

Advanced Gateway 2330 Secure Router 4134/2330

Software Release 10.3.3 Release Notes

1. Release Summary

Release Date: April 30, 2012

Purpose: Software maintenance release to address customer found software issues.

2. Notes for Upgrade

2.1 General Upgrade Information

Please see the technical documentation for the Secure Router 4134 and 2330 version 10.3 available at: http://www.avaya.com/support for details on how to upgrade your Secure Router unit.

File Names for This Release

Description	File Size	Version	File Name	BootRom Version
Secure Router 4134 Application Image	29 471 420	10.3.3	SR4134.Z	62
Secure Router 2330 Application Image	30 524 235	10.3.3	SR2330.Z	52
Advanced Gateway 2330 Application Image	30 524 235	10.3.3	AG2330.Z	52

2.2 SNMP Server

WARNING

After the upgrade to 10.3.3, the SNMP Server will not interoperate with the SNMP clients without updating the stored configuration if upgrading from 10.3 or before. Two SNMP commands do not exist that were in previous releases which are "traphost" and "trap-version" which are replace with the "target-address" command.

The SNMP Server with this new release supports SNMP version 3. There are two parts of the SNMP Server configuration that must be changed to restore the full functionality of SNMP Server. The first part is enabling SNMP clients to access the SNMP Server and the second part is setting up the SNMP trap host.

The following sections showing the upgrade procedures for SNMP Server are using the following SNMP stored configuration generated under 10.3 Release.

snmp-server community public rw chassis-id SR enable traps exit traps trap-host 10.1.1.1 public snmp-enable exit snmp-server

Updated SNMP Server section after following the upgrade procedures:

snmp-server engine-id local 000000c000000007f000001 exit engine-id community public public-sec chassis-id SR enable traps exit traps group public-group public-sec v1 access-group public-group v1 noAuth read-view mgmt notify-view all-mibs target-address v1addr 10.1.1.1 group-params group-tag timeout 1500 retry-count 3 remote-port 162 target-params group-params public-sec v1 noAuth target-params group-parms public-sec v1 noAuth notify group-tag group-tag trap notify-filter group-profile 1.3 included notify-profile group-params group-profile view mgmt 1.3.6.1 included view all-mibs 1 included snmp-enable exit snmp-server

2.2.1 Configuring SNMP for version 1 access to the SNMP Server

The SNMP community command has changed under this new release and requires a series of commands to enable an equivalent access for SNMP client to access SNMP Server.

Procedure Steps

Step	Action

To enter the configuration mode, enter: 1 configure terminal

- 2 To enter the SNMP Server configuration, enter: snmp-server
- 3 Delete the previous community command, enter: no community public rw
- Specify the community string with security level, enter: 4 community public public-sec
- Specify the group with the same security level and version 1, enter: 5

group public-group public-sec v1

Specify the access to the group, enter: 6

access-group public-group v1 noAuth read mgmt notify all-mibs

- 7 To specify the read access, enter: view mgmt 1.3.6.1 included
- 8 To specify the notify access, enter: view all-mibs 1 included
- 9 To exit the SNMP Server configuration mode, enter:

2.2.2 SNMP Server Configuration changes needed to support SNMP Trap Host

Procedure Steps

Step **Action**

1 To enter the configuration mode, enter:

configure terminal

To enter the SNMP Server configuration, enter: 2 snmp-server

3 Specify target parameters security, enter:

target-params group-params public-sec v1 noAuth

4 Specify the trap host address, enter:

target-address vladdr 10.1.1.1 group-params group-tag

5 Specify the trap notification, enter:

notify group-tag group-tag trap

6 Specify the notify profile, enter:

notify-profile group-params group-profile

To specify the notify filter, enter: 7

notify-filter group-profile 1.3 included

To exit the SNMP Server configuration mode, enter: 8 exi t

2.3 SSM Upgrade procedure if upgrading from Release before 10.3

Note:

- 1. These steps are applicable and need to be executed only when upgrading from 10.2.x to 10.3.x. These steps from not needed when upgrading from 10.3.x to 10.3.x
- 2. When SSM is disabled and enabled, then SSM configuration goes away, so make sure to note down previous SSM configuration.

Here are steps -

- 1. Disable the ssm if running.
 - a. Use command "SR# show ssm sip-server status" to confirm if SSM is running or not.
 - b. Use command "SR/configure/voice/service/voip/ssm# no enable" to disable SSM if it is running.
- 2. Remove SSM database using CLI "SR# clear ssm database"
- 3. Enable SSM using CLI "SR/configure/voice/service/voip/ssm# enable"
- 4. Perform SSM configuration as needed.

2.4 Converting between Advanced Gateway and Secure Router

Both the Secure Router 2330 and Advanced Gateway 2330 hardware support the Secure Router and Advanced Gateway Product with the appropriate licensing and software support.

The "file version" command now shows both the version of the image and whether the image is for the Secure Router 2330 or Advanced Gateway 2330 product. The output of the command looks at follows:

host# file version

WARNING:

Do not remove the Compact Flash during this process Do not reboot this device during this process

Versions of files in /cf0/: Filename: Version:

found compressed file - skipping file body checksum

SR2330.Z 10.3.3 Image Type = Secure Router

found compressed file - skipping file body checksum

AG2330.Z 10.3.3 Image Type = Advance Gateway

The show system licenses display in /cf0/:

©2012 Avaya Inc. Rev: 1.0 (30-April 2012) Page 4 of 30

2.4.1 Converting an Advanced Gateway to Secure Router

Converting the Advanced Gateway to Secure Router involves the following steps:

- Acquire an Advanced Gateway Upgrade License for Secure Router through Avaya Customer Support
- Install the Secure Router Software (SR2330.Z) on the 2330
- Set Boot Image to SR2330.Z
- · Verify Boot Image with "file version" command
- configure system license to Secure Router
- system reboots as a Secure Router 2300

For acquiring the Advanced Gateway license to convert to the Secure Router product you will need the serial number of the Advanced Gateway. This is the Serial Number of slot 0 not the Chassis Serial Number. To determine the serial number of slot 0 use the **show chassis** command. The following page shows the output of the command and the actual serial number of slot 0 of this Advanced Gateway is highlighted: host# show chassis

Chassis Model: AG2330

Chassis Operational Status: NORMAL

Chassis Serial number: LBNNTMJX9600GP

Chassis Rev: 11

Slot/Sub	Slot Card-T	ype Status	Serial#
0	MPU A	NORMAL	LBNNTMJX960080 Serial Number Needed for Licenses
INT	SCĪM_A	NORMAL	LBNNTMJX97001H
INT	PVIM_A	NORMAL	LBNNTMJX98001P
0/7	SFP	Present	-
0/8	SFP	Present	-

INT - Mainboard internal module.

