# *Proxicast*

**Firmware Release Note**

# LAN-Cell Gateway

**Release 3.62(XF.2)**

| | |
|---|---|
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# Proxicast LAN-Cell Gateway Standard Version
# Release 3.62(XF.2)
# Release Note

**Date: Oct 15, 2004**

## Supported Platforms:

Proxicast LAN-Cell Gateway

## Versions:

ProxiOS F/W Version: V3.62(XF.2) | 10/15/2004
BootBase: V1.07 | 04/16/2004

## Notes:

1. Restore to Factory Defaults Setting Requirement: No
2. The setting of ignore triangle route is on in default ROMFILE. 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. Using Web to configure VPN, the phase 1 algorithms have been fixed to DES + MD5. If other algorithms are preferred, please use ADVANCE page to configure them.
5. When firewall turns from "off" to "on", the firewall initialization procedure will disconnect all connections running through the LAN-Cell.
6. SUA/NAT address loopback feature was enabled on LAN-Cell by default; however, if users do not need it, a C/I command "ip nat loopback off" could turn it off.

## Known Issues:

1. eWC→WAN IP has bugs when WAN→ISP is PPPoE or PPTP. Leaving some values in remote IP or remote masks for WAN→IP and then switch to dynamic IP, LAN-Cell cannot dial anymore.
2. The DHCP client in LAN side may get an IP which is reserved by static DHCP. The situation will disappear if the client releases the IP and requests again.
3. Symptom: When turning on to many web sites at same time, it may cause content filter fail.
   Condition: When turning on browser to access a lot of websites (for example, 30 sites) at same time may cause content filter fail.
4. 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.

5. Symptom: Responder will jump to wrong VPN rule when current rule's phase 2 parameter is wrong.
   Condition:
   Initiator ----------NAT router ---------- Responder

   1). Initiator has one VPN rule in which NAT traversal is on.
   2). In responder, there are two VPN rules.
   - Rule 1: NAT traversal is off, and phase 2 parameters are wrong.
   - Rule 2: NAT traversal is off, and all other parameters are correct.
   3). Trigger tunnel from initiator and responder will use rule 1 to negotiate.
   4). When phase 2 negotiation starts, responder found rule 1's parameters are wrong, and will jump to rule 2.
   5). Negotiation will keep going and tunnel will be up.
6. Can't block ActiveX in some case.
7. System may need to reboot when change the SNMP port number.

# Features:

**Modifications in V 3.62(XF.2) | 10/15/2004**
Modify for formal release.

**Modifications in V 3.62(XF.2)b1 | 10/13/2004**
1. [ENHANCEMENT]
   The "AT Command Initial String" length of eWC->WAN->Cellular Modem page extends from 31 to 71.
2. [BUG FIX]
   Symptom: Sometimes the LAN-Cell reboots by software watchdog.
   Condition:
   1. Put the LAN-Cell on the network for a long time.
   2. Sometimes the LAN-Cell will reboot by software watchdog.

**Modifications in V 3.62(XF.1) | 07/08/2004**
**1.** Modify for formal release.

**Modifications in V 3.62(XF.1)b2 | 07/06/2004**
1. [BUG FIX] Symptom: Trigger port will disappear after system reboot.
   Condition:
   (1) Configure Trigger port rule.
   (2) System reboot.
   (3) The configured Trigger port rule disappear.

2. [BUG FIX] Symptom: In eWC->SYSTEM->Time and Date->Synchronize Now page, the message should be "The LAN-Cell is attempting to synchronize with ..."
   Condition:
   (1) Goto eWC->->SYSTEM->Time and Date->Synchronize Now.
   (2) the message should be "The LAN-Cell is attempting to synchronize with ...".

