a secure HTTPS response and sends it to the SSL-aware Web browser.

By default, the HTTPS proxy server listens on port 443 instead of the HTTP default port 80. If the ZyWALL's HTTPS proxy server port is changed to a different number, say 8443, then the URL for accessing the ZyWALL's Web user interface should be changed to `https://hostname:8443/` accordingly.

## **Appendix 7 Multiple WAN Access**

Because of the expansion of broad band service, the bandwidth is more and more cheap. Some of audio and video applications become usable, such as VoIP and video conference. The company will subscribe several links for different application. They may use it for VoIP, Backup line, Load sharing, and extend bandwidth. Thus they will need a device to manage these kinds of application.

The ZyWALL has two independent WAN ports, so it offers the ability to configure a secondary WAN port for highly reliable network connectivity and robust performance. The user can connect WAN 1 to one ISP(or network), and connect the other to a second

ISP(or network). This secondary WAN port can be used in “active-active” load sharing or fail-over configuration providing a highly efficient method for maximizing total network bandwidth.

The default mode of the WAN 2 interface is “Active-Passive” or “Fail-Over” mode, that is the secondary WAN will automatically “bring-up” when the first WAN fails. The user can enter eWC/WAN/General page to select WAN to “Active/Active” mode. At “Active/Active” mode, ZyWALL can access internet through WAN 1 and WAN 2 simultaneously. The user also can setup policy route rule and static route rule to specify the traffic to certain link. ZyWALL Connectivity Check will check the connectivity of WAN 1, WAN 2 and Traffic Redirect. Please notice that even at the “Active/Active” mode, WAN 2 is still the backup line of WAN 1, and WAN 1 is also the backup line of WAN 2.

The user can use policy routing to specify the WAN port that specific services go through. If one WAN port’s connection goes down, the ZyWALL can automatically send its traffic through the other WAN port, if the user allows this traffic to use the other WAN port.

The ZyWALL NAT feature allows the user to give two separate sets of rules(NAT Mapping rules and Port Forwarding rules) for WAN 1 and WAN 2.

The DDNS also has the high availability feature based on Multiple WAN. That is the ZyWALL can use the other WAN interface for domain names if the original configured WAN interface goes down.

## **Appendix 8 Wi-Fi Protected Access**

Wi-Fi Protected Access(WPA) is a subset of the IEEE 802.11i. WPA improves data encryption by using TKIP, MIC and IEEE 802.1X. Because WPA applies 802.1X to authenticate WLAN users by using an external RADIUS server, so you can not use the Local User Database for WPA authentication.

For those users in home or small office, they have no RADIUS server, WPA provides the benefit of WPA through the simple “WPA-PSK”. Pre-Shared Key(PSK) is manually entered in the client and ZyWALL for authentication. ZyWALL will check the client PSK and allow it join the network if it’s PSK is matched. After the client pass the authentication, ZyWALL will derived and distribute key to the client, and both of them will use TKIP process to encrypt exchanging data.

## Appendix 9 IPSec IP Overlap Support

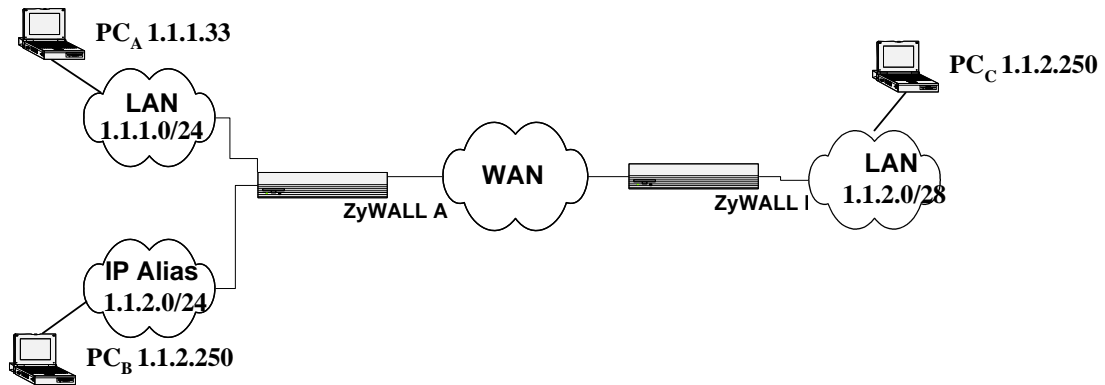


Figure 1

The ZyWALL uses the network policy to decide if the traffic matches a VPN rule. But if the ZyWALL finds that the traffic whose local address overlaps with the remote address range, it will be confused if it needs to trigger the VPN tunnel or just route this packet.

So we provide a CI command “ipsec swSkipOverlapIp” to trigger the VPN rule. For example, you configure a VPN rule on the ZyWALL A as below:

Local IP Address Start= 1.1.1.1      End= 1.1.2.254  
Remote IP Address Start= 1.1.2.240      End = 1.1.2.254

You can see that the Local IP Address and the remote IP address overlap in the range from 1.1.2.240 to 1.1.2.254.

- (1) Enter “ipsec swSkipOverlapIp off”:  
To trigger the tunnel for packets from 1.1.1.33 to 1.1.2.250. If there is traffic from LAN to IP Alias (Like the traffic from PC<sub>A</sub> to PC<sub>B</sub> in Figure 1), the traffic still will be encrypted as VPN traffic and routed to WAN, you will find their traffic disappears on LAN.
- (2) Enter “ipsec swSkipOverlapIp on”:  
Not to trigger the tunnel for packets from 1.1.1.33 to 1.1.2.250. Even the tunnel has been built up, the traffic in this overlapped range still cannot be passed.

[Note]

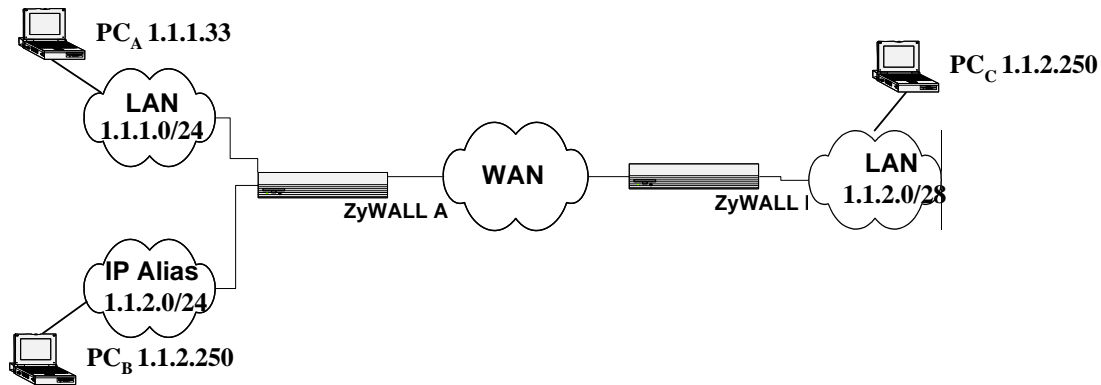
If you configure a rule on the ZyWALL A whose

Local IP Address Start= 0.0.0.0

Remote IP Address Start= 1.1.2.240 End = 1.1.2.254

**No matter swSkipOverlapIp is on or off, any traffic from any interfaces on the ZyWALL A will match the tunnel. Thus swSkipOverlapIp is not applicable in this case.**

## Appendix 10 VPN Local IP Address Limitation



### Figure 1

There is a limitation when you configure the VPN network policy to use any Local IP address. When you set the Local address to 0.0.0.0 and the Remote address to include any interface IP of the ZyWALL at the same time, it may cause the traffic related to remote management or DHCP between PCs and the ZyWALL to work incorrectly. This is because the traffic will all be encrypted and sent to WAN.

For example, you configure a VPN rule on the ZyWALL A as below:

```
Local IP Address Start= 1.1.1.1 End= 1.1.2.254
Remote IP Address Start= 1.1.2.240 End = 1.1.2.254
```

ZyWALL LAN IP = 1.1.1.10

ZyWALL LAN IP falls into the Local Address of this rule, when you want to manage the ZyWALL A from PC<sub>A</sub>, you will find that you cannot get a DHCP Client IP from the ZyWALL anymore. Even if you set your IP on PC<sub>A</sub> as static one, you cannot access the ZyWALL.

## Appendix 11 VPN rule swap limitation with VPN Client on XAuth

### Example 1:

ZyWALL (WAN)----- VPN Client  
(IP:1.1.1.1) (IP:1.1.1.2)

| (X.1.1.1.1)                                                                                                                                                                                                                                         | (X.1.1.1.2)                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ZyWALL VPN Rule: Two IKE rule                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                     |
| <p>➤ Dynamic IKE rule:<br/>           Security Gateway: 0.0.0.0<br/>           X-Auth: Server<br/>           I. Policy one:<br/>               - Name: "Rule_A"<br/>               - Local: 192.168.2.0/24<br/>               - Remote: 0.0.0.0</p> | <p>➤ Static IKE rule:<br/>           Security Gateway: 1.1.1.2<br/>           X-Auth: None<br/>           I. Policy one:<br/>               - Name: "Rule_B"<br/>               - Local: 192.168.1.0/24<br/>               - Remote: 1.1.1.2/32</p> |

| ZyXEL VPN Client                              |
|-----------------------------------------------|
| Security Gateway: 1.1.1.1                     |
| Phase one Authentication method: Preshare Key |
| Remote: 192.168.1.0/24                        |

In example 1, user may wonder why ZyWALL swap to dynamic rule even VPN client only set authentication method as “Preshare Key” not “Preshare Key+XAuth”. The root cause is that currently ZyXEL VPN Client will send XAuth VID no matter what authentication mode that him set. Because of the XAuth VID, ZyWALL will swap to dynamic rule.

This unexpected rule swap result is a limitation of our design. For ZyWALL, when we got initiator’s XAuth VID in IKE Phase One period, we know initiator can support XAuth. To take account of security, we will judge that initiator want to do XAuth, and we will search one matched IKE Phase One rule with XAuth server mode as the top priority. To our rule swap scheme, we search static rule first then dynamic rule. In example 1, we will find the static rule, named “Rule\_B”, to build phase one tunnel at first. After finished IKE phase one negotiation, we known initiator want to do XAuth. Since Rule\_B has no XAuth server mode, we try to search another rule with correct IKE Phase One parameter and XAuth server mode. The search result will lead us to swap rule to dynamic rule, named “Rule\_A”. Thus to build VPN tunnel will fail by Phase Two local ip mismatch.

To avoid this scenario, the short-term solution is that we recommend user to set two IKE rule with different Phase One parameter. The long-term solution is that VPN Client needs to modify the XAuth VID behavior. VPN Client should not send XAuth VID when authentication method is “Preshare key”, but send XAuth VID when authentication method is “Preshare key+XAuth”.

## Annex A CI Command List

Last Updated: 2005/08/01

| Command Class List Table                 |                                                      |                                         |
|------------------------------------------|------------------------------------------------------|-----------------------------------------|
| <a href="#">System Related Command</a>   | <a href="#">Exit Command</a>                         | <a href="#">Device Related Command</a>  |
| <a href="#">Ethernet Related Command</a> | <a href="#">POE Related Command</a>                  | <a href="#">PPTP Related Command</a>    |
| <a href="#">AUX Related Command</a>      | <a href="#">Configuration Related Command</a>        | <a href="#">IP Related Command</a>      |
| <a href="#">IPSec Related Command</a>    | <a href="#">PPP Related Command</a>                  | <a href="#">Bandwidth Management</a>    |
| <a href="#">Firewall Related Command</a> | <a href="#">Certificate Management (PKI) Command</a> | <a href="#">Load Sharing Command</a>    |
| <a href="#">Bridge Related Command</a>   | <a href="#">myZyXEL.com Command</a>                  | <a href="#">Anti-Spam Command</a>       |
| <a href="#">IDP Command</a>              | <a href="#">Anti-Virus Command</a>                   | <a href="#">Vantage Related Command</a> |

### System Related Command

[Home](#)

| Command |             |         |                                           | Description                                                                                                                                                                 |
|---------|-------------|---------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| sys     |             |         |                                           |                                                                                                                                                                             |
|         | atsh        |         |                                           | Display system information                                                                                                                                                  |
|         | cbuf        |         |                                           |                                                                                                                                                                             |
|         |             | display | [a f u]                                   | display cbuf a: all f: free u: used                                                                                                                                         |
|         |             | cnt     |                                           | cbuf static                                                                                                                                                                 |
|         |             |         | Display                                   | display cbuf static                                                                                                                                                         |
|         |             |         | Clear                                     | clear cbuf static                                                                                                                                                           |
|         | baud        |         | <1..5>                                    | change console speed                                                                                                                                                        |
|         | callhist    |         |                                           |                                                                                                                                                                             |
|         |             | display |                                           | display call history                                                                                                                                                        |
|         |             | remove  | <index>                                   | remove entry from call history                                                                                                                                              |
|         | clear       |         |                                           | clear the counters in GUI status menu                                                                                                                                       |
|         | countrycode |         | [countrycode]                             | set country code                                                                                                                                                            |
|         | datetime    |         | [year month date]                         | set/display date                                                                                                                                                            |
|         | domainname  |         |                                           | display domain name                                                                                                                                                         |
|         | edit        |         | <filename>                                | edit a text file                                                                                                                                                            |
|         | enhanced    |         |                                           | return OK if commands are supported for PWC purposes                                                                                                                        |
|         | errctl      |         | [level]                                   | set the error control level<br>0:crash no save,not in debug mode (default)<br>1:crash no save,in debug mode<br>2:crash save,not in debug mode<br>3:crash save,in debug mode |
|         | event       |         |                                           |                                                                                                                                                                             |
|         |             | display |                                           | display tag flags information                                                                                                                                               |
|         |             | trace   |                                           | display system event information                                                                                                                                            |
|         |             |         | display                                   | display trace event                                                                                                                                                         |
|         |             |         | clear <num>                               | clear trace event                                                                                                                                                           |
|         | extraphnum  |         |                                           | maintain extra phone numbers for outcalls                                                                                                                                   |
|         |             | add     | <set 1-3> <1st phone num> [2nd phone num] | add extra phone numbers                                                                                                                                                     |
|         |             | display |                                           | display extra phone numbers                                                                                                                                                 |
|         |             | node    | <num>                                     | set all extend phone number to remote node<br><num>                                                                                                                         |
|         |             | remove  | <set 1-3>                                 | remove extra phone numbers                                                                                                                                                  |
|         |             | reset   |                                           | reset flag and mask                                                                                                                                                         |
|         | feature     |         |                                           | display feature bit                                                                                                                                                         |

|  |           |           |                                                                                                          |                                                                 |
|--|-----------|-----------|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
|  | fid       |           |                                                                                                          |                                                                 |
|  |           | display   |                                                                                                          | display function id list                                        |
|  | firmware  |           |                                                                                                          | display ISDN firmware type                                      |
|  | hostname  |           | [hostname]                                                                                               | display system hostname                                         |
|  | iface     |           |                                                                                                          |                                                                 |
|  |           | disp      | [#]                                                                                                      | display iface list                                              |
|  | interrupt |           |                                                                                                          | display interrupt status                                        |
|  | logs      |           |                                                                                                          |                                                                 |
|  |           | category  |                                                                                                          |                                                                 |
|  |           |           | access [0:none/1:log/2:alert/3:both]                                                                     | record the access control logs                                  |
|  |           |           | attack [0:none/1:log/2:alert/3:both]                                                                     | record and alert the firewall attack logs                       |
|  |           |           | display                                                                                                  | display the category setting                                    |
|  |           |           | error [0:none/1:log/2:alert/3:both]                                                                      | record and alert the system error logs                          |
|  |           |           | ipsec [0:none/1:log/2:alert/3:both]                                                                      | record the access control logs                                  |
|  |           |           | ike [0:none/1:log/2:alert/3:both]                                                                        | record the access control logs                                  |
|  |           |           | javablocked [0:none/1:log]                                                                               | record the java etc. blocked logs                               |
|  |           |           | mten [0:none/1:log]                                                                                      | record the system maintenance logs                              |
|  |           |           | packetfilter [0:none/1:log]                                                                              | record the packet filter logs                                   |
|  |           |           | pki [0:none/1:log/2:alert/3:both]                                                                        | record the pki logs                                             |
|  |           |           | tcpreset [0:none/1:log]                                                                                  | record the tcp reset logs                                       |
|  |           |           | upnp [0:none/1:log]                                                                                      | record upnp logs                                                |
|  |           |           | urlblocked [0:none/1:log/2:alert/3:both]                                                                 | record and alert the web blocked logs                           |
|  |           |           | urlforward [0:none/1:log]                                                                                | record web forward logs                                         |
|  |           | clear     |                                                                                                          | clear log                                                       |
|  |           | display   | [access attack error ipsec ike javablocke<br>d mten packetfilter pki tcpreset urlblock<br>ed urlforward] | display all logs or specify category logs                       |
|  |           | dispSvrIP |                                                                                                          | Display the IP address of email log server and<br>syslog server |
|  |           | errlog    |                                                                                                          |                                                                 |
|  |           |           | clear                                                                                                    | display log error                                               |
|  |           |           | disp                                                                                                     | clear log error                                                 |
|  |           |           | online                                                                                                   | turn on/off error log online display                            |
|  |           | load      |                                                                                                          | load the log setting buffer                                     |
|  |           | mail      |                                                                                                          |                                                                 |
|  |           |           | alertAddr [mail address]                                                                                 | send alerts to this mail address                                |
|  |           |           | display                                                                                                  | display mail setting                                            |
|  |           |           | logAddr [mail address]                                                                                   | send logs to this mail address                                  |
|  |           |           | schedule display                                                                                         | display mail schedule                                           |
|  |           |           | schedule hour [0-23]                                                                                     | hour time to send the logs                                      |
|  |           |           | schedule minute [0-59]                                                                                   | minute time to send the logs                                    |
|  |           |           | schedule policy<br>[0:full/1:hourly/2:daily/3:weekly/4:non<br>e]                                         | mail schedule policy                                            |
|  |           |           | schedule week<br>[0:sun/1:mon/2:tue/3:wed/4:thu/5:fri/6:<br>sat]                                         | weekly time to send the logs                                    |
|  |           |           | server [domainName/IP]                                                                                   | mail server to send the logs                                    |
|  |           |           | subject [mail subject]                                                                                   | mail subject                                                    |
|  |           | save      |                                                                                                          | save the log setting buffer                                     |
|  |           | syslog    |                                                                                                          |                                                                 |
|  |           |           | active [0:no/1:yes]                                                                                      | active to enable unix syslog                                    |
|  |           |           | display                                                                                                  | display syslog setting                                          |

