

This chapter covers topics that help you troubleshoot problems related to assigning phones to ERLs and managing the phones:

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Undiscovered Phones

If Cisco ER is not discovering the phones homing to Cisco Unified CM (Cisco Unified CM), check that all Cisco Unified CMs are SNMP-reachable and that the SNMP settings are correct. Cisco ER will log an event if Cisco Unified CM is SNMP-unreachable.

To verify the Cisco Unified CM SNMP settings, follow these steps:

1. Log in to the Cisco ER Administration command line interface and use the following command to ping the Cisco Unified CM server:

```
utils network ping <ipaddress of CUCM>
```

2. If you successfully ping the Cisco Unified CM, verify that the SNMP settings are correct on Cisco Unified CM, as follows:

- If you are using a Linux-based version of Cisco Unified CM (version 6.0 or higher), log in to the Cisco Unified CM Serviceability web interface and use the SNMP web pages to check the SNMP community string settings.
- If you are using a Windows-based version of Cisco Unified CM, open the services on Cisco Unified CM and choose:

Start > Settings > Control Panel > Administrative Tools > Services Properties > SNMP > Properties > Security Tab

3. Check to see if Cisco Unified CM is SNMP reachable by running the following CLI command on the Cisco ER server: `utils snmp get <ccm ip-address/host name> <snmp-read-community-string>`
.1.3.6.1.2.1.1.2.0

- If the Cisco Unified CM is SNMP reachable, then the output of the above command should be similar to the following:

```
Variable = .1.3.6.1.2.1.1.2.0  
value = OBJECT IDENTIFIER <sys-oid-of-ccm>
```

Too Many Unlocated Phones

Cisco ER obtains a list of registered phones from Cisco Unified CM and tries to locate all phones. If Cisco ER cannot locate a phone behind a switch port or in any configured IP subnets, and the phone is not a configured synthetic phone, the phone will be placed in the list of unlocated phones.

If there are a lot of unlocated phones, first try running the switch port and phone update process to see if Cisco ER can resolve some of the problems automatically. See the [Manually Running the Switch-Port and Phone Update Process](#) for more information. These are some things that can prevent Cisco ER from locating a phone:

- If more than one switch port reports the phone as a CDP (Cisco Discovery Protocol) neighbor, then the phone will be placed in unlocated phones. This condition will be corrected in the next phone tracking when only one switch port reports this phone as its CDP neighbor.
- The phone is attached to a switch that is not defined in Cisco ER. See the [Identifying the LAN Switches](#) for information on defining switches.
- The phone is connected to an unsupported device, such as a router port, a hub connected to a router, or an unsupported switch. See the [Network Hardware and Software Requirements](#) for a list of supported switches. See the [Manually Defining a Phone](#) for information on configuring these types of phones if you cannot connect them to a supported device.

The phone is connected to a hub, which is connected to a supported switch port, but it does not support CDP. Cisco ER can consistently discover CDP-enabled phones attached to hubs (which are attached to supported switch ports), but cannot always track non-CDP phones attached in this manner. For non-CDP phones, ensure the phones are attached directly to supported switch ports.

The switch to which the phone is connected is currently unreachable, for example, it does not respond to SNMP queries. This could be for several reasons:

- The SNMP read community string on the switch does not match the string configured in Cisco ER. Correct the Cisco ER configuration. See the [Configuring the SNMP Connection](#).
- The phone requires CAM table access, but CAM tracking is not enabled for the switch in Cisco ER. See the [Identifying the LAN Switches](#).
- There is a network outage preventing communication between the Cisco ER server and the switch. Locate and resolve the network outage problem.

Unreachable switches are not retried until Cisco ER runs the next full switch-port and phone update process, unless you run it against the individual switch (see below).

- The phone has moved to a switch served by a different Cisco ER group. If this is the case, the Cisco ER group name is shown for the phone in the unlocated phones list. If the phone is not locatable in the next incremental phone tracking process after it is moved, the phone remains unlocated in any Cisco ER group until a full switch-port and phone update process is run.
- The phone requires CAM-based tracking, but CAM-based tracking is not enabled on the switch to which the phone is connected. Cisco IP SoftPhone and some other phone models require CAM-based tracking. See the [Identifying the LAN Switches](#) for information on enabling CAM-based tracking, and [Network Hardware and Software Requirements](#) for a list of phones that require CAM-based tracking.

