

Firmware Release Note

Product Name:	IES-1248-51V
Product Model:	3.53(ARY.4)C0
Release Date:	2011/5/12

Introduction

Release 3.53(ARY.4)C0 for IES-1248-51V

Support Platforms:

IES-1248-51V 3.53(ARY.4)C0 supports model: IES-1248-51V

Version Information:

ZyNOS version: V3.53(ARY.4) | 05/12/2011

Bootbase version: V1.06 | 10/05/2009

<ADSL>

DSP Version: 6.05.17

API Version: 6.05

SELT Version: 6.05.15

<VOIP>

Legerity API version: 2.8.3

Legerity product ID: 4

Legerity firmware version: 1.99

TI DSP software version: 12.02.10.007

TI DSP image version: 12.2.10.7

Changes:

WAS:	3.53(ARY.3)C0
IS:	3.53(ARY.4)C0

Item	Category	Description
1.	[New]	Polarity Reverse option [Detailed Description]: Polarity reverse is a function to reversed tip and ring after call establish and terminate.
2.	[New]	Ring Name and Pattern [Detailed Description]: Specify the ring name and pattern to support for distinctive ringing cadence. Sever must support this feature and carry the ring name in “alert-info” header to select different ring pattern.
3.	[New]	[conference off on] option in Call Service Profile [Detailed Description]: [conference off on] option in the call service profile to enable/disable the supporting of the local conference function.
4.	[New]	[callsvcmode europe usa] option in Call Service Profile [Detailed Description]: Select the mode for supplementary phone services (call hold, call waiting, call transfer and three-way conference calls) that your VoIP service provider supports. “europe” mode - use supplementary phone services in European mode “usa” mode - use supplementary phone services American mode
5.	[New]	[firstdigit <fdt>] option in Call Service Profile [Detailed Description]: Specify the number of seconds the system waits for the caller to enter the first digit of the dialed digits.
6.	[New]	[interdigit <idt>] option in Call Service Profile [Detailed Description]: Specify the number of seconds the system waits (after the caller has entered the initial digit) for the caller to enter a subsequent digit of the dialed digits.
7.	[New]	[onhooktransfer off on] option in Call Service Profile [Detailed Description]: B (callee) is holding A and B (caller) is talking C. Once B put on hook, B will transfer A to C. (only on this condition, on-hook call transfer activate), like the following steps 1. [A] dial to [B] 2. [B] off hook 3. [A] and [B] conversation 4. [B] flash to hold A 5. [B] dial [C] 6. [C] off hook 7. [B] and [C] conversation 8. [B] on hook 9. [A] and [C] start conversation
8.	[New]	[conftransfer off on] option in Call Service Profile [Detailed Description]: A creates a conference and has members B and C. When this option is on and A hooks on. B and C will have a conversation with A directly. If this option is off, B and C will hear a busy tone.
9.	[New]	[resend <factor>] option in SIP Profile [Detailed Description]: The sending interval of REGISTER for keeping registered status. This specifies the

		factor of the Expires value.
10.	[New]	[noncecountkeep off on] option in SIP Profile [Detailed Description]: When the proxy needs DIGESTAUTHZ, needs to keep and update the following request's DIGESTAUTHZ on a dialog, previous didn't.
11.	[New]	[qopquote off on] option in SIP Profile [Detailed Description]: ITS #41446: The authenticate qop-value format is "auth" or auth.
12.	[New]	[refertobrace off on] option in SIP Profile [Detailed Description]: Add <> in the URI of "Refer-To" header, or not.
13.	[New]	[refertodot hex dot] option in SIP Profile [Detailed Description]: Option 'hex' will convert the '.' in the "Replaces" of "Refer-To" header to the %2E format, 'dot' will keep the original format.
14.	[New]	[rtpport <start-rtp-port> <end-rtp-port>] option in SIP Profile [Detailed Description]: Specify the using RTP port range.
15.	[New]	Web: Advance Application → DHCP snoop → DHCP lan2lan Mib: dhcpSnoopLan2laneEable: 1.3.6.1.4.1.890.1.5.11.17.10.55.6
16.	[New]	Support tacauplus authentication
17.	[New]	UI: added sys slot ID config, default 0 WMS: basic setting, general setup CLI: sys slotid set MIB: sysSlotId
18.	[Change]	Change caller ID related parameters in New Zealand by adopting the parameters under country "America" and modify caller ID play sequence to be "sent caller ID after first ring", instead of "send caller ID before first ring".
19.	[Change]	[Detailed Description]: Support system to config mgnt vlan and voip vlan at the same VID
20.	[Change]	Minimum FLASH time of Poland changes to 50 ms from 90 ms, and pulse digit phone will not support Poland country code.
21.	[Change]	Back to separate conversations after conference call [Detailed Description]: In the local 3-way conference, the conference creator can press "FLASH + 2" to back the two separate conversations. One is on-hold and the other is on conversion. Before design, FLASH in the 3-way conference will be ignored.
22.	[Change]	ITS #38765: Changed the on-hold tone to silence when we choose the country code to US.
23.	[Change]	When an incoming call has not been picked up for an interval, VOP will stop ring and respond a 487 Request Terminated to the caller. Change the interval from 180 seconds to 240 seconds.
24.	[Change]	UI Allow to configure MAC address 00:00:00:00:00:00 in MAC filter
25.	[Change]	UI Allow to configure multicast MAC address other than 01:00:5e:xx:xx:xx in Static Multicast
26.	[Change]	UI Allow to configure MAC address 00:00:00:00:00:00 in ACL
27.	[Change]	IW Separate DHCP traffic from IGMP
28.	[Change]	IW Separate RSTP BPDU from IGMP
29.	[Change]	IW: RSTP BPDU will not be transparent from ENET/FIBER to XDSL or XDSL to ENET/FIBER no matter
30.	[Change]	RSTP is enable or disabled
31.	[Change]	IW: for OAM buffer leakage, added OAM pool buffer (#define N_BUFS_OAM 64)
32.	[Change]	web: modify=>web session has the same timeout with telnet and console session

33.	[Change]	Remove the ringgroup option from CLI, WEB, MIB.
34.	[Change]	The min of flash changes to 500 and the max of flash change to 800 in New Zealand country code.
35.	[Change]	The number unobtainable tone changes to NU (4 short beeps, pause, and repeats) in New Zealand country code.
36.	[Change]	Supporting "clear forward" function. Break the active leads at 900ms when call is terminated by the remote side. Default is enabled.
37.	[Change]	ITS#48776: Accept "cscf" parameter in SIP TO header field. [Detailed Description]: SIP parser can accept the incoming message with "CSCF" parameter and any unknown parameter at TO header, and will just bypass it in the outgoing message.
38.	[Change]	When the system creates the RTP session will increase SSRC.
39.	[Bug Fix]	ITS #38767: A remote un-hold call comes back to the normal conversation; the SDP in 200 OK will carry different RTP port. On a creating 3-way conference, the conference creator misses to check and update the RTP port. Then VOP still send the RTP stream to the original port. This issue is found that VOP works with Server Nortel.
40.	[Bug Fix]	ITS #39859: When a conversation port has a new incoming call, the port only hears the call-waiting tone once, no matter how long the port keeps the call waiting.
41.	[Bug Fix]	ITS #40079 - The content of "Refer-To" header in the SIP response has been written into the "Reply-To" content. After receiving the response, VOP will crash. This issue is found that Call Transfer on VOP with Siemens hiQ8000 SIP proxy.
42.	[Bug Fix]	ITS #41446: "Min_SE" header incorrect handling [Detailed Description]: The content of "Min_SE" header in the SIP request has been as "Min_SE" and "Organization". When VOP releases the SIP request resource, the Min_SE resource will be freed twice and VOP crash. This issue is found that there is an incoming call from Server Siemens hiQ8000 or CommuniGatePro/5.1.13.
43.	[Bug Fix]	ITS #41446: wrong "Expires" value [Detailed Description]: In REGISTER SIP request should carry "Expires" header to show the intended valid registration time, and Server will reply a 200 OK SIP response that includes a "expires" in the "Contact" header. The expired value show the left time of REGISTER. VOP update the value to timeout and the "Expires" header of next REGISTER SIP request. It should only update the timeout and keep the original "Expires" header of REGISTER request.
44.	[Bug Fix]	SPR ID - 090407440: If an on-holding phone receives a new incoming call, the phone can't detect that incoming call. Fix with an on-holding phone always reject a new incoming call. Issue can duplicate as below steps. 1. [A] conversation with [B] 2. [C] call [A] and [C] hear "ring-back" tone 3. [A] hold [B] and conversation with [C], B hear "on-hold" tone 4. [D] call [A] and [D] also hear "busy" tone 5. [D] call [B] and [D] would hear "ring-back" tone, but [B] won't hear any tone(even after [D] on-hook phone)
45.	[Bug Fix]	All the content of "Contact" header will be converted to lower case. When the lower case content is used as ACK request URI. Server can't recognize it and can't handle the following call correctly. This issue is found that VOP works with server I-Gate 4000 Veraz Security GW Version 1.0.
46.	[Bug Fix]	When VOP receives a DTMF relay with RFC2833like format, VOP doesn't processes it correctly and plays a buzzer tone.
47. K	[Bug Fix]	Phone state becomes disabled. 1. [A] conversation with [B] 2. [C] call [A] and [C] hear "ring-back" tone

		<p>3. [A] hold [B] and conversation with [C], B hear "on-hold" tone.</p> <p>4. [B] hangs up.</p> <p>5. [C] hangs up.</p> <p>6. [A] hangs up.</p>
48.	[Bug Fix]	Sometimes on trying to light up the New Message LED of the phone even the phone doesn't have the LED, the user hooks off the phone and will not hear a dial tone. The port must be disabled/re-enabled to recover the service.
49.	[Bug Fix]	UK Call ID should be MDMF, not SDMF.
50.	[Bug Fix]	Change the China caller ID ring timeout from 400 to 350, due to the total time is too long if use 400. This will cause the CID display problem sometimes.
51.	[Bug Fix]	When the keep-alive option of the using SIP profile is on, the re-INVITE with display name for 422 "Session Timer Too Small" responses doesn't carry the display name.
52.	[bug fix]	ITS - #41446: In REGISTER SIP request should carry "Expires" header to show the intended valid registration time, and Server will reply a 200 OK SIP response that includes a "expires" in the "Contact" header. The expired value show the left time of REGISTER. VOP update the value to timeout and the "Expires" header of next REGISTER SIP request. It should only update the timeout and keep the original "Expires" header of REGISTER request.
53.	[Bug Fix]	The IES1248-51V cannot restore the command line 'switch vlan cpu set 2' after device is rebooted.
54.	[Bug Fix]	Create the SIP profile failed.
55.	[Bug Fix]	Sip profile error parameter warning is error.
56.	[Bug Fix]	When the sip server does not exist, serverstate does not display warning.
57.	[Bug Fix]	Executing VOIP port disable and enable all ports repeat will cause exception occurs.
58.	[Bug Fix]	Disabled the idling VOIP port, but the service state in the [line state] remain "idle" not disabled.
59.	[Bug Fix]	When noncecountkeep enabled on sip profile with keepalive enabled, make a phone call and capture the packet, when Nonce count of the Invite packet count to "a", the call will be terminate.
60.	[Bug Fix]	VoP1248G-61 register with SER. Capture the packets and the entire option packet "From" header will not tag the display name in URI. Then SER will reply "404 Not Found".
61.	[Bug Fix]	When input the correct command "voip diagnostic mlt relay set 25 off force", then will display the "Error: invalid mlt relay timeout, range is 1~65535".
62.	[Bug Fix]	<p>1. The new add number plan character "T" can't be used. Once make an pattern end in "T" will be failed.</p> <p>2. GUI-> VOIP-> Number Plan table -> Table Edit, the pattern rule usage does not list "T".</p>
63.	[Bug Fix]	GUI-> VoIP-> Ring Cadences -> key in ring name "A.B.C.D<KKKK>" in index 6 and apply it. The ring cadences will show ring name "A.B.C.D" only.
64.	[Bug Fix]	Without showing the error message when rtp endpoint - rtp rtpport <1000
65.	[Bug Fix]	The Daylightsaving function doesn't work, if set the system time at the Daylightsaving start date, the current system time didn't forward one hour.
66.	[Bug Fix]	When testing conference transfer with VOP line card using Abacus100 script, IES-1248-51V will be exception.
67.	[Bug Fix]	Using sipProfileRowStatus will be fail to create new sip profile in
68.	[Bug Fix]	When input is greater than 30 parameters will display "too much arguments".
69.	[Bug Fix]	XDSL: fix selt bugs. (*)
70.	[Bug Fix]	SPRID - 090702146 WEB: web radius login fix.
71.	[Bug Fix]	SPRID - 090406355 WEB: fix memory leak while FW uploading.
72.	[Bug Fix]	SPRID - 100208679 WEB: fix http multipart upload issue
73.	[Bug Fix]	SPRID - 100202113 WEB: web user session bug