|  |          |                 |                                           |                                                                                                                                                                                                                             |
|--|----------|-----------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |          |                 | facility [Local ID(1-7)]                  | log the messages to different files                                                                                                                                                                                         |
|  |          |                 | server [domainName/IP]                    | syslog server to send the logs                                                                                                                                                                                              |
|  |          | updateSvrIP     | <minute>                                  | If there is one parameter <minute>, it will change the dns timer task timeout value. Otherwise, do dns resolve to find email log server and syslog server IP.                                                               |
|  |          | consolidate     |                                           |                                                                                                                                                                                                                             |
|  |          |                 | switch <0:on 1:off>                       | active to enable log consolidation                                                                                                                                                                                          |
|  |          |                 | period                                    | consolidation period (seconds)                                                                                                                                                                                              |
|  |          |                 | msglist                                   | display the consolidated messages                                                                                                                                                                                           |
|  |          | switch          |                                           |                                                                                                                                                                                                                             |
|  |          |                 | bmlog <0:no 1:yes>                        | active to enable broadcast/multicast log                                                                                                                                                                                    |
|  |          |                 | display                                   | display switch setting                                                                                                                                                                                                      |
|  |          |                 | trilog <0:no 1:yes>                       | active to enable triangle route log                                                                                                                                                                                         |
|  | mbuf     |                 |                                           |                                                                                                                                                                                                                             |
|  |          | link            | link                                      | list system mbuf link                                                                                                                                                                                                       |
|  |          | pool            | <id> [type][num]                          | list system mbuf pool                                                                                                                                                                                                       |
|  |          | status          |                                           | display system mbuf status                                                                                                                                                                                                  |
|  |          | disp            | <address>[1 0]                            | display mbuf status                                                                                                                                                                                                         |
|  |          | cnt             |                                           |                                                                                                                                                                                                                             |
|  |          |                 | disp                                      | display system mbuf count                                                                                                                                                                                                   |
|  |          |                 | clear                                     | clear system mbuf count                                                                                                                                                                                                     |
|  |          | debug           | [on off]                                  |                                                                                                                                                                                                                             |
|  | md5      |                 | <string>                                  | This command will hash the string by MD5. The maximum length of the string is 64.                                                                                                                                           |
|  | memwrite |                 | <address> <len> [data list ...]           | write some data to memory at <address>                                                                                                                                                                                      |
|  | memutil  |                 |                                           |                                                                                                                                                                                                                             |
|  |          | usage           |                                           | display memory allocate and heap status                                                                                                                                                                                     |
|  |          | mqueue          | <address> <len>                           | display memory queues                                                                                                                                                                                                       |
|  |          | mcell           | mid [f u]                                 | display memory cells by given ID                                                                                                                                                                                            |
|  |          | msecs           | [a f u]                                   | display memory sections                                                                                                                                                                                                     |
|  |          | mtstart         | <n-mcell>                                 | start memory test                                                                                                                                                                                                           |
|  |          | mtstop          |                                           | stop memory test                                                                                                                                                                                                            |
|  |          | mtalloc         | <size> [n-mcell]                          | allocate memory for testing                                                                                                                                                                                                 |
|  |          | mtfree          | <start-idx> [end-idx]                     | free the test memory                                                                                                                                                                                                        |
|  | mode     | <router/bridge> |                                           | switch router and bridge mode                                                                                                                                                                                               |
|  | model    |                 |                                           | display server model name                                                                                                                                                                                                   |
|  | proc     |                 |                                           |                                                                                                                                                                                                                             |
|  |          | display         |                                           | Display all process information. State: process state. Pri: priority, a_usg: accumulated cpu usage, p_usg: profiling cpi usage.(take count after do clear command). Size: (lowest available stack size)/(total stack size). |
|  |          | stack           | [tag]                                     | display process's stack by a give TAG                                                                                                                                                                                       |
|  |          | pstatus         |                                           | display process's status by a give TAG                                                                                                                                                                                      |
|  |          | clear           |                                           | Restart cpu usage measurement. (Result will be in p_usg column from display command.                                                                                                                                        |
|  | pwc      |                 |                                           | sends information to PWC via telnet                                                                                                                                                                                         |
|  | pwdHash  |                 | <on   off> [newPassword]<br>[oldPassword] | The password saved in ROM file can be hashed by MD5.                                                                                                                                                                        |
|  | pwderrtm |                 | [minute]                                  | Set or display the password error blocking timeout value.                                                                                                                                                                   |
|  | queue    |                 |                                           |                                                                                                                                                                                                                             |
|  |          | display         | [a f u] [start#] [end#]                   | display queue by given status and range                                                                                                                                                                                     |



|  |           |                    |                               |                                                                                           |
|--|-----------|--------------------|-------------------------------|-------------------------------------------------------------------------------------------|
|  |           |                    |                               | numbers                                                                                   |
|  |           | ndisp              | [qid]                         | display a queue by a given number                                                         |
|  | quit      |                    |                               | quit CI command mode                                                                      |
|  | reboot    |                    | [code]                        | reboot system<br>code = 0 cold boot,<br>= 1 immediately boot<br>= 2 bootModule debug mode |
|  | reslog    |                    |                               |                                                                                           |
|  |           | disp               |                               | display resources trace                                                                   |
|  |           | clear              |                               | clear resources trace                                                                     |
|  | rn        |                    |                               |                                                                                           |
|  |           | load               | <entry no.>                   | load remote node information                                                              |
|  |           | disp               | <entry no.>(0:working buffer) | display remote node information                                                           |
|  |           | nat                | <none/sua/full_feature>       | config remote node nat                                                                    |
|  |           | nailup             | <no/yes>                      | config remote node nailup                                                                 |
|  |           | mtu                | <value>                       | set remote node mtu                                                                       |
|  |           | accessblock        | [1 0]                         | Enable/disable block specific remote note packet.                                         |
|  |           | save               | [entry no.]                   | save remote node information                                                              |
|  | smt       |                    |                               | not support in this product                                                               |
|  | stdio     |                    | [second]                      | change terminal timeout value                                                             |
|  | time      |                    | [hour [min [sec]]]            | display/set system time                                                                   |
|  | timer     |                    |                               |                                                                                           |
|  |           | disp               |                               | display timer cell                                                                        |
|  | tos       |                    |                               |                                                                                           |
|  |           | display            |                               | display all runtime TOS                                                                   |
|  |           | listPerHost        |                               | display all host session count                                                            |
|  |           | debug              | [on/off]                      | turn on or off TOS debug message                                                          |
|  |           | sessPerHost        | <number>                      | configure session per host value                                                          |
|  |           | timeout            |                               |                                                                                           |
|  |           |                    | display                       | display all TOS timeout information                                                       |
|  |           |                    | icmp <idle timeout>           | set idle timeout value                                                                    |
|  |           |                    | igmp <idle timeout>           | set idle timeout value                                                                    |
|  |           |                    | tcpsyn <idle timeout>         | set idle timeout value                                                                    |
|  |           |                    | tcp <idle timeout>            | set idle timeout value                                                                    |
|  |           |                    | tcpfin <idle timeout>         | set idle timeout value                                                                    |
|  |           |                    | udp <idle timeout>            | set idle timeout value                                                                    |
|  |           |                    | gre <idle timeout>            | set idle timeout value                                                                    |
|  |           |                    | esp <idle timeout>            | set idle timeout value                                                                    |
|  |           |                    | ah <idle timeout>             | set idle timeout value                                                                    |
|  |           |                    | other <idle timeout>          | set idle timeout value                                                                    |
|  | trcdisp   | parse, brief, disp |                               | monitor packets                                                                           |
|  | trclog    |                    |                               |                                                                                           |
|  |           | switch             | [on/off]                      | set system trace log                                                                      |
|  |           | online             | [on/off]                      | set on/off trace log online                                                               |
|  |           | level              | [level]                       | set trace level of trace log #:1-10                                                       |
|  |           | type               | <bitmap>                      | set trace type of trace log                                                               |
|  |           | disp               |                               | display trace log                                                                         |
|  |           | clear              |                               | clear trace                                                                               |
|  |           | call               |                               | display call event                                                                        |
|  |           | encapmask          | [mask]                        | set/display tracelog encapsulation mask                                                   |
|  | trcpacket |                    |                               |                                                                                           |
|  |           | create             | <entry> <size>                | create packet trace buffer                                                                |

|  |          |             |                                                   |                                                                                    |
|--|----------|-------------|---------------------------------------------------|------------------------------------------------------------------------------------|
|  |          | destroy     |                                                   | packet trace related commands                                                      |
|  |          | channel     | <name><br>[none incoming outgoing bothway]        | <channel name>=enet0,sdsl00, fr0<br>set packet trace direction for a given channel |
|  |          | string      |                                                   | enable smt trace log                                                               |
|  |          | switch      | [on off]                                          | turn on/off the packet trace                                                       |
|  |          | disp        |                                                   | display packet trace                                                               |
|  |          | udp         |                                                   | send packet trace to other system                                                  |
|  |          |             | switch [on off]                                   | set tracepacket upd switch                                                         |
|  |          |             | addr <addr>                                       | send trace packet to remote udp address                                            |
|  |          |             | port <port>                                       | set tracepacket udp port                                                           |
|  |          | parse       | [[start_idx], end_idx]                            | parse packet content                                                               |
|  |          | brief       |                                                   | display packet content briefly                                                     |
|  | syslog   |             |                                                   |                                                                                    |
|  |          | server      | [destIP]                                          | set syslog server IP address                                                       |
|  |          | facility    | <FacilityNo>                                      | set syslog facility                                                                |
|  |          | type        | [type]                                            | set/display syslog type flag                                                       |
|  |          | mode        | [on off]                                          | set syslog mode                                                                    |
|  | version  |             |                                                   | display RAS code and driver version                                                |
|  | view     |             | <filename>                                        | view a text file                                                                   |
|  | wdog     |             |                                                   |                                                                                    |
|  |          | switch      | [on off]                                          | set on/off wdog                                                                    |
|  |          | cnt         | [value]                                           | display watchdog counts value: 0-34463                                             |
|  | romreset |             |                                                   | restore default romfile                                                            |
|  | mrdr     |             |                                                   |                                                                                    |
|  |          | atwe        | <mac> [country code] [debug flag]<br>[featurebit] | configure mac, country code, debug flag,<br>featurebit in the boot module          |
|  |          | atse        |                                                   | generate the engineering debug flag password<br>seed                               |
|  |          | aten        | <password>                                        | enter the engineering debug flag password                                          |
|  |          | atfl        | <0:1>                                             | set engineering debug flag                                                         |
|  |          | atsh        |                                                   | show mrdr setting                                                                  |
|  | server   |             |                                                   |                                                                                    |
|  |          | access      | <telnet ftp web icmp snmp dns><br><value>         | set server access type                                                             |
|  |          | load        |                                                   | load server information                                                            |
|  |          | disp        |                                                   | display server information                                                         |
|  |          | port        | <telnet ftp web snmp> <port>                      | set server port                                                                    |
|  |          | save        |                                                   | save server information                                                            |
|  |          | secureip    | <telnet ftp web icmp snmp dns> <ip>               | set server secure ip addr                                                          |
|  |          | certificate | <https ssh> [certificate name]                    | set server certificate                                                             |
|  |          | auth_client | <https> [on off]                                  | specifies whether the server authenticates the<br>client                           |
|  | fwnotify |             |                                                   |                                                                                    |
|  |          | load        |                                                   | load fwnotify entry from spt                                                       |
|  |          | save        |                                                   | save fwnotify entry to spt                                                         |
|  |          | url         | <url>                                             | set fwnotify url                                                                   |
|  |          | days        | <days>                                            | set fwnotify days                                                                  |
|  |          | active      | <flag>                                            | turn on/off fwnotify flag                                                          |
|  |          | disp        |                                                   | display firmware notify information                                                |
|  |          | check       |                                                   | check firmware notify event                                                        |
|  |          | debug       | <flag>                                            | turn on/off firmware notify debug flag                                             |
|  | spt      |             |                                                   |                                                                                    |
|  |          | dump        |                                                   | dump spt raw data                                                                  |
|  |          |             | root                                              | dump spt root data                                                                 |

|  |            |               |                                                                                                                              |                                                                       |
|--|------------|---------------|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
|  |            |               | rn                                                                                                                           | dump spt remote node data                                             |
|  |            |               | user                                                                                                                         | dump spt user data                                                    |
|  |            |               | slot                                                                                                                         | dump spt slot data                                                    |
|  |            | set           | <offset> <len> <value...>                                                                                                    | set spt value in memory address                                       |
|  |            | save          |                                                                                                                              | save spt data                                                         |
|  |            | size          |                                                                                                                              | display spt record size                                               |
|  |            | clear         |                                                                                                                              | clear spt data                                                        |
|  | cmgr       |               |                                                                                                                              |                                                                       |
|  |            | trace         |                                                                                                                              |                                                                       |
|  |            |               | disp <ch-name>                                                                                                               | show the connection trace of this channel                             |
|  |            |               | clear <ch-name>                                                                                                              | clear the connection trace of this channel                            |
|  |            | data          | <ch-name>                                                                                                                    | show channel connection related data                                  |
|  |            | cnt           | <ch-name>                                                                                                                    | show channel connection related counter                               |
|  | socket     |               |                                                                                                                              | display system socket information                                     |
|  | filter     |               |                                                                                                                              |                                                                       |
|  |            | clear         |                                                                                                                              | clear filter statistic counter                                        |
|  |            | disp          |                                                                                                                              | display filter statistic counters                                     |
|  |            | sw            | [on off]                                                                                                                     | set filter status switch                                              |
|  |            | rule          | <iface>                                                                                                                      | display iface filter flag                                             |
|  |            | set           | <set>                                                                                                                        | display filter rule                                                   |
|  |            | addNetBios    |                                                                                                                              | add netbios filter                                                    |
|  |            | removeNetBios |                                                                                                                              | remove netbios filter                                                 |
|  |            | netbios       |                                                                                                                              |                                                                       |
|  |            |               | disp                                                                                                                         | display netbios filter status                                         |
|  |            |               | config <0:Between LAN and WAN, 1: Between LAN and DMZ, 2: Between WAN and DMZ, 3:IPSec passthrough, 4:Trigger Dial> <on off> | config netbios filter                                                 |
|  |            | blockbc       | [on off]                                                                                                                     | set/display broadcast filter mode                                     |
|  | roadrunner |               |                                                                                                                              |                                                                       |
|  |            | debug         | <level>                                                                                                                      | enable/disable roadrunner service<br>0: diable <default><br>1: enable |
|  |            | display       | <iface name>                                                                                                                 | display roadrunner information<br>iface-name: enif0, wanif0           |
|  |            | restart       | <iface name>                                                                                                                 | restart roadrunner                                                    |
|  |            | logout        | <iface name>                                                                                                                 | logout roadrunner                                                     |
|  |            | set           | <iface name>                                                                                                                 | set roadrunner                                                        |
|  | ddns       |               |                                                                                                                              |                                                                       |
|  |            | debug         | <level>                                                                                                                      | enable/disable ddns service                                           |
|  |            | display       | <iface name>                                                                                                                 | display ddns information                                              |
|  |            | restart       | <iface name>                                                                                                                 | restart ddns                                                          |
|  |            | logout        | <iface name>                                                                                                                 | logout ddns                                                           |
|  | cpu        |               |                                                                                                                              |                                                                       |
|  |            | display       |                                                                                                                              | display CPU utilization                                               |
|  | upnp       |               |                                                                                                                              |                                                                       |
|  |            | active        | [0:no/1:yes]                                                                                                                 | Activate or deactivate the saved upnp settings                        |
|  |            | config        | [0:deny/1:permit]                                                                                                            | Allow users to make configuration changes.<br>through UPnP            |
|  |            | display       |                                                                                                                              | display upnp information                                              |
|  |            | firewall      | [0:deny/1:pass]                                                                                                              | Allow UPnP to pass through Firewall.                                  |
|  |            | load          |                                                                                                                              | save upnp information                                                 |
|  |            | reserve       | [0:no/1:yes]                                                                                                                 | Reserve UPnP NAT rules in flash after system<br>bootup.               |

|  |           |      |                                    |                                                 |
|--|-----------|------|------------------------------------|-------------------------------------------------|
|  |           | save |                                    | save upnp information                           |
|  | mwan      |      |                                    |                                                 |
|  |           | load |                                    | Load the multiple wan common data to the memory |
|  |           | mode | <0:Active/Passive 1:Active/Active> | Change the Multiple WAN operation mode.         |
|  |           | Save |                                    | Save the configuration                          |
|  |           | Disp |                                    | Display the data                                |
|  | atmu      |      |                                    | Show multiboot client version                   |
|  | ProbeType |      | [icmp   arp]                       | DHCP server probing type                        |

#### Exit Command

[Home](#)

| Command |  |  |  | Description   |
|---------|--|--|--|---------------|
| exit    |  |  |  | exit smt menu |

#### Device Related Command

[Home](#)

| Command |         |           |                         | Description           |
|---------|---------|-----------|-------------------------|-----------------------|
| dev     |         |           |                         |                       |
|         | channel |           |                         |                       |
|         |         | name      | <all use>               | list channel name     |
|         |         | drop      | <channel_name>          | drop channel          |
|         |         | disp      | <channel_name> [level]  | display channel       |
|         |         | threshold | <channel_name> [number] | set channel threshold |
|         | dial    |           | <node#>                 | dial to remote node   |

#### Ethernet Related Command

[Home](#)

| Command |         |        |                                 | Description                                                                                                                                                          |
|---------|---------|--------|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ether   |         |        |                                 |                                                                                                                                                                      |
|         | config  |        |                                 | display LAN configuration information                                                                                                                                |
|         | driver  |        |                                 |                                                                                                                                                                      |
|         |         | cnt    |                                 |                                                                                                                                                                      |
|         |         |        | disp <name>                     | display ether driver counters                                                                                                                                        |
|         |         |        | clear <name>                    | clear ether driver counters                                                                                                                                          |
|         |         | iface  | <ch_name> <num>                 | send driver iface                                                                                                                                                    |
|         |         | ioctl  | <ch_name>                       | Useless in this stage.                                                                                                                                               |
|         |         | mac    | <ch_name> <mac_addr>            | Set LAN Mac address                                                                                                                                                  |
|         |         | reg    | <ch_name>                       | display LAN hardware related registers                                                                                                                               |
|         |         | rxmod  | <ch_name> <mode>                | set LAN receive mode.<br>mode: 1: turn off receiving<br>2: receive only packets of this interface<br>3: mode 2+ broadcast<br>5: mode 2 + multicast<br>6: all packets |
|         |         | status | <ch_name>                       | see LAN status                                                                                                                                                       |
|         |         | init   | <ch_name>                       | initialize LAN                                                                                                                                                       |
|         | version |        |                                 | see ethernet device type                                                                                                                                             |
|         | pkttest |        |                                 |                                                                                                                                                                      |
|         |         | disp   |                                 |                                                                                                                                                                      |
|         |         |        | packet <level>                  | set ether test packet display level                                                                                                                                  |
|         |         |        | event <ch> [on/off]             | turn on/off ether test event display                                                                                                                                 |
|         |         | sap    | [ch_name]                       | send sap packet                                                                                                                                                      |
|         |         | arp    | <ch_name> <ip-addr>             | send arp packet to ip-addr                                                                                                                                           |
|         | test    |        | <ch_id> <test_id> [arg3] [arg4] | do LAN test                                                                                                                                                          |

|  |             |       |                             |                                                         |
|--|-------------|-------|-----------------------------|---------------------------------------------------------|
|  | ipmul       |       | <num>                       | only receive ip multicast and broadcast packet          |
|  | pncconfig   |       | <ch_name>                   | do pnc config                                           |
|  | mac         |       | <src_ch> <dest_ch> <ipaddr> | fake mac address                                        |
|  | edit        |       |                             |                                                         |
|  |             | load  | <ether no.>                 | load ether data from spt                                |
|  |             | mtu   | <value>                     | set ether data mtu                                      |
|  |             | speed | <speed>                     | set ether data speed                                    |
|  |             | save  |                             | save ether data to spt                                  |
|  | dynamicPort |       |                             |                                                         |
|  |             | dump  |                             | display the relation between physical port and channel. |
|  |             | set   | <port> <type>               | set physical port belongs to which channel.             |
|  |             | spt   |                             | display channel setting stored in SPT.                  |

