ZyXEL

Firmware Release Note

Prestige 652HW-31

Standard version

Release 3.40(IU.1)C0

Date: **August 12, 2003**
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ZyXEL Prestige 652HW-31 Switzerland Version Release 3.40(IU.1)C0 Release Note

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Supported Platforms:

ZyXEL Prestige 652HW-31

Versions:

ZyNOS F/W Version : V3.40(IU.1) | 7/30/2003 11:00:50
BootBase : V1.11 | 3/4/2003 10:26:13

Notes:

The P652HW-31 is a small-office and home device that will allow a small LAN to access the Internet. By integrating ADSL, WLAN, NAT, P652HW-31 provides the ease of installation and Internet access.
The P652HW-31 provides an PCMCIA wireless card slot for 802.11b 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 port for connection to ADSL line.
The version of Alcatel modem code is 3.9.122

Known Issues:
1. WLAN can't update to the maximum transmit rate in Bandwidth Management.
2. Firewall Help Pages are in English Only.

CI Command List:

Features:

Modification in 3.40(IU.1)b1 | 07/07/2003
1. [BUG FIX] PPPoE pass through can't work when WLAN card is inserted.
2. [BUG FIX] PPPoE connection acts abnormally with Linux PPPoE server.
3. [BUG FIX] Bandwidth management cause PCMCIA hang-up.

Modification in 3.40(IU.0)c0 | 05/27/2003
1. [BUG FIX] PPPoE Client can't work if the first remote node is in bridge mode and smt menu1 routing set to yes.

2. [BUG FIX] smt menu11 select bridge should not affect the submenu 11.2 SUA selection.
3. [FEATURE ENHANCE] Add CI commands by TE request. "sys romreset <1:reboot|2:no reboot>", "sys atsh", "sys atwe <mac address> <country code> <debug flag> <feature bits> < 1:reboot|0:no reboot>", and "sys stdio 0 [seconds]".
4. [FEATURE ENHANCE] Change "sys smt on/off" from internal usage to hide.
5. [FEATURE ENHANCE] Enhance the CI command "sys proc stack" & "sys proc disp" to show the maximum stack usage for THREADX.
6. [BUG FIX] In Web GUI, Port speed select is not consistent with the dial backup advance GUI.
7. [FEATURE CHANGE] Modify WLAN default channel to CH06.

Modification in 3.40(IU.0)b10 | 05/20/2003
1. [FEATURE CHANGE] Modify Boot base product string from "P652HW-31" to "P652H/HW-31".
2. [FEATURE ENHANCE] Add SPTGen for MAC Filter, RADIUS, and IEEE802.1X.
3. [FEATURE ENHANCE] Enlarge FTP allocated buffer.
4. [FEATURE ENHANCE] Add Multi Language Web GUI.
5. [BUG FIX] Web GUI "wan.html" shows error if PPPoE pass through is selected "Yes".

Modification in 3.40(IU.0)b9 | 05/13/2003
1. [BUG FIX] Dial-Backup can't work because the configuration data is saved at wrong place.
2. [FEATURE ENHANCE] Add Telnet client. Use CI command "ip telnet <host>".
3. [FEATURE ENHANCE] Add IP trace route. Use CI command "ip traceroute <host> [ttl] [wait] [queries]".

Modification in 3.40(IU.0)b8 | 05/13/2003
1. [BUG FIX] Dial-Backup can't work if configured through Web GUI or SMT menu.
2. [BUG FIX] VPN Rule 9 and 10 can't be set.
3. [BUG FIX] Web Log page display garbage information.
4. [BUG FIX] Time zone's start date & end date has not consistent with SMT & web.
5. [FEATURE ENHANCE] WLAN will light on under "atgt" debug mode.

Modification in 3.40(IU.0)b7 | 05/02/2003
1. [BUG FIX] LED problem - DSL & ACT led can not turn off right now when system reboot.
2. [BUG FIX] Web problem - Maintenance->Diagnostic Page,ping non-IP format .The result show success.
3. [BUG FIX] SMT problem - If no wireless card plug on, both Web GUI and SMT won't show any information related to WLAN.
4. [BUG FIX] Web problem - Web page wireless mac filter set only 12 set.
5. [BUG FIX] VPN problem - Can not establish 5 VPN at same secure gateway tunnel.
6. [BUG FIX] Web problem - If no change to AUX port,access WAN backup page, sys reboot.

