

**ZyXEL**

**Firmware Release Note**

**Prestige 304**

**Release 3.60(CO.0)C0**

# ZyXEL Prestige 304 Standard Version V3.60(CO.0)C0 Release Note

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Date: September 17, 2002

## Supported Platforms:

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ZyXEL Prestige 304

## Versions:

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ZyNOS F/W Version : V3.60(CO.0) | 09/17/2002 10:18:29  
BootBase : V2.10 | 03/22/2002 14:38:58

## Known Issues:

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1. The Windows Messenger can not work while there are two users working with file transfer application in local LAN.

## Features:

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### Modification in V3.60 (CO.0)b7 09/12/2002

1. [BUG FIX]

Symptom: Under VPN channel, when sending out large file, the system will crash.

Condition: When continuously sending large packet and the data packet size is over certain size (say 1450), then the system will eventually crash.

2. [BUG FIX]

Symptom: The DDNS doesn't update user profile immediately after eWC submit.

Condition: The DDNS client doesn't update the user profile immediately once the user click "Apply" button.

3. [BUG FIX]

Symptom: The Time Zone page of eWC does not refresh time.

Condition: The Time Zone page of eWC does not refresh time after the user click "Apply" button.

### Modification in V3.60 (CO.0)b6 09/09/2002

1. [BUG FIX]

Symptom: Typing error in Time Zone page.

Condition: Typing error in Time Zone web configuration. NTPe should be NTP, Timei should be Time.

2. [BUG FIX]

Symptom: Denied Access Message is too small.

Condition: The "Denied Access Message" of content filter Full path should extend to all web page.

3. [ENHANCEMENT] Enhance the DDNS web page to support the new DDNS enhancement.[[Appendix 8](#)]

1. Remove "eMail" field

2. Support 3 hostname fields.

3. Add update IP related fields.

4. [ENHANCEMENT] Update the help file of UPnP.

### Modification in V3.60 (CO.0)b5 08/28/2002

1. [ENHANCEMENT] In content filter, users can modify the “Denied Access Message”. When it block one URL, Prestige will show this messages to the client.
2. [ENHANCEMENT] URL checking in content filter is enhanced. Now it can parse full URL path for blocking, and the URL checking can be case insensitive. We have added two CI commands to allow users to turn on these two features. They are “ip urlfilter customize actionFlags act5 enable / disable” and “ip urlfilter customize actionFlags act6 enable”.

**NOTE:** Turns on these two features will enlarge search load during content filter process and throughput will be impacted. The default values of them are both “disable”.

3. [BUG FIX] When Prestige receives TCP packets with both SYN and ACK bits are set, corresponding remote management service is no more available.
4. [BUG FIX] Clearing default server in WEB→SUA/NAT by entering non-ip string will leave that field containing incorrect numbers.

5. [BUG FIX]

Symptom: Some special applications may not work behind Prestige’s NAT function.

Condition: This symptom is observed when NAT is enabled on Prestige. Some special applications have unusual TCP connect procedure. After TCP connection is established, a RESET followed re-connect steps right away will make the NAT session be deleted very quickly.

6. [BUG FIX]

Symptom: Default DNS server can't work.

Condition: When a user set a static ip on wan and set dhcp-none on lan, the default DNS server can't work and there is no way to set the default DNS server ip.

Note: A CI command "ip dns default <ip>" is used to change the default DNS server ip.

7. [BUG FIX]

Symptom: mIRC "DCC SEND file" function can't work.

Condition: Behind NAT router, when user tries to send a file by using mIRC DCC SEND function, The file transfer will not only succeed, but also will cause disconnection from mIRC server.

Note: For the reason number 2 above, it also solves the Quake (internet game) bug. Since, the natQuakeOutgoing() also calls the function mbufReplaceData().

8. [ENHANCEMENT] UPnP add enable/disable Internet function. Users can enable/disable WAN access from Internet Gateway of Network Connection.

9. [BUG FIX]

Symptom: The voice of Messenger can’t work normal from WAN to LAN in UPnP.

