



# Caller ID

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## Document Update Alert

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This document was originally produced for Cisco IOS Release 12.1(3)T. This feature has been updated in subsequent releases, and more recent documentation is available.

**If you are using Cisco IOS Release 12.3 or higher**, refer to the following documentation in the Cisco IOS Voice Configuration Library, Release 12.3:

- [Caller ID](#)

**If you are using Cisco IOS Release 12.2 or higher**, refer to the following documentation in the *Cisco IOS Voice, Video, and Fax Configuration Guide*, Release 12.2:

- [Caller ID on Cisco 2600 and 3600 Series Routers and Cisco MC3810 Multiservice Concentrators](#)
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This document describes Cisco IOS configuration for Caller ID as supported on the Cisco MC3810 multiservice access concentrator and on Cisco 2600 and 3600 series modular access routers. It includes the following sections:

- Feature Overview, page 2
- Supported Platforms, page 5
- Supported Standards, MIBs, and RFCs, page 6
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# Feature Overview

Caller ID (sometimes called *CLID* or *ICLID* for incoming call line identification) is an analog service offered by a Central Office (CO), which supplies calling party information to subscribers. Typically, the calling party number, and sometimes the name, appears on a station (also called *extension*) device such as a PC telephony software application screen or the display on a telephone. Type 1 Caller ID provides the calling party information while the call is ringing, and Type 2 Caller ID provides the additional convenience of calling number display while the recipient is on another call. In this release, Cisco provides only Type 1 Caller ID support.

The Caller ID feature supports the sending of calling party information from Foreign Exchange Station (FXS) loop-start and ground-start ports into a Caller-ID equipped telephone device. The FXS port emulates the extension interface of a private-branch exchange (PBX) or the subscriber interface for a CO switch.

The Caller ID feature supports receiving calling-party information at Foreign Exchange Office (FXO) loop-start and ground-start ports. The FXO port emulates a connection to a telephone and allows connection to a PBX extension interface or (where regulations permit) a CO subscriber line.

## Benefits

### Enterprises

Caller ID is invaluable for increasing efficiency through its use in computer telephony integration (CTI) applications, where for example, calling party information can be used to retrieve client information from a database when a customer call is received.

### Service Provider

In traditional telephony, Caller ID is a standard service that service provider customers expect. With the Cisco support for Caller ID, service providers can offer the feature for packet-switched Voice over IP, Voice over Frame Relay, and Voice over ATM services.

# Restrictions

This section describes how Caller ID information is carried inside and outside the network.

## Calling Name and Number

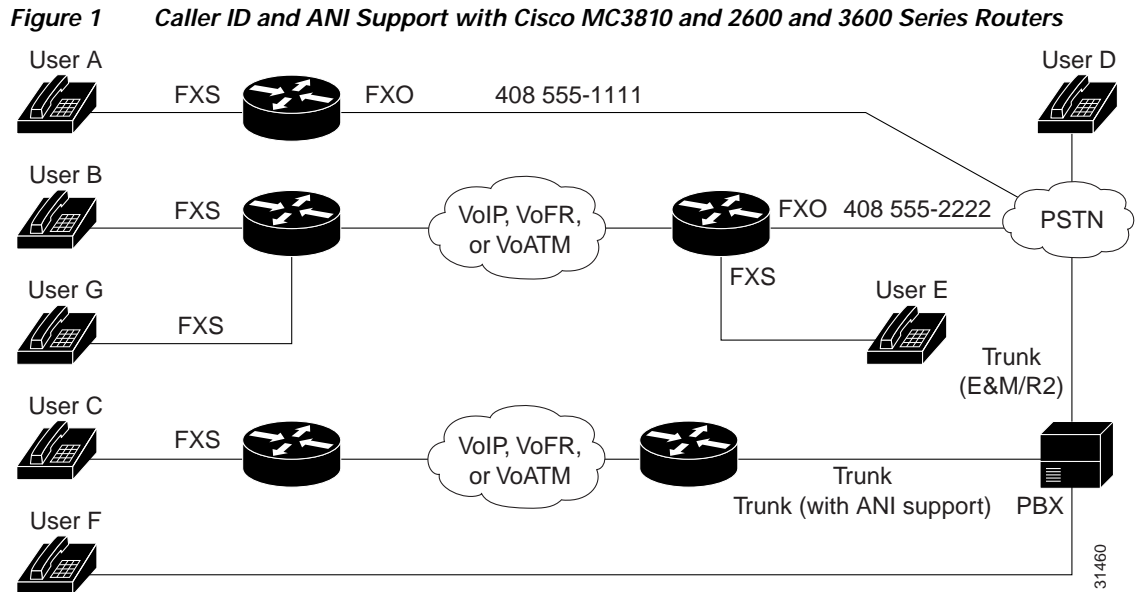


Figure 1 shows a hypothetical topology where users, indicated by telephone icons, receive different types of Caller-ID support depending upon whether the Caller-ID information from the caller passes through an FXO or FXS port before reaching the party who receives the call.

Table 1 shows how Caller-ID information is received by the users in Figure 1:

- When an outbound Caller-ID call is carried by a trunk with E&M or R2 signaling, the recipient sees only the ANI calling number of the caller.
- When Caller-ID information is sent from an originating FXS station by way of the PSTN, the recipient sees only the identification of the FXO port through which the call is routed.
- When Caller-ID information is sent from an originating station over a trunk with E&M or R2 signaling and through the PSTN, the recipient sees only the trunk identification because the ANI information is not preserved by the PSTN.

**Table 1** Caller-ID Information Received

User Originating Call	User Receiving Call	Caller-ID Information Received
A	D	D receives the Caller ID of the PSTN subscriber line only (408 555-1111)
D	A	A receives the Calling Number and Name of D, provided that the PSTN subscriber line (408 555-1111) is enabled for Caller ID.
D	B	B receives the Calling Number and Name of D, provided that the PSTN subscriber line (408 555-1111) is enabled for Caller ID.
B	D	D receives the Caller ID of the PSTN subscriber line only (408 555-2222).
B	E	E receives the Calling Number and Name string of B
B	G	G receives the Calling Number and Name string of B
E	B	B receives the Calling Number and Name string of E
F	C	C receives the Calling Number of F
C	F	Calling Number of C
D	C	C Receives Calling Number of D through ANI
C	D	Calling Number of C goes through ANI to the PSTN. However, the PSTN displays only the trunk ID, so D sees only this information.
C	F	The information that F receives depends on the PBX features available.

