Configure Dial Peers

Overview

Cisco Unified Border Element (CUBE) allows VoIP-to-VoIP connection by routing calls from one VoIP dial peer to another. VoIP interworking is achieved by connecting an inbound dial peer with an outbound dial peer.

Note All CUBE Enterprise deployments must have signaling and media bind statements that are specified at the dial-peer or Voice Class Tenants level. For voice call tenants, you must apply tenants to dial-peers used for CUBE call flows if these dial-peers do not have bind statements that are specified.

Note H.323 protocol is no longer supported from Cisco IOS XE Bengaluru 17.6.1a onwards. Consider using SIP for multimedia applications.

A dial peer is a static routing table, mapping phone numbers to interfaces or IP addresses.

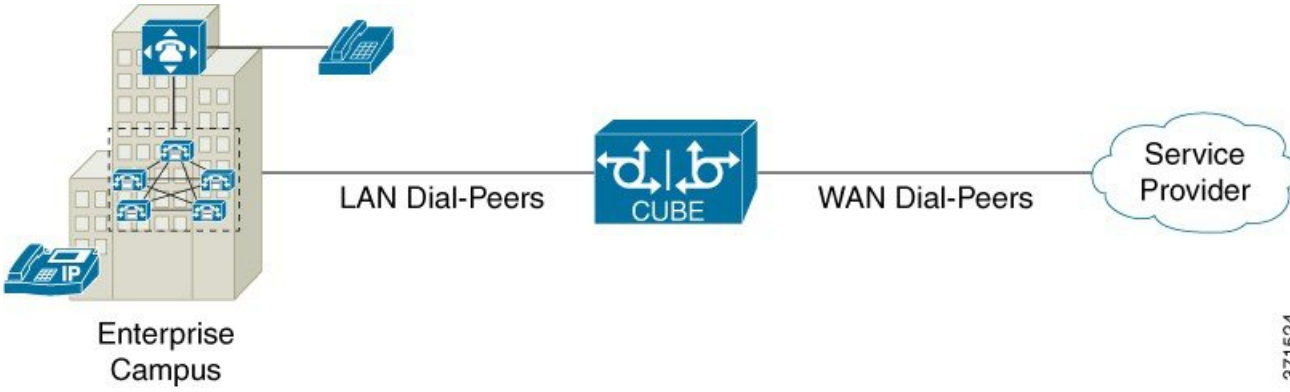
A call leg is a logical connection between two routers or between a router and a VoIP endpoint. A dial peer is associated or matched to each call leg according to attributes that define a packet-switched network, such as the destination address.

Voice-network dial peers are matched to call legs based on configured parameters, after which an outbound dial peer is provisioned to an external component using the component's IP address. For more information, refer to the Dial Peer Configuration Guide.

Dial-peer matching is done based on the VRF ID associated with a particular interface. For more information, see Inbound Dial-Peer Matching Based on Multi-VRF.

