Cisco IOS Voice Commands: N

This chapter contains commands to configure and maintain Cisco IOS voice applications. The commands are presented in alphabetical order. Some commands required for configuring voice may be found in other Cisco IOS command references. Use the command reference master index or search online to find these commands.

For detailed information on how to configure these applications and features, refer to the *Cisco IOS Voice Configuration Guide*.

name (dial peer cor custom)

See the *Cisco IOS Dial Technologies Command Reference*, Release 12.3 for a description of the name (dial peer cor custom) command.

name (ephone-dn)

To configure a username associated with a directory number, use the **name** command in ephone-dn configuration mode. To disable a username associated with a directory number, use the **no** form of this command.

name *name*

no name *name*

Syntax Description

name	Directory number username.

Defaults

No default behavior or values

Command Modes

Ephone-dn configuration

Command History

Release	Modification
12.1(5)YD	This command was introduced on the following platforms: Cisco 2600 series, Cisco 3600 series, and Cisco IAD2420 series.
12.2(2)XT	This command was implemented on the Cisco 1750 and Cisco 1751.
12.2(8)T	This command was integrated into Cisco IOS Release 12.2(8)T and implemented on the following platforms: Cisco 2600-XM, Cisco 2691, Cisco 3725, and Cisco 3745.

Usage Guidelines

This command configures a username associated with a directory number. The *name* argument is used to provide caller ID for calls originated on the Cisco IP phone directory number. This command is also used to generate directory information for an XML directory accessible from a Cisco IP phone directories button.

Note You must follow the pattern specified in the **directory** command in telephony-service configuration mode to associate the username with the directory. The pattern for surnames in the directory is set either with **first-name-first** or with **last-name-first**.

Examples

The following example configures the username John Smith with the pattern **first-name-first**:

```
Router(config)# ephone-dn 1
Router(config-ephone-dn) name John Smith
```

The following example configures the username Jane Smith with the pattern **last-name-first**:

```
Router(config)# ephone-dn 1
Router(config-ephone-dn) name Smith, Jane
```

Related Commands

Command	Description
ephone	Enters ephone configuration mode.
ephone-dn	Enters ephone-dn configuration mode.
number	Configures a valid number for the Cisco IP phone.
telephony-service	Enables Cisco IOS Telephony Service and enters telephony-service configuration mode.

neighbor (annex g)

To configure the neighboring border elements (BEs) that interact with the local BE for the purpose of obtaining addressing information and aiding in address resolution, enter the **neighbor** command in Annex G configuration mode. To reset the default value, use the **no** form of this command.

neighbor *ip-address*

no neighbor

Syntax Description

ip-address	IP address of the neighbor that is used for exchanging Annex G messages.

Defaults

No default behavior or values

Command Modes

Annex G configuration

Command History

Release	Modification
12.2(2)XA	This command was introduced.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T. Support for the Cisco AS5300, Cisco AS5350, and Cisco AS5400 is not included in this release.
12.2(2)XB1	This command was implemented on the Cisco AS5850.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T. This command is supported on the Cisco AS5300, Cisco AS5350, Cisco AS5400, and Cisco AS5850 in this release.

Examples

The following example configures a neighboring BE that has an IP address and border element ID:

```
Router(config)# call-router h323-annexg be20
Router(config-annexg)# neighbor 121.90.10.42
Router(config-annexg-neigh)# id be30
Router(config-annexg-neigh)# exit
```

Related Commands

Command	Description
advertise	Controls the types of descriptors that the BE advertises to its neighbors.
call-router	Enables the Annex G border element configuration commands.
id	Configures the local ID for the neighboring BE.
port	Configures the port number of the neighbor that is used for exchanging Annex G messages.
query-interval	Configures the interval at which the local BE will query the neighboring BE.

neighbor (tgrep)

To create a TGREP session with another device, use the **neighbor** command in TGREP configuration mode. To disable a TRIP connection, use the **no** form of this command.

neighbor *ip_address*

no neighbor *ip_address*

Syntax Description

ip_address	IP address of a peer device with which TGREP information will be exchanged.

