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Firmware Release Note

**P-660H-T1
Standard Version**

Release 3.40(AGB.1) C2

Date: Aug 8, 2006
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ZyXEL P-660H-T1 Standard Version Release 3.40(AGB.1) C2 Release Note

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Supported Platforms:

ZyXEL P-660H-T1

Versions:

ZyNOS Version : V3.40(AGB.1) | 08/08/2006 02:46:27

Bootbase Version : V1.06 | 7/5/2006 10:26:03

Notes:

The P-660H-T1 is a high performance ADSL/ADSL2/ADSL2+ router for small/medium office to have Internet access and LAN-to-LAN application over the existing copper line. P-660H-T1 takes advantage of much higher data rate than ADSL, speed up to 12Mbps (ADSL2) or 24Mbps (ADSL2+), greater reach, faster start-up, advanced diagnostics and better power management. This high performance ADSL router is a high integrated advanced Firewall features to meet the demand of high-end market.

P-660H-T1 has four single auto-sensing, auto-detection 10/100BASE-T Ethernet ports (ADM6996I) for connection to the user's local network, and single RJ-45 port for connection to ADSL/ADSL2/ADSL2+ line.

1. Support Multiboot client V2.3
2. Support ADSL2+ by TrendChip modem code 3.4.1.0_A_TC

Known Issues:

1. In menu 4 set ATM QoS Type= VBR, Peak Cell Rate (PCR) =1000, Sustain Cell Rate (SCR) = 500, Maximum Burst Size (MBS) = 500, Test result it is not steady
2. Step1: set remote node 1 ATM QoS Type= VBR, Step2: set remote node 2 ATM QoS Type= VBR, Step3: set remote node 3 ATM QoS Type= CBR, Then the priority remote node 1>remote node 2>remote node 3, (use one node with CBR and two nodes with VBR in any remote node will case priority confusedly)
3. The Throughput does not meet the ADSL2+ criteria.
4. When set multi PVCs and to get Dynamic IP, the TriplePlay and IPRP function doesn't work properly
5. DUT will reboot automatically when DUT wan port is initialing and exist packet attack from wan port, until the packet stops send to wan port of DUT, the DUT will recover

Features:

Modification in 3.40(AGB.1) C2 | 08/08/2006

1. [Change default romfile]
Change TimeZone to “(GMT) Casablanca, Monrovia”

Modification in 3.40(AGB.1) C1 | 08/03/2006

1. [Bug Fix]
[Symptom] Device won't test RAM when startup.
[Condition] Step 1: Wait for device becoming cold.
Step 2: Turn on the device. Can't see test RAM action when startup.
2. [Bug Fix]
[Symptom] Device will go to HW test phase automatically when startup.
[Condition] Step 1: Wait for device becoming cold.
Step 2: Make sure HTP test pin is not connected.
Step 3: Turn on the device. It will go to HW test phase automatically when startup.

Modification in 3.40(AGB.1)C0 | 05/26/2006

1. change to FCS

Modification in 3.40(AGB.1)b3 | 05/17/2006

2. [Feature Enhance]
Support ADM6996i AD version
3. [Feature Enhance]
Remove TR069
4. [Change default romfile]
Remove “wan adsl errorsecond shutdown 30” in autoexec.net
5. [Change default romfile]
Remove “wan dmt db tlb 1” in autoexec.net
6. [Change default romfile]
Add “ether driver qroute 2” in autoexec.net
7. [Change default romfile]
Add “wan dmt2 db tlb 10” in autoexec.net
8. [Change default romfile]
Change nat session to 512

Modification in 3.40(AGB.1)b2 | 10/19/2005

1. [Bug Fix] SPRID:050923304
[Symptom] [TR069]InternetGatewayDeviceManagementServerURL can set, but when set different URL from sevice, it also can get device.
[Condition] step1:in SMT 24.8 CPE configure acs is
http ://192.168.9.56:8080/dps/TR069
step2:set parameter InternetGatewayDeviceManagementServerURL is
http://192.168.8.88:8080/dps/TR069
step3:check SMT 24.8 it change http://192.168.8.88:8080/dps/TR069

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- step4:actually can't get device in ACS, but it also can get.
2. change modem code to 3.3.0.36_A_TC

Modification in 3.40(AGB.1)b1 | 09/15/2005

1. [Feature Enhance]
Add TR069 feature

Modification in 3.40(AGB.0)C0 | 09/01/2005

1. change to FCS
2. update bootbase to v1.06 to fix v1.05 sometimes not test DRAM issue.