Condition: If user enable UPnP NAT traversal, the voice of Messenger can’t work normal form WAN to LAN sometimes.

Note: Please check the voice of Messenger from WAN to LAN using the XP and enabling UPnP NAT traversal.

#### **Modification in V3.60 (CO.0)b4 07/02/2002**

1. [ENHANCEMENT] Add new CI commands to filter netbios. For netbios packets, they are “sys filter netbios”. Please refer to Appendix 4 for detailed description.
2. [BUG FIXED] User can access to LAN IP of the router from WAN.

#### **Modification in V3.60 (CO.0)b3 05/31/2002**

1. [BUG FIXED] DHCP server don't response. We do more retrainsmit to fix the bug.
2. [BUG FIXED] Advanced|WAN|ISP| "PPPoE/PPTP" if use apply, only 31 chars in User field will reload but German T-Online need 41 Chars, internetlogin fails.[IPHC200204302167]
3. [ENHANCEMENT] Modify “Denied Access Message” UI in ADVANCED->PARENTAL CONTROL->Keyword page.

#### **Modification in V3.60 (CO.0)b2 05/28/2002**

1. [ENHANCEMENT] Add blocked message support on Content Filter. (eWC: ADVANCED->PARENTAL CONTROL->Keyword page)
2. [ENHANCEMENT] Add case insensitive support on Content Filter. (CI command: ip urlfilter customize actionFlags act6 [enable|disable].)
3. [ENHANCEMENT] Add url is blocked by Full domain/Full path support on Content Filter. (CI command: ip urlfilter customize actionFlags act5 [enable|disable].)

4. [ENHANCEMENT] Modify mail subject: Product\_Name: system\_name [Logs|Alert].
5. [ENHANCEMENT] Support UPnP NAT traversal feature by UPnP control.

**Modification in V3.60 (CO.0)b1 05/13/2002**

1. [NEW FEATURE] Add Telia Login support on Ethernet service.
2. [NEW FEATURE] Add Centralize Log to replace old log system.
3. [NEW FEATURE] Add UPnP support.

**Modification in V3.50 (CO.0)C0 10/23/2001**

1. [BUG FIXED] If we upload the different ras code to router, it will be successful but system crash.

**Modification in V3.50 (CO.0)b6 10/09/2001**

1. Remove Multi-NAT.

**Modification in V3.50 (CO.0)b5 09/27/2001**

1. Update help files.
2. Wording "Content Filter" to "Parental Control".
3. Bug: ADVANCED | WAN | MAC: enable "Spoof this computer MAC address...". then you can get a new wan MAC, but it is different from computer MAC address.. Fixed.

**Modification in V3.50 (CO.0)b4 09/24/2001**

1. Bug: ADVANCED | WAN | MAC: enable "Spoof this computer MAC address...". then you can get a new wan MAC, but it is different from computer MAC address.. Fixed.
2. Bug: ADVANCED | WAN | MAC: enable "Spoof this computer MAC address...". then you power off--> on P304 and configure it again, you will see it enable "Factory default". In fact, it enable "Spoof this computer MAC address...". Fixed.
3. In static route entry page, the default metric value equal 2.
4. In WAN page, the default metric value equal 2.

**Modification in V3.50 (CO.0)b3 09/20/2001**

1. Update Wizard & Wan help files for PPTP pages.
2. Bug: Restore romfile fail. Fixed.
3. Bug: Content Filter Log/Alert mail header show "Netgear". Fixed.

**Modification in V3.50 (CO.0)b2 09/19/2001**

1. Update GUI & help files.
2. At the login screen, gives focus to the password field.

**Modification in V3.50 (CO.0)b1 09/13/2001**

1. First release.

## Appendix:

### Appendix 1 CI command list

Command Class List Table		
<a href="#">System Related Command</a>	<a href="#">Exit Command</a>	<a href="#">Device Related Command</a>
<a href="#">Ethernet Related Command</a>	<a href="#">POE Related Command</a>	<a href="#">PPTP Related Command</a>
<a href="#">AUX Related Command</a>	<a href="#">IP Related Command</a>	<a href="#">PPP Related Command</a>
<a href="#">Bridge Related Command</a>	<a href="#">HDAP Related Command</a>	

USER : CAT1(0x02) → User usable and visible.  
 ENG : CAT2(0x01) → User unusable and invisible.  
 OEM : CAT3(0x04) → OEM product only.  
 HIDE : HIDE(0) → User usable and invisible.

