



# Dialing Number Enhancement

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## Feature History

Release	Modification
12.2(11)T	This feature was introduced.

This document describes the Dialing Number Enhancement feature. It includes the following sections:

- [Feature Overview, page 1](#)
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## Feature Overview

The Dialing Number Enhancement feature removes previous restrictions on the number of dialed digits accepted as a valid telephone number in the Called Party number information element (IE) for the National or International numbering types.

## Benefits

The Dialing Number Enhancement feature is a change to the Cisco IOS software that makes the ISDN dialing plan more flexible by allowing a range rather than a restricted number of digits to be accepted for dialing.

## Restrictions

The Dialing Number Enhancement feature was developed for interfaces configured for network-side ISDN where the Called Party IE digits are of National or International numbering types.

## Related Documents

Refer to the chapter “Configuring Network Side ISDN PRI Signaling, Trunking, and Switching” in the part “Signaling Configuration” in the *Cisco IOS Dial Technologies Configuration Guide*, Release 12.2, for more information about configuring network-side ISDN switches.

## Supported Platforms

The Dialing Number Enhancement feature is supported on the Cisco AS530, Cisco AS5400, and Cisco AS5800 access servers.

### Determining Platform Support Through Cisco Feature Navigator

Cisco IOS software is packaged in feature sets that support specific platforms. To get updated information regarding platform support for this feature, access Cisco Feature Navigator. Cisco Feature Navigator dynamically updates the list of supported platforms as new platform support is added for the feature.

Cisco Feature Navigator is a web-based tool that enables you to quickly determine which Cisco IOS software images support a specific set of features and which features are supported in a specific Cisco IOS image. You can search by feature or release. Under the release section, you can compare releases side by side to display both the features unique to each software release and the features in common.

To access Cisco Feature Navigator, you must have an account on Cisco.com. If you have forgotten or lost your account information, send a blank e-mail to [cco-locksmith@cisco.com](mailto:cco-locksmith@cisco.com). An automatic check will verify that your e-mail address is registered with Cisco.com. If the check is successful, account details with a new random password will be e-mailed to you. Qualified users can establish an account on Cisco.com by following the directions at <http://www.cisco.com/register>.

Cisco Feature Navigator is updated regularly when major Cisco IOS software releases and technology releases occur. For the most current information, go to the Cisco Feature Navigator home page at the following URL:

<http://www.cisco.com/go/fn>

## Supported Standards, MIBs, and RFCs

### Standards

None

### MIBs

None

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

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

### RFCs

None

# Configuration Tasks

No new commands are associated with the Dialing Number Enhancement feature. See the [“Troubleshooting Tips”](#) section for information about verifying numbering plans and switch types configured. See the [“Configuration Examples”](#) section for configuration examples.

## Troubleshooting Tips

To learn and, if necessary, change the numbering plan and type currently configured on the ISDN interface, perform the following steps:

- Step 1** To learn the numbering plan and type currently configured, use the **debug isdn q931** command in EXEC mode:

```
Router# debug isdn q931

4wld: ISDN Se0:23: TX -> SETUP pd = 8 callref = 0x000D
4wld:      Bearer Capability i = 0x8890
4wld:      Channel ID i = 0xA98397
4wld:      Called Party Number i = 0xA1, '12345', Plan:ISDN, Type:National
4wld: ISDN Se0:23: RX <- RELEASE_COMP pd = 8 callref = 0x800D
```

The Called Party Number report lists the numbering plan and type.

- Step 2** To change the numbering plan and type, use the **isdn map** command in interface configuration mode. Use the command line interface help feature to list the choices.

```
Router(config-if)# isdn map address 78886 plan ?

data          Data plan
isdn          ISDN plan
national      National plan
privacy       Private plan
reserved      Reserved extension
.
.
.
reserved/7    Reserved value 7
telex         TELEX plan
unknown       Unknown plan

Router(config-if)# isdn map address 78886 plan isdn type ?

abbreviated   Abbreviated type
international International type
national      National type
network       Network type
reserved      Reserved type
reserved/5    Reserved value 5
subscriber    Subscriber type
unknown       Unknown type
```

- Step 3** To force the ISDN numbering plan and National type on the peer (calling number) side, use the **isdn map** command with the following keywords in interface configuration mode:

```
Router(config-if)# isdn map address telephone-number plan isdn type national
```

# Monitoring and Maintaining Dialing Number Enhancement

To monitor and maintain the Dialing Number Enhancement feature, use the procedure in the [“Troubleshooting Tips”](#) section.

You may also find the following EXEC command useful for displaying an extensive report about the ISDN interfaces, including the switch type and the status of ISDN Layers 1 through 3:

Command	Purpose
Router# <b>show isdn status</b> [ <i>interface-type number</i> ]	Displays the status of all ISDN interfaces, or just the specified interface.

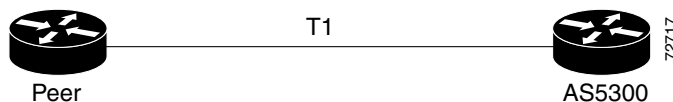
## Configuration Examples

This section provides the following configuration examples:

- [Data Call Dialing Number Enhancement Example](#)
- [Voice Call Dialing Number Enhancement Example](#)

### Data Call Dialing Number Enhancement Example

The following example shows configurations for inserting telephone numbers with varying numbers of digits for data calls.



#### Peer Router Configuration

```

interface Serial0:23
ip address 10.10.1.1 255.255.255.0
encapsulation ppp
dialer string 19165551213
dialer-group 1
isdn switch-type primary-ni
isdn map address 19165551213 plan isdn type national
  
```

#### AS5300 Router Configuration

```

interface Serial0:23
ip address 10.10.1.2 255.255.255.0
encapsulation ppp
dialer string 5551212
dialer-group 1
isdn switch-type primary-ni
isdn protocol-emulate network
  
```

## Voice Call Dialing Number Enhancement Example

The following example shows configurations for inserting both PBX and public telephone service telephone numbers with varying numbers of digits for voice calls. The PBX is configured for National ISDN with numbering type National.



### Cisco Voice Gateway 1 Configuration

```

interface Serial0:23
  no ip address
  isdn switch-type primary-ni
  isdn protocol-emulate network
  isdn incoming-voice modem
dial-peer voice 100 pots
  destination-pattern 50001
  no digit-strip
  direct-inward-dial
  port 0:D
dial-peer voice 200 voip
  destination-pattern 14085551213
  session target ipv4:10.0.194.2
  dtmf-relay h245-signal h245-alphanumeric
  
```

### Cisco Voice Gateway 2 Configuration

```

dial-peer voice 100 voip
  destination-pattern 50001
  session target ipv4:10.0.194.52
  dtmf-relay h245-signal h245-alphanumeric
  
```

## Command Reference

None