74.	[Bug Fix]	SPRID 100201074 CLI: dhcprelay config restore bug
75.	[Bug Fix]	TCP: fix tcp race condition (example: telnet attack)
76.	[Bug Fix]	SPRID - 090706394 TELNET : fix
77.	[Bug Fix]	WEB->VoIP -> Call Service profile -> if select the [all] call feature items, [Conference], [Hook Transfer] and [Conference Transfer] will not be selected.
78.	[Bug Fix]	When the user auth mode=randl or tandl, login to GUI with a local account, it will not ask the server first.
79.	[Bug Fix]	MIB-userAuthMode didn't define tacacsplus/tandl/randl/landt, and the properties should also add these items.
80.	[Bug Fix]	1. GUI-> VoIP -> Ring Cadences -> key in ring name "A.B.C.D<KKKK>" in index 6 and apply it. 2. The ring cadences will show ring name "A.B.C.D" only. 3. If key in ring name "a.b.c.d<ggg>" in GUI, it will be fail and show message "Ring name must consist of printing characters! "
81.	[Bug Fix]	With Country code New_zealand and Hongkong, once caller invite callee, command line will show [invalid ring off interval for during ring CID]
82.	[Bug Fix]	The Daylightsaving function doesn't work, if set the system time at the Daylightsaving start date, the current system time didn't forward one hour.
83.	[Bug Fix]	Client behind IES1248-51V cannot receive fax info from peer PSTN site using T.38 protocol.
84.	[Bug Fix]	Was: WMS: Pattern string can be configured with length up to 16 characters only in the VOIP number pan table. Is: WMS: Pattern string can be configured with length up to 47 characters in the VOIP number pan table. (same as CLI command interface)
85.	[Bug Fix]	ITS#56652: Transmission type of DTMF digits. [Detailed Description]: Transmission type of DTMF relay will be changed to RFC2833 type when UA received a re-INVITE message with "telephone-event" media attribute in the SDP field. Revise to only check this attribute to decide using the Bypass or RFC2833 mode when the relay type is RFC2833 in the service profile.
86.	[Bug Fix]	ITS#53440: Don't Add T.38 three Boolean parameters, if don't support them. [Detailed Description]: According ITU-T T.38 section D.2.1.3.1, parameter "T38FaxFillBitRemoval" , "T38FaxTranscodingMMR", "T38FaxTranscodingJBIG" », are parameters (Inclusion=true, exclusion=false). VOP1248G is not supporting them, but inserts "a=T38FaxFillBitRemoval:0" "a=T38FaxTranscodingMMR:0" "a=T38FaxTranscodingJBIG:0" in SDP to indicate it before. Remove these parameters to revise this bug.
87.	[Bug Fix]	ITS#53440: Setting default T.38 High speed packet rate from 20ms to 40ms and changing default redundancy parameter from 0 to 1. [Detailed Description]: The original T38FaxMaxDatagram is too small; the HQ8000 could not accept it. These changes will change the Datagram from 46 to 160.
88.	[Bug Fix]	ITS#57386: Transaction with OPTIONS method should be freed when terminated [Detailed Description]: The server sends "OPTIONS" message periodically for keep a live feature. There are too many transaction be created and not freed then over the protect limitation. Free these transactions when they are in the terminate state.
89.	[Bug Fix]	Setting default T.38 High speed packet rate from 20ms to 40ms and changing default redundancy parameter from 0 to 1. [Detailed Description]: The original T38FaxMaxDatagram is too small, the HQ8000 can't accept it. These

		changes will change the Datagram from 46 to 160.
90.	[Bug Fix]	SPRID - 110412985: Announce that the number unobtainable tone changes to NU (4 short beeps, pause, and repeats) in New Zealand country code, but this feature is not added in this release.
91.	[Bug Fix]	SPRID - 110412986: pots ring name exceeds 31 characters would display "unknown error code".
92.	[Bug Fix]	SPRID - 110412987: Add 1 number plan entry and display all, a warning message is inessential.
93.	[Bug Fix]	SP ID - 100610740: Number plan table in GUI. 1. Edit number plan via GUI pattern : (0.)((1xx))((8xxxxxxxxxx))((2~7,9)xxxxx)((810.) \1. 2. Saving configuration, then show the number plan pattern that will be wrong.
94.	[Bug Fix]	SPRID - 100401027 : 1.GUI-> VolP -> Ring Cadences -> key in ring name "A.B.C.D <KKKK>" in index 6 and apply it. 2. The ring cadences will show ring name "A.B.C.D" only. 3. If key in ring name " a.b.c.d <ggg>" in GUI, it will be fail and show message "Ring name must consist of printing characters! "
95.	[Bug Fix]	SPRID - 110412987: Add 1 number plan entry and display all, a warning message is inessential.
96.	[Bug Fix]	ITS#54587: Impedance of CLI and WEB is difference [Detailed Description]: When customer sets the German as the country code, the Impedance in CLI show "220ohm_820ohm_120nf", the GUI show DEFVAL.
97.	[Bug Fix]	ITS#51291: Blind call transfer [Detailed Description]: Our customer reported about a problem - the service "Blind call transfer" does not work. But the service "Attendant call transfer" is succeeding.
98.	[Bug Fix]	ITS#62051: Time on analog phone is 1hr ahead [Detailed Description]: The time presented to analog phones (during ringing along with caller ID) is always 1hr ahead of the time reported in the IES. It does not matter if daylight savings is active or not, the time presented is always 1hr ahead.

Features:

Category	Description	Remark
1. ADSL	1.1 Standard Compliant	
	1.1.1 ADSL: G.992.1 Annex A, G.992.2 G.Lite, T1.413 issue 2	
	1.1.2 ADSL2: G.992.3 Annex A, Annex L, Annex M	
	1.1.3 ADSL2+: G.992.5 Annex A, Annex M	
	1.1.4 G.994.1 G.hs	
	1.1.5 G.992.3, G.992.5, G.997.1 Spectral Mask and Physical Layer Parameter Management	
	1.2. Support Protocols	
	1.3.1 Multiple Protocols over AAL5	
	1.3.2 Support LLC and VC multiplexing modes.	
	1.3 Monitor of ADSL lines quality	
	1.4 Multiple PVC support	
	1.4.1 8 PVCs per port and each PVC is configurable	
	1.4.2 PVC to VLAN mapping, 802.1p priority mapping	
	1.4.3 PVC default VLAN ID and 802.1p default priority	

	1.4.4 PVC with ATM Forum TM 4.0 QoS traffic class (UBR, CBR, nrt-VBR, rt-VBR)	
	1.4.5 Traffic downstream shaping/upstream policing	
	1.4.6 Full range VPI and VCI	
	1.4.7 RFC 2684 Routing Mode support(RPVC, Routed mode PVC)	
	1.4.8 PPVC support(single VLAN, multiple PVC), eight priority level	
	1.4.9 single PVC, multiple queue(eight priority) support	
	1.4.10 IP bridging PVC	
	1.5 ATM F5 OAM cells for end-to-end loop back test (ITU-T Rec. I610)	
	1.6 Support EOC and Overhead Channel Access	
	1.7 Support the latency path function	
	1.8 Support loop diagnostic management function	
	1. DELT (dual end loop test)	
	2. SELT (Single end loop test)	
	3. Tone diagnostic at link up	
	1.9 Support the power management capability, including the L2 parameters	
	1.10 Support Seamless Rate Adaptation (SRA)	
	1.11 US/DS Bin Mask supported	
	1.12 DS/US Nominal PSD function supported	
	1.13 ADSL profile management	
	1.14 Alarm profile management with Threshold Crossing Alarm management	
	1.15 Ingress ATM Rate limiting per xDSL VC	
	1.16 Per port, per PVC counter support	
	1.17 15-minute ADSL PM counter support, at most 96 records(24 hour)	
	1.18 24-hour ADSL PM counter support, include previous day and current day	
	1.19 Up stream rate limit support (1~65535kpbs)	
	1.20 ITU-T G.998.1 G.bond to combine two ADSL links into one logical link.	
2. Ethernet	2.1 Two 100/1000Base-TX or two mini GBIC for uplink and subtending	
	2.2 1000Base-TX/mini GBIC auto selectable	
	2.3 4 queues with packet priority scheduling (SPQ) for each ENET port	
	2.4 Per port counter support	
	2.5 Configurable MTU size support, 1526~1532 Bytes	
3. Bridging	3.1 IEEE 802.1Q VLAN aware bridging	
	3.1.1 Accept tagged and untagged packets from ADSL ports	
	3.1.2 Accept tagged and untagged packets from uplink port	
	3.2 VLAN membership definition	
	3.2.1 802.1Q Tag-Based VLAN	
	3.2.2 GVRP	
	3.3 Port isolation in bridging	
	3.3.1 CPE-CPE bridging is selectable within a VLAN, system-wise configurable	
	3.4 1024 static VLAN entries (full-range VLAN ID 1~4094)	
	3.5 14K (2 Etherport x 4K/Etherport + 48 DSLport x 128/DSLport) MAC address entries per system	
	3.6 128 MAC per DSL port	
	3.7 VLAN bridge function (multiple PVCs to one VLAN)	
	3.8 VLAN cross connect (PVC to VLAN one to one mapping)	
	3.9 VLAN trunking (super PVC join multiple VLAN)	
	3.10 IEEE802.1ad VLAN STACKING (Double Tagging ,Q in Q) support	
	3.11 Per VLAN isolation	
4. Multicast support	4.1 Static multicast membership configuration/forwarding	
	4.2 IGMP v1 & v2 & v3 snooping/proxy support	
	4.3 512 multicast groups and each group can contain 50 members	
	4.4 IGMP MVLAN(Multicast VLAN) support	

	4.5 IGMP group count limiting per DSL port	
	4.6 IGMP filtering profile per DSL port	
	4.7 IGMP Bandwidth limit per DSL port	
5. Packet filtering	5.1 ARP filtering (pass through/block)	
	5.2 IGMP filtering (pass through/block)	
	5.3 DHCP filtering (pass through/block)	
	5.4 NetBios filtering (pass through/block)	
	5.5 PPPoE filtering (pass through/block)	
	5.6 EAPoL filtering (pass through/block)	
	5.7 IP filtering (pass through/block)	
	5.8 ACL features are supported (which can specify more filter)	
6. MAC filtering	6.1 MAC count limiting: the number of MAC addresses per-bridge port is configurable. (1~128, default disabled)	
	6.2 Source MAC accept/deny is supported, 10 MAC address per ADSL port can be specified	
	6.3 MAC anti-spoofing is supported	
7. Downstream Broadcast control	7.1 Downstream Broadcast control is supported PER adsl port PER VLAN	
8. QoS	8.1 4 queues with packet priority scheduling (SPQ) per Ethernet port based on 802.1p	
	8.2 8 queues with packet priority scheduling (SPQ) for each DSL port based on 802.1p	
	8.3 Mapping of PVC to 802.1p priority	
	8.4 Priority queuing based on physical port, VLAN ID, VLAN priority, MAC address source/destination, IP address source/destination and ToS & DSCP value as well as UDP/TCP source/destination port number.	
	8.5 Mapping of 802.1p priority to a queue by a configurable table	
	8.6 ACL features support	
9. Alarm Severity Assignment Table(ASAT)	9.1 alarm severity assignment and setting	
	9.2 Current alarm list support	
	9.3 History alarm list support	
	9.4 Manually alarm cleaning support	
10. Broadband Access Service (BAS) support	10.1 DHCP relay agent option 82, sub option1(Circuit ID), sub Option2(Remote ID) per VLAN	
	10.2 IEEE 802.1x port-based authentication (local profile or remote Radius support)	
	10.3 DHCP Relay per VLAN	
	10.4 DHCP IP anti-spoofing support	
	10.5 PPPoE intermediate agent	
11. RSTP/GVRP support	11.1 On Ethernet interfaces	
12. RFC 2684 routed mode support	12.1 IPoA to IpoE conversion: support CPE using RFC 2684 routed mode	
13. PPPoA to PPPoE support	13.1 PPPoA to PPPoE conversion, support CPE using PPPoA mode	
14. Broadcast storm control	14.1 System will limit Unknown unicast/broadcast traffic rate to save system resource	
	14.2 System will limit the rate on Host terminated traffics(IGMP, DHCP, RSTP, GVRP, EAPoL)	
15. Security	15.1 DHCP IP anti-spoofing	
	15.1.1 Static IP entry pool for DHCP snoop support	
	15.2 MAC anti-spoofing	
	15.3 Multicast security feature	

