



External Call Transfer Restrictions

External Call Transfer Restrictions feature allows the Cisco CallManager administrator to configure gateways, trunks, and route patterns as OnNet (internal) or OffNet (external) devices at the system level. By setting the devices as OffNet, administrators can restrict the transferring of an external call to an external device and thus help prevent toll fraud.

This chapter provides the following information about external call transfer restrictions:

- [Introducing External Call Transfer Restrictions, page 18-1](#)
- [System Requirements for External Call Transfer Restrictions, page 18-5](#)
- [Interactions and Restrictions, page 18-6](#)
- [Installing and Activating External Call Transfer Restrictions, page 18-7](#)
- [Configuring External Call Transfer Restrictions, page 18-7](#)
- [Where to Find More Information, page 18-13](#)

Introducing External Call Transfer Restrictions

External call transfer restrictions block call transfer between external parties. Setting service parameters and configuring gateways, trunks, and route patterns as OffNet (external) devices provide external call transfer blocking. This feature

provides an OnNet or OffNet alerting tone to the terminating end of the call (determined by the configuration of the device as either OnNet or OffNet, respectively). This chapter uses the following terms:

OnNet Device—A device that is configured as OnNet and considered to be internal to the network.

OffNet Device—A device that is considered as OffNet and, when routed, is considered to be external to the network.

Network Location—The location of the device, which is considered as OnNet or OffNet, with respect to the network.

Originating End—The device that gets transferred. The system considers this device as OnNet or OffNet.

Terminating End—The device that receives the transferred call. The system considers this device as OnNet or OffNet.

Incoming Call—A call for which only gateways and trunks call classification settings get used to classify it as OnNet or OffNet. Route Pattern call classification settings do not apply.

Outgoing Call—A call for which the call classification setting of the trunk, gateway, and route pattern gets considered. The Allow Device Override setting on the route pattern determines whether the trunk or gateway call classification setting gets used instead of the route pattern call classification setting.

Gateways and Trunks

You can configure gateways and trunks as OnNet (internal) or OffNet (external) by using Gateway Configuration or Trunk Configuration or by setting a clusterwide service parameter. When the feature is used in conjunction with the clusterwide service parameter Block OffNet to OffNet Transfer, the configuration determines whether calls can transfer over a gateway or trunk.

You can configure the following devices as internal and external to Cisco CallManager:

- H.323 gateway
- MGCP FXO trunk
- MGCP T1/E1 trunk
- Intercluster trunk
- SIP trunk

Route Patterns

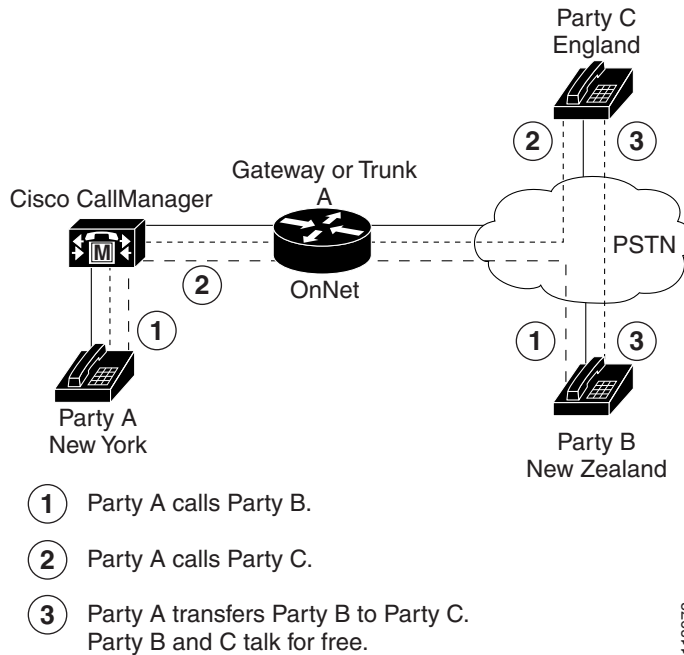
To classify a call as OnNet or OffNet, administrators can set the Call Classification field to OnNet or OffNet, respectively, on the Route Pattern Configuration window. Administrators can override the route pattern setting and use the trunk or gateway setting by checking the Allow Device Override check box on the Route Pattern Configuration window.