Defaults

No neighboring devices are defined

Command Modes

TGREP configuration

Command History

Release	Modification
12.3(1)	This command was introduced.

Examples

The following example shows that the gateway with the IP address 192.116.56.10 is defined as a neighbor for ITAD 1234:

```
Router(config)# tgrep local-itad 1234
Router(config-tgrep)# neighbor 192.116.56.10
```

Related Commands

Command	Description
tgrep local-itad	Enters TGREP configuration mode and defines an ITAD.

network-clock base-rate

To configure the network clock base rate for universal I/O serial ports 0 and 1, use the **network-clock base-rate** command in global configuration mode. To disable the current network clock base rate, use the **no** form of this command.

network-clock base-rate {**56k** | **64k**}

no network-clock base-rate {**56k** | **64k**}

Syntax Description

56k	Sets the network clock base rate to 56 kbps.
64k	Sets the network clock base rate to 64 kbps.

Defaults

56 kbps

Command Modes

Global configuration

Command History

Release	Modification
11.3(1)MA	This command was introduced on the Cisco MC3810.

Usage Guidelines

This command applies to Voice over Frame Relay and Voice over ATM on the Cisco MC3810.

Examples

The following example sets the network clock base rate to 64 kbps:

```
network-clock base-rate 64k
```

Related Commands

Command	Description
network-clock-select	Uses the network clock source to provide timing to the system backplane PCM bus.
network-clock-switch	Configures the switch delay time to the next priority network clock source when the current network clock source fails.

network-clock-participate

To allow the ports on a specified network module or voice/WAN interface card (VWIC) to use the network clock for timing, use the **network-clock-participate** command in global configuration mode. To restrict the device to use only its own clock signals, use the **no** form of this command.

network-clock-participate [**slot** *slot-number* | **wic** *wic-slot* | **aim** *aim-slot-number*]

no network-clock-participate [**nm** *slot* | **wic** *wic-slot*]

Syntax Description

slot *slot-number*	(Optional) Network module slot number on the router chassis. • Cisco 3660, Cisco 3725, and Cisco 3745—1 to 6.
wic *wic-slot*	Configures the WAN interface card (WIC) slot number on the router chassis. Valid values are 0 or 1.
aim *aim-slot-number*	Configures the Advanced Integration Module (AIM) in the specified slot. The *aim-slot-number* values are 0 or 1 for the Cisco 3660, and 0 or 1 for the Cisco 3725, and Cisco 3745.

Defaults

No network clocking is enabled, and interfaces are restricted to using the clocking generated on their own modules.

Command Modes

Global configuration

Command History

Release	Modification
12.1(5)XM	This command was introduced on the Cisco 3660.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
12.2(2)XB	The **slot** keyword was replaced by the **nm** keyword and the **wic** keyword and the *wic-slot* argument were added.
12.2(8)T	This command was integrated into Cisco IOS Release 12.2(8)T.
12.2(15)T	This command was integrated into Cisco IOS Release 12.2(15)T with support for the Cisco 3660, Cisco 3725, and Cisco 3745. Clocks can be synchronized on two ports. The **aim** keyword was added. The **nm** keyword was replaced by the **slot** keyword.

Usage Guidelines

This command is used for ATM segmentation and reassembly or digital signal processing and Cisco 3660, Cisco 3725, and Cisco 3745 routers.

This command applies to any network module with T1/E1 controllers to provide clocks from a central source (MIX module for the Cisco 3660) to the network module and to the port on the network module. Then that port can be selected as the clock source with the **network-clock-select** command to supply clock to other ports or network modules that choose to participate in network clocking with the **network-clock-participate** command. This command synchronizes the clocks for two ports.

On the Cisco 3700 series, you must use the **network-clock-participate** command and either the **wic** *wic-slot* keyword and argument or the **slot** *slot-number* keyword and argument.

Note If the AIM takes its clock signals from a T1 or E1 controller, it is mandatory to use the **network-clock-select** and **network-clock-participate** commands for ATM. The clocks for the ATM and voice interfaces do not need to be synchronous, but improved voice quality may result if they are.