After acquiring the conversion license number for your Advanced Gateway you will need to download the Secure Router Application Image (SR2330.Z) and Secure Router MIB file (SR2330_10.2.2MIBs.zip) from: http://www.avaya.com/support. Install SR2330.Z file on either /cf0 or cf1. For the conversion process described in these release notes it will be showing the install related to /cf0. Also install the Secure Router MIB files to management console which is being used to monitor the Advanced Gateway.

Below shows the sequence of converting to the Secure Router product:

HOST# show version Runtime: 10.2.2.0

Created: Jun 18 2010, 18:44:48

Type : AG Image ← current Active Product – Advanced Gateway

Boot: 0.0.0.42 (NORMAL Boot)

NorBoot: 0.0.0.40 GolBoot: 0.0.0.42

Slot/SubSlot Card-Type Status CPLD-Exp CPLD-Main

0/- MPU A NORMAL --- 0x16

host# show system licenses

Licensed for advance gateway Licensed PVIM channels = 8 Licensed SSM user capacity = 25

host# file Is

CONTENTS OF /cf0:

size date time name

30524235 JUN-22-2010 16:51:28 SR2330.Z 1427 JUN-23-2010 17:51:34 system.cfg 30524235 JUN-22-2010 17:32:36 AG2330.Z

Total bytes: 90188426

Bytes Free on /cf0: 36118528

host# file version

WARNING:

Do not remove the Compact Flash during this process

Do not reboot this device during this process

Versions of files in /cf0/: Filename: Version:

found compressed file - skipping file body checksum

SR2330.Z 10.3.3.0 Image Type = Secure Router ← Secure Router Image Type

found compressed file - skipping file body checksum

AG2330.Z 10.3.3.0 Image Type = Advance Gateway ← Advanced Gateway Image Type

HOST#

host# configure term

host/configure# **boot_params**Boot dev [ftp,cf0,cf1] : cf0

Boot Ethernet Port [1-8]: 0

Boot file name : AG2330.Z SR2330.Z ← Changing Boot Image to Secure Router

Server name : host

Server IP address : 192.168.24.1
My IP address : 192.168.24.10
My subnet mask : 255.255.0.0
Gateway IP address :

User name : demo

Password :

Checksum enable [0:Disable,1:Enable]: 1 Show header enable [0:Disable,1:Enable]: 0

Save bootrom image [0:AutoUpdate,1:NormalBTupd,2:GoldenBTupd,3:NoUpd]: 0

display mode [0:minimum 1:maximum]: 0

BOOT PARAMETERS HAVE BEEN SAVED.

DO YOU WANT TO REBOOT: (Y/N) ? n ← Do NOT reboot at this point

host/configure# system licenses convertToRouter

Warning: Prior to converting the system to the Advance Gateway functionality.

Warning: Do the following steps

Warning: Download the Secure Router Image SR2330.Z to the boot device, either /cf0 or /cf1 Warning: Set the boot device and boot file name under the boot_params command to SR2330.Z

Warning: If you proceed, system reboots upon successful conversion

Continue with conversion ? (y/n) : y

Enter License key: xxxxxx ← Enter your license key

Completed...

Conversion Completed... system reboots in 5 seconds

Warning: If Boot failed, you need reprogram boot menu under boot process

<Mini-Twister Micro POST>

BTS: NORMAL

DDR2: READ MEM 1GB

I2C: PASS

<Mini-Twister Micro POST Completed>

<Mini-Twister Micro POST>

BTS: GOLDEN

DDR2: READ MEM 1GB

I2C: PASS
** Boot stage: M

<Mini-Twister Micro POST Completed>

VxWorks System Boot

Copyright (c) 2010 Avaya

PROCESSOR : MPC8347 TBG

SYSTEM MEMORY: 1G VxWorks : VxWorks5.5.1

BSP version : 1.1/0

Boot version: 0.0.0.42 (GOLDEN Boot) Creation date: May 26 2010, 11:34:27

NORMAL Bt ver : 0.0.0.52 GOLDEN Bt ver : 0.0.0.52

Baseline ver: 0.0.0.52 (Internal version for checking)

System name : SR 2330

Press any key to stop auto-boot...

Compact Flash Device: CF0, Filename: /cf0/SR2330.Z

MODEL: SR -- allow SR image MODEL: SR -- allow SR image

[SYSTEM] Runtime image loading done [SYSTEM] Bootrom image loading done [SYSTEM] Runtime image uncompressing

[SYSTEM] Preparing to transfer control (loader)...

Starting runtime image...

Chassis Model: SR2330

Chassis Operational Status: BOOT

Chassis Serial number: LBNNTMJX9600GP

©2012 Avaya Inc. Rev: 1.0 (30-April 2012) Page 7 of 30

Chassis Rev: 11

Slot/Sub	Slot C	ard-Type	e Sta	tus	Serial#
0	MPU_	-	NORMA	_	LBNNTMJX960080
INT INT	SCIN PVIN	_	NORM.		LBNNTMJX97001H LBNNTMJX98001P
0/7	SFP	_	resent	≒L	LDININ I WJASOUU IP
0/8	SFP	-	resent		

Safenet VPN option installed. PVDM Link set at 100M/FD

Avaya, Inc. and its Licensors

Copyright 1998-2011 All rights reserved

AVAYA (Secure Router SR2330)

Version: 10.3.3.0

Built: Apr 26 2012, 17:28:34 PST

login: admin password:

admin logged in on Thu Apr 24 18:17:50 2010 from CONSOLE In system.cfg, Total commands executed: 44, Total errors: 0

host# show version Runtime: 10.3.3.0

Created: Apr 27 2012, 10:51:46

Type : SR Image ← current Active Product – Secure Router

Boot: 0.0.0.52 (NORMAL Boot)

NorBoot: 0.0.0.52 GolBoot: 0.0.0.52

Slot/SubSlot Card-Type Status CPLD-Exp CPLD-Main

0/-	MPU_A	NORMAL	0x	16
1/-	ADSL_AN	IX_A NORMAL		0x3

host# show system licenses

Licensed for router Licensed PVIM channels = 8 Licensed SSM user capacity = 25 HOST#

The conversion to Secure Router is complete

2.4.2 Converting Secure Router to Advanced Gateway

WARNING

All the Advanced Gateway functionality already exists in the Secure Router Product. Converting a Secure Router to the Advanced Gateway product does not require a license but to restore it back to a Secure Router after converting it to an Advanced Gateway will require a license.