	15.3.1 Dynamic Multicast Group from ADSL will reject (prevent hacker attack)	
	15.3.2 Static Multicast Group from ADSL will forward, to provide user-user application	
16. Management support	16.1 CLI-based management from console/Ethernet port	
	16.2 SNMPv2 and telnet through Inband Ethernet interface.	
	16.3 4 SNMP TRAP destination hosts can be configured	
	16.4 Web-based management through Inband Ethernet interface.	
	16.5 Secured Host	
	16.5.1 Configure up to eight ranges of remote host IP addresses for management	
	16.6 System Error Logging	
	16.6.1 The system error logs may be viewed again after a warm restart.	
	16.7 F/W upgrade, configuration backup & restore via FTP and WEB	
	16.8 Subscriber info support – through ADSL port name and telephone number	
	16.9 Text system configuration file support	
17. Alarm input point support	16.10 multiple telnet(5 sessions) and multi-level (High/Middle/Low) login support	
	16.11 CI timeout support	
18. Supported MIBs	17.1 support 3 external alarm input points, user-editable alarm name	
	18.1 RFC1213 SNMP MIB II	
	18.2 RFC1493 Bridge MIB	
	18.3 RFC1643 Ethernet MIB	
	18.4 RFC2674 Q MIB	
	18.5 RFC2662 ADSL line MIB	
	18.6 RFC3440 ADSL Extension line MIB	
	18.7 RFC1757 RMON MIB, group 1,2,3,9	
19. Voice DSP	18.8 Proprietary MIB	
	Codec G.711 A law and MU law	
	Codec G.723	
	Codec G.726-16	
	Codec G.726-24	
	Codec G.726-32	
	Codec G.726-40	
	Codec G.729A/B	
20. MLT Test	Play buffer	
	Echo Canceller tail length 8ms, 16ms, 32ms, and 128ms	
	AC voltage	
	DC voltage	
	Load resistor	
	Isolation resistor	
	REN measurement	
	Ring test	
	Metering test	
	Capacitor	
	Test in and test out	
	Dial tone	
	Pulse digit and dtmf tone digit	
21. SIP service	Receiver off-hook	
	UAS and UAC	
	ACK to provisional response	
	Session keep alive	
22. Supplementa	Registration	
	Do not disturb	
	Call hold	

ry Service	Call wait	
	Caller line identification presentation	
	Caller line identification restriction	
	Call transfer	
	FAX service	
	Analog modem service	
	DTMF relay	
	E.164 numbering plan	
	Call return	
	Local call	
	Local help	
	Key pattern	
	3-Way Conference	
23. QoS	P.bit and DSCP for both SIP and RTP packets	
24. Profile	SIP profile	
	SIP call service profile	
	Voice DSP profile	
	Dialplan profile	

CLI Command Table:

Class	CLI/W EB	Command	Parameters	Description	Remark
sys					
	1/1	client disable	<index>	Turns off a secure client.	
	1/1	client enable	<index>	Turns on a secure client.	
	1/1	client set	<index> <start ip> <end ip> [[telnet] [ftp] [web] [icmp] [snmp]]	Sets a secured client set: a range of IP addresses from which you can manage the device and the protocols that can be used.	
	2/3	client show		Displays the device's secured client settings.	
	1/1	date set	<yyyy mm dd>	Sets the system's date.	
	3/3	date show		Displays the system's current date.	
	2/1	info contact	<contact>	Sets contact person information.	
	2/1	info hostname	<hostname>	Sets the system name.	
	2/1	info location	<location>	Sets location information.	
	3/3	info show		Displays general system information.	
	1/1	log clear		Clears the device's logs.	
	2/3	log show		Displays the device's logs.	
	1/1	monitor disable		Turns the hardware monitor off.	
	1/1	monitor enable		Turns the hardware monitor on.	
	1/1	monitor extalm	<idx> <name>	Set external alarm name.	
	1/1	monitor	<idx> <high> <low>	Sets the maximum (<high>) or minimum (<low>)	

	flimit		fan revs per minute (RPM) at the specified fan (<idx>). Idx: 1=Fan 1, 2=Fan 2, 3=Fan 3.	
3/3	monitor show		Displays the hardware monitor's statistics.	
1/1	monitor tlimit	<idx> <high> <low>	Sets the maximum (<high>) or minimum (<low>) temperature at the specified temperature sensor. You can specify a temperature with up to three digits after a decimal point (-50.025 for example). Temperature sensor locations: Main board: Idx: 1=DSL, 2=CPU, 3=HW monitor, Voip board: 4=slic(Q19), 5=HW monitor, 6=slic(Q20).	
1/1	monitor vlimit	<idx> <high> <low>	Sets the maximum (<high>) or minimum (<low>) voltage at the specified voltage sensor. You can specify a voltage with up to three digits after a decimal point (0.941 for example). Normal voltage at each sensor: Idx: 1=1.2v, 2=1.8v, 3=3.3v, 4=20.4v, 5=1.4v, 6=3.3v, 7=5.0v. Main board: Idx: 1,2,3,4 Voip board: Idx: 5,6,7	
1/1	reboot	[show sec cancel]	Sets the reboot timer or displays the timer and remaining time for reboot. If a reboot has been scheduled, use this command to prevent a reboot.	
1/1	server disable	<telnet ftp web icmp>	Turns off a service.	
1/1	server enable	<telnet ftp web icmp>	Turns on a service.	
1/1	server port	<telnet ftp web> <port>	Sets a port for a service.	
2/3	server show		Displays the device's service status and port numbers.	
1/1	snmp getcommunity	<community>	Sets the SNMP GetRequest community.	
1/1	snmp setcommunity	<community>	Sets the SNMP SetRequest community.	
2/3	snmp show		Displays SNMP settings.	
1/1	snmp trapcommunity	<community>	Sets the SNMP Trap community.	
1/1	snmp trapdst del	<index>	Deletes the SNMP trap server	
1/1	snmp trapdst set	<index> <ip> [<port>]	Sets the SNMP trap server and listening port. Set 0.0.0.0 to not send any SNMP traps.	
1/1	snmp trusthost	<ip>	Sets the SNMP trusted host. Set 0.0.0.0 to trust all hosts.	
1/1	stdio set	<minute 0:no timeout>	Sets Current Stdio Timeout.	
3/3	stdio show		Displays Current Stdio Timeout.	

1/1	syslog disable		Turns off the syslog logging.	
1/1	syslog enable		Turns on the syslog logging.	
1/1	syslog server	<ip>	Sets the IP address of the syslog server.	
2/3	syslog show		Displays the syslog settings.	
1/1	time set	<hh> [<mm> [<ss>]]	Sets the system's time.	
3/3	time show		Displays the system's current time and daylightsaving	Added in 353ARY4
2/3	sys time daylightsaving enable		Enable the daylightsaving	Added in 353ARY4
2/3	sys time daylightsaving disable		Disable the daylightsaving	Added in 353ARY4
2/3	sys time daylightsaving startdate	<first second third fourth last> <sunday monday tuesday wednesday thursday friday saturday> <january february march april may june july august september october november december> <0-23>	Setting the startdate date for daylightsaving.	Added in 353ARY4
2/3	sys time daylightsaving enddate	<first second third fourth last> <sunday monday tuesday wednesday thursday friday saturday> <january february march april may june july august september october november december> <0-23>	Setting the end date for daylightsaving.	Added in 353ARY4
1/1	timeserver set	<daytime> <ip> [nosync]	Sets the time service protocol, time server's IP address and the device's time zone.	
1/1	timeserver set	<none>	Sets the system to not use a time server.	
1/1	timeserver set	<time ntp> <ip> <utc[<+ ->0100~1200]> [nosync]	Sets the time service protocol, time server's IP address and the device's time zone.	
2/3	timeserver show		Displays the system's time server.	
1/1	timeserver sync		Retrieves the date and time from the time server.	
1/1	user auth	<local radius landr>	Set authentication method.	
1/1	user delete	<name>	Removes the specified user name of multi-login.	
1/1	user disable	<name>	Turns off the specified user name of multi-login.	
1/1	user enable	<name>	Turns on the specified user name of multi-login.	
2/~	user online		Displays online user info.	

adsl

1/1	user server	<ip> <port> <secret> [high middle low deny]	Set remote authentication server IP address and secret	
1/1	user set	<username> <password> <high middle low>	Creates or edits the password and privilege level of the specified user name.	
2/3	user show		Displays the authentication mode, RADIUS server settings and user info.	
1/~	wdog set	<msec 0:disable>	Sets the watchdog count. 0 turns the watchdog off.	
1/~	wdog show		Displays the current watchdog firmware protection feature status and timer.	
1/1	alarmprofile delete	<profile>	Removes an alarm profile.	
1/1	alarmprofile map	<portlist> <profile>	Maps specified ADSL ports to an alarm profile.	
1/1	alarmprofile set	<profile> [<atuc lofs> <atur lofs> <atuc loss> <atur loss> <atuc olls> <atuc lprs> <atur lprs> <atuc ess> <atur ess> <atuc fast rateup> <atur fast rateup> <atuc interleave rateup> <atur interleave rateup> <atuc fast ratedown> <atur fast ratedown> <atuc interleave ratedown> <atur interleave ratedown> <init fail enable> <atuc fail fast> <atuc ses> <atur ses> <atuc uas> <atur uas>]	Configures an alarm profile.	
3/3	alarmprofile show	[profile]	Displays alarm profiles and their settings.	
3/3	alarmprofile showmap	[port number]	Displays alarm profile to ADSL port mapping.	
3/~	alarmprofile showport	<port number>	Displays which alarm profile parameters are mapped to an ADSL port.	
1/1	annexl disable	<portlist>	Turns off the Annex L feature on the specified port(s).	
1/1	annexl enable	<portlist>	Turns on the Annex L feature on the specified port(s).	
2/3	annexl show	<portlist>	Displays the Annex L feature setting for the specified port(s).	
1/1	annexm disable	<portlist>	Turns off the Annex M feature on the specified port(s).	
1/1	annexm enable	<portlist>	Turns on the Annex M feature on the specified port(s).	
2/3	annexm show	<portlist>	Displays the Annex M feature setting for the specified port(s).	
2/1	disable	<portlist>	Turns off the specified ADSL ports.	
2/1	dsbcast disable	<portlist> <vlanlist>	Disable downstream broadcast on xDSL port	
2/1	dsbcast enable	<portlist> <vlanlist>	Enable downstream broadcast on xDSL port	

3/3	dsbcast show	<portlist>	Show downstream broadcast on xDSL port	
1/1	dscarrier0	<port> [<m1> <m2> <m3> <m4> <m5> <m6> <m7>]	Display or set DS carrier mask from tone 32 to 255	
1/1	dscarrier1	<port> [<m0> <m1> <m2> <m3> <m4> <m5> <m6> <m7>]	Display or set DS carrier mask from tone 256 to 511	
1/1	dsnompsd	<portNo> [<max nominal psd>]	Display or set Maximum nominal transmit PSD in the DS direction	
2/1	enable	<portlist>	Turns on the specified ADSL ports.	
1/1	inp	<portlist> [<usINP> [,<dsINP>]]	Display or set US/DS Impulse Noise Protect ion(INP)	
1/1	ipbpvc arpproxy agingtime set	<sec>	Sets the valid time interval of a learned MAC address. 10..10000 seconds	
2/3	ipbpvc arpproxy agingtime show		Display the current time interval of a learned MAC address	
1/1	ipbpvc arpproxy flush	all edgerouter [<ip> <vid>] interface [<ip>/<mask> <vid>]	Flush the learned MAC addresses manually	
2/3	ipbpvc arpproxy show	[domain <domain> [edgerouter [<ip> <vid>]] [interface [<ip>/<mask> <vid>]]]	Displays learnt MAC table for a domain Displays learnt MAC table for all/an edge router Displays learnt MAC table for all/an interface	
1/1	ipbpvc delete	<portlist> <vpi> <vci>	Remove IP Bridge PVC.	
1/1	ipbpvc domain delete	<domain name>	Delete a domain. Any domain which contains VLANs can not be deleted, it must remove VLAN first.	
1/1	ipbpvc domain dhcpvlan disable	<domain name>	Disable DHCP Vlan in a domain	
1/1	ipbpvc domain dhcpvlan enable	<domain name> <vid>	Enable DHCP Vlan in a domain	
1/1	ipbpvc domain set	<domain name>	Create domain, maximum 8 domains in the system.	
2/3	ipbpvc domain show	[<domain name>]	Display domain setting	
1/1	ipbpvc domain vlan	<domain name> <vid> <registration>	Set vlan to join or leave specified domain, maximum 8 vlans in one domain.	
1/1	ipbpvc edgerouter delete	<ip> <vid>	Delete specified edge router setting	
1/1	ipbpvc edgerouter set	<ip>/<mask> <vid>	Sets the edge router	