## Call Time Display

When Caller-ID information is sent, the local time set on the router is transmitted with the station name and number. If a call received on an FXO port is terminated on an FXS port, the calling time received on the FXO port is replaced by the local time while transmitting Caller ID to the FXS port. This is also true for calls received from the network. The router should be configured to retrieve network time at boot up from an NTP server in order to maintain the correct local time setting.

## Related Documents

For more information about voice configuration, see the following Cisco IOS Release 12.1 guides and Cisco MC3810 guides:

- *Cisco IOS Multiservice Applications Configuration Guide*
- *Cisco IOS Multiservice Applications Command Reference*

The following configuration guides describe the configuration of IP, Frame Relay, and ATM:

- For more information about configuring IP, see the Cisco IOS Release 12.1 *Cisco IOS IP and IP Routing Configuration Guide*.
- For more information about configuring Frame Relay, see “Configuring Frame Relay” in the Cisco IOS Release 12.1 *Wide-Area Networking Configuration Guide*.
- For more information about configuring ATM, see “Configuring ATM” in the Cisco IOS Release 12.1 *Wide-Area Networking Configuration Guide*.

The following online feature documentation and installation guides describe the configuration and installation of hardware components:

- For information about configuring Cisco MC3810 HCMs, see the Cisco IOS Release 12.1(2)T feature module *Configuring Cisco MC3810 Series Concentrators to Use High-Performance Compression Modules* at the following location:  
[http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121t/121t2/dt\\_38hcm.htm](http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121t/121t2/dt_38hcm.htm)
- For information about installing Cisco MC3810 hardware, see *Cisco MC3810 Multiservice Concentrator Hardware Installation* at the following location:  
<http://www.cisco.com/univercd/cc/td/doc/product/access/multicon/3810hwig/index.htm>
- For information about installing Cisco 2600 series hardware, see the documents listed at the following location:  
[http://www.cisco.com/univercd/cc/td/doc/product/access/acs\\_mod/cis2600/index.htm](http://www.cisco.com/univercd/cc/td/doc/product/access/acs_mod/cis2600/index.htm)
- For information about installing Cisco 3600 series hardware, see the documents listed at the following location:  
[http://www.cisco.com/univercd/cc/td/doc/product/access/acs\\_mod/cis3600/index.htm](http://www.cisco.com/univercd/cc/td/doc/product/access/acs_mod/cis3600/index.htm)

The following online feature documentation describes new voice-port features that are available in Cisco IOS Release 12.1(2)T and available with Caller ID:

- *Voice Port Enhancements in Cisco 2600 and 3600 Series Routers and MC3810 Series Concentrators*  
<http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121t/121t2/dtvoxp.htm>
- *Voice Port Testing Enhancements in Cisco 2600 and 3600 Series Routers and MC3810 Series Concentrators*  
[http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121t/121t2/dt\\_tstvp.htm](http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121t/121t2/dt_tstvp.htm)

## Supported Platforms

This feature is supported on the following platforms:

- Cisco 2610
- Cisco 2611
- Cisco 2612
- Cisco 2613
- Cisco 2620
- Cisco 2621
- Cisco 3620
- Cisco 3640
- Cisco 3661
- Cisco 3662
- Cisco MC3810

# Supported Standards, MIBs, and RFCs

## Standards

- For Telcordia Caller-ID support in North America Australia, China, Hong Kong, and Singapore, Telcordia Technologies (formerly Bellcore) GR-30-CORE
- For European Telecommunication Standards Institute (ETSI) Caller-ID support in France, Germany, Norway, Italy, Spain, South Africa, Turkey, and UK (CCA), European Telecommunication Standard ETS 300 648, ETS 300 659-1
- For ETSI Caller-ID support in UK (British Telecom), British Telecomm SIN227, SIN242
- For NT FSK Caller-ID support in Japan, Nippon Telegraph & Telephone Corporation standard
- For DTMF-based Caller-ID support in Brazil, Belgium, Sweden, Denmark, Holland, Iceland, and Saudi Arabia, ETS 300 648, ETS 300 659-1

## MIB

CISCO-VOICE-COMMON-DIAL-CONTROL-MIB

# Prerequisites

The following hardware, software, and basic configurations are required to support Caller ID:

- Install Cisco IOS Release 12.1(3)T software.
- Obtain Caller ID service from your service provider.
- Establish a working network.
  - For more information about configuring IP, see the Cisco IOS Release 12.1 *Cisco IOS IP and IP Routing Configuration Guide*.
  - For more information about configuring Frame Relay, see “Configuring Frame Relay” in the Cisco IOS Release 12.1 *Wide-Area Networking Configuration Guide*.
  - For more information about configuring ATM, see “Configuring ATM” in the Cisco IOS Release 12.1 *Wide-Area Networking Configuration Guide*.
- Complete your company’s dial plan.
- Establish a working telephony network based on your company’s dial plan:
  - *Cisco IOS Multiservice Applications Configuration Guide* for Cisco IOS Release 12.1 provides information about setting up voice networks.
  - For more information about configuring VoATM on Cisco 3600 series routers, see *Voice over ATM on Cisco 3600 Series Routers*  
<http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121t/121t2/dtvoatm.htm>
  - For more information about configuring VoFR on Cisco 2600 and 3600 series routers, see *Voice over Frame Relay Using FRF.11 and FRF.12 Configuration Updates*  
<http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121t/121t2/dtvofr.htm>

- For more information about configuring VoIP on the Cisco MC3810, see *Configuring Voice over IP for Cisco MC3810 Series Concentrators*  
<http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121t/121t2/dtvoip38.htm>
- If applicable to your network, install a 2-channel analog plain old telephone service (POTS) FXS voice interface card (VIC) in a Cisco 2600 series chassis slot or Cisco 2600 or 3600 network module.
- If applicable to your network, install one of the following Cisco MC3810 FXO network modules:
  - MC3810-APM-FXO (generic); Caller ID is supported in versions v04.xx and later of this APM.
  - MC3810-FXO-PR2 (Pacific Rim 2); Caller ID is supported in versions v02.xx and later of this APM.
  - MC3810-FXO-PR3 (Pacific Rim 3); Caller ID is supported in versions v02.xx and later of this APM.
  - MC3810-FXO-UK (UK); Caller ID is supported in versions v03.xx and later of this APM.
  - MC3810-FXO-GER (Germany); Caller ID is supported in versions v03.xx and later of this APM.
- For a Cisco MC3810, install a high-performance compression module (HCM):
  - An HCM2 to supply 4 or 8 voice or fax channels at high or medium codec complexity.
  - An HCM6 to supply 12 or 24 voice or fax channels at high or medium codec complexity.
- For information about configuring Cisco MC3810 HCMs, see the 12.1(2)T feature module: *Configuring Cisco MC3810 Series Concentrators to Use High-Performance Compression Modules*  
[http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121t/121t2/dt\\_38hcm.htm](http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121t/121t2/dt_38hcm.htm)