Converting the Secure Router to Advanced Gateway involves the following steps:

- Install the Advance Gateway Software (AG2330.Z) on the 2330
- Set Boot Image to AG2330.Z
- Verify Boot Image with "file version" command
- Configure system license to Advanced Gateway
- System reboots as an Advanced Gateway 2330

Below shows the sequence of converting to the Advanced Gateway product:

host# show version Version: 10.3.3.0

Built: Apr 26 2012, 17:28:34 PST

Type : SR Image ← current Active Product – Secure Router

Boot: 0.0.0.52 (NORMAL Boot)

NorBoot: 0.0.0.52 GolBoot: 0.0.0.52

Slot/SubSlot Card-Type Status CPLD-Exp CPLD-Main

0/- MPU A NORMAL --- 0x16 1/- ADSL ANX_A NORMAL --- 0x3

host# configure term

host/configure# boot_params

WARNING: Configuration changeBoot dev [ftp,cf0,cf1]: cf0

Boot Ethernet Port [1-8]: 0

Boot file name : SR2330.Z AG2330.Z ← Changing Boot Image to Advanced Gateway : host

Server IP address : 192.168.24.1 My IP address : 192.168.24.10 My subnet mask : 255.255.0.0 : 192.168.24.10

Gateway IP address : User name : demo

Password

Checksum enable [0:Disable,1:Enable]: 1 Show header enable [0:Disable,1:Enable]: 0

Save bootrom image [0:AutoUpdate,1:NormalBTupd,2:GoldenBTupd,3:NoUpd]: 0

display mode [0:minimum 1:maximum]: 1 0

BOOT PARAMETERS HAVE BEEN SAVED.

DO YOU WANT TO REBOOT: (Y/N) ? n ← Do NOT reboot at this point

HOST/configure# system licenses convertToGateway

Warning: Prior to converting the system to the Advance Gateway functionality.

Warning: Do the following steps

Warning: Download the Advance Gateway Image AG2330.Z to the boot device, either /cf0 or /cf1 Warning: Set the boot device and boot file name under the boot_params command to AG2330.Z

Warning: If you proceed, system reboots upon successful conversion

Continue with conversion ? (y/n): y

Completed...

Conversion Completed... system reboots in 5 seconds

Warning: If Boot failed, you need reprogram boot menu under boot process

<Mini-Twister Micro POST>

BTS: NORMAL

DDR2: READ MEM 1GB

I2C: PASS

<Mini-Twister Micro POST Completed>

<Mini-Twister Micro POST>

BTS: GOLDEN

DDR2: READ MEM 1GB

I2C: PASS

** Boot stage: Three

<Mini-Twister Micro POST Completed>

VxWorks System Boot

Copyright (c) 2010 Avaya

PROCESSOR : MPC8347 TBG

SYSTEM MEMORY : 1G VxWorks : VxWorks5.5.1

BSP version : 1.1/0

Boot version: 0.0.0.52 (GOLDEN Boot) Creation date: Jun 10 2011, 11:09:20

NORMAL Bt ver: 0.0.0.52 GOLDEN Bt ver: 0.0.0.52

Baseline ver: 0.0.0.52 (Internal version for checking)

System name : AG 2330

Press any key to stop auto-boot...

Compact Flash Device: CF0, Filename: /cf0/AG2330.Z

MODEL: AG -- allow AG image MODEL: AG -- allow AG image

[SYSTEM] Runtime image loading done [SYSTEM] Bootrom image loading done [SYSTEM] Runtime image uncompressing [SYSTEM] Preparing to transfer control (loader)...

Starting runtime image...

Chassis Model: AG2330

©2012 Avaya Inc. Rev: 1.0 (30-April 2012) Page 10 of 30

Chassis Operational Status: BOOT

Chassis Serial number: LBNNTMJX9600GP

Chassis Rev: 11

Slot/Suk	Slot	Card-T	ype	Stat	us	Serial#
0	MF	U_A	NO	RMAI	_	LBNNTMJX960080
INT	S	CIM_A	NO	ORM/	۱L	LBNNTMJX97001H
INT	P'	√IM_A	NC	DRMA	۱L	LBNNTMJX98001P
0/7	SF	P	Pres	ent		
0/8	SF	P	Pres	ent		

Avaya, Inc. and its Licensors

Copyright 1998-2010 All rights reserved AVAYA (Advanced Gateway AG2330)

Version: 10.3.3.0

Built: Apr 26 2012, 17:28:34 PST

login

In system.cfg, Total commands executed: 44, Total errors: 0

admin password:

admin logged in on Wed Jul 27 21:27:32 2011 from CONSOLE

host# show system licenses Licensed for advance gateway Licensed PVIM channels = 8 Licensed SSM user capacity = 25

host## show version

Version: 10.3.3.0

Built: Apr 26 2012, 17:28:34 PST

Type : AG Image ← current Active Product – Advanced Gateway

Boot: 0.0.0.52 (NORMAL Boot)

NorBoot: 0.0.0.52 GolBoot: 0.0.0.52

Slot/SubSlot Card-Type Status CPLD-Exp CPLD-Main

0/- MPU_A NORMAL --- 0x16

host#

The conversion to Advanced Gateway is complete.

3. Version of Previous Release

Software Version 10.3.2

4. Compatibility

N/A

5. New Features since 10.3 Release

5.1 Tunnel support using dynamically acquired IP Address

WARNING

This feature only works with tunnel protection and can support only one remote dynamic IP address peer per tunnel. Only one tunnel can be setup to accept an unknown IP Address as its destination IP Address.

This feature enables a tunnel between the branch router and head office where the branch office acquires it IP Address through the provider by DHCP. This tunnel can be setup as either an IPIP or GRE Tunnel with tunnel protection. The head office can have multipleVPN Site to Site and GRE/IPIP tunnels along with this new feature.

To show how to setup this feature on the Secure Router this section will give the procedure to update both the branch and head office as shown in Figure 1 to use a GRE tunnel with tunnel protection and OSPF to synchronize the routing between the head and branch office.

5.1.1 Configuring Tunnel for Branch Office using DHCP acquired IP Address

In this example the branch office is using SR 2330 with Ethernet 0/5 as its public DHCP acquired IP address and Ethernet 0/6 as its trusted side. The default route will be provided by DHCP and OSPF will be configured over the tunnel and redistributing static routes.

The tunnel source is set to the Ethernet name that is acquiring the DHCP address. The tunnel destination is set to the head office IP Address.