2/3	ipbpvc edgerouter show	[<vid>]	Displays the edge router setting.	
1/1	ipbpvc interface delete	<ip>/<mask> <vid>	Delete an IP interface.	
2/3	ipbpvc interface runtime	[<ip>/<mask> <vid> <ip>/<mask> <vid>]	Display runtime interfaces by optional <ip>/<mask> and vlan id parameter	
1/1	ipbpvc interface set	<ip>/<mask> <vid> [<port> <vpi> <vci>]	Sets the interface.	
2/3	ipbpvc interface show	[<ip>/<mask> <vid> <ip>/<mask> <vid>]	Displays the interface setting by optional <ip>/<mask> and vlan id parameter	
1/1	ipbpvc route delete	<domain name> <ip>/<mask> <nexthop>	Deletes route entry from specified domain	
2/3	ipbpvc route runtime	[<domain name> <ip>/<mask> <domain> <ip>/<mask>]	Displays the runtime route information	
1/1	ipbpvc route set	<domain name> <ip>/<mask> <nexthop> <metric> [<priority>]	Sets a new route to specified edgerouter for a given domain. Maximum 16 routes in a domain	
2/3	ipbpvc route show	[<domain name> <ip>/<mask> <domain> <ip>/<mask>]	Displays current routing table for specific domain.	
1/1	ipbpvc set	<portlist> <vpi> <vci> <DS vcprofile[,US vcprofile]> <super vid = 1..4094 <priority>> <ipab_type>	Sets IP Bridge PVC.	
2/3	ipbpvc show	[<portlist> [<vpi> <vci>]]	Displays IP Bridge PVC setting	
3/3	linediag getld	<port number>	Displays the specified port line diagnostics.	
3/3	linediag getld992_3	<port number>	Displays the specified port line diagnostics.	
3/3	linediag getselt	<port number>	Displays the specified port line SELT.	
1/1	linediag setld	<port number>	Sets the specified port to line diagnostic mode.	
1/1	linediag setselt	<port number>	Sets the specified port to line SELT.	
3/3	linediag toneDiag	<port number>	Displays the specified port line diagnostics.	
1/1	loopback	<portlist> <f5> <vpi> <vci>	Performs an OAMF5 loopback test.	
2/1	name	<portlist> <name>	Sets the name of a port(s).	
3/3	paepvc counter	<portlist> [<vpi> <vci>]	Display PPPoAoE PVC counter	
2/1	paepvc	<portlist> <vpi> <vci>	Delete a PPPoAoE PVC	

	delete			
3/3	paepvc session	<portlist> [<vpi> <vci>]	Display PPPoAoE PVC session status	
2/1	paepvc set	<portlist> <vpi> <vci> <DS vcprofile[,US vcprofile]> <pvid> <priority> [acname <string32>] [srvcname <string32>] [hellotime <time>]	Create/modify a PPPoAoE PVC <acname>: access concentrator name <srvcname>: service name, <time>: 0~600 in unit of second Default: acname="", srvcname="", <time>=600	
3/3	paepvc show	[<portlist> [<vpi> <vci>]]	Display PPPoAoE PVC setting by 'port'	
1/1	pmm disable	<portlist>	Turns off the Power Management feature on the specified port(s).	
1/1	pmm enable	<portlist> <L2 L3>	Turns on the Power Management feature on the specified port(s).	
1/1	pmm param	<portlist> [<l0time> <l2time> <l2atpr> <l2atprt>][<max_l2rate> <min_l2rate> <l0tol2_rate>]	Displays or sets the Power Management parameter	
1/1	pmm set	<portlist> <L0 L2>	Sets the Power Management mode	
2/3	pmm show	<portlist>	Displays the Power Management feature setting for the specified port(s).	
1/1	ppvc delete	<portlist> <vpi> <vci>	Remove Priority PVC.	
1/1	ppvc member delete	<portlist> <vpi> <vci> <member vpi> <member vci>	Remove PPVC member.	
1/1	ppvc member set	<portlist> <vpi> <vci> <member vpi> <member vci> <DS vcprofile[,US vcprofile]> <level>	Set PPVC member.	
2/3	ppvc member show	[<portlist> [<vpi> <vci>]]	Display PPVC member settings.	
1/1	ppvc set	<portlist> <vpi> <vci> <encap> <pvid> <priority>	Set priority PVC.	
2/3	ppvc show	[<portlist> [<vpi> <vci>]]	Display priority PVC settings	
1/1	profile delete	<profile>	Removes an ADSL profile.	
1/1	profile map	<portlist> <profile> <glite gdm t1413 auto adsl2 adsl2+>	Assigns a specific profile to a port(s) and sets the port's ADSL mode.	
1/1	profile set	<profile> <fast interleave [=<up delay>,<down delay>]> <up max rate> <down max rate> [<up target margin> <up min margin> <up max margin> <up min rate> <down target margin>]	Creates an adsl line profile.	

		<down min margin> <down max margin> <down min rate> <up down-shift margin> <up up-shift margin> <down down-shift margin> <down up-shift margin>]		
3/3	profile show	[profile]	Displays profile contents.	
1/1	pvc delete	<portlist> <vpi> <vci>	Removes a PVC setting.	
1/1	pvc set	<portlist> <vpi> <vci> <super vid = 1..4094 <priority>> <DS vcprofile[,US vcprofile]>	Creates or modifies a PVC setting.	
2/3	pvc show	[<portlist> [<vpi> <vci>]]	Displays PVC settings.	
1/1	queuemap set	<priority> <queue level>	Set the xDSL priority level to physical queue mapping.	
2/3	queuemap show		Displays the xDSL priority level to physical queue mapping.	
1/1	reset	<portlist>	Reset xDSL port	
1/1	rpvc arp agingtime set	<sec, 10..10000 0:disabled>	Set RPVC ARP proxy aging time	
2/3	rpvc arp agingtime show		Display RPVC ARP proxy aging time	
1/1	rpvc arp flush		Flush RPVC ARP proxy table	
2/3	rpvc arp show		Show RPVC ARP proxy table	
1/1	rpvc delete	<portlist> <vpi> <vci>	Delete RPVC on a port	
1/1	rpvc gateway delete	<gateway ip>	Delete gateway for RPVC	
1/1	rpvc gateway set	<gateway ip> <vlan id> [<priority>]	Set gateway for RPVC	
2/3	rpvc gateway show		Display gateway for RPVC	
1/1	rpvc route delete	<port number> <vpi> <vci> <ip>/<netmask>	Delete RPVC routing subnet on a port	
1/1	rpvc route set	<port number> <vpi> <vci> <ip>/<netmask>	Set RPVC routing subnet on a port	
2/3	rpvc route show	<portlist>	Display RPVC routing subnet on a port	
1/1	rpvc set	<portlist> <vpi> <vci> <DS vcprofile[,US vcprofile]> <ip>/<netmask> <gateway ip>	Set RPVC on a port	
2/3	rpvc show	<portlist>	Display RPVC on a port	
3/3	show	[portlist]	Displays the ADSL settings.	

alarm	1/1	sra disable	<portlist>	Turns off SRA ADSL2+ on the specified port(s).	
	1/1	sra enable	<portlist>	Turns on Seamless Rate Adaptation (SRA) ADSL2+ on the specified port(s).	
	2/3	sra show	<portlist>	Displays the SRA ADSL2+ setting for the specified port(s).	
	2/1	tel	<portlist> <tel>	Records an ADSL port(s) subscriber's telephone number.	
	2/1	tlspvc delete	<portlist> <vpi> <vci>	Delete a TLS PVC	
	2/1	tlspvc set	<portlist> <vpi> <vci> <DS vcprofile[,US vcprofile]> <pvid> <priority>	Create/modify a TLS PVC <vid>: s-tag VLAN id <priority>: priority for s-tag	
	3/3	tlspvc show	[<portlist> [<vpi> <vci>]]	Display TLS PVC setting by 'port'	
	1/1	uscarrier	<port number> [<m0> <m1>]	Display or set US carrier mask from tone 0 to 63	
	1/1	usnompsd	<portNo> [<max nominal psd>]	Display or set Maximum nominal transmit PSD in the US direction	
	1/1	uslimit disable	<portlist> <vpi> <vci>	Disable a upstream rate-limit setting	
	1/1	uslimit enable	<portlist> <vpi> <vci>	Enable a upstream rate-limit setting	
	1/1	uslimit set	<portlist> <vpi> <vci> <rate>	Sets a upstream rate limit to a PVC (PVC could be pvc, ppvc, ipbpvc and tlspvc)	
	2/3	uslimit show	[<portlist> [<vpi> <vci>]]	Displays current up rate-limit settings of PVCs	
	1/1	vcprofile delete	<vcprofile>	Removes a virtual channel profile.	
	1/1	vcprofile set	<vcprofile> <vc llc> <vbr(rt-vbr) nrt-vbr> <pcr> <cdvt> <scr mcr> <bt nrm>	Creates a VBR virtual channel profile (with encapsulation).	
	1/1	vcprofile set	<vcprofile> <vc llc> <ubr cbr> <pcr> <cdvt>	Creates a UBR or CBR virtual channel profile (with encapsulation).	
	3/3	vcprofile show	[vcprofile]	Shows a virtual channel profile's contents.	
	2/1	clear		Clear current alarm	
	2/~	cutoff		Alarm cutoff	
	2/~	history clear	<alarm> all <condition> all	Clear history alarm	
	2/~	history clear	<severity>	Clear history alarm	
	3/~	history show	[<severity> all] [<alarm> all] [<condition> all] [<sdate> all] [<edate> all] [for rev] [detail]	Display history alarm	
	2/1	port set	<all <portlist>> <severity>	Set xDSL port threshold of severity which will issue an alarm	
	3/3	port show		Display xDSL port threshold of severity which will issue an alarm	
	3/3	show	[<severity> all]	Display current alarm	

switch		[<alarm> all] [<condition> all] [<sdate> all] [<edate> all] [for rev] [detail]		
	3/3	tablelist	[<alarm> all] [<severity> all] [<fac> all] [<target>[,<target>]] [<condition> all]	Display system alarm table
	2/1	xedit	<alarm> all <cond> <condcode> <severity> <fac> <target>[,<target>] [clearable]	Edit system alarm table
	2/1	acl delete	<portlist> <vpi> <vci> <profile>	Remove an acl profile from PVC <profile>: string32 up to 8 profiles if only one PVC has profiles
	2/1	acl profile delete	<profile>	delete an acl profile
	2/1	acl profile set	<profile> <rule> <action>	Create/modify a acl profile <rule>: <l2> <l3_protocol> <mfc> <l2>: Layer-2 match fields (listed in priority sequence match) etype <etype> vlan <vid> etype <etype> smac <mac> etype <etype> dmac <mac> vlan <vid> smac <mac> vlan <vid> dmac <mac> smac <mac> dmac <mac> vlan <vid> priority <priority> etype <etype> vlan <vid> smac <mac> dmac <mac> priority <priority> protocol <protocol> <priority>: 0~7 <etype>: 0~65535 <protocol>: tcp udp ospf igmp ip gre icmp <ptype> <ptype>: 0~65535 Note: multiple-field rules (position independent): MFC rules: {srcip <ip>/<mask>{ dstip <ip>/<mask>{ tos <tos>{ srcport <port>{ dstport <port>}}}}} <mask>: 0~32 <tos>:0~255 <port>:0~65535

			<action>: rate <rate> rvlan <rvlan> rpri <rpri> deny <rate>: 1~65535 in unit of kbps <rvlan>: replaced vlan 1~4094 <rpri>: replaced priority 0~7	
3/3	acl profile show	[<profile>]	Display an acl profile	
3/3	acl profile showmap	<profile>	Display acl profile reference	
2/1	acl set	<portlist> <vpi> <vci> <profile>	Apply an acl profile to a PVC. Max. 8 profiles per port	
3/3	acl show	[<portlist>] [<vpi> <vci>]	Show acl profile setting for a PVC	
2/1	dhcprelay disable	<vid> all	Disable DHCP relay function per vlan	
2/1	dhcprelay enable	<vid> all	Enable DHCP relay function per vlan	
2/1	dhcprelay opt82sub2 disable	<vid> all	Turns off option 82 sub-option 2 per vlan	
2/1	dhcprelay opt82sub2 enable	<vid> all	Turns on option 82 sub-option 2 per vlan	
2/1	dhcprelay opt82sub2 set	<vid> all <relay info>	Adds the specified information for sub-option 2 per vlan	
2/1	dhcprelay option82 disable	<vid> all	Turns off the DHCP relay agent information (Option 82) feature per vlan.	
2/1	dhcprelay option82 enable	<vid> all	Turns on the DHCP relay agent information (Option 82) feature per vlan.	
2/1	dhcprelay option82 set	<vid> all <relay info>	Set option82 information per vlan	
2/1	dhcprelay relaymode	<mode>	<mode>:auto, both	
2/1	dhcprelay server active	<vid> all <active-server>	Set primary and secondary server per vlan	
2/1	dhcprelay server delete	<vid> all [<primary-server>]	Delete servers of specific vlan	
2/1	dhcprelay server set	<vid> <primary-server> [<secondary-server>]	Set DHCP server IP address where the DHCP request will forward to <vid>: VLAN <primary-server>: IP address for primary server <secondary-server>: IP address for secondary server. Maximum 32 entries can be configured.Default: (empty list)	
3/3	dhcprelay show		Displays DHCP relay settings.	
2/1	dhcpsnoop disable	<portlist>	Disable ip spoofing for a port	
2/1	dhcpsnoop enable	<portlist>	Enable ip spoofing for a port	