#### POE Related Command

[Home](#)

| Command |         |             |                | Description                                                                |
|---------|---------|-------------|----------------|----------------------------------------------------------------------------|
| poe     |         |             |                |                                                                            |
|         | debug   |             | [on off]       | switch poe debug                                                           |
|         | retry   |             |                |                                                                            |
|         |         | count       | [count]        | set/display poe retry count                                                |
|         |         | interval    | [interval]     | set/display poe retry interval                                             |
|         | status  |             | [ch_name]      | see poe status                                                             |
|         | master  |             |                |                                                                            |
|         |         | promiscuous | [on off]       | provide pppoe server list to client                                        |
|         |         | easy        | [on off]       | response for no service name request                                       |
|         | service |             |                |                                                                            |
|         |         | add         | <service-name> | add poe service                                                            |
|         |         | show        |                | show poe service                                                           |
|         | dial    |             | <node>         | dial a remote node                                                         |
|         | drop    |             | <node>         | drop a pppoe call                                                          |
|         | channel |             |                |                                                                            |
|         |         | enable      | <channel>      | enable a channel to carry pppoe traffic                                    |
|         |         | disable     | <channel>      | disable a pppoe channel                                                    |
|         |         | show        |                | show pppoe channel                                                         |
|         | padt    |             | [limit]        | set/display pppoe PADT limit                                               |
|         | inout   |             | <node_name>    | set call direction to both                                                 |
|         | ippool  |             | [ip] [cnt]     | set/display pppoe ippool information                                       |
|         | ether   |             | [rfc 3com]     | set /display pppoe ether type                                              |
|         | proxy   | disp        |                | Display PPPoE proxy client session table                                   |
|         |         | active      | [on   off]     | Turn on / off PPPoE proxy function                                         |
|         |         | debug       | [on   off]     | Turn on / off PPPoE proxy debug function                                   |
|         |         | time        | <interval>     | Set the time out interval, it's a count. Actual time is count * 5 seconds. |
|         |         | init        |                | Initialize PPPoE proxy client session table                                |
|         |         | flush       |                | Clear PPPoE proxy client session table                                     |

#### PPTP Related Command

[Home](#)

| Command |         |  |             | Description                     |
|---------|---------|--|-------------|---------------------------------|
| pptp    |         |  |             |                                 |
|         | debug   |  | [on off]    | switch pptp debug flag          |
|         | dial    |  | <rn-name>   | dial a remote node              |
|         | drop    |  | <rn-name>   | drop a remote node call         |
|         | tunnel  |  | <tunnel id> | display pptp tunnel information |
|         | enqueue |  | [size]      | set pptp max en-queued size     |

## AUX Related Command

[Home](#)

| Command |           |       |                              | Description                                          |
|---------|-----------|-------|------------------------------|------------------------------------------------------|
| aux     |           |       |                              |                                                      |
|         | atring    |       | <device name>                | Command the AT command to the device.                |
|         | clearstat |       | <device name>                | reset channel statistics                             |
|         | cnt       |       |                              |                                                      |
|         |           | disp  | <device name>                | display aux counter information                      |
|         |           | clear | <device name>                | clear aux counter information                        |
|         | cond      |       |                              |                                                      |
|         |           | disp  | <device name>                | display aux condition information                    |
|         |           | clear | <device name>                | clear aux condition information                      |
|         | config    |       |                              | display aux config, board, line, channel information |
|         | data      |       |                              |                                                      |
|         | drop      |       | <device name>                | disconnect                                           |
|         | event     |       |                              |                                                      |
|         |           | disp  |                              | aux event trace display                              |
|         |           | clear |                              | aux event trace clear                                |
|         | init      |       | <device name>                | initialize aux channel                               |
|         | mstatus   |       | <device name>                | display modem last call status                       |
|         | mtype     |       | <device name>                | display modem type                                   |
|         | netstat   |       | <device name>                | prints upper layer packet information                |
|         | rate      |       | <device name>                | show tx rx rate                                      |
|         | ringbuf   |       |                              |                                                      |
|         |           | cmd   |                              |                                                      |
|         |           |       | clear <device name>          | clear ringbuffer                                     |
|         |           |       | disp <device name>           | display ringbuffer                                   |
|         |           | data  |                              |                                                      |
|         |           |       | clear                        | clear command ringbuffer                             |
|         |           |       | disp <start> <len>           | display command ringbuffer                           |
|         | signal    |       | <device name>                | show aux signal                                      |
|         | speed     |       | <device name> <type> [value] | display/set aux speed                                |
|         | usrmdn    |       | [1 0]                        | Enable/disable USR modem capability.                 |

## Configuration Related Command

[Home](#)

| Command |                         |                                                         |  | Description                                                                                                                                               |
|---------|-------------------------|---------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| config  |                         |                                                         |  | The parameters of config are listed below.                                                                                                                |
| edit    | firewall                | active <yes no>                                         |  | Activate or deactivate the saved firewall settings                                                                                                        |
|         | custom-service <entry#> | name <string>                                           |  | Configure selected custom-service with name = <string>                                                                                                    |
|         |                         | ip-protocol <icmp   tcp   udp   tcp/udp   user-defined> |  | Configure IP Protocol Type for selected custom-service                                                                                                    |
|         |                         | port-range <start port> <end port>                      |  | When ip-protocol = “tcp   udp   tcp/udp “. configure port range for custom-service entry #. For single port configuration, start port equals to end port. |
|         |                         | user-defined-ip <1~65535>                               |  | When ip-protocol = “user-defined”. Configure user defined IP protocol.                                                                                    |
|         |                         | icmp-type <0~255>                                       |  | When ip-protocol = “icmp”, configure ICMP type.                                                                                                           |

|          |                            |                      |                                                                            |  |                                                                                                                                 |
|----------|----------------------------|----------------------|----------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------|
|          |                            | icmp-code<br><0~255> |                                                                            |  | When ip-protocol = "icmp", configure ICMP code. This field is optional for ICMP.                                                |
| retrieve | firewall                   |                      |                                                                            |  | Retrieve current saved firewall settings                                                                                        |
| save     | firewall                   |                      |                                                                            |  | Save the current firewall settings                                                                                              |
|          | custom-service<br><entry#> |                      |                                                                            |  | Save the custom service entry specified by <entry#>                                                                             |
|          | anti-spam                  |                      |                                                                            |  | Save current AntiSpam settings                                                                                                  |
|          | all                        |                      |                                                                            |  | Save all working SPT buffer into flash.                                                                                         |
| display  | firewall                   |                      |                                                                            |  | Displays all the firewall settings                                                                                              |
|          |                            | set <set#>           |                                                                            |  | Display current entries of a set configuration; including timeout values, name, default-permit, and number of rules in the set. |
|          |                            | set <set#>           | rule <rule#>                                                               |  | Display current entries of a rule in a set.                                                                                     |
|          |                            | attack               |                                                                            |  | Display all the attack alert settings in PNC                                                                                    |
|          |                            | e-mail               |                                                                            |  | Display all the e-mail settings in PNC                                                                                          |
|          |                            | ?                    |                                                                            |  | Display all the available sub commands                                                                                          |
|          | custom-service             |                      |                                                                            |  | Display all configured custom services.                                                                                         |
|          | custom-service <entry #>   |                      |                                                                            |  | Display custom service <entry #>                                                                                                |
|          | anti-spam                  |                      |                                                                            |  | Display AntiSpam settings                                                                                                       |
| edit     |                            | e-mail               | mail-server <mail server IP>                                               |  | Edit the mail server IP to send the alert                                                                                       |
|          |                            |                      | return-addr <e-mail address>                                               |  | Edit the mail address for returning an email alert                                                                              |
|          |                            |                      | e-mail-to <e-mail address>                                                 |  | Edit the mail address to send the alert                                                                                         |
|          |                            |                      | policy <full   hourly   daily   weekly>                                    |  | Edit email schedule when log is full or per hour, day, week.                                                                    |
|          |                            |                      | day <sunday   monday   tuesday   wednesday   thursday   friday   saturday> |  | Edit the day to send the log when the email policy is set to Weekly                                                             |
|          |                            |                      | hour <0~23>                                                                |  | Edit the hour to send the log when the email policy is set to daily or weekly                                                   |
|          |                            |                      | minute <0~59>                                                              |  | Edit the minute to send to log when the email policy is set to daily or weekly                                                  |
|          |                            |                      | Subject <mail subject>                                                     |  | Edit the email subject                                                                                                          |
|          |                            | attack               | send-alert <yes no>                                                        |  | Activate or deactivate the firewall DoS attacks notification emails                                                             |
|          |                            |                      | block <yes no>                                                             |  | Yes: Block the traffic when exceeds the tcp-max-incomplete threshold                                                            |
|          |                            |                      |                                                                            |  | No: Delete the oldest half-open session when exceeds the tcp-max-incomplete threshold                                           |
|          |                            |                      | block-minute <0~255>                                                       |  | Only valid when sets 'Block' to yes. The unit is minute                                                                         |
|          |                            |                      | minute-high <0~255>                                                        |  | The threshold to start to delete the old half-opened sessions to minute-low                                                     |
|          |                            |                      | minute-low <0~255>                                                         |  | The threshold to stop deleting the old half-opened session                                                                      |
|          |                            |                      | max-incomplete-high                                                        |  | The threshold to start to delete the old                                                                                        |

|  |  |            |                                   |                                                         |                                                                                                                                                                                                                              |
|--|--|------------|-----------------------------------|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |            | <0~255>                           |                                                         | half-opened sessions to max-incomplete-low                                                                                                                                                                                   |
|  |  |            | max-incomplete-low<br><0~255>     |                                                         | The threshold to stop deleting the half-opened session                                                                                                                                                                       |
|  |  |            | tcp-max-incomplete<br><0~255>     |                                                         | The threshold to start executing the block field                                                                                                                                                                             |
|  |  | set <set#> | name <desired name>               |                                                         | Edit the name for a set                                                                                                                                                                                                      |
|  |  |            | default-permit<br><forward block> |                                                         | Edit whether a packet is dropped or allowed when it does not match the default set                                                                                                                                           |
|  |  |            | icmp-timeout<br><seconds>         |                                                         | Edit the timeout for an idle ICMP session before it is terminated                                                                                                                                                            |
|  |  |            | udp-idle-timeout<br><seconds>     |                                                         | Edit the timeout for an idle UDP session before it is terminated                                                                                                                                                             |
|  |  |            | connection-timeout<br><seconds>   |                                                         | Edit the wait time for the SYN TCP sessions before it is terminated                                                                                                                                                          |
|  |  |            | fin-wait-timeout<br><seconds>     |                                                         | Edit the wait time for FIN in concluding a TCP session before it is terminated                                                                                                                                               |
|  |  |            | tcp-idle-timeout<br><seconds>     |                                                         | Edit the timeout for an idle TCP session before it is terminated                                                                                                                                                             |
|  |  |            | pnc <yes no>                      |                                                         | PNC is allowed when 'yes' is set even there is a rule to block PNC                                                                                                                                                           |
|  |  |            | log <yes no>                      |                                                         | Switch on/off sending the log for matching the default permit                                                                                                                                                                |
|  |  |            | logone <yes no>                   |                                                         | Switch on/off for one packet that create just one log message.                                                                                                                                                               |
|  |  |            | rule <rule#>                      | permit<br><forward block>                               | Edit whether a packet is dropped or allowed when it matches this rule                                                                                                                                                        |
|  |  |            |                                   | active<br><yes no>                                      | Edit whether a rule is enabled or not                                                                                                                                                                                        |
|  |  |            |                                   | protocol<br><0~255>                                     | Edit the protocol number for a rule. 1=ICMP, 6=TCP, 17=UDP...                                                                                                                                                                |
|  |  |            |                                   | log<br><none match not-match both>                      | Sending a log for a rule when the packet none matches not match both the rule                                                                                                                                                |
|  |  |            |                                   |                                                         |                                                                                                                                                                                                                              |
|  |  |            |                                   | alert<br><yes no>                                       | Activate or deactivate the notification when a DoS attack occurs or there is a violation of any alert settings. In case of such instances, the function will send an email to the SMTP destination address and log an alert. |
|  |  |            |                                   | srcaddr-single<br><ip address>                          | Select and edit a source address of a packet which complies to this rule                                                                                                                                                     |
|  |  |            |                                   | srcaddr-subnet<br><ip address><br><subnet mask>         | Select and edit a source address and subnet mask if a packet which complies to this rule.                                                                                                                                    |
|  |  |            |                                   | srcaddr-range<br><start ip address><br><end ip address> | Select and edit a source address range of a packet which complies to this rule.                                                                                                                                              |
|  |  |            |                                   | destaddr-sing                                           | Select and edit a destination address of a packet                                                                                                                                                                            |



|  |           |             |                     |                                                    |                                                                                                                                                                                         |
|--|-----------|-------------|---------------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |           |             |                     | le <ip address>                                    | which complies to this rule                                                                                                                                                             |
|  |           |             |                     | destaddr-subnet <ip address> <subnet mask>         | Select and edit a destination address and subnet mask if a packet which complies to this rule.                                                                                          |
|  |           |             |                     | destaddr-range <start ip address> <end ip address> | Select and edit a destination address range of a packet which complies to this rule.                                                                                                    |
|  |           |             |                     | tcp destport-single <port#>                        | Select and edit the destination port of a packet which comply to this rule. For non-consecutive port numbers, the user may repeat this command line to enter the multiple port numbers. |
|  |           |             |                     | tcp destport-range <start port#> <end port#>       | Select and edit a destination port range of a packet which comply to this rule.                                                                                                         |
|  |           |             |                     | udp destport-single <port#>                        | Select and edit the destination port of a packet which comply to this rule. For non-consecutive port numbers, users may repeat this command line to enter the multiple port numbers.    |
|  |           |             |                     | udp destport-range <start port#> <end port#>       | Select and edit a destination port range of a packet which comply to this rule.                                                                                                         |
|  |           |             |                     | desport-custom <desired custom port name>          | Type in the desired custom port name                                                                                                                                                    |
|  |           |             |                     | custom-ip <desired custom service name>            | Type in the desired User Defined IP Protocol custom service.                                                                                                                            |
|  |           |             |                     | custom-icmp <desired custom service name>          | Type in the desired ICMP custom service                                                                                                                                                 |
|  | anti-spam |             |                     |                                                    |                                                                                                                                                                                         |
|  |           | action      | <0 1>               |                                                    | Set the action for Spam Mail: add tag(0) or discard mail(1).                                                                                                                            |
|  |           | markString  | <spam tag>          |                                                    | Set the Spam tag string. This tag will add to the subject of spam mail.                                                                                                                 |
|  |           | externDB    | <0 1>               |                                                    | Enable(1)/Disable(0) External Database Query.                                                                                                                                           |
|  |           | query       | <0 1>               |                                                    | Set the action for no spam score: add tag(0) or discard mail(1).                                                                                                                        |
|  |           | queryString | <no spam score tag> |                                                    | Set the tag string for no spam score. This tag will add to the subject of spam mail.                                                                                                    |
|  |           | threshold   | <threshold>         |                                                    | Set the spam score threshold. If the spam score                                                                                                                                         |

|        |           |                |                |                                                                            |                                                                             |
|--------|-----------|----------------|----------------|----------------------------------------------------------------------------|-----------------------------------------------------------------------------|
|        |           |                |                |                                                                            | is higher than this threshold, this mail will be judge as spam mail.        |
|        |           | switch         | <0 1>          |                                                                            | Enable(1)/Disable(0) AntiSpam function.                                     |
|        |           | whiteRule      | <0 1>          |                                                                            | Enable(1)/Disable(0) AntiSpam White Rule Filter.                            |
|        |           | blackRule      | <0 1>          |                                                                            | Enable(1)/Disable(0) AntiSpam Black Rule Filter.                            |
|        |           | phishingString | <Phishing tag> |                                                                            | Set the phishing tag string. This tag will add to the subject of spam mail. |
|        |           | rule           | <rule number>  | ip <index><br>active <0 1><br>address <ip address><br>netmask <netmask>    | Set the While(1)/Black(2) Rule IP Filter. The <index> is start from 0.      |
|        |           |                |                | email <index><br>active <0 1><br>data <email address>                      | Set the While(1)/Black(2) Rule Email Filter. The <index> is start from 0.   |
|        |           |                |                | mime <index><br>active <0 1><br>header <MIME Header><br>value <MIME Value> | Set the While(1)/Black(2) Rule MIME Filter. The <index> is start from 0.    |
| delete | firewall  | e-mail         |                |                                                                            | Remove all email alert settings                                             |
|        |           | attack         |                |                                                                            | Reset all alert settings to defaults                                        |
|        |           | set <set#>     |                |                                                                            | Remove a specified set from the firewall configuration                      |
|        |           | set <set#>     | rule <rule#>   |                                                                            | Remove a specified rule in a set from the firewall configuration            |
|        | anti-spam | blackRule      |                |                                                                            | Remove the AntiSpam Black Rule.                                             |
|        |           | whiteRule      |                |                                                                            | Remove the AntiSpam White Rule.                                             |
| insert | firewall  | e-mail         |                |                                                                            | Insert email alert settings                                                 |
|        |           | attack         |                |                                                                            | Insert attack alert settings                                                |
|        |           | set <set#>     |                |                                                                            | Insert a specified rule set to the firewall configuration                   |
|        |           | set <set#>     | rule <rule#>   |                                                                            | Insert a specified rule in a set to the firewall configuration              |
| cli    |           |                |                |                                                                            | Display the choices of command list.                                        |
| debug  | <1 0>     |                |                |                                                                            | Turn on/off trace for firewall debug information.                           |