7.   [BUG FIX] Web problem - No Time setting page.
8.   [BUG FIX] SMT problem - Menu 24.3.3 no context.
9.   [BUG FIX] VPN problem - Remote side disconnect the VPN tunnel,VPN still exist.
10. [BUG FIX] Exception problem - System maintenance log enable and drop pppoe connection will caused exception.
11. [FEATURE ENHANCE] VPN tunnel extend to 10 entries.
12. [BUG FIX] In HTP, if the wireless LAN card exist, the WLAN LED will be on.

Modification in 3.40(IU.0)b6 | 04/08/2003
1.   [FEATURE ENHANCE] WAN Backup Funtion.
2.   [FEATURE CHANGE] Modify HTP process to test UART external before testing WLAN Internal.
3.   [BUG FIX] DHCP client doesn't release the IP address.
     Symptom: DHCP client doesn't release the IP address when the IP address is expired
     Condition: System is configured in "enet encap" (DHCP client), and sometimes DHCP server doesn't response in a period of time, when the lease time is expired system should release WAN IP address.
4.   [BUG FIX] IPSec bug.
     Symptom: Local and peer content can't change when ID type is IP with CI command.
     Condition: "ipsec config lcIdContent" and "ipsec config peerIdcontent" can't change the value when ID type is IP.
5.   [BUG FIX] NAT
     Symptom: The router tries to search a GRE entry, but sometimes it will find an ESP entry.
     Condition: 1. There is an ESP entry in NAT session table.
                         2. There is no other GRE entry in NAT session table.
                         3. There is an GRE packet from outside to WAN.
6.   [BUG FIX] IPSec Bug
     Symptom: Sometimes IPSec rekey procedure failed.
     Condition: Under heavy traffic, sometimes IPSec rekey failed.
     Sympton: Even the parameter is correct, negotiation for IKE phase 1 may fail.
     Condition: There are two types of conditions. 1) When two rules have same secure gateway address, sometimes the second tunnel cannot be established after the first one is built. 2) This situation also happens in rekey. If the initiator did not send DEL phase 1 information packet first and then start another phase 1 negotiation directly, this negotiation may fail.
7.   [BUG FIX] IPSec Bug
     Symptom: IPSec rekey procedure is not stable.
     Condition: 1) There exists an IPSec rule, it's Secure gateway address is domain name. And the phase 2 PFS is on, either DH1 or DH2. 2) Sometimes the IPSec rekey procedure will not work properly. 3) From the log, user will see ZyWALL only receives IKE packets but never responses.
8.   [FEATURE CHANGED] IPSec
     Symptom: Change the mechanisam of initial contact in reboot detection (original: tunnel-based, now: machine-based).
     Symptom: In the past, after phase 2 rekey, responder still use old phase 2 SA to

transmit packets for a certain period and then started use the new phase 2 SA. Now responder will use new phase 2 SA after rekey immediately.

Symptom: In our previous design, "SA monitor" shows SAs including the old SA. So even the re-negotiated SA will be showed on SA monitor. In this case, after a tunnel re-keyed, there will be two SAs on SA monitor. The new behavior is that SA monitor just shows SA which is "non-negotiated", i.e., SA monitor shows new SA but skips old SA.

9. [FEATURE ENHANCED] IPSec
    Symptom: When the remote address range and local address range overlap in a IPSec rule, packets from local to local can skip this rule for checking. For example, a rule: local=> start= 192.168.1.0 mask= 255.255.255.0; remote=> start= 192.168.0.0 mask= 255.255.0.0. Then user can define if a packet from 192.168.1.2 to 192.168.1.3 matches this rule.
    Symptom: Add back the inbound idle timer. When a tunnel has no inbound traffic for a certain period, the tunnel will be dropped.

10. [FEATURE ENHANCED] Centralized Log
    Symptom: Improve Log performance. Use a macro "NEED_LOG_PACKET" to determine dose the router need log or not.

11. [BUG FIXED] VCHunt
    Symptom: (1) The exception is occurred if using "wan atm vchunt remove" to remove non-existed vcHunt table.
    (2) The un-configured remoteNode (but active) would be saved the vcHunt result. This might cause system reboot.

12. [BUG FIXED] HWSAR
    Symptom: (1) Hwsar atmCfgTable would be full if dropping the ADSL line eight times at ZD2001 platform under PPPoE encap. The would cause no packets would be transmitted or received.
    (2) Hwsar atmCfgTable would be full if changing the VPI/VCI setting eight times at ZD2001 platform under PPPoE encap. This would cause no packets transmission or receive.

