



Cisco BTS 10200 Softswitch Billing Interface Guide, Release 6.0.3

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Preface

Revised: August 10, 2011, OL-24995-01

This book provides the background information you need to properly and efficiently manage the Cisco BTS 10200 Softswitch accounting subsystem. This information is applicable to Release 6.0.3. This document describes both the format of the accounting data generated by the system and the standard operational practices for managing that data.

The BTS 10200 serves as a class-independent switching network element. The solutions in which it is employed also take into account the need to support both traditional PSTN billing needs as well as additional requirements necessitated by the IP, ATM, and PacketCable backbones. Many of the informational elements within the accounting data find their basis in the traditional Bellcore AMA format with modifications and additions to account for the expanded needs and capabilities of the converged network environment.

The BTS 10200 accounting information includes details of service quality and feature invocations within the call context, which are a departure from traditional billing records. The mechanisms used to manage the data generated by and transported from the BTS 10200 follows legacy-type procedures and is documented in the following sections.

The BTS 10200 provides the following billing functions:

- Provides batch record transmission using standard FTP for the transfer of call detail records (CDRs) to a remote billing server or third-party billing mediation device.



Note The BTS 10200 does not currently support the transmission of CDRs to redundant or multiple external billing mediation systems or billing servers.

- Issues events as appropriate, including potential billing data overwrites.
- Saves billing records based on allocated disk storage.
- Minor, major, and critical alarms.
- Supports user-provisionable billing subsystem parameters.
- Supports on-demand call detail block (CDB) queries based on ranges of timestamps, an originating number, a terminating number, last record written, or other fields in the call detail block.

The Bulk Data Management System (BDMS) application in the BTS 10200 gathers all billing-related call events from call processing, formats them into a standard format, and transmits the billing records using FTP to an external billing collection and mediation device that is part of the service provider's billing system. The FTP transfer occurs automatically every n minutes, where n is a number from 1 to 60 that the service provider can provision in the BTS 10200. The default value is 15 minutes.

The interface to the external billing mediation device can vary from carrier to carrier, so the BDMS supports a flexible profiling system. This profiling system allows the BTS 10200 to adapt quickly to any variation of the interface to the external billing mediation device, or to variations in the service provider's record keeping system.

**Note**

For information on Billing-related Packet Cable Event Messages, refer to the *Cisco BTS 10200 Softswitch PacketCable Guide, Release 6.0.3*.

Organization

This document is divided into the following chapters and appendixes:

- [Chapter 1, “Operational Procedures”](#)—Describes the Cisco BTS 10200 Softswitch billing operational procedures.
- [Chapter 2, “Example of a Call Detail Block File”](#)—Provides an example of an actual call detail block (CDB) record generated by the Cisco BTS 10200 Softswitch's Element Management System (EMS) for a Local Plain Old Telephone Service (POTS) SIP to Media Gateway Control Protocol (MGCP) Line Call.
- [Chapter 3, “Feature Server-Derived Call Data”](#)—Describes feature-related data that is placed within various fields in the call detail block (CDB) records.
- [Chapter 4, “Call Detail Block File Fields”](#)—Illustrates the format of each field in a Call Detail Block (CDB), the order in which the field occurs, the possible values for the individual fields, and the meaning of the data within the field where applicable.
- [Chapter 5, “QoS Metrics in CDRs”](#)—Describes the metrics that can be collected and stored in the call detail records created by the Cisco BTS 10200 softswitch.
- [Appendix A, “Call Termination Cause Codes”](#)—Lists call termination cause values and definitions.
- [Appendix B, “Time Zone Mapping Table”](#)—Defines the various time zones supported by the Cisco BTS 10200 softswitch for localization of the various timestamps in the billing records.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at

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Document Change History

The following table provides the revision history for the *Cisco BTS 10200 Softswitch Billing Interface Guide, Release 6.0.3*.

| Version Number | Issue Date | Status | Reason for Change |
|----------------|---------------|---------|------------------------------------|
| OL-24995-01 | 2 August 2011 | Initial | Initial document for Release 6.0.3 |





CHAPTER 1

Operational Procedures

Revised: August 10, 2011, OL-24995-01

This chapter describes the Cisco BTS 10200 Softswitch billing operational procedures. The following sections provide detailed information on how to manage and control accounting information generated by the BTS 10200. Actual examples are provided with explanations to illustrate the operational mechanics. These and other commands are documented in the Cisco BTS 10200 Softswitch Release Command Line Interface database, the *Cisco BTS 10200 Softswitch Troubleshooting Guide, Release 6.0.3*, and *Cisco BTS 10200 Softswitch Operations and Maintenance Guide, Release 6.0.3*.



Note

This guide deals exclusively with the call detail block (CDB) based billing subsystem. For information on the event message (EM) based billing system used in packet cable environments, please refer to the *Cisco BTS 10200 Softswitch PacketCable Guide, Release 6.0.3*.



Caution

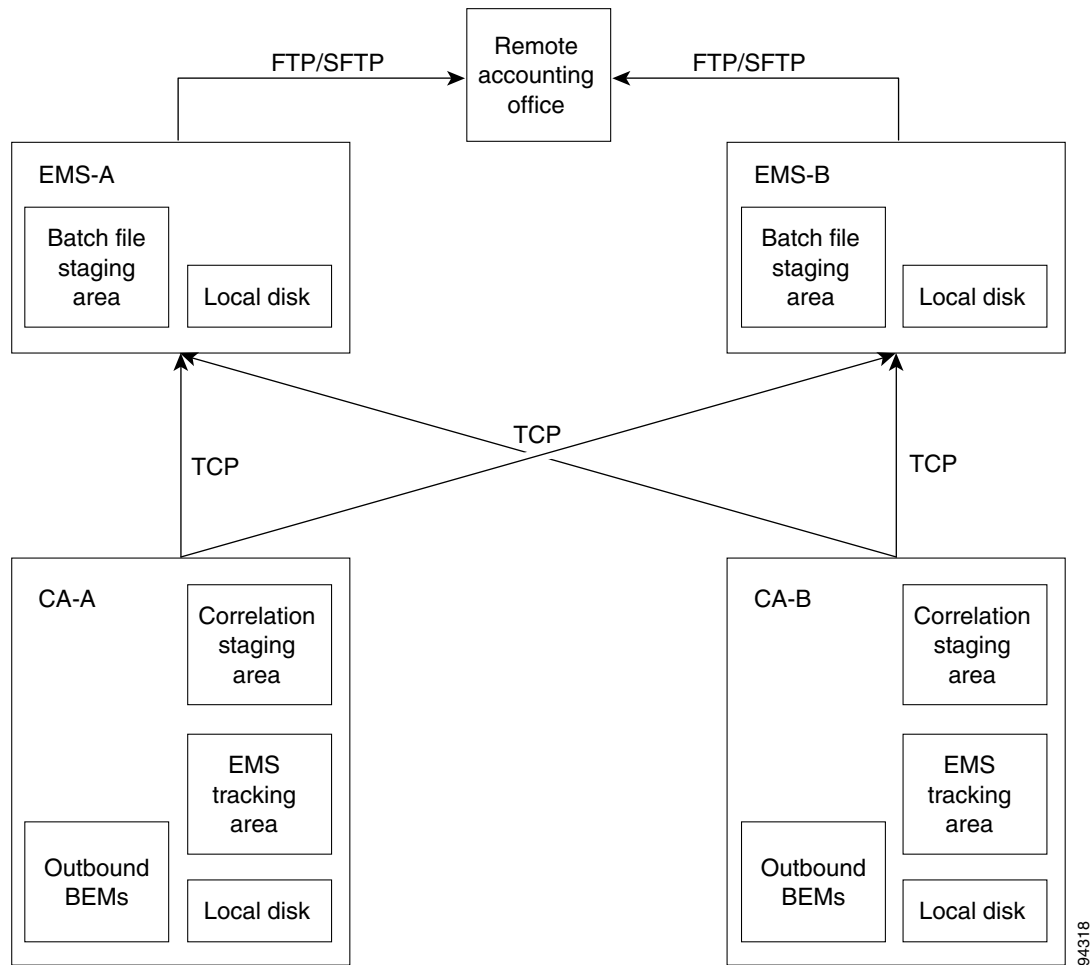
Manual manipulation of billing files can cause billing to fail. Contact Cisco for assistance before manually manipulating any billing file, including clean up.

Call Data Transport Management

CDBs are produced from the current information sent from the billing generator in the Call Agent (CA) to the billing manager in the Element Management System (EMS). Each billing event message (BEM) that is issued by a call in progress is stored in a staging area in the billing generator, waiting for call completion. The Billing Generator determines that a call is in a completed state when a signal stop is detected for the call. After that, the system waits for Quality of Service (QoS) metrics, but it does not wait longer than 5 seconds. Once this has occurred, the billing generator is triggered to send all data associated with that call to the Billing manager.

The BTS 10200 stores the raw CDBs in flat ASCII files in the persistent store associated with the Bulk Data Management System (BDMS). The BTS 10200 stores from 10 megabytes to 5 gigabytes of billing records in a flat disk partition that is user-definable with respect to size, with the default set at 1 gigabyte. This data is subsequently sent to the specified remote accounting office or billing server or mediation device by means of the File Transfer Protocol (FTP), as shown in [Figure 1-1](#).

Figure 1-1 Billing Database Redundancy Configuration



The BTS 10200 provides command line interface (CLI) commands to manage the collection and delivery of the accounting information generated.

The user must first ensure that the call detail block (CDB) based billing subsystem is enabled in the call-agent-profile entry for that call agent. The following command enables CDB-based billing:

```
change call-agent-profile id=CA146; cdb-billing-supp=y; em-billing-supp=n;
```



Caution

The PacketCable event message (EM) report value must be disabled when the CBD-based reports value is enabled, as shown in the above command example. Refer to [“File Naming Conventions”](#) for additional information.

The **billing-acct-address** command provides the ability to specify how the billing data files are named, where to send the files to in the network, the directory to place the files into at the destination node, the username and password to use for access to the destination node, and the interval to send the data.

The **show** command displays the current settings for the billing-acct-address table. Notice that the `polling_interval` indicates the change in the billing interval from 900 to 30 seconds, as shown in the command line: `billing_acct_addr polling_interval=30`.

CLI> show billing-acct-addr

```
BILLING_DIRECTORY = /opt/bms/ftp/billing
BILLING_FILE_PREFIX = bil
BILLING_SERVER_DIRECTORY = /dev/null
ENABLE_CDB_MARKERS= N
POLLING_INTERVAL = 900
SFTP_SUPP = N
DEPOSIT_CONFIRMATION_FILE = N
BILLING_FILENAME_TYPE= INSTALLED
Reply : Success: at 2007-11-15 14:24:13 by btsadmin
Request was successful.
btsadmin>change billing_acct_addr polling_interval=30
Reply : Success: at 2007-11-15 14:24:37 by btsadmin
Request was successful.
```

CLI> show billing-acct-addr

```
BILLING_DIRECTORY = /opt/bms/ftp/billing
BILLING_FILE_PREFIX = bil
BILLING_SERVER_DIRECTORY = /dev/null
ENABLE_CDB_MARKERS= N
POLLING_INTERVAL = 30
SFTP_SUPP = N
DEPOSIT_CONFIRMATION_FILE = N
BILLING_FILENAME_TYPE= INSTALLED
Reply : Success: at 2007-11-15 14:28:04 by btsadmin
Request was successful.
```

The following is an example of the command used to modify the billing-acct-address parameters in order to setup the FTP transport parameters:

```
change billing-acct-addr billing-file-prefix=CALL_DETAIL_DATA ;
billing-server-addr=rao.customer.com;
billing-server-directory=/export/billing/ftp/inbound; username=customer001; password=test;
polling-interval=900; deposit-confirmation-file=y;
billing-filename-type=default;sftp_supp=N
```

The following is a list of the command line tokens associated with this command and the valid values and purpose of each:

- **billing-directory**—An optional ASCII string from 1 to 64 characters in length.
This string specifies the directory path on the EMS where the accounting information is stored prior to being sent to the remote mediation system or accounting office by FTP. The default value for this token is /opt/bms/ftp/billing. This option is not available for this release.
- **billing-file-prefix**—An optional ASCII string from 1 to 20 characters in length that defaults to bil.
This string is appended to the front of each file sent to the remote mediation system or accounting office by FTP. The files are uniquely identified by appending a timestamp to the end of each filename. The actual name of the files is in the following format:
<billing-file-prefix>_<_yyyymmddhhmmss_pri_element-id_sequence-number.ascii
- **billing-server-directory**—An optional ASCII character string from 1 to 64 characters in length.
This string specifies the directory path on the remote mediation system or accounting office to which the accounting information is sent by FTP. The default value for this token is /dev/null.
If a **billing-server-directory** is specified, the following three tokens are mandatory. If not, then they are optional.

- **billing-server-addr**—An ASCII character string from 1 to 64 characters in length.
This string specifies the IP address or DNS domain name of the remote mediation system or accounting office to which the accounting information is sent by FTP.
- **user-name**—An ASCII character string from 1 to 32 characters in length.
This string specifies the FTP login name to use to access the remote mediation system or accounting office.
- **password**—An ASCII character string from 1 to 32 characters in length.
This string specifies the FTP password to use to access the remote mediation system or accounting office.
- **polling-interval**—The time in seconds between file transfers from the BTS 10200 Element Management System and the remote mediation system or accounting office. The valid range is from 30 seconds to 3600 seconds. This is an optional token; its default value is 900 seconds (15 minutes). The token specifies the time, in seconds, between the FTP file transfers from the Cisco BTS 10200 Element Management System and to the remote mediation system or accounting office. The reduction in the lower bound of the polling interval expedites the movement of billing files to the billing management server.



Note In releases prior to BTS 10200 6.0.3, the POLLING-interval was specified in minutes (1–60).

**Note**

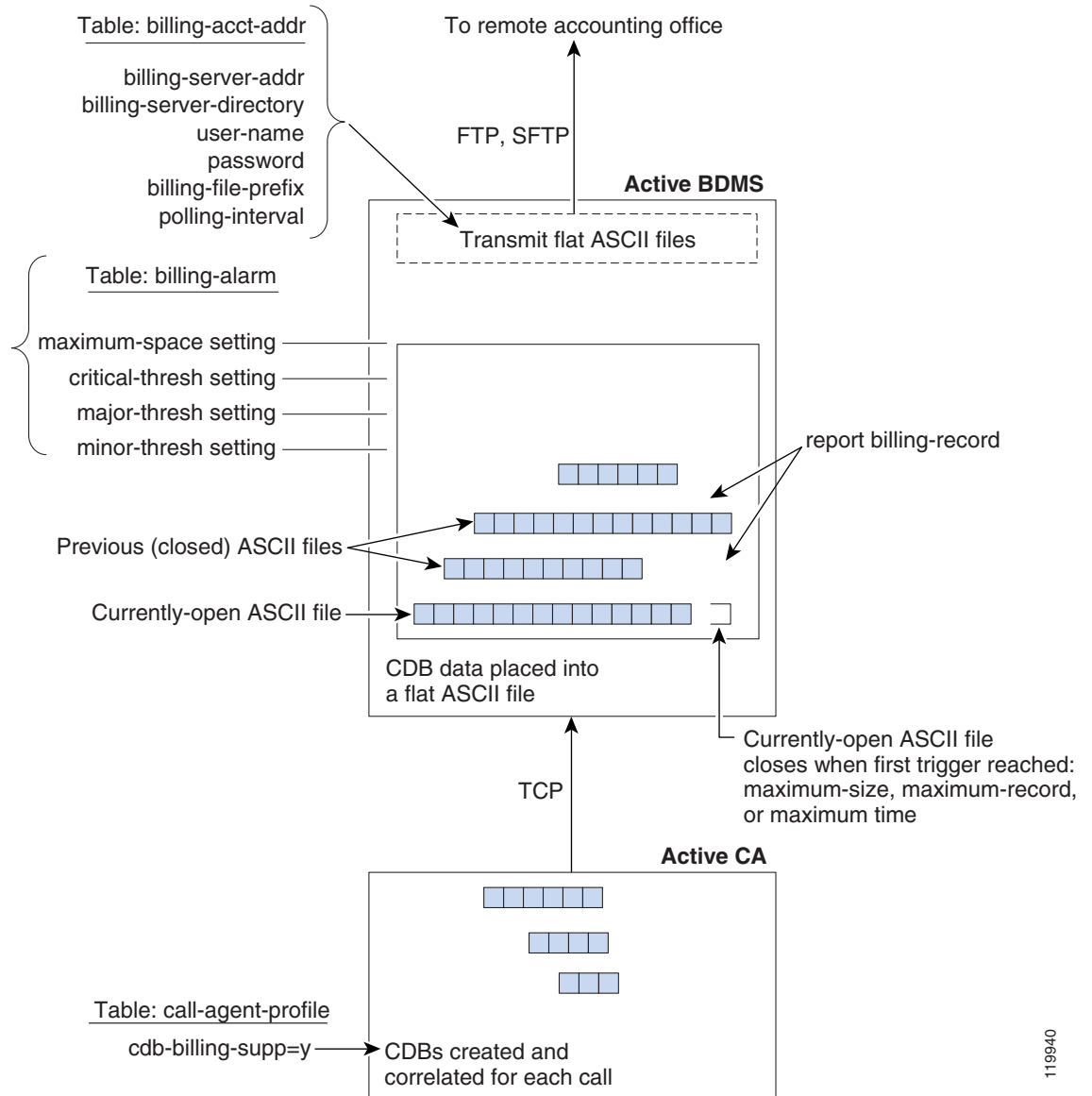
The CDR files size take precedence over the polling-interval parameter. If there are not enough records to satisfy the size requirements, then the CDR push is delayed. There is a separate billing alarm configuration for this.

- **deposit-confirmation-file**—This flag denotes whether or not an explicit confirmation file is sent after each CDB file is transferred to the remote billing collection system. If this feature is enabled, an empty file with the same name with a suffix of “.done” is appended to the end of the file. The valid choices are Y and N, with N as the default.
- **billing-filename-type**—This parameter determines which file naming format to use for the CDR files created on the system. Any changes to this value take effect only when the BDMS platform is restarted. The value of INSTALLED indicates that the value established at system installation should be used. The valid choices are INSTALLED, PACKET-CABLE, and NON-PACKET-CABLE. The default is set to INSTALLED.
- **sftp_supp**—This is a boolean flag indicating that the SFTP protocol is supported for the billing file transfer. This flag has either Y for yes or N for no. The default value is N, which means the SFTP transfer is disabled.

If there is any problem transferring the accounting data to the remote mediation system or accounting office, the Element Management System (EMS) issues a BILLING 6 or BILLING 33 event report. This is an indication that billing data is available for transfer, but transport is unable to FTP the data to the proper destination. Use of the above commands is the correct place to start diagnosis of this situation.

Figure 1-2 shows the CDB process

Figure 1-2 The CDB Process



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The following CLI command supports the ability to add a marker to the CDB file header and trailer:

```
change billing-acct-addr enable_cdb_markers=Y;
cdb_header_marker=ABC; cdb_trailer_marker=123
```

- **enable_cdb_markers**—Adds markers to billing files. If this token is set to Y, markers are added, if the tokens `cdb_header_marker` or `cdb_trailer_marker` have non-null values.
- **cdb_header_marker**—Specifies the contents of the marker added to the billing file header. The marker is added to the billing file only if `enable_cdb_marker` is set to Y. The marker is 0 to 3 characters in length and each character is in the range [a-z, A-Z, 0-90].
- **cdb_trailer_marker**—Specifies the contents of the marker added to the billing file trailer. The marker is added to the billing file only if `enable_cdb_marker` is set to Y. The marker is 0 to 3 characters in length and each character is in the range [a-z, A-Z, 0-90].

Secured FTP Support for Billing Interface

The Cisco BTS 10200 supports secured FTP (SFTP) in billing traffic, and has a new flag, `sftp-supp=n`. Before you can enable SFTP, the Cisco BTS 10200 and BMS must be configured to allow non-interactive SSH login as described below; however, once non-interactive SSH login has been set up, you must enable SFTP (thereby disabling FTP) by executing the CLI command **change** `billing-acct-addr sftp-supp=y`.

The BILLING 6 and Billing 33 alarms changed in Release 4.4.x. The BILLING 6 (Failed to make ftp transfer) and BILLING 33 (Billing FTP Parameters Invalid) alarm definitions have been modified to read *Failed to make FTP/SFTP transfer* and *Billing FTP/SFTP parameters invalid*, respectively.

The security keys must be manually built in during the installation setup. The following procedure describes:

- [Generating a Public/Private Key Pair on EMS](#)
- [Setting Up a Public Key on the BMS](#)
- [Verifying Public Key Authentication](#)

**Note**

For SFTP to work, manually configure Cisco BTS 10200 and BMS to allow non-interactive SSH login.

Generating a Public/Private Key Pair on EMS

-
- Step 1** Log in to the Cisco BTS 10200 primary EMS as root.
- Step 2** Create the `ssh` directory to store the keys:
- Execute `cd /`.
 - Execute `mkdir .ssh`.
 - Execute `chmod 700 .ssh`.
- Step 3** Generate public/private key pair.
- Execute `cd /.ssh`.
 - Execute `/opt/BTSossh/bin/ssh-keygen -t rsa`.
 - Press **Enter** to accept the default file name for the key (`/.ssh/id_rsa`).
 - Enter `y` if prompted to choose whether to overwrite the existing file.
 - Press **Enter** when prompted to enter a passphrase (no passphrase).
- Step 4** Transfer the resulting file `/.ssh/id_rsa.pub` to a temporary location on the BMS.
- ```
/opt/BTSossh/bin/sftp <username><bms_server_ip>
```
- Step 5** Repeat steps 1 through 4 to create a public/private key pair on the secondary EMS.
-

## Setting Up a Public Key on the BMS

---

- Step 1** Log in to the BMS.  
ssh <username>@<bms\_server\_ip>
- Step 2** Move the public key to a unique name.  
Execute **mv id\_rsa.pub id\_rsa.PRIEMS.pub**.
- Step 3** Create the ssh directory to store the public key.
- Execute **mkdir .ssh**.
  - Execute **chmod 700 .ssh**.
  - Execute **cat id\_rsa.PRIEMS.pub>>.ssh/authorized\_keys**.
  - Execute **chmod 600 .ssh/authorized\_keys**.
  - Execute **rm id\_rsa.PRIEMS.pub**. This command is optional.
- Step 4** Log out of the BMS.  
Execute **exit**.
- Step 5** Repeat steps 1 through 4 to set up a public key for the secondary BMS.
- 

## Verifying Public Key Authentication

---

- Step 1** Log on to the primary EMS.
- Step 2** Execute **ssh <username>@abcd**, where abcd is the IP address or fully qualified domain name of the BMS.
- Step 3** Verify that the login to the BMS is successful and that the system issues no prompts for username or password.
- The BILLING 6 and Billing 33 alarms changed in Release 4.4.x. The BILLING 6 (Failed to make ftp transfer) and BILLING 33 (Billing FTP Parameters Invalid) alarm definitions have been modified to read *Failed to make FTP/SFTP transfer* and *Billing FTP/SFTP parameters invalid*, respectively.
- Release 4.5.x allowed for using secured FTP (sFTP) in billing traffic, and included a new flag, **sftp-supp=n**. Before you can enable SFTP, the Cisco BTS 10200 and BMS must be configured to allow non-interactive SSH login as described below; however, once non-interactive SSH login has been set up, you must enable SFTP (thereby disabling FTP) by executing the CLI command **change billing-acct-addr sftp-supp=y**.
- In Release 4.5, during initial setup, the security keys must be manually built in. To set up the public and private keys for the connection between the Cisco BTS 10200 Softswitch and a mediation device, complete the following steps.
- For sFTP to work, manually configure Cisco BTS 10200 and BMS to allow non-interactive SSH login.
-

## SFTP Troubleshooting Information

When SFTP is configured for billing file transfer by setting `<CmdArg>SFTP_SUPP<noCmdArg>` to Y, billing files cannot be sent to an external SFTP server. The BDMS log shows the following message: “Error reading from SFTP server: Broken pipe.”

The impact is that the billing file delivery to an external SFTP server does not work.

This is due to a bug in OpenSSH 3.9p1 that causes SSH connection failure if the user /root initiates the connection with a group ID other than what is defined in the `/etc/passwd` file.

This seems to happen if:

1. SSH client is OpenSSH\_3.9p1, and
2. BDMS platform is started for first time with a fresh load.

The workaround is to:

1. Upgrade OpenSSH to version 4.1p1 or above, or
2. Try performing **platform stop -i BDMS01** and **platform start -i BDMS01** to restart BDMS. If file transferring over sftp still fails after BDMS restart, use FTP instead of SFTP for billing file transfer.

## File Naming Conventions

Cisco BTS 10200 supports two different billing record file naming conventions: **PacketCable** and **Non-PacketCable (NPC)**. The user can specify the format by setting the `BILLING_FILE_NAME` token in the `BILLING-ACCT-ADDR` table. The default format is NPC.



### Note

Beginning with Release 5.0, the `optical.cfg` `Billing_File_Name` parameter is not considered and is marked for obsolescence.

