



## X.25 Call Confirm Packet Address Control

The X.25 Call Confirm Packet Address Control feature provides options for controlling the source and destination addresses that are encoded in outgoing Call Confirm packets. You can suppress the addresses completely or specify that the addresses originally proposed in the received Call packet be encoded in the Call Confirm packet. This feature may be necessary when connecting to equipment that implements a nonstandard or proprietary X.25 service.

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

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## Finding Feature Information

Your software release may not support all the features documented in this module. For the latest caveats and feature information, see [Bug Search Tool](#) and the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the feature information table.

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# Information About X.25 Call Confirm Packet Address Control

## Address Encoding in X.25 Call Confirm Packets



**Note** This document refers to Call packets and Call Confirm packets. These names differ from those standardized by X.25. The standard distinguishes between a Call packet sent by the data terminal equipment (DTE) station (a Call Request) and one sent by the data communications equipment (DCE) station (an Incoming Call), and similarly between a Call Confirm packet sent by the DTE (a Call Accepted) and one sent by the DCE (a Call Connected). The packets are encoded identically, and in many cases the processing that X.25 does is identical; however, there are cases where the behavior is predicated on the station type that is receiving or sending the packet.

An X.25 switched virtual circuit (SVC) is established between two stations through the exchange of a Call and a Call Confirm packet. The X.25 standards specify that Call packets include source and destination addresses. Call Confirm packets might also encode source and destination addresses, depending on the circumstances. When the source address is encoded in a Call Confirm packet, the X.25 standards require that it be the same address that was specified in the Call packet. When the destination address is encoded in a Call Confirm packet and is different from the destination address in the Call packet, the newer X.25 standards (those after ITU-T 1980 X.25) require that the reason for the difference be signaled by the encoding of the Called Line Address Modified Notification (CLAMN) facility.

For example, when an X.25 Call is routed through a configured hunt group, a Call Redirection/Call Deflection Notification (CRCDN) facility is encoded in the forwarded call along with the original destination address. This encoding notifies the receiver that the Call packet was redistributed by a hunt group. If such a Call is accepted by a returned Call Confirm packet, a CLAMN facility and the destination address of the accepting station will be encoded in the Call Confirm packet. This encoding notifies the originator that the accepting destination was reached by distribution through a hunt group.

## X.25 Call Confirm Packet Address Control

Network devices that implement nonstandard X.25 service may have different requirements for address encoding in the Call Confirm packet. The **no x25 security call-confirm address out** command enables you to control the source and destination addresses that are encoded in outgoing Call Confirm packets. You can suppress the addresses completely, or you can specify that the addresses originally presented in the received Call packet be encoded unmodified in the Call Confirm packet. When address suppression is configured, any address block in the Call Confirm packet will specify the null address (zero digits) for the suppressed addresses.



**Caution** X.25 specifies address signaling behavior as a security measure to ensure that connecting devices are given clear notice of a Call setup that encountered redirection, deflection, or distribution to an alternate destination. Disabling these security features should be done only when the risks of doing so are understood and acceptable.

X.25 Call Confirm packet address control can be configured on an interface or in an X.25 profile. When the feature is configured on an interface, all Call Confirm packets sent over the services that use that interface will be affected, including SVCs that use a configuration from a subinterface. When the feature is configured in an X.25 profile, all services using that profile will be affected.

## Benefits of X.25 Call Confirm Packet Address Control

Users implementing nonstandard X.25 service may have specific requirements for the encoding of source and destination addresses in Call Confirm packets. The X.25 Call Confirm Packet Address Control feature enables you to control the source and destination addresses that are encoded in outgoing Call Confirm packets. This feature allows you to suppress the addresses completely or specify that the addresses originally proposed in the received Call packet be encoded in the Call Confirm packet.

## How to Configure X.25 Call Confirm Packet Address Control

### Configuring X.25 Call Confirm Packet Address Control on an Interface

To suppress the addresses in a Call Confirm packet, or to specify that the addresses presented in the original Call packet are to be encoded in the Call Confirm packet, perform the following steps:

#### SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **interface serial *number***
4. **encapsulation x25**
5. **no x25 security call-conf address out source {suppress | unmodified} dest {suppress | unmodified}**
6. **exit**

#### DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>enable</b> <b>Example:</b> <pre>Router&gt; enable</pre>	Enables privileged EXEC mode. <ul style="list-style-type: none"> <li>• Enter your password if prompted.</li> </ul>
Step 2	<b>configure terminal</b> <b>Example:</b> <pre>Router# configure terminal</pre>	Enters global configuration mode.
Step 3	<b>interface serial <i>number</i></b> <b>Example:</b> <pre>Router(config)# interface serial 0</pre>	Specifies an interface and enters interface configuration mode.
Step 4	<b>encapsulation x25</b> <b>Example:</b> <pre>Router(config-if)# encapsulation x25</pre>	Enables the default X.25 DTE operation mode.