Modification in 3.40(IU.0)b5 | 04/03/2003

1. [BUG FIX] DHCP client doesn't release the IP address
    Symptom: DHCP client doesn't release the IP address when the IP address is expired.
    Condition: System is configured in "enet encap" (DHCP client), and sometimes DHCP server doesn't response in a period of time, when the lease time is expired system should release WAN IP address.

2. [BUG FIX] Centralize log Bug
    Symptom: The errlog type does not match the centralized log type.
    Condition: ERR_INFO will be loged into LOGS_TYPE_ERROR.
    Reason: The translated function makes a wrong mapping between errlog & centralized log type.

3. [BUG FIX] IPSec Bug
    Symptom: NAT router will create two session entries when building IPSEC tunnel.
    Reason&Solution: When creating a new session entry for IPSEC port 500 incoming packets, it will not record the initiator cookie. Next the same packet comes will create

a new session entry again. The solution is to record the initiator cookie.

Symptom: Can not save phase 1 ID in smt27.1.1

Condition: In IPSec setup page, when phase 1 ID type is IP and phase 1 ID content is empty, setting can not be saved in smt27.1.1, and the warning message "ID Content Should Be IP Format" shows at the bottom of smt27.1.1.

Symptom: When phase 1 ID check failed, IKE log didn't show the ID content correctly.

Condition: 1) Set Peer ID type = IP and leave Peer ID content as blank.

2) Set different ID content in the peer site.

3) Establish the tunnel. Due to phase 1 ID content is different, the procedure will fail. But in the log, "configured peer ID content" doesn't show correctly.

Reason: in proc_id(), there is no checking mechanism if ID content is blank.

Solution: Add a check. If peer ID content is blank, use secure gateway address as ID content.

Symptom: Two IPSec hosts can establish IPSec connection when one uses main mode and the other chooses aggressive mode.

Condition: When local and peer hosts use different IKE phase1 negotiation mode, they still can establish IPSec connection.

Solution: If the ipsec host is responder, it will check the IKE phase1 negotiation mode is the same or not.

4.   [BUG FIX] Web Bug

Symptom: After Web Configurator - Wizard setup, all remote nodes will be changed.

Condition: All remote nodes will change to the same Route/Bridge mode with ISP node.

Solution: Remove call configRNodes() in SaveWizardData().

5.   [BUG FIXED] Wireless bug with 802.1x

Symptom: Wireless WEP key in web page have probelm.

Condition: While device support 802.1x, set WEP key in web page can't pass RADIUS authenticate.

6.   [BUG FIXED] Wireless bug

Symptom: Display wrong wireless card version.

Condition: Use CI command "wlan version" to display wireless card version, the primary firmware version is always same as secondary version.

7.   [FEATURE ENHANCED] On line switch multi_language.

8.   [BUG FIX] Web Bug

Symptom: From RFC 1483/Bridge to PPPoE/Route, PC can not dial up.

Cause: The configured valued have saved to Device, but fail to correctly switch between Bridge and Routing mode.

9.   [BUG FIX] Web Bug

Symptom: The function,spWrite802_1xEntry, been accessed in rpWLan_v.c when 802.1x pages are not needed.

Cause: Compiler flags, IEEE802_1X and RADIUS not add into the related files.

10. [BUG FIX] All LAN traffic is blocked.

Symptom: If product has FILTER_NETBIOS_BLOCK defined on ZD2001 platform,

all LAN traffic will be blocked.
Cause: Miss judge NetBIOS packets.

11. [BUG FIX] ROM version increases by 1 every time the router reboot.
Symptom: If product has CYBER_PATROL, or CONTENT_FILTER defined, when every time the router reboot will cause "RomFile Version" and "RomFile Checksum" increased by 1.
Cause: When processing spConv(), the function will always update ROM file.
Solution: Avoid update ROM if Cyber Patrol parameters are already updated.

12. [FEATURE CHANGED] Change AT command "ATLD" to hide while turn off EngDebugFlag.

13. [BUG FIXED] Protected "rom-0" file, when user no login.

Modification in 3.40(IU.0)b4 | 03/12/2003
1. [BUG FIX] HTP test LAN external loop back fail.
2. [FEATURE ENHANCE] Add AUX External Loop Back Test in HTP.
3. [FEATURE ENHANCE] SMT4 will save empty login name and password instead of saving a space.