## Default Setting Files

NPC is the default naming convention and generates files in the following format:

```
<billing-file-prefix>-<call-agent-id>-(0/1){+/-}HHMMSSyyyymmddhhmmss-<sequence-number>
-<state>
```

where:

- `<billing-file-prefix>` is the billing file prefix from the `billing-acct-addr` table.
- `<call-agent-id>` is the call agent ID from the `call-agent` table.
- `(0/1)`: daylight saving time, on = 1, off = 0.
- `{+/-}HHMMSS` is the UTC offset time.
- `yyyymmddhhmmss` is the local time the file was created.
- `<sequence-number>` is a monotonically increasing 6-digit number from 000001 to 999999 that will roll over to 000001 after the maximum 999999 is reached.
- `<state>` is a letter indicating the state of the file where P indicates primary data (complete file but un-transferred), S indicates secondary data (complete file and transferred), and O indicates open (current open file that is incomplete and un-transferred).



The following is an example from a billing file with the state value at the end of the line.

```
-rw-r--r--1 root other 59 Dec 6 06:14 tb101-CA146-0-060000-20061206051420-000167-S
-rw-r--r--1 root other 59 Dec 6 07:14 tb101-CA146-0-060000-20061206061420-000168-S
-rw-r--r--1 root other 59 Dec 6 08:14 tb101-CA146-0-060000-20061206071420-000169-S
-rw-r--r--1 root other 59 Dec 6 09:14 tb101-CA146-0-060000-20061206081420-000170-P
-rw-r--r--1 root other 36 Dec 6 09:14 tb101-CA146-0-060000-20061206091420-000171-O
```

## PacketCable Setting Files

The PacketCable setting generates files in the following format:

```
<billing-file-prefix>_yyyymmddhhmmss_<priority>_<record-type>_<cms-id>_<sequence-number>.
scii[.tmp]
```

where:

- **<billing-file-prefix>** is the billing file prefix from the billing-acct-addr table.
- **yyyymmddhhmmss** is the time the file was created.
- **<priority>** is the default priority of the file—this value is hard coded to 3 for Release 4.5.
- **<record-type>** is a binary flag indicating the state of the file where:
  - 0 indicates the file has not been transferred.
  - 1 indicates that the file has been transferred off board.
- **<cms-id>** is the cms ID from the call-agent-profile table.
- **<sequence-number>** is a monotonically increasing 6 digit number from 000001 to 999999 that rolls over to 000001 after the maximum number of 999999 is reached.
- **[.tmp]** is an optional, temporary extension of .tmp that indicates the file is the currently open file for writing. Files ending in .tmp are not transferred to the off board billing collection system.

## Call Data Alarm Management

The BTS 10200 billing manager (BMG) process in the EMS tracks the total number of records the billing database can store, the number of unacknowledged records, and the current percentage of the database that is occupied by unacknowledged records. This information is then compared against the threshold levels set in the billing alarm database. If the current amount of billing data in the database exceeds thresholds, then the billing manager issues alarms. The billing manager resets the alarms when the storage levels drop below the specified thresholds.



### Note

In Release 4.5.0, the billing requires a minimum file size of 32 bytes. At system startup, billing goes through the list of existing billing files. If any has a size less than 32 bytes, billing fails to start. You will see the errors similar to the following:

```
ERROR 21:48:33.858 BMG MainThr -----|Billing file size is too small:
/opt/bms/ftp/billing/tb71-CA146-20050915-1723300-Plbmginit.c:660
```

```
ERROR 21:48:33.858 BMG MainThr -----|Minimum file size is 32 bytes|bmginit.c:661
```

```
ERROR 21:48:33.858 BMG MainThr -----|Bad files need to be removed before
```

```
restartlbginit.c:662
```

The corrective action is to remove this bad filling file and restart.

However, this is not the case with Releases 4.5.1 and 4.5.13. In those releases, the BMG succeeds, and deletes those files less than 32 bytes.

The BTS 10200 provides CLI user commands to manage the thresholds at which alarms are issued pertaining to billing data overwrite scenarios. These commands provide the ability to specify to what levels the billing partition is filled before an alarm of the appropriate level is issued.

The following is an example of the **show billing-alarm** command and the response that displays the current settings for billing alarms:

```
CLI>show billing-alarm
```

```
MINOR_THRESH = 70
MAJOR_THRESH = 80
CRITICAL_THRESH = 90
MAXIMUM_SPACE = 1000
MAXIMUM_SIZE = 2
MAXIMUM_RECORD = 1000
MAXIMUM_TIME = 3600
REGULAR_SPACE = 60
```

```
Reply : Success: Request was successful.
```

The following is an example of the **change billing-alarm** command used to set the threshold levels at which billing alarms are issued:

```
change billing-alarm minor-thresh=75; major-thresh=85; critical-thresh=95;
maximum-space=2000; maximum-size=2; maximum-record=3000; maximum-time=30;
regular-space=70;
```

The following is a list of the command line tokens associated with this command and the valid values and purpose of each:

- **minor-thresh**—An optional percentage, from 2 percent to 97 percent, with a default value of 70 percent that represents an initial billing database usage threshold. When this specified percentage of the billing database is consumed by billing records that have not been written into ASCII batch files, a minor alarm is issued. The value of this token must be less than that of the **major-thresh** token.
- **major-thresh**—An optional percentage, from 3 percent to 98 percent, with a default value of 80 percent that represents an intermediate billing database usage threshold. When this specified percentage of the billing database is consumed by billing records that have not been written into ASCII batch files, a major alarm is issued. The value of this token must be less than that of the **critical-thresh** token.
- **critical-thresh**—An optional token with a percentage from 4 percent to 99 percent, with a default value of 90 percent that represents a final billing database usage threshold. When this specified percentage of the billing database is consumed by billing records that have not been written into ASCII batch files, a critical alarm is issued.
- **maximum-space**—An optional token that specifies the allocated storage capacity for billing data in megabytes. This token's value can range from 10 MB to 5 GB and has a default value of 1 GB.
- **maximum-size**—An optional token that specifies the maximum size of a CDB flat file in megabytes. This token's value can range from 1 MB to 10 MB and has a default value of 2 MB.

- **maximum-record**—An optional token that specifies the maximum number of records to be stored in a given flat file. This token's value can range from 500 records to 10,000 records and has a default value of 1,000 records.
- **maximum-time**—An optional token that specifies the maximum number of seconds a given flat file can remain open for addition of new records. This token's value can range from 10 seconds to 3600 seconds and has a default value of 3,600 seconds (1 hour).
- **regular-space**—An optional token that specifies the real time capacity used, as a percentage of the available capacity, before secondary files are deleted. This token's value can range from 1 percent to 90 percent and has a default value of 60 percent. The value of this token must be less than the value for **minor-thresh**.

If there is a problem creating the ASCII accounting information files, the EMS will issue BILLING 14, BILLING 15, or BILLING 52 event reports. This is an indication that ASCII accounting data files cannot be created and stored on disk in the EMS. In these cases, verify that the alarm threshold levels are not set too low and that there is sufficient storage area available on the EMS to hold the FTP files. Use of the above commands is the appropriate place to start diagnosis of this situation.

## No Visible Billing Records

The BTS 10200 EMS stops generating billing records when a certain limit is reached. One limit is for the maximum-space parameter described in the previous section. When the total size of the billing files exceeds the disk space specified in maximum-space, no new billing records are created on the EMS.

Another hard limit is a maximum of 10,000 billing files on EMS. To continue receiving billing records, users can reduce the disk space occupied by the billing files, or reduce the number of billing files. The disk space and/or the number of billing files may be increasing because the billing files were not properly transferred to the mediation server. The SFTP or FTP connection failure (for example, the server IP address not correct or SFTP not configured correctly) results in billing files being backed up on the EMS, where they will either eventually reach either the maximum-space limit, or the 10,000 files limit. In this scenario, check the billing transport set up by using the "change billing-acct-addr" command.

## Removing Billing Files

Billing files are system files, and should not be modified, such as renaming or removing files, except by the system administrator. The system administrator should set up proper permission on the billing storage directory and billing files to avoid billing info being compromised.

If for some reason the billing files must be moved or removed (due to disk space alarms, for example), follow these steps:

1. Perform a switchover of the BDMS.
2. Platform stop the newly-standby BDMS.
3. Move the billing files in question.
4. Platform start the BDMS.
5. Repeat Steps 1 through 4 on the pair node if necessary.

# Call File Management

The BTS 10200 provides a command line interface that allows you to view lists of billing files on the Bulk Data Management System (BDMS) platform at any given time. The names of the available files and their operational status can be queried using the commands described.

The following **report billing-file** command examples allow you to query the BDMS for billing files and their associated information:

- **report billing-file filename=%**—Displays all file names stored in /opt/bms/ftp/billing. Depending on the number of files stored, this command might take a while to complete.
- **report billing-file filename=xxx**—Displays the filename specified as well as the current state of the file.
- **report billing-file state=xxx**—Displays all filenames that are in the state entered by the user.

The following is a list of the command line tokens associated with this command and the valid values and purpose of each:

- **filename**—Name of the billing file to report.  
If the file name entered does not exist, the user is notified that the file does not exist currently.
- **state**—Current state of a given file. The valid states are:
  - OPEN—file is currently being written to
  - PRIMARY—file has not been sent to or acknowledged by the external billing mediation system
  - SECONDARY—file has been sent to and acknowledged by the external billing mediation system.
- **start-row**—Row to start displaying from in the returned result set. The default value is 1.
- **limit**—Maximum number of rows to display from the returned result set. The default value is 50.
- **display**—Data columns to display from the ones supported by this command. The default is to display all available columns.
- **order**—Column that the display is to be ordered by from the returned result set.
- **auto-refresh**—Specifies whether a new result set is to be created or the existing result set is to be used (if one is available). The default value is Y (use the existing result set).

## Call Detail Data Queries

The BTS 10200 provides a command line interface to query CDB records from the ASCII flat files stored in /opt/bms/ftp/billing on the EMS. This mechanism provides the ability to specify record(s) to display based on the supplied information.

The following is an example of the command line for searching based on a time interval:

```
report billing-record start-time=2004-03-27 12:00:00:000; end-time=2004-03-27
12:05:00:000; orig-number=9726712355; term-number=9726712359;
```

The example shown above scans the ASCII flat files on the EMS for any call detail records that match the supplied criteria. Each record written between 12:00:00 and 12:05:00 on the 27th of March 2004 with an originating number field containing 972-671-2355 would be displayed to the user.

The following is an example of the command line for searching based on a specified file:

```
report billing-record filename=bil-ca1-20000327-120000; orig-number=9726712355;
```

The example shown above scans the ASCII flat files on the EMS for any call detail records that match the supplied criteria. Each record written to the file *bil-ca1-20000327-120000* with a `originating number` field containing 972-671-2355 would be displayed to the user.

The user can also use this command with no filename or time interval specified. In this case, the system displays the most recently written call record. The following is an example of the command line syntax to request that the most recently written record be displayed (effectively a `tail=1` command):

```
report billing-record
```

If a query is entered and no filename or time interval is specified, but a search qualifier is entered (such as `call type`), the query is performed over the most recently written filename.

There are several types of searches that can be performed using this query. The billing files can be searched based on filename, start and stop times, or the most recently written file. These searches can be further refined by specifying the call type, orig number, term number, service type, termination cause, or tail parameter. Only one of these refinement parameters can be used at a time.

The following is a list of the search types that can be performed:

- **Filename**—Specifying the actual file name of a group of records, those records can be searched based on the other search qualifiers supplied.
- **Time Interval**—The start and stop times can be specified and all records written within that time period are displayed. This query can be further qualified by combining it with the Call Type or Term Number or Orig Number or Service Type or Termination Cause queries.
- **Call Type**—The type of call is specified so that all records within the database that match this type are displayed to the user.
- **Service Type**—The type of service to search for within a call record(s) is specified and all records within the database that match this service type are displayed to the user.
- **Termination Cause**—The type of call termination cause is specified and all records within the database that match this termination cause are displayed to the user.
- **Term Number**—Each record that contains an exact match with the called number field in the database to the specified directory number is displayed to the user.



---

**Note** BTS 10200 releases prior to Release 6.0.1 allowed searches on the `orig-number` or the `term-number`, but not both. BTS 10200 Release 6.0.1 allows searches in which both `orig-number` and `term-number` are specified.

---

- **Orig Number**—Each record that contains an exact match with the calling number field in the database to the specified directory number is displayed to the user.
- **Tail**—This query type displays the specified number of records most recently written to the billing database. The valid values range from 1 to 50. When this token is used, the most recently written record is searched. Any CDB files that do not contain actual CDB records are skipped.

The following section describes the command line tokens associated with the **report billing-record** command and their valid values and purpose.

**Note**

The time in the command **report billing\_record start\_time=xxxx;end\_time=xxxx** is “GMT” time.

- **start-time**—A time stamp value in the format of YYYY-MM-DD HH:MM:SS.mmm.  
This value indicates the starting time to filter against in the search for when billing records were written to the database. This is an optional token that has no default value. If the milliseconds portion of the time stamp is omitted, a value of 000 is implied.
- **end-time**—A time stamp value in the format of YYYY-MM-DD HH:MM:SS.mmm. If the milliseconds portion of the time stamp is omitted, a value of 000 is implied.  
This value indicates the stopping time to filter against in the search for when billing records were written to the database. This is an optional token that has no default value.
- **term-cause**—An ASCII character string specifying the call termination cause to filter against in the billing database.

The valid values for this token are:

AAL\_PARAM\_NOT\_SUPPORTED  
 ACCESS\_INFO\_DISCARDED  
 ACCOUNT\_LIMIT\_EXCEEDED  
 AUDIT\_RELEASE  
 BEARER\_CAPAB\_INCOMPAT\_WITH\_SERVICE  
 BEARER\_CAPABILITY\_NOT\_IMPLEMENTED  
 BEARER\_CAPABILITY\_UNAVAILABLE  
 CALL\_AWARDED  
 CALL\_PROCEEDING  
 CALL\_REJECTED  
 CALL\_RESTRICTED\_WITH\_CLIR  
 CALLED\_NUMBER\_PORTED\_OUT  
 CHANNEL\_DOES\_NOT\_EXIST  
 CHANNEL\_UNACCEPTABLE  
 CHANNEL\_UNAVAILABLE  
 CIRCUIT\_CHANNEL\_CONGESTED  
 DESTINATION\_OUT\_OF\_ORDER  
 EXCESS\_DIGIT\_REC'D  
 FACILITY\_NOT\_IMPLEMENTED  
 FACILITY\_NOT\_SUBSCRIBED  
 FACILITY\_REJECTED  
 INCOMPATIBLE\_DESTINATION  
 INCORRECT\_MESSAGE\_LENGTH  
 INFOELEMENT\_NONEXISTENT

INTERNETWORKING\_ERROR\_UNSPECIFIED  
INVALID\_CALL\_REFERENCE  
INVALID\_ENDPOINT\_REFERENCE  
INVALID\_INFOELEMENT  
INVALID\_NUMBER\_FORMAT  
INVALID\_TRANSIT\_NETW\_SELECTION  
MANDATORY\_INFOELEMENT\_MISSING  
MESSAGE\_INCOMPAT\_WITH\_CALL\_STATE  
MESSAGE\_TYPE\_NONEXISTENT  
MISROUTED\_PORTED  
NE\_CAUSE\_AUDIT\_RELEASE  
NETWORK\_OUT\_OF\_ORDER  
NO\_ROUTE\_DESTINATION  
NO\_ROUTE\_TRANSIT\_NETWORK  
NO\_VPCI\_VCI\_AVAILABLE  
NORMAL\_CALL\_CLEARING  
NORMAL\_UNSPECIFIED  
NUMBER\_CHANGED  
ONE\_DIALED\_IN\_ERROR  
ONE\_NOT\_DIALED  
PROTOCOL\_ERROR\_THRESHOLD\_XCEEDED  
PROTOCOL\_ERROR\_UNSPECIFIED  
QOS\_UNAVAILABLE  
RESOURCE\_UNAVAILABLE  
RESPONSE\_STATIC\_ENQ\_MSG  
SERVICE\_DENIED  
SERVICE\_NOT\_IMPLEMENTED  
SERVICE\_OPERATION\_VIOLATED  
SERVICE\_UNSPECIFIED  
SESSION\_TIMER\_REFRESH\_TIMEOUT  
SWITCH\_EQUIP\_CONGESTED  
TEMPORARY\_FAILURE  
TIMER\_EXPIRY\_RECOVERY  
TOO\_MANY\_PENDING\_ADD\_PARTY\_REQ  
UNAUTHORIZED\_BEARER\_CAPABILITY  
UNASSIGNED\_NUMBER  
UNSUPPORTED\_TRAFFIC\_PARAMS  
USER\_ALERTED\_NO\_ANSWER

USER\_BUSY  
 USER\_CELLRATE\_UNAVAILABLE  
 USER\_NOT\_RESPONDING  
 VACANT\_CODE  
 VPCI\_VCI\_ASSIGNMENT\_FAIL  
 VPCI\_VCI\_NOT\_AVAILABLE  
 ZERO\_DIALED\_IN\_ERROR

The **report billing\_record** command is used to verify the system functionality. If the report times out, then the error stating: "Operation timed out. See the BTS 10200 documentation for more details" appears. The error could arise if:

- The start\_time and end\_time entered is the local time instead of GMT time.
- The search operation has too many files to conduct the search operation.

To correct the error, do the following:

- Verify that the start\_time and end\_time specified is GMT time.
- Use a smaller time range or use other search tokens to limit the search.

- **call-type**—An ASCII character string specifying the type of call record to filter against in the billing database. The valid values for this token are the same as those listed for the **billing-cdb** command.

In Release 4.5, it is possible to provision the Destination table with any one of the following:

- call-type=EMG
- call-type=AMBULANCE
- call-type=FIRE
- call-type=POLICE

Alternatively, it is possible to provision the following (one pair per DEST-ID):

- call-type=EMG; call-subtype=AMBULANCE
- call-type=EMG; call-subtype=FIRE
- call-type=EMG; call-subtype=POLICE
- call-type=EMG; call-subtype=NONE (default)

For service providers in the United States, it is typical to provision the Destination table with call-type=EMG for the digit string 911, and call-subtype=NONE (default), because 911 is a central dispatch point for all emergency, ambulance, fire, and police calls.



**Caution**

On the BTS 10200, to consider a call an emergency, it must be provisioned as call-type EMG. If using separate DNs for ambulance, fire, and police service (typically applies to networks outside the United States.), Cisco strongly recommends that you provision these as call-type EMG and call-subtype <AMBULANCE or FIRE or POLICE> in the Destination table. This is the only way to be sure they are given all the treatment of the EMG call-type.

- **term-number**—An ASCII character string that is 1 to 15 characters long.

This value indicates the actual called party directory number to filter against in the billing database. This is an optional token that has no default value.



- **orig-number**—An ASCII character string that is 4 to 15 characters long.  
This value indicates the actual calling party directory number to filter against in the billing database. This is an optional token that has no default value.
- **tail**—A decimal value from 1 to 50.  
This value indicates the number of most recently written records to query. This is an optional token that has no default value
- **service-type**—An ASCII character string specifying the type of service to filter against in the billing database.

The valid values for this token are:

911 HANDLING  
ACCOUNT CODE  
AIN HANDLING  
ANONYMOUS CALL REJECTION  
AUTHORIZATION CODE  
AUTO RECALL  
AUTOMATIC CALLBACK  
BUSY LINE VERIFICATION  
CALLBLOCK  
CALL FORWARD BUSY  
CALL FORWARD COMBINATION  
CALL FORWARD NO ANSWER  
CALL FORWARD REDIRECT  
CALL FORWARD UNCONDITIONAL  
CALL HOLD  
CALL PARK  
CALL PARK REOFFERED  
CALL PARK RETRIEVAL  
CALL TRANSFER  
CALL WAITING  
CALL WAITING DELUXE  
CALL WAITING WITH CALLER IDENTITY  
CALLING ID DELIVERY BLOCK PERMANENT  
CALLING IDENTITY DELIVERY SUPPRESSION  
CALLING NAME DELIVERY  
CALLING NAME DELIVERY BLOCKING  
CALLING NUMBER DELIVERY  
CALLING NUMBER DELIVERY BLOCK

CANCELLED CALL WAITING  
CLASS OF SERVICE  
CNAM SCP QUERY  
CUSTOM DIALING PLAN  
CUSTOMER ORIGINATED TRACE  
DIRECTED CALL PICKUP WITH BARGE IN  
DIRECTED CALL PICKUP WITHOUT BARGE IN  
DO NOT DISTURB  
DRCW  
HOTLINE  
HOTLINE VARIABLE  
LCD PREPAID  
LCD POSTPAID  
LIMITED CALL DURATION—PREPAID  
LIMITED CALL DURATION—POSTPAID  
LNP  
MULTIPLE DIRECTORY NUMBER  
NO SOLICITATION ANNOUNCEMENT  
OFF HOOK TRIGGER  
OUTGOING CALL BARRING  
PRIVACY SCREENING  
REJECT CALLER  
REMOTE ACTIVATION OF CALL FORWARDING  
REMOTE ACTIVATION OF CALL FORWARDING PIN  
REPEAT CALL  
RETURN CALL  
SCREENING LIST EDIT DRCW  
SCREENING LIST EDIT SCA  
SCREENING LIST EDIT SCF  
SCREENING LIST EDIT SCR  
SELECTIVE CALL ACCEPTANCE  
SELECTIVE CALL FORWARDING  
SELECTIVE CALL REJECTION  
SERIVCE FEATURE GROUP INCOMING  
SERVICE FEAURE GROUP OUTGOING  
SIP OFF-HOOK TRIGGER  
SIP REFER  
SIP REPLACE

SIP TERMINATION ATTEMPT TRIGGER  
SPEED CALLING  
TERMINATION ATTEMPT TRIGGER  
THREE WAY CALL  
THREE WAY CALL DELUXE  
TOLL FREE  
USER SENSITIVE THREE WAY CALL  
VOICE MAIL  
VOICE MAIL ACCESS  
WAKEUP CALL (Release 4.5.1)  
WARMLINE

## Call Data Provisioning

The BTS 10200 provides a command line interface to manage the types of call detail records generated. This mechanism provides the ability to specify which call detail block types are generated by the system on a per-call-type basis. When the system is installed, all CDB types are enabled by default.

The following is an example of the **show billing-cdb** command being used to display the current enable/disable setting for billing CDBs for a specific call type:

```
CLI>show billing-cdb type=LRN
```

```
TYPE=LRN
ENABLE=Y
```

```
Reply : Success: Request was successful.
```

The following is an example of the **change billing-cdb** command being used to enable local billing:

```
change billing-cdb type=LOCAL; enable=y;
```

The command line tokens associated with the **show billing-cdb** command and their valid values and purpose are as follows:

- **type**—An ASCII character string specifying the type of call record to provision.  
This is a mandatory token with no default value. The valid values for this token are the same as those listed in the previous section for the **report billing-record** command.
- **enable**—An ASCII character (Y or N).  
This string specifies whether the specified CDB type should be enabled or disabled for generation. This is an optional token with a default value of Y.

## Caution for USE-PAI-HDR-FOR-ANI Token

The USE-PAI-HDR-FOR-ANI token in the softswitch trunk group profile controls the P-Asserted-ID (PAID) header used to send and receive calling party information.

With the USE-PAI-HDR-FOR-ANI token set to Y, the calling party information is derived exclusively from the PAID header on inbound calls, so when a SIP INVITE arrives at the BTS 10200 without PAID header, the Cisco BTS 10200 treats the call as though it did not have a calling party number.

For the billing record, the following is recorded for such a call:

ORIGNUMBER -> Null (empty)

CHARGENUMBER -> Null (empty)

ORIGCALLINGNAME -> OUT OF AREA

The BTS 10200 records the user part of the From header in ORIGINATINGSIPUSERNAME field of the billing record.



---

**Note**

Customer Originated Trace (COT, \*57) does not work with USE-PAI-HDR-FOR-ANI=Y, and the incoming SIP INVITE does not have the PAID header.

---

For more information about using USE-PAI-HDR-FOR-ANI=Y or about which other features/functions might not work properly because of USE-PAI-HDR-FOR-ANI=Y and the incoming SIP INVITE not having the PAID header, contact your Cisco representative.



## CHAPTER 2

# Example of a Call Detail Block File

Revised: August 10, 2011, OL-24995-01

This chapter provides an example of an actual call detail block (CDB) record generated by the Cisco BTS 10200 Softswitch's Element Management System (EMS) for a Local Plain Old Telephone Service (POTS) SIP to Media Gateway Control Protocol (MGCP) Line Call. The ASCII text as created is depicted below with a translation matrix after that can be used to decode the contents of the record within the file. The billing file shown contains only a single record.



### Note

The times shown in the record below are in Pacific Standard Time (PST), which is offset minus 8 hours from Greenwich Mean Time (GMT).

This CDB is configured to use the semicolon (;) as a field separator and the vertical bar (|) as a record separator. Where the value for a given field is denoted by an empty field, two field separators in a row [semicolons (;)], it indicates that the field is irrelevant in the call context shown.

