



Avaya Solution & Interoperability Test Lab

Application Notes for RedSky Technologies E911 Manager and Emergency On-site Notification (EON) with Avaya Communication Manager – Issue 1.0

Abstract

These Application Notes describe a compliance-tested configuration consisting of Avaya Communication Manager and the RedSky Technologies E911 Manager with Emergency On-site Notification (EON). The RedSky E911 Manager retrieves emergency numbering and location information for a station from a PBX. The RedSky E911 Manager validates, reformats, and uploads the information to public Automatic Location Identification (ALI) databases. EON is an add-on module to the RedSky E911 Manager that detects emergency calls originated by PBX stations and notifies EON clients when such calls are detected. During compliance testing, the RedSky E911 Manager successfully retrieved station emergency numbering and location information after Avaya Communication Manager stations were added, deleted, and changed. In addition, the RedSky EON server successfully detected emergency calls placed by Avaya Communication Manager stations and notified EON clients of such calls.

Information in these Application Notes has been obtained through DevConnect compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

1. Introduction

These Application Notes describe a compliance-tested configuration consisting of Avaya Communication Manager and the RedSky Technologies E911 Manager with Emergency On-site Notification (EON). The RedSky E911 Manager retrieves emergency numbering and location information for a station from a PBX. The RedSky E911 Manager validates, reformats, and uploads the information to public Automatic Location Identification (ALI) databases. When a Public Safety Answering Point (PSAP) receives an Enhanced 911 (E911) call, the PSAP searches the ALI databases to obtain the specific address/location associated with the Auto Number Identification (ANI) or Emergency Location Identification Number (ELIN). EON is an add-on module to the RedSky E911 Manager that detects emergency calls originated by PBX stations and notifies EON clients and other notification subscribers when such calls are detected.

Figure 1 illustrates a sample configuration consisting of:

- Avaya S8720, S8500, S8300 Servers
- Avaya G650 and G350 Media Gateways
- Avaya IP, digital, and analog telephones
- RedSky E911 Manager primary and backup servers

The compliance testing focused on verifying the generation of the ALI records and not on the transfer of ALI records to ALI databases.

The RedSky E911 Manager retrieves station numbering and location information from Avaya Communication Manager at user defined intervals. When an Avaya Communication Manager telephone originates an E911 call, an entry is created in the Emergency log. The RedSky EON server service running on the RedSky server monitors the Emergency log to detect the E911 calls and notifies all EON clients of the call.

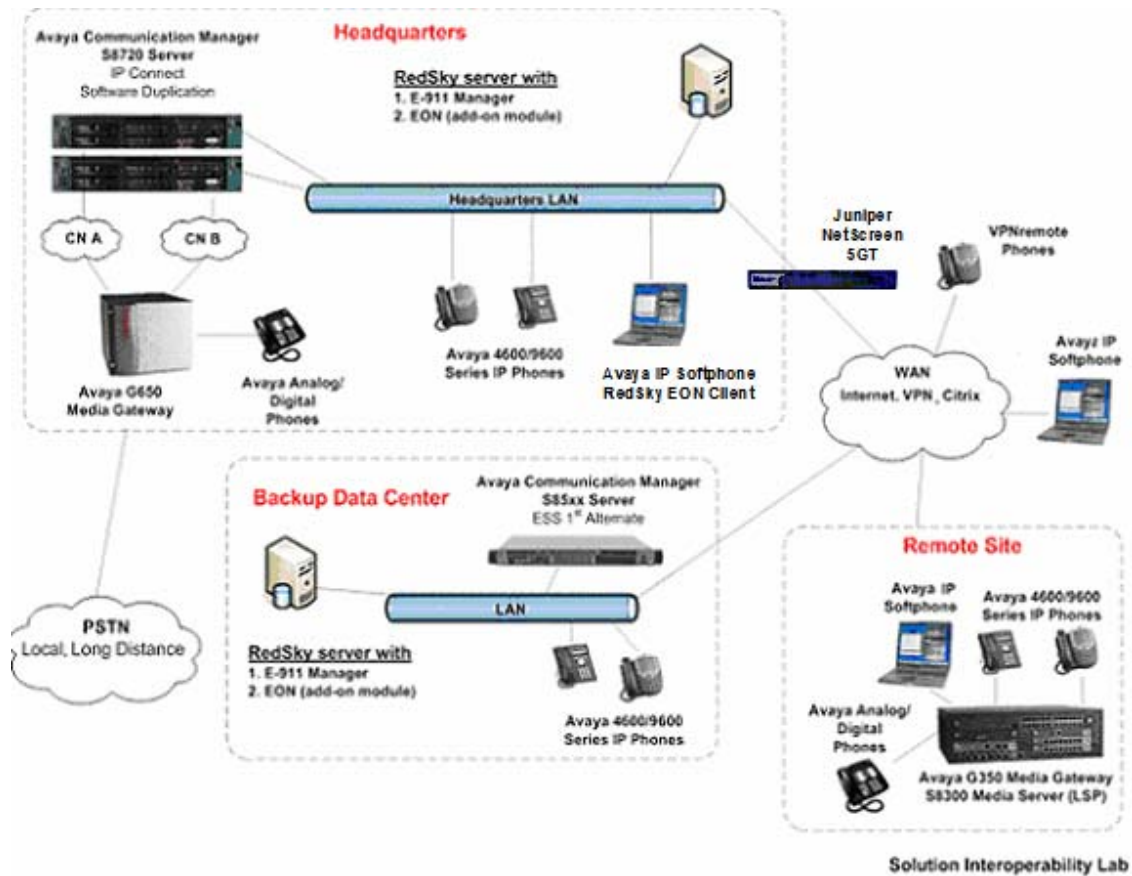


Figure 1 – Sample Configuration

2. Equipment and Software Validated

The following equipment and version were used for the sample configuration provided:

Equipment	Version
Avaya Communication Manager <ul style="list-style-type: none">- Avaya S8720 Servers- Avaya S8500 Server- Avaya S8300 Server	5.0 (R015x.00.0.825.4) Headquarter ESS LSP
Avaya G650 Media Gateway <ul style="list-style-type: none">- IPSI (TN2312BP)- C-LAN (TN799DP)- MedPro (TN2602AP)	HW15 FW039 HW01 FW156 HW02 FW033
Avaya 4600 Series H.323 Phones	2.8
Avaya G350 Media Gateway	27.26.0
Avaya 9600 Series H.323 Phones	1.5
Avaya IP Softphone	6.0.0.25
Avaya 6211 Analog Phone	---
Avaya 2420 Digital Phone	---
Juniper NetScreen 5GT	5.3.0r2.0
RedSky Technologies <ul style="list-style-type: none">- E911 Manager- EON Server	Windows 2003 Server Standard Edition with SP2 5.4.2 5.4.2
RedSky Technologies <ul style="list-style-type: none">- EON Client	Windows XP Professional with SP2 5.4.2

3. Configure Avaya Communication Manager

This section describes the steps for configuring IP registration logging, the public/unknown numbering formats and stations with location information (e.g., room, floor, building), System Access Terminal (SAT) access for the RedSky servers, and the ARS dial plan for alerts. The commands shown were issued from the SAT.

