



Fine-Grain Address Segmentation in Dial Peers

Feature History

Release	Modification
12.2(2)XB	This feature was introduced on the Cisco AS5350, Cisco AS5400, Cisco AS5850.
12.2(11)T	This feature was implemented in Cisco IOS Release 12.2(11)T.

This document describes fine-grain address segmentation in dial peers for Cisco universal gateways. It includes the following sections:

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Feature Overview

This feature enables fine-grain address segmentation for dial plans in universal gateways that use universal ports to handle simultaneous voice and modem calls.

Say that you want to create a dial plan such as the following, in which a wildcard is used for voice calls, but in addition there are a few modem numbers:

```
4085551212 modem
4085551213 modem
408555* voice
```

When a call comes into the gateway, the voice dial peers are searched first for a match. If a match is found, the call is treated as a voice call. If a match is not found, the call is treated as a modem call.

However, the ordering of the search—first voice then modem—creates a problem. In this example, any call with the prefix 408555 is assumed to be voice. There is no way to signify that just a subset of that address range—calls to other than 4085551212 or 4085551213—should be treated as voice.

This feature enables you to add a new field to a voice dial peer to indicate any numbers that the voice dial peer should reject because, although they match the dial peer, they are actually modem calls. For the example above, you can create the following additional dial peers:

```
dial-peer voice 1 pots
  incoming called-number 4085551212
  application data_dialpeer

dial-peer voice 2 pots
  incoming called-number 4085551213
  application data_dialpeer

dial-peer voice 3 pots
  incoming called-number 408555
  application XYZVOICEAPP
```

In this example, XYZVOICEAPP is a hypothetical voice application that you have created.

The gateway processes the longest prefixes first. In this example, if an incoming call is to 4085551213, longest-prefix matching selects dial-peer 2 as the match, not dial-peer 3.

You must still create modem dial peers with those same modem numbers.

Benefits

Flexibility

You can use wildcards freely in voice dial peers and still ensure that modem calls are properly handled.

Future Compatibility

This application-field approach is consistent with approaches that will apply once full voice/dial integration is achieved on Cisco gateways. At that point, all modem calls will have some special application associated with them.

Restrictions

Dual Configurations

Modem calls must be configured twice: in the traditional modem configuration and in dial peers.

Memory

Additional memory is required for modem dial peers.

Performance

Additional dial-peer search time is required to process the additional dial peers and to check whether the matched dial peer is a modem dial peer.

Related Features and Technologies

- Voice over IP

Related Documents

- *Understanding Dial Peers and Call Legs on Cisco IOS Platforms*, available online at http://www.cisco.com/en/US/tech/tk652/tk90/technologies_tech_note09186a008010ae1c.shtml
- *Cisco IOS Voice, Video, and Fax Command Reference, Release 12.2*, available online at http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122cgcr/fvfax_r/index.htm
- *Cisco AS5350 and Cisco AS5400 Universal Gateway Software Configuration Guide*, available online at http://www.cisco.com/univercd/cc/td/doc/product/access/acs_serv/as5400/sw_conf/index.htm
- *Cisco AS5850 Universal Gateway Operations, Administration, Maintenance, and Provisioning Guide*, available online at http://www.cisco.com/univercd/cc/td/doc/product/access/acs_serv/as5850/sw_conf/index.htm

Supported Platforms

- Cisco AS5350 universal gateway
- Cisco AS5400 universal gateway
- Cisco AS5850 universal gateway

Supported Standards, MIBs, and RFCs

Standards

None

MIBs

None

To obtain lists of supported MIBs by platform and Cisco IOS release, and to download MIB modules, go to the Cisco MIB website on Cisco.com at the following URL:

<http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml>

RFCs

None

Prerequisites

You must create a dial plan and dial peers before you can alter them using this feature.

Configuration Examples

Say that you want to create a dial plan such as the following, in which a wildcard is used for voice calls, but in addition there are a few modem numbers:

```
4085551212 modem
4085551213 modem
408555* voice
```

This feature enables you to create the following additional dial peers:

```
dial-peer voice 1 pots
    incoming called-number 4085551212
    application data_dialpeer

dial-peer voice 2 pots
    incoming called-number 4085551213
    application data_dialpeer

dial-peer voice 3 pots
    incoming called-number 408555
    application XYZVOICEAPP
```

In this example, XYZVOICEAPP is a hypothetical voice application that you have created.