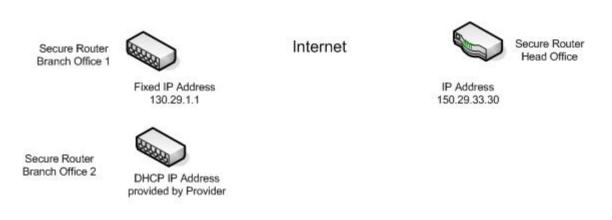


Figure 1 Network Topology with each Branch Office using a IPSec Protected Tunnel to the Head Office

©2012 Avaya Inc. Rev: 1.0 (30-April 2012) Page 12 of 30

Procedure Steps

Step	Action
1	To enter the configuration mode, enter: configure terminal
2	Configure the Ethernet for DHCP, enter: interface ethernet 0/5
3	Specify to request default route, enter: dhcp-client request-default-router
4	Specify to enable dhcp, enter: dhcp-client enable
5	To exit the Ethernet configuration, enter:
6	Specify tunnel configuration, enter: interface tunnel main
7	Specify the tunnel IP Address, enter: ip address 20.1.1.2 24
8	Specify tunnel source address, enter:
9	tunnel source ethernet0/5 Specify tunnel destination address, enter: tunnel destination 150.29.30.30
10	Specify tunnel type as GRE, enter: tunnel mode gre
11	Specify tunnel protection, enter: tunnel protection main key123
12	Specify tunnel as untrusted firewall interface, enter: crypto untrusted
13	To exit the tunnel configuration, enter:
14	Configure firewall internet zone, enter:
15	Specify Ethernet 0/5 on the untrusted side, enter:
16	Specify tunnel on the untrusted side, enter:
17	Specify policy to allow icmp, enter: policy 10 in permit protocol icmp self
18	To exit the policy, enter:
19	Specify policy to allow ike, enter: policy 11 in permit service ike self
20	To exit the policy, enter:
21	To exit the firewall internet, enter:
22	Configure firewall corp zone, enter:
23	firewall corp Specify Ethernet 0/6 on the trusted side, enter:
24	interface ethernet0/6 To exit the firewall corp, enter:
25	exit Specify router-id for ospf, enter: router-id 2.2.2.2

Specify OSPF configuration, enter:
 router ospf 1
 Specify the tunnel network, enter:
 network 20.1.1.0 0.0.0.255 area 0
 Specify redistribute static, enter:
 redistribute static
 To exit the OSPF configuration, enter:
 exit
 To exit the configuration mode, enter:
 exit

5.1.2 Configuring Tunnel for Head Office

In this example the head office is using SR 4134 with Ethernet 0/1 as its untrusted interface that the tunnel is configured on and Ethernet 0/2 is the interface that OSPF interfaces with the head office OSPF network. The default route is 150.29.30.1 which is over Ethernet 0/1.

The tunnel destination is set 0.0.0.0 (allow any to connect) and the tunnel source is set to the IP Address of Ethernet 0/1.

Procedure Steps

Step	
1	To enter the configuration mode, enter: configure terminal
2	Configure the untrusted Ethernet, enter: i nt erface ethernet 0/1
3	Specify to request default route, enter: ip address 150.29.30.30 29
4	To exit the Ethernet configuration, enter:
5	Configure the trusted Ethernet, enter: interface ethernet 0/2
6	Specify to request default route, enter: ip address 130.20.1.1 24
7	To exit the Ethernet configuration, enter:
8	Specify the default static route, enter: i p rout e 0. 0. 0. 0/0 150. 29. 30. 1
9	Specify tunnel configuration, enter: interface tunnel branch2
10	Specify the tunnel IP Address, enter: ip address 20.1.1.1 24
11	Specify tunnel source address, enter: tunnel source 150.29.30.31
12	Specify tunnel destination address, enter: tunnel destination 0.0.0.0
13	Specify tunnel type as GRE, enter: tunnel mode gre
14	Specify tunnel protection, enter: tunnel protection br2 key123
15	Specify tunnel as untrusted firewall interface, enter:

	crypto untrusted
16	To exit the tunnel configuration, enter: exit
17	Configure firewall internet zone, enter: firewall internet
18	Specify Ethernet 0/1 on the untrusted side, enter: interface ethernet0/1
19	Specify tunnel on the untrusted side, enter: interface branch2
20	Specify policy to allow icmp, enter: policy 10 in permit protocol icmp self
21	To exit the policy, enter: exit
22	Specify policy to allow ike, enter: policy 11 in permit service ike self
23	To exit the policy, enter: exit
24	To exit the firewall internet, enter: exit
25	Configure firewall internet zone, enter: firewall corp
26	Specify Ethernet 0/2 on the trusted side, enter: interface ethernet0/2
27	To exit the firewall corp, enter: exit
28	Specify router-id for ospf, enter: router-id 1.1.1.1
29	Specify OSPF configuration, enter: router ospf 1
30	Specify the tunnel network, enter: network 20.1.1.0 0.0.0.255 area 0
31	Specify the corp network, enter: network 130.20.1.0 0.0.0.255 area 0
32	To exit the OSPF configuration, enter:
33	To exit the configuration mode, enter:

5.2 OSPF Inbound Filtering using Route Maps with Distribution List

OSPF supports route maps to filter outgoing routes that are sent by the redistribute command under the ospf section in the prior releases. This release enables the administrator to filter incoming OSPF routes received and block them from being set into the routing table. The new command distribution-list under the ospf section accepts a route map to specify what routes to accept. Both commands accept route-map which consists of access list entries of routes to permit and deny.

In this example the head office is using SR 4134 with Ethernet 0/1 as its untrusted interface that have a number of site to site VPN tunnels are configured on and Ethernet 0/2 is the interface that OSPF interfaces with the head office OSPF network. The remote networks on the VPN site to site tunnels need to be blocked so that the VPN site to site tunnels work.

Procedure Steps

Step	Action
1	To enter the configuration mode, enter: configure terminal
2	Configure the untrusted Ethernet, enter: i nterface ethernet 0/1
3	Specify to request default route, enter: ip address 150.29.30.30 29
4	To exit the Ethernet configuration, enter:
5	Configure the trusted Ethernet, enter:
6	Specify to request default route, enter: ip address 130.20.1.1 24
7	To exit the Ethernet configuration, enter:
8	Specify the default static route, enter: i p rout e 0. 0. 0. 0/0 150. 29. 30. 1
9	Specify a network to block in the access list, enter: access-list ospf-list-in deny 133. 22. 1. 0/24
10	Specify a different network to block in the access list, enter: access-list ospf-list-in deny 133. 23. 1. 0/24
11	Specify a different network to block in the access list, enter: access-list ospf-list-in deny 133. 24. 1. 0/24
12	Specify allowing the rest through in the access list, enter: access-list ospf-list-in permit any
13	Specify the route map, enter: route-map ospf-filter-in permit 1
14	Specify the access list to match against, enter: match ip address ospf-list-in
15	To exit the route map configuration, enter:
16	Specify router-id for ospf, enter: router-id 1.1.1.1
17	Specify OSPF configuration, enter: router ospf 1
18	Specify the corp network, enter: network 130.20.1.0 0.0.255 area 0
19	Specify the routes to block, enter: distribution-list route-map ospf-filter-in in
20	To exit the OSPF configuration, enter:
21	To exit the configuration mode, enter:

5.3 Secure FTP client (SFTP)

A Secure FTP client is able under the new command sftp. There is support for only one SFTP client at a time and it does not support ipv6 addresses. The sftp command is at the root of the command tree. The syntax is as follows:

sftp hostname <cipher> <mac> <port>

Keyword Parameter	Value	Type	Default Value
hostname	IP Address or	Required	none
	username@IP Address		
	If only IP Address is		
	specified assumes		
	logged in username.		
cipher	none	Optional	aes128-cbc
	des		
	blowfish		
	blowfish-cbc		
	3des-cbc		
	aes128-cbc		
	aes192-cbc		
	aes256-cbc		
mac	hmac-sha1	Optional	hmac-sha1
	hmac-sha1-96		
	hmac-md5		
	hmac-md5-96		
	hmac-ripemd160		
port	1 - 65535	Optional	22

5.4 SNMP Version 3

The SNMP Version 3 has the following restrictions:

- To configure SNMP Server requires the administrator to be Level -1 User.
- SNMP sets are not supported
- ACLv6 views are not supported
- The maximum recommend number of SNMP communities, users, groups, target addresses, and views are:

1.	Community	16
2.	Users	16
3.	Groups	32
4.	Target Addresses	10
5.	Views	512

SNMP configuration commands have many common parameters that specify a profile for both accessing and sending traps to a client. The commands are the same for all versions of SNMP except the community command for version 1 and 2c replaces the user command.

