ZyXEL

Firmware Release Note

P-660HW-T3
Standard Version

Release 3.40(UU.7)C0

Date: Nov 15, 2006
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ZyXEL P-660HW-T3 Standard Version
Release 3.40(UU.7)b1
Release Note

Date: Nov 15, 2006

Supported Platforms:

ZyXEL P-660HW-T3

Versions:

ZyNOS Version   : V3.40(UU.7) | 11/15/2006 11:14:20
Bootbase Version   : V1.06 | 01/11/2006 10:26:03

Notes:

The P-660HW-T3, is 4th generation of ZyXEL ADSL product family. It 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-660HW-T3 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, Bandwidth Management and IEEE 802.11g wireless features to meet the demand of high-end market.

P-660HW-T3 provides an embedded mini-PCI module for 802.11g Wireless LAN connectivity, four single auto-sensing, auto-detection 10/100BASE-T Ethernet ports for connection to the user's local network, and a single RJ-11/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

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. When DUT is power on and link up, if there are many multicast packets on the wan sides, the DUT will reboot sometimes.

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Features:
Modification in 3.40(UU.7)C0 | 11/15/2006
1.Change to FCS

Modification in 3.40(UU.7)b1 | 10/25/2006
1. Build the f/w from 3.40(ACI.7)C0.
2. [Feature Enhancement]
    Support ZD1212B.

Modification in 3.40(UU.6)C0 | 05/16/2006
1.Change to FCS
2.[Change default romfile]
   Remove "ip nat sess 512" in autoexec.net

Modification in 3.40(UU.6)b1 | 05/04/2006
1. Build the f/w from 3.40(ACI.6)C0.
2. [Feature Enhancement]
    Modify Bootbase HW version, older f/w can't upload to current Bootbase.

Modification in 3.40(UU.5)C0 | 03/07/2006
1 change to FCS

Modification in 3.40(UU.5)b2| 03/07/2006
1．[Bug Fix] SPRID: 060307558
[Symptom] When "wlan active 1" is issued several times, Ping from PC to G405 will fail
[Condition] When "wlan active 1" is issued several times, Ping from PC to G405 will fail

Modification in 3.40(UU.5)b1| 03/02/2006
1. Build the f/w from 3.40(ACI.4)C0.
2.[Feature Enhancement]
   Support Samsung flash
3. [Feature Enhancement]
   Airoha AL2230 frequence will shift in several minutes after device boot
4. change modem code to 3.4.1.0

Modification in 3.40(UU.4)C0 | 10/10/2005
1 change to FCS
Modification in 3.40(UU.4)b2 | 09/27/2005
1．[Bug Fix] SPRID: 050909367
[Symptom] Configure client and establish the connection of client to DUT, Set the DUT to make
            the WLAN function is disable,then set DUT to make the WLAN function is
            enable,sometimes it can't work normally
[Condition] step1:Configure client and establish the connection of client to DUT,then Set the DUT
            to make the WLAN function is disable.
            step2:set DUT to make the WLAN function is enable.
            step3.1:sometimes the wlan LED flash.

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        step3.2:sometimes the client can't searching the AP,and other client (which can't connect to the AP before disable the wlan function)also can't searching the AP.

2．[Bug Fix] SPRID: 050927427

[Symptom] WIFI- test MCA2 fails

[Condition] step1:Connect PC1 to P660HW-T3(LAN side);

        step2: Connect PC2 and PC3 to P660HW-T3 through WLAN;

        step3: Run Chariot console on PC1, using script "realaud.scr" to send multicast traffic from PC1 to PC2 and PC3,

        step4: Chariot always shows error.

3. change modem code to 3.2.0.7

Modification in 3.40(UU.4)b1 | 09/06/2005

1.　Support multiboot client V2.1
2.　support EAP-SIM feature.

Modification in 3.40(UU.3)C0 | 08/26/2005

1.change to FCS

Modification in 3.40(UU.3)b2 | 08/24/2005

1．[Bug Fix] SPRID: 050825036

 [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(UU.3)b1 | 08/23/2005

1. [Bug Fix]

Fix the WLAN mask margine issue.

2.[Bug Fix]

   [Symptom] Whiteboard(WAN to LAN) can't work well when UPNP is enable.

   [Condition] Whiteboard(WAN to LAN) can't work well in all of the following conditions.

    1 .OS is based on WinXP;

    2. enable UPNP and "Allow users to make configuration changes through UPnP " in GUI-UPNP;

    3. make sure that wan should be first to ask for whiteboard;

   MSN6.2-MSN6.2;MSN7.0-MSN6.2;MSN6.2-MSN7.0;MSN7.0-MSN7.0.

