Configuring a Single Dialed Number on Multiple Lines

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Introduction

Traditional PBXs typically allow the configuration of multiple appearances of the same Dialed Number (DN) on different lines of a single phone. For example, if a user extension is 1002, they might have three or four buttons on their phone that all correspond to extension 1002. Cisco CallManager 3.0 does not have a quick and easy way to accomplish this. Until the ability to have more than two calls on a single line appearance is available, this document shows how to use Partitions and Calling Search Spaces to configure multiple lines on one phone with the same DN. It is assumed that the user wants all incoming calls to start on line 1 and forward to subsequent lines if line 1 is busy.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

This document is not restricted to specific software and hardware versions.
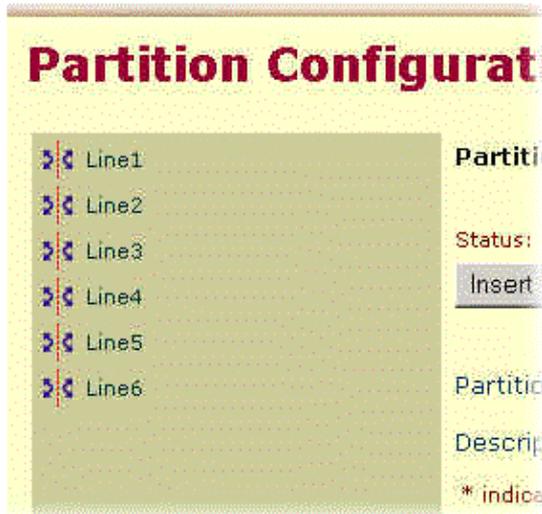
Conventions

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

Set up the Partitions and Calling Search Spaces

In order to do this, you are forced to use Partitions and Calling Search Spaces. First you must create partitions equal to the number of maximum number of lines you would like on any phone. If you use the Cisco 7960 IP Phone, the maximum is six. It is probably best to configure up to six lines just in case.

Create six partitions named 'Line1' through 'Line 6'. You can also choose to create other partitions to limit outbound dialing as well, but these topics are not discussed in this document.

Use the **Route Plan** > **Partition** menu in the Cisco CallManager administration window to create the partitions. Enter the name of the partition and click **Insert**. Once completed, your partitions should look similar to this:

You need to create five Calling Search Spaces to handle the forwarding between lines. Each Calling Search Space only has one partition in it. The sole purpose of these Calling Search Spaces is to forward a call from one line to the next.

For example, create a Calling Search Space called 'Line1to2' which only contains the 'Line 2' Partition. Then create a Calling Search Space called 'Line2to3' which only contains the 'Line 3' Partition. Continue to do this until you have five Calling Search Spaces as this table shows:

Calling Search Space Name	Partitions in the Calling Search Space
Line1to2	Line2
Line2to3	Line3
Line3to4	Line4
Line4to5	Line5
Line5to6	Line6

You also need to create one more Calling Search Space to allow devices to call each other. In this example, the Calling Search Space is called 'Phones Only'. This Calling Search Space only contains the 'Line 1' Partition. If you create other Calling Search Spaces for Local, LD, and/or international dialing, be sure to include the Line 1 partition if you want those users to be able to call other IP phones in your cluster. The Line 2 through Line 6 Partitions should not appear in any other Calling Search Spaces.

Configure Lines on a Phone

Once you have created the Partitions and Calling Search Spaces, you can proceed to configure your phones. With the configuration in this document, you can now have up to six lines on a phone with the same DN on all of them. For example, if you want to have a phone with extension 15644 on three lines, first configure a button template that has three lines, then perform the tasks in this section. This example assumes the phone is already configured in Cisco CallManager and the correct button template is selected.

The phone that is configured eventually looks like this:

The first line should be configured as this window shows:

In this example, 15678 is the Voicemail pilot number, therefore an appropriate Calling Search Space is required to be able to access that pilot number. In our example, the 'Int' Calling Search Space contains all DNs internal to the Cisco CallManager. The important thing to note here is that the Partition for this line is 'Line 1' and the Calling Search Space for Forward Busy is set to 'Line1to2'. All other parameters can be set to match your environment.

The second line is configured as this window shows:

The important thing to note for the second line is that the Partition for this line is 'Line 2' and the Calling Search Space for Forward Busy is set to 'Line2to3'. All other parameters can be set to match your environment.

The third line is configured as this window shows:

This line is configured in the 'Line 3' Partition. However the forwarding information goes to voicemail, since this is the last line. If you want more lines, this would have the 'Line3to4' Calling Search Space for Forward busy and so on.

Note: In order to make this phone able to call other phones, you must configure a Calling Search Space that has access to the 'Line 1' partition either on the three lines in this section, or just on the phone where these lines are configured.

Related Information

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

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