For more information, see the [“Configuring External Call Transfer Restrictions” section on page 18-7](#).

Example

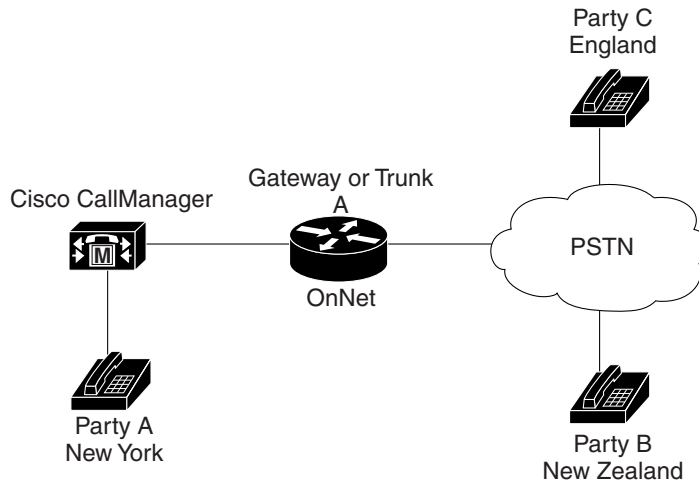
The following example illustrates how callers use transfer to avoid paying for long-distance calls. In [Figure 18-1](#), Party A from ABC Company in New York calls Party B, a friend in New Zealand. After the call connects, Party A transfers the call to Party C, another friend who lives in England. When transfer completes, Party B and Party C are connected, and Party A gets disconnected. As a result, ABC Company gets billed for the call between New Zealand and England.

Figure 18-1 Transferring External Calls to an External Party



In [Figure 18-2](#), the system prevents transferring an external call to an external party because, regardless of how the gateway or trunk is configured, the route pattern was configured as OffNet, and the service parameter Block OffNet to OffNet Transfer is set to True.

Figure 18-2 Blocking an External Call from Transferring to an External Party



Configuration

Route Pattern for Gateway A = OffNet
 Block OffNet to OffNet = True
 Gateway A = OnNet in Cisco CallManager Administration

Call Flow:

- ① Party A calls party B.
- ② Party A calls Party C.
- ③ Party A cannot transfer Party B to Party C because Party A's calls go through the OffNet route pattern.

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System Requirements for External Call Transfer Restrictions

The external call transfer restriction requires the following software component to operate:

- Cisco CallManager 4.1 or later

Interactions and Restrictions

The following sections describe the interactions and restrictions for external call transfer restrictions:

- [Interactions, page 18-6](#)
- [Restrictions, page 18-7](#)

Interactions

The following sections describe how external call transfer restrictions feature interacts with Cisco CallManager applications and call processing.

Drop Conference

The Drop Conference feature determines whether an existing ad hoc conference should be dropped by checking whether the conference parties are configured as OffNet or OnNet. You use the service parameter Drop Ad Hoc Conference and choose the option When No OnNet Parties Remain in the Conference to configure the feature. You determine OnNet status for each party by checking the device or route pattern that the party is using. For more information, refer to [Ad Hoc Conference Settings](#) in the *Cisco CallManager System Guide*.

Bulk Administration Tool (BAT)

BAT inserts gateway configuration (OffNet or OnNet) on the Gateway Template. Refer to the *Bulk Administration Tool User Guide* for more information.

Dialed Number Analyzer (DNA)

When used to perform digit analysis on a gateway, DNA displays the Call Classification that is configured for the gateway and the route pattern. Refer to the *Cisco CallManager Dialed Number Analyzer Guide* for more information.

Restrictions

The following restrictions apply to external call transfer restrictions:

- FXS gateways such as Cisco Catalyst 6000 24 Port do not have a Call Classification field on the Gateway Configuration window; therefore, the system always considers them as OnNet.
- The system does not support the Cisco VG-248 Gateway which does not have a Call Classification field.
- Cisco CallManager considers all Cisco IP Phones and FXS ports as OnNet (internal) that cannot be configured as OffNet (external).