3.[Bug Fix]

    If run multicast stream(s) with througput less than 5.5Mbit then it works fine. But if the stream speed goes up to 6Mb or higher then the device is not able to keep up and the multicast stream starts to get choppy and it gets unviewable

Modification in 3.40(UU.2)C0 | 08/02/2005
1.change to FCS.

Modification in 3.40(UU.2)b1 | 07/26/2005
1.   [Feature Enhancement]
     Block the traffics between WLAN and LAN.
2. [Feature Enhancement]
    Add WPA2 feature
3. [Bug Fixed]
    In GUT/Advanced Setup/NAT/Full Feature, while click "Delete" button to delete one
       rule, this button can not work.
4.[Bug Fixed]
     [Symptom]WPA2-PSK function in DUT/GUI,DUT require to active the RADIUS at
first
     [Condition]Step1 Go to GUI/Wireless, try to use WPA2-PSK
        Step2 DUT require to active the RADIUS at first
        Step3 While in SMT, don't need to do so

Modification in 3.40(UU.1)C0 | 07/12/2005
1.   fix wireless power control issue.
2.   fix the ADM6996I-AC version Ethernet switch IOP issue.

Modification in 3.40(UU.0)C0 | 06/29/2005
1. change to FCS

Modification in 3.40(UU.0)b4 | 06/15/2005
1.[BUG FIX] SPRID: 050615680
   [Symptom] In (UU.0)b2,DUT don't allow to delete menu4,but in (UU.0)b3,DUT allow
       to delete menu4
   [Condition] In (UU.0)b2,DUT don't allow to delete menu4,but in (UU.0)b3,DUT allow
       to delete menu4

2.[Feature Enhancement]
    Enhance WLAN throughput and HTP of WLAN

3.Update bootbase to V1.05
     Change GPIO of bootbase

4. change modem code to 3.2.0.2

Modification in 3.40(UU.0)b3 | 06/08/2005
1. [BUG FIX]   SPRID: 050527833
   [Symptom] It will hang when save address maping rules in SMT15.1, then reboot
      DUT ,it will crush continuously
   [Condition] 1.In SMT4 set net address translation=full feature

2.In SMT15.1.1 set a rule and press enter several times to save it, then it will hang,reboot DUT,it will crush continuously

2.[BUG FIX] SPRID: 050527841
[Symptom] In GUI/Advanced Setup/Wireless LAN/MAC Filter, the "Back" button will save the setting.
 [Condition] In GUI/Advanced Setup/Wireless LAN/MAC Filter, the "Back" button will save the setting.

3．[BUG FIX] SPRID: 050527847
[Symptom] The filter rule2 of menu21.1.2 is different from release note.
[Condition] In release note, this rule is active, but in default rom setting, this rule is inactive.

4. [BUG FIX]   SPRID: 050523452
[Symptom] The display of release note has issue.
[Condition] In menu11, the remote node 1 should show: "MyISP (ISP, SUA)". But in release note, the display is "MyISP (ISP)".

5. [BUG FIX]   SPRID: 050523453
[Symptom] In menu15.1 of release note, the prompt "Enter Menu Selection Number" missed a colon.
[Condition] In menu15.1 of release note, the prompt "Enter Menu Selection Number" missed a colon.

6. [BUG FIX]   SPRID: 050523454
[Symptom] The display of release note has issue.
[Condition] In menu23.2 of release note, the display of prompt is "Enter Menu Selection Number". And right prompt should be show "Press ENTER to Confirm or ESC to Cancel".

7. [BUG FIX]   SPRID: 050523455
[Symptom] The display of menu23.4 is different from release note.
[Condition] Step1: In menu23.4, the display of prompt is showed "Press ENTER to Confirm or ESC to Cancel".
           Step2: But in release note, it showed "Enter here to CONFIRM or ESC to CANCEL".

8. [BUG FIX] SPRID: 050524558
[Symptom] Use ax/4000 test UBR have problem.
[Condition] Set menu 4 ATM QoS Type= UBR, Peak Cell Rate (PCR) = 1000, Sustain Cell Rate (SCR) = 500, Maximum Burst Size (MBS) =500, The traffic do not restrict by the PCR, it can up to 1800 cells/s

9. [Feature Enhancement] Add triple play(Switch port to PVC mapping) feature.