#### IP Related Command

[Home](#)

| Command |          |        |                            | Description                    |
|---------|----------|--------|----------------------------|--------------------------------|
| ip      |          |        |                            |                                |
|         | address  |        | [addr]                     | display host ip address        |
|         | alias    |        | <iface>                    | alias iface                    |
|         | aliasdis |        | <0 1>                      | disable alias                  |
|         | alg      |        |                            |                                |
|         |          | disp   |                            | Show ALG enable disable status |
|         |          | enable | <ALG_FTP ALG_H323 ALG_SIP> | Enable ALG command             |

|  |      |               |                                         |                                                             |
|--|------|---------------|-----------------------------------------|-------------------------------------------------------------|
|  |      | disable       | <ALG_FTP ALG_H323 ALG_SIP>              | Disable ALG command                                         |
|  |      | siptimeout    | <timeout in second> or 0 for no timeout | Configure SIP timeout command                               |
|  |      | ftpPortNum    | [port number]                           | Support a different port number on FTP ALG.                 |
|  | arp  |               |                                         |                                                             |
|  |      | status        | <iface>                                 | display ip arp status                                       |
|  |      | add           | <hostid> ether <ether addr>             | add arp information                                         |
|  |      | resolve       | <hostid>                                | resolve ip-addr                                             |
|  |      | replydif      | [<0:No 1:yes>]                          | reply different interface ip-addr's arp request             |
|  |      | drop          | <hostid> [hardware]                     | drop arp                                                    |
|  |      | flush         |                                         | flush arp table                                             |
|  |      | publish       |                                         | add proxy arp                                               |
|  |      | period        | < value: 30~3000>                       | Set arp period.                                             |
|  |      | attpret       | <on off>                                | Switch receive APR from the different network or not.       |
|  |      | force         | <on off>                                | Switch the time out function of the APR.                    |
|  |      | ackGratuitous | active [yes no]                         | Let DUT accept gratuitous ARP request.                      |
|  |      |               | forceUpdate [on off]                    | Update the exist MAC mapping to new one.                    |
|  | dhcp |               | <iface>                                 |                                                             |
|  |      | client        |                                         |                                                             |
|  |      |               | release                                 | release DHCP client IP                                      |
|  |      |               | renew                                   | renew DHCP client IP                                        |
|  |      | mode          | <server relay none client>              | set dhcp mode                                               |
|  |      | relay         | server <serverIP>                       | set dicp relay server ip-addr                               |
|  |      | reset         |                                         | reset dhcp table                                            |
|  |      | server        |                                         |                                                             |
|  |      |               | probecount <num>                        | set dhcp probe count                                        |
|  |      |               | dnsserver <IP1> [IP2] [IP3]             | set dns server ip-addr                                      |
|  |      |               | winsserver <winsIP1> [<winsIP2>]        | set wins server ip-addr                                     |
|  |      |               | gateway <gatewayIP>                     | set gateway                                                 |
|  |      |               | hostname <hostname>                     | set hostname                                                |
|  |      |               | initialize                              | fills in DHCP parameters and initializes (for PWC purposes) |
|  |      |               | leasetime <period>                      | set dhcp leasetime                                          |
|  |      |               | netmask <netmask>                       | set dhcp netmask                                            |
|  |      |               | pool <startIP> <numIP>                  | set dhcp ip pool                                            |
|  |      |               | renewaltime <period>                    | set dhcp renew time                                         |
|  |      |               | rebindtime <period>                     | set dhcp rebind time                                        |
|  |      |               | reset                                   | reset dhcp table                                            |
|  |      |               | server <serverIP>                       | set dhcp server ip for relay                                |
|  |      |               | dnsorder [router isp]                   | set dhcp dns order                                          |
|  |      |               | release <entry num>                     | release specific entry of the dhcp server pool              |
|  |      | status        | [option]                                | show dhcp status                                            |
|  |      | static        |                                         |                                                             |
|  |      |               | Delete <num> all                        | delete static dhcp mac table                                |
|  |      |               | display                                 | display static dhcp mac table                               |
|  |      |               | update <num> <mac> <ip>                 | update static dhcp mac table                                |
|  | dns  |               |                                         |                                                             |
|  |      | query         |                                         |                                                             |
|  |      |               | address <ipaddr> [timeout]              | resolve ip-addr to name                                     |
|  |      |               | Debug <num>                             | enable dns debug value                                      |
|  |      |               | Name <hostname> [timeout]               | resolve name to multiple IP addresses                       |
|  |      |               | Status                                  | display dns query status                                    |
|  |      |               | Table                                   | display dns query table                                     |

|  |          |              |                                                                                                                                                                  |                                    |
|--|----------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
|  |          | server       | <primary> [secondary] [third]                                                                                                                                    | set dns server                     |
|  |          | stats        |                                                                                                                                                                  |                                    |
|  |          |              | Clear                                                                                                                                                            | clear dns statistics               |
|  |          |              | Disp                                                                                                                                                             | display dns statistics             |
|  |          | table        |                                                                                                                                                                  | display dns table                  |
|  |          | default      | <ip>                                                                                                                                                             | Set default DNS server             |
|  |          | system       |                                                                                                                                                                  |                                    |
|  |          |              | display                                                                                                                                                          | display dns system information     |
|  |          |              | edita <record idx> <name><br><0:FQDN 1:wildcard> <0:from ISP<br>group 1:user defined> <isp group<br>idx ip address>                                              | edit dns A record                  |
|  |          |              | editns <record idx> <*<br>domain<br>name> <0:from ISP 1:user<br>defined(public) 2: user<br>defined(private)> <isp group idx dns<br>server ip>                    | edit dns NS record                 |
|  |          |              | inserta <before record idx -1:new><br><name> <0:FQDN 1:wildcard><br><0:from ISP group 1:user defined><br><isp group idx ip address>                              | insert dns A record                |
|  |          |              | insertns <before record idx -1:new><br><*<br>domain<br>name> <0:from ISP 1:user<br>defined(public) 2: user<br>defined(private)> <isp group idx dns<br>server ip> | insert dns NS record               |
|  |          |              | movea <record idx> <record idx>                                                                                                                                  | move dns A record                  |
|  |          |              | movens <record idx> <record idx>                                                                                                                                 | move dns NS record                 |
|  |          |              | dela <record idx>                                                                                                                                                | delete DNS A record                |
|  |          |              | delns <record idx>                                                                                                                                               | delete DNS NS record               |
|  |          | system cache |                                                                                                                                                                  |                                    |
|  |          |              | disp<br><0:none 1:name 2:type 3:IP 4:refCnt <br>5:ttl> [0:increase 1:decrease]                                                                                   | display DNS cache table            |
|  |          |              | flush                                                                                                                                                            | flush DNS cache                    |
|  |          |              | negaperiod <second(60 ~ 3600)>                                                                                                                                   | set negative cache period          |
|  |          |              | negative <0: disable 1: enable>                                                                                                                                  | enable/disable dns negative cache  |
|  |          |              | positive <0: disable 1: enable>                                                                                                                                  | enable/disable dns positive cache  |
|  | Httpd    |              |                                                                                                                                                                  |                                    |
|  |          | debug        | [on off]                                                                                                                                                         | set http debug flag                |
|  | icmp     |              |                                                                                                                                                                  |                                    |
|  |          | echo         | [on off]                                                                                                                                                         | set icmp echo response flag        |
|  |          | data         | <option>                                                                                                                                                         | select general data type           |
|  |          |              | cmd [on off]                                                                                                                                                     | check icmp echo reply command data |
|  |          |              | rsp [on off]                                                                                                                                                     | check icmp response                |
|  |          |              | indication [i r l p]                                                                                                                                             | set icmp indication                |
|  |          | status       |                                                                                                                                                                  | display icmp statistic counter     |
|  |          | trace        | [on off]                                                                                                                                                         | turn on/off trace for debugging    |
|  |          | discovery    | <iface> [on off]                                                                                                                                                 | set icmp router discovery flag     |
|  | ifconfig |              | [iface] [ipaddr] [broadcast <addr><br> mtu <value> dynamic]                                                                                                      | configure network interface        |
|  | ping     |              | <hostid>                                                                                                                                                         | ping remote host                   |
|  | route    |              |                                                                                                                                                                  |                                    |
|  |          | status       | [if]                                                                                                                                                             | display routing table              |

|  |         |                |                                                          |                                                      |
|--|---------|----------------|----------------------------------------------------------|------------------------------------------------------|
|  |         | add            | <dest_addr default>[/<bits>]<br><gateway> [<metric>]     | add route                                            |
|  |         | addiface       | <dest_addr default>[/<bits>]<br><gateway> [<metric>]     | add an entry to the routing table to iface           |
|  |         | drop           | <host addr> [/<bits>]                                    | drop a route                                         |
|  |         | flush          |                                                          | flush route table                                    |
|  |         | lookup         | <addr>                                                   | find a route to the destination                      |
|  |         | errcnt         |                                                          |                                                      |
|  |         |                | disp                                                     | display routing statistic counters                   |
|  |         |                | clear                                                    | clear routing statistic counters                     |
|  | status  |                |                                                          | display ip statistic counters                        |
|  | stroute |                |                                                          |                                                      |
|  |         | display        | [rule #   buf]                                           | display rule index or detail message in rule.        |
|  |         | load           | <rule #>                                                 | load static route rule in buffer                     |
|  |         | save           |                                                          | save rule from buffer to spt.                        |
|  |         | config         |                                                          |                                                      |
|  |         |                | name <site name>                                         | set name for static route.                           |
|  |         |                | destination <dest addr>[/<bits>]<br><gateway> [<metric>] | set static route destination address and gateway.    |
|  |         |                | mask <IP subnet mask>                                    | set static route subnet mask.                        |
|  |         |                | gateway <IP address>                                     | set static route gateway address.                    |
|  |         |                | metric <metric #>                                        | set static route metric number.                      |
|  |         |                | private <yes/no>                                         | set private mode.                                    |
|  |         |                | active <yes/no>                                          | set static route rule enable or disable.             |
|  | adjTcp  |                | <iface> [<mss>]                                          | adjust the TCP mss of iface                          |
|  | adjmss  |                | [mss]                                                    | adjust all system TCP mss of iface                   |
|  | udp     |                |                                                          |                                                      |
|  |         | status         |                                                          | display udp status                                   |
|  | rip     |                |                                                          |                                                      |
|  |         | accept         | <gateway>                                                | drop an entry from the RIP refuse list               |
|  |         | activate       |                                                          | enable rip                                           |
|  |         | merge          | [on/off]                                                 | set RIP merge flag                                   |
|  |         | refuse         | <gateway>                                                | add an entry to the rip refuse list                  |
|  |         | request        | <addr> [port]                                            | send rip request to some address and port            |
|  |         | reverse        | [on/off]                                                 | RIP Poisoned Reverse                                 |
|  |         | status         |                                                          | display rip statistic counters                       |
|  |         | trace          |                                                          | enable debug rip trace                               |
|  |         | mode           |                                                          |                                                      |
|  |         |                | <iface> in [mode]                                        | set rip in mode                                      |
|  |         |                | <iface> out [mode]                                       | set rip out mode                                     |
|  |         | dialin_user    | [show in out both none]                                  | show dialin user rip direction                       |
|  | tcp     |                |                                                          |                                                      |
|  |         | ceiling        | [value]                                                  | TCP maximum round trip time                          |
|  |         | floor          | [value]                                                  | TCP minimum rtt                                      |
|  |         | irtt           | [value]                                                  | TCP default init rtt                                 |
|  |         | kick           | <tcb>                                                    | kick tcb                                             |
|  |         | limit          | [value]                                                  | set tcp output window limit                          |
|  |         | max-incomplete | [number]                                                 | Set the maximum number of TCP incomplete connection. |
|  |         | mss            | [value]                                                  | TCP input MSS                                        |
|  |         | reset          | <tcb>                                                    | reset tcb                                            |
|  |         | rtt            | <tcb> <value>                                            | set round trip time for tcb                          |
|  |         | status         | [tcb] [<interval>]                                       | display TCP statistic counters                       |
|  |         | syndata        | [on/off]                                                 | TCP syndata piggyback                                |

|  |            |            |                                                            |                                                           |
|--|------------|------------|------------------------------------------------------------|-----------------------------------------------------------|
|  |            | trace      | [on/off]                                                   | turn on/off trace for debugging                           |
|  |            | window     | [tcb]                                                      | TCP input window size                                     |
|  | samenet    |            | <iface1> [<iface2>]                                        | display the ifaces that in the same net                   |
|  | uninet     |            | <iface>                                                    | set the iface to uninet                                   |
|  | telnet     |            | <host> [port]                                              | execute telnet clinet command                             |
|  | tftp       |            |                                                            |                                                           |
|  |            | support    |                                                            | prtn if tftp is support                                   |
|  |            | stats      |                                                            | display tftp status                                       |
|  | traceroute |            | <host> [ttl] [wait] [queries]                              | send probes to trace route of a remote host               |
|  | xparent    |            |                                                            |                                                           |
|  |            | join       | <iface1> [<iface2>]                                        | join iface2 to iface1 group                               |
|  |            | break      | <iface>                                                    | break iface to leave ipxparent group                      |
|  | anitprobe  |            | <0 1> 1:yes 0:no                                           | set ip anti-probe flag                                    |
|  | forceproxy |            | <display/set> [on/off] [servicePort] [proxyIp] [proxyport] | enable TCP forceproxy                                     |
|  | ave        |            |                                                            | anti-virus enforce                                        |
|  | urlfilter  |            |                                                            |                                                           |
|  |            | bypass     | [LAN/DMZ/WAN] [ON/OFF]                                     | Let lan to lan(for example) packet bypass content filter. |
|  |            | enable     |                                                            | enable/disable url filter function                        |
|  |            | reginfo    |                                                            |                                                           |
|  |            |            | display                                                    | display urlfilter registration information                |
|  |            |            | name                                                       | set urlfilter registration name                           |
|  |            |            | eMail <size>                                               | set urlfilter registration email addr                     |
|  |            |            | country <size>                                             | set urlfilter registration country                        |
|  |            |            | clearAll                                                   | clear urlfilter register information                      |
|  |            | category   |                                                            |                                                           |
|  |            |            | display                                                    | display urlfilter category                                |
|  |            |            | webFeature [block/nonblock] [activex/java/cookei/webproxy] | block or unblock webfeature                               |
|  |            |            | logAndBlock [log/logAndBlock]                              | set log only or log and block                             |
|  |            |            | blockCategory [block/nonblock] [all/type(1-14)]            | block or unblock type                                     |
|  |            |            | timeOfDay [always/hh:mm] [hh:mm]                           | set block time                                            |
|  |            |            | clearAll                                                   | clear all category information                            |
|  |            | listUpdate |                                                            |                                                           |
|  |            |            | display                                                    | display listupdate status                                 |
|  |            |            | actionFlags [yes/no]                                       | set listupdate or not                                     |
|  |            |            | scheduleFlag [pending]                                     | set schedule flag                                         |
|  |            |            | dayFlag [pending]                                          | set day flag                                              |
|  |            |            | time [pending]                                             | set time                                                  |
|  |            |            | clearAll                                                   | clear all listupdate information                          |
|  |            | exemptZone |                                                            |                                                           |
|  |            |            | display                                                    | display exemptzone information                            |
|  |            |            | actionFlags [type(1-3)][enable/disable]                    | set action flags                                          |
|  |            |            | add [ip1] [ip2]                                            | add exempt range                                          |
|  |            |            | delete [ip1] [ip2]                                         | delete exempt range                                       |
|  |            |            | reset                                                      | clear exemptzone information                              |
|  |            | customize  |                                                            |                                                           |
|  |            |            | display                                                    | display customize action flags                            |
|  |            |            | actionFlags [filterList/disableAllExceptTrusted/           | set action flags                                          |

|  |        |                |                                                                                     |                                                                                      |
|--|--------|----------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |        |                | unblockRWFToTrusted/keywordBlock/fullPath/caseInsensitive/fileName][enable/disable] |                                                                                      |
|  |        |                | logFlags [type(1-3)][enable/disable]                                                | set log flags                                                                        |
|  |        |                | add [string] [trust/untrust/keyword]                                                | add url string                                                                       |
|  |        |                | delete [string] [trust/untrust/keyword]                                             | delete url string                                                                    |
|  |        |                | reset                                                                               | clear all information                                                                |
|  |        | logDisplay     |                                                                                     | display cyber log                                                                    |
|  |        | ftplist        |                                                                                     | update cyber list data                                                               |
|  |        | listServerIP   | <ipaddr>                                                                            | set list server ip                                                                   |
|  |        | listServerName | <name>                                                                              | set list server name                                                                 |
|  |        | general        |                                                                                     |                                                                                      |
|  |        |                | enable                                                                              | enable/disable url filter function                                                   |
|  |        |                | display                                                                             | display content filter's general setting                                             |
|  |        |                | webFeature                                                                          | [block/nonblock]<br>[activex/java/cookei/webproxy]                                   |
|  |        |                | timeOfDay[always/hh:mm] [hh:mm]                                                     | set block time                                                                       |
|  |        |                | exemptZone display                                                                  | display exemptzone information                                                       |
|  |        |                | exemptZone actionFlags<br>[type(1-3)][enable/disable]                               | set action flags                                                                     |
|  |        |                | exemptZone add [ip1] [ip2]                                                          | add exempt range                                                                     |
|  |        |                | exemptZone delete [ip1] [ip2]                                                       | delete exempt range                                                                  |
|  |        |                | exemptZone reset                                                                    | clear exemptzone information                                                         |
|  |        |                | reset                                                                               | reset content filter's general setting                                               |
|  |        | webControl     |                                                                                     |                                                                                      |
|  |        |                | enable                                                                              | enable cbr_filter                                                                    |
|  |        |                | display                                                                             | display cbr_filter's setting                                                         |
|  |        |                | logAndBlock [log/block/both]                                                        | set log or block on matched web site                                                 |
|  |        |                | category                                                                            | set blocked categories                                                               |
|  |        |                | serverList display                                                                  | display current cbr_filter servers                                                   |
|  |        |                | serverList refresh                                                                  | refresh cbr_filter servers                                                           |
|  |        |                | queryURL [url][Server/localCache]                                                   | query url need to block or forward according the database on server or local cache   |
|  |        |                | cache display                                                                       | display the local cache entries                                                      |
|  |        |                | cache delete [entrynum/All]                                                         | delete the local cache entries                                                       |
|  |        |                | cache timeout [hour]                                                                | Set timeout value of cache entries                                                   |
|  |        |                | blockonerror [log/block][on/off]                                                    | choose log or block when server is unavailable                                       |
|  |        |                | unratedwebsite[block log][on/off]                                                   | choose log or block for unrated web site                                             |
|  |        |                | waitingTime [sec]                                                                   | set waiting time for server                                                          |
|  |        |                | reginfo display                                                                     | display the license key with cerberian                                               |
|  |        |                | reginfo refresh                                                                     | Check whether device had been registered and write the original license key to flash |
|  |        |                | zssw                                                                                | change the zssw's URL                                                                |
|  | tredir |                |                                                                                     |                                                                                      |
|  |        | failcount      | <count>                                                                             | set tredir failcount                                                                 |
|  |        | partner        | <ipaddr>                                                                            | set tredir partner                                                                   |
|  |        | target         | <ipaddr>                                                                            | set tredir target                                                                    |
|  |        | timeout        | <timeout>                                                                           | set tredir timeout                                                                   |
|  |        | checktime      | <period>                                                                            | set tredir checktime                                                                 |
|  |        | active         | <on/off>                                                                            | set tredir active                                                                    |
|  |        | save           |                                                                                     | save tredir information                                                              |
|  |        | disp           |                                                                                     | display tredir information                                                           |
|  |        | debug          | <value>                                                                             | set tredir debug value                                                               |
|  | rpt    |                |                                                                                     |                                                                                      |