The common parameters are as follows and used in the sample configurations following:

SECURITY_NAME - defined in the user command for snmp version 3 and in the community command in both version 1 and 2c. This name is used in the group and target_params commands.

GROUP_NAME is defined in the group command. This value is used in the access-group command.

SNMP_VERSION is defined in the group command. This value is used in the access-group and target-params. The possible values are v1, 2c or v3.

SECURITY_LEVEL is defined in the access-group command. This value is used in the target-params command. The possible values are NoAuth, AuthNoPriv, or AuthPriv. SNMP versions 1 and 2c only support NoAuth. The auth and priv configuration is specified in the user command.

TARGET_PARAM_NAME is specified in the target-params command. This value is used in the target-address and notify-profile command.

NOTIFY TAG is defined in the notify command. This value is used in the target-address command.

PROFILE NAME is defined in the notify-profile command. This value is used in notify-filter.

VIEW_NAME is defined in the access-group command. This value is used in the view command. The VIEW_NAME values can be different in the read, write_view(not supported), and notify_view parameter of the access-group command and define separate read and notify view inclusions and exclusions depending on the VIEW_NAME.

Sample SNMP Version 1 or 2c configuration

community community_name SECURITY_NAME
group GROUP_NAME SECURITY_NAME SNMP_VERSION
access-group GROUP_NAME SNMP_VERSION SECURITY_LEVEL read VIEW_NAME write-view VIEW_NAME notify-view
VIEW_NAME
target-params TARGET_PARAM_NAME SECURITY_NAME SNMP_VERSION SECURITY_LEVEL
target-address user1addr 47.152.227.120 TARGET_PARAM_NAME NOTIFY_TAG timeout 1500 retry-count 3
notify user1tag NOTIFY_TAG traps
notify-profile TARGET_PARAM_NAME PROFILE_NAME
notify-filter PROFILE_NAME 1.3.6.1 included
view VIEW_NAME 1.3 include
view VIEW_NAME 1.3.6.1.3.5 exclude
enable traps enable-all

Sample SNMP Version 3 configuration

user SECURITY_NAME
group GROUP_NAME SECURITY_NAME SNMP_VERSION
access-group GROUP_NAME SNMP_VERSION SECURITY_LEVEL read VIEW_NAME write-view VIEW_NAME notify-view
VIEW_NAME
target-params TARGET_PARAM_NAME SECURITY_NAME SNMP_VERSION SECURITY_LEVEL
target-address user1addr 47.152.227.120 TARGET_PARAM_NAME NOTIFY_TAG timeout 1500 retry-count 3
notify user1tag NOTIFY_TAG traps
notify-profile TARGET_PARAM_NAME PROFILE_NAME
notify-filter PROFILE_NAME 1.3.6.1 included
view VIEW_NAME 1.3 include
view VIEW_NAME 1.3.5.1.3.5 exclude
enable traps enable-all

Under SNMP version 3 the SNMP user accounts can be setup with different security and authentication methods. The following type of users can be setup:

- User with noAuth (used for v1 and 2vC)
- User with shalauthNoPriv
- User with md5authNoPriv
- User with shalauthdesPriv
- User with md5authdesPriv
- User with sha1auth3desPriv
- User with md5auth3desPriv
- User with sha1authaes128Priv
- User with md5authaes128Priv

Below show sample configuration for a SNMP user setup for each of these modes:

Community_name USER_NAME group GROUP_NAME USER_NAME SNMP VERSION access-group GROUP_NAME SNMP_VERSION SECURITY_LEVEL_read VIEW_NAME write-view VIEW_NAME notify-view VIEW_NAME target-params TARGET_PARAM_NAME USER_NAME SNMP_VERSION SECURITY_LEVEL target-address user1addr 47.152.227.120 TARGET_PARAM_NAME NOTIFY_TAG timeout 1500 retry-count 3 notify user1tag NOTIFY_TAG traps notify-profile TARGET_PARAM_NAME PROFILE_NAME notify-filter PROFILE_NAME 1.3.6.1 included view VIEW_NAME 1.3 in enable traps enable-all user USER_NAME group GROUP_NAME USER_NAME SNMP_VERSION access-group GROUP_NAME SNMP_VERSION SECURITY_LEVEL read VIEW_NAME write-view VIEW_NAME notify-view VIEW NAME target-params TARGET_PARAM_NAME USER_NAME SNMP_VERSION SECURITY_LEVEL

target-address user1addr 47.152.227.120 TARGET_PARAM_NAME NOTIFY_TAG timeout 1500 retry-count 3 notify user1tag NOTIFY_TAG traps notify-profile TARGET_PARAM_NAME PROFILE_NAME notify-filter PROFILE_NAME 1.3.6.1 included view VIEW_NAME 1.3 in enable traps enable-all

User with noAuth:

______ group guser1 user1 v3 access-group guser1 v3 noAuth read two write-view two notify-view two

target-params user1params user1 v3 noAuth target-address user1addr 47.152.227.120 user1params user1tag timeout 1500 retry-count 3 notify user1tag user1tag traps notify-profile user1params user1profile notify-filter user1profile 1.3.6.1 included view two 1.3 in

enable traps enable-all

User with shalauthNoPriv:

user usersha1 auth-type sha1 auth-password shapassword group gusersha1 usersha1 v3 access-group gusersha1 v3 authNoPriv read two write-view two notify-view two target-params usersha1params usersha1 v3 authNoPriv

target-address usersha1addr 47.152.227.120 usersha1params usersha1tag timeout 1500 retry-count 3 notify usersha1tag usersha1tag traps notify-profile usersha1params usersha1profile notify-filter usersha1profile 1.3.6.1 included enable traps enable-all