Modification in 3.40(UU.0)b2 | 05/16/2005

1. Create this project.

Annex B CI Command List

Command Class List Table		
System Related Command	Exit Command	Ethernet Related Command
WAN Related Command	WLAN_Related_Command	IP Related Command
Bridge Related Command	Radius Related Command	8021x Related Command
Bandwidth Management		

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			
		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
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,sdsl00, 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
		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			
		display		display CPU utilization
	tripleplay			
		portbase		
			enable	Enable triple-play service
			disable	Disable triple-play service
			set <eportid> <pvcid | disable>	Set triple-play service
			save	Save triple-play service
			disp	display triple-play information
	8021p			
		enable		Enable 802.1p
		disable		Disable 802.1p
		set	<LanPort> <priority>	Set priority per LAN Port
		disp		Show 802.1p settings
		save		Save the settings to FLASH ROM
	8021q			
		enable		Enable 802.1q
		disable		Disable 802.1q
		set	<Group#> vid <VlanId> lanPort <LanPort #1> ... [LanPort #4] wanPort <RemoteNode #1> ... [RemoteNode #8]	Set VLAN Group information, include VLAN, LAN port mapping, and Remote Node mapping. where, <Group#>: 1~4 <VlanId>: 1~4094, 0=>Disable this group settings, 4095=>Reserved <LanPort#>: 1~4 <RemoteNode#>: 1~8
		setlan	<LanPort#> <Group#>	Join LAN Port ID into group <LanPort#>: 1~4 <Group#>: 1~4, 0=>remove from the group
		setwan	<RemoteNode#> <Group#>	Join Remote Node ID into group <RemoteNode#>: 1~8 <Group#>: 1~4, 0=>remove from the group
		disp		Show 802.1q settings
		save		Save the settings to FLASH ROM
		clear	<Group#>	Clear the group settings <Group#>: 1~4

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
	switch			
		speedDuplex	<portID> [a|m =auto|manual] [10|100] [h|f =half|full-duplex]	Set speed/duplex mode portID: all|1|2|3|4
		status		Show Ethernet port link speed/duplex status

WAN Related Command

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	
			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>	Add a entry to hunting pool

			<service bit(hex)>	<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

WLAN Related Command   Home

Command				Description
Wlan				
	active	[on|off]	[0|1]	Turn on/off wireless lan
	association			Show association list
	load			Load WLAN configuration into buffer.
	Display			Display WLAN configuration data.
	chid			Configure channel ID
	essid			Configure ESSID
	hiddenssid		[on/off]	Enable/Disable hidden SSID
	threshold			
		rts	<RTS threshold value>	Set threshold rts value
		Fragment	<Fragment threshold value>	Set threshold fragmentation value
	wep			
		type	<none|64|128|256>	Set WEP key to 64, 128 or 256 bits.
		Key	Set <set> <value>	Set WEP key value per set
		Key	Default <set>	Set WEP default key set
	macfilter			
		Enable		Enable macfilter

		Disable		Disable macfilter
		Action	<allow|deny>	When action match, allow or deny this mac
		Set	<Set#> <MAC Address>	Set mac address by set
	Clear			Clear all WLAN configuration data.
	Save			Save WLAN configuration working buffer to Rom file.
	filter			
		[incoming | outgoing]	<generic>[set#1][set#2][set#3][set#4]	To set generic filter for wireless channel
	version			

IP Related Command   Home

Command				Description
ip				
	address		[addr]	display host ip address
	loopbackaddr		<IP1> [IP2]	Set loopback address.
	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 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
		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	
	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>	chaek if iface is available.	
ping		<hostid>	ping remote host	
pong		<hostid> [<size> <time-interval>]	pong remote host	
extping		<target address>		
		[-t]	Continue to send ECHO_REQ until Ctrl-C input	
		[-c]	Validate the reply data	
		[-d] [Data]	Data pattern. The maximum length of data is 255 characters.	
		[-f]	Set DF flag.	
		[-l] [Data size]	Datagram size in bytes (with 28 bytes Header).	
		[-v] [TOS value]	Specify the value of TOS flag.	
		[-n] [Repeat value]	The number of times to send ECHO_REQ packet.	
		[-w] [Timeout value]	Specify the value of Timeout in seconds.	
		[-o] [IP address/IFace]	To specify one IP address or interface to be the Source IP address.	
		[-p] [Min MTU] [Max MTU] [Interval size]	Sweep range of sizes.	
	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
		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		pritn 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
				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 promiscious 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 traffice monotor. 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

Radius Related Command

Command			Description
radius			
	auth		show current radius authentication server configuration
	acco		show current radius accounting server configuration

8021x Related Command

Command			Description
8021x			
	debug	level	[debug level]	set ieee802.1x debug message level
		trace		show all supplications in the supplication table
		user	[username]	show the specified user status in the supplicant table

Bandwidth management Related Command

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|prr>	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 LAN
		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|prr>	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 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.

						Description
				<wrr|prr>		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. 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~	add #	bandwidth xxx	<name xxx>	Add a class with bandwidth xxx bps in WAN.

			07]			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
			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[0			Show the filters settings of WAN

			0~07]			
		statistics	lan			Show the statistics of the classes in LAN
			wlan			Show the statistics of the classes in WLAN
			mpoa[0 0~07]			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.