Installing and Activating External Call Transfer Restrictions

To activate external call transfer restrictions, perform the following steps:

1. Set the Block OffNet to OffNet Transfer service parameter to True.
2. In Route Pattern Configuration window, set the Call Classification field to OffNet. Leave the Allow Device Override check box unchecked, so the device uses the Call Classification setting of the route pattern.
3. Configure the trunks and gateways that you want to be identified as OffNet.

See the [“External Call Transfer Restrictions Configuration Checklist”](#) section on [page 18-8](#) for details.

Configuring External Call Transfer Restrictions

This section contains the following information:

- [External Call Transfer Restrictions Configuration Checklist, page 18-8](#)
- [Configuring External Call Transfer Restrictions Service Parameters, page 18-9](#)
- [Configuring Transfer Capabilities by Using Gateway Configuration, page 18-11](#)

- [Configuring Transfer Capabilities by Using Trunk Configuration, page 18-11](#)
- [Configuring Transfer Capabilities by Using Route Pattern Configuration, page 18-12](#)

External Call Transfer Restrictions Configuration Checklist

Table 18-1 provides a checklist to configure external call transfer restrictions.

Table 18-1 External Call Transfer Restrictions Configuration Checklist

Configuration Steps	Related procedures and topics
<p>Step 1 To block external calls from being transferred to external devices, perform the following steps:</p> <ol style="list-style-type: none"> 1. Set the Block OffNet to OffNet Transfer clusterwide service parameter to True. 2. For incoming calls, configure individual gateways or trunks as OffNet. 3. For outgoing calls, configure route pattern Call Classification field as OffNet. The Allow Device Override check box can be checked or unchecked, depending on the requirements (for example, if the check box is checked, the setting on the associated gateway or trunk is considered; if it is unchecked, the call classification value of the route pattern classifies the call). 	<p>Setting the Block OffNet to OffNet Transfer Service Parameter, page 18-10</p> <p>Configuring Transfer Capabilities by Using Gateway Configuration, page 18-11</p> <p>Configuring Transfer Capabilities by Using Trunk Configuration, page 18-11</p> <p>Adding a Route Pattern, Cisco CallManager Administration Guide</p>

Table 18-1 External Call Transfer Restrictions Configuration Checklist (continued)

Configuration Steps	Related procedures and topics
<p>Step 2</p> <p>To configure all gateways or trunks to be OffNet (external) or OnNet (internal), perform the following steps:</p> <ol style="list-style-type: none"> 1. Set the Cisco CallManager clusterwide service parameter Call Classification to True. 2. Configure individual gateways or trunks to Use System Default in the Call Classification field. 	<p>Configuring Transfer Capabilities by Using Call Classification Service Parameter, page 18-9</p> <p>Configuring Transfer Capabilities by Using Gateway Configuration, page 18-11</p> <p>Configuring Transfer Capabilities by Using Trunk Configuration, page 18-11</p>
<p>Step 3</p> <p>On the Route Pattern Configuration window, set the Call Classification field as OffNet. The Allow Device Override check box can be checked or unchecked, depending on the requirements and the configurations of the gateway or trunk.</p>	<p>Adding a Route Pattern, Cisco CallManager Administration Guide</p>

Configuring External Call Transfer Restrictions Service Parameters

You can set two service parameters for the external call transfer restrictions feature: Call Classification and Block OffNet to OffNet Transfer. The following sections provide configuration information:

- [Configuring Transfer Capabilities by Using Call Classification Service Parameter, page 18-9](#)
- [Setting the Block OffNet to OffNet Transfer Service Parameter, page 18-10](#)

Configuring Transfer Capabilities by Using Call Classification Service Parameter

To configure all gateways or trunks in the Cisco CallManager cluster to be OffNet (external) or OnNet (internal), perform the following two steps:

1. Using the Cisco CallManager clusterwide service parameter Call Classification, choose either OffNet or OnNet (the default specifies OffNet).

2. In the Call Classification field on the Gateway Configuration and Trunk Configuration windows, configure each gateway and trunk to Use System Default (this reads the setting in the Call Classification service parameter and uses that setting for the gateway and trunk).