3. [BUG FIX] Symptom: The link of help page is wrong.
   Condition:
   (1) Goto eWC->->SYSTEM->Time and Date->Synchronize Now.
   (2) The “HELP” link is assigned with a incorrect URL.
4. [BUG FIX] Symptom: The wording is error in eWC->MAIN MENU page.
   Condition: In eWC->MAIN MENU page, the message should be “Welcome to the Proxicast”.

**Modifications in V 3.62(XF.1)b1 | 06/30/2004**

1. [BUG FIX] Symptom: The router shows the incorrect wording while booting.
   Condition:
   (1) In console mode, reboot the router.
   (2) The model name is wrong.

2. [BUG FIX] Symptom: The wording is error in eWC->MAIN MENU page.
   Condition: In eWC->MAIN MENU page, “Welcome to the LAN-Cell…” should be “Welcome to the Proxicast”.

3. [BUG FIX] Symptom: The background color is incorrect in eWC->WAN->Cellular Modem->Advanced Modem Setup->Edit page.
   Condition: In eWC->WAN->Cellular Modem->Advanced Modem Setup->Edit page, the background color should be black.

4. [BUG FIX] Symptom: The background color is incorrect in eWC->FIREWALL->Insert page.
   Condition: In eWC->FIREWALL->Insert page, the background color should be black.

5. [BUG FIX] Symptom: The background color is incorrect in eWC->WAN->Cellular Modem page while in console mode.
   Condition: In eWC->WAN->Cellular Modem page, the background color should be black.

6. [BUG FIX] Symptom: The wording is error in eWC->SUA/NAT page.
   Condition: In eWC->SUA/NAT page, the sentence should be “Proxicast’s Single User Account feature”.

7. [BUG FIX] Symptom: The wording is error in eWC->CONTENT FILTERING ->Customization->HELP page.
   Condition: In eWC->CONTENT FILTERING ->Customization->HELP page, replace the examples in Trusted Web Site by “www.proxicast.com”, “partner.proxicast.com”, “press.proxicast.com”.

8. [ENHANCEMENT] In eWC>SYSTEM>Time and Date,
   (1) The original page is separated into three parts
      1. Current Time and Date only displays the information about the system time and date and it's read-only.
      2. Time and Date Setup includes:
         1) Manual (None,use no time protocol)
         2) Get from Time Server (Use protocol Daytime,Time or NTP)

3)Time Zone Setup: users can configure the time zone and the daylight saving.

(2) After pressing 'Synchronize Now' button, the gateway not only synchronizes with time server immediately but also stores the configurations. After pressing the synchronize button, a warning screen will appear.

(3) There are two different behaviors when configuring the date and time.

1. If users only change the time zone and daylight saving but don't change the original time and date. The new time and date will be updated based on the new time zone and if it is in the daylight saving period.
2. If users change the time or date, no matter if users change the time zone and daylight saving, the gateway will store the new date and time directly, regardless of the time zone and daylight saving which were configured by the user.

9. [BUG FIX] Symptom: There are error wordings in SMT's DDNS page .
   Condition:
   (1) Goto SMT DDNS page.
   (2) Some wordings are not identical with eWC->WAN->DDNS.

10. [ENHANCEMENT] Add SMTP authentication feature in eWC->LOGS->Log Settings page.

**Modifications in V 3.62(XF.0) | 05/17/2004**

Modify for formal release.

**Modifications in V 3.62(XF.0)b1 | 04/16/2004**

1. [FEATURE CHANGE]
   Formal release.

## 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

       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.