3.1. Enable Logging for IP Registrations

Use the **change logging-levels** command to set the *Log IP Registrations and events* field to **y** on Page 2 of the **Logging Levels** form.

change logging-levels	Page 2 of 2
LOGGING LEVELS	
Log All Submission Failures: y	
Log PMS/AD Transactions: n	
<u>Log IP Registrations and events: y</u>	
Log CTA/PSA/TTI Transactions: y	

3.2. Configure Numbering

Use the **change public-unknown-numbering** command to specify the digits which will be prefixed to the calling party number of outbound calls routed to ISDN trunk groups. In the example shown below, 5-digit calling party numbers that begin with a “2” will be prefixed with “73285” to form a 10-digit calling party number. If the *Trk Grp(s)* field is blank, then the entry applies to all calls originated by “2xxxx” extensions and routed to any ISDN trunk group. The RedSky E911 Manager retrieves the information in this table from Avaya Communication Manager to form 10-digit numbers for stations before uploading to the ALI databases.

change public-unknown-numbering 0					Page	1	of	2
NUMBERING - PUBLIC/UNKNOWN FORMAT								
Ext	Ext	Trk	CPN	Total				
Len	Code	Grp(s)	Prefix	CPN				
				Len				
5	2		73285	10	Total Administered: 4 Maximum Entries: 9999			
5	4			5				
5	5			5				
5	49		73224	10				

3.3. Define Site Data

Use the **change site-data** command to define the values that may be used for the *Building* field on the **station** form.

change site-data					Page	1	of	4
SITE DATA USER DEFINITION								
VALID BUILDING FIELDS								
BLD-ESS								
BLD-LSP								
BLD-MAIN								
RMT-HOME								

On Page 3, define the values that may be used for the *Floor* field on the **station** form.

change site-data					Page	3	of	4
SITE DATA USER DEFINITION								
VALID FLOOR FIELDS								
69-WOOD-CT								
FLR-EC500								
FLR-ESS								
FLR-LSP								
FLR-MAIN								

3.4. Configure Station Location Information

Use the **change station n** command, where **n** is an existing station. On Page 1 of the **station** form, enter a *Name* if one has not been entered yet.

change station 23000	STATION	Page 1 of 5
Extension: 23000	Lock Messages? n	BCC: 0
Type: 4625	Security Code: 1234	TN: 1
Port: S00142	Coverage Path 1:	COR: 1
Name: HQ 9630	Coverage Path 2:	COS: 1
	Hunt-to Station:	
STATION OPTIONS	Time of Day Lock Table:	
Loss Group: 19	Personalized Ringing Pattern: 1	
Speakerphone: 2-way	Message Lamp Ext: 23000	
Display Language: english	Mute Button Enabled? y	
Survivable GK Node Name:	Expansion Module? n	
Survivable COR: internal	Media Complex Ext:	
Survivable Trunk Dest? y	IP SoftPhone? y	
	IP Video Softphone? n	
	Customizable Labels? y	

On Page 2 of the **station** form, if external callers can reach the station extension directly, set the *Emergency Location Ext* field to the station extension (default). If not, set the *Emergency Location Ext* field to the extension of a DID station. The *Emergency Location Ext* is used, along with any modifications defined in the **public-unknown-numbering** form (see Section 3.2), to form the Calling Party Number for an outbound 911 call and provides the PSAP with a direct call back number. The *Always Use* field should be set to **y**, so that the *Emergency Location Ext* is always used to form the Calling Party Number. The RedSky E911 Manager does not currently consider the *Always Use* parameter.

change station 23000		Page 2 of 5
STATION		
FEATURE OPTIONS		
LWC Reception: spe	Auto Select Any Idle Appearance? n	
LWC Activation? y	Coverage Msg Retrieval? y	
LWC Log External Calls? n	Auto Answer: none	
CDR Privacy? n	Data Restriction? n	
Redirect Notification? y	Idle Appearance Preference? n	
Per Button Ring Control? n	Bridged Idle Line Preference? n	
Bridged Call Alerting? n	Restrict Last Appearance? y	
Active Station Ringing: single		
H.320 Conversion? n	EMU Login Allowed? y	
Service Link Mode: as-needed	Per Station CPN - Send Calling Number?	
Multimedia Mode: enhanced		
MWI Served User Type:	Audible Message Waiting? n	
AUDIX Name:	Display Client Redirection? n	
	Select Last Used Appearance? n	
	Coverage After Forwarding? s	
	Multimedia Early Answer? n	
	Direct IP-IP Audio Connections? y	
	IP Audio Hairpinning? n	
Emergency Location Ext: 23000		Always Use? y

On Page 3 of the **station** form, enter location information for *Room*, *Floor*, and *Building*. The valid *Floor* and *Building* values that may be entered were defined in Section 3.3.

change station 23000		Page 4 of 5
STATION		
SITE DATA		
Room: ROOM 123	Headset? n	
Jack:	Speaker? n	
Cable:	Mounting: d	
Floor: FLR-MAIN	Cord Length: 0	
Building: BLD-MAIN	Set Color:	
ABBREVIATED DIALING		
List1:	List2:	List3:
BUTTON ASSIGNMENTS		
1: call-appr	5: ec500	Timer? n
2: call-appr	6:	
3: call-appr	7:	
4:	8:	

3.5. Configure IP Node Names

Use the **change node-names ip** command to create node names (e.g., **RedSky1** and **RedSky2**) and enter the IP addresses (e.g., **9.1.1.55** and **9.1.1.56**) for the RedSky E911 servers. Note the node-name and IP address of the C-LAN board which will be used by E911 Manager to connect and retrieve station and location information from Avaya Communication Manager.

change node-names ip		Page 1 of 2
IP NODE NAMES		
Name	IP Address	
AES1	9.1.1.50	
CLAN-01A02	9.1.1.8	
CLAN-01B02	9.1.1.9	
CLAN-RETAIL	30.1.1.4	
FCSWinsuite	9.1.1.203	
GVT-S8300-LSP	9.1.4.2	
MedPro-01A03	9.1.1.5	
MedPro-01B07	9.1.1.6	
RedSky1	9.1.1.55	
RedSky2	9.1.1.56	
S8500-ESS	9.1.1.13	
SES1	9.1.1.34	
VAL-01A12	9.1.1.12	
clan-trade	5.1.1.4	
default	0.0.0.0	
govmas1	9.1.1.31	