User with md5authNoPriv:

user usermd5 auth-type md5 auth-password md5password group gusermd5 usermd5 v3 access-group gusermd5 v3 authNoPriv read two write-view two notify-view two target-params usermd5params usermd5 v3 authNoPriv target-address usermd5addr 47.152.227.120 usermd5params usermd5tag timeout 1500 retry-count 3 notify usermd5tag usermd5tag traps notify-profile usermd5params usermd5profile

notify-filter usermd5profile 1.3.6.1 included enable traps enable-all

User with shalauthdesPriv:

user usersha1des auth-type sha1 auth-password shapassword encrypt-type des encrypt-password despassword group gusersha1des usersha1des v3 access-group gusersha1des v3 authPriv read two write-view two notify-view two target-params usersha1desparams usersha1des v3 authPriv

target-address usersha1desaddr 47.152.227.120 usersha1desparams usersha1destag timeout 1500 retry-count 3 notify usersha1destag usersha1destag traps

notify-profile usersha1desparams usersha1desprofile

notify-filter usersha1desprofile 1.3.6.1 included

enable traps enable-all

User with md5authdesPriv:

user usermd5des auth-type md5 auth-password md5password encrypt-type des encrypt-password despassword group gusermd5des usermd5des v3

access-group gusermd5des v3 authPriv read two write-view two notify-view two

target-params usermd5desparams usermd5des v3 authPriv

target-address usermd5desaddr 47.152.227.120 usermd5desparams usermd5destag timeout 1500 retry-count 3 notify usermd5destag usermd5destag traps

notify-profile usermd5desparams usermd5desprofile

notify-filter usermd5desprofile 1.3.6.1 included

enable traps enable-all

User with shalauth3desPriv:

user usersha13des auth-type sha1 auth-password shapassword encrypt-type 3des encrypt-password 3despassword group gusersha13des usersha13des v3

access-group gusersha13des v3 authPriv read two write-view two notify-view two

target-params usersha13desparams usersha13des v3 authPriv

target-address usersha13desaddr 47.152.227.120 usersha13desparams usersha13destag timeout 1500 retry-count 3 notify usersha13destag usersha13destag traps

notify-profile usersha13desparams usersha13desprofile

notify-filter usersha13desprofile 1.3.6.1 included

enable traps enable-all

User with md5auth3desPriv:

user usermd53des auth-type md5 auth-password md5password encrypt-type 3des encrypt-password 3despassword group gusermd53des usermd53des v3

access-group gusermd53des v3 authPriv read two write-view two notify-view two

target-params usermd53desparams usermd53des v3 authPriv

target-address usermd53desaddr 47.152.227.120 usermd53desparams usermd53destag timeout 1500 retry-count 3

notify usermd53destag usermd53destag traps

notify-profile usermd53desparams usermd53desprofile

notify-filter usermd53desprofile 1.3.6.1 included

enable traps enable-all

User with shalauthaes128Priv:

user usersha1aes128 auth-type sha1 auth-password shapassword encrypt-type aes128 encrypt-password aes128password group gusersha1aes128 usersha1aes128 v3

access-group gusersha1aes128 v3 authPriv read two write-view two notify-view two

target-params usersha1aes128params usersha1aes128 v3 authPriv

target-address usersha1aes128addr 47.152.227.120 usersha1aes128params usersha1aes128tag timeout 1500 retry-count 3

notify usersha1aes128tag usersha1aes128tag traps

notify-profile usersha1aes128params usersha1aes128profile

notify-filter usersha1aes128profile 1.3.6.1 included

enable traps enable-all

User with md5authaes128Priv:

user usermd5aes128 auth-type md5 auth-password md5password encrypt-type aes128 encrypt-password aes128password group gusermd5aes128 usermd5aes128 v3

access-group gusermd5aes128 v3 authPriv read two write-view two notify-view two

target-params usermd5aes128params usermd5aes128 v3 authPriv

target-address usermd5aes128addr 47.152.227.120 usermd5aes128params usermd5aes128tag timeout 1500 retry-count 3 notify usermd5aes128tag usermd5aes128tag traps

notify-profile usermd5aes128params usermd5aes128profile

notify-filter usermd5aes128profile 1.3.6.1 included

enable traps enable-all

5.4.1 New CLI SNMP Configuration Commands

The SNMP configuration for version v1, 2c does not specify any user configuration. But must still setup the group access and

5.4.1.1 community

This command configures a v1/v2 community string and aligns it to a security name

Syntax

[no] community [community-name] [security-name]

Keyword Parameter	Value	Type	Default Value
community-name	String	Required	none
	max 32 characters		
security-name	String	Required	none
	max 32 characters		

Example:

SR/configure/snmp-server#community public publicsec-name

5.4.1.2 engine-id

This command configures a local or a remote engine id. The remote engine id are used to allow SNMP v3 informs to be set up to a remote NMS

Syntax

[no] engine-id [local [id]] | [remote [id] [remote host ipAddr]]

Keyword Parameter	Value	Type	Default Value
Type	Local	Required	none
	remote		
id	String	Required	none
	min 5 characters		
	max 32 characters		
Ip Addresss	Ip address in dot	Required	none
	format (a.b.c.d)	for remote type	
remote-port	min 1024	Optional	162
	max 65535	for remote type	

Example:

SR/configure/snmp-server#engine-id local 000c0a0a0ac8 SR/configure/snmp-server#engine-id remote 000c0a0a0a2f 10.4.4.3

5.4.1.3 user

Add a v3 user

Syntax:

[no] user [user name] <auth-type {md5 | sha1} [auth-pass] [password] < encrypt-type {aes128 | des | 3des} [encrypt-pass] [password] > <engineid [remote id] >

Keyword Parameter	Value	Type	Default Value
security-name	String max 32 characters	Required	none
auth-type	md5 sha1	Optional	none
auth-password	String max 32 characters	Optional	none Requires auth-type to be specified if used
encrypt-type	des 3des aes128	Optional	none
encrypt-password	String max 32 characters	Optional	none Requires encrypt-type to be specified if used
engineid	String max 64 characters	Optional	none

Example:

SR/configure/snmp-server#user bill

SR/configure/snmp-server#user nancy auth-type md5 auth-pass 456pass1

SR/configure/snmp-server#user tasman engineid 000c0a0a0a98

5.4.1.4 group

Assign a v1/v2 security name or a v3 user to a group

Syntax:

[no] group [group name] [security name | user name] [version]

Keyword Parameter	Value	Type	Default Value
groupname	String	Required	none
	max 32 characters		
username	String	Required	none
	Max 32 characters		
snmp version	v1	Required	none
	v2c		
	v3		

Example:

SR/configure/snmp-server#group v1group publicsec-name v1 SR/configure/snmp-server#group v3group v3

5.4.1.5 access-group

Define access level to a group

Syntax:

[no] access-group [group name] [version] [security-level] <read-view [viewname] > <write-view [viewname]> <notify-view [viewname]> <acl-view [IP rule set name]>

Keyword Parameter	Value	Type	Default Value
groupname	String max 32 characters	Required	none
snmp version	v1 v2c v3	Required	none
security level	noAuth authNoPriv authPriv	Required	none
read-view	String max 32 characters	Optional	none
write-view	String max 32 characters	Optional	none
notify-view	String max 32 characters	Optional	none
acl-view	String max 20 characters	Optional	none