For information about installing Cisco MC3810 HCMs, see *Cisco MC3810 Multiservice Concentrator Hardware Installation*

<http://www.cisco.com/univercd/cc/td/doc/product/access/multicon/3810hwig/index.htm>



**Note** The Cisco MC3810 voice-compression module does not support Caller ID. Install an HCM instead.

- Install at least one other network module or WAN interface card to provide the connection to the LAN or WAN.



**Note**

Specific hardware is required to provide full support for the Caller ID features. To determine support for these features in your configuration, review the appropriate hardware documentation and data sheets. This information is available on Cisco.com.

## Configuration Tasks

Voice-port configuration is the only special configuration required to support Caller ID. To configure your voice network fully, use the reference information in “Prerequisites” section on page 6, to perform the following tasks on your router or routers:

- Configure your IP, ATM, or Frame Relay network to support real-time voice traffic.

- Configure voice cards for codec settings.
- Configure voice dial peers. Each dial peer defines the characteristics associated with a call leg.


The remainder of this section describes the steps required to configure Caller ID on FXS and FXO voice ports.

## Configuring Voice Ports to Support Caller ID

Follow the steps in order to configure FXS and FXO voice ports for Caller ID. Not all voice-port commands appear here. Use the reference information in the “Related Documents” section on page 4 to find out more about voice-port configuration.

### Required Preliminary Steps

	Command	Purpose
Step 1	Router(config)# <b>configure terminal</b>	Enter global configuration mode.
Step 2	Router(config)# <b>voice-port</b> slot/port  or  Router(config)# <b>voice-port</b> slot-number/subunit-number/port	Enter voice-port configuration mode on a Cisco MC3810.  The <i>slot</i> number for analog voice ports on the Cisco MC3810 is always 1. There is no port 0 for voice ports.  Enter voice-port configuration mode on a Cisco 2600 or 3600 series router.
Step 3	Router(config-voiceport)# router(config-voiceport)# <b>connection</b> { <b>plar</b>   <b>tie-line</b>   <b>plar-opx</b> } digits { <b>trunk</b> digits [ <b>answer-mode</b> ]}	Specify the voice-port connection type and the destination telephone number. <ul style="list-style-type: none"> <li>• <b>plar</b> for private line automatic ringdown</li> <li>• <b>tie-line</b> for a tie-line connection to a PBX</li> <li>• <b>plar-opx</b> for PLAR off-premises extension (the local voice port provides a local response before the remote voice port receives an answer)</li> <li>• <b>trunk</b> for a straight tie-line connection to a PBX</li> <li>• <b>answer-mode</b> if a trunk connection is specified and the router should not attempt to initiate a trunk connection, but should wait for an incoming call before establishing the trunk.</li> <li>• <i>digits</i> specifies the destination telephone number.</li> </ul>
Step 4	Router(config-voiceport)# <b>voice confirmation-tone</b>	If <b>connection plar</b> or <b>connection plar-opx</b> is configured, enable the two-beep confirmation tone that a caller hears when picking up the handset.
Step 5	Router(config-voiceport)# <b>dial-type</b> { <b>dtmf</b>   <b>pulse</b> }	(For FXO ports only) Select the appropriate dial type for out-dialing.



Command	Purpose
<b>Step 6</b> Router(config-voiceport)# <b>signal</b> { <b>loop-start</b>   <b>ground-start</b> }	Select the appropriate signal type for this interface.
<b>Step 7</b> Router(config-voiceport)# <b>codec</b> { <b>g729r8</b>   <b>g729ar8</b>   <b>g726r32</b>   <b>g711alaw</b>   <b>g711ulaw</b> }	<p>(Cisco MC3810 only) Configure the voice-port compression mode. The <b>g729ar8</b> value is the default and is recommended.</p> <p> <b>Note</b> On Cisco 2600 and 3600 series routers, codec configuration is performed on dial peers. On all supported routers, <b>codec</b> command options may vary depending upon the voice card settings.</p>
<b>Step 8</b> Router(config-voiceport)# <b>cptone</b> locale	<p>Select the appropriate voice call progress tone for this interface. Caller ID requires this setting. The Caller ID standard (Bellcore/Telcordia, ETSI, ETSI-DTMF) is determined by this command.</p> <p>On the Cisco MC3810, the default setting for <i>locale</i> is <b>northamerica</b>. Valid entries are: <b>argentina, australia, austria, belgium, brazil, china, colombia, czechrepublic, denmark, finland, france, germany, greece, hongkong, iceland, israel, italy, japan, korea, luxembourg, malaysia, netherlands, newzealand, northamerica, norway, peru, philippines, poland, portugal, russia, singapore, slovakia, southafrica, spain, sweden, switzerland, taiwan, thailand, turkey, unitedkingdom, and venezuela.</b></p> <p>On Cisco 2600 and 3600 series routers, the default setting for <i>locale</i> is <b>us</b>. See Table 1 on page 10 for a list of options.</p>
<b>Step 9</b> Router(config-voiceport)# <b>ring frequency</b> { <b>25</b>   <b>50</b> }	<p>(Required on Cisco 2600 and 3600 series routers FXS ports only) Select the appropriate ring frequency (in Hertz) specific to the equipment attached to this voice port.</p>
<b>Step 10</b> Router(config-voiceport)# <b>caller-id attenuation</b> attenuation	<p>(Optional on FXO ports only) To specify an attenuation other than the default of 14 dB (-14 dBm), enter a value of from 0 to 64, in decibels.</p>
<b>Step 11</b> Router(config-voiceport)# <b>ring number</b> number	<p>(Required on Cisco 2600 and 3600 series routers FXS ports only) Specify the maximum number of rings to be detected before answering a call.</p>

