

Interface Control Document Integrating Cisco Wireless Controller for E911Manager® Version 3.0 August 13, 2021

Revision History

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8/14/2012	1.5	Updated port requirements	Steve Madlock
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Introduction

This document details the technical aspects of the integration between RedSky's E911 Manager and Cisco's Wireless LAN Controller. E911 Manager provides an integrated approach to enhance location tracking for Wi-Fi voice endpoints. E911 Manager tracks the location of Wi-Fi enabled endpoints as they move through the entire enterprise Wi-Fi network. This allows the endpoint to out pulse the appropriate Emergency Line Identification Number (ELIN) during a 911 call.

Audience

This document is intended for Call Server and E911 Administrators. After reading this document an administrator should be able to prepare an enterprise's environment for integration for E911 Manager using Cisco Wireless Controllers.

Requirements

E911 Manager integrates directly with Cisco Wireless Controllers. Support is available since Cisco WLC v5.X; however this document is designed for the 9800 Cloud Environment specifically.

Network Requirements

The Wi-Fi module requires the following network ports to be available

SNMP UDP 161/162	 Traps are generated by the WLC and destined to the E911 Manager Server when phones authenticate with a new AP E911 Manager will query the WLC when devices register to the call server
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Application Requirements

The following information will be required to configure the E911 Manager application.

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· WILC SNIMD Community String		я.
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	 Road-Ouiv	
		а.

WLC SNMP Configuration

1. After logging into the WLC, navigate to Administration > Management > SNMP.

÷	cisco Cisco (Catal	yst 98	300-L Wireless Contro	oller			Welcome
٩	Search Menu Items		9	Best Practices	nt • >	SNMP		
	Dashboard)- 0	Command Line Interface Device	JABLED		V2.15-55	Users
	Monitoring	>	<u>р</u>	DHCP Pools	gs	V3 User Groups	V3 Users	HOSIS
Z	Configuration	>		DNS				
ত্যি	Administration	>	C	Licensing	nunity N	lame		
× ×	Troubleshooting		& \$	Management Backup & Restore	ut			
				File Manager HTTP/HTTPS/Netconf Logging	• iter	ms per page		
				SNMP				
			Ð	Reload				
			$\widehat{\mathbf{G}}$	Smart Call Home				
				Software Management				
			Ō	Time				
			Q	User Administration				

Figure 1: WLC SNMP Taskbar Navigation

2. By default, the SNMP mode is disabled. To enable it, select the toggle button marked as DISABLED.





3. Select the **Community Strings** tab and create a read only string.

Administration • > Mana	gement * > SNMP			
SNMP Mode	ENABLED 💿			
General Communi	ty Strings V3 User Groups V3 Users Hosts			
+ Add × Delete				
	Community Name	× A	Access Mode	×.
0	mrdonut	R	Read Only	
0	redsky_e911	R	Read Only	
	10 v items per page		1	- 2 of 2 items

Figure 3: WLC SNMP Community Strings tab

4. Select Apply

SNMP Trap Configuration

5. While under Administration > Management > SNMP, move to Hosts to manage the SNMP traps

Administra	tion • > Management • :	> SNMP					
SNMP Mode	ENABLE	ed 📕 🎯					
Genera	Community Strings	V3 User Groups	V3 Users	Hosts			
+ Add	X Delete						
	IP Address	 ✓ Port 	 Version 	√. Туре	Community/User	Security Level	
	172.20.20.246	162	v2c	traps	mrdonut	None	
	172.20.20.246	162	vЗ	traps	redskyryan	auth	
	1 b b i	tems per page				1 - 2 of 2 items	



- 6. Select +Add
- 7. Set the IP to the E911Manager server IP, and the port to 162

Administratio	on • > Management •	> SNMP					
SNMP Mode	ENABLE	ed 📕 👁					
General	Community Strings	V3 User Groups	V3 Users	Hosts			
	Hosts					×	
+ Add	IPv4/IPv6 Address*	172.20.20.100					
	Version	V2C	•				
	Community String*	redsky_e911	• +				
4	Port	162					
	Туре	traps	•				
	Cancel				Apply to Devi	ce	

Figure 5: WLC SNMP add Host page

E911 Manager Configuration

1. Navigate to Cisco WLC in E911 Manager

CONFIGURATION	MONITORING	ADMINISTRATION
Automatic Location Infor	mation (ALI)	Network Discovery
ALI Accounts		Call Servers
Emergency Location Id	entification Number Pools	MAC Address Location Mappings
Emergency Location Id	entification Numbers	IP Ranges (L3)
Buildings		BSSID Mappings
Civic Addresses		Network Switches (L2)
Emergency Response	Locations	Voice Gateways
		Cisco Analog Device Locations Import
		WiFi
		Cisco WLCs
		Aruba Controllers
		Aerohive HiveManagers
		Access Points
		Aruba AirWave
		Controllers
		VPN Gateways

Figure 6: E911 Manager Menu Navigation – Cisco WLC

2. Add Cisco WLAN Controller

Cisco WLAN Controllers		
		Add Cisco WLAN Controller
Search:		Show 100 • entries
	IP Address	C Resync Edit Delete
	No data available in table	
Showing 0 to 0 of 0 entries		First Previous Most List