#### 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
	erretl	[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
			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
	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>
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
rn			
	load	<entry no.>	load remote node information
	disp	<entry no.>(0:working buffer)	display remote node information
	nat	<none sua full feature>	config remote node nat
	nailup	<no yes>	config remote node nailup
	mtu	<value>	set remote node mtu
	save	[entry no.]	save remote node information

	smt			not support in this product
	stdio		[second]	change terminal timeout value
	support			not support in this product
	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	parse, brief, disp		monitor packets
	trclog			
		switch	[on off]	set system trace log
		online	[on off]	set on/off trace log online
		level	[level]	set trace level of trace log #:1-10
		type	<bitmap>	set trace type of trace log
		disp		display trace log
		clear		clear trace
		call		display call event
		encapmask	[mask]	set/display tracelog encapsulation mask
	trcpacket			
		create	<entry> <size>	create packet trace buffer
		destroy		packet trace related commands
		channel	<name> [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
	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
	mrd			
		atwe	<mac> [country code] [debug flag] [featurebit]	configure mac, country code, debug flag, featurebit in the boot module
		atse		generate the engineering debug flag password seed
		aten	<password>	enter the engineering debug flag password
		atfl	<0:1>	set engineering debug flag
		atsh		show mrd setting

	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
	fwnotify			
		load		load fwnotify entry from spt
		save		save fwnotify entry to spt
		url	<url>	set fwnotify url
		days	<days>	set fwnotify days
		active	<flag>	turn on/off fwnotify flag
		disp		display firmware notify information
		check		check firmware notify event
		debug	<flag>	turn on/off firmware notify debug flag
	spt			
		dump		dump spt raw data
			root	dump spt root data
			rn	dump spt remote node data
			user	dump spt user data
			slot	dump spt slot data
		set	<offset> <len> <value...>	set spt value in memory address
		save		save spt data
		size		display spt record size
		clear		clear spt data
	cmgr			
		trace		
			disp <ch-name>	show the connection trace of this channel
			clear <ch-name>	clear the connection trace of this channel
		data	<ch-name>	show channel connection related data
		cnt	<ch-name>	show channel connection related counter
	socket			display system socket information
	filter			
		clear		clear filter statistic counter
		disp		display filter statistic counters
		sw	[on off]	set filter status switch
		rule	<iface>	display iface filter flag
		set	<set>	display filter rule
		addNetBios		add netbios filter
		removeNetBios		remove netbios filter
		netbios		
			disp	display netbios filter status
			config <0: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
	roadrunner			
		debug	<level>	enable/disable roadrunner service 0: diable <default> 1: enable
		display	<iface name>	display roadrunner information iface-name: enif0, wanif0

		restart	<iface name>	restart roadrunner
		logout	<iface name>	logout roadrunner
		set	<iface name>	set roadrunner
	ddns			
		debug	<level>	enable/disable ddns service
		display	<iface name>	display ddns information
		restart	<iface name>	restart ddns
		logout	<iface name>	logout ddns
	cpu			
		display		display CPU utilization
	filter			
		clear		clear filter count table
		disp		display filter count table
		sw	[on off]	turn on/off and display filter count switch
		rule	<iface>	display the protocol filter and device filter of iface, channel, remote node
		set	<setid>	display filter set
		addNetBios		add netbios filter information to ROM
		removeNetBios		remove netbios filter information from ROM
		netbios		
			disp	display netbios filter flag
			config <0 1 2 3>	set netbios filter flag
		blockbc	[on off]	turn on/off and display the broadcast filter mode

#### Exit Command

[Home](#)

Command				Description
exit				exit smt menu

#### Device Related Command

[Home](#)

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

#### Ethernet Related Command

[Home](#)