Note The only VWICs that can participate in network clocking are digital T1/E1 packet voice trunk network modules (NM-HDV), and Fast Ethernet network modules (NM-2W, NM-1FE. and NM-2FE).

Examples

The following example configures the network module in slot 5 to participate in network clocking on a Cisco 3660 with a MIX module:

```
network-clock-participate slot 5
network-clock-select 1 e1
```

The following example on a Cisco 3700 series router specifies that the AIM participates in network clocking and selects port E1 0/1 to provide the clock signals.

```
Router(config)# network-clock-participate wic 0
Router(config)# network-clock-participate aim 0
Router(config)# network-clock-select 2 E1 0/1
```

The following example on a Cisco 3660 specifies the slot number that participates in network clocking and selects port E1 5/0:

```
Router(config)# network-clock-participate slot 5
Router(config)# network-clock-select 1 E1 5/0
```

Related Commands

Command	Description
network-clock-select	Specifies selection priority for the clock sources.
network-clock-source	Selects the port to be the clock source to supply clock resources to other ports or network modules.

network-clock-select

To name a source to provide timing for the network clock and to specify the selection priority for this clock source, use the **network-clock-select** command in global configuration mode. To cancel the network clock selection, use the **no** form of this command.

Cisco 2600 Series and Cisco 3660 with MIX Module

network-clock-select *priority* {**t1** | **e1**} *slot/port*

no network-clock-select *priority* {**t1** | **e1**} *slot/port*

Cisco MC3810

network-clock-select *priority* {**serial 0** | **system** | **bvm** | *controller*}

no network-clock-select *priority* {**serial 0** | **system** | **bvm** | *controller*}

Syntax Description

priority	Selection priority for the clock source (1 is the highest priority). The clock with the highest priority is selected to drive the system time-division-multiplexing (TDM) clocks. When the higher-priority clock source fails, the next-higher-priority clock source is selected. Ranges are as follows: • Cisco 2600 series: 1 to 4 • Cisco 3660: 1 to 8 • Cisco MC3810: 1 to 4
t1	(Cisco 2600 series, Cisco 2600XM, Cisco 3660, Cisco 3725, and Cisco 3745) Port type is T1.
e1	(Cisco 2600 series, Cisco 2600XM, Cisco 3660, Cisco 3725, and Cisco 3745) Port type is E1.
slot	(Cisco 2600 series, Cisco 2600XM, Cisco 3660, Cisco 3725, and Cisco 3745) Slot number identifying the controller that is the clock source. • Cisco 2600 series or Cisco 2600XM—0 (built-in WIC slot) or 1 (network module slot). • Cisco 3660, Cisco 3725, and Cisco 3745—1 to 6.
port	(Cisco 2600 series, Cisco 2600XM, Cisco 3660, Cisco 3725, and Cisco 3745) Port number identifying the controller that is the clock source. The range is from 0 to 3.
serial 0	(Cisco MC3810) (Optional) Specifies serial interface 0 as the clock source.
system	(Cisco MC3810) (Optional) Specifies the system clock as the clock source.
bvm	Clocking priority for the BRI voice module (BVM).
controller	(Cisco MC3810) (Optional) Specifies which controller is the clock source. You can specify either the trunk controller (T1/E1 0) or the digital voice module (T1/E1 1).

Defaults

Cisco 2600 series and Cisco 2600XM

The network clock source is the Advanced Integration Module (AIM) phase-locked loop (PLL) with priority 5, which indicates that the network clock is in free running mode.

Cisco 3660, Cisco 3725, and Cisco 3745

The network clock source is the backplane PLL with priority 9, which indicates that the network clock is in free running mode.

Cisco MC3810

No network clock source is specified.

Note Default clock values can fall outside the configurable range because they are derived from an external source.