**Table 2** *Cptone Command Entries for the Cisco 2600 and 3600 Series*

Command Option	Country	Command Option	Country
ar	Argentina	lu	Luxembourg
au	Australia	my	Malaysia
at	Austria	mx	Mexico
be	Belgium	nl	Netherlands
br	Brazil	nz	New Zealand
ca	Canada	no	Norway
cn	China	pe	Peru
co	Colombia	ph	Philippines
cz	Czech Republic	pl	Poland
dk	Denmark	pt	Portugal
fi	Finland	ru	Russian Federation
fr	France	sg	Singapore
de	Germany	sk	Slovakia
gr	Greece	si	Slovenia
hk	Hong Kong	za	South Africa
hu	Hungary	es	Spain
is	Iceland	se	Sweden
in	India	ch	Switzerland
id	Indonesia	tw	Taiwan
ie	Ireland	th	Thailand
il	Israel	tr	Turkey
it	Italy	gb	Great Britain
jp	Japan	us	United States
kr	Korea Republic	ve	Venezuela

## Caller-ID Configuration Steps

Follow the steps in this section to configure Caller ID on FXS and FXO voice ports.

Command	Purpose
<p><b>Step 1</b> Router(config)# <b>caller-id enable</b></p>	<p>This command applies to FXS voice ports that send Caller-ID information and to FXO ports that receive it.</p> <p>By default Caller ID is disabled.</p> <p></p> <p><b>Note</b> If the <b>station-id name</b>, <b>station-id number</b>, or a <b>caller-id alerting</b> command is configured on the voice port, these automatically enable Caller ID, and the <b>caller-id enable</b> command is not necessary.</p>
<p><b>Step 2</b> Router(config-voiceport)# <b>station-id name</b> name</p>	<p>Configure the station name on FXS voice ports connected to user telephone sets. This sets the Caller-ID information for on-net calls originated by the FXS port. You can also configure the station name on an FXO port of a router for which incoming Caller ID from the PSTN subscriber line is expected. In this case, if no Caller-ID information is included on the incoming PSTN call, the call recipient receives the information configured on the FXO port instead. If the PSTN subscriber line does provide Caller-ID information, this information is used and the configured station name is ignored.</p> <p><i>name</i> is a character string of 1 to 15 characters identifying the station.</p> <p></p> <p><b>Note</b> This command applies only to Caller-ID calls, not Automatic Number Identification (ANI) calls. ANI supplies calling number identification only.</p>

**Step 3** Router(config-voiceport)# **station-id number** number

Configure the station number on FXS voice ports connected to user telephone sets. This sets the Caller-ID information for on-net calls originated by the FXS port.

You can also configure the station number on an FXO port of a router for which incoming Caller ID from the PSTN subscriber line is expected. In this case, if no Caller-ID information is included on the incoming PSTN call, the call recipient receives the information configured on the FXO port instead. If the PSTN subscriber line does provide Caller-ID information, this information is used and the configured station name is ignored.

If the Caller-ID station number is not provided by either the incoming PSTN Caller ID or by the station number configuration, the calling number included with the on-net routed call is determined by Cisco IOS software by using a reverse dial-peer search. In this case, the number is obtained by searching for a POTS dial-peer that refers to the voice-port and the destination-pattern number from that dial-peer is used.

*number* is a string of 1 to 15 characters identifying the station telephone or extension number.

**Step 4** Router(config-voiceport)# **caller-id block**

(FXS ports only) When this command is configured at the originating end of a call, it requests that the originating calling party information not be displayed at the called party's telephone.



**Note** The calling party information is included in the routed on-net call, as this is often required for other purposes, such as billing and call blocking. The request to block display of the calling party information on terminating FXS ports will normally be accepted by Cisco routers, but no guarantee can be made regarding the treatment by other equipment.

This command affects all calls sent to an FXO station from the configured FXS station. The central office (CO) may supply a feature code that a user can dial in order to block Caller-ID transmission on a call-by-call basis.

When a blocked-information call passes through an FXO interface on the way to its destination, the blocking is passed on to the receiving party.

Follow the steps in this section configure the alerting method. Configuration of the alerting method is required when the Caller ID standard, specified by locale through the **optone** command, is other than Bellcore/Telcordia (if you do not configure the alerting method, the default **caller-id alerting ring 1** command is applied). The command that you enter is determined by the Bellcore/Telcordia or ETSI standard that your service provider uses for Caller ID. For more information about standards, see the “Supported Standards, MIBs, and RFCs” section on page 6.

	Command	Purpose
Step 1	Router(config)# router(config-voiceport)# <b>caller-id alerting ring {1   2}</b>	<p>Configure this command on FXO ports where Caller-ID information is received from a subscriber telephone line, and on FXS voice ports from which Caller-ID information is transmitted to an attached telephone device.</p> <p>Compatible settings are required on both ends of the telephone line connection or Caller-ID information may not be displayed.</p> <p>Enter 1 if your telephone line service provider or telephone device specifies it, to provide or expect Caller-ID information following the first ring at the receiving station. This is the default setting.</p> <p>Enter 2 to provide or expect Caller-ID information during the long ring pause following two short rings. This setting is used in Australia and the United Kingdom.</p>
Step 2	Router(config-voiceport)# <b>caller-id alerting line-reversal</b>	(FXS ports only) Configure this setting only when the attached telephone device requires line polarity reversal to signal the start of Caller-ID information transmission.
Step 3	Router(config-voiceport)# <b>caller-id alerting dsp-pre-alloc</b>	<p>(FXO ports, only when caller-id alerting line-reversal is required) Configure this command on the FXO port when the incoming subscriber telephone line uses line polarity reversal to signal the start of Caller-ID information transmission.</p> <p>The Cisco FXO interface cannot detect line-reversal alerting in the on-hook state. For this reason, DSPs must be pre-allocated to serve the Type 1 Caller-ID information when it arrives. Pre-allocating the DSPs enables the DSP to continuously monitor for the arrival of Caller-ID information.</p>
Step 4	Router(config-voiceport)# <b>caller-id alerting pre-ring</b>	(FXS ports only) Configure this setting only when the attached telephone device requires the pre-ring (immediate ring) method to signal the start of a Caller-ID information. The command activates a 250-ms pre-ring.