Related Topics

- [Gateway Configuration](#), *Cisco CallManager Administration Guide*
- [Trunk Configuration](#), *Cisco CallManager Administration Guide*

Setting the Block OffNet to OffNet Transfer Service Parameter

The Cisco CallManager clusterwide service parameter Block OffNet to OffNet Transfer allows administrators to prevent users from transferring external calls to another external number. This parameter specifies values as True or False. Setting the parameter to True blocks external calls from being transferred to another external device. The default value specifies False. You modify the Block OffNet to OffNet Transfer service parameter by using the Service Parameters Configuration window.

When a user tries to transfer a call on an OffNet gateway or trunk when the service parameter Block OffNet to OffNet Transfer is set to True, a message displays on the user phone to indicate that the call cannot be transferred.

Migration from Cisco CallManager release 3.3(4) to Release 4.1

To block the transfer of external calls to external devices in release 3.3(4), the system uses service parameter Block External to External Transfer. The value of this parameter (True or False) will migrate to the new service parameter, Block OffNet to OffNet Transfer, when upgrade to release 4.1 occurs.

Related Topics

- [Route Pattern Configuration](#), *Cisco CallManager Administration Guide*
- [Gateway Configuration](#), *Cisco CallManager Administration Guide*
- [Trunk Configuration](#), *Cisco CallManager Administration Guide*

Configuring Transfer Capabilities by Using Gateway Configuration

To configure the gateway as OffNet, OnNet, or Use System Default, perform the following procedure. The system considers calls that come to the network through that gateway as OffNet or OnNet, respectively.

Procedure

- Step 1** From Cisco CallManager Administration, choose **Device > Gateway**.
The Find and List Gateways window displays.
 - Step 2** To list the configured gateways, click **Find**.
The gateways that are configured in Cisco CallManager display.
 - Step 3** Choose the gateway that you want to configure as OffNet or OnNet.
 - Step 4** In the Call Classification field, choose the setting. See [Table 18-2](#) for a description of these settings.
 - Step 5** Click **Update**.
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Configuring Transfer Capabilities by Using Trunk Configuration

To configure the trunk as OffNet, OnNet, or Use System Default, perform the following procedure. The system considers calls that come to the network through that trunk as OffNet or OnNet, respectively.

Procedure

- Step 1** From Cisco CallManager Administration, choose **Device > Trunk**.
The Find and List Trunk window displays.
- Step 2** To list the configured trunks, click **Find**.
The trunks that are configured in Cisco CallManager display.
- Step 3** Choose the trunk that you want to configure as OffNet or OnNet.

- Step 4** In the Call Classification field, choose the setting. See [Table 18-2](#) for a description of these settings.
- Step 5** Click **Update**.

Table 18-2 Call Classification Configuration Settings

Setting Name	Description
OffNet	This setting identifies the gateway as an external gateway. When a call comes in from a gateway that is configured as OffNet, the system sends the outside ring to the destination device.
OnNet	This setting identifies the gateway as an internal gateway. When a call comes in from a gateway that is configured as OnNet, the system sends inside ring to the destination device.
Use System Default	This setting uses the Cisco CallManager clusterwide service parameter Call Classification.

Configuring Transfer Capabilities by Using Route Pattern Configuration

The Route Pattern Configuration window provides the following fields:

- **Call Classification**—Use this drop-down list box to classify the call that uses this route Pattern as OffNet or OnNet.
- **Provide Outside Dial Tone**—If Call Classification is set to OffNet, this check box gets checked.
- **Allow Device Override**—When this check box is checked, the system uses the Call Classification setting of the trunk or gateway that is associated with the route pattern instead of the Call Classification setting on the Route Pattern Configuration window.

Where to Find More Information

Related Topics

- [Route Pattern Configuration](#), *Cisco CallManager Administration Guide*
- [Gateway Configuration](#), *Cisco CallManager Administration Guide*
- [Trunk Configuration](#), *Cisco CallManager Administration Guide*
- [Service Parameters Configuration](#), *Cisco CallManager Administration Guide*
- [Conference Bridges](#), *Cisco CallManager System Guide*

Additional Cisco Documentation

- *Cisco CallManager Dialed Number Analyzer Guide*
- *Bulk Administration Tool User Guide*

■ Where to Find More Information