3.6. Configure IP Services

Use the **change ip-services** command to configure entries for the RedSky E911 servers as follows:

- *Service Type* – Set to **SAT**.
- *Enabled* – Set to **y**.
- *Local Node* – Set to the node name (e.g., **CLAN-01A02**) of the C-LAN in Section 3.5.
- *Local Port* – Set to **5023**.
- *Remote Node* – Set to the node names (e.g., **RedSky1** and **RedSky2**) of the RedSky E911 servers in Section 3.5.
- *Remote Port* – Set to the default value.

change ip-services					Page	1 of	4
IP SERVICES							
Service Type	Enabled	Local Node	Local Port	Remote Node	Remote Port		
PMS		CLAN-01A02	0	FCSWinsuite	5103		
CDR1		CLAN-01A02	0	FCSWinsuite	5050		
SAT	y	CLAN-01A02	5023	RedSky1	0		
SAT	y	CLAN-01A02	5023	RedSky2	0		
AESVCS	y	CLAN-01A02	8765				
AESVCS	y	CLAN-01B02	8765				

3.7. Configure ARS Dial Plan for Alerts

Use the **change ars analysis 911** command to alert for E911 calls. Add an entry to set the *Call Type* to **alrt** for “**911**” calls. If the digit “**9**” is used as the ARS Feature Access Code in Avaya Communication Manager, then add an entry for the Dialed String of “**9911**” with *Call Type* set to **alrt**. These two entries allow the caller to dial either “**911**” or “**9911**” when placing a 911 call.

change ars analysis 911							Page 1 of 2
ARS DIGIT ANALYSIS TABLE							
Location: all							Percent Full: 1
Dialed String	Total Min	Total Max	Route Pattern	Call Type	Node Num	ANI Reqd	
911	3	3	1	alrt		n	
976	7	7	deny	hnpa		n	
9911	4	4	1	alrt		n	
						n	
						n	
						n	
						n	
						n	
						n	
						n	
						n	
						n	
						n	
						n	
						n	

3.8. Create Login for RedSky E911 Manager

Launch the Maintenance web interface for Avaya Communication Manager. Click the **Administrator Accounts** option under *Security* on the left half of the screen. On the screen that appears (not shown), select the **Add Login** action and the *Privileged Administrator* radio button. Click **Submit**. On the Administrator Accounts – Add Login screen, enter a *Login name* and *password* that will be used by the Redsky E911 Manager to log into Avaya Communication Manager. The login and password will be used in Step 3 of Section 4. Click **Submit**.

The screenshot shows a web browser window titled "Administrator Accounts -- Add Login: Privileged Administrator - Microsoft Internet Explorer". The address bar shows "https://9.1.1.4/cgi-bin/secAdminAcct/w_adminAcct". The page header includes the Avaya logo and "Integrated Management Maintenance Web Pages". A status bar indicates "This Server: [1] sa-gvt-1 Duplicate Server: [2] sa-gvt-2".

The main content area is titled "Administrator Accounts -- Add Login: Privileged Administrator". Below the title, a message states: "This page allows you to add a login that is a member of the **SUSERS** group. This login has the greatest access privileges in the system next to root."

The form contains the following fields and options:

- Login name:
- Primary group:
- Additional groups (profile):
- Linux shell:
- Home directory:
- Lock this account: ☐
- Date after which account is disabled-blank to ignore (YYYY-MM-DD):
- Select type of authentication:
 - ☒ Password
 - ☐ ASG: enter key
 - ☐ ASG: Auto-generate key
- Enter password or key:
- Re-enter password or key:
- Force password/key change on next login:
 - ☐ Yes
 - ☒ No

At the bottom of the form are three buttons: **Submit**, **Cancel**, and **Help**.

4. Configure RedSky E911 Manager

This section provides the steps for configuring the RedSky E911 Manager to retrieve station numbering and location information from Avaya Communication Manager.

1. Launch a web browser and enter <http://<IP address of E911 Manager server>/home.aspx> as the URL and log in with the appropriate credentials. The following *Tasks* list is shown. The tasks listed will change depending on the *Switch Type* selected in Step 7 for the “Define Phone Switch Parameters” task.

Tasks			
1	All Database Providers	Incomplete	
2	Define Phone Switch Connectivity	Incomplete	
3	Company Information	Incomplete	
4	Building Information	Incomplete	
5	Import Data From Phone Switch	Incomplete	
6	Define Phone Switch Parameters	Incomplete	
7	Create DIDs	Incomplete	
8	Create All Records	Incomplete	
9	Review E911 location data	Incomplete	
10	Review Downloaded Stations	Incomplete	

2. From the *Tasks* list, click on **ALI Database Providers** and then click **Add Provider**.

Configure the following parameters:

- *Providers* – Select **AT&T Web** from the drop-down list.
- *Provider Name* – Enter **ATT**.
- *RAS Connections* – Select **test** from the drop-down list.
- *Next Cycle Counter* – Enter **1**.
- *E911 Account* – Enter **test**.
- *E911 Password* – Enter **test**.
- *Customer Code* – Enter **AVAYA**.
- *Company Name* – Enter **AVAYA**.
- *State* – Select **NJ** from the drop-down list.

Click **Save**, then **Done**.

RedSky Technologies - E911 Manager - PSAPProviders - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://9.1.1.55/psaproviders.aspx

Go Links SnagIt

RedSky **E911 Manager** Logout: administrator Version: 5.4.2.18572

E911 Manager EON Administration Reports Help

Quick Links

- Home
- Elin Data
- Reports
- Scheduler

RedSky

- Newsletter
- RedSky Site

ALI Database Providers

Please review/edit data for each ALI DB Provider, or add new via the "Add Provider" button.

ALI Database Providers

Providers	Provider Name	RAS Connections	Dialup Number	Dialup User Name	Dialup Password	Last Cycle Count	Next Cycle Counter	IP Address	IP Port	E911 Account	E911 Password	Customer Code	Customer State Code	Company Name	County ID	State	Com Ports	Third Username	Third Password	Remoting Port
AT&T Web	ATT	test					1			test	test	AVAYA	I (Illinois)	AVAYA		NJ	COM3			

Add Provider Save Done

Local intranet

3. From the **Tasks** list, click on **Define Phone Switch Connectivity**. Click on **Add Phone Switch**. Configure the following parameters:

- *Switch Name* – Enter a name for the switch.
- *Switch Type* – Select **Avaya** from the drop-down list.
- *Login* – Enter the login created in Section 3.8.
- *Password* – Enter the password created in Section 3.8.
- *Software Version* – Select **V15** from the drop-down list.
- *Connection Method* – Select **Network**.
- *PBX IP* – Enter the IP address of the C-LAN board on which the SAT service is enabled (see Section 3.5).
- *PBX Port* – Enter **5023**.
- *EON Settings* – Check to enable EON.

