# External Call Transfer Restrictions

This chapter provides information about External Call Transfer Restrictions feature which allows you to configure gateways, trunks, and route patterns as OnNet (internal) or OffNet (external) devices at the system level. By setting the devices as OffNet, you can restrict the transferring of an external call to an external device and thus help prevent toll fraud.



# Configure External Call Transfer Restrictions

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

Perform the following steps to configure external call transfer restrictions.

### Procedure

**Step 1** To block external calls from being transferred to external devices, perform the following steps:

a) Set the Block OffNet to OffNet Transfer clusterwide service parameter to True.

b) For incoming calls, configure individual gateways or trunks as OffNet.

c) 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).

**Step 2** To configure all gateways or trunks to be OffNet (external) or OnNet (internal), perform the following steps:

a) Set the Cisco Unified Communications Manager clusterwide service parameter Call Classification to OffNet (if all gateways and trunks are to be external) or OnNet (if all gateways and trunks are to be internal).

b) Configure individual gateways or trunks to Use System Default in the Call Classification field.

**Step 3** 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.

**Related Topics**

Set the Block OffNet to OffNet Transfer Service Parameter, on page 6
Configure Transfer Capabilities with Gateway Configuration, on page 7
Configure Transfer Capabilities with Trunk Configuration, on page 7
Configure Transfer Capabilities with Call Classification Service Parameter, on page 6

# External Call Transfer Restrictions Feature

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 Unified Communications Manager:

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

- Intercluster trunk
- SIP trunk

### Route Patterns

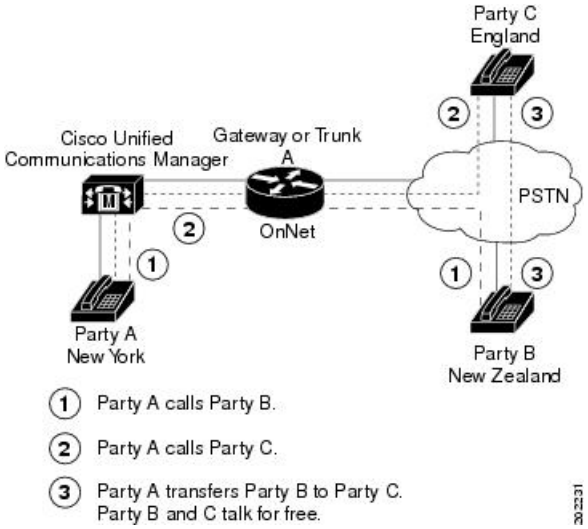
To classify a call as OnNet or OffNet, administrators can set the Call Classification field to OnNet or OffNet, respectively, on the Route Pattern Configuration window. Administrators can override the route pattern setting and use the trunk or gateway setting by checking the Allow Device Override check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

For more information, see the Configure External Call Transfer Restrictions, on page 6.

### Example

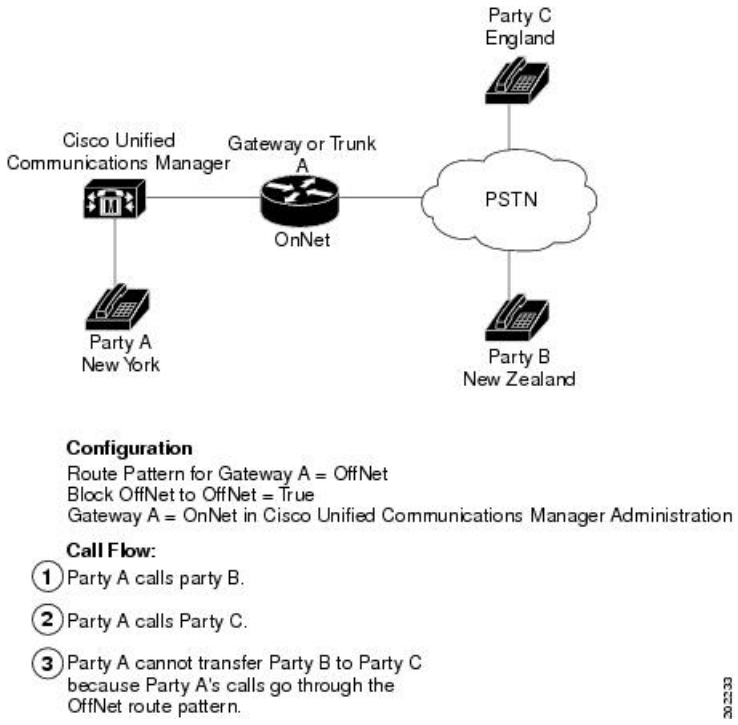
The following example illustrates how callers use transfer to avoid paying for long-distance calls. In the following figure, Party A from ABC Company in New York calls Party B, a friend in New Zealand. After the call connects, Party A transfers the call to Party C, another friend who lives in England. 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 1: Transferring External Calls to an External Party***




In the following figure, 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 2: Blocking an External Call from Transferring to an External Party*




# System Requirements for External Call Transfer Restrictions

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

- Cisco Unified Communications Manager 5.0 or later

# External Call Transfer Interactions and Restrictions

## Interactions

The following sections describe how external call transfer restrictions feature interacts with Cisco Unified Communications Manager 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, see topics related to Ad Hoc Conference linking in the *Cisco Unified Communications Manager System Guide*.

### Bulk Administration

Bulk Administration inserts gateway configuration (OffNet or OnNet) on the Gateway Template. See the *Cisco Unified Communications Manager Bulk Administration 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. See the *Cisco Unified Communications Manager Dialed Number Analyzer Guide* for more information.

## External Call Transfer Restrictions Restrictions

| Restriction | Description |
|---|---|
| FXS Gateways | 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. |
| Cisco VG248 Gateway | The system does not support the Cisco VG248 Gateway which does not have a Call Classification field. |
| FXS Ports | Cisco Unified Communications Manager considers all Cisco Unified IP Phones and FXS ports as OnNet (internal) that cannot be configured as OffNet (external). |

# Install and Activate External Call Transfer Restrictions

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

### Procedure

**Step 1** Set the Block OffNet to OffNet Transfer service parameter to True.

**Step 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.

**Step 3** Configure the trunks and gateways that you want to be identified as OffNet.

### What to do next

See the Configure External Call Transfer Restrictions Service Parameters, on page 6 for details.

# Configure External Call Transfer Restrictions

This section contains the following information:



**Tip** Before you configure external call transfer restrictions, review the Configure External Call Transfer Restrictions, on page 1.

# Configure External Call Transfer Restrictions Service Parameters

This section provides information to configure 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.

## Configure Transfer Capabilities with Call Classification Service Parameter

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

### Procedure

**Step 1** Using the Cisco Unified Communications Manager clusterwide service parameter Call Classification, choose either OffNet or OnNet (the default specifies OffNet).

**Step 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).

## Set the Block OffNet to OffNet Transfer Service Parameter

The Cisco Unified Communications Manager 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 Parameter 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.

# Configure Transfer Capabilities with 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 Unified Communications Manager 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 Unified Communications Manager 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.

**Step 5** Click **Save**.

# Configure Transfer Capabilities with 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 Unified Communications Manager 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 Unified Communications Manager 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.

**Step 5** Click **Save.**

***Table 1: 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. |

| Setting Name | Description |
|---|---|
| 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 Unified Communications Manager clusterwide service parameter Call Classification. |

# Configure Transfer Capabilities with 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.