Failure to Forward Call Offsite – Issue with Calling Device Number

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Introduction

This document describes one reason why an external–to–internal call cannot be forwarded to external sites and provides a solution in a Cisco CallManager environment.

Prerequisites

Requirements

Cisco recommends that you have knowledge of Cisco CallManager.

Components Used

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

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

Calling Party Selection chooses the directory number sent on an outbound call on a gateway for outbound calls. These options specify which directory number is sent:

- **Originator** Sends the directory number of the calling device.
- **First Redirect Number** Sends the directory number of the redirecting device.
- **Last Redirect Number** Sends the directory number of the last device to redirect the call.
- **First Redirect Number (External)** Sends the external directory number of the redirecting device.

- **Last Redirect Number (External)** Sends the external directory number of the last device to redirect the call.

Problem

Call Forward No Answer (CFNA) does not work when an external calling device calls an internal device and the device of the recipient fails to forward the call to an external device. This list contains three scenario tests. The first two succeed and the third one fails.

- When you make an inside call from an internal device to another internal device and both devices are located on the same site, the receiving device successfully forwards the call to an external device on the CFNA condition. For example, phone 1 in site A calls phone 2 in site A, and phone 2 in site A successfully forwards the call to external phone B.
- When you make an inside call from an internal device to another internal device and devices are located on different sites in the same organization, the receiving device successfully forwards the call to an external device on the CFNA condition. For example, phone 1 in site B calls phone 2 in site A, and phone 2 in site A successfully forwards the call to external phone B.
- When you make an inside call from an external device to an internal device, the receiving device fails to forward the call to an external device on the CFNA condition. For example, external phone A calls phone 1 in site A and phone 1 in site A fails to forward the call to external phone B.

Figure 1 Topology
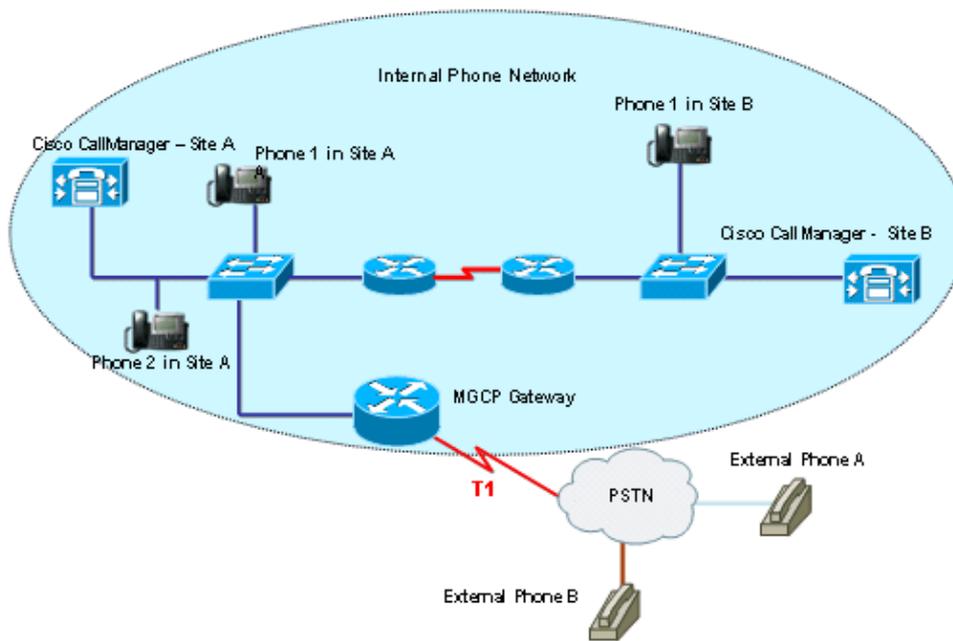
Cause

This problem occurs when you make an inside call from an external device and the internal device forwards the call to another external device on the CFNA condition by using the original external device number as the calling number. Since this calling number is not part of the subscribed direct inward dial (DID) numbers, the carrier rejects the phone call for the reason of invalid phone number.

The problem is that the T1 is configured for account code based long–distance calling. Since the calling number is not one of the subscribed T1 numbers, it causes billing issues. Therefore, the carrier denies the call.

Solution

Calling Party Selection on a gateway can send directory number information for any outbound call. This field determines which directory number is sent. When a problem happens, this parameter is set as Originator. The original calling phone number (external phone number) is used as the calling directory number. Since it is not part of the subscribed DID numbers, the carrier denies the call for the reason of invalid phone number.

Set Calling Party Selection as **First Redirect Number** for the gateway in order to solve the issue. This causes the gateway to use the DID phone number (internal device number) on the CFNA condition as the calling phone number. This phone number falls into the range of the subscribed phone numbers. The carrier forwards the call to the recipient.

Complete these steps:

1. Start Cisco CallManager Administration.
2. Select **Gateway** from the drop–down list in the Device tab of the menu bar.
3. Select **First Redirect Number** from the Calling Party Selection drop–down list box (see the red rectangle box in Figure 2).

Figure 2 Outbound Calls

Related Information

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