Modification in 3.40(IU.0)b3 | 03/12/2003
1. [FEATURE ENHANCE] Add DES ASIC in HTP.

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Annex A CI Command List

Command Class List Table		
System Related Command	Exit Command	Ethernet Related Command
IP Related Command	Bridge Related Command	WAN Related Command
WLAN_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			
		add	<phone dir [rate] [upTime]>	add entry to call history
		display		display call history
		remove	<index>	remove entry from call history
	clear			clear the counters in GUI status menu
	clock			
		display		display system clock
	countrycode		[countrycode]	set country code
	date		[year month date]	set/display date
	dir			display file directory
	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
	log			
		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
			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
	log			
		clear		clear log error
		disp		display log error
		online	[on|off]	turn on/off error log online display
	map			display whole memory map content
	mbuf			
		link	link	list system mbuf link
		pool	<id> [type]	list system mbuf pool

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		status		display system mbuf status
		disp	<address>	display mbuf status
		cnt		
			disp	display system mbuf count
			clear	clear system mbuf count
		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
	pwc			sends information to PWC via telnet
	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>		<channel name>=enet0,sdsl00, fr0
		[none|incoming|outgoing|bothway]		set packet trace direction for a given channel
	string			enable smt trace log
	switch	[on|off]		turn on/off the packet trace
	disp			display packet trace
	udp			send packet trace to other system
		switch [on|off]		set tracepacket upd switch
		addr <addr>		send trace packet to remote udp address
		port <port>		set tracepacket udp port
	parse	[[start_idx], end_idx]		parse packet content
	brief			display packet content briefly
syslog				
	server	[destIP]		set syslog server IP address
	facility	<FacilityNo>		set syslog facility
	type	[type]		set/display syslog type flag
	mode	[on|off]		set syslog mode
version				display RAS code and driver version
view		<filename>		view a text file
wdog				
	switch	[on|off]		set on/off wdog
	cnt	[value]		display watchdog counts value: 0-34463
	dead			let watch dog take place using while loop
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
spt				
	dump			dump spt raw data
		root		dump spt root data
		rn		dump spt remote node data
		user		dump spt user data
		slot		dump spt slot data
	set	<offset> <len> <value...>		set spt value in memory address
	save			save spt data
	size			display spt record size
	clear			clear spt data
cmgr				
	trace			
		disp <ch-name>		show the connection trace of this channel
		clear <ch-name>		clear the connection trace of this channel
	data	<ch-name>		show channel connection related data
	cnt	<ch-name>		show channel connection related counter
socket				display system socket information
filter				
	clear			clear filter statistic counter
	disp			display filter statistic counters

		sw	[on|off]	set filter status switch
		rule	<iface>	display iface filter flag
		set	<set>	display filter rule
		addNetBios		add netbios filter
		removeNetBios		remove netbios filter
		netbios		
			disp	display netbios filter status
			config <0:LAN to WAN, 1:WAN to LAN, 2:LAN to DMZ, 3:IPSec passthrough, 4:Trigger Dial> <on|off>	config netbios filter
		blockbc	[on|off]	set/display broadcast filter mode
	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

Exit Command

Command			Description
exit			exit smt menu

Ethernet Related Command

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

IP Related Command

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
		add	<hostid> ether <ether addr>	add arp information
		resolve	<hostid>	resolve ip-addr
		replydif	[<0:No|1:yes>]	reply different inteface ip-addr's arp request
		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
		check			
				cmd [on|off]	check icmp echo reply command data
				rsp [on|off]	check icmp response
				indication [i|r|l|p]	set icmp indication
		status			display icmp statistic counter
		trace	[on|off]		turn on/off trace for debugging
		discovery	<iface> [on|off]		set icmp router discovery flag
	ifconfig		[iface] [ipaddr] [broadcast <addr> |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
	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
	anitprobe		<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
	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			
		debug	[on|off]	turn on/off the nat debug flag
		period	[period]	set nat timer period
		port	[port]	set nat starting external port number
		checkport		verify all server tables are valid
		timeout		
			gre [timeout]	set nat gre timeout value
			iamt [timeout]	set nat iamt timeout value
			generic [timeout]	set nat generic timeout value
			reset [timeout]	set nat reset timeout value
			tcp [timeout]	set nat tcp timeout value
			tcpother [timeout]	set nat tcp other timeout value
		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