3. Enter the IP Address and SNMP information for the WLC

Add Cisco WLAN Co	ntroller		
* IP ADDRESS*:			
* SNMP VERSIO	N*:		
02 3			
COMMUNITY ST	RING*:		

Figure 8: E911Manager Add WLAN Page

Save

Cancel

Configure Access Points

4. Access points will be pulled into E911 Manager from the Controller

CONFIGURATION	MONITORING	ADMINISTRATION		
Automatic Location Information (ALI)		Network Discovery		
ALI Accounts		Call Servers		
Emergency Location Id	entification Number Pools	MAC Address Location Mappings		
Emergency Location Id	entification Numbers	IP Ranges (L3)		
Buildings		BSSID Mappings		
Civic Addresses		Network Switches (L2)		
Emergency Response	Locations	Voice Gateways		
		Cisco Analog Device Locations Import		
		WiFi		
		Cisco WLCs		
		Aruba Controllers		
		Aerohive HiveManagers		
		Access Points		
		Aruba AirWave		
		Controllers		
		VPN Gateways		

Figure 9: E911 Manager Menu Navigation – Access Points

5. Associate Access Points with Locations (Buildings and Emergency Response Locations must be configured prior to this step)

WiFi Access Points								
								O Import Wifi Access Point Locations
Aruba Citto Aerohive								
Search:								Show 100 V entries
	Name	\$	Mac Address	0	E	Building 🗘	Locati	on 🗘 Edit Delete
Support-AP		00:80:E1:9D:83:00			Office		Support	
Dev-AP		00:B0:E1:9D:96:60			Office		Dev	
Sales-AP		00:80:E1:9D:97:80			Office		Sales	
BrdrmRecep-AP		00:B0:E1:9D:77:20			Office		Conference Room	
Showing 1 to 4 of 4 entries								First Previous 1 Next Last

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- a. This can be done individually using the edit button
- **b.** Or via a CSV import

WiFi Access Points						
Import Wifi Access Point Locations Upload a CSV file to import Access Point Locations FILE:						
Choose File No file chosen						
J Upload Cancel						

Figure 11: E911 Manager Upload Access Points

Automatic Wi-Fi Resync

After importing your Wi-Fi controllers, you can set them to be automatically resynced.

6. Go to Administration → Scheduled Tasks

E911MANAGER °							
CONFIGURATION MONITORING	ADMINISTRATION						
Dashboard	Application Administration	Reports and Alerting					
	Configuration Properties	Reports					
	Sub-Tenants	Licensing	gii				
	Users	Emergency Call Simulation	tes				
Туре	Roles	Scheduled Tasks					
	MyE911 Device Mappings	Alerts	N				
	Download Client Installers	Subscriptions					
		Templates					

Figure 12: E911 Manager Menu Navigation – Scheduled Tasks

7. Next, choose Add Task

E911MANAGER* Redsk						:dSky	
CONFIGURATION	MONITORING ADM	MINISTRATION					۰ ۲
Scheduled Tasks							
		NOTICE: Your last login was Au	g 31, 2021 10:52:12 AM				×
						[Add Task
Scheduled Tasks Report Tasks							
Search:						Show 1	10 🗸 entries
Task Type	Description	Scheduled Scheduled	Last Scheduled Run \$	Errors	Last Manual Run	C Edit D	alete Run Now
Anywhere Data Sync	Anywhere Sync	Every 1 day at 1:00 AM	Wed Sep 01 01:00:04 CDT 2021		Fri Jul 09 10:07:09 CDT 2021	0	• •
Archive Events	Default event archive job	Every 1 month on the 1st at 3:00 AM starting in January		/opt/redsky/.pgpass		 () 	1
Archive Logging	Default log archive job	Every 1 month on the 1st at 3:00 AM starting in January				0	• •
Showing 1 to 3 of 3 entries						First Previous 1	Next Last
				Re	dSky Technologies, Inc. Copyright © 1998-2021. Re	dSky Technologies, Ir	c. All rights reserved



- 8. From the dropdown, set the Task Type to Wi-Fi Controller Resync.
- **9.** Give it a name, such as Wi-Fi Resync Process
- **10.** Then set the task's frequency, for every hour, day, week, or month. Redsky uses daily as a standard.
- **11.** Set your preferred time sync. Running this outside of peak hours is preferred.
- **12.** Finally, hit **Save.**

E911 MAN	AGER®					
CONFIGURATION	MONITORING	ADMINISTRATION				
Scheduled Tasks						
Add Task * TASK TYPE: WiFi Controller Resync * TASK NAME: FREQUENCY: ? Every 1 days * at 00 0 0 0	Date Time 1st 09/02/21 00:00 2nd 09/03/21 00:00 3rd 09/04/21 00:00 4th 09/05/21 00:00 5th 09/06/21 00:00 Note: Dates and times are approx	oximate.	Cancel			
Note: Fields marked with (*) are required						
Figure 14: E911 Manager Wi-Fi Sync						