Modification in 3.40(AGB.0)b3 | 08/26/2005

1. change medem code to 3.2.0.4
2. [Bug Fix] SPRID:050824015
[Symptom] Enter menu 21.1 to insert a filer rule(no.10~12),when edit the rule to change Filet type into Generic Filter,it can lead to device crash
[Condition] step1: with CI command "sys romr" to reset to default romfile
step2: Enter menu 21.1
step3: create a filter rule (then index number should be lager than or equal to 10)
step4: chose one rule to edit (EX:1)
step5: Edit as follows:
Filter Type= Generic Filter Rule
step6: press "ESC" key, it begins to crash and restart

Modification in 3.40(AGB.0)b2 | 08/16/2005

1. Create this project.

Annex A CI Command List

Command Class List Table		
System Related Command	Exit Command	Ethernet Related Command
WAN Related Command	IP Related Command	Bridge Related Command
Bandwidth Management	Configuration Related Command	

System Related Command

[Home](#)

Command			Description
sys			
	adjtime		retrive date and time from Internet
	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
	date	[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 0:crash no save,not in debug mode (default) 1:crash no save,in debug mode 2:crash save,not in debug mode 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 <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		

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	disp	[#]	display iface list
isr		[all used free]	display interrupt service routine
interrupt			display interrupt status
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
		mten [0:none/1:log]	record the system maintenance 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		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
mbuf			
	cnt		
		disp	display system mbuf count
		clear	clear system mbuf count
	link	link	list system mbuf link
	pool	<id> [type]	list system mbuf pool
	status		display system mbuf status
	disp	<address>	display mbuf status
	debug	[on off]	
memory		<address> <length>	display memory content

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	memwrite		<address> <len> [data list ...]	write some data to memory at <address>
	memwl		<address>	write long word to memory at <address>
	memrl		<address>	read long word 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
	model			display server model name
	proc			
		display		display all process information
		stack	[tag]	display process's stack by a give TAG
		pstatus		display process's status by a give TAG
	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 code = 0 cold boot, = 1 immediately boot = 2 bootModule debug mode
	reslog			
		disp		display resources trace
		clear		clear resources trace
	stdio		[second]	change terminal timeout value
	time		[hour [min [sec]]]	display/set system time
	timer			
		disp		display timer cell
		trace	[on off]	set/display timer information online
		start	[tmValue]	start a timer
		stop	<ID>	stop a timer
	trcdisp			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> [none incoming outgoing bothway]	<channel name>=enet0,sds100, fr0 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

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	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
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
server			
	access	<telnet ftp web icmp snmp dns> <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
	manageip	<1-16> <ip>	set server managed ip addr
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
	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
	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
	set	<set>	display filter rule
	netbios		
		disp	display netbios filter status
		config <0:LAN to WAN, 1:WAN to LAN, 2:LAN to DMZ, 3:IPSec passthrough, 4:Trigger Dial> <on off>	config netbios filter
ddns			
	debug	<level>	enable/disable ddns service
	display	<iface name>	display ddns information
	restart	<iface name>	restart ddns
	logout	<iface name>	logout ddns
cpu			

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		display		display CPU utilization
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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
			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. mode: 1: turn off receiving 2: receive only packets of this interface 3: mode 2+ broadcast 5: mode 2 + multicast 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
		mem	<addr> <data> [type]	write memory data in address
	test		<ch_id> <test_id> [arg3] [arg4]	do LAN test
	pncconfig		<ch_name>	do pnc config
	mac		<src_ch> <dest_ch> <ipaddr>	fake mac address

WAN Related Command

[Home](#)

Command				Description
wan	Adsl			
		chandata		ADSL channel data, line rate
		close		Close ADSL line
		linedata		
			near	Show ADSL near end noise margin
			far	Show ADSL far end noise margin
		open		Open ADSL line
		opencmd		Open ADSL line with specific standard
			Glite	
			T1.413	
			Gdmt	
			multimode	