	Command or Action	Purpose
<b>Step 5</b>	<b>no x25 security call-conf address out source {suppress   unmodified} dest {suppress   unmodified}</b> <b>Example:</b> <pre>Router(config-if)# no x25 security call-conf address out source suppress dest suppress</pre>	Suppresses the addresses in transmitted X.25 Call Confirm packets or specifies that the addresses originally received in a Call packet are to be encoded in the Call Confirm packet.
<b>Step 6</b>	<b>exit</b> <b>Example:</b> <pre>Router(config-if)# exit</pre>	Returns to global configuration mode.

## Troubleshooting Tips

Use the **debug x25 events** command to determine when the source and destination addresses in Call Confirm packets have been suppressed or configured to remain unmodified from the addresses proposed in the original Call packet.

## Configuring X.25 Call Confirm Packet Address Control in an X.25 Profile

To suppress the addresses in a Call Confirm packet, or to specify that the addresses presented in the original Call packet are to be encoded in the Call Confirm packet, perform the following steps:

### SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **x25 profile name {dce | dte | dx}**
4. **no x25 security call-conf address out source {suppress | unmodified} dest {suppress | unmodified}**
5. **exit**

### DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	<b>enable</b> <b>Example:</b> <pre>Router&gt; enable</pre>	Enables privileged EXEC mode. <ul style="list-style-type: none"> <li>• Enter your password if prompted.</li> </ul>
<b>Step 2</b>	<b>configure terminal</b> <b>Example:</b> <pre>Router# configure terminal</pre>	Enters global configuration mode.
<b>Step 3</b>	<b>x25 profile name {dce   dte   dx}</b> <b>Example:</b>	Configures an X.25 profile.

	Command or Action	Purpose
	<code>x25 profile NetworkNodeA dce</code>	
<b>Step 4</b>	<p><b>no x25 security call-conf address out source {suppress   unmodified} dest {suppress   unmodified}</b></p> <p><b>Example:</b></p> <pre>Router(config-if)# no x25 security call-conf address out source suppress dest suppress</pre>	Suppresses the addresses in transmitted X.25 Call Confirm packets or specifies that the addresses originally received in a Call packet are to be encoded in the Call Confirm packet.
<b>Step 5</b>	<p><b>exit</b></p> <p><b>Example:</b></p> <pre>Router(config-if)# exit</pre>	Returns to global configuration mode.

## Troubleshooting Tips

Use the **debug x25 events** command to determine when the source and destination addresses in Call Confirm packets have been suppressed or configured to remain unmodified from the addresses proposed in the original Call packet.

# Configuration Examples for X.25 Call Confirm Packet Address Control

## Suppressing Addresses in Call Confirm Packets Example

The following example shows how to suppress both the source and destination addresses in Call Confirm packets:

```
interface serial 0
no ip address
encapsulation x25
no x25 security call-conf address out source suppress dest suppress
```

## Using Addresses from Original Call Packets in the Call Confirm Packets Example

The following example show how to specify that the addresses presented in the original Call packet are encoded in the Call Confirm packet:

```
interface serial 0
no ip address
encapsulation x25
no x25 security call-conf address out source unmodified dest unmodified
```

# Additional References

## Related Documents

Related Topic	Document Title
X.25 commands	<i>Cisco IOS Wide-Area Networking Command Reference, Release 12.3</i>
X.25 configuration tasks and examples	<i>Cisco IOS Wide-Area Networking Configuration Guide, Release 12.3</i>
Commands and tasks for configuring suppression of CRCDN and CLAMN security signaling facilities	<i>X.25 Suppression of Security Signaling Facilities, 12.2(13)T new feature document</i>

## Standards

Standards	Title
ITU-T X.25	<ul style="list-style-type: none"> <li>• <i>ITU-T 1980 X.25 Recommendation</i></li> <li>• <i>ITU-T 1984 X.25 Recommendation</i></li> <li>• <i>ITU-T 1988 X.25 Recommendation</i></li> <li>• <i>ITU-T 1993 X.25 Recommendation</i></li> </ul>

## 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: <a href="http://www.cisco.com/go/mibs">http://www.cisco.com/go/mibs</a>

## 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.	<a href="http://www.cisco.com/public/support/tac/home.shtml">http://www.cisco.com/public/support/tac/home.shtml</a>

## Feature Information for X.25 Call Confirm Packet Address Control

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

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**Table 1: Feature Information for X.25 Call Confirm Packet Address Control**

Feature Name	Releases	Feature Information
X.25 Call Confirm Packet Address Control	12.3(2)T	<p>The X.25 Call Confirm Packet Address Control feature provides options for controlling the source and destination addresses that are encoded in outgoing Call Confirm packets. You can suppress the addresses completely or specify that the addresses originally proposed in the received Call packet be encoded in the Call Confirm packet. This feature may be necessary when connecting to equipment that implements a nonstandard or proprietary X.25 service.</p> <p>In Cisco IOS Release 12.3(2)T, this feature was introduced.</p> <p>The following commands were introduced or modified: <b>x25 security call-conf address out</b> .</p>