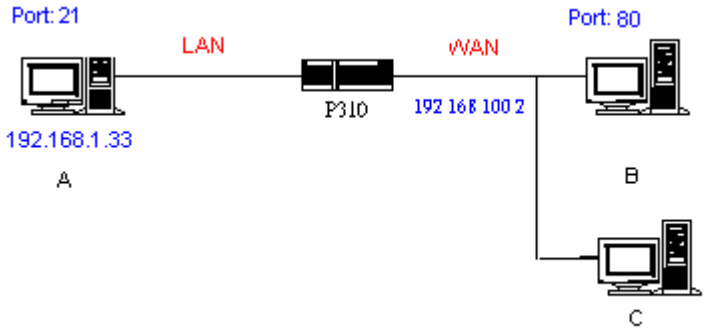
These triggered events can be timed so that they erase the port mapping as soon as they are done with the data transfer, so that the port mapping can be triggered by another Client computer. This gives the ***illusion*** that multiple computers can use the same port mapping at the same time, but the 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 LAN-Cell 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, LAN-Cell 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 LAN-Cell 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, LAN-Cell 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 ouput:

```
================ 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 dail

## Appendix 4 Traffic Redirect/Static Route Application Note

### Why traffic redirect/static route be blocked by LAN-Cell

LAN-Cell 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 LAN-Cell. The network topology is the most important issue. Here is the common example that people misemploy the LAN traffic redirect and static route.

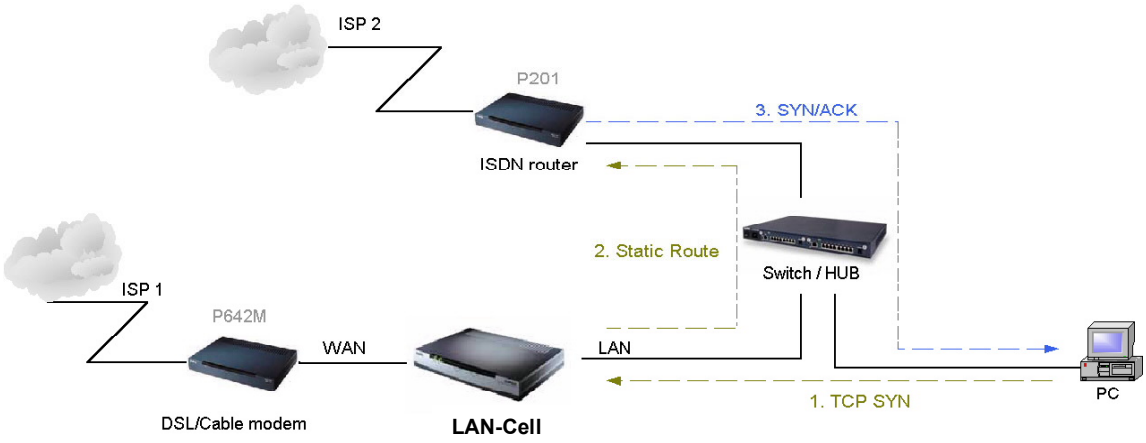



Figure 4-1 Triangle Route

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 LAN-Cell because default gateway assigned to it.

Step 2. Then, LAN-Cell will redirect the traffics to another gateway (ISDN/Router) as we expect.

Step 3. But the return traffics do not go through LAN-Cell 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. LAN-Cell will check the outgoing traffics by ACL and create dynamic sessions to allow legal return traffics. For Anti-DoS reason, LAN-Cell 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 LAN-Cell supports three logical LAN interfaces via its single physical Ethernet interface with the LAN-Cell 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 LAN-Cell and it can work as normal function.

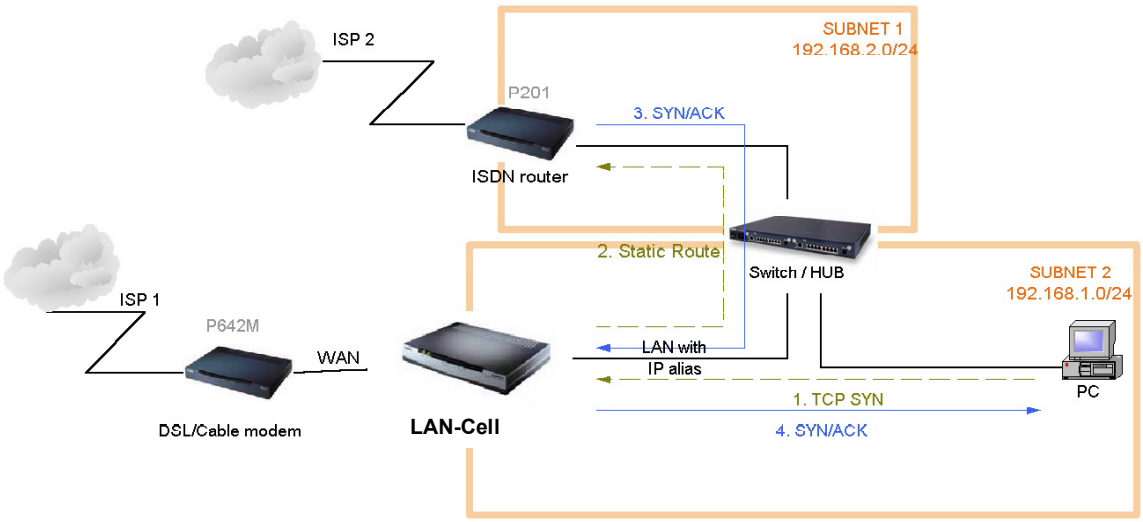



Figure 4-2 Gateway on alias IP network

(2) Gateway on WAN side

A working topology is suggested as below.

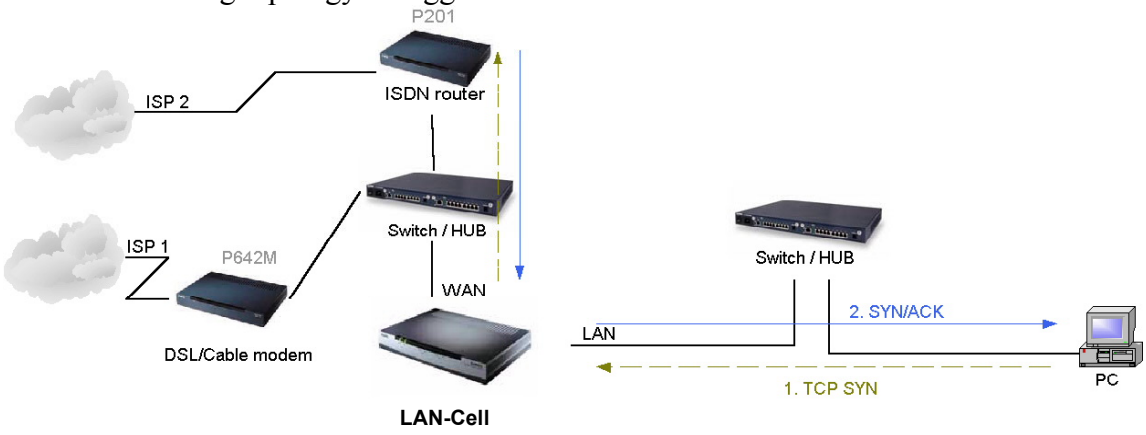



Figure 4-3 Gateway on WAN side

## Appendix 5 IPSec FQDN support

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

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

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

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 or 0.0.0.0 | My WAN IP | My WAN IP |
| 0.0.0.0 | a.b.c.d (NOT 0.0.0.0) | My WAN IP | a.b.c.d |
| a.b.c.d (not 0.0.0.0) | *blank or 0.0.0.0 | a.b.c.d | a.b.c.d |
| a.b.c.d (not 0.0.0.0) | e.f.g.h (NOT 0.0.0.0) | a.b.c.d | e.f.g.h |

*Blank: User can leave this field as empty, doesn't put anything here.