|  |          |            |                                      |                                               |
|--|----------|------------|--------------------------------------|-----------------------------------------------|
|  |          | active     | [0:lan 1:dmz][1:yes 0:no]            | active report                                 |
|  |          | start      | [0:lan 1:dmz]                        | start report                                  |
|  |          | stop       | [0:lan 1:dmz]                        | stop report                                   |
|  |          | url        | [0:lan 1:dmz] [num]                  | top url hit list                              |
|  |          | ip         | [0:lan 1:dmz] [num]                  | top ip addr list                              |
|  |          | srv        | [0:lan 1:dmz] [num]                  | top service port list                         |
|  | dropIcmp |            | [0   1]                              | to drop ICMP fragment packets                 |
|  | nat      |            |                                      |                                               |
|  |          | period     | [period]                             | set nat timer period                          |
|  |          | port       | [port]                               | set nat starting external port number         |
|  |          | checkport  |                                      | verify all server tables are valid            |
|  |          | timeout    |                                      |                                               |
|  |          |            | gre [timeout]                        | set nat gre timeout value                     |
|  |          |            | iamt [timeout]                       | set nat iamt timeout value                    |
|  |          |            | generic [timeout]                    | set nat generic timeout value                 |
|  |          |            | reset [timeout]                      | set nat reset timeout value                   |
|  |          |            | tcp [timeout]                        | set nat tcp timeout value                     |
|  |          |            | tcpother [timeout]                   | set nat tcp other timeout value               |
|  |          |            | udp [port] <value>                   | set nat udp timeout value of specific port    |
|  |          |            | display                              | display all the timeout values                |
|  |          | update     |                                      | create nat system information from spSysParam |
|  |          | iamt       | <iface>                              | display nat iamt information                  |
|  |          | lookup     | <rule set>                           | display nat lookup rule                       |
|  |          | loopback   | [on off]                             | turn on/off nat loopback flag                 |
|  |          | reset      | <iface>                              | reset nat table of an iface                   |
|  |          | server     |                                      |                                               |
|  |          |            | disp                                 | display nat server table                      |
|  |          |            | load <set id>                        | load nat server information from ROM          |
|  |          |            | save                                 | save nat server information to ROM            |
|  |          |            | clear <set id>                       | clear nat server information                  |
|  |          |            | edit active <yes no>                 | set nat server edit active flag               |
|  |          |            | edit svrport <start port> [end port] | set nat server server port                    |
|  |          |            | edit intport <start port> [end port] | set nat server forward port                   |
|  |          |            | edit remotehost <start ip> [end ip]  | set nat server remote host ip                 |
|  |          |            | edit leasetime [time]                | set nat server lease time                     |
|  |          |            | edit rulename [name]                 | set nat server rule name                      |
|  |          |            | edit forwardip [ip]                  | set nat server server ip                      |
|  |          |            | edit protocol [protocol id]          | set nat server protocol                       |
|  |          |            | edit clear                           | clear one rule in the set                     |
|  |          | service    |                                      |                                               |
|  |          |            | irc [on off]                         | turn on/off irc flag                          |
|  |          |            | xboxlive [on off]                    | turn on/off xboxlive flag                     |
|  |          |            | sip debug                            | enable/disable sip debug flag                 |
|  |          |            | sip display                          | display the sip call buffer                   |
|  |          |            | aol [on off]                         | Turn on/off aol flag                          |
|  |          | resetport  |                                      | reset all nat server table entries            |
|  |          | incikeport | [on off]                             | turn on/off increase ike port flag            |
|  |          | session    | [session per host]                   | set nat session per host value                |
|  |          | deleteslot | <iface> <slot>                       | delete specific slot of iface                 |
|  |          | debug      |                                      |                                               |
|  |          |            | natTraversal [on off]                | set NAT traversal debug flag                  |
|  |          |            | hash [on off]                        | set NAT hash table debug flag                 |
|  |          |            | session [on off]                     | set NAT session debug flag                    |



|  |      |                 |                                     |                                                                         |
|--|------|-----------------|-------------------------------------|-------------------------------------------------------------------------|
|  |      | hashtable       | <enifX, X=0, 1, 2, ...>             | show the NAT hash table of enifX                                        |
|  |      | natTable        | [enifX, X=0, 1, 2, ...]             | show the NAT global information                                         |
|  |      | simulation      | <enifX, X=0, 1, 2, ...>             | for engineer debug only                                                 |
|  |      | acl             |                                     |                                                                         |
|  |      |                 | display                             | display all NAT acl set and rule information                            |
|  |      |                 | load <set number>                   | load a specific acl of set number                                       |
|  |      |                 | move <set#> <rule# from> <rule# to> | Move specific acl rule to specific position.                            |
|  |      |                 | save <set number>                   | save a specific acl of set number                                       |
|  |      | routing         | [0:LAN 1:DMZ] [0:no 1:yes]          | set NAT routing attributes                                              |
|  |      | historicalCHigh |                                     | Display the historical highest count of concurrent NAT sessions         |
|  |      | historicalHigh  |                                     | Display the historical highest count of NAT sessions based on per host. |
|  | igmp |                 |                                     |                                                                         |
|  |      | debug           | [level]                             | set igmp debug level                                                    |
|  |      | forwardall      | [on/off]                            | turn on/off igmp forward to all interfaces flag                         |
|  |      | querier         | [on/off]                            | turn on/off igmp stop query flag                                        |
|  |      | iface           |                                     |                                                                         |
|  |      |                 | <iface> grouptm <timeout>           | set igmp group timeout                                                  |
|  |      |                 | <iface> interval <interval>         | set igmp query interval                                                 |
|  |      |                 | <iface> join <group>                | join a group on iface                                                   |
|  |      |                 | <iface> leave <group>               | leave a group on iface                                                  |
|  |      |                 | <iface> query                       | send query on iface                                                     |
|  |      |                 | <iface> rsptime [time]              | set igmp response time                                                  |
|  |      |                 | <iface> start                       | turn on of igmp on iface                                                |
|  |      |                 | <iface> stop                        | turn off of igmp on iface                                               |
|  |      |                 | <iface> ttl <threshold>             | set ttl threshold                                                       |
|  |      |                 | <iface> v1compat [on/off]           | turn on/off v1compat on iface                                           |
|  |      | robustness      | <num>                               | set igmp robustness variable                                            |
|  |      | status          |                                     | dump igmp status                                                        |
|  | pr   |                 |                                     |                                                                         |
|  |      | clear           |                                     | clear ip pr table counter information                                   |
|  |      | disp            |                                     | display policy route set and rule information                           |
|  |      | move            |                                     | move specific policy route rule to another rule                         |
|  |      | dispCnt         |                                     | dump ip pr table counter information                                    |
|  |      | switch          |                                     | turn on/off ip pr table counter flag                                    |

#### IPSec Related Command

[Home](#)

|       |       | Command |                                                                                                                  | Description                                                                                                                          |
|-------|-------|---------|------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| ipsec |       |         |                                                                                                                  |                                                                                                                                      |
|       | debug | type    | <0:Disable   1:Original on/off   2:IKE on/off   3: IPSec [SPI] on/off   4:XAUTH on/off   5:CERT on/off   6: All> | Turn on/off trace for IPsec debug information                                                                                        |
|       |       | level   | <0:None   1:User   2:Low   3:High>                                                                               | Set the debug level. Higher number means more detailed.                                                                              |
|       |       | display |                                                                                                                  | Show debugging information, include type and level.                                                                                  |
|       | route | dmz     | <on/off>                                                                                                         | After a packet is IPsec processed and will be sent to DMZ side, this switch is to control if this packet can be applied IPsec again. |
|       |       | lan     | <on/off>                                                                                                         | After a packet is IPsec processed and will be                                                                                        |

|  |              |                 |                         |                                                                                                                                                                                                                                                          |
|--|--------------|-----------------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |              |                 |                         | sent to LAN side, this switch is to control if this packet can be applied IPSec again.                                                                                                                                                                   |
|  |              |                 |                         | Remark: Command available since 3.50(WA.3)                                                                                                                                                                                                               |
|  |              | wan             | <on off>                | After a packet is IPSec processed and will be sent to WAN side, this switch is to control if this packet can be applied IPSec again.                                                                                                                     |
|  |              | wlan            | <on off>                | After a packet is IPSec processed and will be sent to WLAN side, this switch is to control if this packet can be applied IPSec again.                                                                                                                    |
|  | show_runtime | sa              |                         | display runtime phase 1 and phase 2 SA information                                                                                                                                                                                                       |
|  |              | spd             |                         | When a dynamic rule accepts a request and a tunnel is established, a runtime SPD is created according to peer local IP address. This command is to show these runtime SPD.                                                                               |
|  |              | List            |                         | Display brief runtime phase 1 and phase 2 SA information                                                                                                                                                                                                 |
|  | switch       | <on off>        |                         | As long as there exists one active IPSec rule, all packets will run into IPSec process to check SPD. This switch is to control if a packet should do this. If it is turned on, even there exists active IPSec rules, packets will not run IPSec process. |
|  | timer        | chk_conn.       | <0~255>                 | - Adjust auto-timer to check if any IPsec connection has “only outbound traffic but no inbound traffic” for certain period. If yes, system will disconnect it.                                                                                           |
|  |              |                 |                         | - Interval is in minutes                                                                                                                                                                                                                                 |
|  |              |                 |                         | - Default is 2 minuets                                                                                                                                                                                                                                   |
|  |              |                 |                         | - 0 means never timeout                                                                                                                                                                                                                                  |
|  |              | update_peer     | <0~255>                 | - Adjust auto-timer to update IPSec rules which use domain name as the secure gateway IP.                                                                                                                                                                |
|  |              |                 |                         | - Interval is in minutes                                                                                                                                                                                                                                 |
|  |              |                 |                         | - Default is 30 minutes                                                                                                                                                                                                                                  |
|  |              |                 |                         | - 0 means never update                                                                                                                                                                                                                                   |
|  |              | chk_input       | <0~255>                 | - Adjust input timer to check if any IPSec connection has no inbound traffic for a certain period. If yes, system will disconnect it.                                                                                                                    |
|  |              |                 |                         | - Interval is in minutes                                                                                                                                                                                                                                 |
|  |              |                 |                         | - Default is 2 minuets                                                                                                                                                                                                                                   |
|  |              |                 |                         | - 0 means never timeout                                                                                                                                                                                                                                  |
|  | dial         | <policy index>  |                         | Initiate IPSec rule <policy index> from ZyWALL box                                                                                                                                                                                                       |
|  | ikeDisplay   | <rule #>        |                         | Display IKE rule #, if no rule number assigned, this command will show current working buffer. NOTE: If working buffer is null, it will show error messages. Please ADD or EDIT an IKE rule before display.                                              |
|  | ikeAdd       |                 |                         | Create a working buffer for IKE rule.                                                                                                                                                                                                                    |
|  | ikeEdit      | <rule #>        |                         | Edit an existing IKE rule #                                                                                                                                                                                                                              |
|  | ikeSave      |                 |                         | Save working buffer of IKE rule to romfile.                                                                                                                                                                                                              |
|  | ikeList      |                 |                         | List all IKE rules                                                                                                                                                                                                                                       |
|  | ikeDelete    | <rule #>        |                         | Delete IKE rule #                                                                                                                                                                                                                                        |
|  | ikeConfig    | name            | <string>                | Set rule name (max length is 31)                                                                                                                                                                                                                         |
|  |              | negotiationMode | <0:Main   1:Aggressive> | Set negotiation mode                                                                                                                                                                                                                                     |

|  |              |                 |                                                                                 |                                                                                                                                                                                                                    |
|--|--------------|-----------------|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |              | natTraversal    | <Yes  No>                                                                       | Enable NAT traversal or not.                                                                                                                                                                                       |
|  |              | multiPro        | <Yes No>                                                                        | Enable multiple proposals in IKE or not                                                                                                                                                                            |
|  |              | lcIdType        | <0:IP   1:DNS   2:Email>                                                        | Set local ID type                                                                                                                                                                                                  |
|  |              | lcIdContent     | <string>                                                                        | Set local ID content                                                                                                                                                                                               |
|  |              | myIpAddr        | <IP address>                                                                    | Set my IP address                                                                                                                                                                                                  |
|  |              | peerIdType      | <0:IP   1:DNS   2:Email>                                                        | Set peer ID type                                                                                                                                                                                                   |
|  |              | peerIdContent   | <string>                                                                        | Set peer ID content                                                                                                                                                                                                |
|  |              | secureGwAddr    | <IP address   Domain name>                                                      | Set secure gateway address or domain name                                                                                                                                                                          |
|  |              | authMethod      | <0:PreSharedKey   1:RSASignature   2:preShare Key+XAUTH   3:RSASignature+XAUTH> | Set authentication method in phase 1 in IKE                                                                                                                                                                        |
|  |              | preShareKey     | <ASCII   0xHEX>                                                                 | Set pre shared key in phase 1 in IKE                                                                                                                                                                               |
|  |              | certificate     | <certificate name>                                                              | Set certificate file if using RSA signature as authentication method.                                                                                                                                              |
|  |              | encryAlgo       | <0:DES   1:3DES   2:AES>                                                        | Set encryption algorithm in phase 1 in IKE                                                                                                                                                                         |
|  |              | authAlgo        | <0:MD5   1:SHA1>                                                                | Set authentication algorithm in phase 1 in IKE                                                                                                                                                                     |
|  |              | saLifeTime      | <seconds>                                                                       | Set sa life time in phase 1 in IKE                                                                                                                                                                                 |
|  |              | keyGroup        | <0:DH1   1:DH2>                                                                 | Set key group in phase 1 in IKE                                                                                                                                                                                    |
|  |              | xauth           | type <0:Client Mode   1:Server Mode>                                            | Set client or server mode.                                                                                                                                                                                         |
|  |              |                 | username <name>                                                                 | Set xauth user name                                                                                                                                                                                                |
|  |              |                 | password <password>                                                             | Set xauth password                                                                                                                                                                                                 |
|  |              |                 | radius <username> <password>                                                    | Ser radius username and password                                                                                                                                                                                   |
|  | ipsecDisplay | <rule #>        |                                                                                 | Display IPSec rule #, if no rule number assigned, this command will show current working buffer.<br>NOTE: If working buffer is null, it will show error messages. Please ADD or EDIT an IPSec rule before display. |
|  | ipsecAdd     |                 |                                                                                 | Create a working buffer for IPSec rule.                                                                                                                                                                            |
|  | ipsecEdit    | <rule #>        |                                                                                 | Edit IPSec rule #                                                                                                                                                                                                  |
|  | ipsecSave    |                 |                                                                                 | Save working buffer of IPSec rule to romfile.                                                                                                                                                                      |
|  | ipsecList    |                 |                                                                                 | List all IPSec rules                                                                                                                                                                                               |
|  | ipsecDelete  | <rule #>        |                                                                                 | Delete IPSec rule #                                                                                                                                                                                                |
|  | ipsecConfig  | name            | <string>                                                                        | Set rule name. (max length is 31)                                                                                                                                                                                  |
|  |              | active          | <Yes   No>                                                                      | Set active or not                                                                                                                                                                                                  |
|  |              | saIndex         | <index>                                                                         | Bind to which IKE rule.                                                                                                                                                                                            |
|  |              | multiPro        | <Yes   No>                                                                      | Enable multiple proposals in IPSec or not                                                                                                                                                                          |
|  |              | nailUp          | <Yes   No>                                                                      | Enable nailed-up or not                                                                                                                                                                                            |
|  |              | activeProtocol  | <0:AH   1:ESP>                                                                  | Set active protocol in IPSec                                                                                                                                                                                       |
|  |              | encryAlgo       | <0:Null   1:DES   2:3DES   3:AES>                                               | Set encryption algorithm in IPSec                                                                                                                                                                                  |
|  |              | encryKeyLen     | <0:128   1:192   2:256>                                                         | Set encryption key length in IPSec                                                                                                                                                                                 |
|  |              | authAlgo        | <0:MD5   1:SHA1>                                                                | Set authentication algorithm in IPSec                                                                                                                                                                              |
|  |              | saLifeTime      | <seconds>                                                                       | Set sa life time in IPSec                                                                                                                                                                                          |
|  |              | encap           | <0:Tunnel   1:Transport>                                                        | set encapsulation in IPSec                                                                                                                                                                                         |
|  |              | pfs             | <0:None   1:DH1   2:DH2>                                                        | set pfs in phase 2 in IPSec                                                                                                                                                                                        |
|  |              | antiReplay      | <Yes   No>                                                                      | Set anitreplay or not                                                                                                                                                                                              |
|  |              | controlPing     | <Yes No>                                                                        | Enable control ping or not                                                                                                                                                                                         |
|  |              | logControlPing  | <Yes No>                                                                        | Enable logging control ping events or not                                                                                                                                                                          |
|  |              | controlPingAddr | <IP>                                                                            | Set control ping address                                                                                                                                                                                           |

|  |                  |                |                                     |                                                                                                                                                                                                                                                 |
|--|------------------|----------------|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |                  | protocol       | <1:ICMP   6:TCP   17:UDP>           | Set protocol                                                                                                                                                                                                                                    |
|  |                  | lcAddrType     | <0:single   1:range   2:subnet>     | Set local address type                                                                                                                                                                                                                          |
|  |                  | lcAddrStart    | <IP>                                | Set local start address                                                                                                                                                                                                                         |
|  |                  | lcAddrEndMask  | <IP>                                | Set local end address or mask                                                                                                                                                                                                                   |
|  |                  | lcPortStart    | <port>                              | Set local start port                                                                                                                                                                                                                            |
|  |                  | lcPortEnd      | <port>                              | Set local end port                                                                                                                                                                                                                              |
|  |                  | rmAddrType     | <0:single   1:range   2:subnet>     | Set remote address type                                                                                                                                                                                                                         |
|  |                  | rmAddrStart    | <IP>                                | Set remote start address                                                                                                                                                                                                                        |
|  |                  | rmAddrEndMask  | <IP>                                | Set remote end address or mask                                                                                                                                                                                                                  |
|  |                  | rmPortStart    | <port>                              | Set remote start port                                                                                                                                                                                                                           |
|  |                  | rmPortEnd      | <port>                              | Set remote end port                                                                                                                                                                                                                             |
|  | policyList       |                |                                     | List all IPSec policies                                                                                                                                                                                                                         |
|  | manualDisplay    | <rule #>       |                                     | Display manual rule #                                                                                                                                                                                                                           |
|  | manualAdd        |                |                                     | Add manual rule                                                                                                                                                                                                                                 |
|  | manualEdit       | <rule #>       |                                     | Edit manual rule #                                                                                                                                                                                                                              |
|  | manualSave       |                |                                     | Save IPSec rules                                                                                                                                                                                                                                |
|  | manualList       |                |                                     | List all IPSec rule                                                                                                                                                                                                                             |
|  | manualDelete     | <rule #>       |                                     | Delete IPSec rule #                                                                                                                                                                                                                             |
|  | manualConfig     | name           | <string>                            | Set rule name                                                                                                                                                                                                                                   |
|  |                  | active         | <Yes   No>                          | Set active or not                                                                                                                                                                                                                               |
|  |                  | myIpAddr       | <IP address>                        | Set my IP address                                                                                                                                                                                                                               |
|  |                  | secureGwAddr   | <IP address>                        | Set secure gateway                                                                                                                                                                                                                              |
|  |                  | protocol       | <1:ICMP   6:TCP   17:UDP>           | Set protocol                                                                                                                                                                                                                                    |
|  |                  | lcAddrType     | <0:single   1:range   2:subnet>     | Set local address type                                                                                                                                                                                                                          |
|  |                  | lcAddrStart    | <IP>                                | Set local start address                                                                                                                                                                                                                         |
|  |                  | lcAddrEndMask  | <IP>                                | Set local end address or mask                                                                                                                                                                                                                   |
|  |                  | lcPortStart    | <port>                              | Set local start port                                                                                                                                                                                                                            |
|  |                  | lcPortEnd      | <port>                              | Set local end port                                                                                                                                                                                                                              |
|  |                  | rmAddrType     | <0:single   1:range   2:subnet>     | Set remote address type                                                                                                                                                                                                                         |
|  |                  | rmAddrStart    | <IP>                                | Set remote start address                                                                                                                                                                                                                        |
|  |                  | rmAddrEndMask  | <IP>                                | Set remote end address or mask                                                                                                                                                                                                                  |
|  |                  | rmPortStart    | <port>                              | Set remote start port                                                                                                                                                                                                                           |
|  |                  | rmPortEnd      | <port>                              | Set remote end port                                                                                                                                                                                                                             |
|  |                  | activeProtocol | <0:AH   1:ESP>                      | Set active protocol in manual                                                                                                                                                                                                                   |
|  |                  | ah             | encap <0:Tunnel   1:Transport>      | Set encapsulation in ah in manual                                                                                                                                                                                                               |
|  |                  |                | spi <decimal>                       | Set spi in ah in manual                                                                                                                                                                                                                         |
|  |                  |                | authAlgo <0:MD5   1:SHA1>           | Set authentication algorithm in ah in manual                                                                                                                                                                                                    |
|  |                  |                | authKey <string>                    | Set authentication key in ah in manual                                                                                                                                                                                                          |
|  |                  | esp            | encap <0:Tunnel   1:Transport>      | Set encapsulation in esp in manual                                                                                                                                                                                                              |
|  |                  |                | spi <decimal>                       | Set spi in esp in manual                                                                                                                                                                                                                        |
|  |                  |                | encryAlgo <0:Null   1:DES   2:3DES> | Set encryption algorithm in esp in manual                                                                                                                                                                                                       |
|  |                  |                | encryKey <string>                   | Set encryption key in esp in manual                                                                                                                                                                                                             |
|  |                  |                | authAlgo <0:MD5   1:SHA1>           | Set authentication algorithm in esp in manual                                                                                                                                                                                                   |
|  |                  |                | authKey < string>                   | Set authentication key in esp in manual                                                                                                                                                                                                         |
|  | manualPolicyList |                |                                     | List all manual policy                                                                                                                                                                                                                          |
|  | swSkipOverlapIp  |                | <on off>                            | <ul style="list-style-type: none"> <li>- When a VPN rule with remote range overlaps with local range, the switch decides if a local to local packet should apply this rule.</li> <li>- Default value is “off” which means “no skip”.</li> </ul> |
|  | adjTcpMss        |                | <off auto user defined value>       | <ul style="list-style-type: none"> <li>- After a tunnel is established, system will</li> </ul>                                                                                                                                                  |

|  |                 |  |                  |                                                                                                                                                |
|--|-----------------|--|------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
|  |                 |  |                  | automatically adjust TCP MSS.<br>- After all tunnels are drops, the MSS will adjust to the original value.<br>- The default value is auto.     |
|  | Drop            |  | <policy index>   | Drop an active tunnel.                                                                                                                         |
|  | initContactMode |  | <gateway tunnel> | Set initial contact mode to base on tunnel or gateway. Change to tunnel mode can support multiple VPN client which located at same NAT router. |
|  | swSkipPPTP      |  | [on off]         | Enable / disable to skip PPTP packets to go in ipsec tunnel.                                                                                   |