## Verifying Voice-Port Configuration

To verify voice-port configuration, enter the **show voice-port** command. You can specify a voice port or view the status of all configured voice ports. In the following example, the specified Cisco MC3810 FXS port is configured with a Bellcore/Telcordia standard (**cptone** value is **northamerica**), a station name, and a station number. The **caller-id alerting ring** setting is *1*.

```
Router>show voice port 1/1
FXS 1/1 Slot is 1, Port is 1
Type of VoicePort is FXS
Operation State is UP
Administrative State is UP
No Interface Down Failure
Description is not set
Noise Regeneration is enabled
Non Linear Processing is enabled
Music On Hold Threshold is Set to -38 dBm
In Gain is Set to 0 dB
Out Attenuation is Set to 0 dB
Echo Cancellation is enabled
Echo Cancel Coverage is set to 8 ms
Connection Mode is normal
Connection Number is not set
Initial Time Out is set to 10 s
Interdigit Time Out is set to 10 s
Ringing Time Out is set to 180 s
Companding Type is u-law
Coder Type is g729ar8
Voice Activity Detection is disabled
Nominal Playout Delay is 80 milliseconds
Maximum Playout Delay is 160 milliseconds
Region Tone is set for US

Analog Info Follows:
Currently processing Voice
Maintenance Mode Set to None (not in mtc mode)
Number of signaling protocol errors are 0
Impedance is set to 600r Ohm
Wait Release Time Out is 30 s
Analog interface A-D gain offset = -3.0 dB
Analog interface D-A gain offset = -3.0 dB
FXS idle voltage set to low

Caller ID Info Follows:
Standard BELLCORE
Station-id name A. Person, Station-id number 4085551111
Caller ID presentation unblocked
Output attenuation is set to 14 dB
Caller ID is transmitted after 1 rings

Voice card specific Info Follows:
Signal Type is loopStart
Ring Frequency is 20 Hz
Hook Status is Off Hook
Ring Active Status is inactive
Ring Ground Status is inactive
Tip Ground Status is active
Digit Duration Timing is set to 100 ms
InterDigit Duration Timing is set to 100 ms
Ring Cadence is defined by CPTone Selection
Ring Cadence are [20 40] * 100 msec
InterDigit Pulse Duration Timing is set to 500 ms
```

## Troubleshooting Tips

If you have Caller-ID problems on telephones connected to FXS ports, the following tips may be helpful:

- Try a different brand of phone to confirm that the problem is not caused by a malfunctioning or incompatible Caller ID telephone.
- Ensure that the **cptone** command is set correctly to reflect your locale.
- If the call time display is incorrect, check the router clock setting. An NTP network time server is recommended for accurate display of the local time.
- If expected information is not displayed, use the **show call history** command to make sure that the information that the router received during the call setup is complete.
- The line voltage available on FXS voice ports of the Cisco MC3810 and Cisco 2600 and 3600 series routers is –24V. Some phones, particularly those manufactured by Bell South, do not recognize –24V Caller-ID signaling. On a Cisco MC3810, use the **idle-voltage high** voice-port configuration command to boost the voltage on an FXS port.

If you have Caller-ID display problems on FXO ports, the following tips may be helpful:

- Disconnect the router from the phone line and attach a Caller-ID equipped telephone to verify that the CO is sending Caller-ID information:
  - Listen and watch to see when the Caller-ID information is displayed: before the first ring, after the first ring, or after the second ring?
  - Make sure that the router configuration matches the timing of the display. If the phone is answered during the first ring, does this cause the phone not to display the Caller-ID information? If so, the CO may be sending the Caller-ID information after the first ring, requiring a change to a Caller-ID alerting setting. Make sure the router is not configured to answer the call on the FXO before the Caller ID-information is received. If needed, increase the number of rings required before answering.
- Use the **show call history** command to check the information received by the Caller ID receiver.

The following **debug** commands may be useful for analyzing problems:

- **debug vpm signal**
- **debug vtsp dsp**
- **debug vtsp session**



**Note**

---

Specific hardware is required to provide full support for the Caller ID features. To determine support for these features in your configuration, review the appropriate hardware documentation and data sheets. This information is available on Cisco.com.

---

# Command Reference

This section documents new or modified commands. All other commands used with this feature are documented in the Cisco IOS Release 12.1 command reference publications and in Cisco IOS Release 12.1 feature modules.

- **caller-id alerting dsp-pre-alloc**
- **caller-id alerting line-reversal**
- **caller-id alerting pre-ring**
- **caller-id alerting ring**
- **caller-id attenuation**
- **caller-id block**
- **caller-id enable**
- **station-id**

# caller-id alerting dsp-pre-alloc

To statically allocate a digital signal processor (DSP) resource for receiving Caller-ID information for on-hook (Type 1) Caller ID at a receiving Foreign Exchange Office (FXO) voice port, use the **caller-id alerting dsp-pre-alloc** voice-port configuration command. To disable the command's effect, use the **no** form of this command.

**caller-id alerting dsp-pre-alloc**

**no caller-id alerting dsp-pre-alloc**

## Defaults

The default is no pre-allocation of DSP resources.

## Command Modes

Voice-port configuration

## Command History

Release	Modification
12.1(2)XH	This command was implemented for the Cisco MC3810 and for Cisco 2600 and 3600 series routers.
12.1(3)T	This command was first supported on the T Train.

## Usage Guidelines

The **caller-id alerting dsp-pre-alloc** command may be required on an FXO port if the CO uses line polarity reversal to signal the start of Caller-ID information transmission. Pre-allocating a DSP allows the DSP to listen for Caller-ID information continuously without requiring an alerting signal from the CO.

This command is the FXO counterpart to the **caller-id alerting line-reversal** command, which is applied to the FXS (sending) end of the Caller-ID call.

This command applies to the Cisco MC3810 and to Cisco 2600 and 3600 series routers.



### Note

Specific hardware is required to provide full support for the Caller ID features. To determine support for these features in your configuration, review the appropriate hardware documentation and data sheets. This information is available on Cisco.com.

## Examples

The following example configures a voice port on a Cisco 2600 or 3600 router where Caller-ID information is received:

```
voice-port 1/0/1
  cptone US
  caller-id enable
  caller-id alerting line-reversal
  caller-id alerting dsp-pre-alloc
```

The following example configures a voice port on a Cisco MC3810 where Caller-ID information is received:

```
voice-port 1/0
  cptone northamerica
  caller-id enable
  caller-id alerting line-reversal
  caller-id alerting dsp-pre-alloc
```

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>caller-id alerting line-reversal</b>	Sets the line-reversal method of Caller-ID call alerting.

