



# Cisco BTS 10200 Softswitch Call Transfer for Business Groups Feature Module

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This document describes the Call Transfer (CT) for Business Groups feature for Release 6.0.1 of the Cisco BTS 10200 Softswitch and explains how to use it. It includes the following topics:

- [Understanding the Call Transfer for Business Groups Feature](#)
- [Provisioning](#)

## Understanding the Call Transfer for Business Groups Feature

The Call Transfer for Business Groups feature enables the Cisco BTS 10200 to support all of the features of the existing Call Transfer feature (see the guide [Network and Subscriber Feature Descriptions, Release 6.0.x](#)) but extends support for all of the ways that Call Transfer (CT) can be provided to subscribers in a business group.

The Cisco BTS 10200 supports the following ways to provide Call Transfer for business groups:

- Call Transfer Internal Only
- Call Transfer Outside
- Call Transfer Individual, Incoming Only



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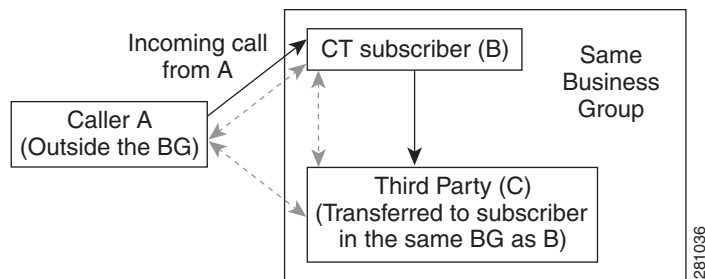
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## CT Individual, Incoming Only, Internal Only

A Cisco BTS 10200 user can configure CT to enable a CT subscriber inside a business group to receive a call from the public data network (outside the business group) and transfer that call to a subscriber inside the business group. The transferred-to station is a non-fully restricted station within the same business group.

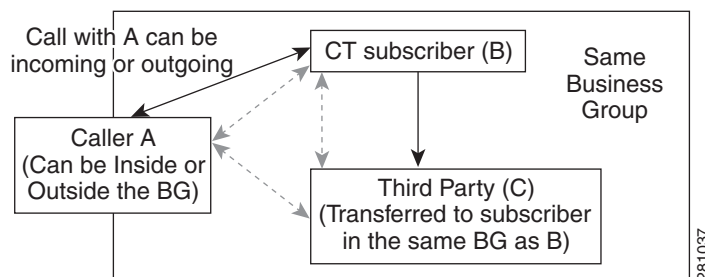
**Figure 1** *CT Individual, Incoming Only, Internal Only*



## CT, Internal Only

The Cisco BTS 10200 service provider can provide CT for calls between subscribers within a stable business group, in addition to calls from the public network. For this way of providing CT, the CT subscriber (controlling party) can transfer a call only to a subscriber in the same business group.

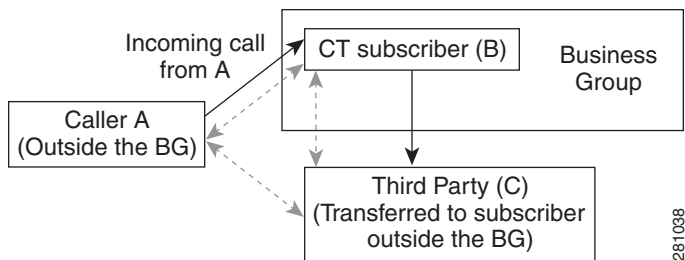
**Figure 2** *CT, Internal Only*



## CT, Outside

Cisco BTS 10200 users can configure CT to apply to calls from the public network to the business group. The Cisco BTS 10200 transfers such calls back to the public network only.