2/1	dhcpsnoop flush	<portlist>	Flush DHCP snooping table for a port	
2/1	dhcpsnoop lan2lan disable		Disable Lan to Lan service	
2/1	dhcpsnoop lan2lan enable		Enable Lan to Lan service	
2/1	dhcpsnoop lan2lan show		Display the status of Lan to Lan service, default is disabled.	
2/1	dhcpsnoop pool delete	<port> <ip>	Delete static IP for dhcp snoop per port	
2/1	dhcpsnoop pool set	<port> <ip>	Set static IP for dhcp snoop per port	
3/3	dhcpsnoop show	[portlist]	Display DHCP snooping result on a port	
1/1	dot1x auth	<profile radius>	Set authentication method to profile or radius.	
1/1	dot1x disable		Turn off dot1x.	
1/1	dot1x enable		Turn on dot1x.	
1/1	dot1x port control	<portlist> <auto auth unauth>	Set port authentication status.	
1/1	dot1x port disable	<portlist>	Turn off dot1x on port.	
1/1	dot1x port enable	<portlist>	Turn on dot1x on port.	
1/1	dot1x port peroid	<portlist> <period>	Set port reauth period.	
1/1	dot1x port reauth	<portlist> <on/off>	Turn on or turn off port to do reauthentication.	
1/1	dot1x profile delete	<name>	Remove account for profile mode.	
1/1	dot1x profile set	<name> <password>	Set account and password for profile mode.	
2/3	dot1x profile show		Display accounts for profile mode.	
1/1	dot1x radius ip	<ip>	Set Radius server IP.	
1/1	dot1x radius port	<port>	Set Radius server port.	
1/1	dot1x radius secret	<secret>	Set Radius server secret.	
2/3	dot1x radius show		Display radius server settings.	
2/3	dot1x show	[portlist]	Display dot1x settings.	
2/1	dscp disable	<portlist>	Disable ADSL/ENET ports to use DSCP mapping	
2/1	dscp enable	<portlist>	Enable ADSL/ENET ports to use DSCP mapping	
2/1	dscp map set	<srccp> <mappri> <srccp>: source code	Setting the DSCP code to 802.1p mapping table	

		point, 0~63, example: 1,3~5,10~15<mappri> : mapping priority, 0~7		
3/3	dscp map show		Displaying the DSCP code to 802.1p mapping table	
3/3	dscp show	[portlist]	Displaying per port DSCP setting	
1/1	enet disable	<portlist>	Turns off the specified Ethernet port(s).	
1/1	enet enable	<portlist>	Turns on the specified Ethernet port(s).	
1/1	enet maxmtu set	<size>	Sets the maximum MTU size for layer 2 frame, size from 1526 to 1532, default value is 1526	
2/3	enet maxmtu show		Displays current maximum MTU size	
1/1	enet name	<portlist> <name>	Sets the Ethernet port(s) name.	
1/1	enet reset	<portlist>	Reset the ENET interface.	
2/3	enet show		Displays the Ethernet port settings.	
1/1	enet speed	<portlist> <1000fiber 1000copper 100copper auto>	Sets the Ethernet port(s) connection speed.	
1/1	garptimer join	<join msec>	Set system's garp join time.	
1/1	garptimer leave	<leave msec>	Set system's garp leave time.	
1/1	garptimer leaveall	<leaveall msec>	Set system's garp leaveall time.	
2/3	garptimer show		Display the system's garp settings.	
1/1	igmpfilter profile delete	<name>	Removes an IGMP filter profile.	
1/1	igmpfilter profile set	<name> <index> <startip> <endip>	Configures an IGMP filter profile.	
2/3	igmpfilter profile show	[name]	Displays an IGMP filter profile's settings.	
1/1	igmpfilter set	<portlist> <name>	Sets an ADSL port(s) to use an IGMP filter profile.	
2/3	igmpfilter show	[portlist]	Displays which IGMP filter profile an ADSL port(s) is using.	
2/1	igmpsnoop bandwidth default	<bandwidth>	Set default bandwidth for multicast IP channels	
2/1	igmpsnoop bandwidth delete	<index>	Delete an entry of bandwidth budget setting specified in <index> field.	
2/1	igmpsnoop bandwidth port disable	<portlist>	Disable bandwidth budget control for a port	
3/1	igmpsnoop bandwidth port enable	<portlist>	Enable bandwidth budget control for a port	
2/1	igmpsnoop bandwidth	<portlist> <bandwidth>	Set bandwidth threshold for a port <bandwidth>: 1..100,000, in unit of kbps	

	port set			
3/3	igmpsnoop bandwidth port show	<portlist>	Show bandwidth control setting for a port	
2/1	igmpsnoop bandwidth set	<index> <start-mcast-ip> <end-mcast-ip> <bandwidth>	Set bandwidth budget for a range of multicast IP channels specified in <index> field. <index>: 1~96 <start-mcast-ip>: <ip>, start multicast IP address <end-mcast-ip>: <ip>, end multicast IP address	
3/3	igmpsnoop bandwidth show		Show bandwidth budget for a range of multicast IP channels	
1/1	igmpsnoop disable		Turns off IGMP snooping.	
1/1	igmpsnoop enable	<proxy/snooping> [v2 v3]	Enable IGMP snooping or proxy with V2 or V3 mode(default is v2).	
1/1	igmpsnoop igmpcount disable	<portlist>	Disable IGMP count limiting to subscriber port	
1/1	igmpsnoop igmpcount enable	<portlist>	Enable IGMP count limiting to subscriber port	
1/1	igmpsnoop igmpcount set	<portlist> <count>	Set IGMP count limiting number to subscriber port	
2/3	igmpsnoop igmpcount show	[portlist]	Display IGMP count limiting setting status on the specified slot	
1/1	igmpsnoop mvlan delete	<vlanlist>	Removes a MVLAN entry.	
1/1	igmpsnoop mvlan disable	<vid>	Turns off a MVLAN entry.	
1/1	igmpsnoop mvlan enable	<vid>	Turns on a MVLAN entry.	
1/1	igmpsnoop mvlan group delete	<vid> <index>	Delete a multicast to VLAN translation entry.	
1/1	igmpsnoop mvlan group set	<vid> <index> <start_mcast_ip> <end_mcast_ip>	Create a multicast to VLAN translation entry. Up to 16 entries <index>: 1~16,Note: IP address in each entry should be disjointed	
2/3	igmpsnoop mvlan group show	<vlanlist>	Show a multicast to VLAN translation entry.	
1/1	igmpsnoop mvlan name	<vid> <name>	Sets the MVLAN ID name.	
1/1	igmpsnoop mvlan set	<vid> <portlist>:<F<T U> X > [<portlist>: <F<T U> X> ...] [name]	Configures a MVLAN entry.	

2/3	igmpsnoop mvlan show	<vlanlist>	Show multicast vlans, include group information	
2/3	igmpsnoop show		Displays the IGMP snooping setting.	
1/1	isolation daisychain		Set switch mode to daisychain mode	
1/1	isolation disable		Turns the subscriber isolation feature off.	
1/1	isolation enable		Turns the subscriber isolation feature on.	
2/3	isolation show		Displays the subscriber isolation feature's current setting.	
1/1	isolation standalone		Set switch mode to standalone mode	
1/1	isolation vlan delete	<vid>	Delete an isolate VLAN.	
1/1	isolation vlan set	<vid>	Create an isolate VLAN.	
1/1	mac agingtime set	<sec, 10..10000 0:disabled>	Sets the MAC aging out time period.	
2/3	mac agingtime show		Displays the MAC aging out time period.	
1/1	mac antispoofin g disable		Turns off the MAC antispoofing	
1/1	mac antispoofin g enable		Turns on the MAC antispoofing	
2/3	mac antispoofin g show		Show the MAC antispoofing status	
1/1	mac count disable	<portlist>	Turns off the MAC address count filter for an ADSL port(s).	
1/1	mac count enable	<portlist>	Turns on the MAC address count filter for an ADSL port(s).	
1/1	mac count set	<portlist> <count>	Sets the MAC address count filter for an ADSL port(s).	
2/3	mac count show	[portlist]	Displays the system's current MAC address count settings.	
1/1	mac filter delete	<port> <mac> [<mac> <mac> ...]	Removes a MAC filter MAC entry on an ADSL port(s).	
1/1	mac filter disable	[portlist]	Turns off the MAC filter.	
1/1	mac filter enable	[portlist]	Turns on the MAC filter.	
1/1	mac filter mode	<port> <accept deny>	Sets the MAC filter to accept or deny.	
1/1	mac filter set	<port> <mac> [<mac> <mac> ...]	Adds a MAC filter MAC entry on an ADSL port(s).	
2/3	mac filter show	[portlist]	Displays MAC filter settings.	
1/1	mac flush		Clears learned MAC addresses from the forwarding	

			table.	
1/1	pktfilter pppoeonly	<portlist>	Set packet filter to pppoe only for port.	
1/1	pktfilter set	<portlist> <filter>	Set packet filter for port	
2/3	pktfilter show	[portlist]	Display packet filter settings.	
1/1	poeagent clearinfo	<<vid> all>	Clears Sub-option 1 of an Agent. vid is 0..4094	
1/1	poeagent delete	<<vid> all>	Deletes a PPPoE Intermediate Agent vid is 1..4094	
1/1	poeagent disable	<<vid> all>	Disable a PPPoE Intermediate Agent. vid is 0..4094	
1/1	poeagent enable	<<vid> all>	Enable a PPPoE Intermediate Agent vid is 0..4094	
1/1	poeagent info	<<vid> all> <info>	Sets Sub-option 1 (Circuit ID) of an Agent, it will append this string to BRAS. vid is 0..4094	
1/1	poeagent optionmode	<<vid> all> <private tr101>	Set Sub-option 1 (Circuit ID) format to TR-101 or private mode.	
1/1	poeagent set	<vid>	Sets a PPPoE Intermediate Agent. vid is 1..4094	
2/3	poeagent show	[<vlan list>]	Displays current settings of PPPoE Intermediate Agent	
1/1	queuemap set	<priority> <queue level>	Maps a priority level to a physical queue.	
2/3	queuemap show		Displays the system's priority level to physical queue mapping.	
1/1	rstp disable		Turn system's rstp off.	
1/1	rstp enable		Turn system's rstp on.	
1/1	rstp fwdelay	<fwdelay sec>	Set system rstp's forward delay time.	
1/1	rstp hellotime	<hellotime sec>	Set system rstp's hello time.	
1/1	rstp maxage	<maxage sec>	Set system rstp's max age.	
1/1	rstp port disable	<portlist>	Set enet port to disable rstp.	
1/1	rstp port enable	<portlist>	Set enet port to enable rstp.	
1/1	rstp port pathcost	<portlist> <pathcost>	Set enet port's rstp pathcost.	
1/1	rstp port priority	<portlist> <priority>	Set enet port's rstp priority.	
2/3	rstp port show		Display enet port rstp status.	
1/1	rstp priority	<priority>	Set system rstp's priority.	
2/3	rstp show		Display the system's rstp settings.	
1/1	smcast delete	<mac>	Removes a static multicast filter entry by deleting the associated MAC address.	
1/1	smcast set	<adsl_port> <mac> <join leave>	Use join/leave to add/ remove multicast MAC addresses on specified ADSL ports, a range of ADSL ports or all ADSL ports. MAC example: 01005E010203	
2/3	smcast show		Display all MAC addresses joined to ADSL ports.	
1/~	vlan cpu set	<vid> [priority]	Sets the VLAN ID, priority of the management	

ip			VLAN.	
	2/~	vlan cpu show	Displays the VLAN ID of the management VLAN.	
	1/1	vlan delete <vlanlist>	Removes a VLAN entry.	
	1/1	vlan disable <vid>	Turns off a VLAN entry.	
	1/1	vlan enable <vid>	Turns on a VLAN entry.	
	1/1	vlan frametype <portlist> <all tag>	Sets the specified DSL port to accept tagged, untagged or Ethernet frames (or both). Note: enet1, enet2 are fixed at 'all'.	
	1/1	vlan gvrp <portlist> <enable disable>	Set the port(s) to enable or disable gvrp.	
	1/1	vlan name <vid> <name>	Sets the VLAN ID name.	
	2/3	vlan portshow [portlist]	Displays the port(s) VLAN settings.	
	1/1	vlan priority <portlist> <priority>	Sets a port's default IEEE 802.1p priority.	
	1/1	vlan pvid <portlist> <pvid>	Sets the PVID (Port VLAN ID) assigned to untagged frames or priority frames (0 VID) received on this port(s).	
	1/1	vlan set <vid> <portlist>:<F<T U> X N> [<portlist>:<F<T U> X N> ...] [name]	Configures a VLAN entry.	
	2/3	vlan show <vlanlist>	Displays VLAN settings.	
	1/1	arp flush	Clears the device's IP Address Resolution Protocol(ARP) table.	
	2/3	arp show	Displays the device's IP Address Resolution Protocol(ARP) table.	
	1/1	gateway <gateway ip>	Sets the IP address of the device's default gateway.	
	2/3	ping <ip> [count] [voip]	Pings a remote host.	
	1/1	route delete <dst ip>[/netmask]	Removes a routing table entry.	
	1/~	route flush	Clears the routing table.	
	1/1	route set <dst ip>[/netmask] <gateway ip> [metric] <name>	Adds a routing table entry.	
	1/1	route set default <gateway ip> <metric> [voip]	Sets the device's default manage route or voip route.	
	2/3	route show	Displays the routing table.	
	1/1	set <ip>[/netmask]	Sets the Management IP address and subnet mask.	
	2/3	show	Displays the Management IP address settings.	
statistics	2/3	adsl 15mperf <portlist> [count <0..96>]	Displays line performance statistics for the current and previous 15-minute periods.	
	2/3	adsl 1dayperf <portlist>	Displays line performance statistics for the current and previous 24 hours.	
	2/3	adsl linedata <portlist>	Displays the line data load per symbol (tone).	
	2/3	adsl lineinfo <portlist>	Displays the info of the specified ADSL ports.	
	2/3	adsl lineperf <portlist>	Displays the performance statistics of the specified ADSL port.	