Command				Description
ether				
	config			display LAN configuration information
	driver			
		cnt		
			disp <name>	display ether driver counters
			clear <name>	clear ether driver counters
		iface	<ch name> <num>	send driver iface
		ioctl	<ch name>	Useless in this stage.
		mac	<ch name> <mac addr>	Set LAN Mac address
		reg	<ch name>	display LAN hardware related registers

		rxmod	<ch_name> <mode>	set LAN receive mode. 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
	ipmul		<num>	only receive ip multicast and broadcast packet
	pncconfig		<ch_name>	do pnc config
	mac		<src_ch> <dest_ch> <ipaddr>	fake mac address
	debug			
		disp	<ch_name>	display ethernet debug infomation
		reset	<ch_name>	reset ethernet debug state
		create	<ch_name> <num>	create ethernet debug state
		destory	<ch_name>	destory ethernet debug state
		level	<ch_name> <level>	set the ethernet debug level level 0: disable debug log level 1:enable debug log (default)
	edit			
		load	<ether no.>	load ether data from spt
		mtu	<value>	set ether data mtu
		speed	<speed>	set ether data speed
		save		save ether data to spt

#### POE Related Command

[Home](#)

Command			Description
poe			
	debug	[on/off]	switch poe debug
	retry		
		count	[count]
		interval	[interval]
	status		[ch_name]
	master		
		promiscuous	[on/off]
		easy	[on/off]
	service		
		add	<service-name>
		show	
	dial		<node>
	drop		<node>
	channel		
		enable	<channel>

		disable	<channel>	disable a pppoe channel
		show		show pppoe channel
	padt		[limit]	set/display pppoe PADT limit
	inout		<node_name>	set call direction to both
	ippool		[ip] [cnt]	set/display pppoe ippool information
	ether		[rfc]3com]	set /display pppoe ether type

#### PPTP Related Command

[Home](#)

Command				Description
pptp				
	debug		[on off]	switch pptp debug flag
	dial		<rn-name>	dial a remote node
	drop		<rn-name>	drop a remote node call
	tunnel		<tunnel id>	display pptp tunnel information
	window		[size]	set pptp data rx-window-size
	rxTimeout		[timeout]	set pptp data rx-timeout
	queue		[size]	set pptp data tx-queue-size

#### AUX Related Command

[Home](#)

Command				Description
aux				
	atring		<device name>	Command the AT command to the device.
	clearstat		<device name>	reset channel statistics
	cnt			
		disp	<device name>	display aux counter information
		clear	<device name>	clear aux counter information
	cond			
		disp	<device name>	display aux condition information
		clear	<device name>	clear aux condition information
	config			display aux config, board, line, channel information
	data			
		disp		display TX session information
		send	<device name> <pkt size> <interval(ms)> <count>	start TX session
		stat	<device name>	display data statistic from TX session
		stop	<session>	stop a TX session
	dial		<device name> <phone number>	begin dialing
	disp		<device name>	displays ndis's copy of a channel's spt profile
	dqtest		<device name> <command>	send AT command
	drop		<device name>	disconnect
	dump		<start#> <display#>	dump aux debug information
	st		<start#> <display#>	dump aux state
	event			
		disp		aux event trace display
		clear		aux event trace clear
	init		<device name>	initialize aux channel
	is		<device name>	send event to in-service
	mbuf		<index>	dump mbuf information
	mem		<addr> <data> [type]	write data at addr in memory
	mode		<device name> [mode]	set mode
	mstatus		<device name>	display modem last call status

	mtype		<device name>	display modem type
	netstat		<device name>	prints upper layer packet information
	oos		<device name>	send event to out-of-service
	prtl		<device name> <level>	set display level
	rate		<device name>	show tx rx rate
	read		<device name>	read spt from ROM and copy to ndis's copy
	redirect		<device name>	invalid
	ringbuf			
		cmd		
			clear <device name>	clear ringbuffer
			disp <device name>	display ringbuffer
		data		
			clear	clear command ringbuffer
			disp <start> <len>	display command ringbuffer
	save		<device name>	save aux information
	set		<device name> <field> <value>	set aux information
	signal		<device name>	show aux signal
	speed		<device name> <type> [value]	display/set aux speed
	test		<device name> <type>	test aux channel
	version			invalid