Click **Save**, then **Done**.

PhoneSwitches - Microsoft Internet Explorer

Address: http://9.1.1.55/phoneswitches.aspx

E911 Manager

Logout: administrator
Version: 5.4.2.18572

Quick Links

- Home
- Elin Data
- Reports
- Scheduler

RedSky

- Newsletter
- RedSky Site

Phone Switch Connectivity

Please review/edit data for each phone switch, or add a new phone switch via "Add Phone Switch" button.

Phone Switches

Switch Name	Switch Type	Login	Password	Software Version	Connection Method
TESTLAB	Avaya	redsky3	*****	V15	<input type="radio"/> Dialup <input checked="" type="radio"/> Network

PBX IP: 9.1.1.8 PBX Port: 5023 Connection Type: ☒ Telnet ☐ SSH

EON Settings:

Enabled for EON: ☒

Add Phone Switch Save Done

4. From the **Tasks** list, click on **Company Information**. Enter a *Company Name* and an associated *Company Acronym*. Click on **Add**, then **Done**.

RedSky Technologies - E911 Manager - Companies - Microsoft Internet Explorer

Address: http://9.1.1.55/companies.aspx

E911 Manager Logout: administrator Version: 5.4.2.18572

E911 Manager EON Administration Reports Help

Companies
Please enter company information for this installation.
0 total companies

Edit	Delete	Company Name	Company Acronym
		1	

Company Name Company Acronym
AVAYA AVAYA

Add Done

5. From the **Tasks** list, click on **Building Information**. Click on **Add Building**. For each building defined in Avaya Communication Manager in Section 3.3, enter the *BuildingID* and a *Friendly Building Name*. The *BuildingID* value must match the value configured in Avaya Communication Manager. For Switch, select the phone switch configured in Step 3 from the drop-down list. Enter address and main telephone number information for the building in the *MSAG Address and Main NPA Number* section. Accept the defaults for the other fields. Click on **Save**, then **Done**.

RedSky Technologies - E911 Manager - Buildings - Microsoft Internet Explorer

Address: http://9.1.1.55/buildings.aspx

E911 Manager

Logout: administrator
Version: 5.4.2.18572

Buildings
Enter building information. Select a building in the list below to modify its information.
0 total buildings.

Edit Delete BuildingID Switch Friendly Building Name

Building ID BLD-MAIN Switch TESTLAB

MSAG Address and Main NPA/Number

Number	Ext	Street Dir	Street Name	Street Type	Post Dir
123		Main		ST	

Community	County ID	State	Zip	Main NPA	Main Number
Lincroft		NJ	732	555	5555

Other Building-related Information

E911 DB Prov	TelcoID	Display Address and City	Company
ATT			AVAYA

Friendly Building Name Location Format (help) Name Format (help)

%F %R %N

Add Building Save Done

6. From the **Tasks** list, click on **Import Data from Phone Switch**. Click on **Start Download**. Click on **Done** after the download completes.

RedSky Technologies - E911 Manager - PhoneData - Microsoft Internet Explorer

Address: http://9.1.1.55/PhoneData.aspx

E911 Manager

Logout: administrator
Version: 5.4.2.18572

Phone Switch Imports
Configured switches and their download status.
Download process is running.

Switch	Status
<input checked="" type="checkbox"/> TESTLAB	Downloading Station 56/121

Start Download Done

7. From the **Tasks** list, click on **Define Phone Switch Parameters**. Select the switch configured in Step 3, and enter the following information:
- *Switch Description* – Enter a description for the switch.
 - *NPA* – Enter the area code.
 - *NXX* – Enter the region code.
 - *Include in E911 Update* – Check this checkbox.
 - *Switch Type* – Select **IP as TDM** from the drop-down menu box.
 - *E911 Trunk Types* – Select **ISDN** from the drop-down menu list.
 - *E911 Trunk Group*- Leave blank if a trunk group is not specified in the public-unknown-numbering form (see Section 3.2) in Avaya Communication Manager. Alternatively, if outbound 911 calls are routed to a specific trunk group, and that trunk group is specified in the public-unknown-numbering form, then select the number of that trunk group.

Click on **Save**, then **Done**.

RedSky Technologies - E911 Manager - Switch Parameters Input Page - Microsoft Internet Explorer

Address: http://0.1.1.55/switchparameters.aspx

RedSky E911 Manager

Logout: administrator
Version: 5.4.2.18572

Quick Links: Home, E911 Data, Reports, Scheduler

RedSky: Newsletter, RedSky Site

Phone Switch Parameters
Define NPA/NXX, switch type and E911 trunk type for each phone switch listed below.

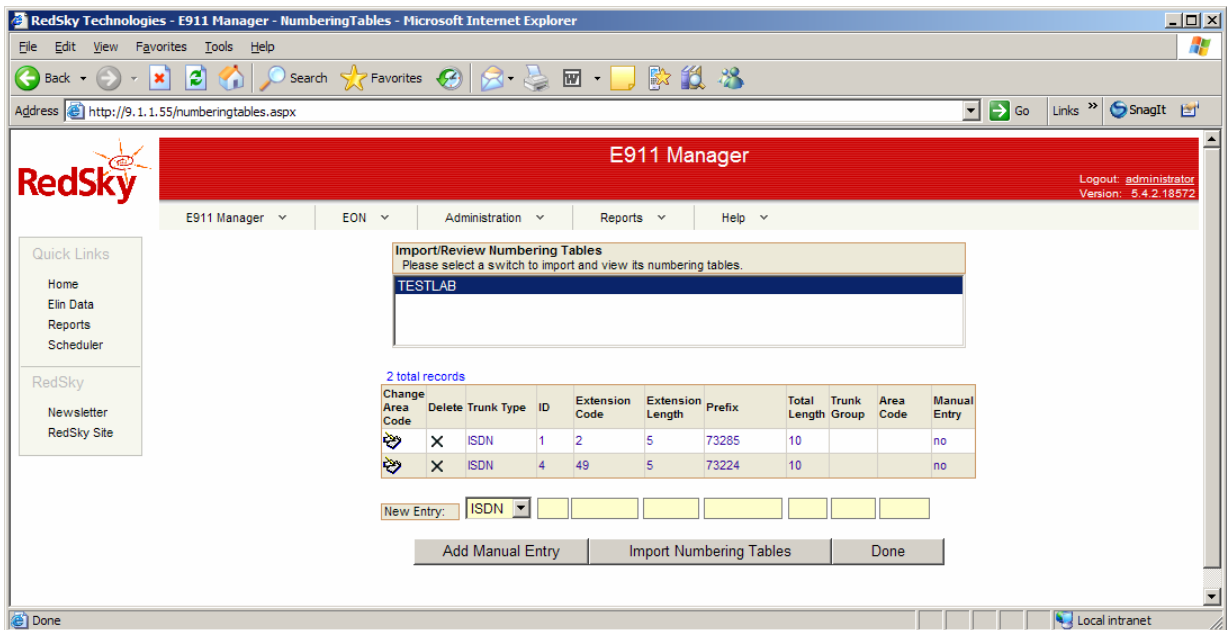
Switch Description	NPA	NXX	Include in E-911 Update	E911 Trunk Types	Trunk Groups *
TESTLAB	732	852	<input checked="" type="checkbox"/>	ISDN CAMA SIP	0 Not Assigned 1 (ISDN) 4 (ISDN) 5 (ISDN) 6 (ISDN) 7 (ISDN)