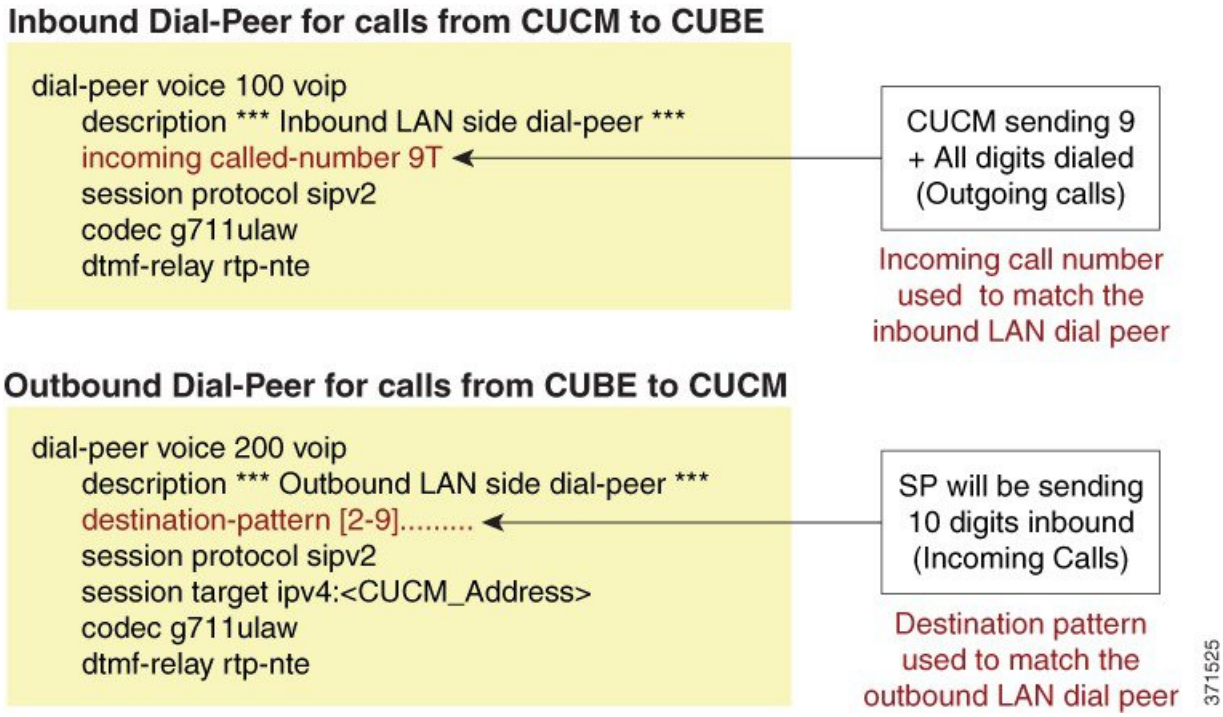
In CUBE, dial peers are classified as LAN dial peers and WAN dial peers based on the connecting entity from which CUBE sends or receives calls.

Figure 1: LAN and WAN Dial Peers



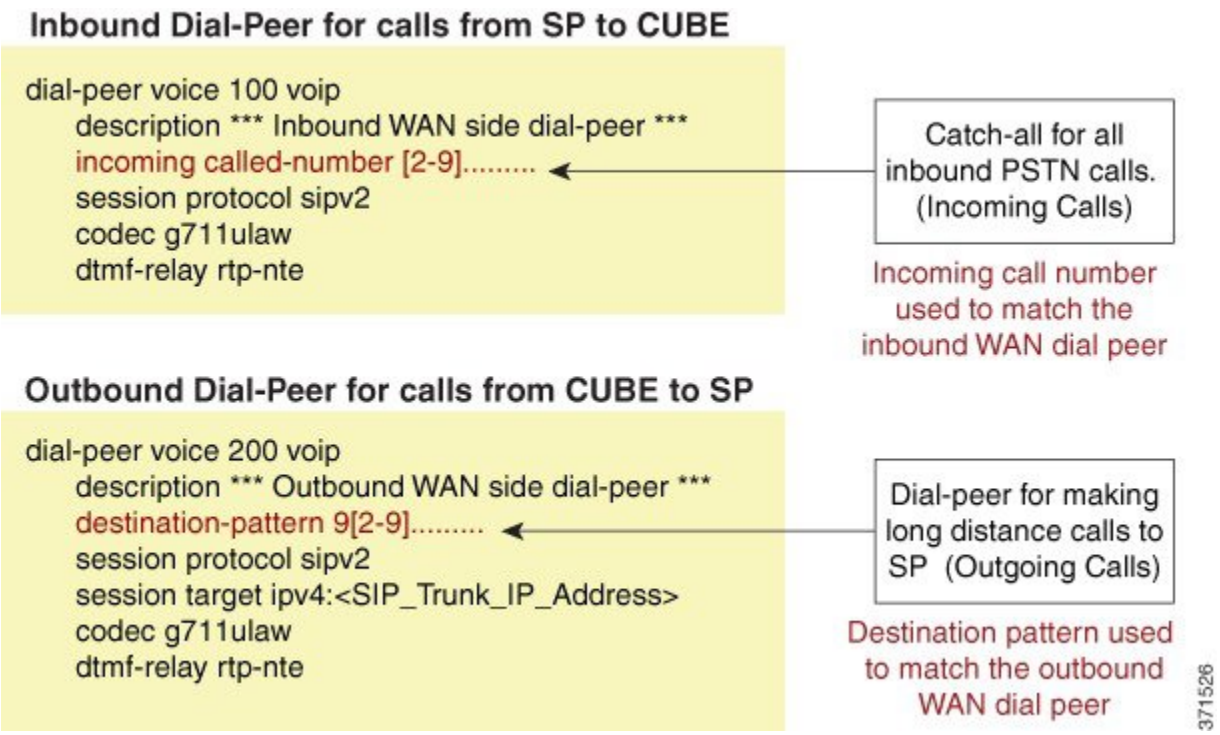
A dial peer is used to send or receive calls between CUBE and the PBX (PBX)—a system of phone extensions within enterprise. Following are examples of inbound and outbound dial peers:

Figure 2: Dial Peers



An another set of dial peer is used to send or receive calls between CUBE and the SIP trunk provider. Given below are examples of inbound and outbound dial peers.

Figure 3: Other Set of dial peers



Preferences

The following is the order in which inbound dial-peer is matched for SIP call-legs:

- **voice class uri** *URI-class-identifier* with **incoming uri** {**via**} *URI-class-identifier*
- **voice class uri** *URI-class-identifier* with **incoming uri** {**request**} *URI-class-identifier*
- **voice class uri** *URI-class-identifier* with **incoming uri** {**to**} *URI-class-identifier*
- **voice class uri** *URI-class-identifier* with **incoming uri** {**from**} *URI-class-identifier*
- **incoming called-number** *DNIS-string*
- **answer-address** *ANI-string*

The following is the order in which outbound dial-peer is matched for SIP call-legs:

- **destination route-string**
- **destination** *URI-class-identifier* with **target carrier-id** *string*
- **destination-pattern** with **target carrier-id** *string*
- **destination** *URI-class-identifier*
- **destination-pattern**
- **target carrier-id** *string*

Note CUCME System dial peers take preference over configured SIP Dail peers.

Configure Inbound and Outbound Dial-Peer Matching

The following commands are used for inbound and outbound dial peer matching:

Table 1: Incoming Dial-Peer Matching

Command in Dial-Peer Configuration	Description	Call Setup Element
incoming called-number *DNIS-string*	This command uses the destination number that was called to match the incoming call leg to an inbound dial peer. This number is called the Dialed Number Identification Service (DNIS) number.	DNIS number
answer-address *ANI-string*	This command uses the calling number to match the incoming call leg to an inbound dial peer. This number is called the originating calling number or Automatic Number Identification (ANI) string.	ANI string
destination-pattern *ANI-string*	This command uses the inbound call leg to the inbound dial peer.	ANI string for inbound
{**incoming called | incoming calling**} **e164-pattern-map** *pattern-map-group-id*	This command uses a group of incoming called (DNIS) or incoming calling (ANI) number patterns to match the inbound call leg to an inbound dial peer. The command calls a globally defined voice class identifier where the E.164 pattern groups are configured.	E.164 Patterns
voice class uri *URI-class-identifier* with **incoming uri** {**from | request | to | via**} *URI-class-identifier*	This command uses the directory URI (Uniform Resource Identifier) number of an incoming INVITE from a SIP entity to match an inbound dial peer. This directory URI is part of the SIP address of a device. The command calls a globally defined voice class identifier where the directory URI is configured.	Directory URI

Table 2: Outgoing Dial-Peer Matching

Dial-Peer Command	Description	Call Setup Element
destination-pattern *DNIS-string*	This command uses DNIS string to match the outbound call leg to the outbound dial peer.	DNIS string for outbound ANI string for inbound

Dial-Peer Command	Description	Call Setup Element
destination *URI-class-identifier*	This command uses the directory URI (Uniform Resource Identifier) number to match the outgoing call leg to an outgoing dial peer. This directory URI is part of the SIP address of a device. The command actually refers to a globally defined voice class identifier where the directory URI is configured.	Directory URI
destination e164-pattern-map *pattern-map-group-id*	This command uses a group of destination number patterns to match the outbound call leg to an outbound dial peer. The command calls a globally defined voice class identifier where the E.164 pattern groups are configured.	E.164 patterns