---

# caller-id alerting line-reversal

To set the line-reversal alerting method for Caller-ID information for on-hook (Type 1) Caller ID at a sending Foreign Exchange Station (FXS) voice port, use the **caller-id alerting line-reversal** voice-port configuration command. To disable the command's effect, use the **no** form of this command.

**caller-id alerting line-reversal**

**no caller-id alerting line-reversal**

## Defaults

The default is no line-reversal alert.

## Command Modes

Voice-port configuration

## Command History

Release	Modification
12.1(2)XH	This command was implemented for the Cisco MC3810 and for Cisco 2600 and 3600 series routers.
12.1(3)T	This command was first supported on the T Train.

## Usage Guidelines

This command is only required when the telephone device attached to an FXS port requires the line-reversal method to signal the start of a Caller-ID transmission. Use it on FXS voice ports that send Caller-ID information.

This command is the FXS counterpart to the **caller-id alerting dsp-pre-alloc** command, which is applied to the FXO (receiving) end of the Caller-ID call with the line-reversal alerting method.

This command applies to the Cisco MC3810 and to Cisco 2600 and 3600 series routers.



### Note

Specific hardware is required to provide full support for the Caller ID features. To determine support for these features in your configuration, review the appropriate hardware documentation and data sheets. This information is available on Cisco.com.

## Examples

The following example configures a voice port on a Cisco 2600 or 3600 series router from which Caller-ID information is sent:

```
voice-port 1/0/1
  cptone US
  station-id name A. Person
  station-id number 4085551111
  caller-id alerting line-reversal
  caller-id alerting dsp-pre-alloc
```

The following example configures a voice port on a Cisco MC3810 from which Caller-ID information is sent:

```
voice-port 1/0
  cptone northamerica
  station-id name A. Person
  station-id number 4085551111
  caller-id alerting line-reversal
  caller-id alerting dsp-pre-alloc
```

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>caller-id alerting dsp-pre-alloc</b>	At the receiving end of a line-reversal alerting Caller-ID call, pre-allocates digital signal processors (DSPs) for Caller-ID calls.

---

# caller-id alerting pre-ring

To set a 250-millisecond pre-ring alerting method for Caller-ID information for on-hook (Type 1) Caller ID at a sending Foreign Exchange Station (FXS) voice port, use the **caller-id alerting pre-ring** voice-port configuration command. To disable the command's effect, use the **no** form of this command.

**caller-id alerting pre-ring**

**no caller-id alerting pre-ring**

**Defaults** The default is no pre-ring alert.

**Command Modes** Voice-port configuration

Command History	Release	Modification
	12.1(2)XH	This command was implemented for the Cisco MC3810 and for Cisco 2600 and 3600 series routers.
	12.1(3)T	This command was first supported on the T Train.

**Usage Guidelines** This command is only required when the telephone device attached to an FXS port requires the pre-ring (immediate ring) method to signal the start of Caller-ID transmission. Use it on FXS voice ports that send Caller-ID information. This command allows the FXS port to send a short pre-ring preceding the normal ring cadence. On an FXO port, an incoming pre-ring (immediate ring) is simply counted as a normal ring using the **caller-id alerting ring** command.

This command applies to the Cisco MC3810 and to Cisco 2600 and 3600 series routers.



**Note** Specific hardware is required to provide full support for the Caller ID features. To determine support for these features in your configuration, review the appropriate hardware documentation and data sheets. This information is available on Cisco.com.

**Examples** The following example configures a voice port on a Cisco 2600 or 3600 series router from which Caller-ID information is sent:

```
voice-port 1/0/1
  cptone US
  station-id name A. Person
  station-id number 4085551111
  caller-id alerting pre-ring
```

The following example configures a voice port on a Cisco MC3810 from which Caller-ID information is sent:

```
voice-port 1/0
  cptone northamerica
  station-id name A. Person
  station-id number 4085551111
  caller-id alerting pre-ring 1
```

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>caller-id alerting line-reversal</b>	Enables Caller-ID operation and sets the line-reversal alerting type at an FXS port.
<b>caller-id alerting ring</b>	Enables Caller-ID operation and sets an alerting ring type at an FXO or FXS port.

---

# caller-id alerting ring

To set the ring-cycle method for receiving Caller-ID information for on-hook (Type 1) Caller ID at a receiving Foreign Exchange Office (FXO) or a sending Foreign Exchange Station (FXS) voice port, use the **caller-id alerting ring** voice-port configuration command. To set the command to the default, use the **no** form of this command.

**caller-id alerting ring { 1 | 2 }**

**no caller-id alerting ring**

Syntax Description		
	1	Use this setting if your telephone service provider specifies it, to provide Caller ID alerting (display) after the first ring at the receiving station. This is the most common setting.
	2	Use this setting if your telephone service provider specifies it, to provide Caller ID alerting (display) after the second ring. This setting is used in Australia, where the Caller-ID information is sent following two short rings (double-pulse ring).

**Defaults** The default value is 1.

**Command Modes** Voice-port configuration

Command History	Release	Modification
	12.1(2)XH	This command was implemented for the Cisco MC3810 and for Cisco 2600 and 3600 series routers.
	12.1(3)T	This command was first supported on the T Train.

**Usage Guidelines** This setting is determined by the Bellcore/Telcordia or ETSI standard that your telephone service provider uses for Caller ID. Use it on FXO loop-start and ground-start voice ports where Caller-ID information arrives and on FXS voice ports from which Caller-ID information is sent.

This setting must match on the sending and receiving ends on both ends of the telephone line connection.

This command applies to the Cisco MC3810 and to Cisco 2600 and 3600 series routers.



**Note**

Specific hardware is required to provide full support for the Caller ID features. To determine support for these features in your configuration, review the appropriate hardware documentation and data sheets. This information is available on Cisco.com.

**Examples**

The following example configures a Cisco 2600 or 3600 series router voice port where Caller-ID information is received:

```
voice-port 1/0/1
  cptone US
  caller-id alerting ring 1
```

The following example configures a Cisco 2600 or 3600 series router voice port from which Caller-ID information is sent:

```
voice-port 1/0/1
  cptone northamerica
  station-id name A. Person
  station-id number 4085551111
  caller-id alerting ring 1
```

The following example configures a Cisco MC3810 voice port where Caller-ID information is received:

```
voice-port 1/0
  cptone northamerica
  caller-id alerting ring 1
```

The following example configures a Cisco MC3810 voice port from which Caller-ID information is sent:

```
voice-port 1/0
  cptone northamerica
  station-id name A. Person
  station-id number 4085551111
  caller-id alerting ring 1
```

**Related Commands**

Command	Description
<b>caller-id alerting line-reversal</b>	Enables Caller-ID operation and sets the line-reversal alerting type at an FXS port.
<b>caller-id alerting pre-ring</b>	Enables Caller-ID operation and sets the pre-ring alerting method at an FXS port.