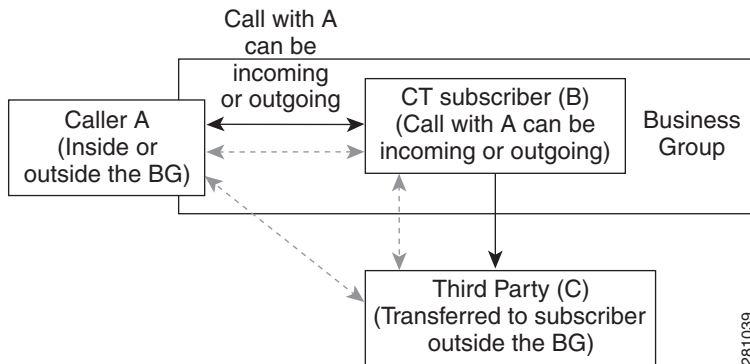
**Figure 3** *CT, Outside*



### CT Individual, All Calls, Outside

The Cisco BTS 10200 service provider can configure CT to apply to calls between subscribers within a stable business group, as well as to calls incoming from the public network. The transferred-to line can only be the public network.

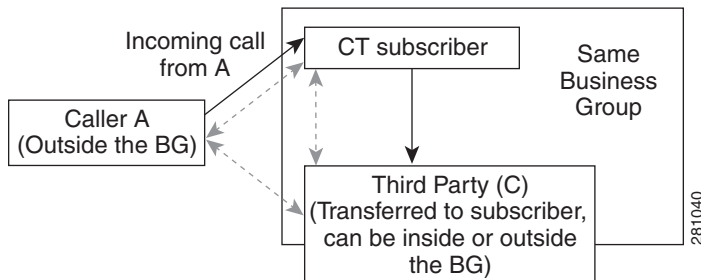
**Figure 4** *CT Individual, All Calls, Outside*



### CT, Individual, Incoming Only

Cisco BTS 10200 users can configure CT to transfer any call incoming to the business group to any other line within or outside the business group.

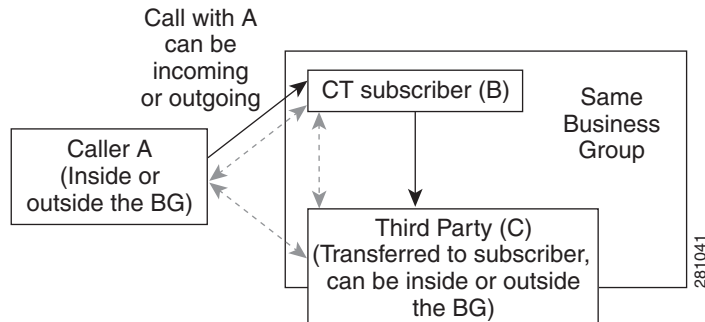
**Figure 5** *CT, Incoming Only*



## CT, Individual, All Calls

Cisco BTS 10200 users can configure CT to transfer any call to any other line within or outside the business group

**Figure 6** *CT, Individual, All Calls*



## Industry Standards

Standard	Title
GR-579	Telcordia GR-579, LSSGR: Add-On Transfer and Conference Calling Feature (FSD 01-02-1305), June 2000, FR-64.

## Provisioning

To support the Call Transfer for Business Groups feature, Cisco made the following additions to the Cisco BTS 10200 Softswitch CLI Database:

- A new table, CT\_PROFILE
- A new token, CT\_PROFILE\_ID, to the ext2subscriber table

For a full description of the CT\_PROFILE table and other CLI database changes, see the [Cisco BTS 10200 CLI Database](#).

