



# Cisco BTS 10200 Softswitch Call Forward Multiple Redirection Feature, Release 6.0.4

---

**Last Updated: May 14, 2012**

The support for the Call Forward on Multiple Redirection (CFMR) feature is designed to support redirection to multiple contacts, one at a time, till the call is successful, or the contact list is exhausted.

## Contents

- [Overview of the Feature, page 1](#)
- [Provisioning the Feature, page 2](#)
- [Managing the Feature, page 4](#)
- [Additional References, page 4](#)

## Overview of the Feature

Currently, the BTS 10200 softswitch only redirects the call to the first contact received in first 3xx response and ignores the rest of the contacts.

If a redirection response is received with multiple contacts, CFMR attempts multiple redirections for those contacts whose hostname matches with the hostname of the BTS softswitch. The system does not differentiate between 300, 301, 302, and 305 SIP response messages, and applies the same call processing logic to all these responses.

Upon receiving 3XX messages from the least cost routing (LCR) engine, the BTS 10200 softswitch processes contact headers, removes carrier-identifying prefixes, and routes calls to the defined destination. It preserves all the routing information from the previous call process. The preserved routing-information is restored in the outgoing signaling message, if the trunk-group properties specify so. However, BTS does not make use of this preserved call-information for further call-processing.

BTS uses the dial-plan ID assigned to the LCR trunk-group to process the number received in the contact header of a 3XX message, and routes the calls to redirected contacts based on longest-match criteria.



---

**Americas Headquarters:**  
Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA

The BTS 10200 softswitch processes the contact received in 3xx response of the form sip:user-number@gateway.com:port. It ignores the contacts of the form contact: gateway.com:port (without the user part). It also ignores the “expires” as well as “q” values parameter received in the 3xx contacts.

## Restrictions

Following restrictions apply to the CFMR feature:

- CFMR stores the maximum provisioned contacts for re-routing a call.
- The contact list for CFMR is created from the initial 3xx messages.
- Both CFR and CFMR can be provisioned for a trunk group in the TRUNK\_GRP\_SERVICE\_PROFILE. However, based on the flag set to Y in the SOFTSW\_TG\_PROFILE table, only one of these would be activated (either CFMR\_SUPPORT for CFMR or RECV\_3XX\_USE\_CF\_METHOD for CFR).
- Only 4xx and 5xx cause codes can be provisioned in the CFMR\_CAUSE\_CODE table.

## CFMR Call Procedure

When a 3xx redirection message is received from the network with multiple contacts, the call agent (CA) reports a T\_EXCEPTION\_DP.

CA passes the contact list received in 3xx response as part of a new Contacts line in feature control protocol(FCP)message. The contact list received is then used to redirect the call.

Only those contacts received in the initial 3XX responses are stored and the rest are discarded.

FSPTC uses contacts one by one to reroute the call. It keeps trying to attempt call till contact list is empty or the call is successful.

The BTS 10200 softswitch does not attempt calling the next option in the contact list, if the 4xx or 5xx responses received after sending INVITE (for CFMR) are not provisioned by the operator in CFMR\_CAUSE\_CODE table.

## Provisioning the Feature

This section explains how to provision the feature. In this procedure, “you” refers to the service provider.



### Note

The commands shown in this section are only examples; you need to enter values that are appropriate for your network and service requirements. The CLI syntax allows you to use commands in uppercase or lowercase. It also allows you to enter hyphens (-) or underscores (\_) interchangeably. (Exceptions, if any, are noted in the procedures.)

For a complete list of tokens for each CLI table, as well as the allowed values, default values, and detailed descriptions for each token, see the *Cisco BTS 10200 Softswitch CLI Database* at this website: [http://www.cisco.com/en/US/docs/voice\\_ip\\_comm/bts/6.0.4/BTS604\\_Mainpage.html](http://www.cisco.com/en/US/docs/voice_ip_comm/bts/6.0.4/BTS604_Mainpage.html)

**SUMMARY STEPS**

1. add feature fname
2. add service id
3. add feature\_config type
4. add trunk\_grp\_service\_profile tgn\_id
5. add softsw\_tg\_profile id

**DETAILED STEPS**

	<b>Command</b>	<b>Purpose</b>
<b>Step 1</b>	add feature fname =CFMR ; tdp1=T_EXCEPTION; tid1=CFMR_TRIGGER; ttype1=R;feature_server_id=FSPTC235;grp_feature = N;	Create a feature for CFMR.
<b>Step 2</b>	add service id= cfmr;fname1=CFMR;	Assign CFMR to a service by providing a service ID.
<b>Step 3</b>	add feature_config type=MAX_CFMR_CONTACTS_SUPPORT;value=6;fname=CFMR;	Customize the value of Maximum number of Contacts for redirection as required. The minimum value is 1 and the maximum value is 7. If you do not provision a value, the default value is taken as 3, which is the number of contacts supported.
<b>Step 4</b>	add trunk_grp_service_profile tgn_id=<id>;service_id=cfmr;	Assign a service to the trunk group.
<b>Step 5</b>	add softsw_tg_profile id=<id>;CFMR_SUPPORT=Y;	Allow CFMR on SIP trunks.  CFMR_SUPPORT enables or disables CFMR feature for the trunk_group. This feature is enabled if value of CFMR_SUPPORT is set to Y

# Managing the Feature

Table 1 shows how CFMR is managed through specific measurement counters and how these are used.

**Table 1 Measurement Counters**

Name	Number of Resource Instances	Applicable Platforms	Usage Context
POTS_CFMR_FORWARD_ATTEMPT		FSPTC	Increases when the BTS 10200 softswitch receives the SIP 3xx message, and the POTS-FS initiates 3XX processing.
POTS_CFMR_FORWARD_SUCC		FSPTC	Increases when the BTS 10200 softswitch receives the SIP 3xx message, and the POTS-FS forwards the call to the destination successfully.
POTS_CFMR_FORWARD_FAIL		FSPTC	Increases when the BTS 10200 softswitch receives the SIP 3xx message, and the POTS-FS fails to forward a call.

## Additional References

## Related Documents

Related Topic	Document Title
Summary of features and usage guidelines for this release	<a href="#">Cisco BTS 10200 Softswitch Release Notes</a>
Reference listing of all CLI tables and tokens	<a href="#">Cisco BTS 10200 Softswitch CLI Database</a>
SIP Trunks and SIP Trunk Provisioning Example	<a href="#">Cisco BTS 10200 Softswitch SIP Guide, Release 6.0.4</a>
SIP Subscribers	<a href="#">Cisco BTS 10200 Softswitch Provisioning Guide, Release 6.0.4</a>

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: [www.cisco.com/go/trademarks](http://www.cisco.com/go/trademarks). Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)

© 2012 Cisco Systems, Inc. All rights reserved.