Command Modes

Global configuration

Command History

Release	Modification
11.3 MA	This command was introduced on the Cisco MC3810.
12.0(3)XG	The BVM as a possible network clock source was added.
12.1(5)XM	This command was implemented on the Cisco 3660. The keywords **t1** and **e1** were introduced.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
12.2(2)XB	This command was implemented on the Cisco 2600 series and Cisco 3660 with AIMs installed.
12.2(8)T	This command was integrated into Cisco IOS Release 12.2(8)T.
12.2(15)T	This command was implemented on the Cisco 2600XM, Cisco 2691, Cisco 3725, and Cisco 3745.

Usage Guidelines

When an active clock source fails, the system chooses the next lower priority clock source specified by this command. When a higher-priority clock becomes available, the system automatically reselects the higher-priority clock source.

Cisco 2600 series, Cisco 3660, and Cisco 3700 series

This command is used on Cisco 2600 series and Cisco 2600XM with AIMs installed or on the Cisco 3660, Cisco 3725, or Cisco 3745 with Multiservice Interchange (MIX) modules installed. This command names a controller to provide clocking signals to the backplane, which then provides the names to all the network modules that are participating in network clocking.

Cisco MC3810

This command applies to Voice over Frame Relay, Voice over ATM, and Voice over HDLC on the Cisco MC3810. Use the network-clock-select command to establish the clock-selection priority when there are multiple sources of line (network) clocking in a Cisco MC3810. Possible sources of line clocking for the Cisco MC3810 are the BRI voice module (BVM), the multiflex trunk module (MFT), and a serial port configured for clock rate line.

Note If the BRI backup port (BRI 0) is installed and becomes active, it automatically recovers network clock for as long as it remains active. However, you can not give port BRI 0 a clock-selection priority.

Examples

Cisco 2600 series, Cisco 3660, and Cisco 3700 series

The following example shows how to select the controller in slot 5, port 1, to provide the clock at priority 3 on a Cisco 2600 series, Cisco 2600XM, Cisco 3660, Cisco 3725, or Cisco 3745:

```
network-clock-select 3 t1 5/1
```

Cisco MC3810

The following example sets the priority of four network clock sources. When the clock source with the highest priority (controller T1 0) fails, the Cisco MC3810 switches the clock source to the second highest priority (controller T1 1).

```
network-clock-select 1 T1 0
network-clock-select 2 T1 1
network-clock-select 3 serial 0
network-clock-select 4 system
```

The following example sets a possible clock selection priority in a Cisco MC3810 with a BRI voice module (BVM) installed:

```
network-clock-select 1 T1 0
network-clock-select 2 bvm
network-clock-select 3 serial 0
network-clock-select 4 system
```

Related Commands

Command	Description
network-clock-participate	Configures a network module to participate in network clocking.
network-clock-switch	Configures the switch delay time to the next priority network clock source when the current network clock source fails only on the Cisco MC3810.

network-clock-switch

To configure the switch delay time to the next priority network clock source when the current network clock source fails, use the **network-clock-switch** command in global configuration mode. To cancel the network clock delay time selection, use the **no** form of this command.

network-clock-switch [*switch-delay* | **never**] [*restore-delay* | **never**]

no network-clock-switch

Syntax Description

switch-delay	(Optional) Delay time, in seconds, before the next-priority network clock source is used when the current network clock source fails. Range is from 0 to 99. Default is 10.
never	(Optional) No delay time before the current network clock source recovers.
restore-delay	(Optional) Delay time, in seconds, before the current network clock source recovers. Range is from 0 to 99.
never	(Optional) No delay time before the next-priority network clock source is used when the current network clock source fails.

Defaults

10 seconds

Command Modes

Global configuration

Command History

Release	Modification
11.3(1)MA	This command was introduced on the Cisco MC3810.

Usage Guidelines

This command applies to Voice over Frame Relay and Voice over ATM on the Cisco MC3810.