The contents of the billing file are:

```
001;06.0.0;2002-01-01 10:35:10;CA146||
3;1009190106000;1009190127000;;;1009190108000;1009190108000;1009190127000;;;;;;;;;;00:00:
19.000;;;1009190127000;9725581000;9775551232;9725581000;;9775551232;;;;;;;;;;1;0;16;0;
5;0;158;;;;;;;;;0;;;;;;;;;1056;515;168960;80608;0;344;2;0;0;0;0;0;1;0;0;0;CA146381;;;CA1
46;2;;;;;;;;;;0;0;;;9725581000;757C88A2-3AA111CC-81B98F4D-B468D474@10.9.27.4
;10.89.227.58;;;;;;;;;;8;10;2;;;;;;;;;1;;;9725581000;0;0;0;0;1;DAL00022;10.0.1.
4;10.0.4.9;;;;;;;;;223344;1;ANONYMOUS;3;;;;;;;;;;0;12345;;;;;;;;;;||1;
;;;;;;;;;;0;12345;;;;;;;;;;||1;
2002-01-01 10:35:30
```

Header information:

```
Header/TrailerVersionNumber=001
CDBVersion=06.0.0
StartingTime=2004-09-01 10:35:10.000
CAName=CA146
```

Trailer information:

```
NumberOfRecords=1
Close/FinishTime=2004-09-01 10:35:30.000
```



### Note

This is not intended to mirror the CDB REPORT command on the Cisco BTS 10200 exactly; this is for illustrative purposes only.

Here is an example of a decoded terminating billing record:

```

CALLTYPE=LOCAL
SIGSTARTTIME=2007-07-11 14:31:10.774
SIGSTOPTIME=2007-07-11 14:31:14.121
SERVICEINSTANCETIME1=2007-07-11 14:31:10.783
CALLELAPSEDTIME=00:00:00.000
ORIGNUMBER=2012520203
TERMNUMBER=2012520201
CHARGENUMBER=2012520203
DIALEDDIGITS=2012520201
SERVICETYPE1=Class Of Service
USAGESENSITIVE1=False
SERVICERESULTCODE1=BW Screening Reject
CALLTERMINATIONCAUSE=SERVICE_DENIED
ORIGSIGNALINGTYPE=0
TERMSIGNALINGTYPE=4
ORIGTRUNKGROUPNUMBER=0
TERMTRUNKGROUPNUMBER=10012
OUTGOINGTRUNKNUMBER=0
ORIGCIRCUITID=0
TERMCIRCUITID=1
ORIGQOSTIME=2007-07-11 14:31:14.161
ORIGQOSPACKETSSENT=0
ORIGQOSPACKETSRECD=110
ORIGQOSOCETSSENT=0
ORIGQOSOCETSRECD=26400
ORIGQOSPACKETSLOST=0
ORIGQOSJITTER=0
ORIGQOSAVGLATENCY=0
PACKETIZATIONTIME=20
SILENCESUPPRESSION=0
ECHOCANCELLATION=0
CODECTYPE=PCMU
CONNECTIONTYPE=IP
OPERATORINVOLVED=0
CASUALCALL=0
INTERSTATEINDICATOR=0
OVERALLCORRELATIONID=CA146169
TIMERINDICATOR=0
RECORDTYPE=NORMAL RECORD
JIP=201999
CALLAGENTID=CA146
ORIGPOPTIMEZONE=CDT
ORIGTYPE=INTRASWITCH
TERMTYPE=INTERSWITCH
NASERRORCODE=0
NASDLXREASON=0
FAXINDICATOR=NOT A FAX
ORIGPOPID=tb01
DIALPLANID=tb01
CALLINGPARTYCATEGORY=Ordinary Subscriber
CALLEDPARTYINDICATOR=No Indication
CALLEDPARTYPORTEDIN=No
CALLINGPARTYPORTEDIN=No
BILLINGRATEINDICATOR=None
ORIGENDPOINTADDR=x1-6-00-00-CA-E5-F5-4C.ipclab.cisco.com
ORIGCMTSID=c7246-227-104
SENSORID=000000
ORIGPRIVACYINDICATOR=FULL
ORIGLINEINFO=0
ORIGBUFFERSIZE=1128792064

```

```

ORIGPACKETSIZE=200
ORIGSPEECHSIZE=200
ORIGBANDWIDTH=1176256512
ORIGADMISSIONCTRLTYPE=DQOS
MODEMINDICATOR=False
TDDINDICATOR=False
CTRACID=M00003e
ORIGNETYPE=CMS
ORIGBCID=3393171070_55555_1-050000_104
ORIGREMOTEPACKETSENT=71
ORIGREMOTEOCTETSSENT=17892
ORIGREMOTEPACKETSLOST=0
ORIGREMOTEAVERAGEINTERARRIVALJITTER=0
SERVICESTATUS1=INSTANCE

```

Here is an example of a decoded originating billing record:

```

CALLTYPE=LOCAL
SIGSTARTTIME=2007-07-11 14:32:26.406
SIGSTOPTIME=2007-07-11 14:32:32.170
SERVICEINSTANCETIME1=2007-07-11 14:32:26.416
CALLELAPSEDTIME=00:00:00.000
ORIGNUMBER=2012520201
TERMINUMBER=2012520203
CHARGENUMBER=2012520201
DIALEDDIGITS=2012520203
SERVICETYPE1=Seasonal Suspend
USAGESENSITIVE1=False
SERVICERESULTCODE1=Success
CALLTERMINATIONCAUSE=CALL_REJECTED
ORIGSIGNALINGTYPE=0
TERMSIGNALINGTYPE=4
ORIGTRUNKGROUPNUMBER=0
TERMTRUNKGROUPNUMBER=10012
OUTGOINGTRUNKNUMBER=0
ORIGCIRCUITID=0
TERMCIRCUITID=1
ORIGQOSTIME=2007-07-11 14:32:32.195
ORIGQOSPACKETSENT=0
ORIGQOSPACKETSRECD=191
ORIGQOSOCETSSENT=0
ORIGQOSOCETSRECD=45680
ORIGQOSPACKETSLOST=0
ORIGQOSJITTER=0
ORIGQOSAVGLATENCY=0
PACKETIZATIONTIME=20
SILENCESUPPRESSION=0
ECHOCANCELLATION=0
CODECTYPE=PCMU
CONNECTIONTYPE=IP
OPERATORINVOLVED=0
CASUALCALL=0
INTERSTATEINDICATOR=0
OVERALLCORRELATIONID=CA146170
TIMERINDICATOR=0
RECORDTYPE=NORMAL RECORD
JIP=201999
CALLAGENTID=CA146
ORIGPOPTIMEZONE=CDT
ORIGTYPE=INTRASWITCH
TERMTYPE=INTRASWITCH
NASERRORCODE=0
NASDLCXREASON=0
FAXINDICATOR=NOT A FAX

```

ORIGPOPID=tb01  
TERMPOPID=tb01  
TERMPOPTIMEZONE=CDT  
DIALPLANID=tb01  
CALLINGPARTYCATEGORY=Ordinary Subscriber  
CALLEDPARTYINDICATOR=No Indication  
CALLEDPARTYPORTEDIN=No  
CALLINGPARTYPORTEDIN=No  
BILLINGRATEINDICATOR=None  
ORIGENDPOINTADDR=x1-6-00-00-CA-E5-F7-A4.ipclab.cisco.com  
ORIGCMTSID=c7246-227-104  
SENSORID=000000  
ORIGPRIVACYINDICATOR=FULL  
ORIGLINEINFO=0  
ORIGBUFFERSIZE=1128792064  
ORIGPACKETSIZE=200  
ORIGSPEECHSIZE=200  
ORIGBANDWIDTH=1176256512  
ORIGADMISSIONCTRLTYPE=DQOS  
MODEMINDICATOR=False  
TDDINDICATOR=False  
CTRACID=M00003f  
ORIGNETYPE=CMS  
ORIGBCID=3393171146\_55555\_1-050000\_105  
TERMBCID=3393171146\_55555\_1-050000\_106  
ORIGREMOTEPACKETSENT=78  
ORIGREMOTEOCTETSSENT=19656  
ORIGREMOTEPACKETSLOST=0  
ORIGREMOTEAVERAGEINTERARRIVALJITTER=0  
SERVICESTATUS1=INSTANCE





## CHAPTER 3

# Feature Server-Derived Call Data

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Revised: August 10, 2011, OL-24995-01

This chapter describes feature-related data that is placed within various fields in the call detail block (CDB) records. This data is generated by the Feature Servers, either internal or external, whenever a feature is invoked during the call. Up to three feature instances can be captured in a single call detail block. The format of the data and the possible values are shown in the following sections.

Each block of feature data contains up to four sub-fields, as follows:

- **ServiceId**—A string describing which services/features were involved in this billing event. The possible values are shown below. (Blue typeface indicates a hyperlink to the associated CDB table.)
  - 1 = CB—Call Block (not used)
  - 2 = CFU—[Call Forward Unconditional](#)
  - 3 = CW—[Call Waiting](#)
  - 4 = RPC—Repeat Call (not used)
  - 5 = RTC—Return Call (not used)
  - 6 = CHD—[Call Hold](#)
  - 7 = TWC—[Three-way Calling](#)
  - 8 = CT—[Call Transfer](#)
  - 9 = CND—Calling Number Delivery
  - 10 = CNDB—[Calling Number Delivery Blocking](#)
  - 11 = CFB—[Call Forward on Busy](#)
  - 12 = COS—[Class of Service](#)
  - 13 = CNAM\_SCP (13 or 60) (not used)
  - 14 = CFNA—[Call Forward No Answer](#)
  - 15 = AIN—AIN Handling (not used)
  - 16 = EMG—911 Handling
  - 17 = CDP—Custom Dialing Plan
  - 18 = CIDBP—Calling ID Delivery Block Permanent (not used)
  - 19 = SFGI—Service Feature Group Incoming
  - 20 = SFGO—Service Feature Group Outgoing

- 21 = CCW—Cancel Call Waiting
- 22 = USTWC—Usage Sensitive Three-way Calling
- 23 = TOLL-FREE—Toll Free Service (not used)
- 24 = ACCT—Account Code Service
- 25 = AUTH—Authorization Code Service
- 26 = LNP—Local Number Portability (not used)
- 27 = CIDS—Caller Identity Delivery Suspension
- 28 = CNAB—Calling Name Delivery Blocking
- 29 = CIDCW—Call Waiting with Caller Identity
- 30 = ACR—Anonymous Call Rejection
- 31 = TOLL-FREE-CALL—Toll Free Service
- 32 = COT—Customer Originated Trace
- 33 = CPRK—Call Park
- 34 = CPRK-RETRIEVAL—Call Park Retrieval
- 35 = CPRK-REOFFER—Call Park Reoffer
- 36 = DPU—Directed Call Pickup with Barge-In
- 37 = DPN—Directed Call Pickup without Barge-In
- 38 = HOTLINE—Hotline
- 39 = WARMLINE—Warmline
- 40 = BLV—Busy Line Verification Busy Line Interruption
- 41 = SCR—Selective Call Rejection
- 42 = SCF—Selective Call Forwarding
- 43 = SCA—Selective Call Acceptance
- 44 = AUTO-CALLBACK—Automatic Call Back
- 45 = AUTO-RECALL—Automatic Recall
- 46 = SPEED-CALL—Speed Calling
- 47 = DND—Do Not Disturb
- 48 = RACF—Remote Activation of Call Forwarding
- 49 = RACF\_PIN—Remote Activation of Call Forwarding PIN Change
- 50 = DRCW—Distinctive Ring Call Waiting
- 51 = SLE\_SCF—SLE-SCA SLE-SCF SLE-SCR SLE-DRCW
- 52 = SLE\_SCA—SLE-SCA SLE-SCF SLE-SCR SLE-DRCW
- 53 = SLE\_SCR—SLE-SCA SLE-SCF SLE-SCR SLE-DRCW
- 54 = SLE\_DRCW—SLE-SCA SLE-SCF SLE-SCR SLE-DRCW
- 55 = REJECT-CALLER—Reject Caller
- 56 = CWD—Call Waiting Deluxe
- 57 = TWCD—Three-way Calling Deluxe
- 58 = OCB—Outgoing Call Barring

- 59 = HOTV—[Hotline Variable](#)
- 60 = CNAM SCP Query
- 61 = SIP REFER
- 62 = CFC—[Call Forwarding Combination](#)
- 63 = NSA—[No Solicitation Announcement](#)
- 64 = PS—[Privacy Screening](#)
- 65 = VM—[Voice Mail](#)
- 66 = VM\_ACCESS—[Voice Mail Access](#)
- 67 = [Limited Call Duration—PREPAID](#)
- 68 = [Limited Call Duration—POSTPAID](#)
- 69=MULTIPLE\_DIRECTORY\_NUMBER
- 70=SIP\_REPLACE
- 71=CFR
- 72=OHT
- 73=TAT
- 74=OCNA
- 75=SEAS
- 76=ENUM
- 77=ENUM LNP
- 78=TMB
- 79=GMB
- 80=ECB
- 81=TAS\_MODE
- 82=HN
- 83=CFNR
- 84=SNR (\*\* See Notes in the next section)
- 85=LONG-DUR-CUTOFF

**Notes on the SNR feature:**

For answered calls, two full-call CDRs are generated; one for the original call terminating on the master number and one for the call picked up by the final terminating party. All other forked calls have one CDR per call.

If a call goes to voice mail after SNR\_ACT, two billing records are created; one for SNR\_ACT and one for VM\_Access.

Because Single Number Reach (follow-me) uses CFU and VM service logic, the invocation of follow-me shows in CFU and VM billing records.

[Table 3-1](#) has information on the Billing updates and feature information for the SNR feature.

- **ServiceStatus1, ServiceStatus2, ServiceStatus3**—A string denoting the type of invocation that occurred. This is not a field within the billing records, but rather an indication of service invocation types that can occur for a given service, and an indication of the corresponding timestamp field that is populated as a result. The valid invocation types are:

- INSTANCE
- ACTIVATION
- DEACTIVATION
- INTERROGATION
- **FeatureDataOne, FeatureDataTwo, FeatureDataThree**—A string containing the service/feature specific billing data as described in the following sections.
- **Result**—A string indicating if the action taken was successful or not. The valid values are as follows:
  - SUCCESS
  - FAILURE
  - ANI\_INVALID
  - ANI\_BLOCKED
  - CASUAL\_BLOCKED
  - II\_SCREENED
  - BW\_SCREENED
  - COS\_RESTRICTED
  - 2L-ACT ABANDONED VOICEBACK DN
  - 2L-ACT CONNECTED ANONYMOUS DN
  - COS\_INTERNAL\_ERROR
  - CALL\_BLOCKED
  - RESULT\_UNKNOWN
  - USER\_ABANDONED
  - INVALID\_PIN
  - PIN\_BLOCKED
  - BILLING\_INFO\_TDISC\_CALL\_BLOCKED—Calls blocked due to the subscriber being temporarily disconnected
  - BILLING\_INFO\_VALID—Call was allowed for a temporarily disconnected subscriber
  - BILLING\_INFO\_ABANDON\_WHILE\_ANNOUNCE
  - INSUFFICIENT\_QUOTA
  - MEDIATION\_REQUIRED
  - 305\_FAILURES—IP Trigger processing failure based on receipt of a SIP 305 response
- **UsageFlag**—A string indicating if the service invoked is considered usage sensitive or not. The valid values are:
  - FALSE
  - TRUE

Table 3-1 lists the available features including the fields, values, and associated CDB fields.

**Table 3-1 Features and the Associated Call Detail Block Fields**

| Feature Name                      | Field                | Value                                                               | Associated CDB Fields                                                                 |
|-----------------------------------|----------------------|---------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>Account Code Service</b>       | <b>ServiceId</b>     | ACCT                                                                | —                                                                                     |
|                                   | <b>ServiceStatus</b> | INSTANCE                                                            | —                                                                                     |
|                                   | <b>FeatureData</b>   | Account Code                                                        | AccountCode                                                                           |
|                                   | <b>Result</b>        | —                                                                   | —                                                                                     |
| <b>Authorization Code Service</b> | <b>ServiceId</b>     | AUTH                                                                | ServiceType1,<br>ServiceType2, or<br>ServiceType3                                     |
|                                   | <b>ServiceStatus</b> | INSTANCE                                                            | —                                                                                     |
|                                   | <b>FeatureData</b>   | Auth Code                                                           | AuthCode                                                                              |
|                                   | <b>Result</b>        | —                                                                   | —                                                                                     |
| <b>Reject Caller</b>              | <b>ServiceId</b>     | reject-caller                                                       | ServiceType1,<br>ServiceType2, or<br>ServiceType3                                     |
|                                   | <b>ServiceStatus</b> | INSTANCE                                                            | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3             |
|                                   | <b>FeatureData</b>   | —                                                                   | —                                                                                     |
|                                   | <b>Result</b>        | —                                                                   | —                                                                                     |
| <b>Anonymous Call Rejection</b>   | <b>ServiceId</b>     | ACR                                                                 | ServiceType1,<br>ServiceType2, or<br>ServiceType3                                     |
|                                   | <b>ServiceStatus</b> | INSTANCE                                                            | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3             |
|                                   |                      | ACTIVATION                                                          | ServiceActivationTime1,<br>ServiceActivationTime2, or<br>ServiceActivationTime3       |
|                                   |                      | DEACTIVATION                                                        | ServiceDeactivationTime1,<br>ServiceDeactivationTime2, or<br>ServiceDeactivationTime3 |
| <b>FeatureData</b>                | —                    | —                                                                   |                                                                                       |
| <b>Result</b>                     | SUCCESS,<br>FAILURE  | ServiceResultCode1,<br>ServiceResultCode2, or<br>ServiceResultCode3 |                                                                                       |

Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name                                                                                    | Field                | Value               | Associated CDB Fields                                                     |
|-------------------------------------------------------------------------------------------------|----------------------|---------------------|---------------------------------------------------------------------------|
| <b>Call Hold</b>                                                                                | <b>ServiceId</b>     | CHD                 | ServiceType1,<br>ServiceType2, or<br>ServiceType3                         |
|                                                                                                 | <b>ServiceStatus</b> | INSTANCE            | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3 |
|                                                                                                 | <b>FeatureData</b>   | —                   | —                                                                         |
|                                                                                                 | <b>Result</b>        | SUCCESS,<br>FAILURE | ServiceResultCode1,<br>ServiceResultCode2, or<br>ServiceResultCode3       |
| <b>Call Transfer</b><br><br>Call Transfer feature data blocks appear<br>in the second call leg. | <b>ServiceId</b>     | CT                  | ServiceType1,<br>ServiceType2, or<br>ServiceType3                         |
|                                                                                                 | <b>ServiceStatus</b> | INSTANCE            | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3 |
|                                                                                                 | <b>FeatureData</b>   | —                   | —                                                                         |
|                                                                                                 | <b>Result</b>        | SUCCESS,<br>FAILURE | ServiceResultCode1,<br>ServiceResultCode2, or<br>ServiceResultCode3       |
| <b>Calling Name Delivery Blocking</b>                                                           | <b>ServiceId</b>     | CNAB                | ServiceType1,<br>ServiceType2, or<br>ServiceType3                         |
|                                                                                                 | <b>ServiceStatus</b> | INSTANCE            | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3 |
|                                                                                                 | <b>FeatureData</b>   | —                   | —                                                                         |
|                                                                                                 | <b>Result</b>        | —                   | —                                                                         |
| <b>Calling Number Delivery Blocking</b>                                                         | <b>ServiceId</b>     | CNDB                | ServiceType1,<br>ServiceType2, or<br>ServiceType3                         |
|                                                                                                 | <b>ServiceStatus</b> | INSTANCE            | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3 |
|                                                                                                 | <b>FeatureData</b>   | —                   | —                                                                         |
|                                                                                                 | <b>Result</b>        | SUCCESS,<br>FAILURE | ServiceResultCode1,<br>ServiceResultCode2, or<br>ServiceResultCode3       |

Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name                        | Field         | Value               | Associated CDB Fields                                                     |
|-------------------------------------|---------------|---------------------|---------------------------------------------------------------------------|
| Call Waiting                        | ServiceId     | CW                  | ServiceType1,<br>ServiceType2, or<br>ServiceType3                         |
|                                     | ServiceStatus | INSTANCE            | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3 |
|                                     | FeatureData   | —                   | —                                                                         |
|                                     | Result        | SUCCESS,<br>FAILURE | ServiceResultCode1,<br>ServiceResultCode2, or<br>ServiceResultCode3       |
| Cancel Call Waiting                 | ServiceId     | CCW                 | ServiceType1,<br>ServiceType2, or<br>ServiceType3                         |
|                                     | ServiceStatus | INSTANCE            | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3 |
|                                     | FeatureData   | —                   | —                                                                         |
|                                     | Result        | SUCCESS,<br>FAILURE | ServiceResultCode1,<br>ServiceResultCode2, or<br>ServiceResultCode3       |
| Call Waiting with Caller Identity   | ServiceId     | CIDCW               | ServiceType1,<br>ServiceType2, or<br>ServiceType3                         |
|                                     | ServiceStatus | INSTANCE            | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3 |
|                                     | FeatureData   | —                   | —                                                                         |
|                                     | Result        | SUCCESS,<br>FAILURE | ServiceResultCode1,<br>ServiceResultCode2, or<br>ServiceResultCode3       |
| Caller Identity Delivery Suspension | ServiceId     | CIDS                | ServiceType1,<br>ServiceType2, or<br>ServiceType3                         |
|                                     | ServiceStatus | INSTANCE            | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3 |
|                                     | FeatureData   | —                   | —                                                                         |
|                                     | Result        | SUCCESS,<br>FAILURE | ServiceResultCode1,<br>ServiceResultCode2, or<br>ServiceResultCode3       |

Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name                                                                                                                                                               | Field                | Value                                                         | Associated CDB Fields                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| <b>Call Forward Unconditional</b><br><br><b>Call Forward Unconditional data block appears on the second call leg created by BTS 10200 when the CFU feature is invoked.</b> | <b>ServiceId</b>     | CFU                                                           | ServiceType1, ServiceType2, or ServiceType3                                                |
|                                                                                                                                                                            | <b>ServiceStatus</b> | FORWARDED                                                     | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3                        |
|                                                                                                                                                                            |                      | INSTANCE                                                      | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3                        |
|                                                                                                                                                                            |                      | ACTIVATION                                                    | ServiceActivationTime1, ServiceActivationTime2, or ServiceActivationTime3                  |
|                                                                                                                                                                            |                      | INTERROGATION                                                 | ServiceInterrogationTime1, ServiceInterrogationTime2, or ServiceInterrogationTime3         |
|                                                                                                                                                                            |                      | DEACTIVATION                                                  | ServiceDeactivationTime1, ServiceDeactivationTime2, or ServiceDeactivationTime3            |
|                                                                                                                                                                            | <b>FeatureData</b>   | Forwarded to DN (Forwarded)                                   | Forwarded, Instance                                                                        |
|                                                                                                                                                                            |                      | Related BCID (Instance)                                       | FeatureData1, FeatureData2, or FeatureData3                                                |
|                                                                                                                                                                            |                      | DN (Activation)                                               | Activation                                                                                 |
|                                                                                                                                                                            |                      | N/A (Deactivation and Interrogation)                          | FeatureDataOne1, FeatureDataOne2, or FeatureDataOne3<br>Deactivation, Interrogation<br>N/A |
| <b>Result</b>                                                                                                                                                              | SUCCESS, FAILURE     | ServiceResultCode1, ServiceResultCode2, or ServiceResultCode3 |                                                                                            |



Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name           | Field                                                                                       | Value                                                                                                                                                                                                                                                                                                    | Associated CDB Fields                                                                    |
|------------------------|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Call Forward No Answer | <b>ServiceId</b>                                                                            | CFNA                                                                                                                                                                                                                                                                                                     | ServiceType1,<br>ServiceType2, or<br>ServiceType3                                        |
|                        | <b>ServiceStatus</b>                                                                        | INSTANCE                                                                                                                                                                                                                                                                                                 | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3                |
|                        |                                                                                             | ACTIVATION                                                                                                                                                                                                                                                                                               | ServiceActivationTime1,<br>ServiceActivationTime2, or<br>ServiceActivationTime3          |
|                        |                                                                                             | INTERROGATION                                                                                                                                                                                                                                                                                            | ServiceInterrogationTime1,<br>ServiceInterrogationTime2, or<br>ServiceInterrogationTime3 |
| <b>FeatureData</b>     | DEACTIVATION                                                                                | ServiceDeactivationTime1,<br>ServiceDeactivationTime2, or<br>ServiceDeactivationTime3                                                                                                                                                                                                                    |                                                                                          |
|                        | Redirected Number<br>(Instance)<br>DN (Activation)<br>N/A (Deactivation &<br>Interrogation) | <u>Instance</u><br>FeatureData1,<br>FeatureData2, or<br>FeatureData3<br><br>In the case of Instance, this field is<br>used only if CFNA uses 302 to<br>redirect the call.<br><br><u>Activation</u><br>FeatureDataOne1,<br>FeatureDataOne2, or<br>FeatureDataOne3<br><br>Deactivation, Interrogation<br>— |                                                                                          |
| <b>Result</b>          | SUCCESS,<br>FAILURE                                                                         | ServiceResultCode1,<br>ServiceResultCode2, or<br>ServiceResultCode3                                                                                                                                                                                                                                      |                                                                                          |

Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name         | Field                 | Value                                                                                                                     | Associated CDB Fields                                                                    |
|----------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Call Forward on Busy | ServiceId             | CFB                                                                                                                       | ServiceType1,<br>ServiceType2, or<br>ServiceType3                                        |
|                      | ServiceStatus         | INSTANCE                                                                                                                  | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3                |
|                      |                       | ACTIVATION                                                                                                                | ServiceActivationTime1,<br>ServiceActivationTime2, or<br>ServiceActivationTime3          |
|                      |                       | INTERROGATION                                                                                                             | ServiceInterrogationTime1,<br>ServiceInterrogationTime2, or<br>ServiceInterrogationTime3 |
| FeatureData          | DEACTIVATION          | ServiceDeactivationTime1,<br>ServiceDeactivationTime2, or<br>ServiceDeactivationTime3                                     |                                                                                          |
|                      | DN<br>(On Activation) | Activation<br>FeatureDataOne1,<br>FeatureDataOne2, or<br>FeatureDataOne3<br>Instance, Deactivation,<br>Interrogation<br>— |                                                                                          |
| Result               | SUCCESS,<br>FAILURE   | ServiceResultCode1,<br>ServiceResultCode2, or<br>ServiceResultCode3                                                       |                                                                                          |
| Call Park            | ServiceId             | CPRK                                                                                                                      | ServiceType1,<br>ServiceType2, or<br>ServiceType3                                        |
|                      | ServiceStatus         | INSTANCE                                                                                                                  | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3                |
|                      | FeatureData           | —                                                                                                                         | —                                                                                        |
|                      | Result                | —                                                                                                                         | —                                                                                        |
| Call Park Reoffer    | ServiceId             | CPRK-REOFFER                                                                                                              | ServiceType1,<br>ServiceType2, or<br>ServiceType3                                        |
|                      | ServiceStatus         | INSTANCE                                                                                                                  | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3                |
|                      | FeatureData           | —                                                                                                                         | —                                                                                        |
|                      | Result                | —                                                                                                                         | —                                                                                        |

Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name                                     | Field         | Value                                   | Associated CDB Fields                                                     |
|--------------------------------------------------|---------------|-----------------------------------------|---------------------------------------------------------------------------|
| Call Park Retrieval                              | ServiceId     | CPRK-RETRIEVAL                          | ServiceType1,<br>ServiceType2, or<br>ServiceType3                         |
|                                                  | ServiceStatus | INSTANCE                                | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3 |
|                                                  | FeatureData   | —                                       | —                                                                         |
|                                                  | Result        | —                                       | —                                                                         |
| Busy Line Verification<br>Busy Line Interruption | ServiceId     | BLV                                     | ServiceType1,<br>ServiceType2, or<br>ServiceType3                         |
|                                                  | ServiceStatus | INSTANCE                                | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3 |
|                                                  | FeatureData   | —                                       | —                                                                         |
|                                                  | Result        | —                                       | —                                                                         |
| Directed Call Pickup<br>with Barge-In            | ServiceId     | DPU                                     | ServiceType1,<br>ServiceType2, or<br>ServiceType3                         |
|                                                  | ServiceStatus | INSTANCE                                | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3 |
|                                                  | FeatureData   | DN from where the<br>call was picked up | FeatureDataOne1,<br>FeatureDataOne2, or<br>FeatureDataOne3                |
|                                                  | Result        | —                                       | —                                                                         |
| Directed Call Pickup<br>without Barge-In         | ServiceId     | DPN                                     | ServiceType1,<br>ServiceType2, or<br>ServiceType3                         |
|                                                  | ServiceStatus | INSTANCE                                | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3 |
|                                                  | FeatureData   | DN from where the<br>call was picked up | FeatureDataOne1,<br>FeatureDataOne2, or<br>FeatureDataOne3                |
|                                                  | Result        | —                                       | —                                                                         |

Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name                      | Field         | Value                                                                                                              | Associated CDB Fields                                                            |
|-----------------------------------|---------------|--------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Three-way Calling                 | ServiceId     | TWC                                                                                                                | ServiceType1,<br>ServiceType2, or<br>ServiceType3                                |
|                                   | ServiceStatus | INSTANCE                                                                                                           | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3        |
|                                   | FeatureData   | —                                                                                                                  | —                                                                                |
|                                   | Result        | —                                                                                                                  | —                                                                                |
| Usage Sensitive Three-way Calling | ServiceId     | USTWC                                                                                                              | ServiceType1,<br>ServiceType2, or<br>ServiceType3                                |
|                                   | ServiceStatus | INSTANCE                                                                                                           | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3        |
|                                   | FeatureData   | —                                                                                                                  | —                                                                                |
|                                   | Result        | —                                                                                                                  | —                                                                                |
|                                   | Usage Flag    | Y / N                                                                                                              | ServiceUsageSensitive1 or<br>ServiceUsageSensitive2 or<br>ServiceUsageSensitive3 |
| Toll Free Service                 | ServiceId     | TOLL-FREE-SCP<br>TOLL-FREE-LOCAL                                                                                   | ServiceType1,<br>ServiceType2, or<br>ServiceType3                                |
|                                   | ServiceStatus | INSTANCE                                                                                                           | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3        |
|                                   | FeatureData   | NPA-NXX-XXXX                                                                                                       | ReturnedNumber                                                                   |
|                                   | Result        | SUCCESS<br>FAILURE<br>ANI_INVALID<br>ANI_BLOCKED<br>CASUAL_BLOCKED<br>II_SCREENED<br>BW_SCREENED<br>COS_RESTRICTED | ServiceResultCode1,<br>ServiceResultCode2, or<br>ServiceResultCode3              |

Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name                                                                                                        | Field                | Value                                                                                                              | Associated CDB Fields                                                           |
|---------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| <b>Customer Originated Trace</b>                                                                                    | <b>ServiceId</b>     | COT                                                                                                                | ServiceType1, ServiceType2, or ServiceType3                                     |
|                                                                                                                     | <b>ServiceStatus</b> | INSTANCE                                                                                                           | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3             |
|                                                                                                                     | <b>FeatureData</b>   | Last Calling Number (DN)                                                                                           | FeatureDataOne1, FeatureDataOne2, or FeatureDataOne3                            |
|                                                                                                                     | <b>Result</b>        | SUCCESS<br>FAILURE<br>ANI_INVALID<br>ANI_BLOCKED<br>CASUAL_BLOCKED<br>II_SCREENED<br>BW_SCREENED<br>COS_RESTRICTED | ServiceResultCode1, ServiceResultCode2, or ServiceResultCode3                   |
|                                                                                                                     | <b>Usage Flag</b>    | Y / N                                                                                                              | ServiceUsageSensitive1, ServiceUsageSensitive2, or ServiceUsageSensitive3       |
| <b>Selective Call Acceptance</b><br><br><b>This FCI is generated only when the call is rejected because of SCA.</b> | <b>ServiceId</b>     | SCA                                                                                                                | ServiceType1, ServiceType2, or ServiceType3                                     |
|                                                                                                                     | <b>ServiceStatus</b> | INSTANCE                                                                                                           | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3             |
|                                                                                                                     |                      | ACTIVATION                                                                                                         | ServiceActivationTime1, ServiceActivationTime2, or ServiceActivationTime3       |
|                                                                                                                     |                      | DEACTIVATION                                                                                                       | ServiceDeactivationTime1, ServiceDeactivationTime2, or ServiceDeactivationTime3 |
|                                                                                                                     | <b>FeatureData</b>   | —                                                                                                                  | —                                                                               |
| <b>Result</b>                                                                                                       | —                    | —                                                                                                                  |                                                                                 |

Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name                                                                                                            | Field                                                                                                | Value                                                                   | Associated CDB Fields                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Selective Call Forwarding</b><br>This FCI is generated only when the call is rejected because of SCA.                | <b>ServiceId</b><br><br><b>ServiceStatus</b><br><br><b>FeatureData</b><br><b>Result</b>              | SCF<br><br>INSTANCE<br><br>ACTIVATION<br><br>DEACTIVATION<br><br>—<br>— | ServiceType1,<br>ServiceType2, or<br>ServiceType3<br><br>ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3<br><br>ServiceActivationTime1,<br>ServiceActivationTime2, or<br>ServiceActivationTime3<br><br>ServiceDeactivationTime1,<br>ServiceDeactivationTime2, or<br>ServiceDeactivationTime3<br><br>—<br>— |
| <b>Selective Call Rejection</b><br><br><b>Note</b> This FCI is generated only when the call is rejected because of SCR. | <b>ServiceId</b><br><br><b>ServiceStatus</b><br><br><b>FeatureData</b><br><b>Result</b>              | SCR<br><br>INSTANCE<br><br>ACTIVATION<br><br>DEACTIVATION<br><br>—<br>— | ServiceType1,<br>ServiceType2, or<br>ServiceType3<br><br>ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3<br><br>ServiceActivationTime1,<br>ServiceActivationTime2, or<br>ServiceActivationTime3<br><br>ServiceDeactivationTime1,<br>ServiceDeactivationTime2, or<br>ServiceDeactivationTime3<br><br>—<br>— |
| <b>Single Number Reach</b><br><br>Reported when the Single Number Reach number is addressed.                            | <b>ServiceId</b><br><b>Feature ID</b><br><b>ServiceStatus</b><br><b>FeatureData</b><br><b>Result</b> | SNR<br>SNR<br>INSTANCE<br>—<br>Success, Failure                         | —<br>—<br>—                                                                                                                                                                                                                                                                                                                          |

Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name                                                                                                                                                                                   | Field                                                                                                        | Value                                                                                                                         | Associated CDB Fields                                                                                                                                                                                                                                                                                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Single Number Reach</b><br><br>Reported when a call is attempted to the subscriber in the Single Number Reach profile.                                                                      | <b>ServiceId</b><br><b>Feature ID</b><br><b>ServiceStatus</b><br><b>FeatureData</b><br><b>Result</b>         | SNR<br>SNR<br>FORWARDED<br>Related-BCID<br>Success, Failure                                                                   |                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Single Number Reach Activation</b><br><br>Reported when the Single Number Reach activation feature is accessed. Success is reported when subscriber successfully passes PIN authentication. | <b>ServiceId</b><br><b>Feature ID</b><br><b>ServiceStatus</b><br><b>FeatureData</b><br><br><b>Result</b>     | SNR<br>SNR_ACT<br>ACTIVATION<br>Single Number Reach number being configured<br><br>Success, Failure, Invalid PIN, PIN Blocked |                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Automatic Call Back</b>                                                                                                                                                                     | <b>ServiceId</b><br><br><b>ServiceStatus</b><br><br><b>FeatureData</b><br><b>Result</b><br><b>Usage Flag</b> | AUTO-CALLBACK<br><br>INSTANCE<br><br>ACTIVATION<br><br>DEACTIVATION<br><br>—<br>—<br>Y/N                                      | ServiceType1, ServiceType2, or ServiceType3<br>ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3<br>ServiceActivationTime1, ServiceActivationTime2, or ServiceActivationTime3<br>ServiceDeactivationTime1, ServiceDeactivationTime2, or ServiceDeactivationTime3<br>—<br>—<br>ServiceUsageSensitive1, ServiceUsageSensitive2, or ServiceUsageSensitive3 |

Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name     | Field                                                                                            | Value                                                                           | Associated CDB Fields                                                                                          |
|------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Automatic Recall | ServiceId                                                                                        | AUTO-RECALL                                                                     | ServiceType1,<br>ServiceType2, or<br>ServiceType3                                                              |
|                  | ServiceStatus                                                                                    | INSTANCE                                                                        | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3                                      |
|                  |                                                                                                  | ACTIVATION                                                                      | ServiceActivationTime1,<br>ServiceActivationTime2, or<br>ServiceActivationTime3                                |
|                  |                                                                                                  | DEACTIVATION                                                                    | ServiceDeactivationTime1,<br>ServiceDeactivationTime2, or<br>ServiceDeactivationTime3                          |
|                  | FeatureData                                                                                      | 1-LEVEL or<br>2-LEVEL<br>(Activation)<br>N/A (Instance &<br>Deactivation)       | <u>Activation</u><br>FeatureDataOne1,<br>FeatureDataOne2, or<br>FeatureDataOne3<br>Instance, Deactivation<br>— |
| Result           | SUCCESS,<br>FAILURE, 2L-ACT<br>ABANDONED<br>VOICEBACK DN,<br>2L-ACT<br>CONNECTED<br>ANONYMOUS DN | ServiceResultCode1,<br>ServiceResultCode2,<br>ServiceResultCode3                |                                                                                                                |
| Usage Flag       | Y/N                                                                                              | ServiceUsageSensitive1,<br>ServiceUsageSensitive2, or<br>ServiceUsageSensitive3 |                                                                                                                |



Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name   | Field                                                                                                                                                | Value                                                         | Associated CDB Fields                                                           |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------------------------|
| Speed Calling  | <b>ServiceId</b>                                                                                                                                     | SPEED-CALL                                                    | ServiceType1, ServiceType2, or ServiceType3                                     |
|                | <b>ServiceStatus</b>                                                                                                                                 | INSTANCE                                                      | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3             |
|                |                                                                                                                                                      | ACTIVATION                                                    | ServiceActivationTime1, ServiceActivationTime2, or ServiceActivationTime3       |
|                |                                                                                                                                                      | DEACTIVATION                                                  | ServiceDeactivationTime1, ServiceDeactivationTime2, or ServiceDeactivationTime3 |
|                | <b>FeatureData</b>                                                                                                                                   | Speed Dial Code                                               | FeatureDataOne1, FeatureDataOne2, or FeatureDataOne3                            |
| <b>Result</b>  | SUCCESS<br>FAILURE<br>ANI_INVALID<br>ANI_BLOCKED<br>CASUAL_BLOCKED<br>II_SCREENED<br>BW_SCREENED<br>COS_RESTRICTED<br>CALL_BLOCKED<br>RESULT_UNKNOWN | ServiceResultCode1, ServiceResultCode2, or ServiceResultCode3 |                                                                                 |
| Do Not Disturb | <b>ServiceId</b>                                                                                                                                     | dnd                                                           | ServiceType1, ServiceType2, or ServiceType3                                     |
|                | <b>ServiceStatus</b>                                                                                                                                 | INSTANCE                                                      | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3             |
|                |                                                                                                                                                      | activation                                                    | ServiceActivationTime1, ServiceActivationTime2, or ServiceActivationTime3       |
|                |                                                                                                                                                      | deactivation                                                  | ServiceDeactivationTime1, ServiceDeactivationTime2, or ServiceDeactivationTime3 |
|                | <b>FeatureData</b>                                                                                                                                   | —                                                             | —                                                                               |
| <b>Result</b>  | —                                                                                                                                                    | —                                                             |                                                                                 |

Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name                                    | Field         | Value                                                                                                              | Associated CDB Fields                                                                 |
|-------------------------------------------------|---------------|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Remote Activation of Call Forwarding            | ServiceId     | racf                                                                                                               | ServiceType1,<br>ServiceType2, or<br>ServiceType3                                     |
|                                                 | ServiceStatus | activation                                                                                                         | ServiceActivationTime1,<br>ServiceActivationTime2, or<br>ServiceActivationTime3       |
|                                                 |               | deactivation                                                                                                       | ServiceDeactivationTime1,<br>ServiceDeactivationTime2, or<br>ServiceDeactivationTime3 |
|                                                 | FeatureData   | —                                                                                                                  | —                                                                                     |
|                                                 | Result        | —                                                                                                                  | —                                                                                     |
| Remote Activation of Call Forwarding PIN Change | ServiceId     | racf-pin                                                                                                           | ServiceType1,<br>ServiceType2, or<br>ServiceType3                                     |
|                                                 | ServiceStatus | instance                                                                                                           | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3             |
|                                                 | FeatureData   | —                                                                                                                  | —                                                                                     |
|                                                 | Result        | SUCCESS<br>FAILURE<br>ANI_INVALID<br>ANI_BLOCKED<br>CASUAL_BLOCKED<br>II_SCREENED<br>BW_SCREENED<br>COS_RESTRICTED | ServiceResultCode1,<br>ServiceResultCode2, or<br>ServiceResultCode3                   |

Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name                   | Field                | Value                                                                                                                                                        | Associated CDB Fields                                                     |
|--------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| Screening List Editing Session | <b>ServiceId</b>     | SLE-SCA<br>SLE-SCF<br>SLE-SCR<br>SLE-DRCW                                                                                                                    | ServiceType1,<br>ServiceType2, or<br>ServiceType3                         |
|                                | <b>ServiceStatus</b> | INSTANCE                                                                                                                                                     | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3 |
|                                | <b>FeatureData</b>   | Size of list at end of<br>the editing session                                                                                                                | FeatureDataOne1,<br>FeatureDataOne2, or<br>FeatureDataOne3                |
|                                | <b>Result</b>        | SUCCESS<br>FAILURE<br>ANI_INVALID<br>ANI_BLOCKED<br>CASUAL_BLOCKE<br>D<br>II_SCREENED<br>BW_SCREENED<br>COS_RESTRICTED<br>CALL_BLOCKED<br>RESULT_UNKNOW<br>N | ServiceResultCode1,<br>ServiceResultCode2, or<br>ServiceResultCode3       |
| Local Number Portability       | <b>ServiceId</b>     | LNP                                                                                                                                                          | ServiceType1,<br>ServiceType2, or<br>ServiceType3                         |
|                                | <b>ServiceStatus</b> | INSTANCE                                                                                                                                                     | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3 |
|                                | <b>FeatureData</b>   | —                                                                                                                                                            | —                                                                         |
|                                | <b>Result</b>        | SUCCESS<br>FAILURE<br>ANI_INVALID<br>ANI_BLOCKED<br>CASUAL_BLOCKE<br>D<br>II_SCREENED<br>BW_SCREENED<br>COS_RESTRICTED                                       | ServiceResultCode1,<br>ServiceResultCode2, or<br>ServiceResultCode3       |
|                                |                      |                                                                                                                                                              |                                                                           |

Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name              | Field                                                                                                       | Value                                                                                                                   | Associated CDB Fields                                                              |
|---------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Long Duration Call Cutoff | ServiceId                                                                                                   | LONG-DUR-CUTOFF                                                                                                         | ServiceType1, ServiceType2, or ServiceType3                                        |
|                           | ServiceStatus                                                                                               | INSTANCE                                                                                                                | ServiceStatus1, ServiceStatus2, or ServiceStatus3                                  |
|                           | FeatureData                                                                                                 | —                                                                                                                       | —                                                                                  |
|                           | Result                                                                                                      | —                                                                                                                       | ServiceResultCode1, ServiceResultCode2, or ServiceResultCode3                      |
| Outgoing Call Barring     | ServiceId                                                                                                   | OCB                                                                                                                     | ServiceType1, ServiceType2, or ServiceType3                                        |
|                           | ServiceStatus                                                                                               | INSTANCE                                                                                                                | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3                |
|                           |                                                                                                             | ACTIVATION                                                                                                              | ServiceActivationTime1, ServiceActivationTime2, or ServiceActivationTime3          |
|                           |                                                                                                             | INTERROGATION                                                                                                           | ServiceInterrogationTime1, ServiceInterrogationTime2, or ServiceInterrogationTime3 |
|                           |                                                                                                             | DEACTIVATION                                                                                                            | ServiceDeactivationTime1, ServiceDeactivationTime2, or ServiceDeactivationTime3    |
| FeatureData               | “1”, “2”, “3”, “4”, “5”, “6”, “7”, “8”, or “9” (Activation)<br>N/A (Instance, Deactivation & Interrogation) | Activation<br>FeatureDataOne1<br>FeatureDataOne2, or<br>FeatureDataOne3<br>Instance, Deactivation, Interrogation<br>N/A |                                                                                    |
| Result                    | —                                                                                                           | —                                                                                                                       |                                                                                    |

Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name                                                                                      | Field                               | Value         | Associated CDB Fields                                                                    |
|---------------------------------------------------------------------------------------------------|-------------------------------------|---------------|------------------------------------------------------------------------------------------|
| <b>Call Waiting Deluxe</b>                                                                        | <b>ServiceId</b>                    | CWD           | ServiceType1,<br>ServiceType2, or<br>ServiceType3                                        |
|                                                                                                   | <b>ServiceStatus</b>                | INSTANCE      | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3                |
|                                                                                                   |                                     | ACTIVATION    | ServiceActivationTime1,<br>ServiceActivationTime2, or<br>ServiceActivationTime3          |
|                                                                                                   |                                     | INTERROGATION | ServiceInterrogationTime1,<br>ServiceInterrogationTime2, or<br>ServiceInterrogationTime3 |
|                                                                                                   |                                     | DEACTIVATION  | ServiceDeactivationTime1,<br>ServiceDeactivationTime2, or<br>ServiceDeactivationTime3    |
| <b>FeatureData</b><br><b>Result</b>                                                               | —<br>—                              | —<br>—        |                                                                                          |
| <b>Three-way Calling Deluxe</b>                                                                   | <b>ServiceId</b>                    | TWCD          | ServiceType1,<br>ServiceType2, or<br>ServiceType3                                        |
|                                                                                                   | <b>ServiceStatus</b>                | INSTANCE      | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3                |
|                                                                                                   | <b>FeatureData</b><br><b>Result</b> | —<br>—        | —<br>—                                                                                   |
|                                                                                                   | <b>ServiceId</b>                    | WARMLINE      | ServiceType1,<br>ServiceType2, or<br>ServiceType3                                        |
| <b>Warmline</b><br><b>Note</b> This FCI is generated only when the user does not dial any number. | <b>ServiceStatus</b>                | INSTANCE      | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3                |
|                                                                                                   | <b>FeatureData</b><br><b>Result</b> | —<br>—        | —<br>—                                                                                   |
|                                                                                                   | <b>ServiceId</b>                    | HOTLINE       | ServiceType1,<br>ServiceType2, or<br>ServiceType3                                        |
| <b>Hotline</b>                                                                                    | <b>ServiceStatus</b>                | INSTANCE      | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3                |
|                                                                                                   | <b>FeatureData</b><br><b>Result</b> | —<br>—        | —<br>—                                                                                   |
|                                                                                                   | <b>ServiceId</b>                    | HOTLINE       | ServiceType1,<br>ServiceType2, or<br>ServiceType3                                        |

Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name       | Field                                              | Value                                                                                                      | Associated CDB Fields                                                                    |
|--------------------|----------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Hotline Variable   | <b>ServiceId</b>                                   | HOTV                                                                                                       | ServiceType1,<br>ServiceType2, or<br>ServiceType3                                        |
|                    | <b>ServiceStatus</b>                               | INSTANCE                                                                                                   | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3                |
|                    |                                                    | ACTIVATION                                                                                                 | ServiceActivationTime1,<br>ServiceActivationTime2, or<br>ServiceActivationTime3          |
|                    |                                                    | INTERROGATION                                                                                              | ServiceInterrogationTime1,<br>ServiceInterrogationTime2, or<br>ServiceInterrogationTime3 |
|                    |                                                    | DEACTIVATION                                                                                               | ServiceDeactivationTime1,<br>ServiceDeactivationTime2, or<br>ServiceDeactivationTime3    |
| <b>FeatureData</b> | DN (Activation)                                    | <u>Activation</u>                                                                                          |                                                                                          |
|                    | N/A (Instance,<br>Deactivation &<br>Interrogation) | FeatureDataOne1,<br>FeatureDataOne2, or<br>FeatureDataOne3<br><br>Instance, Deactivation,<br>Interrogation |                                                                                          |
|                    | <b>Result</b>                                      | VALID                                                                                                      | —<br>—                                                                                   |

Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name     | Field         | Value                                                                                                                                                                                                                                                                                                                          | Associated CDB Fields                                                     |
|------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| Class of Service | ServiceId     | COS                                                                                                                                                                                                                                                                                                                            | ServiceType1,<br>ServiceType2, or<br>ServiceType3                         |
|                  | ServiceStatus | INSTANCE                                                                                                                                                                                                                                                                                                                       | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3 |
|                  | FeatureData   | —                                                                                                                                                                                                                                                                                                                              | —                                                                         |
|                  | Result        | SUCCESS,<br>FAILURE,<br>ANI_INVALID,<br>ANI_BLOCKED,<br>CASUAL_<br>BLOCKED,<br>II_SCREENED,<br>BW_SCREENED,<br>COS_<br>RESTRICTED,<br>COS_INTERNAL_E<br>RROR,<br>CALL_BLOCKED,<br>RESULT_<br>UNKNOWN, USER_<br>ABANDONED,<br>INVALID_PIN,<br>PIN_BLOCKED<br>BILLING_INFO_<br>TDISC_CALL_<br>BLOCKED,<br>BILLING_INFO_<br>VALID | ServiceResultCode1,<br>ServiceResultCode2, or<br>ServiceResultCode3       |

Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name                                                                                                                                         | Field                              | Value                                                | Associated CDB Fields                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|------------------------------------------------------|------------------------------------------------------------------------------------|
| <b>SIP Refer</b><br><br><b>SIP REFER feature data blocks appear in the second call leg instead of the first as they did in the previous release.</b> | <b>ServiceId</b>                   | REFER                                                | ServiceType1, ServiceType2, or ServiceType3                                        |
|                                                                                                                                                      | <b>ServiceStatus</b>               | INSTANCE                                             | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3                |
|                                                                                                                                                      | <b>FeatureData</b>                 | Refer To                                             | FeatureDataOne1, FeatureDataOne2, or FeatureDataOne3                               |
|                                                                                                                                                      | <b>FeatureDataTwo</b>              | Referred By                                          | FeatureDataTwo1, FeatureDataTwo2, or FeatureDataTwo3                               |
|                                                                                                                                                      | <b>FeatureDataThree</b>            | Replaced Call ID                                     | FeatureDataThree1, FeatureDataThree2, or FeatureDataThree3                         |
|                                                                                                                                                      | <b>Result</b>                      | SUCCESS, FAILURE                                     | ServiceResultCode1, ServiceResultCode2, or ServiceResultCode3                      |
| <b>Call Forwarding Combination</b>                                                                                                                   | <b>ServiceId</b>                   | CFC                                                  | ServiceType1, ServiceType2, or ServiceType3                                        |
|                                                                                                                                                      | <b>ServiceStatus</b>               | ACTIVATION                                           | ServiceActivationTime1, ServiceActivationTime2, or ServiceActivationTime3          |
|                                                                                                                                                      |                                    | DEACTIVATION                                         | ServiceDeactivationTime1, ServiceDeactivationTime2, or ServiceDeactivationTime3    |
|                                                                                                                                                      |                                    | INTERROGATION                                        | ServiceInterrogationTime1, ServiceInterrogationTime2, or ServiceInterrogationTime3 |
|                                                                                                                                                      |                                    | INSTANCE                                             | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3                |
| <b>FeatureData</b>                                                                                                                                   | DN (Activation)                    | <u>Activation</u>                                    |                                                                                    |
| For Instance, the field is used only if CFC uses 302 to redirect the call.                                                                           | Redirected Number (Instance)       | FeatureDataOne1, FeatureDataOne2, or FeatureDataOne3 |                                                                                    |
|                                                                                                                                                      | N/A (Deactivation & Interrogation) | <u>Instance</u>                                      |                                                                                    |
|                                                                                                                                                      |                                    | FeatureData1, FeatureData2, or FeatureData3          |                                                                                    |
|                                                                                                                                                      |                                    | <u>Deactivation, Interrogation</u>                   |                                                                                    |
|                                                                                                                                                      |                                    | N/A                                                  |                                                                                    |



Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name                            | Field Result                  | Value                                                                                                      | Associated CDB Fields                                                                                                                                                                                                                                         |
|-----------------------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                         |                               | SUCCESS,<br>FAILURE                                                                                        | ServiceResultCode1,<br>ServiceResultCode2, or<br>ServiceResultCode3                                                                                                                                                                                           |
| <b>No Solicitation<br/>Announcement</b> | <b>ServiceId</b>              | NSA                                                                                                        | ServiceType1, ServiceType2, or<br>ServiceType3                                                                                                                                                                                                                |
|                                         | <b>ServiceStatus</b>          | ACTIVATION<br><br>DEACTIVATION<br><br>INSTANCE                                                             | ServiceActivationTime1,<br>ServiceActivationTime2, or<br>ServiceActivationTime3<br><br>ServiceDeactivationTime1,<br>ServiceDeactivationTime2, or<br>ServiceDeactivationTime3<br><br>ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3 |
|                                         | <b>FeatureData<br/>Result</b> | —<br><br>SUCCESS (all),<br>FAILURE (all),<br>BILLING_INFO_<br>ABANDON_<br>WHILE_<br>ANNOUNCE<br>(Instance) | —<br><br>ServiceResultCode1,<br>ServiceResultCode2, or<br>ServiceResultCode3                                                                                                                                                                                  |
| <b>Privacy Screening</b>                | <b>ServiceId</b>              | PS                                                                                                         | ServiceType1, ServiceType2, or<br>ServiceType3                                                                                                                                                                                                                |
|                                         | <b>ServiceStatus</b>          | ACTIVATION<br><br>DEACTIVATION<br><br>INSTANCE                                                             | ServiceActivationTime1,<br>ServiceActivationTime2, or<br>ServiceActivationTime3<br><br>ServiceDeactivationTime1,<br>ServiceDeactivationTime2, or<br>ServiceDeactivationTime3<br><br>ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3 |
|                                         | <b>FeatureData</b>            | NONE, NUMBER,<br>NAME-NUMBER<br>(Instance)<br><br>N/A (Activation and<br>Deactivation)                     | <u>Instance</u><br>FeatureDataOne1,<br>FeatureDataOne2, or<br>FeatureDataOne3<br><br><u>Activation, Deactivation</u>                                                                                                                                          |
|                                         | <b>Result</b>                 | SUCCESS,<br>FAILURE                                                                                        | ServiceResultCode1,<br>ServiceResultCode2, or<br>ServiceResultCode3                                                                                                                                                                                           |

Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name                  | Field            | Value                                                         | Associated CDB Fields                                                           |
|-------------------------------|------------------|---------------------------------------------------------------|---------------------------------------------------------------------------------|
| Voice Mail                    | ServiceId        | VM                                                            | ServiceType1, ServiceType2, or ServiceType3                                     |
|                               | ServiceStatus    | ACTIVATION                                                    | ServiceActivationTime1, ServiceActivationTime2, or ServiceActivationTime3       |
|                               |                  | DEACTIVATION                                                  | ServiceDeactivationTime1, ServiceDeactivationTime2, or ServiceDeactivationTime3 |
|                               |                  | INSTANCE                                                      | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3             |
|                               | FeatureData      | —                                                             | —                                                                               |
| Result                        | SUCCESS, FAILURE | ServiceResultCode1, ServiceResultCode2, or ServiceResultCode3 |                                                                                 |
| Voice Mail Access             | ServiceId        | VM ACCESS                                                     | ServiceType1, ServiceType2, or ServiceType3                                     |
|                               | ServiceStatus    | INSTANCE                                                      | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3             |
|                               | FeatureData      | N/A                                                           | N/A                                                                             |
|                               | Result           | SUCCESS, FAILURE                                              | ServiceResultCode1, ServiceResultCode2, or ServiceResultCode3                   |
| Limited Call Duration—PREPAID | ServiceId        | LCD_PREPAID                                                   | ServiceType1, ServiceType2, or ServiceType3                                     |

Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Field                | Value                                                    | Associated CDB Fields                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------------------------------------------------|---------------------------------------------------------------------------|
| <p>This is a unique identifier associated with each call originating on the Cisco 10200 Softswitch and authenticated through the prepaid server. It is a 16-byte value in hexadecimal notation, for example, 0f3322110a33225589767673898783ff. This identifier is generated by the Cisco BTS 10200 Softswitch and passed to the prepaid server in the RADIUS "accounting start" message. This allows the call data block in the BTS 10200 to contain the same identifier as the call record in the prepaid server. This is typically used to uniquely correlate call records in the BTS 10200 with call records in the prepaid server.</p> | <b>ServiceStatus</b> | INSTANCE                                                 | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>FeatureData</b>   | H323 Conference Id                                       | FeatureDataOne1, FeatureDataOne2, or FeatureDataOne3                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Result</b>        | SUCCESS, FAILURE, INSUFFICIENT_QUOTA, MEDIATION_REQUIRED | ServiceResultCode1, ServiceResultCode2, or ServiceResultCode3             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Usage Flag</b>    | FALSE, TRUE                                              | ServiceUsageSensitive1, ServiceUsageSensitive2, or ServiceUsageSensitive3 |
| <p><b>Note</b> For feature calls involving multiple calls (call transfer, three-way call, etc.) and use prepaid authentication, each call has its own unique H.323 Conference ID. For example, if A calls B using a prepaid card, and then A uses a hookflash to call C using a prepaid card, and sets up a three-way call, each call (A-to-B and A-to-C) has its own unique H.323 Conference ID.</p>                                                                                                                                                                                                                                      |                      |                                                          |                                                                           |
| <p><b>Note</b> This identifier applies to all prepaid calls, regardless of signaling protocol. It is not related to (and should not be confused with) the billing fields named Originating H323 Conference ID and Terminating H323 Conference ID.</p>                                                                                                                                                                                                                                                                                                                                                                                      |                      |                                                          |                                                                           |

Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Field            | Value        | Associated CDB Fields                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------|---------------------------------------------|
| <p><b>Limited Call Duration—POSTPAID</b></p> <p>This is a unique identifier associated with each call originating on the Cisco 10200 Softswitch and authenticated through the postpaid server. It is a 16-byte value in hexadecimal notation, for example, 0f3322110a33225589767673898783ff. This identifier is generated by the BTS 10200 and passed to the postpaid server in the RADIUS “accounting start” message. This allows the call data block in the BTS 10200 to contain the same identifier as the call record in the postpaid server. This is typically used to uniquely correlate call records in the BTS 10200 with call records in the postpaid server.</p> <p><b>Note</b> For feature calls that involve multiple calls (call transfer, three-way call, and so on) and use the postpaid authentication, each call has its own unique H323 Conference ID. For example, if A calls B using a postpaid card, and then A uses a hookflash to call C using a postpaid card, and sets up a three-way call, each of the calls (A-to-B and A-to-C) has its own unique H323 Conference Id.</p> <p><b>Note</b> This identifier is applicable to all postpaid calls, regardless of signaling protocol. It is not related to (and should not be confused with) the billing fields named Originating H323 Conference ID and Terminating H323 Conference ID.</p> | <b>ServiceId</b> | LCD_POSTPAID | ServiceType1, ServiceType2, or ServiceType3 |

Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name                     | Field                | Value                                                    | Associated CDB Fields                                                     |
|----------------------------------|----------------------|----------------------------------------------------------|---------------------------------------------------------------------------|
|                                  | <b>ServiceStatus</b> | INSTANCE                                                 | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3       |
|                                  | <b>FeatureData</b>   | H323 Conference Id                                       | FeatureDataOne1, FeatureDataOne2, or FeatureDataOne3                      |
|                                  | <b>Result</b>        | SUCCESS, FAILURE, INSUFFICIENT_QUOTA, MEDIATION_REQUIRED | ServiceResultCode1, ServiceResultCode2, or ServiceResultCode3             |
|                                  | <b>Usage Flag</b>    | FALSE, TRUE                                              | ServiceUsageSensitive1, ServiceUsageSensitive2, or ServiceUsageSensitive3 |
| <b>Multiple Directory Number</b> | ServiceID            | MDN                                                      | ServiceType1, ServiceType2, or ServiceType3                               |
|                                  | ServiceStatus        | INSTANCE                                                 | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3       |
|                                  | FeatureData          | Main DN associated with the dialed virtual DN            | FeatureDataOne1, FeatureDataOne2, or FeatureDataOne3                      |
|                                  | Result               | SUCCESS, FAILURE                                         | ServiceResultCode1, ServiceResultCode2, or ServiceResultCode3             |
|                                  | UsageFlag            | FALSE, TRUE                                              | ServiceUsageSensitive1, ServiceUsageSensitive2, or ServiceUsageSensitive3 |
| <b>SIP Replace</b>               | ServiceID            | SIP REPLACE                                              | ServiceType1, ServiceType2, or ServiceType3                               |
|                                  | ServiceStatus        | INSTANCE                                                 | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3       |
|                                  | FeatureData          | Replaced Call ID                                         | FeatureDataOne1, FeatureDataOne2, or FeatureDataOne3                      |
|                                  | FeatureDataTwo       | Referred By                                              | FeatureDataTwo1, FeatureDataTwo2, or FeatureDataTwo3                      |
|                                  | FeatureDataThree     | —                                                        | —                                                                         |
|                                  | Result               | SUCCESS, FAILURE                                         | ServiceResultCode1, ServiceResultCode2, or ServiceResultCode3             |

Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name                           | Field         | Value                               | Associated CDB Fields                                               |
|----------------------------------------|---------------|-------------------------------------|---------------------------------------------------------------------|
| <b>Call Forwarding Redirect</b>        | ServiceID     | CFR                                 | ServiceType1, ServiceType2, or ServiceType3                         |
|                                        | ServiceStatus | INSTANCE                            | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3 |
|                                        | FeatureData   | Redirected Number                   | FeatureData1, FeatureData2, or FeatureData3                         |
|                                        | Result        | SUCCESS,<br>FAILURE                 | ServiceResultCode1, ServiceResultCode2, or ServiceResultCode3       |
| <b>SIP Off Hook Trigger</b>            | ServiceID     | OHT                                 | ServiceType1, ServiceType2, or ServiceType3                         |
|                                        | ServiceStatus | INSTANCE                            | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3 |
|                                        | FeatureData   | IMMEDIATE<br>DELAYED                | FeatureData1, FeatureData2, or FeatureData3                         |
|                                        | Result        | SUCCESS,<br>FAILURE,<br>305 FAILURE | ServiceResultCode1, ServiceResultCode2, or ServiceResultCode3       |
| <b>SIP Termination Attempt Trigger</b> | ServiceID     | TAT                                 | ServiceType1, ServiceType2, or ServiceType3                         |
|                                        | ServiceStatus | INSTANCE                            | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3 |
|                                        | FeatureData   | —                                   | —                                                                   |
|                                        | Result        | SUCCESS,<br>FAILURE,<br>305 FAILURE | ServiceResultCode1, ServiceResultCode2, or ServiceResultCode3       |
| <b>Own Calling Number Announcement</b> | ServiceID     | OCNA                                | ServiceType1, ServiceType2, or ServiceType3                         |
|                                        | ServiceStatus | INSTANCE                            | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3 |
|                                        | FeatureData   | —                                   | —                                                                   |
|                                        | Result        | BILLING INFO<br>VALID               | ServiceResultCode1, ServiceResultCode2, or ServiceResultCode3       |
| <b>Seasonal Suspend</b>                | ServiceID     | SEAS                                | ServiceType1, ServiceType2, or ServiceType3                         |

Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name                           | Field         | Value                                                                                                                                  | Associated CDB Fields                                               |
|----------------------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
|                                        | ServiceStatus | INSTANCE                                                                                                                               | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3 |
|                                        | FeatureData   | —                                                                                                                                      | —                                                                   |
|                                        | Result        | SUCCESS<br>SEASONAL<br>SUSPEND CALL<br>BLOCKED                                                                                         | ServiceResultCode1, ServiceResultCode2, or ServiceResultCode3       |
| <b>Privacy Plus</b>                    | ServiceID     | AS SERVICE 221<br>AS SERVICE 216<br><br>(See NOTES at the end of this table for additional information on the Privacy Plus Service ID) | ServiceType1, ServiceType2, or ServiceType3                         |
|                                        | ServiceStatus | INSTANCE                                                                                                                               | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3 |
|                                        | FeatureData   | —                                                                                                                                      | —                                                                   |
|                                        | Result        | SUCCESS                                                                                                                                | ServiceResultCode1, ServiceResultCode2, or ServiceResultCode3       |
| <b>Terminal Make Busy Activation</b>   | ServiceID     | Terminal Make Busy                                                                                                                     | ServiceType1, ServiceType2, or ServiceType3                         |
|                                        | ServiceStatus | ACTIVATION                                                                                                                             | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3 |
|                                        | FeatureData   | —                                                                                                                                      | —                                                                   |
|                                        | Result        | SUCCESS<br>FAILURE                                                                                                                     | ServiceResultCode1, ServiceResultCode2, or ServiceResultCode3       |
| <b>Terminal Make Busy Deactivation</b> | ServiceID     | Terminal Make Busy                                                                                                                     | ServiceType1, ServiceType2, or ServiceType3                         |
|                                        | ServiceStatus | DEACTIVATION                                                                                                                           | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3 |
|                                        | FeatureData   | —                                                                                                                                      | —                                                                   |
|                                        | Result        | SUCCESS<br>FAILURE                                                                                                                     | ServiceResultCode1, ServiceResultCode2, or ServiceResultCode3       |
| <b>Group Make Busy Activation</b>      | ServiceID     | Group Make Busy                                                                                                                        | ServiceType1, ServiceType2, or ServiceType3                         |

Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name                        | Field                        | Value                   | Associated CDB Fields                                                                       |
|-------------------------------------|------------------------------|-------------------------|---------------------------------------------------------------------------------------------|
|                                     | ServiceStatus                | ACTIVATION              | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3                   |
|                                     | FeatureData                  | —                       | —                                                                                           |
|                                     | Result                       | SUCCESS<br>FAILURE      | ServiceResultCode1,<br>ServiceResultCode2, or<br>ServiceResultCode3                         |
| <b>Group Make Busy Deactivation</b> | ServiceID                    | Group Make Busy         | ServiceType1, ServiceType2, or<br>ServiceType3                                              |
|                                     | ServiceStatus                | DEACTIVATION            | ServiceInstanceTime1,<br>ServiceInstanceTime2, or<br>ServiceInstanceTime3                   |
|                                     | FeatureData                  | —                       | —                                                                                           |
|                                     | Result                       | SUCCESS<br>FAILURE      | ServiceResultCode1,<br>ServiceResultCode2, or<br>ServiceResultCode3                         |
| <b>ENUM Database Query</b>          | Database Query Type          | ENUM                    | DatabaseQueryType1,<br>DatabaseQueryType2, or<br>DatabaseQueryType3                         |
|                                     | Database Query Time          | timestamp               | DatabaseQueryTime1,<br>DatabaseQueryTime2, or<br>DatabaseQueryTime3                         |
|                                     | Database Query Returned Data | Location Routing Number | DatabaseQueryReturnedData1,<br>DatabaseQueryReturnedData2, or<br>DatabaseQueryReturnedData3 |
|                                     | Result                       | SUCCESS<br>FAILURE      | DatabaseQueryResultCode1,<br>DatabaseQueryResultCode2, or<br>DatabaseQueryResultCode3       |
| <b>ENUM LNP Database Query</b>      | Database Query Type          | ENUM LNP                | DatabaseQueryType1,<br>DatabaseQueryType2, or<br>DatabaseQueryType3                         |
|                                     | Database Query Time          | timestamp               | DatabaseQueryTime1,<br>DatabaseQueryTime2, or<br>DatabaseQueryTime3                         |
|                                     | Database Query Returned Data | Address of Record       | DatabaseQueryReturnedData1,<br>DatabaseQueryReturnedData2, or<br>DatabaseQueryReturnedData3 |
|                                     | Result                       | SUCCESS<br>FAILURE      | DatabaseQueryResultCode1,<br>DatabaseQueryResultCode2, or<br>DatabaseQueryResultCode3       |
| <b>Emergency Call Back</b>          | ServiceId                    | ECB                     | ServiceType1,<br>ServiceType2, or<br>ServiceType3                                           |



Table 3-1 Features and the Associated Call Detail Block Fields (continued)

| Feature Name                                   | Field         | Value              | Associated CDB Fields                                               |
|------------------------------------------------|---------------|--------------------|---------------------------------------------------------------------|
|                                                | ServiceStatus | INSTANCE           | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3 |
|                                                | FeatureData   | —                  | —                                                                   |
|                                                | Result        | SUCCESS, FAILURE   | ServiceResultCode1, ServiceResultCode2, or ServiceResultCode3       |
|                                                | UsageFlag     |                    |                                                                     |
| <b>TAS</b>                                     | ServiceId     | TAS_MODE           | SERVICETYPE1                                                        |
|                                                | ServiceStatus | N/A                | N/A                                                                 |
|                                                | FeatureData   | ORIG_TAS           | FEATUREDATAONE1                                                     |
|                                                |               | TERM_TAS           | FEATUREDATAONE1                                                     |
|                                                | Result        | N/A                | N/A                                                                 |
|                                                | UsageFlag     | N/A                | N/A                                                                 |
| <b>Hostage Negotiation</b>                     | ServiceId     | HN                 |                                                                     |
|                                                | ServiceStatus | INSTANCE           |                                                                     |
|                                                | FeatureData   | —                  |                                                                     |
|                                                | Result        | SUCCESS            | ServiceResultCode1, ServiceResultCode2, or ServiceResultCode3       |
| <b>Call Forward Not Reachable—Activation</b>   | ServiceId     | CFNR               | ServiceType1, ServiceType2, or ServiceType3                         |
|                                                | ServiceStatus | ACTIVATION         | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3 |
|                                                | FeatureData   | DN                 | FeatureData1, FeatureData2, FeatureData3                            |
|                                                | Result        | SUCCESS<br>FAILURE | ServiceResultCode1, ServiceResultCode2, or ServiceResultCode3       |
| <b>Call Forward Not Reachable—Deactivation</b> | ServiceId     | CFNR               | ServiceType1, ServiceType2, or ServiceType3                         |
|                                                | ServiceStatus | DEACTIVATION       | ServiceInstanceTime1, ServiceInstanceTime2, or ServiceInstanceTime3 |
|                                                | FeatureData   | —                  |                                                                     |
|                                                | Result        | SUCCESS<br>FAILURE | ServiceResultCode1, ServiceResultCode2, or ServiceResultCode3       |

**Note**

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Any service ID greater than 200 is part of Privacy Plus feature. The BTS 10200 provides a base value of 200 for all the Application-Server specific Service Type. When the SIP Trigger feature is invoked, and if the BYE Message received from Application-Server has a reason-header with a code (any 2 digit or 3 digit code), BTS 10200 adds a value of 200 to the reason code (that is, BYE message Q850.causecode + 200). For example, if BYE Message is received with reason-code 21 from the Application-Server, BTS 10200 captures this in the CDR as 221. Currently, Service ID 221 and 216 are supported for Privacy Plus calls.

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**Note**

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The AS SERVICE 216 service ID of Privacy Plus feature reports the total number of Privacy Plus calls that were not blocked within a specific time period.

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## CHAPTER 4

# Call Detail Block File Fields

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**Revised: August 10, 2011, OL-24995-01**

The Cisco BTS 10200 system stores the raw call detail blocks (CDBs) in a flat file ASCII-based format on the persistent store associated with the Bulk Data Management System (BDMS). The BTS 10200 stores a minimum of 10 megabytes of billing records in a circular file implementation. This data is subsequently sent to the specified remote accounting office or billing server or mediation device by the File Transfer Protocol (FTP).

This chapter illustrates the format of each field in a Call Detail Block (CDB), the order in which the field occurs, the possible values for the individual fields, and the meaning of the data within the field where applicable. The delimiters used to separate fields within a record or records within a file can be any one of the following:

- semi-colon “;”
- vertical bar “|”
- linefeed
- comma “,”
- caret “^”.



**Note**

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The same character (value) cannot be used as both a field delimiter and a record delimiter. Different delimiters must be used to separate fields within a record and records within a file.

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The CDB field and record separators are defined in the platform.cfg file that is read at initialization time. The platform.cfg file associated with the BDMS platform must be updated for changes to take effect; however, the file cannot be changed without a system restart. Both active and standby BDMS platforms must be restarted for changes in delimiters to be picked up.

The ProcessParameter block to update is ProcName=BMG. The parameter to update is Args. To change the field delimiter you must update the -FD option. To change the record delimiter you must update the -RD option. Both of the BDMS computing platforms must be restarted to pick up this change of delimiters.

**Caution**

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Once the delimiters are changed and the BDMSs are restarted, any billing files created with different delimiters are inaccessible by the billing query command. An example of an actual call detail block FTP file containing one CDB is shown in [Chapter 2, “Example of a Call Detail Block File.”](#) The steps to follow are

1. Stop the platform on the EMS.
  2. Change the platform.cfg on the EMS.
  3. Flush the old billing records from the EMS before starting the platform.
  4. Start the platform. All new billing records now use the new format.
-

Table 4-1 provides information about the fields in the output files transmitted from the Element Management System (EMS) on the BTS 10200.