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

WAN Related Command

Command				Description
Wan	adsl	Bert		ADSL ber
		Chandata		ADSL channel data, line rate
		close		Close ADSL line
		Coding		ADSL standard current
		Ctrleint		ADSL CTRLE response command
		Defbitmap		ADSL defect bitmap status
		Dyinggasp		Send ADSL dyinggasp
		Fwav		Test the ADSL F/W available ping

		Fwdl		Download modem code, but must reset first
		Linedata		
		Linedata	near	Show ADSL near end noise margin
		Linedata	far	Show ADSL far end noise margin
		Open		Open ADSL line
		opencmd		Open ADSL line with specific standard
		Opmode		Show the operational mode
		Perfdata		Show performance information,CRC,FEC, error seconds..
		Rdata	[start] [length]	Read DSP CTRLE registers 512 bytes
		Reset		Reset ADSL modem, and must reload the modem code again
		Selftest		
		Selftest	Long	ADSL long loop test
		Selftest	short	ADSL short loop test
		Status		ADSL status (ex: up, down or wait for init)
		Version		ADSL version information
		Vendorid		ADSL vendor information
		Utopia		Show ADSL utopia information
		Cellcnt		Show ADSL cell counter
		display		
		display	shutdown	Show the counter of rate adaptive mechanism happening
		display	rateup	Show real status that rate adaptive mechanism happened
		Rateadap	[on|off]	Turn on/off rate adaptive mechanism
		Dumpcondition	[on|off]	Turn on/off online debug information of rate adaptive mechanism
		Sampletime	[mins]	Tune the sample time of rate adaptive mechanism
		Noisegt	[dB]	if noise margin is 3db greater than before, and rate is worse than before, then system will do "L1 shutdown RA3", default is 3db
		Noisemargin	[dB]	if noise margin is greater than this value, and rate is worse than before, then system will do "L1 shutdown RA3", default is 8db
		persisttime	[time]	when the adaptive condition is matched system will continue to monitor the time period "persisttime" before doing "L1 shutdown RA3", default is 30 seconds
		Timeinterval	[mins]	when "L1 shutdown RA3" is done twice, and still can't reach the max rate which system recorded, it will delay a time period that the period base time is"timeinterval" before starting again. The time-based default is 2 hrs
		Defectcheck	[on|off]	Turn on/off detect table checking, default is on
		Txgain	[value]	Set the CTRLE register (0xc3), the value is from 0xfa to 0x06
		Targetnoise	[value]	Set the CTRLE register (0xc4), the value is from 0xfa to 0x06
		Maxtonelimit	[value]	Set the CTRLE register (0xc5), the value is from 0xfa to 0x06
		Rxgain	[value]	Set the CTRLE register (0xc6), the value is from 0xfa to 0x06
		Txoutputpwr	[value]	Set the CTRLE register (0xc7), the value is from

				0xfa to 0x06
		Rxoutputpwr	[value]	Set the CTRLE register (0xc8), the value is from 0xfa to 0x06
		maxoutputpwr	[value]	Set the CTRLE register (0xc9), the value is from 0xfa to 0x06
		Errorsecond		
		Errorsecond	Switch [1|0]	Turn on/off error sending to DSLAM side
		Errorsecond	sendes	Send current error second information immediately
		Dygasprecover		
		Dygasprecover	Level [value]	By default is 100, after receiving 100 dying gasp system will reboot
		Dygasprecover	Active [on|off]	Turn on/off this mechanism
		rsploss	[1|0]	Turn on means to response signal loss of CTRLE immediately, default is off
		watchdog	[1|0]	Watchdog for DSP
	atm	test	[fix|rand|period|oam|loopback]	Generate ATM traffic
wan	hwsar	Disp		Display hwsar packets incoming/outgoing information
		Clear		Clear hwsar packets information
		Sendoam		Send OAM packets: <vpi> <vci> <f5> <end-to-end> <type:0(AIS) 1(RDI) 2(LoopBack)>

WLAN Related Command

Command				Description
Wlan				
	Essid			Configure ESSID
	Chid			Configure channel ID
	debug			Turn on /off debug information
	version			Show WLAN AP F/W version
	Filter	< incoming | outgoing >	< generic > [set#1][set#2][set#3][set#4]	To set generic filter for wireless channel