Examples

The following example switches the network clock source after 20 seconds and sets the delay time before the current network clock source recovers to 20 seconds:

```
network-clock-switch 20 20
```

Related Commands

Command	Description
network-clock-select	Uses the network clock source to provide timing to the system backplane PCM bus.

network-locale

To set the definition of the tones and cadences on the Cisco IP Phone 7940 and Cisco IP Phone 7960 for a specific geographic area, use the **network-locale** command in telephony-service configuration mode. To disable selection of a code, use the **no** form of this command.

network-locale *locale-code*

no network-locale *locale-code*

Syntax Description

locale-code	The following ISO-3166 codes are valid entries: • **FR**—France • **DE**—Germany • **IT**—Italy • **ES**—Spain • **US**—United States

Defaults

The default country code is US (United States).

Command Modes

Telephony-service configuration

Command History

Release	Modification
12.2(11)YT	This command was introduced.
12.2(15)T	This command was integrated into Cisco IOS Release 12.2(15)T.

Usage Guidelines

Use this command with Cisco IOS Telephony Service (ITS) V2.1 or a later version.

The **show telephony-service tftp-bindings** command displays the locale-specific call-progress tone files that are accessible to IP phones using TFTP.

Examples

The following example sets tones and cadences for France:

```
Router(config)# telephony-service
Router(config-telephony-service)# network-locale FR
```

Related Commands

Command	Description
show telephony-service tftp-bindings	Displays the current configuration files that are accessible to IP phones.
telephony-service	Enables Cisco ITS and enters telephony-service configuration mode.

non-linear

To enable nonlinear processing in the echo canceller, use the **non-linear** command in voice-port configuration mode. To disable nonlinear processing, use the **no** form of this command.

non-linear

no non-linear

Syntax Description

This command has no arguments or keywords.

Defaults

Enabled

Command Modes

Voice-port configuration

Command History

Release	Modification
11.3(1)T	This command was introduced on the Cisco 3600 series.
12.2(13)T	This command was integrated into Cisco IOS Release 12.2(13)T and implemented on platforms that support the extended G.168 echo canceller (EC): Cisco 1700 series, Cisco 2600 series, Cisco 2600XM, Cisco 3600 series, Cisco 3700 series, Cisco 7200 series, Cisco 7500 series, Cisco ICS7750, Cisco MC3810, and Cisco VG200

Usage Guidelines

The function enabled by this command is also generally known as residual echo suppression. This command is associated with the echo canceller operation. The **echo-cancel enable** command must be enabled for this command to take effect. Use this command to shut off any signal if no near-end speech is detected.

The Cisco G.165 EC is enabled by default with the echo suppressor turned off. The echo suppressor can be turned on only when the default Cisco G.165 EC is used. The default **echo suppressor** command is still visible when the extended EC is selected, but it does not do anything.

Enabling the **non-linear** command normally improves performance, although some users might perceive truncation of consonants at the end of sentences when this command is enabled.

Examples

The following example enables nonlinear call processing on the Cisco 3600 series router:

```
voice-port 1/0/0
 non-linear
```

The following example enables nonlinear call processing on the Cisco MC3810:

```
voice-port 1/1
 non-linear
```

Related Commands

Command	Description
echo-cancel enable	Enables the cancellation of voice that is sent out the interface and is received on the same interface.

nsap

To specify the network service access point (NSAP) address for a local video dial peer, use the **nsap** command in dial-peer configuration mode. To remove any configured NSAP address from the dial peer, use the **no** form of this command.

nsap *nsap-address*

no nsap

Syntax Description

nsap-address	A 40-digit hexadecimal number; the number must be unique on the device.

Defaults

No NSAP address for a video dial peer is configured

Command Modes

Dial-peer configuration

Command History

Release	Modification
12.0(5)XK	This command was introduced for ATM video dial-peer configuration on the Cisco MC3810.
12.0(7)T	This command was integrated into Cisco IOS Release 12.0(9)T.

Usage Guidelines

The address must be unique on the router.