#### IP Related Command

[Home](#)

Command			Description	
ip				
	address		[addr]	display host ip address
	alias		<iface>	alias iface
	aliasdis		<0 1>	disable alias
	arp			
		status	<iface>	display ip arp status
		add	<hostid> ether <ether addr>	add arp information
		resolve	<hostid>	resolve ip-addr
		replydif	[<0:No 1:yes>]	reply different interface ip-addr's arp request
		drop	<hostid> [hardware]	drop arp
		flush		flush arp table
		publish		add proxy arp
	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
	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
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
	errent		
		disp	display routing statistic counters
		clear	clear routing statistic counters
sntp			

	server	[addr]	set smtp server
	destmail	[addr]	set destination mail addr
	srcmail	[addr]	set source mail addr
	sendmail		send mail
	addrlist		list smtp server, dest, return addr
	addrreset		reset smtp server, dest, return addr
	status		display ip statistic counters
	adjTcp	<iface> [<mss>]	adjust the TCP mss of iface
	adjmss	[mss]	adjust all system TCP mss of iface
	udp		
	status		display udp status
	rip		
	accept	<gateway>	drop an entry from the RIP refuse list
	activate		enable rip
	merge	[on/off]	set RIP merge flag
	refuse	<gateway>	add an entry to the rip refuse list
	request	<addr> [port]	send rip request to some address and port
	reverse	[on/off]	RIP Poisoned Reverse
	status		display rip statistic counters
	trace		enable debug rip trace
	mode		
		<iface> in [mode]	set rip in mode
		<iface> out [mode]	set rip out mode
	dialin_user	[show in out both none]	show dialin user rip direction
	sidepath		
	clear		clear side path
	disp		display side path
	set	<iface> <gateway>	set side path
	tcp		
	ceiling	[value]	TCP maximum round trip time
	floor	[value]	TCP minimum rtt
	irtt	[value]	TCP default init rtt
	kick	<tcb>	kick tcb
	limit	[value]	set tcp output window limit
	max-incomplete	[number]	Set the maximum number of TCP incomplete connection.
	mss	[value]	TCP input MSS
	reset	<tcb>	reset tcb
	rtt	<tcb> <value>	set round trip time for tcb
	status	[tcb] [<interval>]	display TCP statistic counters
	syndata	[on/off]	TCP syndata piggyback
	trace	[on/off]	turn on/off trace for debugging
	window	[tcb]	TCP input window size
	samenet	<iface1> [<iface2>]	display the ifaces that in the same net
	uninet	<iface>	set the iface to uninet
	telnet	<host> [port]	execute telnet clinet command
	tftp		
	support		prtn if tftp is support
	stats		display tftp status
	traceroute	<host> [ttl] [wait] [queries]	send probes to trace route of a remote host
	xparent		
	join	<iface1> [<iface2>]	join iface2 to iface1 group
	break	<iface>	break iface to leave ipxparent group
	anitprobe	<0 1> 1:yes 0:no	set ip anti-probe flag