**Runtime status: During IKE negotiation, LAN-Cell 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 or 0.0.0.0 | 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 (NOT 0.0.0.0) | 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 or 0.0.0.0, 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 or 0.0.0.0, 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 or 0.0.0.0, 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 such a 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 DNS servers for IPSec VPN Note

## DNS Domain Names

DNS (Domain Name System), a system for naming computers and network services that is organized into hierarchy of domain. DNS services provided by the DNS server can resolve the name to other information associated with the name, such as an IP address. The LAN-Cell can be configured as a DHCP server. For most cases, your computer connected to the LAN of the LAN-Cell can get IP settings (IP address, network mask, gateway address and DNS server address) from the LAN-Cell DHCP server automatically.

There are three ways the LAN-Cell's DHCP server assigns DNS servers addressed to its DHCP client computers.

(1) If the administrator has setup DNS servers on the LAN-Cell's DHCP setting, the LAN-Cell will tell the client those DNS server addresses.
(2) If the DNS server has not been setup on the LAN-Cell DHCP server, but the LAN-Cell has gotten the public DNS servers from the ISP; the LAN-Cell will assign those public DNS servers address.
(3) The LAN-Cell gives its own LAN IP address and acts as a DNS server proxy.

But the above are not enough for IPSec VPN applications.

## How to access the private network by using domain names

On the IPSec VPN application, the user on the LAN of the LAN-Cell, wants to access remote private networks. He must use the IP address to identify the remote site he wants to access. But at the modern intranet applications, we still want to have the DNS service for private network access. For example, there is a private Web server installed at the headquarters of your computer. You can access this Web server inside your company, or from your home by way of the LAN-Cell's IPSec tunnel. The IP address of the private Web server is also private. You can't use the Internet public DNS servers to resolve those domain names that belong to your company's private network. You must setup those private DNS servers on your computer manually if you want to access the private network by using domain names.

## LAN-Cell DNS Servers for IPSec VPN

The LAN-Cell has added DNS Server on each IPSec policy setup. When you setup the IPSec rule, you can give the DNS server if there exists a DNS Server that provides DNS service for this private network. The DHCP client (on LAN-Cell's LAN) requests the IP information from your LAN-Cell, the LAN-Cell assigns additional DNS servers for IPSec VPN to the client, if the assigned IP address belongs to the range of local addresses of the IPSec rule.

# Annex A CI Command List

| Command Class List Table | | |
|---|---|---|
| System Related Command | Exit Command | Ethernet Related Command |
| IP Related Command | IPSec Related Command | Firewall Related Command |

System Related Command Home

| Command | | | | Description |
|---|---|---|---|---|
| sys | | | | |
| | adjtime | | | retrive date and time from Internet |
| | | | display | display cbuf static |
| | callhist | | | |
| | | display | | display call history |
| | | remove | <index> | remove entry from call history |