Examples

On a Cisco MC3810, the following example sets up an NSAP address for the local video dial peer designated as 10:

```
dial-peer video 10 videocodec
 nsap 47.0091810000000002F26D4901.333333333332.02
```

Related Commands

Command	Description
dial-peer video	Defines a video ATM dial peer for a local or remote video codec, specifies video-related encapsulation, and enters dial-peer configuration mode.
show dial-peer video	Displays dial-peer configuration.

number (ephone-dn)

To configure a valid number for the Cisco IP phone, use the **number** command in ephone-dn configuration mode. To disable a number for the Cisco IP phone, use the **no** form of this command.

number *number* [**secondary** *number*] [**no-reg** [**both** | **primary**]]

no number *number* [**secondary** *number*] [**no-reg** [**both** | **primary**]]

Syntax Description

number	String of up to 16 characters that represents an E.164 telephone number.
secondary	(Optional) A second telephone number with an ephone-dn.
no-reg	(Optional) The E.164 numbers in the dial peer do not register to the gatekeeper. If you do not specify an option (**both** or **primary**) after the **no-reg** keyword, only the secondary number is not registered.
both	(Optional) Both numbers are not registered.
primary	(Optional) Primary number is not registered.

Defaults

No secondary phone number is associated with the ephone-dn

Command Modes

Ephone-dn configuration

Command History

Release	Modification
12.1(5)YD	This command was introduced on the following platforms: Cisco 2600, Cisco 3600, and Cisco IAD2420 series.
12.2(2)XT	This command was implemented on the Cisco 1750 and Cisco 1751.
12.2(8)T	This command was integrated into Cisco IOS Release 12.2(8)T and was implemented on the Cisco 3725 and Cisco 3745.
12.2(8)T1	This command was implemented on the Cisco 2600-XM and Cisco 2691.
12.2(11)T	This command was implemented on the Cisco 1760.

Usage Guidelines

This command configures a valid number for the Cisco IP phone. The **secondary** keyword allows you to associate a second telephone number with an ephone-dn so that the Cisco IP phone line can be called by dialing either the main or secondary phone number. The secondary number may contain wildcards; for example, 50.. (number 50 followed by wildcards). The **no-reg** keyword specifies an E.164 number in the dial peer to not register to the gatekeeper. If you do not specify either **both** or **primary** after the **no-reg** keyword, only the secondary number is not registered.

Examples

The following example sets 5001 as the primary extension number for a Cisco IP phone, and 0 as the secondary number. This allows the telephone number 5001 to act as a regular extension number and also to act as the operator line such that callers who dial 0 are routed to the phone line with extension number 5001.

```
Router(config)# ephone-dn 1
Router(config-ephone-dn)# number 5001 secondary 0
```

The following example sets 5001 as the primary extension number for a Cisco IP phone, and "500." (the number 500 followed by a decimal point) as the secondary number. This allows any calls to extension numbers from range 5000 to 5009 to be routed to extension 5001 if the actual extension number dialed cannot be found. For example, IP phones may be active in the system with lines that correspond to 5001, 5002, 5004, 5005, and 5009. A call to 5003 or 5006 to 5009 would be unable to locate a phone with extensions 5003 or 5006 to 5008, so the call would be routed to extension 5001.

```
Router(config-ephone-dn)# number 5001 secondary 500.
```

Related Commands

Command	Description
ephone	Enters ephone configuration mode.
ephone-dn	Enters ephone-dn configuration mode.
huntstop	Sets the huntstop attribute for the dial peers associated with the Cisco IP phone lines.
name	Configures a username associated with a directory number.
preference	Sets preference for the attached dial peer for a directory number.
telephony-service	Enables Cisco IOS Telephony Service and enters telephony-service configuration mode.

numbering-type

To match on a number type for a dial-peer call leg, use the **numbering-type** command in dial-peer configuration mode. To remove the numbering type for a dial-peer call leg, use the **no** form of this command.

numbering-type {**international** | **abbreviated** | **national** | **network** | **reserved** | **subscriber** | **unknown**}

no numbering-type {**international** | **abbreviated** | **national** | **network** | **reserved** | **subscriber** | **unknown**}

Syntax Description

international	International numbering type.
abbreviated	Abbreviated numbering type.
national	National numbering type.
network	Network numbering type.
reserved	Reserved numbering type.
subscriber	Subscriber numbering type.
unknown	Numbering type unknown.