	forceproxy		<display set> [on off] [servicePort] [proxyIp] [proxyport]	enable TCP forceproxy
	ave			anti-virus enforce
	urlfilter			
		reginfo		
			display	display urlfilter registration information
			name	set urlfilter registration name
			eMail <size>	set urlfilter registration email addr
			country <size>	set urlfilter registration country
			clearAll	clear urlfilter register information
		category		
			display	display urlfilter category
			webFeature [block/nonblock] [activex/java/cookei/webproxy]	block or unblock webfeature
			logAndBlock [log/logAndBlock]	set log only or log and block
			blockCategory [block/nonblock] [all/type(1-14)]	block or unblock type
			timeOfDay [always/hh:mm] [hh:mm]	set block time
			clearAll	clear all category information
		listUpdate		
			display	display listupdate status
			actionFlags [yes/no]	set listupdate or not
			scheduleFlag [pending]	set schedule flag
			dayFlag [pending]	set day flag
			time [pending]	set time
			clearAll	clear all listupdate information
		exemptZone		
			display	display exemptzone information
			actionFlags [type(1-3)][enable/disable]	set action flags
			add [ip1] [ip2]	add exempt range
			delete [ip1] [ip2]	delete exempt range
			clearAll	clear exemptzone information
		customize		
			display	display customize action flags
			actionFlags [act(1-6)][enable/disable]	set action flags
			logFlags [type(1-3)][enable/disable]	set log flags
			add [string] [trust/untrust/keyword]	add url string
			delete [string] [trust/untrust/keyword]	delete url string
			clearAll	clear all information
		logDisplay		display cyber log
		ftplist		update cyber list data
		listServerIP	<ipaddr>	set list server ip
		listServerName	<name>	set list server name
	tredir			
		failcount	<count>	set tredir failcount
		partner	<ipaddr>	set tredir partner
		target	<ipaddr>	set tredir target
		timeout	<timeout>	set tredir timeout
		checktime	<period>	set tredir checktime
		active	<on off>	set tredir active
		save		save tredir information
		disp		display tredir information

		debug	<value>	set tredir debug value
	rpt			
		start		start report
		stop		stop report
		url	[num]	top url hit list
		ip	[num]	top ip addr list
		srv	[num]	top service port list
	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
	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

### PPP Related Command

[Home](#)

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

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

### 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
	fcs		<BriFcsCtl>	set bridge fcs control flag

HDAP Related Command

[Home](#)

Command			Description
hdap			
	debug		[on off]
	reset		

## Appendix 2 Hard-coded packet filter for "NetBIOS over TCP/IP"

The required settings of Menu 15 for some applications are listed in the following table.

**SUA Support Table**

Traffic Type	Application Version	Required Settings in Menu 15 Port/IP	
		Outgoing Connection	Incoming Connection
HTTP	Netscape, IE	None	80/client IP
FTP	Windows FTP, Cuteftp	None	21/client IP
TELNET	Windows Telnet, Neterm	None	23/client IP (and remove Telnet filter in WAN port)
POP3	Eudora	None	110/client IP
SMTP	Eudora	None	25/client IP
IRC	mIRC, Microsoft Chat	None for Chat. DCC support: MIRC < 5.31	None
PPTP	Windows PPTP	None	1723/client IP
ICQ	ICQ 99a	None for Chat. For file transfer, we must enable ICQ-preference-connections-firewall and set the firewall time out to 80 seconds in firewall setting.	Default/client IP
Cu-SeeMe	Cornell 1.1	None	7648/client IP
	White Pine 3.1.2	7648/client IP & 24032/client IP	Default/client IP
	White Pine 4.0 (CuSeeMe Pro )	7648/client IP & 24032/client IP	Default/client IP
NetMeeting	Microsoft NetMeeting 2.1 & 2.11	None	1720/client IP 1503/client IP
Cisco IP/TV	Cisco IP/TV 2.0.0	Default/client IP	
RealPlayer	RealPlayer G2	None	
VDOLive		None	
Quake	Quake1.06	None	Default/client IP
QuakeII	QuakeII2.30	None	Default/client IP
QuakeIII	QuakeIII1.05beta	None	
StartCraft		6112/client IP	
Quick Time	Quick Time 4.0	None	

IPSEC (ESP)		None (only one client)	Default
MSNP	Microsoft Messenger service V3.0	6901/client IP	6901/client IP

## **Appendix 3 ICQ problems**

### **What is ICQ?**

ICQ stands for 'I seek you'. It's originally developed by Mirabilis, an Israeli software company. Then it's bought by America On-Line. ICQ is an Internet messaging tool. You can use ICQ to send messages to your friends, and see if he/she is online. Every ICQ user has one ID called UIN in ICQ. It's an identifier for ICQ.