# caller-id attenuation

To set the attenuation for Caller ID at a receiving Foreign Exchange Office (FXO) voice port, use the **caller-id attenuation** voice-port configuration command. To set the command to the default, use the **no** form of this command.

**caller-id attenuation** [ *attenuation* ]

**no caller-id attenuation**

<b>Syntax Description</b>	<i>attenuation</i>	Specify the attenuation. Valid values are from 0 to 64.
---------------------------	--------------------	---

<b>Defaults</b>	The default value is 14 decibels (dB), signal level of -14 dBm.
-----------------	---

<b>Command Modes</b>	Voice-port configuration
----------------------	--------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	12.1(2)XH	This command was implemented for the Cisco MC3810 and for Cisco 2600 and 3600 series routers.
12.1(3)T	This command was first supported on the T Train.	

<b>Usage Guidelines</b>	Use this setting to specify the attenuation for a Caller-ID FXO port. If the setting is not used, the attenuation is set to 14 decibels (dB), signal level of -14dBm.
-------------------------	---

This command applies to the Cisco MC3810 and to Cisco 2600 and 3600 series routers.



**Note**

Specific hardware is required to provide full support for the Caller ID features. To determine support for these features in your configuration, review the appropriate hardware documentation and data sheets. This information is available on Cisco.com.

<b>Examples</b>	The following example configures a Cisco 2600 or 3600 series router voice port where Caller-ID information is received:
-----------------	---

```
voice-port 1/0/1
  cptone US
  caller-id attenuation 0
```

The following example configures a Cisco MC3810 voice port where Caller-ID information is received:

```
voice-port 1/0
  cptone northamerica
  caller-id attenuation 0
```

# caller-id block

To request the blocking of the display of Caller ID information at the far end of a call from calls originated at an FXS port, use the **caller-id block** voice-port configuration command at the originating Foreign Exchange Station (FXS) voice port. To allow the display of Caller ID information, use the **no** form of this command.

**caller-id block**

**no caller-id block**

## Defaults

The default is no blocking of Caller-ID information.

## Command Modes

Voice-port configuration

## Command History

Release	Modification
12.1(2)XH	This command was implemented for Cisco MC3810 and for Cisco 2600 and 3600 series routers.
12.1(3)T	This command was first supported on the T Train.

## Usage Guidelines

This command is used on FXS voice ports that are used to originate on-net telephone calls.

This command affects all calls sent to a far end FXS station from the configured originating FXS station.

Calling number and called number are provided in the H.225 setup message for VoIP, through the H.225 Octet 3A field. Calling name information is included in a display information element.



### Note

Cisco-switched calls using VoFR and VoATM carry calling party information in the Cisco proprietary setup message. For standards-based, point-to-point VoFR (FRF.11) trunks where transparent signaling is applied for FXS-to-FXO calls, only pass-through of in-band Automatic Number Identification (ANI) identification is supported. ANI information is always unblocked for these communications. Interface technology using transparent channel-associated signaling (CAS) can support only ANI through Feature Group D (in-band MF signalling). The Caller ID feature cannot be used with fixed point-to-point trunk connects created using the **connection trunk** command.

This command applies to the Cisco MC3810 and to Cisco 2600 and 3600 series routers.



### Note

Specific hardware is required to provide full support for the Caller ID features. To determine support for these features in your configuration, review the appropriate hardware documentation and data sheets. This information is available on Cisco.com.

---

**Examples**

The following example configures a Cisco 2600 or 3600 series router voice port from which Caller-ID information is sent:

```
voice-port 1/0/1
  cptone US
  station-id name A. Person
  station-id number 4085551111
  caller-id block
```

The following example configures a Cisco MC3810 voice port from which Caller-ID information is sent:

```
voice-port 1/0
  cptone northamerica
  station-id name A. Person
  station-id number 4085551111
  caller-id block
```

---

**Related Commands**

Command	Description
<b>caller-id enable</b>	Enables Caller-ID operation.

---

## caller-id enable

To allow the sending or receiving of Caller-ID information, use the **caller-id enable** voice-port configuration command at the sending Foreign Exchange Station (FXS) voice port or the receiving Foreign Exchange Office (FXO) voice port. To disable the sending or receiving of Caller-ID information, use the **no** form of this command, which also clears all other Caller-ID configuration settings for the voice port.

**caller-id enable**

**no caller-id enable**

---

### Defaults

The default is no sending or receiving of Caller-ID information.

---

### Command Modes

Voice-port configuration

---

### Command History

Release	Modification
12.1(2)XH	This command was implemented for the Cisco MC3810 and for Cisco 2600 and 3600 series routers.
12.1(3)T	This command was first supported on the T Train.

---

### Usage Guidelines

This command applies to FXS voice ports that send Caller ID information and to FXO ports that receive it.

Calling number and called number are provided in the H.225 setup message for VoIP, through the H.225 Octet 3A field. Calling name information is included in a display information element.



#### Note

Cisco-switched calls using VoFR and VoATM carry calling party information in the Cisco proprietary setup message. For standards-based, point-to-point VoFR (FRF.11) trunks where transparent signaling is applied for FXS-to-FXO calls, only pass-through of in-band Automatic Number Identification (ANI) identification is supported. ANI information is always unblocked for these communications. Interface technology using transparent channel-associated signaling (CAS) can support only ANI through Feature Group D (in-band MF signalling). The Caller ID feature cannot be used with fixed point-to-point trunk connects created using the **connection trunk** command.

If the **station-id** or **caller-id alerting** command is configured on the voice port, these automatically enable Caller ID, and the **caller-id enable** command is not necessary.

This command applies to the Cisco MC3810 and to Cisco 2600 and 3600 series routers.



#### Note

Specific hardware is required to provide full support for the Caller ID features. To determine support for these features in your configuration, review the appropriate hardware documentation and data sheets. This information is available on [Cisco.com](http://Cisco.com).