Example:

SR/configure/snmp-server#access-group v1group v1 noAuth read-view test notify-view testnotify SR/configure/snmp-server#access-group v3group v3 authNoPriv read-view v3view notify-view v3view acl-view ipv4acl

5.4.1.6 view

Configure a view subtree

Syntax:

[no] view [view-name] [OID or the sub-tree] [option]

Keyword Parameter	Value	Type	Default Value
viewname	String	Required	none
	max 32 characters		
sub-tree	OID or SNMP sub-tree	Required	none
action	excluded	Required	none
	included		

Example:

SR/configure/snmp-server#view test iso included

SR/configure/snmp-server#view test ipAddrTable excluded

SR/configure/snmp-server#view test system excluded

SR/configure/snmp-server#view test 1.3.6.1.2.1.1.0 included

5.4.1.7 target-address

Configure target address attributes for traps/notifications and informs

Syntax:

[no] target-address [target addr name] [NMS ip] [target params name] [target tag name] <retry-count> <timeout> < NMS port>

Keyword Parameter	Value	Type	Default Value
groupname	String	Required	none
	max 32 characters		
Address-name	String	Required	none
	Max 32 characters		
IP Addresss	IP address in dot	Required	none
	format (a.b.c.d)		
param-name	String	Required	none
	max 32 characters		
tag-list	String	Required	none
	max 32 characters		
timeout	String	Optional	1500
	max 32 characters		
retry-count	String	Optional	3
	max 20 characters		
remote-port	min 1024	Optional	162
	max 65535		

Example:

SR/configure/snmp-server#target-address Addr1 10.1.1.1 Param1 BranchDevice

5.4.1.8 target-params

Configure target parameters

Syntax:

[no] target-params [target params name] [v1/v2 security name / v3 username] [version] [security-level]

Keyword Parameter	Value	Type	Default Value
param-name	String	Required	none
	max 32 characters		
security-name	String		
snmp version	v1	Required	none
	v2c		
	v3		
security-level	noAuth	Required	none
	authNoPriv		
	authPriv		

Example:

SR/configure/snmp-server#target-params Param1 nortel v3 authNoPriv

5.4.1.9 notify

Define notify parameters

Syntax:

[no] notify [notify name] [target tag] [traps | informs]

Keyword Parameter	Value	Type	Default Value
notify-name	String	Required	none
	max 32 characters		
notify-tag	String	Required	none
	max 32 characters		
type-value	traps	Required	none
	inform		

Example:

SR/configure/snmp-server#notify Notification BranchDevice traps

5.4.1.10 notify-profile

Define profiles for a notify

Syntax:

[no] notify-profile [target params name] [profile name]

Keyword Parameter	Value	Type	Default Value
--------------------------	-------	------	---------------

params-name	String max 32 characters	Required	none
profile-name	String max 32 characters	Required	none

Example:

SR/configure/snmp-server#notify-profile Param1 Profile1

5.4.1.11 notify-filter

Filter rules for notify

Syntax:

[no] notify-filter [profile name] [OID / subtree] [option]

Keyword Parameter	Value	Type	Default Value
Profile-name	String	Required	none
	max 32 characters		
sub-tree	OID or SNMP sub-tree	Required	none
		_	
action	excluded	Required	none
	included	_	

Example:

SR/configure/snmp-server#notify-filter Profile1 1.3.6.1 included

5.4.2 CLI Display Commands

show snmp communities	Displays the communities and associated security name
show snmp target-address	Displays the Target address attributes
show snmp views	Displays all the views configured
show snmp view [view name]	Displays the specified view configured
show snmp target-params	Displays info about the target parameters
show snmp users	Displays the information of all users configured with type of authentication / encryption if any.
show snmp access-group	Displays access-privilege of groups configured
show snmp user-groups	Display the association between groups and v1/v2 communities or v3 usernames.

show snmp engine-id	Display the identification of the local SNMP engine and all remote engines that have been configured on the router.
show snmp notify	List of notify tables
show snmp notify-filter	Notify table filters configured
show snmp notify-profile	Profiles of notify table

5.5 Proxy ARP support over Vlans

Proxy ARP is now configurable for Vlans and is configured under the ip sub-tree of vlan configuration. A new cli command "show ip proxy-arp" will display the interfaces configured with proxy-arp.

5.5.1 Cli Commands

5.5.1.1 ip proxy-arp

This command configures proxy arp under both Ethernet and vlan interfaces. The ip proxy_arp command under the Ethernet interface has been deprecated. The ip proxy_arp command will still be accepted and work properly in existing configuration files but the new command ip proxy-arp command will be stored in new configuration files generated with this and future releases.

Syntax

[no] ip proxy-arp

Example:

host/configure/vlan vlan200##ip proxy-arp

5.5.1.2 show ip proxy-arp

This command shows the interfaces that are configured to support proxy-arp

Syntax

show ip proxy-arp

Example:

host #show ip proxy-arp Proxy Arp Interfaces ethernet6 vlan202 host#

6. Problems Resolved in the 10.3.3 Release

Bug Reference	Subsystem	Description
wi00905714	VOIP	Attendant Transfer failed among 12xx & 96xx due to wrong 'Replace' header parse by SSM
wi00951356	VOIP	Attendant Transfer fails between 96x0 phones when Transferor & Transferee are on different transports
wi00954235	VPN	IPTK increments the SDP version in 2000K even if SDP content is same in both 183 and 200
wi00958083	VOIP	Phone Call pickup issue
wi00958136	VPN	Memory leak in firewall related to traffic classified as Other Protocol
wi00960016	VPN	9640 VPN phones connected to SR2330 fail every two weeks
wi00961430	VOIP	SIP to PSTN call transfer not working
wi00961771	Routing	ROUTING warn: NSM: FIB[default:10.50.254.0/24]: Bulk Add FIB in h/w
wi00967348	ACL	Random traffic loss on Ethernet switch card when packet-filters are used
wi00971313	Platform	Bundles flap on 8 port cards in E1 mixed mode
wi00971316	Platform	SR 2330 IIC driver potential lockup given a specific read/write sequence
wi00971321	CLI	SSH connection freezes when "show bgp ipv4" command is executed
wi00971401	GRE	Router crashes when sending large pings across a GRE/protected tunnel with tunnel debug enabled
wi00971695	CLI	SSH connections hang with multiple SSH sessions and various show commands are run
wi00973571	CLI	WAN module configuration syntax example on CLI are invalid
wi00974876	VOIP	Active FXS-FXS call will drop while failback from Failover mode to Normal Mode with SM-6.2
wi00977347	Firewall	Router crashes in NAT
wi00978652	SIP	IKE key can not contain a "n" character, if it does, when you try to save the config it will reboot
wi00979418	SNMP	SNMP does not give the proper value for the IfAlias field under the ifXTable(1.3.6.1.2.1.31.1.1)
wi00979934	VPN	Router becomes unstable with VPN connections when syslog server enabled and debug crypto enabled
wi00981772	BGP	Stale routes redistributed through BGP
wi00983626	CLI	Router console locks when "write mem" and various other commands executed from console
wi00989696	VOIP	isdn to sip call fails when calling party number is not available
wi00990297	VOIP	Prefix based dialing doesn't work when SIP DOMAIN has configured under sip-ua
wi00996695	VRRP	VRRP interface tracking does not work when tracking frame relay bundle
wi00996855	VPN	License error on 1100 and 1200 with SR2330. Nortel phones are treating SR 2330 due to missing header information.
wi01001697	VRRP	VRRP unable to track vlan interfaces
wi01001700	Routing	Static route not working on switch cards in certain cases when static route applied and ip address of the next hop is changed to different physical port
wi01005094	VLAN	LLDP packet causing double-free which corrupts QOS configuration