### **How ICQ works?**

When you launch ICQ, it will try to logon a server which is operated by AOL by the UIN. After the logon is completed, ICQ will try to ask server if any selected UIN is logon too. This process is done periodically, so you will know your friend is online when he launch his ICQ client. To ensure the link, ICQ will send a keep-alive packet periodically to inform the server the user is still here, and send current status if there is anything changed. The default time of keep-alive packet is 120 seconds. And all client/server communication are through UDP port 4000. Whenever a user-to-user communication is requested, there is a TCP session established. The port is negotiated by the client/server session.

### **How to make ICQ work with SUA?**

As described above, ICQ will communicate with server with port 4000 and send keep-alive packets to inform server it's online. The keep-alive packet is sent every 120 seconds. The default SUA UDP session timeout in Prestige is 90 seconds. It will cause problem because the keep-alive will be sent to different port translation due to session timeout. To fix it, you need to specify your ICQ client to shorten its keep-alive timer. It's in the connection tab under firewall setting. Set the keep-alive timer to 80 seconds to ensure the session is not timeout in Prestige. Because the user-to-user communication is negotiated by the first connection, set the ICQ connection behind the firewall. It will inform ICQ to perform operation friendly with firewall such as SUA in Prestige.

### **I have done the above setting, but it doesn't work perfectly. Why?**

As ICQ is a proprietary protocol, it's not published. As we know, there are many versions of ICQ protocols and some of them are encrypted during communication. With some experiment, we suspect the ICQ doesn't work reliably with different keep-alive timer other than default value. The new SUA will prolong the session timeout period to 180 seconds to cover the default time of ICQ. So the keep-alive timer is not necessary to be altered later. However, the connection is still set to behind firewall because we do not know how to alter the packet at this time. We will try our best to find out the protocol details in ICQ in the future. It's not easy job since the protocol is encrypted and may be changed in the future. We can not promise any firm date on that support.

## **Appendix 4 Added FTP firmware uploading support**

We build in an FTP server in ROUTER. You can use FTP client to upload the RAS code or configuration file.

### **Requirement:**

You must have FTP client and you must have the ability to connect to the ROUTER.

You must have the upgrade firmware - the RAS code or Configuration file.

You must rename the filename of RAS code to "ras" and configuration file to "rom-0".

**Connect IP** : The ROUTER's LAN IP from LAN or WAN IP from WAN.

**Username** : ROUTER

**Password** : <ROUTER Telenet Password>

### **Procedure:**

Open your FTP client to connect to ROUTER. After you login to ROUTER, you will see two list files - the "rom-0" and "ras". You can upload and download the RAS code or configuration file.

### **notes:**

The upload file should be the same filename in the ROUTER listing according to RAS code or configuration file. **The upload file is binary file.**

## Appendix 5 Hard-coded packet filter for "NetBIOS over TCP/IP"

The new set C/I commands are under "sys filter netbios" sub-command.

There are two CI commands:

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

Example output:

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

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

Type	Description	Default mode
0	LAN to WAN	Forward
1	WAN to LAN	Forward
2	LAN to DMZ	Forward
3	IPSec pass through	Forward
4	Trigger dial	Disabled

Example commands:

```
sys filter netbios config 0 on    => block LAN to WAN NB/IP packets  
sys filter netbios config 1 off   => forward WAN to LAN NB/IP packets  
sys filter netbios config 3 on    => block IPSec NB/IP packets  
sys filter netbios config 4 off   => disable trigger dial
```

## Appendix 6 Telia Login

### 1. Introduction:

Telia is Swedens largest ISP/Telco and have around 200.000 ADSL subscriptions. Before PPPoE was deployment, Telia use an old way for ADSL service: When user connects to Telia using DHCP, Telia will assign a private IP address to him. He need to register himself on a web site which runs PHP to get a legal IP for browsing internet. Our mission is to implement the same mechanism into our router.