Switch Type: IP as TDM
Include in P Discovery: ☐

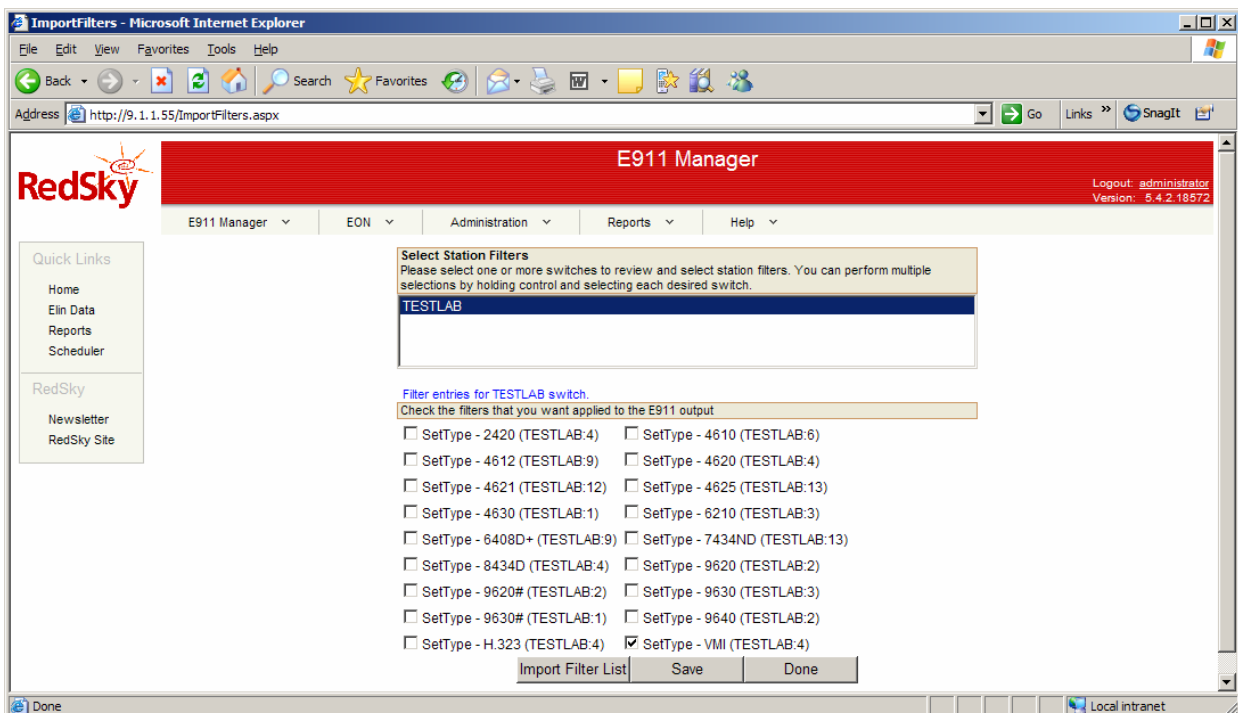
* Use control key for multi-selects

Save Done Clear Selections

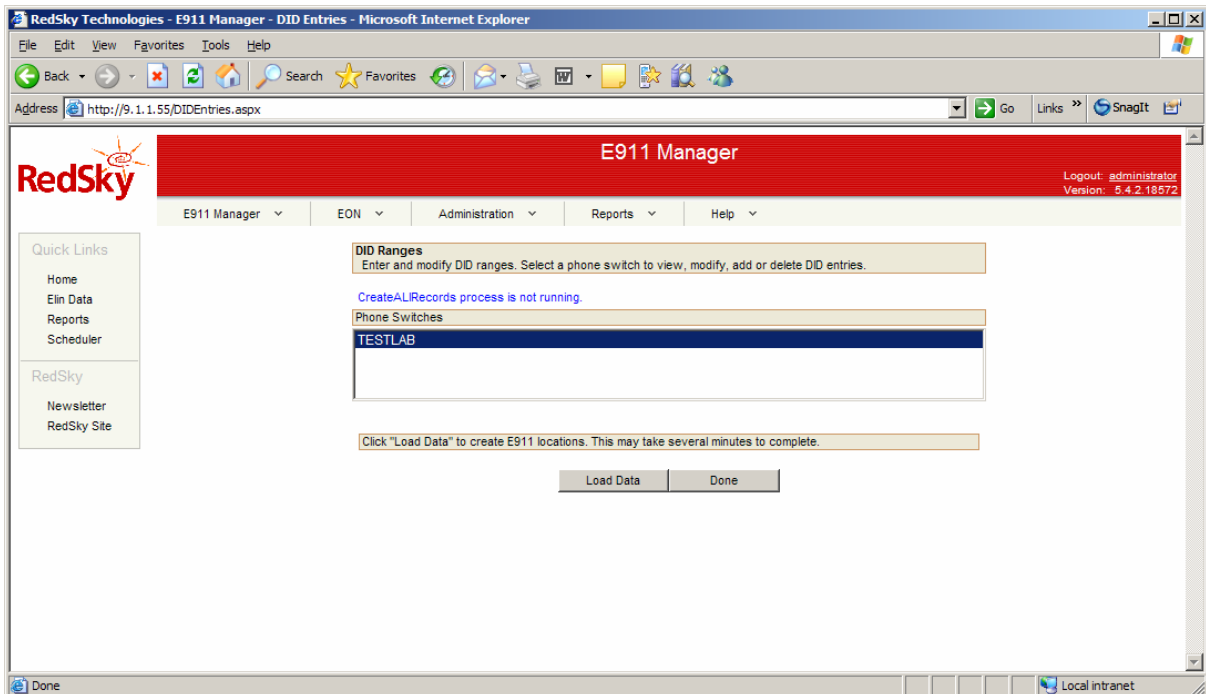
8. From the **Tasks** list, click on **Import/Review Numbering Tables**. Select the switch to import and view its numbering tables. Click on **Import Numbering Tables**. After the import completes, review the table entries and verify consistency with the public unknown-numbering form entries in Avaya Communication Manager. Only entries with a prefix are imported. Click on **Done**.