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			adsl2	
			adsl2plus	
			opmode	Show the operational mode
			rateadap	[on off] Turn on/off rate adaptive mechanism
			perfdata	Show performance information,CRC,FEC, error seconds..
			reset	Reset ADSL modem, and must reload the modem code again
			Status	ADSL status (ex: up, down or wait for init)
			errorsecond	
			sendes	Send current error second information immediately
			targetnoise	[value] Adjust target noise offset
wan	atm		vchunt	
			Add <remoteNodeIndex> <vpi> <vci> <service bit(hex)>	Add a entry to hunting pool <remote node> : input the remote node index 1-8 <vpi> : vpi value <vci> : vci value <service>: it's a hex value, bit0:PPPoE/VC (1), bit1:PPPoE/LLC (2) , bit2:PPPoA/VC (4), bit3:PPPoA/LLC (8), bit4:Enet/VC (16), bit5 :Enet/LLC (32) For examples: If you need service PPPoE/LLC and Enet/LLC then the service bits will be 2+32 = 34 (decimal) = 22 (hex), you must input 22 Need to perform save after this command
			Remove <removeNodeId> <vpi> <vci>	Input remote node ID and vpi, vci value to remove the specific entry. System will save automatically.
			Active <yes no>	Enable VC auto hunting featurer
			display	Display the hunt pool
			Clear	Clear the configure buffer
			Save	Save current setting into ROM file
			timer	The waiting time before checking the hunting table result
			Send	Send VC hunt pattern again
			result	Check the result of VC auto hunting
	hwsar		disp	Display hwsar packets incoming/outgoing information
			clear	Clear hwsar packets information
	Zero		Status	Display status of Zero configuration
			On	Turn on Zero configuration
			Off	Turn off Zero configuration
			Flags	<disable (1:zeroCfh / 2:auto-hunt / 4:password / 7:all)>
			debug	1:enable / 0:disable Display debug messages

IP Related Command

[Home](#)

Command			Description
ip	address	[addr]	display host ip address

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	alias		<iface>	alias iface
	aliasdis		<0 1>	disable alias
	arp			
		status	<iface>	display ip arp status
		add	<hostid> ether <ether addr>	add arp information
		resolve	<hostid>	resolve ip-addr
		drop	<hostid> [hardware]	drop arp
		flush		flush arp table
		publish		add proxy arp
	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 dhcp 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
		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 ip-addr
			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
	httpd			
		debug	[on/off]	set http debug flag
	icmp			
		echo	[on/off]	set icmp echo response flag

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		data	<option>	select general data type
		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> mtu <value> dynamic]	configure network interface
	ifdrop		<iface>	check if iface is available.
	ping		<hostid>	ping remote host
	pong		<hostid> [<size> <time-interval>]	pong 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
		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
	adjTcp		<iface> [<mss>]	adjust the 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

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	window	[tcb]	TCP input window size
samenet		<iface1> [<iface2>]	display the ifaces that in the same net
uninet		<iface>	set the iface to uninet
tftp			
	support		prtn if tfpt is support
	stats		display tftp status
xparent			
	join	<iface1> [<iface2>]	join iface2 to iface1 group
	break	<iface>	break iface to leave ipxparent group
antiprobe		<0 1> 1:yes 0:no	set ip anti-probe flag
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
	snoop		
		enable	Enable IGMP Snooping
		disable	Disable IGMP Snooping
		status	Show IGMP Snooping status
pr			
	clear		clear ip pr table counter information
	disp		dump ip pr table counter information
	switch		turn on/off ip pr table counter flag
nat			
	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
	update		create nat system information from spSysParam
	iamt		display nat iamt information
	iface	<iface>	show nat status of an interface
	lookup	<rule set>	display nat lookup rule
	new-lookup	<rule set>	display new 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

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			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
		service		
			irc [on/off]	turn on/off irc flag
		resetport		reset all nat server table entries
		incikeport	[on/off]	turn on/off increase ike port flag

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
	stat			related to bridge packet statistic table
		disp		display bridge route packet counter
		clear		clear bridge route packet counter
	disp			display bridge source table

Bandwidth management Related Command

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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.
				<marktos xx>	Mark TOS value.
		wlan	disable		Disable bandwidth management in LAN
			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.

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				<efficient>		Enable work-conserving feature.
				<marktos xx>		Mark TOS value.
			disable			Disable bandwidth management in WLAN
		mpoa[00~07]	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.
				<marktos xx>		Mark TOS value.
			disable			Disable bandwidth management in WAN
	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.
					<marktos xx>	Mark TOS value.
			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.
				<marktos xx>		Mark TOS value.
			del #			Delete the class # and its filter and all its children class and their filters in LAN.
		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.
					<marktos xx>	Mark TOS value.
			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.