config	2/3	adsl linerate	<portlist>	Displays the line rate.	
	2/3	adsl show	[portlist]	Displays ADSL port connection status.	
	3/3	dhcp counter	[<portlist> [clear]]	Display DHCP statistics for a port	
	3/3	dhcp snoop	<portlist>	Display snooping	
	2/3	dot1x	[portlist]		
	2/3	enet		Displays Ethernet port settings and statistics.	
	3/3	igmpsnoop group	[<vid> [<mcast_ip>]]	Display IGMP learned group member information	
	3/3	igmpsnoop info	[clear]	Display protocol packets counters & number of learned groups	
	2/3	igmpsnoop port group	<portlist>	Display joined groups in this port	
	3/3	igmpsnoop port info	[<portlist> [clear]]	Display received protocol packets counters, number of joined groups.	
	2/~	ip		Displays a Management port's status and performance data.	
	2/3	mac		Displays current MAC address forwarding table.	
	2/3	monitor		Displays hardware monitor status.	
	2/3	port	<portlist> [<vpi> <vci>] [clear]	This command displays and/or erases port statistics. *:[clear] can only be applied in WEB with high privilege	
	2/3	rmon	Stats/history <enet port>	Display uplink/subtending link RMON information	
	2/3	rstp			
	2/3	vlan		Displays current VLANs.	
	1/1	restore		Reloads the factory default configuration.	
	1/1	save		Saves the current configuration.	
	2/3	show	<sys sw adsl ip stat voip all> [nopause]	Displays the device's configuration.	
	3/3			Ends the console or telnet session.	
Below for VoIP feature sets:					
voip					
	2/1	port disable	<portlist>	Disable specified subscriber(s) <portlist> : port number, example: *,3~5,10~15 All ports are disabled by default.	
	2/1	port enable	<portlist>	Enable specified subscriber(s) <portlist> : port number, example: *,3~5,10~15 All ports are disabled by default.	
	2/1	port tel	<port> [<phone number>]	Specify telephone number of specified subscriber. Note: Telephone number must be unique <port> : port number, example:3,4,5 <phone number> : phone number, string16 No telephone number is specified by default	
	3/3	port show	<portlist>	Show configuration of specified subscriber <portlist> : port number, example: *,3~5,10~15	
	2/1	port sip set	<portlist> <sip-profile> <svc-profile> [<dsp-profile>]	Configure related profiles to specified subscriber(s) <portlist> : port number, example: *,3~5,10~15 <profile> : SIP or dial plan profile name, up to 31 characters <svc-profile> : service profile name, up to 31 characters <dsp-profile> : DSP profile name, up to 31	

			characters By default, all ports refer to profile “DEFVAL” of all three kinds of profiles.	
2/1	voip port sip polarityreverse	<portlist> <off on>	Setting the polarityreverse per port.	Added in 353ARY4
2/1	port sip opmode	<portlist> DEFVAL v5sip	Set sip mode or v5 sip mode for each port	Added in 353ARY2
2/1	port name	<portlist> <name>	Set port name	Added in 353ARY2
2/1	port pots gain	<portlist> <tx-gain> <rx-gain>	Set port pwer gain level	Added in 353ARY2
2/1	port pots impedance	<portlist> <impedance>	Set port impedance level	Added in 353ARY2
2/1	voip port pots ring name	<portlist><name>	Set the name of ring pots	Added in 353ARY4
2/1	voip port pots ring pattern	[<index> <DEFVAL> <index> <on1 off1> <index> <on1> <off1> <on2> <off2> <index> <on1> <off1> <on2> <off2> <on3> <off3> >]	Setting the ring pots interval for the tone.	Added in 353ARY4
3/3	voip port pots ring show		Show the pots ring setting	Added in 353ARY4
2/1	diagnostic mlt test	<port> <option> [user] [force]	Perform specified MLT test item in specified subscriber(s) <port> : port number, 1~48 <option> : all vac vdc rload riso cap ren ring metering dialtone digit roh user: user input DTMF tone force : force test even the port is in use. all : test all items vac: test AC voltage vdc: test DC voltage rload: test load resistance riso: test isolation resistance cap: test capacitor ren: test REN value ring: test ring voltage metering: test metering voltage dialtone: test dialtone digit: test digit :roh test roh	
3/3	diagnostic	<portlist>	Display the result of MLT test last issued	

	mlt show		<portlist> : port number, example: 3-3, 4-26	
2/1	diagnostic mlt relay set	<port> off [force]	<p>Perform specified MLT relay function, or turn off MLT relay function in specified subscriber</p> <p><port> : port number, 1~48 off : turn off relays in : turn on test-in relay out : turn on test-out relay both : turn on test-in and test-out relay <timeout> : relays will be turned off automatically while the specified timer is timeout, 1~65535 minutes force : force to set relays even the port is in use</p> <p>By default, relay function is turned off.</p>	
2/1	diagnosti mlt relay set	<port> in out both [<timeout> [force]]	<p>Perform specified MLT relay function, or turn off MLT relay function in specified subscriber</p> <p><port> : port number, 1~48 off : turn off relays in : turn on test-in relay out : turn on test-out relay both : turn on test-in and test-out relay <timeout> : relays will be turned off automatically while the specified timer is timeout, 1~65535 minutes force : force to set relays even the port is in use</p> <p>By default, relay function is turned off.</p>	
3/3	diagnostic mlt relay show		Show subscribers performing MLT relay function	
2/1	ip set	<ip>[/<netmask>] <vid>	<p>Configure IP address and VLAN ID.</p> <p><ip> : IP address <netmask> : network mask: 0 ~ 32, default value is 32 <vid> : VLAN ID: 1 ~ 4094</p> <p>By default, IP and VLAN ID are undefined.</p>	
2/1	ip dns	[<dns-ip>]	<p>Configure DNS server IP</p> <p><dns-ip> IP of domain name server</p> <p>By default, DNS server IP is undefined.</p>	
2/1	ip gateway	<gateway ip>	Sets the IP address of the device's default VOIP gateway	
2/1	countrycode set	<country> <countrycode> >	<p>Configure country code (information) for VoIP services.</p> <p>By default, country code is (USA, 0)</p>	
3/3	countrycod		Display country code (information) for VoIP	

	e show		services.	
3/3	sip dialplan delete	<name>	Delete a dialplan table	Added in 353ARY2
3/3	sip dialplan map	[<name>]	Show dialplan table mappings	Added in 353ARY2
3/3	sip dialplan set	<name> <pattern> <num-of-prefix-cut> <sip-server> [<prefix-add-digits> <number-of-digits> <interdigit-timeout>]	Set a dialplan table	Added in 353ARY2
3/3	sip dialplan show	[<name>]	Show dialplan tables	Added in 353ARY2
3/3	sip keypattern delete	<name>	Delete a keypattern table	Added in 353ARY2
3/3	sip keypattern map	[<name>]	Show keypattern table mappings	Added in 353ARY2
3/3	sip keypattern set	<name> <service-type> <pattern>	Set a keypattern table	Added in 353ARY2
3/3	sip keypattern show	[<name>]	Show keypattern tables	Added in 353ARY2
3/3	sip localcall show		Show localcall timeing settings	Added in 353ARY2
3/3	sip localcall time	<enter-time> <exit-time>	Set localcall timeing	Added in 353ARY2
3/3	sip localhelp delete	<name>	Delete a localhelp table	Added in 353ARY2
3/3	sip localhelp map	[<name>]	Show localhelp table mappings	Added in 353ARY2
3/3	sip localhelp set	<name> <index> [<tel-number>]	Set a localhelp table	Added in 353ARY2
3/3	sip localhelp show	[<name>]	Show localhelp tables	Added in 353ARY2
2/1	sip numberplan delete	<name>	Remove specified numbering plan table <name> : numbering plan table name, string32	
3/1	sip numberplan map	[<name>]	Display SIP call service profile(s) that refer to specified numbering plan table <name> : numbering plan table name, string32	
2/1	sip numberplan set	<name> <index> [<pattern> <rule>]	Configure numbering plan entry of specified index in specified payphone charging table Note: There are at most 16 entries in a numbering plan table, and at most 32 numbering plan tables in system could be configured.	

			<p><name> : numbering plan table name, string32 <index> : index number, 1~16 <pattern> : string16, allowed characters are 0~9, *, (, and) and at most one parenthesis pair are allowed, examples: "002(*)", "0(*)", and "(*)" <rule> : string16, allowed characters are 0~9, and "\c" stand for country code, "\d" stand for national destination code, "\l" stand for matched string enclosed by the parenthesis pair, and "deny" stand for the pattern specified is not allowed, examples: "\l", "\c\l", and "\c\d\l" There is no predefined numbering plan.</p>	
3/3	sip numberplan show	[<name>]	<p>Display contents of specified numbering plan table</p> <p><name> : numbering plan table name, string32</p>	
2/1	profile sip delete	<name>	<p>Remove specified SIP protocol profile</p> <p><name> : profile name, string32</p>	
3/3	profile sip map	[<name>]	<p>Display subscribers that refers to all SIP protocol profiles or specified one</p> <p><name> : profile name, string32</p>	
2/1	profile sip set	<name> <sip-ip> <sip-dn> <regsvr-ip> <regsvr-dn> > <proxysvr-ip> <proxysvr-dn> [sipport <sip-port>] [regsvrport <regsvr-port>] [proxysvrport <proxysvr-port>] [uritype sip tel] [pbit <pbit>] [dscp <dscp>] [keepalive off on <se>] [prack on off] [resend <factor>] [noncecountkeep on off] [qopquote on off] [refertobrace on off] [refertodot hex dot] [rtpport <start-rtp-port> <end-rtp-port>]	<p>Configure SIP protocol related configuration of specified profile. Note: There are at most 128 SIP protocol profiles could be configured. "DEFVAL" is predefined one.</p> <p><name> : profile name, string32 <sip-ip> : IP used for SIP registration <sip-dn> : SIP domain name, string256, example: host.netdomain <sip-port> : SIP UA port number, 1025 ~ 65535 <regsvr-ip> : registration server IP <regsvr-dn> : registration server domain name, string256, example host.netdomain <regsvr-port> : registration server port number, 1025 ~ 65535 <proxysvr-ip> : proxy server IP <proxysvr-dn> : proxy server domain name, string256, example host.netdomain <proxysvr-port> : proxy server port number, 1025 ~ 65535 uritype sip : use SIP URI uritype tel : use TEL URI <pbit> : 802.1p bit for SIP and RTP packet, 0 ~ 7 <dscp> : DSCP for SIP and RTP packet, 0 ~ 63 <se> : session expiration time in seconds, 90~ 65535</p> <p>Content of DEFVAL: name: DEFVAL sip-ip: 0.0.0.0 sip-port: 5060 regsvr- ip: 0.0.0.0 regsvr-port: 5060</p>	modified in 353ARY4

			proxysvr- ip: 0.0.0.0 proxysvr-port : 5060 uritype : sip pbit : 7 dscp : 48 keepalive: off prack: off resend: number, 10%~99% noncecountkeep: on/off qopquote: on/off refertobraceket: on/off refertodot: hex/dot rtpport: starttrtpport, 4000~64000 endtrtpport, , 5000~65000	
3/3	profile sip show	[<name>]	Display contents of specified SIP protocol profile, or names of all profiles <name> : profile name, string32	
2/1	profile sip callsvc delete	<name>	Remove specified SIP call service profile <name> : profile name, string32	
3/3	profile sip callsvc map	[<name>]	Display subscribers that refers to all SIP call service profiles or specified one <name> : profile name, string32	
2/1	profile sip callsvc set	<name> [callhold on off] [callreturn on off] [calltransfer on off] [callwait on off] [cidew on off] [clip on off] [clir on off] [dnd on off] [dtmf bypass rfc2833 sipinfo rfc2833like plaintext] [fax t38 g711] [flash invite rfc2833 rfc2833like sipinfo1 sipinfo2 sipinfo3 sipinfo4 { sipinfo5 [<rc>]} { sipinfo6 [<si>]}] [keypattern <pattern-table>] [localcall on off] [localhelp off]{on <tel-number> <localhelp-table> [<tel-number> <localhelp-table> ...]}] [mwi on off] [numberplan off]{on <cc> <ndc>	Configure SIP call service related configuration of specified profile. <name> : up to 31 characters <cc> : E.164 country code, up to 7 characters <ndc> : E.164 national destination code, up to 7 characters <ra> : re-answer time, 0~30 seconds <rc> : replace characters, up to 7 characters <re> : registration expiration time, 120~65535 seconds <si> : specified information, up to 31 characters sipinfo1 : flash relay by SIP INFO signal=16 message sipinfo2 : flash relay by SIP INFO signal=hf message sipinfo3 : flash relay by SIP INFO signal=hook-flash message sipinfo4 : flash relay by SIP INFO plain text "FLASH" message sipinfo5 : flash relay by multiple SIP INFO signal messages and content of signal messages come from specified replace characters, example *# sipinfo6 : flash relay by SIP INFO specified information message, example "event flashhook" <localhelp-table> : local help table name, up to 31 characters <numberplan-table> : numbering plan table name, up to 31 characters <password> : password for SIP registration, up to 31 characters <pattern-table> : key pattern table name, up to	modified in 353ARY4