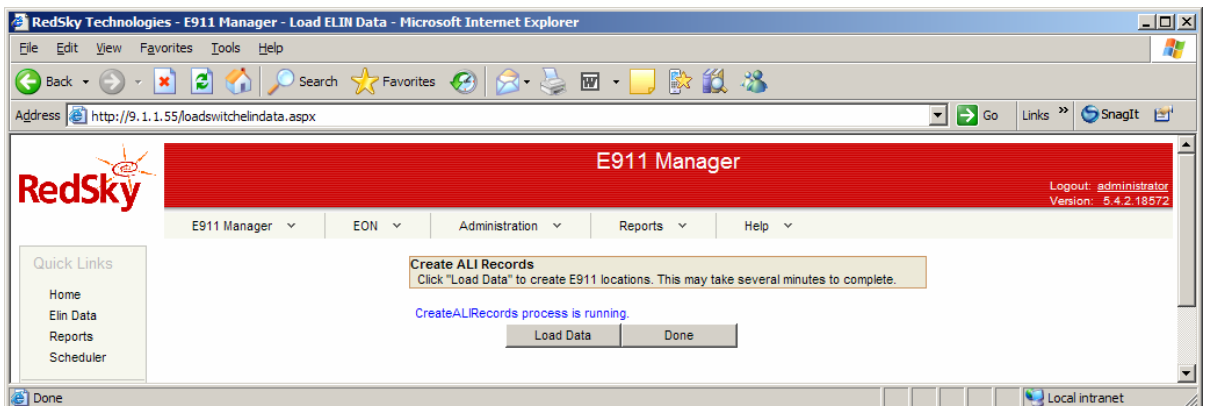
9. From the **Tasks** list, click on **Select Station Filters**. Select the switch to review and Click **Import Filter List**. Check the checkboxes of the phone types for which ALI records are NOT to be generated. Click on **Save**, then **Done**.



10. From the **Tasks** list, click on **Create DIDs**. Click on **Load Data**. Click on **Done** after the load data completes.



11. From the **Tasks** list, click on **Create ALI Records**. Click on **Load Data**. Click on **Done** after the load data completes.



12. From the **Tasks** list, click on **Review ELIN E-911 location data**. Click on **Filter**. The subsequent screen shows the ALI records that were generated based on the information retrieved from Avaya Communication Manager. Only those records with **“Ready For Transfer”** status will be uploaded to the E911 database service provider. The records with **“Missing Information”** status are displayed because the Building (e.g., **BLD-LSP**) associated with the stations on the PBX has not been defined on E911 Manager. Repeat Steps 5 and 6 to define the building in E911 Manager and import the data from the phone switch again. Repeat Step 11 to create the ALI records. Click on **Done** to return to the Task list.

RedSky Technologies - E911 Manager - ELIN Data - Microsoft Internet Explorer

Address: http://9.1.1.55/elin.aspx

E911 Manager Logout: administrator Version: 5.4.2.18572

Navigation: E911 Manager | EON | Administration | Reports | Help

ELIN and ERL Data
Please review the ELIN and ERL data for each switch listed below:
135 total filtered records (135 subtotal)

Filters:
Company: ALL PBX/Switch: ALL Page Size: 10
Building: ALL Status: ALL Filter

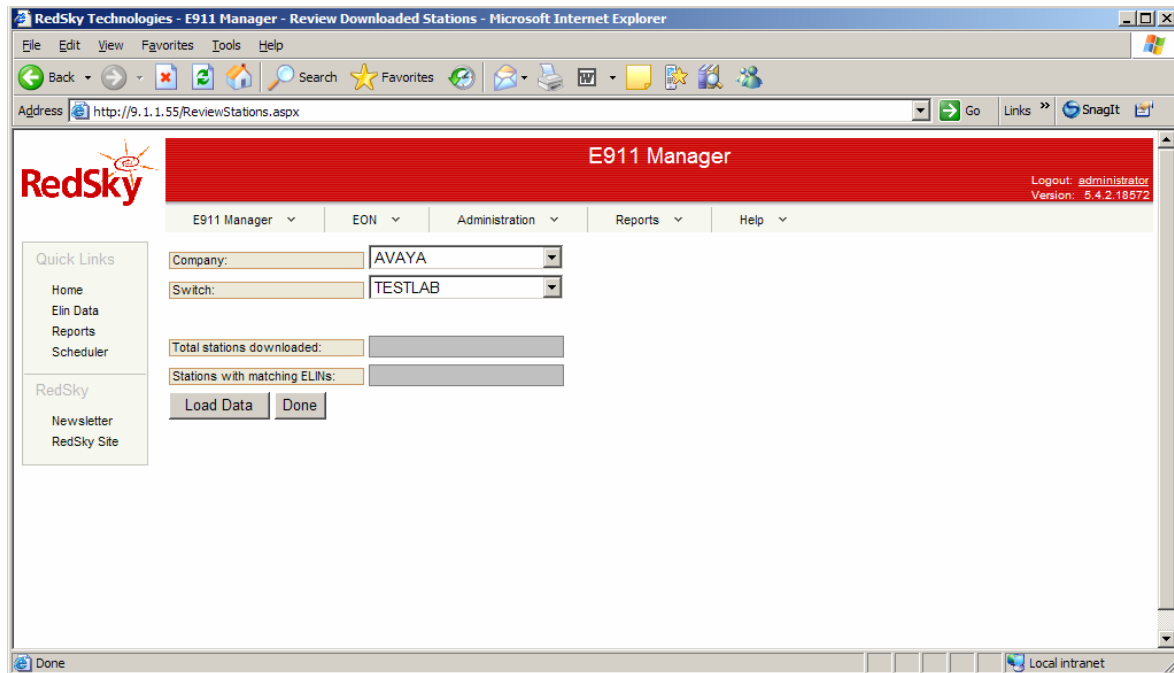
Change	Delete	ELIN	Building	Location	Name	Status	Err Cd	Telco ID	E911 Prov	PBX	Ext#
	X	7322449502	BLD-LSP	ROOM 678 FLR-LSP	G350 Digital	Missing Information				TESTLAB	1
	X	7322449550	BLD-LSP	FAIL FLR-LSP	TEST FAIL	Missing Information				TESTLAB	1
	X	7328520000	BLD-MAIN	FLR-MAIN ROAMING	one-X Mobil	Ready For Transfer (I)				TESTLAB	1
	X	7328523000	BLD-MAIN	FLR-MAIN ROOM 123	HQ 9630	Ready For Transfer (I)				TESTLAB	3
	X	7328523001	BLD-MAIN	FLR-MAIN ROOM 222	HQ 4625	Ready For Transfer (I)				TESTLAB	3
	X	7328523002	BLD-MAIN	FLR-MAIN Room 333	HQ 2420	Ready For Transfer (I)				TESTLAB	1
	X	7328523003	BLD-MAIN	FLR-MAIN Room 444	HQ 6211	Ready For Transfer (I)				TESTLAB	1
	X	7328523010	BLD-MAIN	FLR-MAIN ROOM 65747	Citrix Phone	Ready For Transfer (I)				TESTLAB	4
	X	7328523020	BLD-MAIN	FLR-MAIN FAIL TEST	TEST FAILOVER	Ready For Transfer (I)				TESTLAB	1
						Missing Information					

