# PAD Subaddress Formatting Option

Prior to Cisco IOS Release 12.3(2)T, packet assembler/disassembler (PAD) Subaddressing specifies a two-digit field for subaddressing that requires a leading zero for subaddress values of nine or lower (0-9). The PAD Subaddress Formatting Option feature introduces the ability to suppress the leading zero for subaddresses with a value of nine or lower. This suppression occurs before the subaddress field is appended to the calling address. This feature increases compatibility with X.25 host systems that use single-digit subaddresses.

**Feature History for the PAD Subaddress Formatting Option Feature**

| Release | Modification |
|---|---|
| Cisco IOS XE Gibraltar 16.10.1 | This feature was introduced. |

**Finding Support Information for Platforms and Cisco IOS Software Images**

Use Cisco Feature Navigator to find information about platform support and Cisco IOS software image support. Access Cisco Feature Navigator at http://www.cisco.com/go/fn. You must have an account on Cisco.com. If you do not have an account or have forgotten your username or password, click **Cancel** at the login dialog box and follow the instructions that appear.

# Contents

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# Prerequisites for PAD Subaddress Formatting Option

PAD must be configured. For more information on configuring PAD, refer to Configuring the Cisco PAD Facility for X.25 Connections.

# Restrictions for PAD Subaddress Formatting Option

X.25 subaddresses in the range from 1 to 99 are tied to rotary groups and can be only two digits in length.

The PAD Subaddress Formatting Option feature is available for the following line types:

- CON
- AUX
- TTY
- VTY

The PAD Subaddress Formatting Option feature is supported for the following connection types:

- PAD
- X28
- PT

# Information About PAD Subaddress Formatting Option

To configure the PAD Subaddress Formatting Option feature, you must understand the following concepts:

- PAD Subaddress Values, page 2
- Benefits of the PAD Subaddress Formatting Option, page 2

## PAD Subaddress Values

PAD subaddressing enables an X.25 host application to uniquely identify the source of an X.121 call. In some situations, the X.121 calling address alone is not sufficient to identify the source of the call. PAD subaddressing allows you to create unique X.121 calling addresses by including either a physical port number or an explicit value to be specified for a line as a subaddress to the X.121 calling address.

The PAD Subaddress Formatting Option feature introduces the option to exclude the leading zero from PAD subaddress with a value of nine or lower (0-9). This option affects only the formatting of the PAD subaddress, not the value of the PAD subaddress. The PAD subaddress 02 has exactly the same value as the PAD subaddress 2.

A single Cisco router can be configured to generate PAD subaddresses with and without leading zeros on different lines or sets of lines.

## Benefits of the PAD Subaddress Formatting Option

This feature increases compatibility with X.25 host systems that use single-digit subaddresses.

# How to Configure PAD Subaddress Formatting Option

This section contains the following procedure:

## Configuring the PAD Subaddress Formatting Option

This task configures a set of lines to suppress the leading zero for subaddresses with a value of nine or lower (0-9).

**SUMMARY STEPS**

1. **enable**
2. **configure terminal**
3. **line** [**aux** | **console** | **tty** | **vty**] *line-number* [*ending-line-number*]
4. **x25 subaddress** {**line** | *number*} [**no-zero-pad**]

**DETAILED STEPS**

|  | Command or Action | Purpose |
|---|---|---|
| Step 1 | `enable`<br><br>**Example:**<br>`Router> enable` | Enables privileged EXEC mode.<br><br>- Enter your password if prompted. |
| Step 2 | `configure terminal`<br><br>**Example:**<br>`Router# configure terminal` | Enters global configuration mode. |
| Step 3 | `line` [`aux` \| `console` \| `tty` \| `vty`] *line-number* [*ending-line-number*]<br><br>**Example:**<br>`Router(config)# line vty 1 9` | Enters line configuration mode and identifies a specific line or set of lines for configuration. |
| Step 4 | `x25 subaddress` {`line` \| *number*} [`no-zero-pad`]<br><br>**Example:**<br>`Router(config-line)# x25 subaddress 6 no-zero-pad` | Appends either a physical port number or a value specified for a line as a subaddress to the X.121 calling address.<br><br>- **no-zero-pad**—Specifies that a leading zero should not be appended to subaddresses with a value of nine or lower (0-9). |

# Configuration Examples for PAD Subaddress Formatting Option

This section contains the following configuration examples:

## Configuring the PAD Subaddress Formatting Option Example

The following example configures a subaddress of 6 for a set of vty lines, and specifies that a leading zero should not be appended to the subaddress value:

```
Router(config)# line vty 0 9
Router(config-line)# x25 subaddress 6 no-zero-pad
```

## Verifying Configuration of the PAD Subaddress Formatting Option Example

To verify the configuration of the PAD Subaddress Formatting Option, enter the **show line** command as shown in the following example:

```
Router# show line vty 0

Tty Typ Tx/Rx A Modem Roty AccO AccI Uses Noise Overruns Int
66 VTY - - - - - 0 0 0/0 -
Line 66, Location: "", Type: ""
Length: 24 lines, Width: 80 columns
Baud rate (TX/RX) is 9600/9600
Status: No Exit Banner
Capabilities: PAD Sub-addressing Used, No Leading Zeros
Modem state: Idle
Group codes: 0
Special Chars: Escape Hold Stop Start Disconnect Activation
^^x none - - none
Timeouts: Idle EXEC Idle Session Modem Answer Session Dispatch
never never none not set
Idle Session Disconnect Warning
never
Login-sequence User Response
00:00:30
Autoselect Initial Wait
not set
Modem type is unknown.
```

# Additional References

The following sections contain additional information related to the PAD Subaddress Formatting Option feature.

## Related Documents

| Related Topic | Document Title |
|---|---|
| Information on configuring PAD | *Configuring the Cisco PAD Facility for X.25 Connections* |
| Additional PAD commands: complete command syntax, command mode, defaults, usage guidelines, and examples | *Cisco IOS Terminal Services Command Reference* |

## Standards

| Standards | Title |
|---|---|
| None | — |

## MIBs

| MIBs | MIBs Link |
|---|---|
| None | To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs |

## RFCs

| RFCs | Title |
|---|---|
| None | — |

## Technical Assistance

| Description | Link |
|---|---|
| Technical Assistance Center (TAC) home page, containing 30,000 pages of searchable technical content, including links to products, technologies, solutions, technical tips, and tools. Registered Cisco.com users can log in from this page to access even more content. | http://www.cisco.com/public/support/tac/home.shtml |

# Command Reference

The following commands are introduced or modified in the feature or features documented in this module. For information about these commands, see the *Cisco IOS Terminal Services Command Reference* at http://www.cisco.com/en/US/docs/ios/termserv/command/reference/tsv_book.html. For information about all Cisco IOS commands, go to the Command Lookup Tool at http://tools.cisco.com/Support/CLILookup or to the *Cisco IOS Master Commands List.*

- **x25 subaddress**