**Examples**

The following example configures a Cisco 2600 or 3600 series router voice port where Caller-ID information is received:

```
voice-port 1/0/1
  cptone US
  caller-id enable
```

The following example configures a Cisco 2600 or 3600 series router voice port from which Caller-ID information is sent:

```
voice-port 1/0/1
  cptone northamerica
  station-id name A. Person
  station-id number 4085551111
  caller-id enable
```

The following example configures a Cisco MC3810 voice port where Caller-ID information is received:

```
voice-port 1/0
  cptone northamerica
  caller-id enable
```

The following example configures a Cisco MC3810 voice port from which Caller-ID information is sent:

```
voice-port 1/0
  cptone northamerica
  station-id name A. Person
  station-id number 4085551111
  caller-id enable
```

**Related Commands**

Command	Description
<b>caller-id alerting line-reversal</b>	Enables Caller-ID operation and sets the line-reversal alerting type at an FXS port.
<b>caller-id alerting pre-ring</b>	Enables Caller-ID operation and sets the pre-ring alerting method at an FXS port.
<b>caller-id alerting ring</b>	Enables Caller-ID operation and sets an alerting ring type at an FXO or FXS port.
<b>caller-id block</b>	Disables the sending of Caller-ID information from an FXS port.
<b>station-id</b>	Enables Caller-ID operation and sets the name sent from an FXS port.
<b>Glossary</b>	Enables Caller-ID operation and sets the number sent from an FXS port.

## station-id

To specify the name or number that will be sent as Caller-ID information and enable Caller-ID, use the **station-id** voice-port configuration command at the sending Foreign Exchange Station (FXS) voice port or at a Foreign Exchange Office (FXO) port through which routed Caller-ID calls pass. To remove the name or number, use the **no** form of this command.

**station-id** [**name** *name* / **number** *number*]

**no station-id** [**name** *name* / **number** *number*]

### Syntax

Description	<i>name</i>	A string of 1 to 15 characters to represent the station name.
	<i>number</i>	A string of from 1 to 15 characters to represent the station number.

### Defaults

The default is no station name or number.

### Command Modes

Voice-port configuration

### Command History

Release	Modification
12.1(2)XH	This command was implemented for Cisco MC3810 and for Cisco 2600 and 3600 series routers.
12.1(3)T	This command was first supported on the T Train.

### Usage Guidelines

This optional command is configured on FXS voice ports that are used to originate on-net calls. The information entered is displayed by the telephone attached to the FXS port at the far end of the on-net call. It can also be configured on the FXO port of a router on which Caller ID information is expected to be received from the CO, to suit situations where a call is placed from the CO, then goes through the FXO interface, and continues to a far-end FXS port through an on-net call. In this case, if no Caller ID information is received from the CO telephone line, the far-end call recipient receives the information configured on the FXO port.



#### Note

This feature applies only to Caller ID name display provided by an FXS port connection to a telephone device. The station name will not be passed through telephone trunk connections supporting Automatic Number Identification (ANI) calls. ANI supplies calling number identification only and does not support calling number names.

Do not use this command when the Caller-ID standard is dual-tone multifrequency (DTMF). DTMF Caller ID can carry only the calling number.

If the **station-id** or **caller-id alerting** command is configured on the voice port, these automatically enable Caller-ID, and the **caller-id enable** command is not necessary.

This command applies to the Cisco MC3810 and to Cisco 2600 and 3600 series routers.

---

**Examples**

The following example configures a Cisco 2600 or 3600 series router voice port from which Caller-ID information is sent:

```
voice-port 1/0/1
  cptone US
  station-id name A. Person
  station-id number 4085551111
```

The following example configures a Cisco MC3810 voice port from which Caller-ID information is sent:

```
voice-port 1/0
  cptone northamerica
  station-id name A. Person
  station-id number 4085551111
  caller-id alerting ring 1
```

---

**Related Commands**

Command	Description
<b>caller-id enable</b>	Enables Caller-ID operation.

# Glossary

**ATM**—Asynchronous Transfer Mode. International standard for cell relay in which multiple service types (such as voice, video, or data) are conveyed in fixed-length (53-byte) cells. Fixed-length cells allow cell processing to occur in hardware, thereby reducing transit delays. ATM is designed to take advantage of high-speed transmission media such as E3, SONET, and T3.

**CAS**—channel-associated signaling. Trunk signaling (for example, in a T1 line) in which control signals, such as those for synchronizing and bounding frames, are carried in the same channel along with voice and data signals.

**CCS**—common channel signaling. Trunk signaling (for example, using Primary Rate Interface) in which a control channel carries signaling for separate voice and data channels.

**CO**—central office. Local telephone company office to which all local loops in a given area connect and in which circuit switching of subscriber lines occurs.

**codec**—Coder-decoder. Device that typically uses pulse code modulation to transform analog signals into a digital bit stream and digital signals back into analog.

**CTI**—Computer telephony integration.

**DTMF**—Dual-tone multifrequency. Use of two simultaneous voice-band tones for dialing (such as touch tone).

**DSP**—digital signal processor.

**E&M**—rEceive and transMit, or Ear and Mouth. Type of signaling originally developed for analog two-state voltage telephony using the ear and mouth leads; in digital telephony, uses two bits.

**ETSI**—European Telecommunication Standards Institute.

**FXO**—Foreign Exchange Office. A voice interface emulating a PBX trunk line to a switch or telephone equipment to a PBX extension interface.

**FXS**—Foreign Exchange Station. A voice interface for connecting telephone equipment, emulates the extension interface of a PBX or the subscriber interface for a switch.

**IETF**—Internet Engineering Task Force

**ISDN**—Integrated Services Digital Network. Communication protocol, offered by telephone companies, that permits telephone networks to carry data, voice, and other source traffic.

**POTS**—plain old telephone service

**PSTN**—Public Switched Telephone Network. General term referring to the variety of telephone networks and services in place worldwide.

**SNMP**—Simple Network Management Protocol. Network management protocol used almost exclusively in TCP/IP networks. SNMP provides a means to monitor and control network devices, and to manage configurations, statistics collection, performance, and security.

**T1**—Digital WAN carrier facility. T1 transmits DS 1-formatted data at 1.544 Mbps through the telephone switching network, using alternate mark inversion or B8ZS coding.

**T1 trunk**—Digital WAN carrier facility. See T1.

**TDM**—time-division multiplexing

**Trunk**—Physical and logical connection between two switches across which network traffic travels. A backbone is composed of a number of trunks.