Search In: ELIN Search For: Search Reset Results

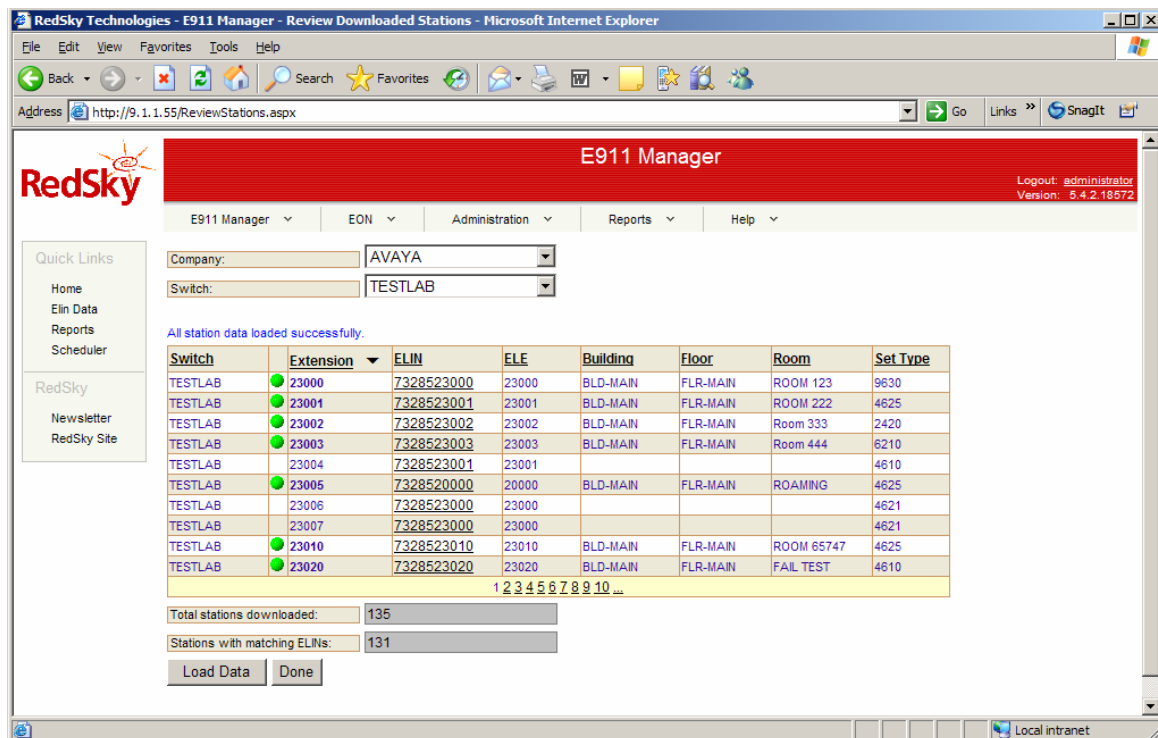
Summary:
 In Transfer (All): 0 Ready For Transfer (All): 8 Missing Info: 9 Normal: 0
 In Transfer (I): 0 Ready For Transfer (I): 8 Rejected: 0
 In Transfer (D): 0 Ready For Transfer (D): 0 Invalid ELIN: 113
 In Transfer (C): 0 Ready For Transfer (C): 0 Deleted: 5

Buttons: Done Reset In-transfer Items

13. From the **Tasks** list, click on **Review Downloaded Stations**. Select **AVAYA** in the *Company* drop-down list and **TESTLAB** for the *Switch* drop-down list. Click on **Load Data**.



The *Extensions* that have matching *ELINs* are prefixed with a green circle. The *ELEs* for those extensions that don't have matching *ELINs* are also displayed.



14. Notice that all of the items on the *Tasks* list are now marked “Complete”.

Tasks			
1	<u>ALI Database Providers</u>	Completed	
2	<u>Define Phone Switch Connectivity</u>	Completed	
3	<u>Company Information</u>	Completed	
4	<u>Building Information</u>	Completed	
5	<u>Import Data From Phone Switch</u>	Completed	
6	<u>Define Phone Switch Parameters</u>	Completed	
7	<u>Import/Review Numbering Tables</u>	Completed	
8	<u>Select Station Filters</u>	Completed	
9	<u>Create DIDs</u>	Completed	
10	<u>Create ALI Records</u>	Completed	
11	<u>Review ELIN E-911 location data</u>	Completed	
12	<u>Review Downloaded Stations</u>	Completed	

15. Click on **Scheduler** under the *Quick Links* section. Click on **Add New Task**. Enter the following information:

- *Task Template* – Select **Download Phone Data – Complete** from the drop-down list.
- *Switchs* – Select **TESTLAB** from the drop-down list.
- *Task Name* – Enter a name for the task.
- *Start Time* – Select a start time.
- *Select an Interval* – Select the frequency and time-frame for the task.

Click **Save** to schedule the task to retrieve data from Avaya Communication Manager and upload ALI records to the E-911 database service provider.