Defaults

No default behaviors or values

Command Modes

Dial-peer configuration

Command History

Release	Modification
12.0(7)XR1	This command was introduced on the Cisco AS5300.
12.0(7)XK	This command was implemented as follows: • VoIP: Cisco 2600 series, Cisco 3600 series, Cisco MC3810 • VoFR: Cisco 2600 series, Cisco 3600 series, Cisco MC3810 • VoATM: Cisco 3600 series, Cisco MC3810
12.1(1)T	This command was integrated into Cisco IOS Release 12.1(1)T and implemented as follows: • VoIP: Cisco 1750, Cisco 2600 series, Cisco 3600 series, Cisco AS5300, Cisco 7200 series, Cisco 7500 series
12.1(2)T	This command was implemented as follows: • VoIP: Cisco MC3810 • VoFR: Cisco 2600 series, Cisco 3600 series, Cisco MC3810 • VoATM: Cisco 3600 series, Cisco MC3810
12.2(2)XB1	This command was implemented on the Cisco AS5850.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T.

Usage Guidelines

This command is supported for POTS, VoIP, VoFR, and VoATM dial peers. The numbering type options are implemented as defined by the ITU Q.931 specification.

Examples

The following example shows how to configure a POTS dial peer for network usage:

```
dial-peer voice 100 pots
 numbering-type network
```

The following example shows how to configure a VoIP dial peer for subscriber usage:

```
dial-peer voice 200 voip
 numbering-type subscriber
```

Related Commands

Command	Description
rule	Applies a translation rule to a calling party number or a called party number for both incoming and outgoing calls.
show translation-rule	Displays the contents of all the rules that have been configured for a specific translation name.
test translation-rule	Tests the execution of the translation rules on a specific name-tag.
translate	Applies a translation rule to a calling party number or a called party number for incoming calls.
translate-outgoing	Applies a translation rule to a calling party number or a called party number for outgoing calls.
translation-rule	Creates a translation name and enters translation-rule configuration mode.
voip-incoming translation-rule	Captures calls that originate from H.323-compatible clients.

num-exp

To define how to expand a telephone extension number into a particular destination pattern, use the **num-exp** command in global configuration mode. To cancel the configured number expansion, use the **no** form of this command.

num-exp *extension-number expanded-number*

no num-exp *extension-number*

Syntax Description

extension-number	One or more digits that define an extension number for a particular dial peer.
expanded-number	One or more digits that define the expanded telephone number or destination pattern for the extension number listed.

Defaults

No number expansion is defined

Command Modes

Global configuration

Command History

Release	Modification
11.3(1)T	This command was introduced on the Cisco 3600 series.
12.0(3)T	This command was implemented on the Cisco AS5300.
12.0(4)XL	This command was implemented on the Cisco AS5800.
12.0(7)T	This command was integrated into Cisco IOS Release 12.0(7)T.
12.0(7)XK	This command was implemented on the Cisco MC3810.
12.1(2)T	This command was integrated into Cisco IOS Release 12.1(2)T.

Usage Guidelines

Use this command to define how to expand a particular set of numbers (for example, a telephone extension number) into a particular destination pattern. With this command, you can bind specific extensions and expanded numbers together by explicitly defining each number, or you can define extensions and expanded numbers using variables. You can also use this command to convert seven-digit numbers to numbers containing less than seven digits.

Use a period (.) as a variable or wildcard, representing a single number. Use a separate period for each number that you want to represent with a wildcard—for example, if you want to replace four numbers in an extension with wildcards, type in four periods.

Examples

The following example expands the extension number 55541 to the number 14085555541:

```
num-exp 55541 14085555541
```

The following example expands all five-digit extensions beginning with 5 such that the 5 is replaced with the digits 1408555 at the beginning of the extension number:

```
num-exp 5.... 1408555....
```

Related Commands

Command	Description
dial-peer terminator	Designates a special character to be used as a terminator for variable length dialed numbers.
forward-digits	Specifies which digits to forward for voice calls.
prefix	Specifies a prefix for a dial peer.