		<numberplan-table>}} [nopassword {password <password>}} [reanswer <ra>] [registration off]{on [<re>}}] [conference on off] [callsvcmode europe usa] [hooktransfer on off] [conftransfer on off]	31 characters <tel-number> : local help telephone number, up to 15 characters, only digit characters are allowed Note: There are at most 8 local help telephone number and table sets Conference: on /off Callsvcmode: europe/usa Hooktransfer: on/off Conftransfer: on/off	
3/3	profile sip callsvc show	[<name>]	Display contents of specified SIP call service profile or names of all profiles <name> : profile name, string32	
2/1	profile sip dialplan delete	<name>	Delete dialplan profile	add in 353ARY2
2/1	profile sip dialplan map	[<name>]	Show dialplan profile mapping status	add in 353ARY2
2/1	profile sip dialplan set	<name> <index> [<dialplan-table>]	Set dialplan profile with dialplan tables	add in 353ARY2
3/3	profile sip dialplan show	[<name>]	Display dialplan profiles	add in 353ARY2
2/1	profile dsp delete	<name>	Remove specified DSP configuration profile <name> : profile name, string32	
3/3	profile dsp map	[<name>]	Display subscribers that refers to all DSP configuration profiles or specified one <name> : profile name, string32	
2/1	profile dsp set	<name> [codec <codec>[,<codec> ...]] [echotail <echo-tail>] [playbuffer <min-delay> <max-delay>] [echocancel off on] [vad off on] [g711vpi <g711-vpi>] [g723vpi <g723-vpi>] [g726vpi <g726-vpi>] [g729vpi <g729-vpi>]	Configure DSP related configuration of specified profile. <name> : up to 31 characters <codec> : allowed codec type, g711a, g711mu, g723, g726-16, g726-24, g726-32, g726-40, g729ab <echo-tail> : echo cancellation echo tail period, 8, 16, 32 or 128 ms <min-delay> : play buffer minimum delay, 10~500 ms <max-delay> : play buffer maximum delay, <min-delay>~500 ms <g711-vpi> : G.711 voice package interval, 10, 20, 30 or 40 ms <g723-vpi> : G.723 voice package interval, 30 or 60 ms <g726-vpi> : G.726 voice package interval, 10, 20, 30 or 40 ms <g729-vpi> : G.729 voice package interval, 10, 20, 30, 40, 50 or 60 ms	modified in 353ARY2
3/3	profile dsp show	[<name>]	Display contents of specified DSP configuration profile or names of all profiles <name> : profile name, string32	
3/3	show linestat	<portlist>	Display current line state of specified subscriber	

			<p><portlist> : port number, example: *,3~5,10~15</p> <p>Line state includes FXS status and service status. FXS status could be: Disabled, On Hook, Off Hook, Ringing, Power Cut Down, Testing, Fault, Bad and Uninitialized</p> <p>Service status could be: Disabled, Out Of Service, Idle, Waiting for Dialing, Dialing Out, Ringing, Conversation Caller, Conversation Callee, FAX Caller, FAX Callee, Modem Caller, Modem Callee, Waiting for On Hook, Dialing Timeout, Alerting Off Hook, and Power Cut Down</p>	
3/3	show lineinfo	<portlist>	<p>Display current SIP and RTP information of specified subscriber</p> <p><portlist> : port number, example: *,3~5,10~15</p> <p>Line info content:</p> <p>SIP Local URI SIP Remote URI RTP TX Codec (tx codec type) RTP RX Codec (rx codec type) RTP TX PT (tx payload type) RTP RX PT (rx payload type) RTP Local IP RTP Remote IP RTP Local Port RTP Remote Port</p>	
3/3	show voip sip serverstate	[<proxysvr-ip> <proxysvr-dn>]	Display sip server status	Added in 353ARY2

Default Configuration

1. System information
 - hostname ""
 - location ""
 - contact ""
2. SNMP
 - get community "public"
 - set community "public"
 - trap community "public"
 - trusted host IP "0.0.0.0"
 - trap destination IP entry 1 "0.0.0.0/162"
 - trap destination IP entry 2 "0.0.0.0/162"
 - trap destination IP entry 3 "0.0.0.0/162"
 - trap destination IP entry 4 "0.0.0.0/162"
3. System service
 - telnet enable
 - ftp enable
 - web enable
 - icmp enable
 - telnet port 23

- ftp port 21
- web port 80
- 4. Secure client
 - accept icmp/telnet/ftp/web access from IP 0.0.0.0 to 223.255.255.255
- 5. CLI shell timeout
 - 5 mins
- 6. UNIX log
 - service disable
 - server IP 0.0.0.0
- 7. System watchdog timer 10000 ms
- 8. System hardware monitor
 - Enabled
 - Voltage monitor sensor point 1 threshold 1.284v / 1.116v
 - Voltage monitor sensor point 2 threshold 1.944v / 1.656v
 - Voltage monitor sensor point 3 threshold 3.564v / 3.036v
 - Voltage monitor sensor point 4 threshold 22.140v/18.860v
 - Voltage monitor sensor point 5 threshold 1.512v/1.288v
 - Voltage monitor sensor point 6 threshold 3.564v/3.036v
 - Voltage monitor sensor point 7 threshold 5.400v/4.600v
 - Temperature monitor sensor point 1 threshold 97.000°C / -55.000°C
 - Temperature monitor sensor point 2 threshold 97.000°C / -55.000°C
 - Temperature monitor sensor point 3 threshold 97.000°C / -55.000°C
 - Temperature monitor sensor point 4 threshold 97.000°C / -55.000°C
 - Temperature monitor sensor point 5 threshold 97.000°C / -55.000°C
 - Temperature monitor sensor point 6 threshold 120.000°C / -55.000°C
 - Fan monitor sensor point 1 threshold 8000RPM / 2000RPM
 - Fan monitor sensor point 2 threshold 8000RPM / 2000RPM
 - Fan monitor sensor point 3 threshold 8000RPM / 2000RPM
 - External alarm index 1 name "extalm1"
 - External alarm index 2 name "extalm2"
 - External alarm index 3 name "extalm3"
- 9. Multiuser
 - Set user "admin", password "*****" (encrypted)
 - User authentication method "local and remote"
- 10. VLAN
 - Port default 802.1p priority 0
 - Port GVRP disabled
 - Port accept frametype(802.1Q VLAN tag) all
 - Set default VLAN(vid 1) join all ports
 - Port default pvid 1
 - System host port join join vid 1
- 11. System igmpsnooping disabled
- 12. 802.1p priority(0~7) to system ENET port priority(0~3) mapping
 - 0 ⇒ 1
 - 1 ⇒ 0
 - 2 ⇒ 0
 - 3 ⇒ 1
 - 4 ⇒ 2
 - 5 ⇒ 2
 - 6 ⇒ 3
 - 7 ⇒ 3
- 13. 802.1p priority(0~7) to system ADSL port priority(0~7) mapping
 - 0 ⇒ 0
 - 1 ⇒ 1
 - 2 ⇒ 2

- 3 ⇒ 3
- 4 ⇒ 4
- 5 ⇒ 5
- 6 ⇒ 6
- 7 ⇒ 7
- 14. GARP timer default setting
 - Leaveall timer 10000ms
 - Leave timer 600ms
 - Join timer 200ms
- 15. RSTP parameters
 - Service disabled
 - Forward delay 15 sec
 - Maxage 20 sec
 - Hellotime 2 sec
 - Priority 32768
 - Port priority 128
 - Port path cost 4
 - Port RSTP disabled
- 16. DHCP relay
 - Service disabled
 - Relay server IP "0.0.0.0"
 - Option82 ""
 - Option82 disabled
 - Option82 suboption 2 ""
 - Option82 suboption 2 disabled
- 17. DHCP snoop
 - DHCP snoop disabled
 - Lan to Lan enabled
- 18. 802.1X
 - Service enabled
 - Port auth disabled
 - Authentication via radius server
 - Port auth control auto
 - Port re-auth on
 - Port re-auth period 3600ms
 - Radius server IP "0.0.0.0/1812"
 - Radius server secret "1234"
 - Local user database set user "admin", password "*****" (encrypted)
- 19. ENET
 - Naming enet port 1 "enet1"
 - Naming enet port 2 "enet2"
 - Port enabled
 - ENET speed mode auto
- 20. Isolation
 - Enabled
 - Mode standalone mode
- 21. IP
 - 192.168.1.1/24
 - Default gateway IP 192.168.1.254
- 22. MAC
 - Aging time 300 sec
 - Port MAC count filter number 5
 - Port MAC count filter disabled
 - Port MAC filter disabled
- 23. System time server
 - Time protocol none

- Server IP “0.0.0.0”
- Time zone UTC
- 24. ADSL port default setting
 - Enabled
 - Default ADSL profile “DEFVAL_MAX”

DEFVAL_MAX	latency mode:	interleave	
		up stream	down stream

max rate	(kbps):	512	9088
min rate	(kbps):	64	64
latency delay	(ms):	4	4
max margin	(db):	31	31
min margin	(db):	0	0
target margin	(db):	6	6
up shift margin	(db):	9	9
down shift margin	(db):	3	3
 - ADSL mode: auto negotiate
 - Default Port VC 0/33, super channel, ATM profile “DEFVAL”

profile	encap	class	aal	pcr	cdvt	scr	bt

DEFVAL	llc	ubr	aal5	300000	0	0	0
 - Default IGMP filter “DEFVAL”

Profile	startip	endip

DEFVAL	224.0.0.0	239.255.255.255
 - Packet filter applied none
 - Default ADSL alarm profile “DEFVAL”

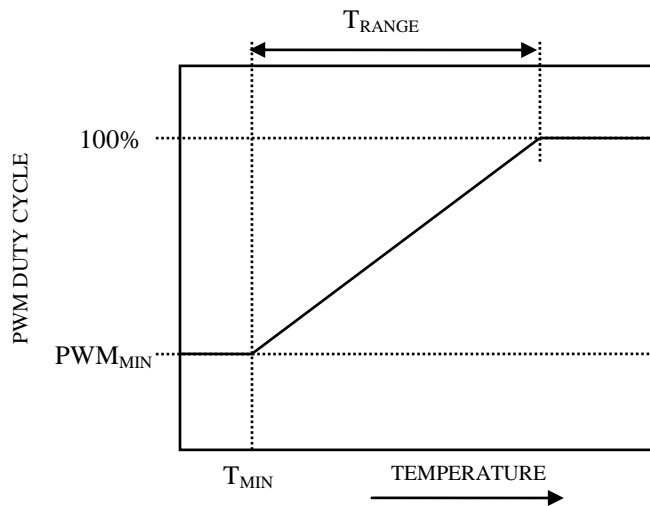
DEFVAL		ATU-C	ATU-R

Thresh15MinLofs	(sec):	0	0
Thresh15MinLoss	(sec):	0	0
Thresh15MinLols	(sec):	0	---
Thresh15MinLprs	:	0	0
Thresh15MinESs	(sec):	0	0
ThreshFastRateUp	(bps):	0	0
ThreshInterleaveRateUp	(bps):	0	0
ThreshFastRateDown	(bps):	0	0
ThreshInterleaveRateDown	(bps):	0	0
InitFailureTrap(1-enable, 2-disable):		2	---
Thresh15MinFailedFastRetrain	:	0	---
Thresh15MinSes	(sec):	0	0
Thresh15MinUas	(sec):	0	0
 - ADSL up/down stream nominal PSD 0
 - ADSL up/down stream carrier mask 0
 - ADSL annexL disabled
 - ADSL annexM disabled
 - ADSL PMM disabled
 - ADSL PMM L0Time 300 sec, L2Time 30 sec, L2ATPR 1 dB, L2ATPRT 6 dB
 - ADSL PMM maxL2rate 4096 Kbps, minL2rate 32 Kbps , L0toL2rate 16 Kbps
 - ADSL SRA disabled
 - ADSL up/down stream INP 0 DMT symbol
 - ADSL port downstream broadcast disabled VLAN: none
 - ADSL PPVC: none
 - ADSL up stream rate limit disabled
- 25. RFC 2684 routed mode
 - Routed mode ARP aging time 600 sec