The gateway processes the longest prefixes first. In this example, if an incoming call is to 4085551213, longest-prefix matching selects dial-peer 1 as the match, not dial-peer 3.

You must still create modem dial peers with those same modem numbers.

Command Reference

This section documents modified commands. All other commands used with this feature are documented in the Cisco IOS Release 12.2 command reference publications.

Modified Commands

- `application`

application

To enable a specific application on a dial peer, use the **application** command in dial peer configuration mode. To remove the application from the dial peer, use the **no** form of this command.

application *application-name* [**out-bound**]

no application *application-name* [**out-bound**]

Syntax Description

<i>application-name</i>	Name of the predefined application that you wish to enable on the dial peer. For H.323 networks, the application is defined by a Tool Command Language/interactive voice response (TCL/IVR) filename and location. Incoming calls using plain old telephone service (POTS) dial peers and outgoing calls using Multimedia Mail over IP (MMoIP) dial peers are handed off to this application. For Media Gateway Control Protocol (MGCP) or Simple Gateway Control Protocol (SGCP) networks, see the usage guidelines below for valid application names.
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Defaults

No default behavior or values.

Command Modes

Dial peer configuration

Command History

Release	Modification
11.3(6)NA2	This command was introduced on Cisco 2500 series, Cisco 3600 series, and Cisco AS5300 platforms.
12.0(5)T	The SGCPAPP application was supported initially on the Cisco AS5300 universal access server in a private release that was not generally available.
12.0(7)XK	Support for the SGCPAPP application was extended to the Cisco MC3810 multiservice concentrator and Cisco 3600 series routers (except for the Cisco 3620) in a private release that was not generally available.
12.1(2)T	This command was integrated into Cisco IOS Release 12.1(2)T.
12.1(3)T	The MGCPAPP application was supported initially on Cisco AS5300 universal access servers.
12.1(3)XI	The out-bound keyword was added for the store-and-forward fax feature on Cisco AS5300 universal access servers.
12.1(5)T	This command was integrated into Cisco IOS Release 12.1(5)T.
12.2(2)XB	The data_dialpeer application was supported on Cisco AS5350, Cisco AS5400, and Cisco AS5850 universal gateways.
12.2(11)T	This command was implemented in Cisco IOS Release 12.2(11)T.

Usage Guidelines

Use this command to associate a predefined session application with an incoming or outgoing dial peer. Calls using this incoming or outgoing dial peer are handed to the predefined specified session application.

SGCP Networks

For SGCP networks, enter SGCPAPP in uppercase characters. This application can be applied only to POTS dial peers. Note that SGCP dial peers do not use dial peer hunting.



Note In Cisco IOS Release 12.2, you cannot mix SGCP and non-SGCP endpoints in the same T1 controller. You also cannot mix SGCP and non-SGCP endpoints in the same DS0 group.

MGCP Networks

For MGCP networks, enter MGCPAPP in upper-case characters. This application can be applied only to POTS dial peers. Note that MGCP dial peers do not use dial peer hunting.

Modem Calls

For incoming calls to numbers that a voice dial peer should reject because, although they match the dial peer, they are actually modem calls, enter data_dialpeer in lower-case characters. The data_dialpeer application enables fine-grain address segmentation for dial plans in universal gateways that use universal ports to handle simultaneous voice and modem calls.

Examples

The following example shows how to define an application and how to apply it to an outbound MMoIP dial peer for the fax onramp operation:

```
call application voice fax_on_vfc_onramp

dial-peer voice 3 mmoip
  application fax_on_vfc_onramp out-bound
  destination-pattern 57108..
  session target mailto:$d$@mail-server.cisco.com
```

The following example shows how to apply the MGCP application to a dial peer:

```
dial-peer voice 1 pots
  application MGCPAPP
```

The following example shows how to apply the data_dialpeer application to a dial peer:

```
dial-peer voice 1 pots
  incoming called-number 4085551212
  application data_dialpeer
```

Related Commands

Command	Description
call application voice	Defines the name to be used for an application and indicates the location of the appropriate IVR script to be used with this application.
mgcp	Starts the MGCP daemon.
sgcp	Starts and allocates resources for the SCGP daemon.
sgcp call-agent	Defines the IP address of the default SGCP call agent.

Glossary

dial peer—Addressable call endpoint. In Voice over IP, there are two kinds of dial peers: POTS and VoIP.

gateway—A special-purpose device that performs an application-layer conversion of information from one protocol stack to another.

universal port—A device that is capable of being either a voice digital signal processor (DSP) or a modem.