Troubleshooting_Phone-Related_Problems

After fixing the problems that are preventing Cisco ER from locating phones, run the switch-port and phone update process on the affected switches, or on all switches:

- To run the process on a specific switch?Select **Phone Tracking > LAN Switch Details** and select the switch in the left-hand column; then click **Locate Switch Ports**.
- To run the process on all switches?Select **Phone Tracking > Run Switch-Port & Phone Update**.

Related Topics

- [Identifying Unlocated Phones](#)
- [IP Subnet Phones](#)
- [Cisco Unified OS CLI Commands](#)

Phone Sometimes Disappears in Cisco Emergency Responder

If Cisco ER is in the middle of a phone tracking process, and a phone is in the middle of homing to a different Cisco Unified CM cluster, no Cisco Unified CM cluster has a record of the phone. Thus, Cisco ER does not know the phone exists, and you will not be able to look up the phone in the Cisco ER interface. However, assuming the phone successfully connects to a Cisco Unified CM cluster, Cisco ER tracks the phone during the next incremental phone tracking process, and the phone should then appear in the Cisco ER interface.

This problem can also occur if phones are reconnecting to a primary Cisco Unified CM server from a backup server during the Cisco ER phone tracking process.

Wrong ERL is Used for a Shared Line

When two or more phones with a shared line appearance move from switches that are monitored by one Cisco ER group to switches that are monitored by a different Cisco ER group, then Cisco ER may assign an incorrect ERL to these phones during an emergency call. This can occur when the phones move to a different campus that has a different Cisco Unified CM cluster (although the moved phones are still registered with the original Cisco Unified CM cluster), and it can also occur when the phones move within a single large campus that is served by multiple Cisco Unified CM clusters.

Because the moved phones are still registered to their original Cisco Unified CM cluster, emergency calls from these phones are routed to the original Cisco ER group. In this case, the Cisco ER group detects that the calling phone is connected to a switch that is monitored by a different Cisco ER group, and the call is forwarded to the appropriate Cisco ER group through an H.323 inter-cluster trunk. Because the inter-cluster trunk does not pass the MAC address of the calling phone, the receiving Cisco ER group does not know the MAC address of the calling phone and must associate the phone to an ERL based on the calling party number.

In cases with a single phone connected to the switches monitored by the receiving Cisco ER group, this is not a problem. However, when multiple phones with a shared line appearance connect to switches monitored by the receiving Cisco ER group, then Cisco ER must guess which phone has placed the emergency call. If all of the phones with a shared line appearance are in the same ERL, the guess is correct. If the phones span multiple ERLs, then the guess might be incorrect.

Related Topics

- [Deploying Cisco Emergency Responder In Two Main Sites](#)
- [Creating Route Patterns for Inter-Cisco Emergency Responder-Group Communications](#)

802.11b Endpoints Using Wrong ERL

802.11b endpoints (such as Cisco Wireless IP 7920 Phones and Cisco IP SoftPhones running on 802.11b) are using switch port-based ERL instead of the configured subnet-based ERL.

Cisco Emergency Responder (Cisco ER) give a higher priority to switch port association for call routing. If Cisco ER finds a switch port mapping for any endpoint (including 802.11b endpoints), it uses the switch port mapping to route emergency calls.

If the switch port mapping is not found or if the ERL is not configured for the corresponding switch port, Cisco ER 1.2 routes emergency calls using subnet-ERL configuration.

Be aware that Cisco ER 8.0 will locate 802.11b endpoints behind a switch port under the following conditions:

- CDP (Cisco Discovery Protocol) is disabled on the access point or the switch port on which it is connected; and
- CAM tracking is enabled in Cisco ER for that particular switch.

See the switch port screen or the ERL debug tool (see [Using The ERL Debug Tool to Verify Cisco Emergency Responder Configuration](#) to check if the 802.11b endpoint is associated with a switch port.

It is recommended that you track 802.11b endpoints using subnet-based ERLs. Therefore, enable CDP on the switch port and the access points to route emergency calls from 802.11b endpoints using subnet-based ERLS.

Related Topics

- [Configuring IP Subnet-based ERLs](#)