Call Failure from Cisco IP Phone with Extension Mobility (EM) User Device Profile Logged In, to Cisco IP Phone in EM Logout Mode

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Contents

Introduction

This document describes one reason why a Cisco IP phone in the login mode fails to call another Cisco IP phone in the logout mode in a Cisco CallManager environment with Extension Mobility (EM) configured. This document also identifies the cause and provides a solution. These factors contribute to the failure:

- Directory numbers in the default device profile and the user device profile are configured the same. However, this configuration is supported.
- Call Forward No Answer (CFNA) is not configured in the user device profile. It must be set to the directory number of the default device profile.

Prerequisites

Requirements

Cisco recommends that you have knowledge of Cisco CallManager.

Components Used

The information in this document is based on Cisco CallManager version 4.x and later.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

Background

A device profile comprises the set of attributes (services and/or features) associated with a particular device. Device profiles include name, description, phone template, add−on modules, directory numbers, subscribed services, and speed−dial information.

Two types of device profiles exist:

- autogenerated
- user

You can assign the user device profile to a user, so that, when the user logs into a device, the user device profile you have assigned to that user loads onto that device as a default login device profile. Once a user device profile is loaded onto the phone, the phone picks up the attributes of that device profile.

The autogenerated device profile automatically generates when you update the phone settings and choose a current setting to generate an autogenerated device profile. The autogenerated device profile associates with a specific phone in order to be the logout device profile. You can modify the autogenerated device profile, but not delete it or change the profile name.
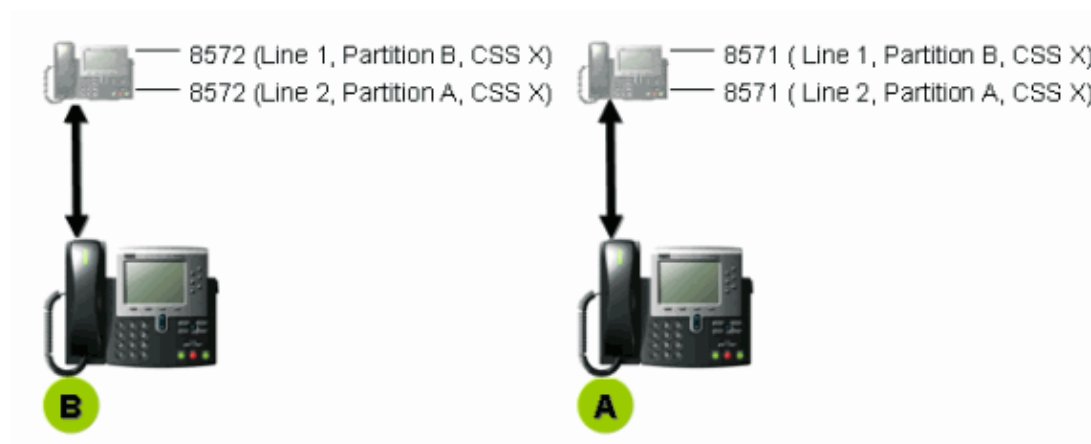
Topology

These are the types of devices involved:

- Cisco CallManager
- Two IP phones

The phone setup is shown in Figure 1. Calling Search Space (CSS) X contains both Partition A and Partition B.

Figure 1 Phone Setup

Problem

In scenario one, lines on phone A and phone B can call each other. In scenario two, lines on phone A cannot call lines on phone B. Lines 1 and 2 on both phone A and B belong to different partitions, but belong to the same CSS.

In scenario one, line 1 on phone A can call line 1 on phone B, and line 2 on phone A can call line 2 on phone B. This is the condition:

- An EM user logs into phone A. The user device profile contains this directory number, partition and CSS:

    - Line 1 Directory Number 8571 (Partition B, CSS X)
    - Line 2 Directory Number 8571 (Partition A, CSS X)
- An EM user logs into phone B. The user device profile contains this directory number, partition and CSS:

    - Line 1 Directory Number 8572 (Partition B, CSS X)
    - Line 2 Directory Number 8572 (Partition A, CSS X)

However, in scenario two, when either line 1 on phone A calls line 1 on phone B, or line 2 on phone A calls line 2 on phone B, both fail with a fast busy. This is the condition:

- An EM user logs into phone A. The user device profile contains this directory number, partition and CSS:

    - Line 1 Directory Number 8571 (Partition B, CSS X)
    - Line 2 Directory Number 8571 (Partition A, CSS X)
- No EM user logs into phone B. Phone B is in the logout mode. The default device profile contains this directory number, partition and CSS:

    - Line 1 Directory Number 8572 (Partition A, CSS X)

In conclusion, lines on phone A and phone B can call each other successfully if an EM user logs into both phones. However, lines on phone A fail to call lines on phone B if an EM user logs into phone A while phone B is in the logout mode.

Cause

When a phone is in the login mode, it uses a particular user device profile. When a phone is in the logout mode, it uses the default device profile. If both profiles are configured with the same directory number, the user device profile takes precedence over the default device profile when the directory number is dialed.

In scenario two, when line 1 on phone A has an EM user logged in and calls line 1 on phone B in the logout mode, it fails with a fast busy tone. The reason is the default device profile has the same directory numbers as the user device profile. The CallManager is sending the call to the user device profile. The user device profile is not registered because no user is logging into the phone. Therefore, the call fails with a fast busy tone.

Note: The CallManager call routing is still based on order of partitions in the CSS assigned to the calling party.

Solution

Set CFNA to the directory number of the default device profile to solve this problem. For line 1 on phone B, the directory number and the CSS of the user device profile must be set to **8572** and **X**, respectively. Complete these steps:

1. Log into Cisco CallManager Administration.
2. Select **Device > Device Settings > Device Profile** from the menu bar.

3. Select the particular user device profile.

   The User Device Profile Configuration window is displayed.
4. Select the line number in the Directory Numbers pane.

   The Directory Number Configuration window is displayed.
5. Scroll to the **Call Forward and Pickup Settings** section (see arrow A in Figure 2).
6. Enter **8572** in the Destination field.
7. Choose the correct Calling Search Space from the drop−down list for Forward No Answer Internal and Forward No Answer External (see arrow B in Figure 2).

Figure 2 Directory Number Configuration

Call Forward and Pickup Settings			
	Voice Mail	**Coverage/Destination**	**Calling Search Space**
Forward All	☐		< None >
Forward Busy Internal	☐		< None >
Forward Busy External	☐		< None >
Forward No Answer Internal	☐	8572	X
Forward No Answer External	☐	8572	X
Forward No Coverage Internal	☐		< None >
Forward No Coverage External	☐		< None >

Related Information

- **Voice Technology Support**
- **Voice and IP Communications Product Support**
- **Troubleshooting Cisco IP Telephony**
- **Technical Support & Documentation – Cisco Systems**

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