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						The borrow is unchanged if the user doesn't set a new value.
				<marktos xx>		Mark TOS value.
			del #			Delete the class # and its filter and all its children class and their filters in WLAN.
		mpoa[00~07]	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.
					<marktos xx>	Mark TOS value.
			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.
				<marktos xx>		Mark TOS value.
			del #			Delete the class # and its filter and all its children class and their filters in WAN.
	filter	lan	add #	Daddr <mask Dmask> Dport Saddr <mask Smask> Sport protocol tos <xx> tosmask <xx>		Add a filter for class # in LAN. The filter contains destination address (netmask), destination port, source address (netmask), source port, protocol, tos value and tos mask. You may set the value as 0 if you do not care the item.
			del #			Delete a filter which belongs to class # in LAN.
		wlan	add #	Daddr <mask Dmask> Dport Saddr <mask Smask> Sport protocol tos <xx> tosmask <xx>		Add a filter for class # in WLAN. The filter contains destination address (netmask), destination port, source address (netmask), source port, protocol, tos value and tos mask. You may set the value as 0 if you do not care the item.
			del #			Delete a filter which belongs to class # in WLAN.
		mpoa[00~07]	add #	Daddr <mask Dmask> Dport Saddr <mask Smask> Sport protocol tos <xx> tosmask <xx>		Add a filter for class # in WAN. The filter contains destination address (netmask), destination port, source address (netmask), source port, protocol, tos value and tos mask. You may set the value as 0 if you do not care the item.
			del #			Delete a filter which belongs to class # in WAN.
	show	interface	lan			Show the interface settings of LAN
			wlan			Show the interface settings of WLAN
			mpoa[00~07]			Show the interface settings of WAN
		class	lan			Show the classes settings of LAN

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			wlan		Show the classes settings of WLAN
			mpoa[00~07]		Show the classes settings of WAN
		filter	lan		Show the filters settings of LAN
			wlan		Show the filters settings of WLAN
			mpoa[00~07]		Show the filters settings of WAN
		statistics	lan		Show the statistics of the classes in LAN
			wlan		Show the statistics of the classes in WLAN
			mpoa[00~07]		Show the statistics of the classes in WAN
	monitor	lan	<#>		Monitor the bandwidth of class # in LAN. If the class is not specific, all the classes in LAN will be monitored. The first time you key the command will set it on; the second time you will set it off, and so on.
		wlan	<#>		Monitor the bandwidth of class # in WLAN. If the class is not specific, all the classes in WLAN will be monitored. The first time you key the command will set it on; the second time you will set it off, and so on.
		mpoa[00~07]	<#>		Monitor the bandwidth of class # in WAN. If the class is not specific, all the classes in WAN will be monitored. The first time you key the command will set it on; the second time you will set it off, and so on.
	config	save			Save the configuration.
		load			Load the configuration.
		clear			Clear the configuration.

Configuration Related Command

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Command				Description
config				The parameters of config are listed below.
edit	firewall	active <yes no>		Activate or deactivate the saved firewall settings
retrieve	firewall			Retrieve current saved firewall settings
save	firewall			Save the current firewall settings
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
		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	Edit the day to send the log when the email policy

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			monday tuesday wednesday thursday friday saturday>		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 <0~255>		The threshold to start to delete the old half-opened sessions to max-incomplete-low
			max-incomplete-low <0~255>		The threshold to stop deleting the half-opened session
			tcp-max-incomplete <0~255>		The threshold to start executing the block field
		set <set#>	name <desired name>		Edit the name for a set
			default-permit <forward block>		Edit whether a packet is dropped or allowed when it does not match the default set
			icmp-timeout <seconds>		Edit the timeout for an idle ICMP session before it is terminated
			udp-idle-timeout <seconds>		Edit the timeout for an idle UDP session before it is terminated
			connection-timeout <seconds>		Edit the wait time for the SYN TCP sessions before it is terminated
			fin-wait-timeout <seconds>		Edit the wait time for FIN in concluding a TCP session before it is terminated
			tcp-idle-timeout <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
			rule <rule#>	permit <forward block>	Edit whether a packet is dropped or allowed when it matches this rule
				active <yes no>	Edit whether a rule is enabled or not
				protocol <0~255>	Edit the protocol number for a rule. 1=ICMP, 6=TCP, 17=UDP...
				log <none match not-match both>	Sending a log for a rule when the packet none matches not match both the rule
				alert <yes no>	Activate or deactivate the notification when a DoS

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					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 <ip address>	Select and edit a source address of a packet which complies to this rule
				srcaddr-subnet <ip address> <subnet mask>	Select and edit a source address and subnet mask if a packet which complies to this rule.
				srcaddr-range <start ip address> <end ip address>	Select and edit a source address range of a packet which complies to this rule.
				destaddr-single <ip address>	Select and edit a destination address of a packet 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
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
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.