7. Outstanding Issues

N/A

8. Known Limitations

- The secure_passwords command uses nvram to store the key for encrypting/decrypting the stored passwords in the configuration file. To transfer the system.cfg to another router that has secured passwords, the administrator needs first disable secure passwords by executing a no secure_passwords command and resave the configuration file. This new configuration file can then be loaded on another router and then execute the secure_passwords command and save local to protect the passwords on the new router.
- Wildcard character '%' keeps getting added on the CLI command '"dial-per voice pots-destination pattern" on a save local and reboot

9. Documentation Corrections

• Document Name: Troubleshooting Avaya Secure Router 2330/4134 10.3

Document Number: NN47263-700 04 01

Document Release: 10.3

On page 88 it states "Link Aggregation is supported on the non-CPU Ethernet ports only." However, LACP is supported on all Ethernet ports.

10. Notes

- A new cli command "tcp-seq-except-bgp-self-port" under the dos-protect section of the firewall global settings allows BPG to use MD5 signatures through when tcp-seq-number-predict and tcp-seq-number-range command are set under the dos protect section. It allows for any TCP connection with the BGP destination port of 179 not to have the tcp connection resequenced which causes the MD5 digest to fail.
- ISDN BRI voice bundle with default TE1 mode value of Point to Multipoint will not come up until the bundle is manually changed to point-to point.
- Syntax of rule under "voice translation-rule" was allowing "\+". The <u>backslash</u> (\) was used as an escape character to support "+". Since "+" can be used without the support of "\", use of <u>backslash</u> in the translation rules is redundant and no longer required. Hence backslash (\) is removed from the syntax of rule.

© 2012 Avaya Inc. All Rights Reserved

Notice

While reasonable efforts have been made to ensure that the information in this document is complete and accurate at the time of printing, Avaya assumes no liability for any errors. Avaya reserves the right to make changes and corrections to the information in this document without the obligation to notify any person or organization of such changes.

Documentation disclaimer

Avaya shall not be responsible for any modifications, additions, or deletions to the original published version of this documentation unless such modifications, additions, or deletions were performed by Avaya. End User agree to indemnify and hold harmless Avaya, Avaya's agents, servants and employees against all claims, lawsuits, demands and judgments arising out of, or in connection with, subsequent modifications, additions or deletions to this documentation, to the extent made by End User.

Link disclaimer

Avaya is not responsible for the contents or reliability of any linked Web sites referenced within this site or documentation(s) provided by Avaya. Avaya is not responsible for the accuracy of any information, statement or content provided on these sites and does not necessarily endorse the products, services, or information described or offered within them. Avaya does not guarantee that these links will work all the time and has no control over the availability of the linked pages.

Warrantv

Avaya provides a limited warranty on this product. Refer to your sales agreement to establish the terms of the limited warranty. In addition, Avaya's standard warranty language, as well as information regarding support for this product, while under warranty, is available to Avaya customers and other parties through the Avaya Support Web site: http://www.avaya.com/support
Please note that if you acquired the product from an authorized reseller, the warranty is provided to you by said reseller and not by Avaya.

Licenses

THE SOFTWARE LICENSE TERMS AVAILABLE ON THE AVAYA WEBSITE, http://support.avaya.com/licenseinfo/ ARE APPLICABLE TO ANYONE WHO DOWNLOADS, USES AND/OR INSTALLS AVAYA SOFTWARE, PURCHASED FROM AVAYA INC., ANY AVAYA AFFILIATE, OR AN AUTHORIZED AVAYA RESELLER (AS APPLICABLE) UNDER A COMMERCIAL AGREEMENT WITH AVAYA OR AN AUTHORIZED AVAYA RESELLER. UNLESS OTHERWISE AGREED TO BY AVAYA IN WRITING, AVAYA DOES NOT EXTEND THIS LICENSE IF THE SOFTWARE WAS OBTAINED FROM ANYONE OTHER THAN AVAYA, AN AVAYA AFFILIATE OR AN AVAYA AUTHORIZED RESELLER, AND AVAYA RESERVES THE RIGHT TO TAKE LEGAL ACTION AGAINST YOU AND ANYONE ELSE USING OR SELLING THE SOFTWARE WITHOUT A LICENSE. BY INSTALLING, DOWNLOADING OR USING THE SOFTWARE, OR AUTHORIZING OTHERS TO DO SO, YOU, ON BEHALF OF YOURSELF AND THE ENTITY FOR WHOM YOU ARE INSTALLING, DOWNLOADING OR USING THE SOFTWARE (HEREINAFTER REFERRED TO INTERCHANGEABLY AS "YOU" AND "END USER"), AGREE TO THESE TERMS AND CONDITIONS AND CREATE A BINDING CONTRACT BETWEEN YOU AND AVAYA INC. OR THE APPLICABLE AVAYA AFFILIATE ("AVAYA").

Copyright

Except where expressly stated otherwise, no use should be made of the Documentation(s) and Product(s) provided by Avaya. All content in this documentation(s) and the product(s) provided by Avaya including the selection, arrangement and design of the content is owned either by Avaya or its licensors and is protected by copyright and other intellectual property laws including the sui generis rights relating to the protection of databases. You may not modify, copy, reproduce, republish, upload, post, transmit or distribute in any way any content, in whole or in part, including any code and software. Unauthorized reproduction, transmission, dissemination, storage, and or use without the express written consent of Avaya can be a criminal, as well as a civil offense under the applicable law.

Third Party Components

Certain software programs or portions thereof included in the Product may contain software distributed under third party agreements ("Third Party Components"), which may contain terms that expand or limit rights to use certain portions of the Product ("Third Party Terms"). Information regarding distributed Linux OS source code (for those Products that have distributed the Linux OS source code), and identifying the copyright holders of the Third Party Components and the Third Party Terms that apply to them is available on the Avaya Support Web site: http://support.avaya.com/Copyright