#### PPP Related Command

[Home](#)

| PPP Related Command |         |            |                     | Description                                                     |
|---------------------|---------|------------|---------------------|-----------------------------------------------------------------|
| ppp                 | Command |            |                     |                                                                 |
|                     | bod     |            |                     |                                                                 |
|                     |         | remote     | <iface>             | show remote bod information                                     |
|                     |         | reset      |                     | reset bod                                                       |
|                     |         | setremote  | <iface>             | set remote bod                                                  |
|                     |         | status     | <wan_iface>         | show wan port bod status                                        |
|                     |         | clear      | <wan_iface>         | clear wan port bod data                                         |
|                     |         | on         |                     | set bod flag on                                                 |
|                     |         | off        |                     | set bod flag off                                                |
|                     |         | node       | <node> <dir>        | config the statistic method for remote node bod traffic data    |
|                     |         | debug      | [on off]            | show bod debug flag                                             |
|                     |         | cnt        |                     |                                                                 |
|                     |         |            | disp                | show bod state                                                  |
|                     |         |            | clear               | clear bod state                                                 |
|                     | ccp     |            | [on off]            | set/display dial-in ccp switch                                  |
|                     | lcp     |            |                     |                                                                 |
|                     |         | acfc       | [on off]            | set address/control field compression flag                      |
|                     |         | pfc        | [on off]            | set protocol field compression flag                             |
|                     |         | mpin       | [on off]            | set incoming call MP flag                                       |
|                     |         | callback   | [on off]            | set callback flag                                               |
|                     |         | bacp       | [on off]            | set bandwidth allocation control flag                           |
|                     |         | echo       |                     |                                                                 |
|                     |         |            | retry <retry_count> | set/display retry count to send echo-request                    |
|                     |         |            | time <interval>     | set/display time interval to send echo-request                  |
|                     | ipcp    |            |                     |                                                                 |
|                     |         | close      |                     | close connection on ppp interface                               |
|                     |         | list       | <iface>             | show ipcp state                                                 |
|                     |         | open       |                     | open fsm link                                                   |
|                     |         | timeout    | [value]             | set timeout interval when waiting for response from remote peer |
|                     |         | try        |                     |                                                                 |
|                     |         |            | configure [value]   | set/display fsm try config                                      |
|                     |         |            | failure [value]     | set/display fsm try failure                                     |
|                     |         |            | terminate [value]   | set/display fsm try terminate                                   |
|                     |         | compress   | [on off]            | set compress flag                                               |
|                     |         | slots      | [slot_num]          | set number of slots                                             |
|                     |         | idcompress | [on off]            | set/display slot id compress                                    |
|                     |         | address    | [on off]            | set/display ip one address option                               |

|  |           |          |                                    |                                                                      |
|--|-----------|----------|------------------------------------|----------------------------------------------------------------------|
|  | mp        |          |                                    |                                                                      |
|  |           | default  |                                    | show link default flag                                               |
|  |           |          | rotate                             | set link default to rotate                                           |
|  |           |          | split                              | set link default to split                                            |
|  |           | split    | [0 1]                              | set/display link split                                               |
|  |           | rotate   | [0 1]                              | set/display link rotate                                              |
|  |           | sequence |                                    | set/display mp start sequence                                        |
|  | configure |          |                                    |                                                                      |
|  |           | ipcp     |                                    |                                                                      |
|  |           |          | compress [on/off]                  | enable/disable compress                                              |
|  |           |          | slots [slot_num]                   | select number of slots                                               |
|  |           |          | idcompress [on/off]                | enable/disable slot id compress                                      |
|  |           |          | address [on/off]                   | set/display ip one address option                                    |
|  |           | atcp     |                                    | apple talk feature not supported anymore                             |
|  |           | ccp      |                                    |                                                                      |
|  |           |          | ascend [on/off]                    | set/display ascend stac flag                                         |
|  |           |          | history <count>                    | set/display stac history count                                       |
|  |           |          | check [argv]                       | set/display stac check mode                                          |
|  |           |          | reset <mode>                       | set/display stac reset mode                                          |
|  |           |          | pfc [on/off]                       | set/display pfc flag                                                 |
|  |           |          | debug [on/off]                     | set/display ccp debug flag                                           |
|  | iface     |          |                                    |                                                                      |
|  |           |          | <iface> ipcp                       | show the ipcp status of the given iface                              |
|  |           |          | <iface> ipxcp                      | show the ipxcp status of the given iface                             |
|  |           |          | <iface> atcp                       |                                                                      |
|  |           |          | <iface> ccp [reset skip flush]     | show the ccp status of the given iface                               |
|  |           |          | <iface> mp                         | show the mp status of the given iface                                |
|  | show      |          | <channel>                          | show the ppp channel status                                          |
|  | fsm       |          |                                    |                                                                      |
|  |           | trace    |                                    |                                                                      |
|  |           |          | break [num] [count] [flag]         | set the fsm log break value                                          |
|  |           |          | clear                              | clear the fsm log data                                               |
|  |           |          | disp                               | display the fsm log data                                             |
|  |           |          | filter [mask] [protocol]           | set the fsm log filter value                                         |
|  |           | tdata    |                                    |                                                                      |
|  |           |          | filter [protocol1] [protocol2] ... | set the fsm filter data                                              |
|  |           |          | disp                               | display the fsm data                                                 |
|  |           |          | clear                              | clear the fsm data                                                   |
|  |           | struc    |                                    | dump fsm data structure                                              |
|  | delay     |          | [interval]                         | set the delay timer for sending first PPP packet after call answered |

#### Firewall Related Command

[Home](#)

| Command |          |             |          |  | Description                                     |
|---------|----------|-------------|----------|--|-------------------------------------------------|
| sys     | Firewall |             |          |  |                                                 |
|         |          | acl         |          |  |                                                 |
|         |          |             | disp     |  | Display specific ACL set # rule #, or all ACLs. |
|         |          | active      | <yes/no> |  | Active firewall or deactivate firewall          |
|         |          | cnt         |          |  |                                                 |
|         |          |             | disp     |  | Display firewall log type and count.            |
|         |          |             | clear    |  | Clear firewall log count.                       |
|         |          | dynamicrule |          |  | SUPPORT_DYNAMIC_PORT                            |

|  |  |          |                          |                    |                                                           |
|--|--|----------|--------------------------|--------------------|-----------------------------------------------------------|
|  |  | dos      |                          |                    |                                                           |
|  |  |          | smtp                     |                    | Set SMTP DoS defender on/off                              |
|  |  |          | display                  |                    | Display SMTP DoS defender setting.                        |
|  |  |          | ignore                   |                    | Set if firewall ignore DoS in lan/wan/dmz/wlan            |
|  |  | ignore   |                          |                    |                                                           |
|  |  |          | triangle                 |                    | Set if firewall ignore triangle route in lan/wan/dmz/wlan |
|  |  | schedule |                          |                    |                                                           |
|  |  |          | load [ set # rule #]     |                    | Load firewall ACL schedule by rule.                       |
|  |  |          | display                  |                    | Display ACL schedule in buffer.                           |
|  |  |          | save                     |                    | Save buffer date and update runtime firewall ACL rule.    |
|  |  |          | week                     |                    |                                                           |
|  |  |          |                          | monday [on/off]    | Set schedule on or off by day – Monday.                   |
|  |  |          |                          | tuesday [on/off]   | Set schedule on or off by day – Tuesday.                  |
|  |  |          |                          | wednesday [on/off] | Set schedule on or off by day – Wednesday.                |
|  |  |          |                          | thursday [on/off]  | Set schedule on or off by day – Thursday.                 |
|  |  |          |                          | friday [on/off]    | Set schedule on or off by day – Friday.                   |
|  |  |          |                          | saturday [on/off]  | Set schedule on or off by day – Saturday.                 |
|  |  |          |                          | sunday [on/off]    | Set schedule on or off by day – Sunday.                   |
|  |  |          |                          | allweek [on/off]   | Quick set schedule on or off by week.                     |
|  |  |          | timeOfDay [always/hh:mm] |                    | Set firewall ACL schedule block time of day.              |

#### Certificate Management (PKI) Command

[Home](#)

| Command      |         |        |                                                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------|---------|--------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| certificates |         |        |                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|              | my_cert |        |                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|              |         | create |                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|              |         |        | selfsigned <name> <subject> [key size]            | Create a self-signed local host certificate. <name> specifies a descriptive name for the generated certificate. <subject> specifies a subject name (required) and alternative name (required). The format is "subject-name-dn;{ip,dns,email}=value". If the name contains spaces, please put it in quotes. [key size] specifies the key size. It has to be an integer from 512 to 2048. The default is 1024 bits.                                                  |
|              |         |        | request <name> <subject> [key size]               | Create a certificate request and save it to the router for later manual enrollment. <name> specifies a descriptive name for the generated certification request. <subject> specifies a subject name (required) and alternative name (required). The format is "subject-name-dn;{ip,dns,email}=value". If the name contains spaces, please put it in quotes. [key size] specifies the key size. It has to be an integer from 512 to 2048. The default is 1024 bits. |
|              |         |        | scep_enroll <name> <CA addr> <CA cert> <auth key> | Create a certificate request and enroll for a certificate immediately online using SCEP protocol. <name> specifies a descriptive name for the enrolled certificate. <CA addr> specifies the CA server address. <CA cert>                                                                                                                                                                                                                                           |

|  |  |                              |                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--|--|------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |                              | <subject> [key size]                                                           | specifies the name of the CA certificate. <auth key> specifies the key used for user authentication. If the key contains spaces, please put it in quotes. To leave it blank, type "". <subject> specifies a subject name (required) and alternative name (required). The format is "subject-name-dn;{ip,dns,email}=value". If the name contains spaces, please put it in quotes. [key size] specifies the key size. It has to be an integer from 512 to 2048. The default is 1024 bits.                                                                                                                                                                                                                |
|  |  |                              | cmp_enroll<br><name> <CA addr> <CA cert><br><auth key><br><subject> [key size] | Create a certificate request and enroll for a certificate immediately online using CMP protocol. <name> specifies a descriptive name for the enrolled certificate. <CA addr> specifies the CA server address. <CA cert> specifies the name of the CA certificate. <auth key> specifies the id and key used for user authentication. The format is "id:key". To leave the id and key blank, type ":". <subject> specifies a subject name (required) and alternative name (required). The format is "subject-name-dn;{ip,dns,email}=value". If the name contains spaces, please put it in quotes. [key size] specifies the key size. It has to be an integer from 512 to 2048. The default is 1024 bits. |
|  |  | import [name]                |                                                                                | Import the PEM-encoded certificate from stdin. [name] specifies the descriptive name (optional) as which the imported certificate is to be saved. For my certificate importation to be successful, a certification request corresponding to the imported certificate must already exist on ZyWALL. After the importation, the certification request will automatically be deleted. If a descriptive name is not specified for the imported certificate, the certificate will adopt the descriptive name of the certification request.                                                                                                                                                                  |
|  |  | export <name>                |                                                                                | Export the PEM-encoded certificate to stdout for user to copy and paste. <name> specifies the name of the certificate to be exported.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|  |  | view <name>                  |                                                                                | View the information of the specified local host certificate. <name> specifies the name of the certificate to be viewed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|  |  | verify <name><br>[timeout]   |                                                                                | Verify the certification path of the specified local host certificate. <name> specifies the name of the certificate to be verified. [timeout] specifies the timeout value in seconds (optional). The default timeout value is 20 seconds.                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|  |  | delete <name>                |                                                                                | Delete the specified local host certificate. <name> specifies the name of the certificate to be deleted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|  |  | list                         |                                                                                | List all my certificate names and basic information.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|  |  | rename <old name> <new name> |                                                                                | Rename the specified my certificate. <old name> specifies the name of the certificate to be renamed. <new name> specifies the new name as which the certificate is to be saved.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|  |  | def_selfsigned<br>[name]     |                                                                                | Set the specified self-signed certificate as the default self-signed certificate. [name] specifies the name of the certificate to be set as the default self-signed certificate. If [name] is not specified, the name of the current self-signed certificate is displayed.                                                                                                                                                                                                                                                                                                                                                                                                                             |



|  |                |                                             |  |                                                                                                                                                                                                                                                    |
|--|----------------|---------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | ca_trusted     |                                             |  |                                                                                                                                                                                                                                                    |
|  |                | import<br><name>                            |  | Import the PEM-encoded certificate from stdin. <name> specifies the name as which the imported CA certificate is to be saved.                                                                                                                      |
|  |                | export <name>                               |  | Export the PEM-encoded certificate to stdout for user to copy and paste. <name> specifies the name of the certificate to be exported.                                                                                                              |
|  |                | view <name>                                 |  | View the information of the specified trusted CA certificate. <name> specifies the name of the certificate to be viewed.                                                                                                                           |
|  |                | verify <name><br>[timeout]                  |  | Verify the certification path of the specified trusted CA certificate. <name> specifies the name of the certificate to be verified. [timeout] specifies the timeout value in seconds (optional). The default timeout value is 20 seconds.          |
|  |                | delete <name>                               |  | Delete the specified trusted CA certificate. <name> specifies the name of the certificate to be deleted.                                                                                                                                           |
|  |                | list                                        |  | List all trusted CA certificate names and basic information.                                                                                                                                                                                       |
|  |                | rename <old<br>name> <new<br>name>          |  | Rename the specified trusted CA certificate. <old name> specifies the name of the certificate to be renamed. <new name> specifies the new name as which the certificate is to be saved.                                                            |
|  |                | crl_issuer<br><name><br>[on/off]            |  | Specify whether or not the specified CA issues CRL. <name> specifies the name of the CA certificate. [on/off] specifies whether or not the CA issues CRL. If [on/off] is not specified, the current crl_issuer status of the CA.                   |
|  | remote_trusted |                                             |  |                                                                                                                                                                                                                                                    |
|  |                | import<br><name>                            |  | Import the PEM-encoded certificate from stdin. <name> specifies the name as which the imported remote host certificate is to be saved.                                                                                                             |
|  |                | export <name>                               |  | Export the PEM-encoded certificate to stdout for user to copy and paste. <name> specifies the name of the certificate to be exported.                                                                                                              |
|  |                | view <name>                                 |  | View the information of the specified trusted remote host certificate. <name> specifies the name of the certificate to be viewed.                                                                                                                  |
|  |                | verify <name><br>[timeout]                  |  | Verify the certification path of the specified trusted remote host certificate. <name> specifies the name of the certificate to be verified. [timeout] specifies the timeout value in seconds (optional). The default timeout value is 20 seconds. |
|  |                | delete <name>                               |  | Delete the specified trusted remote host certificate. <name> specifies the name of the certificate to be deleted.                                                                                                                                  |
|  |                | list                                        |  | List all trusted remote host certificate names and basic information.                                                                                                                                                                              |
|  |                | rename <old<br>name> <new<br>name>          |  | Rename the specified trusted remote host certificate. <old name> specifies the name of the certificate to be renamed. <new name> specifies the new name as which the certificate is to be saved.                                                   |
|  | dir_service    |                                             |  |                                                                                                                                                                                                                                                    |
|  |                | add <name><br><addr[:port]><br>[login:pswd] |  | Add a new directory service. <name> specifies a descriptive name as which the added directory server is to be saved. <addr[:port]> specifies the server address                                                                                    |

|  |              |                                              |  |                                                                                                                                                                                                                                                                                                                                                     |
|--|--------------|----------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |              |                                              |  | (required) and port (optional). The format is "server-address[:port]". The default port is 389. [login:pswd] specifies the login name and password, if required. The format is "[login:password]".                                                                                                                                                  |
|  |              | delete <name>                                |  | Delete the specified directory service. <name> specifies the name of the directory server to be deleted.                                                                                                                                                                                                                                            |
|  |              | view <name>                                  |  | View the specified directory service. <name> specifies the name of the directory server to be viewed.                                                                                                                                                                                                                                               |
|  |              | edit <name><br><addr[:port]><br>[login:pswd] |  | Edit the specified directory service. <name> specifies the name of the directory server to be edited. <addr[:port]> specifies the server address (required) and port (optional). The format is "server-address[:port]". The default port is 389. [login:pswd] specifies the login name and password, if required. The format is "[login:password]". |
|  |              | list                                         |  | List all directory service names and basic information.                                                                                                                                                                                                                                                                                             |
|  |              | rename <old name> <new name>                 |  | Rename the specified directory service. <old name> specifies the name of the directory server to be renamed. <new name> specifies the new name as which the directory server is to be saved.                                                                                                                                                        |
|  | cert_manager |                                              |  |                                                                                                                                                                                                                                                                                                                                                     |
|  |              | reinit                                       |  | Reinitialize the certificate manager.                                                                                                                                                                                                                                                                                                               |