This section explains how to perform the following tasks:

- Defining a CT Profile for Individual–Incoming Only–Internal Only
- Defining a CT Profile for Internal Only
- Assigning a CT Profile to a Subscriber
- Adding Subscribers for Various CT Interactions

## Defining a CT Profile for Individual, Incoming Only, Internal Only

The following sample command defines a CT profile that enables a CT subscriber to receive an incoming call and transfer it internally only to a business group subscriber.

```
add ct-profile id = InIncOnlyIntOnly; ADD_ON_RESTRICTIONS= ADD_BG_ONLY;
CT_RESTRICTIONS=TRANSFER_TO_BG_ONLY; TWC_RESTRICTIONS=NO_RESTRICTIONS;
```

## Defining a CT Profile for Transferring Calls within a Business Group Only

The following sample command defines a CT profile that enables a CT subscriber inside a business group to receive a call from the public data network and transfer that call to a subscriber inside the business group only.

```
add ct-profile id = Internal_Only; ADD_ON_RESTRICTIONS= ADD_BG_ONLY;
CT_RESTRICTIONS=TRANSFER_TO_BG_ONLY; TWC_RESTRICTIONS=USE_CT_RESTRICTIONS;
```



**Note**

For complete CLI information, especially including the new CT\_PROFILE table, see the [Cisco BTS 10200 Softswitch CLI Database](#).

## Assigning a CT Profile to a Subscriber

To support CT for Business Groups, Cisco added a new token to the ext2subscriber table in the Cisco BTS 10200 CLI database. The value specified for the CT\_PROFILE\_ID token associates a CT profile with the Centrex subscriber. For a detailed description of the CT\_PROFILE\_ID token in the ext2subscriber table, see the [Cisco BTS 10200 Softswitch CLI Database](#).

The following sample commands assign the CT profiles defined in the preceding two sections to the CT subscribers. The CT profiles are added to the ext2subscriber table.

```
change ext2subscriber sub_id=229-222-0601; ext=4007; ctxg_id=test1;
ct_profile_id=InIncOnlyIntOnly;

change ext2subscriber sub_id=229-222-0601; ext=4007; ctxg_id=test1;
ct_profile_id=Internal_only;
```

## Adding Subscribers for Various CT Interactions

The sample commands in the following section show how to provision business group subscribers for the various possible CT interactions. For a complete description of the CT\_PROFILE table, see the [Cisco 10200 Softswitch CLI Database](#).

### Provisioning CT for Individual, All Calls, No Restrictions

The following sample command provisions a subscriber for CT, all calls, no restrictions. All other tokens retain their default values.

```
add ct-profile-id id=CT-ALL-NR; description= call transfer all calls no restrictions.
All other tokens use default values.
```

## Provision CT for All Calls, Internal Only

The following sample command provisions a subscriber for Call Transfer, all calls, internal only:

```
add ct-profile-id id=CT-ALL-IO; ct-restrictions=INTERNAL-ONLY;description= call
transfer all calls internal only.
```

## Provisioning CT for Individual, All Calls, Outside

The following sample command provisions a subscriber for Call Transfer, individual, all calls, outside:

```
add ct-profile-id id=CT-ALL-OUT; ct-restrictions=OUTSIDE-ONLY;description= call
transfer all calls outside only.
```

## Provisioning CT for Individual, Incoming Only, No Restrictions

The following sample command provisions a subscriber for Call Transfer, individual, incoming only, no restrictions:

```
add ct-profile-id id=CT-IO-NR; ct-restrictions=NO-RESTRICTIONS;
description= call transfer incoming only.
```

## Provisioning CT for Incoming Only, Attendant Only

The following sample command provisions a subscriber for Call Transfer, incoming only, attendant only:

```
add ct-profile-id id=CT-ATTENDANT; ct-restrictions= ATTENDANT-ONLY;
description= call transfer - incoming only - attendant only.
```

## CT Restrictions

The Cisco BTS 10200 service provider can impose the following restrictions on CT on a per-line basis. These restrictions apply to a subscriber who attempts to initiate a call to another party while currently engaged in an active call with a different party. (These restrictions conform to Section 3.5 of GR-579.)