| | countrycode | | [countrycode] | set country code |
| | date | | [year month date] | set/display date |
| | domainname | | | display domain name |
| | edit | | <filename> | edit a text file |
| | 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 <num> |
| | | remove | <set 1-3> | remove extra phone numbers |
| | | reset | | reset flag and mask |
| | feature | | | display feature bit |
| | hostname | | [hostname] | display system hostname |
| | logs | | | |
| | | category | | |
| | | | access [0:none/1:log] | 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] | 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 |
| | | | 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 | | display all logs |
| | | 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 [0:full/1:hourly/2:daily/3:weekly/4:none] | mail schedule policy |

| | | | | |
|---|---|---|---|---|
| | | | schedule week [0:sun/1:mon/2:tue/3:wed/4:thu/5:fri/6: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 |
| | pwderrtm | | [minute] | Set or display the password error blocking timeout value. |
| | 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 |
| | | save | [entry no.] | save remote node information |
| | stdio | | [second] | change terminal timeout value |
| | time | | [hour [min [sec]]] | display/set system time |
| | trcdisp | | | monitor packets |
| | trclog | | | |
| | trcpacket | | | |
| | 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 |
| | socket | | | display system socket information |
| | filter | | | |
| | | netbios | | |
| | 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 |
| | 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 |
| | filter | | | |
| | | netbios | | |

Exit Command Home

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

Ethernet Related Command Home

| Command | | | | Description |
|---|---|---|---|---|
| ether | | | | |

| | | | | |
|---|---|---|---|---|
| | config | | | display LAN configuration information |
| | driver | | | |
| | | cnt | | |
| | | | disp <name> | display ether driver counters |
| | | ioctl | <ch_name> | Useless in this stage. |
| | | status | <ch_name> | see LAN status |
| | version | | | see ethernet device type |
| | edit | | | |
| | | load | <ether no.> | load ether data from spt |
| | | mtu | <value> | set ether data mtu |
| | | speed | [auto\|100/full\|100/half\|10/full\|10/half ] | change Ethernet speed |
| | | save | | save ether data to spt |

IP Related Command Home

| Command | | | | Description |
|---|---|---|---|---|
| ip | | | | |
| | address | | [addr] | display host ip address |
| | alias | | <iface> | alias iface |
| | aliasdis | | <0\|1> | disable alias |
| | arp | | | |
| | | status | <iface> | display ip arp status |
| | | attpret | <on\|off> | switch to avoid IP spoofing ARP attack |
| | dhcp | | <iface> | |
| | | client | | |
| | | | release | release DHCP client IP |
| | | | renew | renew DHCP client IP |
| | | status | [option] | show dhcp status |
| | dns | | | |
| | | query | | |
| | | stats | | |
| | | system | | |