Screenshot of the E911 Manager web application interface. The browser window is titled "Scheduler - Microsoft Internet Explorer". The address bar shows the URL: `http://9.1.1.55/TaskSchedule.aspx?e=Full%20Download`. The application header is red and displays the "RedSky" logo and "E911 Manager". The navigation bar includes "E911 Manager", "EON", "Administration", "Reports", and "Help". The left sidebar contains "Quick Links" (Home, Elin Data, Reports, Scheduler) and "RedSky" (Newsletter, RedSky Site). The main form contains the following fields and options:

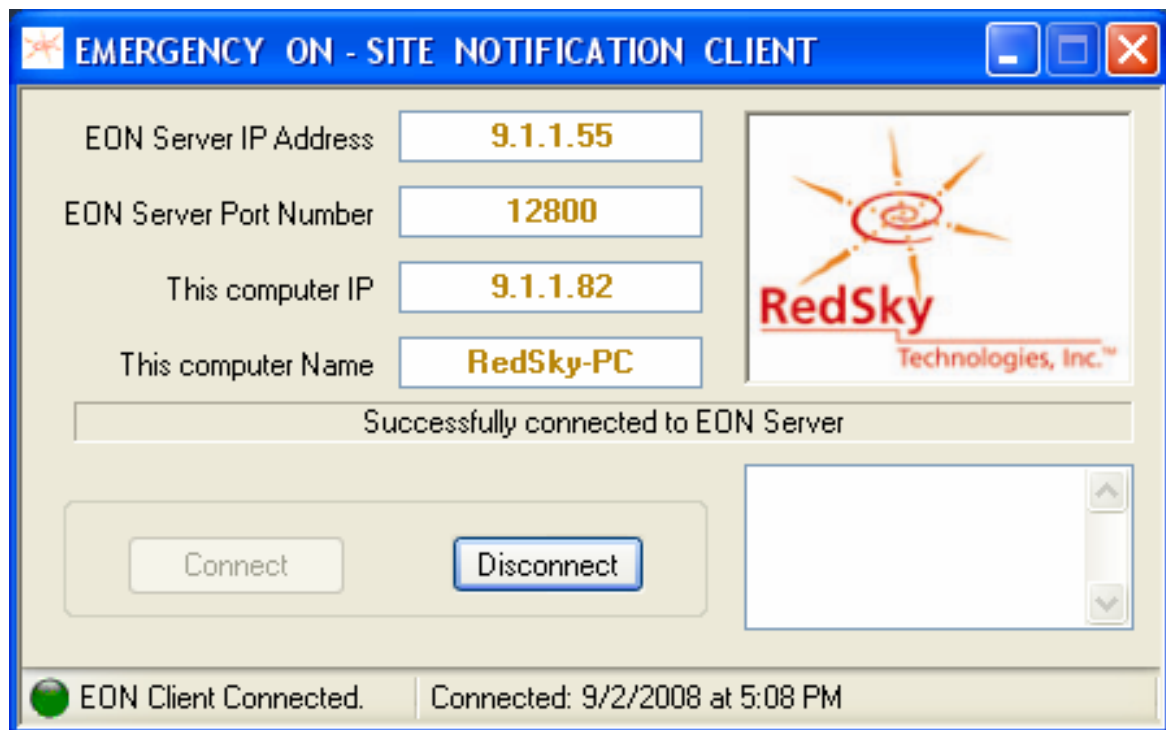
- Task Template:** Dropdown menu set to "Download Phone Data - Complete".
- Switchs:** Dropdown menu set to "All".
- Task Name:** Text box containing "Full Download".
- Start Time:** Time selector set to 4:00 PM.
- Select an interval:** Radio button options for "Disabled", "1x a day", "2x a day", "3x a day", "Daily" (selected), "4x a day", "Weekly", and "Monthly".
- Current Schedule:** Text indicating "Every 6 hour(s) from 4:00 PM everyday, starting 4/16/2008."
- Buttons:** "Save" and "Cancel" buttons at the bottom.

The status bar at the bottom of the browser window shows "Done" and "Local intranet".

5. Configure EON Client

This section provides the steps for configuring the RedSky client to connect to the RedSky EON server to detect emergency calls.

1. Configure the following parameters in the “EONClient.exe.config” file on the EON client located in the “C:\Programs Files\RedSky Technologies, Inc\EON Client” directory:
 - serverIPAddress – Set to the IP address of the EON server.
 - serverListeningPort – Set to **12800**.
2. Start the EON client by navigating to Start → Programs → Red Sky Technologies, Inc → EON Client → Launch EON Client.
3. Click **Connect** to connect to the EON server.



6. Interoperability Compliance Testing

The interoperability compliance testing included functionality and serviceability testing. The functionality testing evaluated the ability of the RedSky E911 Manager to accurately retrieve station emergency numbering and location information from Avaya Communication Manager, and the RedSky Emergency On-site Notification (EON) server to correctly detect 911 calls originated by Avaya Communication Manager stations. The serviceability testing introduced failure scenarios to see if the RedSky E911 Manager can resume operation after failure recovery.

6.1. General Test Approach

The main objective was to verify that:

- The RedSky E911 Manager accurately obtains station emergency numbering and location information from Avaya Communication Manager after stations were added, deleted, or changed.
- The RedSky EON server correctly detects E911 calls placed by Avaya IP, digital, and analog telephones.
- The RedSky EON server notifies RedSky EON clients of the E911 calls in a timely manner and with the correct caller numbering and location information.

For serviceability testing, Ethernet cable disconnects and reconnects as well as device resets were applied.

6.2. Test Results

The main objectives of Section 6.1 were verified. For serviceability testing, the RedSky E911 Manager was able to retrieve station emergency numbering and location information from Avaya Communication Manager after connection to the active Avaya S8720 Server was disconnected and reconnected, as well as after resets of Avaya Communication Manager and the RedSky E911 Manager server. The RedSky EON server was able to detect E911 calls and notify the RedSky EON clients after resets of Avaya Communication Manager and the RedSky E911 Manager server.

7. Verification Steps

The following steps may be used to verify the configuration:

- Compare the station emergency numbering and location information reported in the RedSky E911 Manager and Avaya Communication Manager, and verify consistency.
- Add, delete, and change Avaya Communication Manager station information and verify that the RedSky E911 Manager retrieves and processes the updates accurately at the scheduled time.
- Place E911 calls from Avaya Communication Manager stations and verify that all EON clients are notified of the calls along with the correct caller numbering and location information.

8. Support

For technical support on RedSky Technologies products, contact RedSky Technologies at:

- Phone: 1-866-778-2435
- E-mail: support@redskytech.com

9. Conclusion

These Application Notes describe a compliance-tested configuration comprised of Avaya Communication Manager and the RedSky Technologies E911 Manager with Emergency On-site Notification (EON). The RedSky E911 Manager retrieves station emergency numbering and location information from a PBX, validates, reformats, and uploads the information to public Automatic Location Identification (ALI) databases. EON is an add-on module to the RedSky E911 Manager that detects emergency calls originated by PBX stations and notifies the EON clients when such calls are detected. During compliance testing, the RedSky E911 Manager successfully obtained station emergency numbering and location information after Avaya Communication stations were added, deleted and changed. In addition, the RedSky EON server successfully detected emergency calls placed by Avaya Communication Manager stations and notified EON clients of such calls.

10. Additional References

Product documentation for Avaya products may be found at <http://support.avaya.com>.

[1] *Administrator Guide for Avaya Communication Manager*, Document ID 03-300509.

[2] *Feature Description and Implementation for Avaya Communication Manager*, Document ID 555-245-205.

Product information for RedSky Technologies E911 Manager may be found at <http://www.redskye911.com>.

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