#### Bandwidth management Related Command

[Home](#)

| Command |           |      |         |                 |  | Description                                                                                                                     |
|---------|-----------|------|---------|-----------------|--|---------------------------------------------------------------------------------------------------------------------------------|
| bm      |           |      |         |                 |  |                                                                                                                                 |
|         | interface | lan  | enable  | <bandwidth xxx> |  | Enable bandwidth management in LAN with bandwidth xxx bps. If the user doesn't set the bandwidth, the default value is 100Mbps. |
|         |           |      |         | <wrr pr>        |  | Select fairness-based(WRR) or priority-based(PRR) mechanism. the default value is fairness-based.                               |
|         |           |      |         | <efficient>     |  | Enable work-conserving feature.                                                                                                 |
|         |           |      | disable |                 |  | Disable bandwidth management in LAN                                                                                             |
|         |           | wan  | enable  | <bandwidth xxx> |  | Enable bandwidth management in WAN with bandwidth xxx bps. If the user doesn't set the bandwidth, the default value is 100Mbps. |
|         |           |      |         | <wrr pr>        |  | Select fairness-based(WRR) or priority-based(PRR) mechanism. the default value is fairness-based.                               |
|         |           |      |         | <efficient>     |  | Enable work-conserving feature.                                                                                                 |
|         |           |      | disable |                 |  | Disable bandwidth management in WAN                                                                                             |
|         |           | dmz  | enable  | <bandwidth xxx> |  | Enable bandwidth management in DMZ with bandwidth xxx bps. If the user doesn't set the bandwidth, the default value is 100Mbps. |
|         |           |      |         | <wrr pr>        |  | Select fairness-based(WRR) or priority-based(PRR) mechanism. the default value is fairness-based.                               |
|         |           |      |         | <efficient>     |  | Enable work-conserving feature.                                                                                                 |
|         |           |      | disable |                 |  | Disable bandwidth management in DMZ                                                                                             |
|         |           | wlan | enable  | <bandwidth xxx> |  | Enable bandwidth management in WLAN with bandwidth xxx bps. If the user doesn't set the                                         |

|  |       |     |         |                 |                 |                                                                                                                                                              |
|--|-------|-----|---------|-----------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |       |     |         |                 |                 | bandwidth, the default value is 100Mbps.                                                                                                                     |
|  |       |     |         | <wrr pr>        |                 | Select fairness-based(WRR) or priority-based(PRR) mechanism. the default value is fairness-based.                                                            |
|  |       |     |         | <efficient>     |                 | Enable work-conserving feature.                                                                                                                              |
|  |       |     | disable |                 |                 | Disable bandwidth management in WLAN                                                                                                                         |
|  | class | lan | add #   | bandwidth xxx   | <name xxx>      | Add a class with bandwidth xxx bps in LAN. The name is for users' information.                                                                               |
|  |       |     |         |                 | <priority x>    | Set the class' priority. The range is between 0 (the lowest) to 7 (the highest). The default value is 3.                                                     |
|  |       |     |         |                 | <borrow on off> | The class can borrow bandwidth from its parent class when the borrow is set on, and vice versa. The default value is off.                                    |
|  |       |     | mod #   | <bandwidth xxx> |                 | Modify the parameters of the class in LAN. The bandwidth is unchanged if the user doesn't set a new value.                                                   |
|  |       |     |         | <name xxx>      |                 | Set the class' name.                                                                                                                                         |
|  |       |     |         | <priority x>    |                 | Set the class' priority. The range is between 0 (the lowest) to 7 (the highest). The priority is unchanged if the user doesn't set a new value.              |
|  |       |     |         | <borrow on off> |                 | The class can borrow bandwidth from its parent class when the borrow is set on, and vice versa. The borrow is unchanged if the user doesn't set a new value. |
|  |       |     | del #   |                 |                 | Delete the class # and its filter and all its children class and their filters in LAN.                                                                       |
|  |       | wan | add #   | bandwidth xxx   | <name xxx>      | Add a class with bandwidth xxx bps in WAN. The name is for users' information.                                                                               |
|  |       |     |         |                 | <priority x>    | Set the class' priority. The range is between 0 (the lowest) to 7 (the highest). The default value is 3.                                                     |
|  |       |     |         |                 | <borrow on off> | The class can borrow bandwidth from its parent class when the borrow is set on, and vice versa. The default value is off.                                    |
|  |       |     | mod #   | <bandwidth xxx> |                 | Modify the parameters of the class in WAN. The bandwidth is unchanged if the user doesn't set a new value.                                                   |
|  |       |     |         | <name xxx>      |                 | Set the class' name.                                                                                                                                         |
|  |       |     |         | <priority x>    |                 | Set the class' priority. The range is between 0 (the lowest) to 7 (the highest). The priority is unchanged if the user doesn't set a new value.              |
|  |       |     |         | <borrow on off> |                 | The class can borrow bandwidth from its parent class when the borrow is set on, and vice versa. The borrow is unchanged if the user doesn't set a new value. |
|  |       |     | del #   |                 |                 | Delete the class # and its filter and all its children class and their filters in WAN.                                                                       |
|  |       | dmz | add #   | bandwidth xxx   | <name xxx>      | Add a class with bandwidth xxx bps in DMZ. The name is for users' information.                                                                               |
|  |       |     |         |                 | <priority x>    | Set the class' priority. The range is between 0 (the lowest) to 7 (the highest). The default value is 3.                                                     |
|  |       |     |         |                 | <borrow on off> | The class can borrow bandwidth from its parent class when the borrow is set on, and vice versa.                                                              |

|  |        |      |       |                                                            |                 |                                                                                                                                                                                                                   |
|--|--------|------|-------|------------------------------------------------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |        |      |       |                                                            |                 | The default value is off.                                                                                                                                                                                         |
|  |        |      | mod # | <bandwidth xxx>                                            |                 | Modify the parameters of the class in DMZ. The bandwidth is unchanged if the user doesn't set a new value.                                                                                                        |
|  |        |      |       | <name xxx>                                                 |                 | Set the class' name.                                                                                                                                                                                              |
|  |        |      |       | <priority x>                                               |                 | Set the class' priority. The range is between 0 (the lowest) to 7 (the highest). The priority is unchanged if the user doesn't set a new value.                                                                   |
|  |        |      |       | <borrow on/off>                                            |                 | The class can borrow bandwidth from its parent class when the borrow is set on, and vice versa. The borrow is unchanged if the user doesn't set a new value.                                                      |
|  |        |      | del # |                                                            |                 | Delete the class # and its filter and all its children class and their filters in DMZ.                                                                                                                            |
|  |        | wlan | add # | bandwidth xxx                                              | <name xxx>      | Add a class with bandwidth xxx bps in WLAN. The name is for users' information.                                                                                                                                   |
|  |        |      |       |                                                            | <priority x>    | Set the class' priority. The range is between 0 (the lowest) to 7 (the highest). The default value is 3.                                                                                                          |
|  |        |      |       |                                                            | <borrow on/off> | The class can borrow bandwidth from its parent class when the borrow is set on, and vice versa. The default value is off.                                                                                         |
|  |        |      | mod # | <bandwidth xxx>                                            |                 | Modify the parameters of the class in WLAN. The bandwidth is unchanged if the user doesn't set a new value.                                                                                                       |
|  |        |      |       | <name xxx>                                                 |                 | Set the class' name.                                                                                                                                                                                              |
|  |        |      |       | <priority x>                                               |                 | Set the class' priority. The range is between 0 (the lowest) to 7 (the highest). The priority is unchanged if the user doesn't set a new value.                                                                   |
|  |        |      |       | <borrow on/off>                                            |                 | The class can borrow bandwidth from its parent class when the borrow is set on, and vice versa. The borrow is unchanged if the user doesn't set a new value.                                                      |
|  |        |      | del # |                                                            |                 | Delete the class # and its filter and all its children class and their filters in WLAN.                                                                                                                           |
|  | filter | lan  | add # | Daddr <mask Dmask> Dport Saddr <mask Smask> Sport protocol |                 | Add a filter for class # in LAN. The filter contains destination address (netmask), destination port, source address (netmask), source port and protocol. You may set the value as 0 if you do not care the item. |
|  |        |      | del # |                                                            |                 | Delete a filter which belongs to class # in LAN.                                                                                                                                                                  |
|  |        | wan  | add # | Daddr <mask Dmask> Dport Saddr <mask Smask> Sport protocol |                 | Add a filter for class # in WAN. The filter contains destination address (netmask), destination port, source address (netmask), source port and protocol. You may set the value as 0 if you do not care the item. |
|  |        |      | del # |                                                            |                 | Delete a filter which belongs to class # in WAN.                                                                                                                                                                  |
|  |        | dmz  | add # | Daddr <mask Dmask> Dport Saddr <mask Smask> Sport protocol |                 | Add a filter for class # in DMZ. The filter contains destination address (netmask), destination port, source address (netmask), source port and protocol. You may set the value as 0 if you do not care the item. |
|  |        |      | del # |                                                            |                 | Delete a filter which belongs to class # in DMZ.                                                                                                                                                                  |
|  |        | wlan | add # | Daddr <mask Dmask> Dport Saddr                             |                 | Add a filter for class # in WLAN. The filter contains destination address (netmask),                                                                                                                              |

|  |            |                     |        |                                |  |                                                                                                                                                                                                                                   |
|--|------------|---------------------|--------|--------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |            |                     |        | <mask Smask> Sport<br>protocol |  | destination port, source address (netmask),<br>source port and protocol. You may set the value<br>as 0 if you do not care the item.                                                                                               |
|  |            |                     | del #  |                                |  | Delete a filter which belongs to class # in<br>WLAN.                                                                                                                                                                              |
|  | show       | interfac<br>e       | lan    |                                |  | Show the interface settings of LAN                                                                                                                                                                                                |
|  |            |                     | wan    |                                |  | Show the interface settings of WAN                                                                                                                                                                                                |
|  |            |                     | dmz    |                                |  | Show the interface settings of DMZ                                                                                                                                                                                                |
|  |            |                     | wlan   |                                |  | Show the interface settings of WLAN                                                                                                                                                                                               |
|  |            | class               | lan    |                                |  | Show the classes settings of LAN                                                                                                                                                                                                  |
|  |            |                     | wan    |                                |  | Show the classes settings of WAN                                                                                                                                                                                                  |
|  |            |                     | dmz    |                                |  | Show the classes settings of DMZ                                                                                                                                                                                                  |
|  |            |                     | wlan   |                                |  | Show the classes settings of WLAN                                                                                                                                                                                                 |
|  |            | filter              | lan    |                                |  | Show the filters settings of LAN                                                                                                                                                                                                  |
|  |            |                     | wan    |                                |  | Show the filters settings of WAN                                                                                                                                                                                                  |
|  |            |                     | dmz    |                                |  | Show the filters settings of DMZ                                                                                                                                                                                                  |
|  |            |                     | wlan   |                                |  | Show the filters settings of WLAN                                                                                                                                                                                                 |
|  |            | statistic<br>s      | lan    |                                |  | Show the statistics of the classes in LAN                                                                                                                                                                                         |
|  |            |                     | wan    |                                |  | Show the statistics of the classes in WAN                                                                                                                                                                                         |
|  |            |                     | dmz    |                                |  | Show the statistics of the classes in DMZ                                                                                                                                                                                         |
|  |            |                     | wlan   |                                |  | Show the statistics of the classes in WLAN                                                                                                                                                                                        |
|  | monitor    | lan                 | <#>    |                                |  | Monitor the bandwidth of class # in LAN. If the<br>class is not specific, all the classes in LAN will<br>be monitored.<br>The first time you key the command will set it<br>on; the second time you will set it off, and so on.   |
|  |            | wan                 | <#>    |                                |  | Monitor the bandwidth of class # in WAN. If the<br>class is not specific, all the classes in WAN will<br>be monitored.<br>The first time you key the command will set it<br>on; the second time you will set it off, and so on.   |
|  |            | dmz                 | <#>    |                                |  | Monitor the bandwidth of class # in DMZ. If the<br>class is not specific, all the classes in DMZ will<br>be monitored.<br>The first time you key the command will set it<br>on; the second time you will set it off, and so on.   |
|  |            | wlan                | <#>    |                                |  | Monitor the bandwidth of class # in WLAN. If<br>the class is not specific, all the classes in WLAN<br>will be monitored.<br>The first time you key the command will set it<br>on; the second time you will set it off, and so on. |
|  | moveFilter | <<br>channN<br>ame> | <from> | <to>                           |  | User can move BWM filter order via this<br>command.<br><channName>: lan, wan/wan1, dmz, wan2, wlan<br><from>: filter index<br><to>: filter index                                                                                  |
|  | config     | save                |        |                                |  | Save the configuration.                                                                                                                                                                                                           |
|  |            | load                |        |                                |  | Load the configuration.                                                                                                                                                                                                           |
|  |            | clear               |        |                                |  | Clear the configuration.                                                                                                                                                                                                          |

## Load Sharing Command

[Home](#)

| Command |           |           |                                                 | Description                                                                                                                                                                                                                                                                                          |
|---------|-----------|-----------|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ls      |           |           |                                                 |                                                                                                                                                                                                                                                                                                      |
|         | band      | <up down> | <WAN1 bandwidth+WAN2 bandwidth>                 | It is used to configure the bandwidth parameters. The CI format is<br><br>ls band <method(up, down) WAN1 loading bandwidth  WAN2 bandwidth.<br><br>Ex: “ls band up 100 200” will configure the Load Sharing function dispatch the loading between WAN1 and WAN2 with 100K and 200K upstream loading. |
|         | wrr       |           | <Weight of WAN1> + <Weight of WAN2>             | It is used to configure the weight parameters. The CI format is<br><br>ls wrd <Weight of WAN1> + <Weight of WAN2>. The valid number of weight is 0~10<br><br>Ex: “ls wrd 10 5” will configure the weight of the WAN1 to be 10, weight of the WAN2 to be 5.                                           |
|         | spillover |           | < upper bandwidth of primary WAN >              | It is used to configure the spillover upper bandwidth of primary WAN.<br><br>Ex: “ls spillover 100”, the router will send the traffic to secondary WAN when the primary WAN bandwidth exceeds 100Kbps.                                                                                               |
|         | mode      |           | <1:Least Load First 2:WRR 3:Spillover 255:None> | Change the dispatch mode. 1 is for dispatch packets by Dynamic Load Balancing, 2 is for dispatch packets by WRR, 3 is dispatch packets by Spillover. And 255 is for disable the Load Sharing function.                                                                                               |
|         | timeframe |           | <10~600>                                        | Change the Time Frame number. The valid number of it is 10~600                                                                                                                                                                                                                                       |
|         | disp      |           |                                                 | Display the Load Sharing configuration data                                                                                                                                                                                                                                                          |
|         | debug     |           |                                                 | Debug CI commands                                                                                                                                                                                                                                                                                    |
|         |           | online    | <on off>                                        | To toggle the debug message on or off. This command is useful for debugging.                                                                                                                                                                                                                         |

## Bridge Related Command

[Home](#)

| Command |      |         |                        | Description                                  |
|---------|------|---------|------------------------|----------------------------------------------|
| bridge  |      |         |                        |                                              |
|         | mode |         | <1/0> (enable/disable) | turn on/off (1/0) LAN promiscuous mode       |
|         | blt  |         |                        | related to bridge local table                |
|         |      | disp    | <channel>              | display blt data                             |
|         |      | reset   | <channel>              | reset blt data                               |
|         |      | traffic |                        | display local LAN traffic table              |
|         |      | monitor | [on off]               | turn on/off traffic monitor. Default is off. |
|         |      | time    | <sec>                  | set blt re-init interval                     |
|         | brt  |         |                        | related to bridge route table                |
|         |      | disp    | [id]                   | display brt data                             |
|         |      | reset   | [id]                   | reset brt data                               |
|         | cnt  |         |                        | related to bridge routing statistic table    |
|         |      | disp    |                        | display bridge route counter                 |

|  |       |         |                                              |                                           |
|--|-------|---------|----------------------------------------------|-------------------------------------------|
|  |       | clear   |                                              | clear bridge route counter                |
|  | Iface |         |                                              | Related to “bridge mode” access interface |
|  |       | active  | <yes/no>                                     | Active bridge mode iface or not           |
|  |       | address | [ip]                                         | Remote access IP address                  |
|  |       | dns1    | [ip]                                         | First DNS server                          |
|  |       | dns2    | [ip]                                         | Second DNS server                         |
|  |       | dns3    | [ip]                                         | Third DNS server                          |
|  |       | mask    | [network mask]                               | Network mask                              |
|  |       | gateway | [gateway ip]                                 | Network gateway                           |
|  |       | display |                                              | Display whole interface information       |
|  | Stat  |         |                                              | related to bridge packet statistic table  |
|  |       | disp    |                                              | display bridge route packet counter       |
|  |       | clear   |                                              | clear bridge route packet counter         |
|  | Disp  |         |                                              | display bridge source table               |
|  | fcs   |         | <BriFcsCtl>                                  | set bridge fcs control flag               |
|  | rstp  |         |                                              |                                           |
|  |       | bridge  |                                              |                                           |
|  |       |         | enable                                       | enable this device RSTP function          |
|  |       |         | disable                                      | disable this device RSTP function         |
|  |       |         | priority [priority]                          | set RSTP priority                         |
|  |       |         | maxAge [max age]                             | set RSTP max age                          |
|  |       |         | helloTime [hello time]                       | set hello time                            |
|  |       |         | forwardDelay [forwarding delay]              | set forwarding delay                      |
|  |       |         | version <STP:0 RSTP:2>                       | switch STP or RSTP                        |
|  |       | port    |                                              |                                           |
|  |       |         | enable <Port_NO>                             | enable RSTP on this port                  |
|  |       |         | disable <Port_NO>                            | disable RSTP on this port                 |
|  |       |         | pathCost <Port_NO> [path cost]               | set path cost on this port                |
|  |       |         | priority <Port_NO> [priority]                | set priority on this port                 |
|  |       |         | edgePort <Port_NO> <True:1 False:0>          | set edge or non-edge on this port         |
|  |       |         | p2pLink <Port_NO><br><Auto:2 True:1 False:0> | set per to per link on this port          |
|  |       |         | mcheck <Port_NO>                             | set migrate check on this port            |
|  |       | disp    |                                              | display RSTP information                  |
|  |       | trace   |                                              | turn on debug/trace message               |
|  |       | state   |                                              | display RSTP information                  |

myZyXEL.com Command

[Home](#)

| Command |            |                |                                                | Description                                                                              |
|---------|------------|----------------|------------------------------------------------|------------------------------------------------------------------------------------------|
| sys     |            |                |                                                |                                                                                          |
|         | myZyXelCom |                |                                                |                                                                                          |
|         |            | checkUserName  | <username>                                     | Check the username exists or not                                                         |
|         |            | register       | <username> <password> <email><br><countryCode> | Input the registration information, include username, password, email, and country code. |
|         |            | trialService   | <service>, 1 : CF, 2 : 3in1, 3 : CF + 3in1     | Input the service that to be tried.                                                      |
|         |            | serviceUpgrade | <licence key>                                  | Input license key that you want to let service from trial to standard                    |
|         |            | serviceRefresh | NULL                                           | Refresh the myZyXEL.com service status                                                   |
|         |            | display        | NULL                                           | Display all myZyXEL.com setting                                                          |
|         |            | serviceDisplay | NULL                                           | Display all service status, include expired day.                                         |