26. Alarm manager alarm assignment

no	alarm	condition	facility	snmp	syslog	severity	clearable
1	dsl	(5000)line_up	local1	V	V	info	-
2	dsl	(5001)line_down	local1	V	V	minor	V
3	dsl	(5002)ad_perf_lol_thresh	local1	V	V	minor	V
4	dsl	(5003)ad_perf_lof_thresh	local1	V	V	minor	V
5	dsl	(5004)ad_perf_los_thresh	local1	V	V	minor	V
6	dsl	(5005)ad_perf_lop_thresh	local1	V	V	minor	V
7	dsl	(5006)ad_perf_es_thresh	local1	V	V	minor	V
8	dsl	(5007)ad_perf_ses_thresh	local1	V	V	minor	V
9	dsl	(5008)ad_perf_uas_thresh	local1	V	V	minor	V
10	dsl	(5009)ad_atuc_loftrap	local1	V	V	minor	-
11	dsl	(5010)ad_atuc_lostrap	local1	V	V	minor	-
12	dsl	(5011)ad_atur_loftrap	local1	V	V	minor	-
13	dsl	(5012)ad_atur_lostrap	local1	V	V	minor	-
14	dsl	(5013)ad_atur_lprtrap	local1	V	V	minor	-
15	eqpt	(10000)vol_err	local1	V	V	critical	-
16	eqpt	(10001)temp_err	local1	V	V	critical	-
17	eqpt	(10002)fan_err	local1	V	V	critical	-
18	eqpt	(10003)hw_rtc_fail	local1	V	V	critical	-
19	eqpt	(10004)hw_mon_fail	local1	V	V	critical	-
20	eqpt	(10005)cold_start	local1	V	V	info	-
21	eqpt	(10006)warm_start	local1	V	V	info	-
22	eqpt	(10007)alm_input	local1	V	V	critical	-
23	sys	(15000)reboot	local1	V	V	info	-
24	sys	(15001)aco	local1	V	V	info	-
25	sys	(15002)alm_clear	local1	V	V	info	-
26	sys	(15003)login_fail	local1	V	V	minor	V
27	sys	(15004)anti_spoofing	local1	V	V	minor	V
28	enet	(20000)up	local1	V	V	info	-
29	enet	(20001)down	local1	V	V	major	V

27. Fan speed control: Sensor point at DSL (temperature monitor point 1)



- PWM_{MIN} = 20%
- T_{MIN} = 40°C
- T_{RANGE} = 32°C

28. System MTU size is 1532 bytes
29. PPPoE intermediate agent disabled
30. Per port OUI filter disabled
31. Per port OUI filter accept mode
32. MAC antispoofing enabled
- 33.

Default configurations for VoIP feature sets:

- | | |
|--|----------------------------|
| 34. IP address | no IP address is specified |
| 35. DNS server IP address | 0.0.0.0 |
| 36. Country code | 0 (USA) |
| 37. SIP profile | |
| A. Profile name | DEFVAL |
| B. SIP domain name | 0.0.0.0 |
| C. SIP port number | 5060 |
| D. Registration server domain name | 0.0.0.0 |
| E. Registration server port number | 5060 |
| F. Proxy server domain name | 0.0.0.0 |
| G. Proxy server domain name | 5060 |
| H. URI type | sip |
| I. P.bit | 7 |
| J. DSCP | 48 |
| K. keepalive | off |
| L. prack | off |
| 38. Call Service Profile configuration profile | |
| A. Profile name | DEFVAL |
| B. callhold : on | |
| C. callreturn : on | |
| D. calltransfer : on | |
| E. callwait : on | |

F.	cidcw	: on
G.	clip	: on
H.	clir	: on
I.	dnd	: on
J.	dtmf	: bypass
K.	fax	: g711
L.	flash	: invite
M.	keypattern	: DEFVAL
N.	localcall	: off
O.	localhelp	: off
P.	mwi	: on
Q.	numberplan	: off
R.	cc	:
S.	ndc	:
T.	name	: DEFVAL
U.	password	: none
V.	reanswer	: 0 seconds
W.	registration	: on 3600 seconds
39.	DSP profile	
A.	Profile name	DEFVAL
B.	Preferred codec list	g711a,g711mu
C.	Play buffer min-delay	30 ms
D.	Play buffer max-delay	120 ms
E.	Echotail	32 ms
F.	Echocancel	on
G.	VAD	off
H.	g711vpi	20 ms
I.	g723vpi	30 ms
J.	g726vpi	20 ms
K.	g729vpi	20 ms
40.	Per port sip mode	DEFVAL
41.	Per port pots gain	TX 0db / RX -3db
42.	voip port pots impedance	600ohm
43.	local call enter-time	10 minutes
44.	local call exit-time	10 minutes

Table Size & Limitations

Per ADSL port limitations:

Number of Mac filter: 10

Number of PVC: 8

Number of PPVC: 2

Number of PPVC member: 8

Number of RPVC: 8

Number of TLSPVC: 8

Number of PAEPVC: 8

Number of Vlan: 16

IGMP maximum group per DSL port is 16 (different IP source count as)

IGMP maximum host IPs per DSL port is 16

IGMP maximum host IPs per Ethernet port is 1024

Number of DHCP snooping: 32
Maximum joined MVLAN: 4
Maximum ACL profile mapping: 8

System limitations:

Number of VLAN: 1024 (static VLAN + Dynamic VLAN included GVRP VLAN)

ADSL profile: 96

ATM profile: 96

IGMP filter profile: 128

ADSL ALARM profile: 8

Dot1X profile: 64

DHCP relay server: 32

IP ROUTE: 128

Static multicast address: 32

Igmp groups: 512 groups

MAC learning: 14k at most (128 per ADSL port at most, 4k per ENET port at most)

RPVC gateway IP address: 96

RPVC routing entry: 96

ACL profile: 128

IP bridging:

Domain: 8

VLAN per Domain: 8

Edge router: 64 (VLAN per Domain * max of Domain)

Interface: 384 (DSL port number * max of Domain)

Routes per Domain: 16

Routes: 128

ARP per ENET port: 64

ARP per DSL port: 32

PPPoE Intermediate Agent: 48

VLAN Isolation: 16

Static IP entry pool for DHCP snoop: 3

User Account: 16

Mvlan number: 16 (4 per ADSL port at most)

System security client entries: 16

IGMP MAX static query vid 16

IGMP MAX static + dynamic query vid 64

Limitations for VoIP feature sets:

Number of SIP profiles: 128

Number of SIP Call Service profiles: 128

Number of DSP profiles: 128

Number of numbering plan table: 32

Number of local help table: 32

Number of dialplan table: 32

Number of keypattern table: 32

Per table limitations:

Number of entries per numbering plan table: 16

Known Constraints, Restrictions

1. Though this version has improved the Host protection(see above), but since many types of DoS (denial-of-service) attack to host(include attacks from VOIP VLAN), host CPU might be very busy on processing these undesired packets. This will cause CPU loading increase and might lead to long response time to user's management. One workaround of such issue is to protect the system from its uplink side, like enabling the anti-DoS feature of the intelligent switch –router which resides on the uplink side of the system.
2. Total MAC filter count is 128 when system is created with 1024 VLANs.
3. In private MIB, 'paepvcStats' object, use 'getNext' to query the indexed objects will not be correct.
4. In private MIB 'adslLineConfAnnexL' object, there should be only two values for this the object.
5. The online user table only record user login by console and telnet.
6. Tlspvc channel do not support DHCP service.
7. Enet2 Setting:
VOIP VLAN will create once user specify VID for VOIP by following command:
ras> voip ip set <ip>/<mask> <vid>
Besides, enet1/enet2 will join the VOIP VLAN at the same moment. And it's not allowed to leave enet1/enet2 from VOIP VLAN. Disable/Delete VOIP VLAN is also forbidden.
8. We add four TI DSP's MAC as static mac in Enet2, so "statistic mac" at Enet2 will show four mac even Enet2 is not connected.
9. Limit dynamic vlan created by GVRP to 256, but static vlan and dynamic vlan can't create to maximum at the same time due to system resource, the maximum number of static vlan is 1024 and the maximum number of dynamic vlan created by GVRP is 256.
10. Sometimes battery fault occurs in device initialization stage. However, it can be cleared by power cycle/system reboot.
11. According to the SIP protocol, the packets that have no reply will be retransmitting after 0.5, 1, 2, 4, 8, 16 seconds. Under this restrict, the device won't know the server is down (or link down) before all the retransmissions are done. So it will need about 32 seconds to recover the problem. After 32 seconds the device will find out that the server is down (or link down) and mark the port status as out-of-service and won't have dial tone(SPR 070802115).
12. SNMP should not access through VoIP domain(but this version could).
13. PMM mode can not work with G.bond.

Possible Restrictions for VoIP feature sets:

1. When making all ports ring, the maximum ring delay could be 4 seconds (2 seconds on, 4 seconds off for USA) . However, that depends on ring output voltage which will limit the maximum output RENs of ring generator.
2. We recommend users to separate the VoIP traffic from data one using distinct VLAN tags, or the system may be attacked and can't work normally.
3. Max REN depends on ring voltage and ring cycle

Ring Voltage	REN
100V	10 * scale
90V	13 * scale
86V	15 * scale
75V	20 * scale
65V	25 * scale
55V	35 * scale
45V	40 * scale

scale = (ring on time + ring off time) / ring on time

Ex: When ring cycle is 2 seconds on and 4 seconds off, scale value would be 3.((2 + 4) / 2 = 3)

4. Ringer fault will occur when over 6 ports (300ohm) off-hook at the same time.
5. Sometimes pulse digit result of MLT digit test is wrong due to ZyNOS task switch precision is 10ms.
6. Localcall/localhelp functions don't work on the port using the dialplan.
7. 3-way conference call
 - A. Only 3 memberships on a conference.

- B. 1~12, 13~24, 25~36, 37~48 are 4 groups. Different codecs will use different DSP resource size. Every group only support max conference creators up to 4.
- C. During a conference, all feature keys consist of FLASH will be useless.

Backward Compatibility Notice:

Appendix:

1. DHCP relay with DHCP vlan of IP bridge:

DHCP relay enable: The ipbpvc DHCP vlan function would not apply. The outgoing packet vid would be CPU management VLAN.

DHCP relay disable: The outgoing packet vid would be replaced with ipbpvc DHCP vlan if ipbpvc DHCP vlan is enabled.

2. IP bridge L2 protocol support:

Packet host terminating	Eapol (802.1x)	IGMP (IGMP snooping)	DHCP (Dhcp snooping)	PPPoE (PPPoE intermediate agent)	RSTP	GVRP
IPOE	Y	Y	Y	X	Y	Y
IPOA	X	Y	X	X	X	X

3. PPPoE Intermediate Agent PDU format:

Include two sub-option codes, that is, 0x01 stands for “Agent Circuit ID Sub-option” and 0x02 for “Agent Remote ID Sub-option”.

Agent Circuit ID Sub-option format:

Circuit-id identifier (0x01), length, slotId(always 0 in system), portNo, VLAN ID, and extra info

SubOpt (circuit-id)	Len	4 - 28 Octets			
0x01	N	slotId	portNo.	vlanId	extra info (max: 23 octes)

Note: slotId, Port No, and VLAN ID (2 bytes) are all in Hex format.

Agent Remote ID Sub-option format:

Remote-id identifier (0x02), length (fixed in 6), and the MAC address of client

SubOpt (remote-id)	Len	PPPoE Client' s MAC address
0x02	6	MAC address

4. If the SNMP secure host is not 0.0.0.0, any host which source address is secure host or in the secure client table with SNMP enabled ('sys client set') will be accepted; If secure host is 0.0.0.0, no matter what the secure client table sets, the SNMP will always be accepted by any source.

5. Support TR-101 format of PPPoE IA suboption 1(Circuit ID).

a. The additional CI commands:

```
ras> switch poeagent optionmode
```

```
usage: optionmode <<vid>|all> <private|tr101>
```

```
<vid> = 0..4094 (0:to set the default agent)
```

b. The changed CI commands:

```
ras> switch poeagent show
vid enable optionmode info
```

```
-----
 0  V      tr101 bbbb
 1  V      tr101 test
30  -      private
```

Note: vid 0 is the default agent.

```
ras>
```

c. <info> atm <slot>/<port>:<vpi>.<vci>

<info> would be [poeagent info] or [host name] or [IP address]. [poeagent info] has highest priority, and [IP address] is lowest priority.