| | | | edit | edit system DNS status |
| | | | display | show system DNS status |
| | | lan | | |
| | | | edit | edit LAN DNS status |
| | | | display | show LAN DNS status |
| | | | clear | clear dns statistics |
| | | | disp | display dns statistics |
| | | default | <ip> | Set default DNS server |
| | httpd | | | |
| | | debug | [on\|off] | set http debug flag |
| | icmp | | | |
| | | status | | display icmp statistic counter |
| | | discovery | <iface> [on\|off] | set icmp router discovery flag |
| | ifconfig | | [iface] [ipaddr] [broadcast <addr> \|mtu <value>\|dynamic] | configure network interface |
| | ping | | <hostid> | ping remote host |
| | route | | | |
| | | status | [if] | display routing table |
| | | add | <dest_addr\|default>[/<bits>] <gateway> [<metric>] | add route |
| | | addiface | <dest_addr\|default>[/<bits>] <gateway> [<metric>] | add an entry to the routing table to iface |
| | | addprivate | <dest_addr\|default>[/<bits>] <gateway> [<metric>] | add private route |
| | | drop | <host addr> [/<bits>] | drop a route |
| | smtp | | | |
| | 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>] <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. |
| | udp | | | |
| | | status | | display udp status |
| | rip | | | |
| | tcp | | | |
| | | status | [tcb] [<interval>] | display TCP statistic counters |
| | telnet | | <host> [port] | execute telnet clinet command |
| | tftp | | | |
| | 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 |
| | urlfilter | | | |
| | | 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 |
| | | | clearAll | clear exemptzone information |
| | | customize | | |
| | | | display | display customize action flags |
| | | | actionFlags [act(1-6)][enable/disable] | set action flags |
| | | | 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 |
| | | | clearAll | clear all information |
| | 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 | | | |
| | | start | | start report |
| | | stop | | stop report |
| | | url | [num] | top url hit list |
| | | ip | [num] | top ip addr list |
| | | srv | [num] | top service port list |
| | 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 | | | |

IPSec Related Command [Home]

| Command | | | | Description |
|---|---|---|---|---|
| ipsec | | | | |
| | debug | <1\|0> | | turn on\|off trace for IPsec debug information |
| | ipsec_log_disp | | | show IPSec log, same as menu 27.3 |
| | | 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. |
| | | | | Remark: Command available since 3.50(WA.3) |
| | 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. |
| | 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_my_ip | <1~3600> | - Adjust timer to check if WAN IP in menu is changed |
| | | | | - Interval is in seconds |
| | | | | - Default is 10 seconds |
| | | | | - 0 is not a valid value |
| | | chk_conn. | <0~255> | - Adjust auto-timer to check if any IPsec connection has no 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 |
| | | | | Remark: Command available since 3.50(WA.3) |

| | | | | |
|---|---|---|---|---|