| Command |           |         |                |          | Description                                                    |
|---------|-----------|---------|----------------|----------|----------------------------------------------------------------|
| idp     |           |         |                |          | IDP CI commands                                                |
|         | display   |         |                |          | Display the enable setting and the protected interface setting |
|         | load      |         |                |          | Load the enable setting and the protected interface setting    |
|         | config    |         |                |          | Config the enable setting and the protected interface setting  |
|         |           | enable  | <on off>       |          | Config the enable setting.                                     |
|         |           | wan1    | <on off>       |          | Config the protected interface setting.                        |
|         |           | wan2    | <on off>       |          | Config the protected interface setting.                        |
|         |           | lan     | <on off>       |          | Config the protected interface setting.                        |
|         |           | dmz     | <on off>       |          | Config the protected interface setting.                        |
|         |           | wlan    | <on off>       |          | Config the protected interface setting.                        |
|         |           | wan     | <on off>       |          | Config the protected interface setting.                        |
|         | save      |         |                |          | Save the enable setting and the protected interface setting    |
|         | tune      |         |                |          | The tune command for IDP/Anti-Virus/Anti-Spam                  |
|         |           | load    |                |          | Load the tune configuration                                    |
|         |           | save    |                |          | Save the tune configuration                                    |
|         |           | display |                |          | Display the tune configuration                                 |
|         |           | config  |                |          | Config the tune configuration                                  |
|         |           |         | l4Udpcksum     | <on off> | Enable/Disable UDP checksum check                              |
|         |           |         | l4Icmpcksum    | <on off> | Enable/Disable ICMP checksum check                             |
|         |           |         | l4Tcpcksum     | <on off> | Enable/Disable TCP checksum check                              |
|         |           |         | l4Tcpwindowck  | <on off> | Enable/Disable TCP window check                                |
|         |           |         | l4Tcpmssck     | <on off> | Enable/Disable TCP mss check                                   |
|         |           |         | l7Smtpasm      | <on off> | Enable/Disable TCP assembly for SMTP                           |
|         |           |         | l7Pop3asm      | <on off> | Enable/Disable TCP assembly for POP3                           |
|         |           |         | l7Httpasm      | <on off> | Enable/Disable TCP assembly for HTTP                           |
|         |           |         | l7Ftpasm       | <on off> | Enable/Disable TCP assembly for FTP                            |
|         |           |         | l7Ftpdataasm   | <on off> | Enable/Disable TCP assembly for FTPDATA                        |
|         |           |         | l7Otherasm     | <on off> | Enable/Disable TCP assembly for other protocols                |
|         | update    |         |                |          | The command about signature and signature update stuffs        |
|         |           | display |                |          | Show the signature information and the update setting          |
|         |           | load    |                |          | Load the signature update setting                              |
|         |           | save    |                |          | Save the signature update setting                              |
|         |           | start   |                |          | Start the signature update                                     |
|         |           | config  |                |          | Config the signature update setting                            |
|         |           |         | autoupdate     | <on off> | Enable/Disable the autoupdate                                  |
|         |           |         | method         | <1-3>    | Config the update method                                       |
|         |           |         | dailyTime      | <00-23>  | Config the daily hour update schedule                          |
|         |           |         | weeklyDay      | <1-7>    | Config the weekly day update schedule                          |
|         |           |         | weeklyTime     | <00-23>  | Config the weekly hour update schedule                         |
|         | signature |         |                |          | The command about signature post-process setting               |
|         |           | display |                |          | Display the current signature setting                          |
|         |           | load    | <Signature_ID> |          | Load the signature setting that its ID is                      |



|  |             |              |        |          |                                                             |
|--|-------------|--------------|--------|----------|-------------------------------------------------------------|
|  |             |              |        |          | SignatureIID                                                |
|  |             | save         |        |          | Save the signature setting                                  |
|  |             | config       |        |          | Config the current signature setting                        |
|  |             |              | active | <on off> | Enable/Disable the active option                            |
|  |             |              | log    | <on off> | Enable/Disable the log option                               |
|  |             |              | alert  | <on off> | Enable/Disable the alert option                             |
|  |             |              | action | <1-6>    | Set the post action                                         |
|  |             | reset        |        |          | Reset the signature setting to the default setting          |
|  |             | listFullRef  |        |          | List the IDP reference table of the full version signature  |
|  |             | listDeltaRef |        |          | List the IDP reference table of the delta version signature |
|  |             | listUserConf |        |          | List the all signature setting                              |
|  |             | reinit       |        |          | Re-initialize the search engine/backend process engine      |
|  |             | clearAll     |        |          | Clear signature file from the flash                         |
|  |             | configAll    |        |          | Config all signature settings                               |
|  |             |              | active | <on off> | Enable/Disable the active option to all signature settings  |
|  |             |              | log    | <on off> | Enable/Disable the log option to all signature settings     |
|  |             |              | alert  | <on off> | Enable/Disable the alert option to all signature settings   |
|  |             |              | action | <1-6>    | Set the post action to all signature settings               |
|  | clearAllSig |              |        |          | Clear all IDP/AV signatures.                                |

#### Anti-Virus Command

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| Command |         |                 |           |          | Description                                                                                                                         |
|---------|---------|-----------------|-----------|----------|-------------------------------------------------------------------------------------------------------------------------------------|
| av      |         |                 |           |          | Anti-Virus CI commands                                                                                                              |
|         | display |                 |           |          | Show the anti-virus setting                                                                                                         |
|         | load    |                 |           |          | Load the anti-virus setting                                                                                                         |
|         | config  |                 |           |          | Config the anti-virus setting                                                                                                       |
|         |         | enable          |           |          | Enable/Disable the anti-virus function                                                                                              |
|         |         | httpScanAllMime | <on off>  |          | Enable/Disable scanning all mime type files. If we don't enable this option , ZyWall will just scan files with the application type |
|         |         | pop3ScanAllMime | <on off>  |          | Enable/Disable scanning all mime type files. If we don't enable this option , ZyWall will just scan files with the application type |
|         |         | smtpScanAllMime | Mon off>  |          | Enable/Disable scanning all mime type files. If we don't enable this option , ZyWall will just scan files with the application type |
|         |         | decompress      | <on off>  |          | Enable/Disable the decompress on the fly. You should also enable tcp assembly to support the decompress on the fly.                 |
|         |         | ftp             |           |          | Config the anti-virus setting for FTP                                                                                               |
|         |         |                 | display   |          | Show the anti-virus setting for FTP                                                                                                 |
|         |         |                 | active    | <on off> | Enable/Disable the anti-virus function for FTP                                                                                      |
|         |         |                 | log       | <on off> | Enable/Disable the log option                                                                                                       |
|         |         |                 | alert     | <on off> | Enable/Disable the alert option                                                                                                     |
|         |         |                 | breakfile | <on off> | Enable/Disable the breakfile option                                                                                                 |
|         |         |                 | sendmsg   | <on off> | Enable/Disable the sendmsg option                                                                                                   |

|  |        |         |            |          |                                                         |
|--|--------|---------|------------|----------|---------------------------------------------------------|
|  |        |         | wan1       | <on off> | Config the protected interface setting.                 |
|  |        |         | wan2       | <on off> | Config the protected interface setting                  |
|  |        |         | lan        | <on off> | Config the protected interface setting                  |
|  |        |         | dmz        | <on off> | Config the protected interface setting                  |
|  |        |         | wlan       | <on off> | Config the protected interface setting                  |
|  |        | http    |            |          | Config the anti-virus setting for HTTP                  |
|  |        |         | display    |          | Show the anti-virus setting for HTTP                    |
|  |        |         | active     | <on off> | Enable/Disable the anti-virus function for HTTP         |
|  |        |         | log        | <on off> | Enable/Disable the log option                           |
|  |        |         | alert      | <on off> | Enable/Disable the alert option                         |
|  |        |         | breakfile  | <on off> | Enable/Disable the breakfile option                     |
|  |        |         | sendmsg    | <on off> | Enable/Disable the sendmsg option                       |
|  |        |         | wan1       | <on off> | Config the protected interface setting.                 |
|  |        |         | wan2       | <on off> | Config the protected interface setting                  |
|  |        |         | lan        | <on off> | Config the protected interface setting                  |
|  |        |         | dmz        | <on off> | Config the protected interface setting                  |
|  |        |         | wlan       | <on off> | Config the protected interface setting                  |
|  |        | smtp    |            |          | Config the anti-virus setting for SMTP                  |
|  |        |         | display    |          | Show the anti-virus setting for SMTP                    |
|  |        |         | active     | <on off> | Enable/Disable the anti-virus function for SMTP         |
|  |        |         | log        | <on off> | Enable/Disable the log option                           |
|  |        |         | alert      | <on off> | Enable/Disable the alert option                         |
|  |        |         | breakfile  | <on off> | Enable/Disable the breakfile option                     |
|  |        |         | sendmsg    | <on off> | Enable/Disable the sendmsg option                       |
|  |        |         | wan1       | <on off> | Config the protected interface setting.                 |
|  |        |         | wan2       | <on off> | Config the protected interface setting                  |
|  |        |         | lan        | <on off> | Config the protected interface setting                  |
|  |        |         | dmz        | <on off> | Config the protected interface setting                  |
|  |        |         | wlan       | <on off> | Config the protected interface setting                  |
|  |        | pop3    |            |          | Config the anti-virus setting for POP3                  |
|  |        |         | display    |          | Show the anti-virus setting for POP3                    |
|  |        |         | active     | <on off> | Enable/Disable the anti-virus function for POP3         |
|  |        |         | log        | <on off> | Enable/Disable the log option                           |
|  |        |         | alert      | <on off> | Enable/Disable the alert option                         |
|  |        |         | breakfile  | <on off> | Enable/Disable the breakfile option                     |
|  |        |         | sendmsg    | <on off> | Enable/Disable the sendmsg option                       |
|  |        |         | wan1       | <on off> | Config the protected interface setting.                 |
|  |        |         | wan2       | <on off> | Config the protected interface setting                  |
|  |        |         | lan        | <on off> | Config the protected interface setting                  |
|  |        |         | dmz        | <on off> | Config the protected interface setting                  |
|  |        |         | wlan       | <on off> | Config the protected interface setting                  |
|  | save   |         |            |          | Save the anti-virus setting                             |
|  | update |         |            |          | The command about signature and signature update stuffs |
|  |        | display |            |          | Show the signature information and the update setting   |
|  |        | load    |            |          | Load the signature update setting                       |
|  |        | save    |            |          | Save the signature update setting                       |
|  |        | start   |            |          | Start the signature update                              |
|  |        | config  |            |          | Config the signature update setting                     |
|  |        |         | autoupdate | <on off> | Enable/Disable the autoupdate                           |
|  |        |         | method     | <1-3>    | Config the update method                                |
|  |        |         | dailyTime  | <00-23>  | Config the daily hour update schedule                   |
|  |        |         | weeklyDay  | <1-7>    | Config the weekly day update schedule                   |

|  |             |         |              |          |                                                 |
|--|-------------|---------|--------------|----------|-------------------------------------------------|
|  |             |         | weeklyTime   | <00-23>  | Config the weekly hour update schedule          |
|  | tune        |         |              |          | The tune command for IDP/Anti-Virus/Anti-Spam   |
|  |             | load    |              |          | Load the tune configuration                     |
|  |             | save    |              |          | Save the tune configuration                     |
|  |             | display |              |          | Display the tune configuration                  |
|  |             | config  |              |          | Config the tune configuration                   |
|  |             |         | l4Udpcksum   | <on off> | Enable/Disable UDP checksum check               |
|  |             |         | l4Icmpcksum  | <on off> | Enable/Disable ICMP checksum check              |
|  |             |         | l4Tcpcksum   | <on off> | Enable/Disable TCP checksum check               |
|  |             |         | l4Tcpwindow  | <on off> | Enable/Disable TCP window check                 |
|  |             |         | l4Tcpmssck   | <on off> | Enable/Disable TCP mss check                    |
|  |             |         | l7Smtpasm    | <on off> | Enable/Disable TCP assembly for SMTP            |
|  |             |         | l7Pop3asm    | <on off> | Enable/Disable TCP assembly for POP3            |
|  |             |         | l7Httpasm    | <on off> | Enable/Disable TCP assembly for HTTP            |
|  |             |         | l7Ftpasm     | <on off> | Enable/Disable TCP assembly for FTP             |
|  |             |         | l7Ftpdataasm | <on off> | Enable/Disable TCP assembly for FTPDATA         |
|  |             |         | l7Otherasm   | <on off> | Enable/Disable TCP assembly for other protocols |
|  | clearAllSig |         |              |          | Clear all IDP/AV signatures.                    |

#### Anti-Spam Command

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| Command |               |                           |                          |                      | Description                                                                                            |
|---------|---------------|---------------------------|--------------------------|----------------------|--------------------------------------------------------------------------------------------------------|
| as      |               |                           |                          |                      | Anti-Spam CI commands                                                                                  |
|         | asAction      | [0 1]                     |                          |                      | Forward/Block exceeding mails sessions.                                                                |
|         | debug         |                           |                          |                      | Debug for AntiSpam                                                                                     |
|         |               | customListServ            |                          |                      | Set custom server list server                                                                          |
|         |               |                           | ip                       | [IP address]         | Set custom server list server IP address                                                               |
|         |               |                           | enable                   | [0:disable 1:enable] | Enable/Disable custom server list server                                                               |
|         |               | customRateServ            |                          |                      | Set custom rating server server.                                                                       |
|         |               |                           | ip                       | [IP address]         | Set custom rating server IP address                                                                    |
|         |               |                           | enable                   | [0:disable 1:enable] | Enable/Disable custom rating server                                                                    |
|         |               | envelope                  | [on off]                 |                      | Enable/Disable envelope debug message.                                                                 |
|         |               | http                      | [on off]                 |                      | Enable/Disable http debug message.                                                                     |
|         |               | mail                      | [on off]                 |                      | Enable/Disable mail debug message.                                                                     |
|         |               | pop3                      | [on off]                 |                      | Enable/Disable pop3 debug message.                                                                     |
|         |               | smtp                      | [on off]                 |                      | Enable/Disable smtp debug message.                                                                     |
|         | delete        |                           |                          |                      | Delete AntiSpam static filter.                                                                         |
|         |               | blackRule                 | <num start><br>[num end] |                      | Delete black rule filter. User can delete one or a set of filter.                                      |
|         |               | whiteRule                 | <num start><br>[num end] |                      | Delete white rule filter. User can delete one or a set of filter.                                      |
|         | display       |                           |                          |                      |                                                                                                        |
|         |               | antispam                  |                          |                      | Display AntiSpam configuration.                                                                        |
|         |               | serverlist                |                          |                      | Display rating server list.                                                                            |
|         | enable        | <0:disable  <br>1:enable> |                          |                      | Enable/Disable AntiSpam.                                                                               |
|         | failTolerance | [time]                    |                          |                      | Set rating server fail tolerance time. If the rating server timeout interval over this tolerance, this |

|  |               |              |  |       |                                          |
|--|---------------|--------------|--|-------|------------------------------------------|
|  |               |              |  |       | server will be removed from server list. |
|  | freeSession   |              |  |       | Free all mail ssessions.                 |
|  | getServerList | <Y:Yes N:No> |  |       | Send server list request manually.       |
|  | scoreTimeout  |              |  | value | Set the AS score query timeout value.    |

#### Vantage Related Command

[Home](#)

| Command |           |                           |                           |  | Description                                                                                                                                                                                                                                                                                         |
|---------|-----------|---------------------------|---------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| cnm     |           |                           |                           |  | Vantage Related CI commands                                                                                                                                                                                                                                                                         |
|         | active    | <0:Disable   1:Enable>    |                           |  | Display or set the CNM features to enable or disable .<br>If CNM feature is set to enable with “cnm active 1”,device will communicate with Vantage server through device’s WAN interface.                                                                                                           |
|         | sgid      | <ID>                      |                           |  | Display or set sgid which is the unique ID in Vantage’s database.                                                                                                                                                                                                                                   |
|         | managerIp | <addr>                    |                           |  | Display or set the IP address of Vantage server/COMServer.                                                                                                                                                                                                                                          |
|         | debug     | <0:Disable   1:Enable>    |                           |  | Display or set the way of outputting CNM debug messages.<br>If CNM debug mode is set to enable with “cnm debug 1”, the debug messages will be displayed in console, which baud rate is set to 115200. And the managed message will be accepted by device after device registered to Vantage server. |
|         | version   |                           |                           |  | Display the Vantage agent version.                                                                                                                                                                                                                                                                  |
|         | keepalive | <seconds>                 |                           |  | Display or set the keepalive report time.<br>0: disable<br>10~655: Valid values. default 60 seconds.                                                                                                                                                                                                |
|         | reset     |                           |                           |  | Reset cnm state machine.                                                                                                                                                                                                                                                                            |
|         | encrykey  | <ASCII>                   |                           |  | Display or set the encryption key.<br>When the encryption mode is set to “DES”, the valide encryption key length is 8 characters.<br>When the encryption mode is set to “3DES”, the valide encryption key length is 24 characters.                                                                  |
|         | encrymode | <0:NONE   1:DES   2:3DES> |                           |  | Display or set the encryption mode.                                                                                                                                                                                                                                                                 |
|         | tr069     |                           |                           |  | tr069 related commands                                                                                                                                                                                                                                                                              |
|         |           | active                    | [0:no   1:yes]            |  | Set tr069 to active or inactive.                                                                                                                                                                                                                                                                    |
|         |           | load                      |                           |  | Load tr069 information from ROM.                                                                                                                                                                                                                                                                    |
|         |           | acsUrl                    | <URL>                     |  | Display or set the URL of ACS.                                                                                                                                                                                                                                                                      |
|         |           | save                      |                           |  | Set the tr069 settings.                                                                                                                                                                                                                                                                             |
|         |           | display                   |                           |  | Display the current tr069 settings                                                                                                                                                                                                                                                                  |
|         |           | periodicEnable            | [0:Disable   1: Enable]   |  | Set the periodic inform to enable or disable.                                                                                                                                                                                                                                                       |
|         |           | informInterval            | [seconds]                 |  | Set the interval of inform.<br>30 ~ 2147483647 secondes are the valid values.                                                                                                                                                                                                                       |
|         |           | informTime                | [hour:min]                |  | Set the periodic inform time.<br>00~23 , are the hour valid value.<br>00~59 , are the minute valid values                                                                                                                                                                                           |
|         |           | reset                     |                           |  | Reset TR069 state machine.                                                                                                                                                                                                                                                                          |
|         |           | debug                     | [off:Disable   on:Enable] |  | Set TR069 debug mode to enable or disable.                                                                                                                                                                                                                                                          |
|         |           | username                  | [xxx]                     |  | Set the TR069 username.<br>The max length of username is 15 charaters.                                                                                                                                                                                                                              |

|  |  |          |       |  |                                                                        |
|--|--|----------|-------|--|------------------------------------------------------------------------|
|  |  | password | [xxx] |  | Set the TR069 password.<br>The max length of password is 15 charaters. |
|--|--|----------|-------|--|------------------------------------------------------------------------|