1. **Restrict calls on which CT can be applied**—In support of CT, the Cisco BTS 10200 recognizes hookflash during a stable call. During a stable call between CT subscriber A and subscriber B, if A performs hookflash and hears recall-dial tone, A can apply a call add-on to this call. If A attempts to apply CT to a call for which it is not allowed (for example, if A attempts hookflash on an outgoing call when CT is allowed for incoming calls only), the Cisco BTS 10200 responds as if CT were not permitted.
2. **Restrict the ability to add a third party to a call**—For this type of restriction, add means that, after receiving recall dial tone, CT subscriber A can make a call to a third party. Add does not mean that A can transfer the initial call or establish a conference with the initial party and a third party.

During a stable call with subscriber B, if CT subscriber A can place B on hold and place a call to subscriber C, the Cisco BTS 10200 determines that C is a valid subscriber and can be added to the call. If the BTS 10200 determines that A cannot place a call to C, the Cisco BTS 10200 restricts that call.

- 3. Restrict the ability to transfer and conference a call**—If CT subscriber A places a call on hold and engages another call and then attempts to transfer the call or establish a conference call by hanging up or performing hookflash, the Cisco BTS 10200 determines whether or not the call transfer or conference is permitted.

**Note**

These restrictions apply to the Call-Transfer feature for Centrex subscribers only. These restrictions are not applied to other multiway-calling features such as Call Hold or Three-Way-Calling.

## Configuring Restrictions

The Cisco BTS 10200 user (for example, a service provider operator) can define how the Call Transfer feature will work for business group subscribers by specifying various combinations of values for the following restriction tokens in the CT\_PROFILE table:

- ADD\_ON\_RESTRICTIONS**—The value of this token determines the second-level restriction that is applied when the CT subscriber attempts to add a third party to the call.
- CT\_RESTRICTIONS**—The value of this token determines the 3rd-level restriction that is applied before a call is transferred.
- TWC\_RESTRICTIONS**—The value of this token determines the restriction that is applied before the Cisco BTS 10200 permits a call to join a conference.

The following sample command enables a subscriber to establish a conference call with a third party outside the Centrex group. However, call transfer is not permitted because the transfer is restricted to internal only.

```
add ct-profile-id id=TWC-ALL-NR; twc-restriction=NO-RESTRICTIONS;
ct-restrictions=INTERNAL-ONLY;description= No restrictions on call conference. Call
transfer all calls internal only.
```

**Note**

Recall Dial Tone (RDT) restrictions are not supported in Release 6.0.1 of the Cisco BTS 10200 Softswitch.

By configuring these tokens, a service provider operator can create several different CT profiles, which the operator can apply to a selected group of subscribers or to all subscribers in the group. The operator can associate a CT profile with a Centrex subscriber by including the ID of the profile in the ext2subscriber table.

For a detailed description of the CT\_PROFILE table and its restriction tokens, see the [Cisco BTS 10200 Softswitch CLI Database](#).

[Table 1](#) shows how the specification of values for the CT restriction tokens determines the way that CT for a business group is processed.

**Table 1** Call Transfer Restrictions Determine Call Transfer Processing

CT Processing	ADD_ON_RESTRICTIONS	CT_RESTRICTIONS
CT Individual - All Calls - No Restrictions	NO_RESTRICTIONS	NO_RESTRICTIONS
CT Individual - All Calls - Internal Only	ADD_INTERNAL_BG_ONLY	TRANSFER_TO_BG_ONLY
CT Individual - All Calls - Outside	ADD_OUTSIDE_BG_ONLY	TRANSFER_TO_OUTSIDE_BG_ONLY

**Table 1** Call Transfer Restrictions Determine Call Transfer Processing (continued)

<b>CT Processing</b>	<b>ADD_ON_RESTRICTIONS</b>	<b>CT_RESTRICTIONS</b>
CT Individual - Incoming Only	NO_RESTRICTION	NO_RESTRICTION
Call Transfer Individual - Incoming Only - Internal Only	ADD_INTERNAL_BG_ONLY ADD_ATTENDANT_ONLY	TRANSFER_TO_BG_ONLY TRANSFER_TO_ATTENDANT_ONLY

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