| | updatePeerIp | | | Force system to update IPSec rules which use domain name as the secure gateway IP right away. |
| | | | | Remark: Command available since 3.50(WA.3) |
| | dial | <rule #> | | Initiate IPSec rule <#> from LAN-Cell box |
| | | | | Remark: Command available since 3.50(WA.3) |
| | display | <rule #> | | Display IPSec rule # |
| | keep_alive | <rule #> | <on\|off> | Set ipsec keep_alive flag |
| | load | <rule #> | | Load ipsec rule |
| | save | | | Save ipsec rules |
| | config | netbios | active <on\|off> | Set netbios active flag |
| | | | group <group index1, group index2…> | Set netbios group |
| | | name | <string> | Set rule name |
| | | active | <Yes \| No> | Set active or not |
| | | keeyAlive | <Yes\| No> | Set keep alive or not |
| | | natTraversal | <Yes\| No> | Enable NAT traversal 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 |
| | | 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 |
| | | antiReplay | <Yes \| No> | Set anitreplay or not |
| | | keyManage | <0:IKE \| 1:Manual> | Set key manage |
| | | ike | negotiationMode <0:Main \| 1:Aggressive> | Set negotiation mode in phase 1 in IKE |
| | | | preShareKey <string> | Set pre shared key in phase 1 in IKE |
| | | | p1EncryAlgo <0:DES \| 1:3DES> | Set encryption algorithm in phase 1 in IKE |
| | | | p1AuthAlgo <0:MD5 \| 1:SHA1> | Set authentication algorithm in phase 1 in IKE |
| | | | p1SaLifeTime <seconds> | Set sa life time in phase 1 in IKE |
| | | | p1KeyGroup <0:DH1 \| 1:DH2> | Set key group in phase 1 in IKE |
| | | | activeProtocol <0:AH \| 1:ESP> | Set active protocol in phase 2 in IKE |
| | | | p2EncryAlgo <0:Null \| 1:DES \| 2:3DES> | Set encryption algorithm in phase 2 in IKE |
| | | | p2AuthAlgo <0:MD5 \| 1:SHA1> | Set authentication algorithm in phase 2 in IKE |
| | | | p2SaLifeTime <seconds> | Set sa life time in phase 2 in IKE |
| | | | encap <0:Tunnel \| 1:Transport> | set encapsulation in phase 2 in IKE |
| | | | pfs <0:None \| 1:DH1 \| 2:DH2> | set pfs in phase 2 in IKE |
| | | manual | activeProtocol <0:AH \| 1:ESP> | Set active protocol in manual |
| | | 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 |
| | | 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 |
| | | name | <string> | Set rule name |

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 |
| | | clear | | Clear firewall log |
| | | cnt | | |
| | | | disp | Display firewall log type and count. |
| | | | clear | Clear firewall log count. |
| | | disp | | Display firewall log |
| | | online | | Set firewall log online. |
| | | pktdump | | Dump the 64 bytes of dropped packet by firewall |
| | | update | | Update firewall |
| | | dynamicrule | | |
| | | tcprst | | |
| | | | rst | Set TCP reset sending on/off. |
| | | | rst113 | Set TCP reset sending for port 113 on/off. |
| | | | display | Display TCP reset sending setting. |
| | | icmp | | |
| | | 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 | | |
| | | | dos | Set if firewall ignore DoS in lan/wan/dmz/wlan |
| | | | triangle | Set if firewall ignore triangle route in lan/wan/dmz/wlan |