### 2. Implementation Notes:

1. Telia Login is based on **Road Runner** mechanism. Basically, they have the same CI commands.
2. The Telia Login is a message-based handshake over a stand TCP/IP sockets connection(Port 80, HTTP).
3. After the Prestige get the IP address by means of DHCP client, it will start login to the Telia server. And this IP address will not change no matter login is successful or fail. The Telia server have a mechanism to change public network access ability by means of username/password authentication.
4. The client initiates the login by sending a HTTP request, and then sending login request which include username and password.
5. If we get the server response page, we need to check some keyword. If it exists, login successfully, else, login fail.
6. If login fail, keep retring.
7. To implement the Keep-alive feature, the Prestige need to send the login request ( or other packets) to the Telia server in each period.
8. To terminate the connection, the Prestige need to send logout request to the server.

## Appendix 7 Centralize Log

### 1. Introduction:

In the past our system existed two email functions in content filter and firewall, it's unnecessary and surplus. We must integrate these functions to the centralized mail system. And the error log, sys log, content filter log, firewall log and IPSec log, we can integrate all these logs to the centralized log and support the sort and display by different category functions. We will provide the centralized management for log in all products.

### 2. Policy:

- I. Integrate content filter email and firewall email.
- II. Integrate error log, sys log, content filter log, firewall log and IPSec log.
- III. Unify log format for various rule.
- IV. Send all logs to the sys log server.

### 3. CI commands:

sys logs				
	category			
		access	[0:none/1:log]	record the access control logs
		attack	[0:none/1:log/2:alert/3:both]	record and alert the firewall attack logs
		display		display the category setting
		error	[0:none/1:log/2:alert/3:both]	record and alert the system error logs
		ipsec	[0:none/1:log]	record the access control logs
		javablocked	[0:none/1:log]	record the java etc. blocked logs
		mten	[0:none/1:log]	record the system maintenance logs
		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			
		disp		display log error
		clear		clear log error
		online	[on off]	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
			hour	[0-23]
			minute	[0-59]
			policy	[0:full/1:hourly/2:daily/3:weekly/4:none]
			week	[0:sun/1:mon/2:tue/3:wed/4:thu/5:fri/6:sat]
		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
--	--	--------	--	-----------------	--------------------------------

## Appendix 8 DDNS

### 1. Introduction

Currently, our DDNS embedded client will provide the router's WAN port ip address to DDNS server, but it may be a private IP address, it is not a legal update IP address. Figure 1 is an example of this case. The router should provide functions to update the DDNS with public IP address. And the router need to handle the multiple error return code from the server in multi-host update case

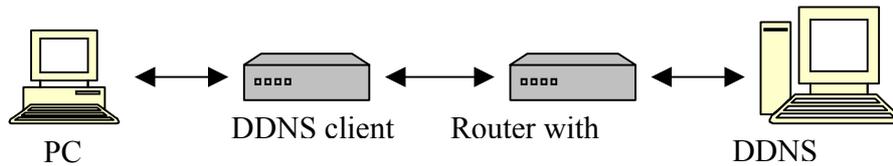


Fig 1

### 2. What to do

To prevent the DDNS client from providing the DDNS server with private IP address. This enhancement support 2 functions:

1. User specify the public address by himself.
2. Use the server detected public address.

And the router will notify the user the update error by error log.

## Appendix 9 UPnP

1. **What is UPnP:** Universal Plug and Play(UPnP) is an architecture for pervasive peer-to-peer network connectivity of PCs and intelligent devices or appliances, particularly within the home. UPnP builds on Internet standards and technologies, such as TCP/IP, HTTP, and XML, to enable these devices to automatically connect with one another and work together to make networking- particularly home networking- possible for more people.
2. **Discovery:** Once devices are attached to the network and addressed appropriately, discovery can take place. If you attach your router to the Windows XP or Me then you can find your device in Network Place.
3. **NAT Traversal:** Put simply: NAT can “break” many of the compelling new PC and home networking experiences, such as multiplayer games, real time communications, and other peer-to-peer services, that people increasingly want to use in their homes or small businesses. These applications will break if they use private address on the public Internet or simultaneous use of the same port number. Application must use a public address and for each session a unique port number. Large organizations have professional IT staff on hand to ensure their corporate applications can work with NAT, but smaller organizations and consumers do not have this luxury. UPnP NAT Traversal can automatically solve many of the problems the NAT imposes on applications, making this an ideal solution for small businesses and consumers.