**Table 4-1 Call Detail Block Field Descriptions**

| Field Number | Common Name | Field Type | Field Size* | Potential Values                                                                                                                                                                                                                                                                                                                                                                             | Data Source                                                                                                                                                                                                                                                             | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------|-------------|------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1            | Call Type   | Numeric    |             | 0=NULL<br>1=TEST-CALL<br>2=INTL<br>3=LOCAL<br>4=TOLL<br>5=INTERLATA<br>6=TANDEM<br>7=EMG<br>8=NON-EMG<br>9=DA<br>10=DA-TOLL<br>11=REPAIR<br>12=RELAY<br>13=BUSINESS<br>14=TOLL-FREE<br>15=900<br>16=500<br>17=700<br>18=976<br>19=VACANT<br>20=PCS<br>21=INVALID<br>22=NONE<br>23=LRN<br>24=EXTENSION<br>25=CUT-THRU<br>26=OPERATOR<br>27=CARRIER-OPERATOR<br>28=OPERATOR-ASSISTED<br>29=BLV | Destination:<br>CallType or derived based on the dialing pattern—for example: 0-, 00 calls<br>OR<br>SpecialCallType::<br>CallType or LSA table for determining LOCAL or LATA table used for determining TOLL and INTERLATA of CallType = NATIONAL in Destination table. | <p>The nature of the call, which indicates the type of accounting processing to apply to it. Call Type NULL is used for any calls that do not progress to the point where a lookup in the Destination table occurs, or if routing is not needed—as in cases of feature activation or deactivation.</p> <p>In Release 6.0.1, there is a new parameter, CALLTYPE-OPER-CALL-CDR in the ca-config table. For additional information, see <a href="#">“Operator Call Type in Field 1” section on page 4-89</a>.</p> <p>In Release 5.0, the system reports the data in Field 1 (Call Type) of the call detail block (CDB) when the user dials a call to the operator (0 or 00) or a call involving an operator (0+ or 01+). For additional information on the data in Field 1, see <a href="#">“Release 5.0.x Behavior” section on page 4-90</a>.</p> |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name | Field Type | Field Size* | Potential Values                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Data Source | Field Description |
|--------------|-------------|------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------|
|              |             |            |             | 30=SPEED-DIAL<br>31=NATIONAL<br>32= TW<br>33=INFO<br>34=PREMIUM<br>35=ATTENDANT<br>36=NAS<br>37=POLICE*<br>38=FIRE*<br>39=AMBULANCE*<br>40=TIME*<br>41=WEATHER*<br>42=TRAFFIC*<br>43=LOOPBACK_TE<br>ST (Deprecated)<br>44=INTL_OPERAT<br>OR<br>45=NATL_OPERAT<br>OR<br>46=AIRLINES*<br>47=RAILWAYS*<br>48=SERVICE_COD<br>E<br>49=INTL_WORLD_<br>ZONE_1<br>50=CALLING_<br>NUMBER_ANNC<br>51=DA_INTERLAT<br>A<br>52=DA_INTL<br>53=UNIV_ACCESS_<br>NUM<br>54=MOBILE<br>55=WAKE_UP<br>56=AS<br>* - not used in NANP<br>areas |             |                   |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name             | Field Type | Field Size* | Potential Values                                                                                                                                                                                                | Data Source                                  | Field Description                                                                                                                                                                                                                                                |
|--------------|-------------------------|------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2            | Signal Start Time       | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:00h.<br><br>If the value is NULL, the timestamp is to be ignored. | Dynamic run time data from the system clock. | Time starts on receipt of an MGCP NTFY, SS7 IAM or SIP SETUP.                                                                                                                                                                                                    |
| 3            | Signal Stop Time        | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:00h.<br><br>If the value is NULL, the timestamp is to be ignored. | Dynamic run time data from the system clock. | Time stops on the last of the following signaling events: <ul style="list-style-type: none"> <li>1. MGCP DLCX receipt.</li> <li>2. Transmission/receipt of an RLC.</li> <li>3. Transmission/receipt of last signaling message to/from a peer CMS/MGC.</li> </ul> |
| 4            | Interconnect Start Time | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:00h.<br><br>If the value is NULL, the timestamp is to be ignored. | Dynamic run time data from the system clock. | Time starts on commitment of bandwidth between the IP/ATM and PSTN networks.                                                                                                                                                                                     |
| 5            | Interconnect Stop Time  | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:00h.<br><br>If the value is NULL, the timestamp is to be ignored. | Dynamic run time data from the system clock. | Time stops on release of bandwidth between the IP/ATM and PSTN networks.                                                                                                                                                                                         |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name          | Field Type | Field Size* | Potential Values                                                                                                                                                                                                | Data Source                                  | Field Description                                                                                                                                                                                                                    |
|--------------|----------------------|------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6            | Call Connect Time    | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:00h.<br><br>If the value is NULL, the timestamp is to be ignored. | Dynamic run time data from the system clock. | Time starts on receipt of an MGCP NTFY indicating off-hook, or SS7 ANS, or answer indication from the media gateway for an operator services trunk.                                                                                  |
| 7            | Call Answer Time     | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:00h.<br><br>If the value is NULL, the timestamp is to be ignored. | Dynamic run time data from the system clock. | Upon both parties being off-hook for at least 2 seconds. Currently the Cisco BTS 10200 does not support Short Supervisory Transitions, so the contents of this field and field #6 are identical.                                     |
| 8            | Call Disconnect Time | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:00h.<br><br>If the value is NULL, the timestamp is to be ignored. | Dynamic run time data from the system clock. | Time starts on receipt of an MGCP NTFY indicating on-hook of the calling party, or expiration of the call-continuation timer, an SS7 REL, or an indication from the media gateway that the operator services trunk has disconnected. |
| 9            | Database Query Time1 | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:00h.<br><br>If the value is NULL, the timestamp is to be ignored. | Dynamic run time data from the system clock. | The time the first database query response was received for this call.                                                                                                                                                               |



Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name              | Field Type | Field Size* | Potential Values                                                                                                                                                                                                | Data Source                                  | Field Description                                   |
|--------------|--------------------------|------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-----------------------------------------------------|
| 10           | Service Instance Time1   | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:00h.<br><br>If the value is NULL, the timestamp is to be ignored. | Dynamic run time data from the system clock. | The time the instance of Service Type 1 occurred.   |
| 11           | Service Instance Time2   | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:00h.<br><br>If the value is NULL, the timestamp is to be ignored. | Dynamic run time data from the system clock. | The time the instance of Service Type 2 occurred.   |
| 12           | Service Instance Time3   | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:00h.<br><br>If the value is NULL, the timestamp is to be ignored. | Dynamic run time data from the system clock. | The time the instance of Service Type 3 occurred.   |
| 13           | Service Activation Time1 | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:00h.<br><br>If the value is NULL, the timestamp is to be ignored. | Dynamic run time data from the system clock. | The time the activation of Service Type 1 occurred. |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                | Field Type | Field Size* | Potential Values                                                                                                                                                                                                 | Data Source                                  | Field Description                                     |
|--------------|----------------------------|------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-------------------------------------------------------|
| 14           | Service Activation Time2   | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:000h.<br><br>If the value is NULL, the timestamp is to be ignored. | Dynamic run time data from the system clock. | The time the activation of Service Type 2 occurred.   |
| 15           | Service Activation Time3   | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:000h.<br><br>If the value is NULL, the timestamp is to be ignored. | Dynamic run time data from the system clock. | The time the activation of Service Type 3 occurred.   |
| 16           | Service Deactivation Time1 | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:000h.<br><br>If the value is NULL, the timestamp is to be ignored. | Dynamic run time data from the system clock. | The time the deactivation of Service Type 1 occurred. |
| 17           | Service Deactivation Time2 | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:000h.<br><br>If the value is NULL, the timestamp is to be ignored. | Dynamic run time data from the system clock. | The time the deactivation of Service Type 2 occurred. |

**Table 4-1** Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                | Field Type | Field Size* | Potential Values                                                                                                                                                                                                | Data Source                                  | Field Description                                     |
|--------------|----------------------------|------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-------------------------------------------------------|
| 18           | Service Deactivation Time3 | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:00h.<br><br>If the value is NULL, the timestamp is to be ignored. | Dynamic run time data from the system clock. | The time the deactivation of Service Type 3 occurred. |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name       | Field Type | Field Size* | Potential Values       | Data Source       | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------|-------------------|------------|-------------|------------------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 19           | Call Elapsed Time | String     | 12-17       | (ddd):hh:mm:ss.mm<br>m | Calculated value. | <p>The duration that the voice path was established. The days (ddd) portion of this field is optional and variable in length depending on the number of days the calls has been connected. If this field is NULL, then no data was captured for this record.</p> <p>RecordGenTime is an optional parameter. It gives the time of day at which the first time BLG should check to see whether any long-during billing records need to be generated. If it is not specified, it defaults to midnight.</p> <p>LongDurationAllowance is an optional parameter. It gives the length of time, in minutes, that a call must have been in the answered state at the time when records are generated, in order for a long -duration record to be generated for it. It is also the interval of record generated time. After RecordGenTime generates billing records for the first time, every LongDurationAllowance minutes interval BLG checks to see whether any long-during billing records need to be generated. If it is not specified, it defaults to 1,440 minutes (24 hours).</p> <p>For example, if RecordGenTime is 12:00:00,<br/>LongDurationAllowance is 60.<br/>At 12:00:00, BLG checks the long-duration call for the first time. It then checks the call every 60 minutes thereafter.</p> |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name               | Field Type | Field Size* | Potential Values                                                                                                                                                                                                | Data Source                                  | Field Description                                                                                                                                                                                                                                                                                                                          |
|--------------|---------------------------|------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 20           | Interconnect Elapsed Time | String     | 12-17       | (dddd):hh:mm:ss.mm<br>m                                                                                                                                                                                         | Calculated value.                            | The duration that bandwidth was established with another carrier. The days (dddd) portion of this field is optional and variable in length depending on the number of days the calls has been connected. If this field contains NULL, then no data was captured for this record.                                                           |
| 21           | Originating QOS Time      | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:00h.<br><br>If the value is NULL, the timestamp is to be ignored. | Dynamic run time data from the system clock. | Receipt of the MGCP DLCX ACK message. The time the originating side quality of service measurements were collected. This information is collected on a best effort basis and will not be present if the QoS collection timeout is exceeded. If this field contains NULL, then the associated Originating QOS parameters are to be ignored. |
| 22           | Terminating QOS Time      | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:00h.<br><br>If the value is NULL, the timestamp is to be ignored. | Dynamic run time data from the system clock. | Receipt of the MGCP DLCX ACK message. The time the terminating side quality of service measurements were collected. This information is collected on a best effort basis and will not be present if the QoS collection timeout is exceeded. If this field contains NULL, then the associated Terminating QOS parameters are to be ignored. |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name        | Field Type | Field Size* | Potential Values | Data Source                                                       | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------|--------------------|------------|-------------|------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 23           | Originating Number | String     | 64          | DIGITS           | Subscriber::DN1, ISDN SETUP, SS7 IAM, or SIP INVITE, for example. | <p>This field contains the calling party number after it has gone through the complete translation process on the Cisco BTS 10200 including any possible overriding. If the originator of a SIP field contains the tel-number in the From field between the ":" and the "@" characters if the PAI flag is not set. If the PAI flag is set, this field contains the tel-num from the P-Asserted-Identity field between the ":" and the "@" characters.</p> <p>If this field contains NULL, then no data was captured for this field.</p> |
| 24           | Terminating Number | String     | 64          | DIGITS           | Subscriber::DN1, ISDN SETUP, SS7 IAM, or SIP INVITE, for example. | <p>The directory number of the terminating party. For outbound LNP calls, this field contains the dialed DN. For calls inbound to the Cisco BTS 10200, this field will contain DN of the terminating subscriber. If this field contains NULL, then no data is captured for this record.</p>                                                                                                                                                                                                                                             |
| 25           | Charge Number      | String     | 64          | DIGITS           | Subscriber::BillingDn or FCP Message.                             | <p>Directory number of the billable party. For Mexican ISUP scenarios this field is populated with the tariffication number. If this field contains NULL, then no data was captured for this record.</p>                                                                                                                                                                                                                                                                                                                                |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name             | Field Type | Field Size* | Potential Values | Data Source           | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------|-------------------------|------------|-------------|------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 26           | Location Routing Number | String     | 64          | DIGITS           | LNP Query or SS7 IAM. | <p>The location routing number of the switch where the directory number is ported to.</p> <p>The Cisco BTS 10200 does an LNP query on outbound calls if the called number is addressed in the Ported Office Code table. This field is then populated with the LRN obtained from doing the LNP query as long as the returned LRN is not equal to the LRN of the reporting Cisco BTS 10200.</p> <p>For calls that are inbound to the Cisco BTS 10200, if the called number is addressed by the Ported Office Code table and the LNP-TRIGGER flag is set (meaning the reporting Cisco BTS 10200 is the recipient switch), then a query to the DN2SUBSCRIBER table determines if an LNP query is performed or not.</p> <p>For inbound calls that are addressed by the Ported Office Code table but the Cisco BTS 10200 is not the recipient switch, then the service-id assigned to the incoming trunk group determines whether an LNP query is launched or not. In addition, for inbound SS7 calls, the M-bit in the IAM is checked to see if an LNP query has already been performed—if not—then the Ported Office Code table is queried before conducting a LNP dip.</p> <p>This field is populated with the received LRN, if one is presented for inbound calls to the reporting Cisco BTS 10200 for the called numbers that are homed on the Cisco BTS 10200.</p> <p>The Ported Office Code table is typically populated by LERG updates received by the service provider.</p> |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number      | Common Name             | Field Type | Field Size* | Potential Values                                                                                                                                                                                                                            | Data Source                                                               | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------|-------------------------|------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 26<br>(continued) | Location Routing Number | String     | 64          | DIGITS                                                                                                                                                                                                                                      | LNP Query or SS7 IAM.                                                     | <p>If an LRN is returned from an LNP query, it is used in routing the call, otherwise the dialed digits are used to route the call.</p> <p>The Cisco BTS 10200 only makes one attempt per call to query the LNP database. If the query fails, the call is routed as if the dialed number is not ported.</p> <p>If this field is NULL, then no data was captured for this record.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 27                | Dialed Digits           | String     | 64          | <p>DIGITS</p> <p>This field contains the actual digits dialed by the originator of the call. This field only contains digits dialed in the first stage of the call if the person dialing is a subscriber who is homed on the BTS 10200.</p> | MGCP NOTIFY, SS7 IAM, ISDN SETUP, SIP INVITE or H.323 SETUP, for example. | <p>This field is intended for basic troubleshooting purposes only. If the call is terminating to this Cisco BTS 10200 from a subscriber homed elsewhere, then this field will contain the information in the ieCldPartyNum field. In this case, the digits stored may have been manipulated after the originator dialed.</p> <p>Due to the fact that this field only contains the 1st stage digits, the collection of digits will cease once the media gateway on the originating side of the call sends the initial digits, which is digit map based in the gateway. Once a match to the digit map is accomplished, the digits are packaged up and sent to the Cisco BTS 10200 in the appropriate NCS/MGCP message which triggers the Signaling Start event within the Cisco BTS 10200 for that call.</p> <p>If this field is NULL, then no data was captured for this record.</p> |



**Table 4-1** Call Detail Block Field Descriptions (continued)

| Field Number | Common Name       | Field Type | Field Size* | Potential Values | Data Source                        | Field Description                                                                                                                                                                                                                                                                        |
|--------------|-------------------|------------|-------------|------------------|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 28           | Forwarding Number | String     | 64          | DIGITS           | SS7 IAM or original dialed number. | Directory number that is forwarding the call to another subscriber's DN. This field is populated only in the call forwarding instance record leg, not in the normal call leg that terminated to the forwarding number. If this field is NULL, then no data was captured for this record. |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name       | Field Type | Field Size* | Potential Values                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Data Source                                                           | Field Description                                                                                                                                                                                                                                                                                                               |
|--------------|-------------------|------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 29           | Service Type<br>1 | Numeric    |             | 1 = CALL_BLOCK (not used)<br>2 = CALL_FORWARD_UNCONDITIONAL<br>3 = CALL_WAITING<br>4 = REPEAT_CALL<br>5 = RETURN_CALL<br>6 = CALL_HOLD<br>7 = THREE_WAY_CALL<br>8 = CALL_TRANSFER<br>9 = CALLING_NUMBER_DELIVERY<br>10 = CALLING_NUMBER_DELIVERY_BLOCK<br>11 = CALL_FORWARD_BUSY<br>12 = CLASS_OF_SERVICE<br>13 = CALLING_NAME_DELIVERY (not used)<br>14 = CALL_FORWARD_NO_ANSWER<br>15 = AIN_HANDLING (not used)<br>16 = 911_HANDLING<br>17 = CUSTOM_DIALING_PLAN<br>18 = CALLING_ID_DELIVERY_BLOCK_PERM (not used)<br>19 = SFG_INCOMING<br>20 = SFG_OUTGOING<br>21 = CANCELLED_CALL_WAITING<br>22 = USER_SENSITIVE_3WAY_CALL<br>23 = TOLL_FREE (not used)<br>24 = ACCT_CODE<br>25 = AUTH_CODE<br>26 = LOCAL_NUMBER_PORTABILITY (not used)<br>27 = CALLING_IDENTITY_DELIVERY_SUSPENSION<br>28 = CALLING_NAME_DELIVERY_BLOCKING | Internal FCP message sent from the feature server to call processing. | Class type name of the first service invoked in call. If this field is NULL, then no data was captured for this record.<br><br>Service Types that are greater than 200 are reported as AS SERVICE_XXX, where XXX is the value of the service type stored in the CDR. This is done to provide App-Server-Specific Service Types. |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name | Field Type | Field Size* | Potential Values                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Data Source | Field Description |  |
|--------------|-------------|------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------|--|
|              |             |            |             | 29 = CALL_WAITING_WITH_CALLER_IDENTITY<br>30 = ANONYMOUS_CALL_REJECTION<br>31 = TOLL_FREE_CALL (not used)<br>32 = CUSTOMER_ORIGINATED_TRACE<br>33 = CALL_PARK<br>34 = CALL_PARK_RETRIEVAL<br>35 = CALL_PARK_REOFFERED<br>36 = DIRECTED_CALL_PICKUP WITH BARGE-IN<br>37 = DIRECTED_CALL_PICKUP WITHOUT BARGE-IN<br>38 = HOTLINE<br>39 = WARMLINE<br>40 = BUSY_LINE_VERIFICATION<br>41 = SELECTIVE_CALL_REJECTION<br>42 = SELECTIVE_CALL_FORWARDING<br>43 = SELECTIVE_CALL_ACCEPTANCE<br>44 = AUTOMATIC_CALLBACK<br>45 = AUTO_RECALL<br>46 = SPEED_CALLING<br>47 = DO_NOT_DISTURB<br>48 = REMOTE_ACTIVATION OF CALL_FORWARDING<br>49 = REMOTE_ACTIVATION OF CALL_FORWARDING PIN<br>50 = DRCW DISTINCTIVE_RING_CALL_WAITING<br>51 = SCREENING_LIST_EDIT SCF<br>52 = SCREENING_LIST_EDIT SCA<br>53 = SCREENING_LIST_EDIT SCR<br>54 = SCREENING_LIST_EDIT DRCW<br>55 = REJECT_CALLER<br>56 = CALL_WAITING_DELUXE<br>57 = THREE_WAY_CALL_DELUXE<br>58 = OUTGOING_CALL_BARRING<br>59 = HOTLINE_VARIABLE<br>60 = CNAM_SCP_QUERY<br>61 = SIP_REFERER<br>62 = CALL_FORWARD_COMBINATION<br>63 = NO_SOLICITATION_ANNOUNCEMENT |             |                   |  |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name       | Field Type | Field Size* | Potential Values                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Data Source                                                           | Field Description                                                                                                                                                                  |
|--------------|-------------------|------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|              |                   |            |             | 64 = PRIVACY SCREENING<br>65 = VOICE MAIL<br>66 = VOICE MAIL ACCESS<br>67 = LCD PREPAID<br>68 = LCD POSTPAID<br>69= MULTIPLE DIRECTORY NUMBER<br>70=SIP REPLACE<br>71=CALL FORWARD REDIRECT<br>72=OFF HOOK TRIGGER<br>73=TERM ATTMP TRIGGER<br>74=OCNA<br>75=SEAS<br>76=ENUM<br>77=ENUM LNP<br>78=TMB<br>79=GMB<br>EMERGENCY_CALL_BACK = 80<br>TAS_MODE = 81<br>HOSTAGE_NEGOTIATION = 82<br>CALL_FORWARD_NOT_REACHABLE = 83<br>SINGLE_NUMBER_REACH = 84<br>LONG_DUR_CUTOFF = 85<br>AS_SERVICE_XXX, When XXX greater than 200 |                                                                       |                                                                                                                                                                                    |
| 30           | Service Type 2    | Numeric    |             | (Same as Service Type 1 above)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Internal FCP message sent from the feature server to call processing. | The class type name of the second service invoked within the call.                                                                                                                 |
| 31           | Service Type 3    | Numeric    |             | (Same as Service Type 1 above)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Internal FCP message sent from the feature server to call processing. | The class type name of the third service invoked within the call.                                                                                                                  |
| 32           | Feature Data One1 | String     | 130         | See <a href="#">Chapter 3</a> , “ <a href="#">Feature Server-Derived Call Data</a> ” for specifics on feature data.                                                                                                                                                                                                                                                                                                                                                                                                          | Internal FCP message sent from the feature server to call processing. | The first datum of feature specific data provided by the associated Feature Server for Service Type 1 of a call. If this field is NULL, then no data was captured for this record. |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                 | Field Type | Field Size* | Potential Values                                                                                                    | Data Source                                                           | Field Description                                                                                                                                                                  |
|--------------|-----------------------------|------------|-------------|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 33           | Feature Data One2           | String     | 130         | See <a href="#">Chapter 3</a> , “ <a href="#">Feature Server-Derived Call Data</a> ” for specifics on feature data. | Internal FCP message sent from the feature server to call processing. | The first datum of feature specific data provided by the associated Feature Server for Service Type 2 of a call. If this field is NULL, then no data was captured for this record. |
| 34           | Feature Data One 3          | String     | 130         | See <a href="#">Chapter 3</a> , “ <a href="#">Feature Server-Derived Call Data</a> ” for specifics on feature data. | Internal FCP message sent from the feature server to call processing. | The first datum of feature specific data provided by the associated Feature Server for Service Type 3 of a call. If this field is NULL, then no data was captured for this record. |
| 35           | Authorization Code          | String     | 25          | DIGITS                                                                                                              | Internal FCP message sent from the feature server to call processing. | Authorization code information. If this field is NULL, then no data was captured for this record.                                                                                  |
| 36           | Account Code                | String     | 15          | DIGITS                                                                                                              | Internal FCP message sent from the feature server to call processing. | Account code information. If this field is NULL, no data was captured for this record.                                                                                             |
| 37           | Database Query Type1        | Numeric    |             | 1 = TOLL_FREE_SCP<br>2 = TOLL_FREE_LOCAL<br>3 = LNP<br>4 = CNAM_SCP<br>5 = ENUM<br>6 = ENUM LNP                     | Internal FCP message sent from the feature server to call processing. | Indicator of the specific type of 800 or LNP query performed on the first database query for the call. If this field is NULL value, then no data was captured for this record.     |
| 38           | Database Query Result Code1 | Numeric    |             | 1 = SUCCESS<br>2 = FAILURE                                                                                          | Internal FCP message sent from the feature server to call processing. | Indication of the disposition of the first database query for the call. If this field is a value of NULL, then no data was captured for this record.                               |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                           | Field Type | Field Size* | Potential Values                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Data Source                                                           | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------|---------------------------------------|------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 39           | Database Query Returned Data1         | String     | 128         | For CNAM_SCP: Caller's Name or P (private) or O (out of area)<br><br>For TOLL_FREE_SCP and TOLL_FREE_LOCA L: original called digits or new called digits returned<br><br>For LNP: original called DN or new LRN (ANSI w/LNP profile=LRN)<br><br>For LNP: original called DN or concatenated RN plus DN (non-ANSI w/LNP profile=PREFIX-METHOD)<br><br>For LNP: original called DN or RN (non-ANSI w/LNP profile=SEPARATE-RN)<br><br>For ENUM: AOR or domain name<br><br>For ENUM LNP: new LRN | Internal FCP message sent from the feature server to call processing. | Directory number, RN and/or NAME returned from the first database query for the call. If this field is NULL, then no data was captured for this record.<br><br>NOTE: When there is no RN in ENUM LNP response, then LRN should be treated as the original dialed DN.<br><br><i>Caveat:</i> If this field contains a character that coincides with the character specified as the field or record delimiter for the Cisco BTS 10200 billing records, it is replaced with a SPACE character to ensure the integrity of the billing data. |
| 40           | MLH Group                             | String     | 16          | Up to a 16-character group name                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Subscriber::MlhgId                                                    | The multi-line hunt group that this call is associated with. If this field is null, then no data is captured for this record.                                                                                                                                                                                                                                                                                                                                                                                                          |
| 41           | Called Party Off Hook Indicator       | Numeric    |             | 0 = NO<br>1 = YES                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | SS7 ANM, MGCP Offhook NTFY, ISDN ACK, for example.                    | Indication that the terminating party went off-hook. If this field is NULL, then no data was captured for this record.                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 42           | Called Party Short Off Hook Indicator | Numeric    |             | 0 = NO<br>1 = YES                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | n/a                                                                   | An indication that the called party was off hook for less than 2 seconds. This field is currently not supported on the Cisco BTS 10200, and will always be populated with a value of NULL.                                                                                                                                                                                                                                                                                                                                             |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                | Field Type | Field Size* | Potential Values                                                                                                                                         | Data Source                                                                           | Field Description                                                                                                                                                                                                                                                                                                                                                      |
|--------------|----------------------------|------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 43           | Call Termination Cause     | Numeric    |             | See Appendix C, “Release Cause Codes,” in the <i>Cisco BTS 10200 Softswitch Operations and Maintenance Guide, Release 6.0.3</i> .                        | Release indications are both internally and externally detected—dynamic runtime data. | The reason the call was released. If this field is a value of NULL, then no data was captured for this record.                                                                                                                                                                                                                                                         |
| 44           | Operator Action            | Numeric    |             | 0 = AUTO_IDENTIFIED_CUSTOMER_DIALED<br>1 = AUTO_IDENTIFIED_OPERATOR_DIALED<br>2 = OPER_IDENTIFIED_CUSTOMER_DIALED<br>3 = OPER_IDENTIFIED_OPERATOR_DIALED |                                                                                       | Operator action with respect to the originating party: <ul style="list-style-type: none"> <li>• automatically identified—customer dialed (0) or operator dialed (1)</li> </ul> or <ul style="list-style-type: none"> <li>• operator identified—customer dialed (2) or operator dialed (3)</li> </ul> If this field is NULL, then no data was captured for this record. |
| 45           | Originating Signaling Type | Numeric    |             | 0 = MGCP or SIP LINE<br>1 = SS7<br>2 = ISDN<br>3 = CAS<br>4 = MGCP<br>5 = SIP<br>6 = H323                                                                | TrunkGroup::TGType                                                                    | This denotes the trunk type of the originator. The value of MGCP TRUNK indicates of an Announcement Trunk.                                                                                                                                                                                                                                                             |
| 46           | Termination Signaling Type | Numeric    |             | 0 = MGCP or SIP LINE<br>1 = SS7<br>2 = ISDN<br>3 = CAS<br>4 = MGCP<br>5 = SIP<br>6 = H323                                                                | TrunkGroup::TGType                                                                    | This denotes the trunk type of the originator. The value of MGCP TRUNK indicates of an Announcement Trunk.                                                                                                                                                                                                                                                             |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                 | Field Type | Field Size* | Potential Values                                    | Data Source                                                                | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------|-----------------------------|------------|-------------|-----------------------------------------------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 47           | Originating Trunk Number    | Numeric    |             | 32 bit unsigned integer in the range of 1–99999999  | TrunkGroup::Id                                                             | Identity of the originating trunk. It is recommended the upper end of this range be limited to 9999 when converting these records to BAF AMA format for compatibility.<br><br>If this field is a value of NULL, then no data was captured for this record.                                                                                                                                                                                             |
| 48           | Terminating Trunk Number    | Numeric    |             | 32 bit unsigned integer in the range of 1– 99999999 | TrunkGroup::Id                                                             | Identity of the terminating trunk. It is recommended the upper end of this range be limited to 9999 when converting these records to BAF AMA format for compatibility.<br><br>If this field is a value of NULL, then no data was captured for this record.                                                                                                                                                                                             |
| 49           | Outgoing Trunk Number       | Numeric    |             | 16 bit unsigned integer                             | SS7 EXM                                                                    | The outgoing trunk is on the network facing side of the access tandem. When a call is terminated to the access tandem it is over a generic trunk group and the TNS is passed. Based on the TNS, the access tandem will select the trunk for routing. For example, 0288 will select an AT&T trunk. The access tandem then sends an exit message back with the trunk number from the network facing side. That is the number that appears in this field. |
| 50           | Carrier Identification Code | String     | 5           | DIGITS                                              | SS7 IAM or Subscriber::PICn or dialed digits for casual dialing scenarios. | Identification of the carrier that transported the call, either an inter-exchange carrier or an international carrier. This value is typically 3 or 4 digits, not necessarily 5 digits. If this field is NULL, then no data was captured for this record.<br><br>For a toll-free call, if the returned SCP message contains the carrier ID, the billing record show the carrier ID.                                                                    |



Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                                               | Field Type | Field Size* | Potential Values                                                                                                                                                                                                                                                                                                                  | Data Source    | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------|-----------------------------------------------------------|------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 51           | Originating Circuit Identifier                            |            |             | 16 bit unsigned integer in the range of 0–16383                                                                                                                                                                                                                                                                                   | Trunk::Id      | This field is used to represent the Circuit Id of Inc ISUP trunk. If this field is a value of NULL, then no data was captured for this record.                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 52           | Terminating Circuit Identifier                            | Numeric    |             | 16 bit unsigned integer in the range of 0 - 16383                                                                                                                                                                                                                                                                                 | Trunk::Id      | This field is used to represent the Circuit Id of Outgoing ISUP trunk. If this field is a value of NULL, then no data was captured for this record.                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 53           | PIC Source                                                | Numeric    |             | 1 = PIC_DIALED<br>2 = PIC_DEFAULT                                                                                                                                                                                                                                                                                                 | Dialed digits. | Indication of how the carrier's access code was entered—dialed or by PIC. If this field is a value of NULL, then no data was captured for this record.                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 54           | Inter exchange carrier or international carrier indicator | Numeric    |             | 0 =<br>CIC_FGD_OPERAT<br>OR_<br>INVOLVED<br><br>1 =<br>CIC_FGD_OPERAT<br>OR_<br>NOT_INVOLVED<br><br>2 =<br>CIC_FGD_OPERAT<br>OR_<br>INVOLVED_UNKN<br>OWN<br><br>7 =<br>CIC_UNKNOWN_<br>OPERATOR_INVOL<br>VED<br><br>8 =<br>CIC_UNKNOWN_<br>OPERATOR_NOT_<br>INVOLVED<br><br>9 =<br>CIC_UNKNOWN_<br>OPERATOR_INVOL<br>VED_ UNKNOWN | Dialed digits. | Describes operator involvement: FGD CIC with: <ul style="list-style-type: none"> <li>1. Operator involvement</li> <li>2. Dialed direct with no operator.</li> <li>3. With undetermined operator involvement, or unknown CIC with : <ul style="list-style-type: none"> <li>– Operator involvement</li> <li>– Dialed direct with no operator, or</li> <li>– Undetermined operator involvement</li> </ul> </li> </ul> <p>This field is applicable only in calls interconnected to other carriers.</p> <p>If this field is NULL, then no data was captured for this record.</p> |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                                                            | Field Type | Field Size* | Potential Values                                                                                                                                      | Data Source         | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------|------------------------------------------------------------------------|------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 55           | Inter-exchange carrier or international carrier Event Status Indicator | Numeric    |             | Call is abandoned or released before IAM is sent by originating EC = 15<br>Call is abandoned or released after IAM is received by originating EC = 20 | Dynamic call data.  | Indication of how far a call has progressed before termination when an IC/INC is involved.<br><br>This field is only applicable to SS7 calls that are interconnected to another carrier. If this field is a value of NULL, then no data was captured for this record.                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 56           | Inter-exchange carrier or international carrier Routing Indicator      | Numeric    |             | 0 = DIRECT<br>1 = TANDEM<br>2 = CAP_ENDOFFICE<br>3 = CAP_TANDEM<br>4 = TANDEM_TSP                                                                     | Hard coded.         | Describes how the call was routed to/from the IC/INC: EAE0 direct to IC/INC, or EAE0 by AT to INC/IC, or CAP direct from EO, or CAP direct from AP tandem.<br><br>This field is only applicable in calls that are interconnected to other carriers.<br><br>Currently only the values of 0 and 1 are supported. Values 2, 3, and 4 are reserved for future use.<br><br>In general, the rule for setting the routing indicator is: <ul style="list-style-type: none"> <li>if carrier-id field in trunk-grp is NOT NULL, then the call is set as direct interconnect (ROUTING_INDICATOR_DIRECT 0)</li> <li>if carrier-id field in trunk-grp is NULL, then the call is set as a non- direct interconnect (ROUTING_INDICATOR_TANDEM 1)</li> </ul> |
| 57           | QoS Orig Local Packets Sent                                            | Numeric    |             | 0–999,999,999                                                                                                                                         | MGCP DLCX ACK, DLCX | The total number of RTP data packets transmitted by the originating end point since transmission was started.<br><br>If this field is NULL, then no data was captured for this record.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                | Field Type | Field Size* | Potential Values | Data Source         | Field Description                                                                                                                                                                                                                                                                                                 |
|--------------|----------------------------|------------|-------------|------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 58           | QoS Orig Packets received  | Numeric    |             | 0–999,999,999    | MGCP DLCX ACK, DLCX | The total number of RTP data packets received by the originating end point since reception was started.<br><br>If this field is NULL, then no data was captured for this record.                                                                                                                                  |
| 59           | QoS Orig Local Octets Sent | Numeric    |             | 0–999,999,999    | MGCP dLcX ACK, DLCX | The total number of payload octets transmitted in RTP data packets by the originating endpoint since starting transmission. This count does not include headers or padding. This count can be used to estimate the average payload rate.<br><br>If this field is NULL, then no data was captured for this record. |
| 60           | QoS Orig Octets Received   | Numeric    |             | 0–999,999,999    | MGCP DLCX ACK, DLCX | The total number of payload octets received in RTP data packets by the originating endpoint since starting reception. This count does not include headers or padding. This count can be used to estimate the average payload rate.<br><br>If this field is NULL, then no data was captured for this record.       |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                                 | Field Type | Field Size* | Potential Values | Data Source         | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------|---------------------------------------------|------------|-------------|------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 61           | QoS Orig Local Packets Lost                 | Numeric    |             | 0–999,999,999    | MGCP DLCX ACK, DLCX | <p>The total number of RTP data packets that have been lost since the beginning of reception by the originating endpoint. This number is defined as the number of packets expected less the number of packets actually received, where the number of packets received includes any which are late or duplicates. The packets that arrive late are not counted as lost and the loss may be negative if they are duplicates. The number of packets expected is defined as the extended last sequence number received less the initial sequence number received.</p> <p>If this field is NULL, then no data was captured for this record.</p>                                                                 |
| 62           | Qos Orig Local Average Inter-arrival Jitter | Numeric    |             | 0–999,999,999    | MGCP DLCX ACK, DLCX | <p>This is an estimate of the average statistical variance of the RTP data packet inter-arrival time measured in timestamp units and expressed as an unsigned integer by the originating endpoint. The inter-arrival jitter is defined as the mean deviation (smoothed absolute value) of the difference in packet spacing at the receiver compared to the sender for a pair of packets. This is equivalent to the difference between a packet's RTP timestamp and the receiver's clock at the time arrival. The value is calculated in terms of 125 microseconds ticks and converted to milliseconds for storage in the CDR.</p> <p>If this field is NULL, then no data was captured for this record.</p> |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                         | Field Type | Field Size* | Potential Values | Data Source         | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|-------------------------------------|------------|-------------|------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 63           | QoS Orig Average Transmission Delay | Numeric    |             | 0–999,999,999    | MGCP DLCX ACK, DLCX | <p>The average network transmission delay as measured from the RTP interface of the originating endpoint. The boundaries of this interface include:</p> <ul style="list-style-type: none"> <li>• multiplexing/demultiplexing multiple RTP packets into or out of a single UDP packet</li> <li>• all subsequent handling of transmission and reception of UDP frames</li> <li>• network delays and peer processing up to the peer's RTP interface.</li> </ul> <p>This is the Average Latency field from previous releases. A value of zero indicates that this calculation was not supported by the originating endpoint.</p> <p>If this field is NULL, then no data was captured for this record.</p> |
| 64           | QoS Term Local Packets Sent         | Numeric    |             | 0–999,999,999    | MGCP DLCX ACK, DLCX | <p>The total number of RTP data packets transmitted by the terminating end point since transmission was started.</p> <p>If this field is NULL, then no data was captured for this record.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 65           | QoS Term Packets received           | Numeric    |             | 0–999,999,999    | MGCP DLCX ACK, DLCX | <p>The total number of RTP data packets received by the terminating end point since starting reception.</p> <p>If this field is NULL, then no data was captured for this record.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 66           | QoS Term Local Octets Sent          | Numeric    |             | 0–999,999,999    | MGCP DLCX ACK, DLCX | <p>The total number of payload octets transmitted in RTP data packets by the terminating endpoint since transmission was started. This count does not include headers or padding but can be used to estimate the average payload rate.</p> <p>If this field is NULL, then no data was captured for this record.</p>                                                                                                                                                                                                                                                                                                                                                                                   |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                 | Field Type | Field Size* | Potential Values | Data Source         | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------|-----------------------------|------------|-------------|------------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 67           | QoS Term Octets Received    | Numeric    |             | 0–999,999,999    | MGCP DLCX ACK, DLCX | <p>The total number of payload octets received in RTP data packets by the terminating endpoint since reception was started. This count does not include headers or padding but can be used to estimate the average payload rate.</p> <p>If this field is NULL, then no data was captured for this record.</p>                                                                                                                                                                                                                                                                                                                               |
| 68           | QoS Term Local Packets Lost | Numeric    |             | 0–999,999,999    | MGCP DLCX ACK, DLCX | <p>The total number of RTP data packets that have been lost since the beginning of reception by the terminating endpoint. This number is defined as the number of packets expected less the number of packets actually received, where the number of packets received includes any which are late or duplicates. The packets that arrive late are not counted as lost and the loss may be negative if there are duplicates. The number of packets expected is defined as the extended last sequence number received less the initial sequence number received.</p> <p>If this field is NULL, then no data was captured for this record.</p> |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                                             | Field Type | Field Size* | Potential Values | Data Source            | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------|---------------------------------------------------------|------------|-------------|------------------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 69           | QoS Term<br>Local<br>Average<br>Inter-arrival<br>Jitter | Numeric    |             | 0–999,999,999    | MGCP DLCX ACK,<br>DLCX | <p>This is an estimate of the average statistical variance of the RTP data packet inter-arrival time measured in timestamp units and expressed as an unsigned integer by the terminating endpoint. The inter-arrival jitter is defined as the mean deviation (smoothed absolute value) of the difference in packet spacing at the receiver compared to the sender for a pair of packets. This is equivalent to the difference between a packet's RTP timestamp and the receiver's clock at the time arrival. The value is calculated in terms of 125 microsecond ticks and converted to milliseconds for storage in the CDR.</p> <p>If this field is NULL, then no data was captured for this record.</p> |
| 70           | QoS Term<br>Average<br>Transmission<br>Delay            | Numeric    |             | 0–999,999,999    | MGCP DLCX ACK,<br>DLCX | <p>The average network transmission delay as measured from the RTP interface of the terminating endpoint. The boundaries of this interface include:</p> <ul style="list-style-type: none"> <li>• Multiplexing/demultiplexing multiple RTP packets into or out of a single UDP packet</li> <li>• All subsequent handling of transmission and reception of UDP frames</li> <li>• Network delays and peer processing up to the peer's RTP interface</li> </ul> <p>This is the Average Latency field from previous releases. A value of 0 (zero) indicates that this calculation was not supported by the originating endpoint.</p> <p>If this field is NULL, then no data was captured for this record.</p>  |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name          | Field Type | Field Size* | Potential Values                                    | Data Source   | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------|----------------------|------------|-------------|-----------------------------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 71           | Operator Involvement | Numeric    |             | 0 = NO, 1 = YES                                     | Dialed digits | Determines if operator is involved in the call for 0-, 0+, or 01+.<br><br>If this field is NULL, then no data was captured for this record.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 72           | Casual Dialing       | Numeric    |             | 0 = NO, 1 = YES                                     | Dialed digits | Determines whether it is a casual call (CIC) or PIC call.<br><br>If this field is NULL, then no data was captured for this record.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 73           | Connection Type      | Numeric    |             | 0 = IP<br>1 = HAIRPIN<br>3 = ATM SVC<br>4 = ATM PVC | Dialed digits | Type of connection the gateway is making, so the reader of the record knows why the QoS parameters are different than expected. For example, if a Hairpin connection is used, then the QoS will be zeros.<br><br>This field currently only contains a value of 0 or 1. This field can be derived from either the Originating or Terminating endpoint. If it is returned from one of the endpoints, then that the value is presented in this field; if it is not returned by either endpoint, then this field contains a NULL. If the same value is returned by both endpoints, then the value from the originating endpoint is used. If this field contains a value of NULL, then no data was captured for this record. |



Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name         | Field Type | Field Size* | Potential Values      | Data Source   | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------|---------------------|------------|-------------|-----------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 74           | Packet Time         | Numeric    |             | 16 bit unsigned value | MGCP DLCX ACK | Packetization period for voice sampling. This field can be derived from either the Originating or Terminating endpoint. If it is returned from one of the endpoints, then the value is presented in this field. If it is not returned by either endpoint, then this field contains a NULL. If the same value is returned by both endpoints, then the value from the originating endpoint is used. If this field contains a value of NULL, then no data was captured for this record.       |
| 75           | Silence Suppression | Numeric    |             | 0 = NO, 1 = YES       | MGCP DLCX ACK | Indicates if silence suppression is enabled or not. This field can be derived from either the Originating or Terminating endpoint. If it is returned from one of the endpoints, then the value is presented in this field. If the same value is not returned by either endpoint, then this field contains a NULL. If a value is returned by both endpoints, then the value from the originating endpoint is used.<br><br>If this field is NULL, then no data was captured for this record. |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name          | Field Type | Field Size* | Potential Values                                                                                                                                                                                                                       | Data Source                                | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------|----------------------|------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 76           | Echo Cancellation    | Numeric    |             | 0 = NO, 1 = YES                                                                                                                                                                                                                        | MGCP DLCX ACK                              | <p>Indicates whether echo cancellation at far end is enabled or not.</p> <p>This field can be derived from either the Originating or Terminating endpoint. If it is returned from one of the endpoints, then the value is presented in this field. If it is not returned by either endpoint, then this field contains a NULL. If the same value is returned by both endpoints, then the value from the originating endpoint is used.</p> <p>If this field is NULL, then no data was captured for this record.</p> |
| 77           | Codec Type           | Numeric    |             | 1 = PCMU G711<br>2 = PCMA G711<br>3 = G729A<br>4 = G729B<br>5 = G729E<br>6 = G729<br>7 = G726-40<br>8 = G726-32<br>9 = G726-24<br>10 = G726-16<br>11 = G728<br>12 = G723-H<br>13 = G723A-H<br>14 = G723-L<br>15 = G723A-L<br>16 = G723 | MGCP DLCX ACK                              | <p>Codec used to transport RTP traffic.</p> <p>This field is produced internally by BTS 10200 and is the perception of the Codec used in the call.</p> <p>If this field is a value of NULL, then no data was captured for this record.</p>                                                                                                                                                                                                                                                                        |
| 78           | Interstate Indicator | Numeric    |             | 0 = NO, 1 = YES                                                                                                                                                                                                                        | Destination::<br>Intrastate or<br>LATA::Id | <p>Indicates whether call crossed a state boundary or not.</p> <p>If this field is NULL, then no data was captured for this record.</p>                                                                                                                                                                                                                                                                                                                                                                           |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name     | Field Type | Field Size* | Potential Values                                                                                                                                                                                                   | Data Source                                  | Field Description                                                                                                                                                                                                                                                                                       |
|--------------|-----------------|------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 79           | Record Type     | Numeric    |             | 0 = NORMAL_RECORD<br>1 = FIRST_LONG_DURN_RECORD<br>2 = CONTINUATION_LONG_DURN_RECORD<br>3 = LAST_LONG_DURN_RECORD<br>4 = INVALID_RECORD                                                                            | Dynamic run time data                        | Indicates whether record is involved in long duration call accounting or not.<br><br>If this field is NULL, then no data was captured for this record.                                                                                                                                                  |
| 80           | Timer Indicator | Numeric    |             | 32-bit unsigned value<br>0 (for normal call)<br>1, 2, 3, 4, 5,..(for long duration call)                                                                                                                           | Dynamic run time data                        | Indication of the sequence number of the long duration record. If the record is of a normal call, the value of this field is 0. For the long duration record, the value of this field indicates the sequence number. If this field contains a value of NULL, then no data was captured for this record. |
| 81           | Present Time    | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format.<br>The number of seconds since Jan 1, 1970 0:00:00h.<br><br>If the value is NULL, the timestamp is to be ignored. | Dynamic run time data from the system clock. | The time the continuation record was created. This field is only populated for long duration calls. If this field contains a value of NULL, then no data was captured for this record.                                                                                                                  |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                    | Field Type | Field Size* | Potential Values        | Data Source                            | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|--------------------------------|------------|-------------|-------------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 82           | Overall Correlation Identifier | String     | 25          | Alphanumeric characters | System generated.                      | This field is unique on a per call scenario basis, not on a per record basis. If a call scenario results in the Cisco BTS 10200 generating multiple call records, each record contains the same value in this field. The main use at this time is within the real time Event Message billing stream that is supported by the Cisco BTS 10200 for PacketCable compliancy and for correlation of multiple record call scenarios. This field should always be populated. |
| 83           | JIP                            | String     | 10          | Alphanumeric characters | Pop::Jip or TrunkGroup::Jip or SS7 IAM | This field contains the Jurisdiction Information Parameter (JIP) of the originating switch for calls inbound to the Cisco BTS 10200. The JIP is populated with the value received in the Initial Address Message (SS7) (IAM) if available, or the value provisioned into the Trunk Group table of the inbound trunk group for the call. If the JIP is not provisioned in the Trunk Group table and not received in the IAM, then the field contains a NULL.           |
| 84           | Originating CLLI               | String     | 11          | Alphanumeric characters | TrunkGroup::Clli                       | The CLLI of the switch the call originated from. The CLLI is provisioned in the trunk group that was used to deliver the call to the Cisco BTS 10200.<br><br>If this field is NULL, then no data was captured for this record.                                                                                                                                                                                                                                        |
| 85           | Terminating CLLI               | String     | 11          | Alphanumeric characters | TrunkGroup::Clli                       | The CLLI of the switch the call was terminated to. The CLLI is provisioned in the trunk group that was used to deliver the call to the terminating switch. If this field is NULL, then no data was captured for this record.                                                                                                                                                                                                                                          |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name               | Field Type | Field Size* | Potential Values                                                                               | Data Source                                                           | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------|---------------------------|------------|-------------|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 86           | Call Agent Id             | String     | 8           | Alphanumeric characters                                                                        | CallAgent::Id                                                         | Identifies the Call Agent on which Call Detail Block (CDB) is created. If this field is NULL, then no data was captured for this record.                                                                                                                                                                                                                                                                                               |
| 87           | Originating POP Time Zone | Numeric    |             | Refer to <a href="#">Appendix B, “Time Zone Mapping Table”</a> for the potential values.       | Pop::Timezone, Timezone::Id                                           | This is the point of presence time zone of the originating Point Of Presence (POP). This field provides information on the locale of which the POP is a member. This information can also be leveraged for partitioning subscribers on a single BTS 10200 into multiple business entities for billing purposes.<br><br>A zero value (0) indicates LOCAL BTS 10200 time zone.<br><br>A NULL indicates no value captured for this field. |
| 88           | Service Usage Sensitive 1 | Numeric    |             | 0 = FALSE, 1 = TRUE<br><br>This field is applicable only if Service Type 1 field is populated. | Internal FCP message sent from the feature server to call processing. | Indication of whether first service usage within the call context was usage sensitive or not.<br><br>If this field is NULL, then no data was captured for this record.                                                                                                                                                                                                                                                                 |
| 89           | Service Usage Sensitive 2 | Numeric    |             | 0 = FALSE, 1 = TRUE<br><br>This field is applicable only if Service Type 2 field is populated. | Internal FCP message sent from the feature server to call processing. | Indication of whether second service usage within the call context was usage sensitive or not.<br><br>If this field is NULL, then no data was captured for this record.                                                                                                                                                                                                                                                                |
| 90           | Service Usage Sensitive 3 | Numeric    |             | 0 = FALSE, 1 = TRUE<br><br>This field is applicable only if Service Type 3 field is populated. | Internal FCP message sent from the feature server to call processing. | Indication of whether third service usage within the call context was usage sensitive or not.<br><br>If this field is NULL, then no data was captured for this record.                                                                                                                                                                                                                                                                 |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                     | Field Type | Field Size* | Potential Values                        | Data Source                                                                                                                     | Field Description                                                                                                                                                                                                                                                                                 |
|--------------|---------------------------------|------------|-------------|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 91           | Originating H323 Call Origin    | Numeric    |             | 0 = NULL<br>1 = ANSWER<br>2 = ORIGINATE | Various H.323 messages                                                                                                          | ANSWER indicates call terminated on reporting gateway.<br>ORIGINATE indicates call was outbound from reporting gateway for originating half of call.<br><br>This field is populated only for calls over an H.323 network. If this field is a value of NULL, no data was captured for this record. |
| 92           | Originating H323 Call Type      | Numeric    |             | 1 = VOIP<br>2 = TELEPHONY<br>3 = VIDEO  | Bearer Capability field of incoming SETUP messages and the VIDEO_SUPP field in the H323-TG-PROFILE and H323-TERM-PROFILE tables | Value indicates protocol family used on originating leg of the call.<br><br>This field is populated only for calls over an H.323 network. If this field is a value of NULL, no data was captured for this record.                                                                                 |
| 93           | Originating H323 Conference Id  | String     | 32          | Alphanumeric characters                 | Various H.323 messages                                                                                                          | Unique identifier generated by originating Public Switched Telephone Network (PSTN) gateway for each unique call scenario within a given call context.<br><br>This field is populated only for calls over an H.323 network. If this field is NULL, no data was captured for this record.          |
| 94           | Originating H323 Remote Address | String     | 16          | Alphanumeric characters                 | Various H.323 messages                                                                                                          | IP address of originating remote gateway.<br><br>This field is populated only for calls over an H.323 network. If this field is NULL, no data was captured for this record.                                                                                                                       |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                    | Field Type | Field Size* | Potential Values                                                                                                                                                                                                | Data Source                                 | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------|--------------------------------|------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 95           | Originating H323 Time Day      | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:00h.<br><br>If the value is NULL, the timestamp is to be ignored. | Dynamic run time data from the system clock | Time of day terminating number was dialed for originating half of call.<br><br>This field is populated only for calls over an H.323 network.                                                                                                                                                                                                                                                                                                                                                               |
| 96           | Originating H323 Voice Quality | Numeric    |             | This field is not populated for this release                                                                                                                                                                    | Various H.323 messages                      | Quality of voice connection for originating side of call. This is a decimal number from the ICPIF table of G.113.                                                                                                                                                                                                                                                                                                                                                                                          |
| 97           | Originating H323 Subscriber    | Numeric    |             | This field is not populated for this release                                                                                                                                                                    | Various H.323 messages                      | Subscriber T1/CAS signaling information from originating side of call.                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 98           | Originating H323 Gateway Id    | String     | 16          | Alphanumeric characters                                                                                                                                                                                         | Various H.323 messages                      | For incoming calls from an H.323 network, this field will contain the h323-id of the originating (peer) H.323 gateway/endpoint. If this parameter is not available in the incoming H.323 call, the Cisco BTS 10200 will populate this field with local h323-id from the H.323-GW that received the call. For incoming calls from non-H.323 networks, this field is NULL.<br><br>This field is only populated for calls over an H.323 network. If this field is NULL, no data was captured for this record. |
| 99           | Originating H323 Gatekeeper Id | String     | 16          | Alphanumeric characters                                                                                                                                                                                         | Various H.323 messages                      | The hostname of the originating primary gatekeeper for the call.<br><br>This field is only populated for calls over an H.323 network. If this field is NULL, no data was captured for this record.                                                                                                                                                                                                                                                                                                         |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                     | Field Type | Field Size* | Potential Values                        | Data Source                                                                                                                      | Field Description                                                                                                                                                                                                                                                                                                             |
|--------------|---------------------------------|------------|-------------|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 100          | Terminating H323 Call Origin    | Numeric    |             | 0 = NULL<br>1 = ANSWER<br>2 = ORIGINATE | Various H.323 messages                                                                                                           | ANSWER indicates the call terminated on the reporting gateway.<br><br>ORIGINATE indicates the call was outbound from the reporting gateway for the terminating half of the call.<br><br>This field is only populated for calls over an H.323 network. If this field is a value of NULL, no data was captured for this record. |
| 101          | Terminating H323 Call Type      | Numeric    |             | 1 = VOIP<br>2 = TELEPHONY<br>3 = VIDEO  | Bearer Capability field of incoming SETUP messages and the VIDEO_SUPP field in the H323-TG-PROFILE and H323-TERM-PROFILE tables. | Indication of the protocol family used on the terminating leg of the call.<br><br>This field is only populated for calls over an H.323 network. If this field is a value of NULL, no data was captured for this record.                                                                                                       |
| 102          | Terminating H323 Conference Id  | String     | 32          | Alphanumeric characters                 | Various H.323 messages                                                                                                           | A unique identifier generated by the terminating PSTN gateway for each unique call scenario within a given call context.<br><br>This field is only populated for calls over an H.323 network. If this field is NULL, no data was captured for this record.                                                                    |
| 103          | Terminating H323 Remote Address | String     | 16          | Alphanumeric characters                 | Various H.323 messages                                                                                                           | The IP address of the terminating remote gateway.<br><br>This field is only populated for calls over an H.323 network. If this field is NULL, no data was captured for this record.                                                                                                                                           |



Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                    | Field Type | Field Size* | Potential Values                                                                                                                                                                                                | Data Source                                 | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------|--------------------------------|------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 104          | Terminating H323 Time Day      | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:00h.<br><br>If the value is NULL, the timestamp is to be ignored. | Dynamic run time data from the system clock | The time of day that the terminating number was dialed for the terminating half of the call.<br><br>This field is populated only for calls over an H.323 network.                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 105          | Terminating H323 Voice Quality | Numeric    |             | This field is not populated for this release                                                                                                                                                                    | Various H.323 messages                      | The quality of voice connection for the terminating side of the call. This is a decimal number from the ICPIF table of G.113.<br><br>If this field is a value of NULL, no data was captured for record.                                                                                                                                                                                                                                                                                                                                                                                     |
| 106          | Terminating H323 Subscriber    | Numeric    |             | This field is not populated for this release.                                                                                                                                                                   | Various H.323 messages                      | Subscriber T1/CAS signaling information from terminating side of call.<br><br>If this field is a value of NULL, no data was captured for this record.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 107          | Terminating H323 Gateway Id    | String     | 16          | Alphanumeric characters                                                                                                                                                                                         | Various H.323 messages                      | For outgoing calls from Cisco BTS 10200 and terminating to an H.323 network, this field will contain h323-Id of the terminating (peer) H.323 gateway/endpoint if available in backward Call signaling message. If this parameter is not available from terminating H.323 Gateway/endpoint, Cisco BTS 10200 will populate the local h323-id from H323-GW, which is used to send out the call. For outgoing calls to non H.323 network, this field is NULL.<br><br>This field is populated only for calls over an H.323 network. If this field is NULL, no data was captured for this record. |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                    | Field Type | Field Size* | Potential Values                   | Data Source            | Field Description                                                                                                                                                                                                                                                                                                                                                                             |
|--------------|--------------------------------|------------|-------------|------------------------------------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 108          | Terminating H323 Gatekeeper Id | String     | 16          | Alphanumeric characters            | Various H.323 messages | The symbolic host name assigned to the terminating primary gatekeeper for the call.<br><br>This field is populated only for calls over an H.323 network. If this field is NULL, no data was captured for this record.                                                                                                                                                                         |
| 109          | Orig Type                      | Numeric    |             | 0 = INTRASWITCH<br>1 = INTERSWITCH | Dialed digits          | Indicates whether call was originated by a subscriber homed on the reporting BTS 10200.<br><br>If a MAIN-SUB-ID is provisioned on the inbound TG, this field is set to ON-NET. If the MAIN-SUB-ID is NULL on the inbound TG, this field is set to OFF-NET.<br><br>A MAIN-SUB-ID is typically associated with a trunk group from a PBX, voicemail server, or another local application server. |
| 110          | Term Type                      | Numeric    |             | 0 = INTRASWITCH<br>1 = INTERSWITCH | Dialed digits          | Indication of whether call was terminated by subscriber homed on the reporting BTS 10200.                                                                                                                                                                                                                                                                                                     |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                | Field Type | Field Size* | Potential Values        | Data Source                                           | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------|----------------------------|------------|-------------|-------------------------|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 111          | Source Service Provider Id | String     | 16          | Alphanumeric characters | TrunkGroup::Spid or Carrier::Spid or TechPrefix::Spid | <p>This field contains the network provided or Service Provider Identifier configured for incoming calls to the Cisco BTS 10200. For incoming calls from the PSTN network, this field contains the service provider ID value after it finds the matching entry in the CARRIER table for the TNS/CIP parameter against the Carrier ID.</p> <p>For incoming calls from an H.323 network, this field contains the value in the field circuitInfo.destinationCircuitId (H323v4) or the Service Provider ID derived from tech-prefix received in the SETUP message.</p> <p>When this parameter does not exist in the SETUP message, the service provider ID configured for the incoming trunk group is used to populate this field. When source based routing is enabled, the Cisco BTS 10200 selects the trunk group based on the source IP address and circuitInfo.sourceCircuitId field from the SETUP message received. When the circuitInfo.destinationCircuitId does not match the service provider ID configured on the incoming trunk group, the call is routed using the default route.</p> <p>If this field is NULL, then no data was captured for this record.</p> |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                     | Field Type | Field Size* | Potential Values        | Data Source                                           | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------|---------------------------------|------------|-------------|-------------------------|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 112          | Destination Service Provider Id | String     | 16          | Alphanumeric characters | TrunkGroup::Spid or Carrier::Spid or TechPrefix::Spid | This field contains the identifier of the destination service provider which is used to route the call. For outgoing calls to an H.323 network, this field is populated with destinationCarrierId from the Intra Zone Clear Token (IZCT) parameter of the ACF message returned by the outgoing Gatekeeper. If this value is not received from the Gatekeeper, the value provisioned in the service provider ID of the outgoing trunk group is used. For outgoing calls to the Public Switched Telephone Network (PSTN) network, this field is populated with a value of the service provider ID provisioned in the outgoing trunk group. If this field is NULL, then no data was captured for this record. |
| 113          | Source Carrier Id               | String     | 4           | Numeric characters      | TrunkGroup::CarrierId or SS7 IAM                      | This field contains a 4-digit value from the Transit Network Selection (TNS) or Carrier Identification code Parameter (CIP) parameter of the IAM/SETUP message received from the PSTN network. If TNS or CIP is not received, this field is populated with the Carrier ID field provisioned in the incoming trunk group. This field is only applicable to tandem call scenarios. If this field is NULL, then no data was captured for this record.                                                                                                                                                                                                                                                         |
| 114          | Destination Carrier Id          | String     | 4           | Numeric characters      | TrunkGroup::CarrierId or SS7 IAM                      | This field contains the 4-digit carrier ID of the outgoing trunk group used to route the call. For calls routed to the PSTN network, this field contains the value provisioned in the Carrier ID field of the trunk group table. If this field is NULL, then no data was captured for this record.                                                                                                                                                                                                                                                                                                                                                                                                         |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                          | Field Type | Field Size* | Potential Values                                                                                                                                                                                               | Data Source                                                          | Field Description                                                                                                                                                                                                                                                                                             |
|--------------|--------------------------------------|------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 115          | Originating SIP Username             | String     | 64          | Alphanumeric characters                                                                                                                                                                                        | Originating SIP INVITE message                                       | The username value of the From field on the originating side for all incoming SIP calls. This field is populated only for SIP calls. The value for the field is specified between the ":" and "@" characters.<br><br>If this field is NULL, no data is captured for this record.                              |
| 116          | Originating SIP Call Id              | String     | 64          | Alphanumeric characters                                                                                                                                                                                        | Originating SIP INVITE message                                       | SIP Call Id header field. This field is a truncation of SIP Call Id header field received through SIP if it is over 64 characters in length. This value for this field appears after the ":".<br><br>This field is populated only for SIP calls. If this field is NULL, no data was captured for this record. |
| 117          | Originating SIP Adjacent Hop Address | String     | 16          | Alphanumeric characters                                                                                                                                                                                        | Originating SIP INVITE message                                       | IP address of last proxy that forwarded calls inbound to BTS 10200.<br><br>IP address of proxy to which outbound calls from the Cisco BTS 10200 are forwarded.<br><br>This field is only populated for SIP calls. If this field is NULL, no data was captured for this record.                                |
| 118          | Database Query Time 2                | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:00h.<br><br>If the value is NULL, then the timestamp is ignored. | Dynamic run time data from the system clock                          | The time at which second database query response was received for this call. If the value is NULL, timestamp is ignored.                                                                                                                                                                                      |
| 119          | Database Query Result Code 2         | Numeric    |             | 1 = SUCCESS<br>2 = FAILURE                                                                                                                                                                                     | Internal FCP message sent from the feature server to call processing | Indicates disposition of the second database query for call. If this field has a value of NULL, no data was captured for this record.                                                                                                                                                                         |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                    | Field Type | Field Size* | Potential Values                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Data Source                                                          | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------|--------------------------------|------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 120          | Database Query Type2           | Numeric    |             | 1 = TOLL_FREE_SCP<br>2 = TOLL_FREE_LOCAL<br>3 = LNP<br>4 = CNAM_SCP<br>5=ENUM<br>6=ENUM LNP                                                                                                                                                                                                                                                                                                                                                                         | Internal FCP message sent from the feature server to call processing | Indicates specific type of 800 or LNP query performed on second database query for call. If this field is a value of NULL, no data was captured for this record.                                                                                                                                                                                                                                                                                                                                                                          |
| 121          | Database Query Returned Data 2 | String     | 128         | For CNAM_SCP: Caller's Name or P (private) or O (out of area)<br>For TOLL_FREE_SCP and TOLL_FREE_LOCAL: original called digits or new called digits returned<br>For LNP: original called DN or new LRN (ANSI w/LNP profile=LRN)<br>For LNP: original called DN or concatenated RN plus DN (non-ANSI w/LNP profile=PREFIX-METHOD)<br>For LNP: original called DN or RN (non-ANSI w/LNP profile=SEPARATE-RN)<br>For ENUM: AOR or domain name<br>For ENUM_LNP: new LRN | Internal FCP message sent from the feature server to call processing | The directory number, RN, and/or NAME returned from the second database query for the call. If field is NULL, no data was captured for this record.<br><br>NOTE: When there is no RN in ENUM LNP response, then LRN should be treated as the original dialed DN.<br><br><i>Caveat:</i> If this field is found to contain a character coinciding with the character specified as the field or record delimiter for the Cisco BTS 10200 billing records, it is replaced with a SPACE character to ensure the integrity of the billing data. |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                  | Field Type | Field Size* | Potential Values                                                                                                                                                                                               | Data Source                                                          | Field Description                                                                                                                                                               |
|--------------|------------------------------|------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 122          | Database Query Time 3        | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:00h.<br><br>If the value is NULL, then the timestamp is ignored. | Dynamic run time data from the system clock                          | The time the third database query response was received for this call.                                                                                                          |
| 123          | Database Query Result Code 3 | Numeric    |             | 1 = SUCCESS<br>2 = FAILURE                                                                                                                                                                                     | Internal FCP message sent from the feature server to call processing | Indicates disposition of third database query for call. If this field has a value of NULL, no data was captured for this record.                                                |
| 124          | Database Query Type 3        | Numeric    |             | 1 = TOLL_FREE_SCP<br>2 = TOLL_FREE_LOCAL<br>3 = LNP<br>4 = CNAM_SCP<br>5 = ENUM<br>6 = ENUM LNP                                                                                                                | Internal FCP message sent from the feature server to call processing | Indicates specific type of 800 or LNP query performed on the third database query for the call.<br><br>If this field has a value of NULL, no data was captured for this record. |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                    | Field Type | Field Size* | Potential Values                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Data Source                                                          | Field Description                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------|--------------------------------|------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 125          | Database Query Returned Data 3 | String     | 128         | <p>For CNAM_SCP: Caller's Name or P (private) or O (out of area)</p> <p>For TOLL_FREE_SCP and TOLL_FREE_LOCA L: original called digits or new called digits returned</p> <p>For LNP: original called DN or new LRN (ANSI w/LNP profile=LRN)</p> <p>For LNP: original called DN or concatenated RN plus DN (non-ANSI w/LNP profile=PREFIX-METHOD)</p> <p>For LNP: original called DN or RN (non-ANSI w/LNP profile=SEPARATE-RN)</p> <p>For ENUM: AOR or domain name</p> <p>For ENUM LNP: new LRN</p> | Internal FCP message sent from the feature server to call processing | <p>Directory number, RN, and/or NAME returned from third database query for call. If this field is NULL, no data was captured for this record.</p> <p><i>Caveat:</i> If this field contains a character that coincides with the character specified as the field or record delimiter for the Cisco BTS 10200 billing records, it is replaced with a SPACE character to ensure the integrity of the billing data.</p> |



Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name          | Field Type | Field Size* | Potential Values                                                                                                                                                                                                                                                                                                                                                                                                                       | Data Source                                                          | Field Description                                                                                                                                                                                                                                                             |
|--------------|----------------------|------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 126          | Service Result Code1 | Numeric    |             | 1 = SUCCESS<br>2 = FAILURE<br>3 = ANI INVALID<br>4 = ANI BLOCKED<br>5 = CASUAL CALLS NOT ALLOWED<br>6 = II SCREENING REJECT<br>7 = BW SCREENING REJECT<br>8 = COS RESTRICTED<br>9 = 2L-ACT ABANDONED VOICE BACK DN<br>10 = 2I_ACT CONNECTED ANONYMOUS DN<br>11 = COS INTERNAL ERROR<br>12 = CALL BLOCKED<br>13 = RESULT UNKNOWN<br>14 = USER ABANDONED<br>15 = INVALID PIN<br>16 = PIN BLOCKED<br>17 = TEMP DISC BLOCKED<br>18 = VALID | Internal FCP message sent from the feature server to call processing | Indicates disposition of first service activation, service deactivation, or service instance within the call context.<br><br>This field is applicable only if the Service Type 1 field is populated. If this field has a value of NULL, no data was captured for this record. |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number       | Common Name          | Field Type | Field Size* | Potential Values                                                                                                                   | Data Source                                                          | Field Description                                                                                                                                                                                                                                                             |
|--------------------|----------------------|------------|-------------|------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 126<br>(continued) | Service Result Code1 | Numeric    |             | 19 = ABANDON WHILE ANNOUNCE<br>20 = INSUFFICIENT QUOTA<br>21 = MEDIATION REQUIRED<br>22 = Billing Info Season Suspend Call Blocked |                                                                      |                                                                                                                                                                                                                                                                               |
| 127                | Service Result Code2 | Numeric    |             | (Same as Service Result Code 1)                                                                                                    | Internal FCP message sent from the feature server to call processing | Indicates disposition of second service activation, service deactivation, or service instance within the call context.<br><br>This field is applicable only if the Service Type 2 field is populated. If this field has a value of NULL, no data was captured for this record |
| 128                | Service Result Code3 | Numeric    |             | (Same as Service Result Code 1)                                                                                                    | Internal FCP message sent from the feature server to call processing | Indicates disposition of third service activation, service deactivation, or service instance within the call context.<br><br>This field is applicable only if the Service Type 3 field is populated. If this field has a value of NULL, no data was captured for this record  |
| 129                | NAS Error Code       | Numeric    |             | 800 = ISP PORT LIMIT OVERRUN<br>801 = NO MODEMS AVAILABLE<br>802 = CALLING NUMBER UNACCEPTABLE<br>803 = CALLED NUMBER UNACCEPTABLE | Internally generated by call processing                              | Specific error code explaining reason that this NAS call could not be completed.<br><br>If this field has a value of NULL, no data was captured for this record.                                                                                                              |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                  | Field Type | Field Size* | Potential Values                                                                                                                                                                                                                                                                                                                                                                                           | Data Source | Field Description                                                                                                                                     |
|--------------|------------------------------|------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 130          | NAS DLCX Reason              | Numeric    |             | 801 = USER REQUEST<br>802 = LOST CARRIER<br>803 = LOST SERVICE<br>804 = IDLE TIMEOUT<br>805 = SESSION TIMEOUT<br>806 = ADMIN RESET<br>807 = ADMIN REBOOT<br>808 = PORT ERROR<br>809 = NAS ERROR<br>810 = NAS REQUEST<br>811 = NAS REBOOT<br>812 = PORT UN-NEEDED<br>813 = PORT PRE-EMPTED<br>814 = PORT SUSPENDED<br>815 = SERVICE UNAVAILABLE<br>816 = CALLBACK<br>817 = USER ERROR<br>818 = HOST REQUEST | MGCP DLCX   | Reason code returned in the DLCX message for NAS calls.<br><br>If this field has a value of NULL, no data was captured for this record.               |
| 131          | NAS Pre-Authorization Result | Numeric    |             | 0 = NULL<br>1 = AU—EVERYTHING IS OK<br>2 = AX—CGN/CDN NUMBERS ARE NOT GOOD<br>3 = OF—MODEM FAILURE                                                                                                                                                                                                                                                                                                         | MGCP NTFY   | Indicates result of performing pre-authorization on a NAS-based call.<br><br>If this field has a value of NULL, no data was captured for this record. |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                  | Field Type | Field Size* | Potential Values                                                                                                                                                                                                | Data Source                                 | Field Description                                                                                                                                                                                                                                                                                                                                                            |
|--------------|------------------------------|------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 132          | Fax Indicator                | Numeric    |             | 0 = VOICE ONLY<br>1 = VOICE AND FAX                                                                                                                                                                             | Internally generated by call processing     | Indicates whether the call involved any fax transmissions. This field contains a 0 if operation is in an mgw-to-mgw controlled mode. When a fax is sent under mgw control but no indication of the fax transmission is sent to the call agent, then this field is set to 0 (zero).<br><br>If this field contains a value of NULL, then no data was captured for this record. |
| 133          | Fax Pages Sent               | Numeric    |             | Value provided by fax component                                                                                                                                                                                 | MGCP DLCX ACK, DLCX                         | The number of fax pages that were sent during this call. If the Fax Indicator field is set to NULL, then this field is ignored.<br><br>This field is only populated by the Cisco BTS 10200 for calls that use the MGCP, NCS or TGCP interface.                                                                                                                               |
| 134          | Fax Pages Received           | Numeric    |             | Value provided by fax component                                                                                                                                                                                 | MGCP DLCX ACK, DLCX                         | The number of fax pages that were received during this call. If the Fax Indicator field is set to NULL, then field is ignored.<br><br>This field is only populated by the Cisco BTS 10200 for calls that use the MGCP, NCS or TGCP interface.                                                                                                                                |
| 135          | Service Interrogation Time 1 | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:00h.<br><br>If the value is NULL, the timestamp is to be ignored. | Dynamic run time data from the system clock | The time the interrogation of Service Type 1 occurred.<br><br>This field is only used when the Service Interrogation capabilities of various features are deployed. Typically these are only supported in Asia-Pacific regions.                                                                                                                                              |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                  | Field Type | Field Size* | Potential Values                                                                                                                                                                                                | Data Source                                 | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------|------------------------------|------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 136          | Service Interrogation Time 2 | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:00h.<br><br>If the value is NULL, the timestamp is to be ignored. | Dynamic run time data from the system clock | The time the interrogation of Service Type 2 occurred.<br><br>This field is only used when the Service Interrogation capabilities of various features are deployed. Typically these are only supported in Asia-Pacific regions.                                                                                                                                                                                                                                                                                                                                                                           |
| 137          | Service Interrogation Time 3 | Numeric    |             | 128-bit unsigned value in total 64-bit seconds and 64-bit milliseconds in GMT epoch time format. The number of seconds since Jan 1, 1970 0:00:00h.<br><br>If the value is NULL, the timestamp is to be ignored. | Dynamic run time data from the system clock | The time the interrogation of Service Type 3 occurred.<br><br>This field is only used when the Service Interrogation capabilities of various features are deployed. Typically these are only supported in Asia-Pacific regions.                                                                                                                                                                                                                                                                                                                                                                           |
| 138          | Originating Pop Id           | String     | 16          | Alphanumeric characters                                                                                                                                                                                         | SubscriberProfile::PopId                    | This is the point of presence that the originating subscriber on the BTS 10200 is provisioned into. This field provides information on the locale where the subscriber is a member. For LINE type termination, the pop index is populated from the calling party's subscriber profile pop id. For TRUNK_CLASS termination, the pop index is populated from the trunk-group pop index. This information can also be leveraged for partitioning subscribers on a single BTS 10200 into multiple business entities for billing purposes.<br><br>If this field is NULL, no data was captured for this record. |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name               | Field Type | Field Size* | Potential Values                                                                         | Data Source                   | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------|---------------------------|------------|-------------|------------------------------------------------------------------------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 139          | Terminating Pop Id        | String     | 16          | Alphanumeric characters                                                                  | SubscriberProfile::PopId      | This is the point of presence that the terminating subscriber on the BTS 10200 is provisioned into. This field provides information on the locale where the subscriber is a member. For LINE type termination, the pop index is populated from the called party's subscriber profile pop id. For TRUNK_CLASS termination, the pop index is populated from the trunk-group attached pop index. This information can also be leveraged for partitioning subscribers on a single BTS 10200 into multiple business entities for billing purposes. If this field is NULL, no data was captured for this record. |
| 140          | Terminating POP Time Zone | Numeric    |             | Refer to <a href="#">Appendix B, "Time Zone Mapping Table"</a> for the potential values. | Pop::Timezone, Timezone::Id   | This is the point of presence time zone that the terminating POP is provisioned into. This field provides information on the locale where the terminating POP is a member. This information can also be leveraged for partitioning subscribers on a single BTS 10200 into multiple business entities for billing purposes. If this field contains a value of ZERO, then the timestamps within this record are based on the local time zone. A NULL indicates no value captured for this field.                                                                                                             |
| 141          | Dial Plan Id              | String     | 16          | Alphanumeric characters                                                                  | SubscriberProfile::DialPlanId | Dial plan used for call routing purposes by originating subscriber on Cisco BTS 10200. The dial plan defines valid digit patterns for the subscriber in addition to routing based on the dialed digits. If this field is NULL, no data was captured for this record.                                                                                                                                                                                                                                                                                                                                       |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                          | Field Type | Field Size* | Potential Values                           | Data Source                                                                                               | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------|--------------------------------------|------------|-------------|--------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 142          | GTD Global Call Indicator            | String     | 32          | Alphanumeric characters including hyphens. | If incoming GTD contains GCI, the GCI is used; otherwise, the Cisco BTS 10200 internally generates a GCI. | GTD Global Call Identification field populated only for H.323 calls with GTD enabled.<br><br>The Cisco BTS 10200 will use the GCI format consistent with the IOS GTD implementation, which is in the form of a 16-character ASCII representation of a UTC timestamp followed by a 4-character ASCII representation of the clock sequence, plus a 12-character ASCII representation of the MAC address This field is always 32 characters long. If this field is NULL, no data was captured for this record. |
| 143          | Terminating SIP Username             | String     | 64          | Alphanumeric characters.                   | Incoming 18x or 200 SIP message to outgoing (outbound) initial SIP INVITE message.                        | The username value of the From field on the terminating side for all outgoing SIP calls. This field is populated only for SIP calls. The value for the field is specified between the ":" and "@" characters.<br><br>If this field is NULL, no data was captured for this record.                                                                                                                                                                                                                           |
| 144          | Terminating SIP Call Id              | String     | 64          | Alphanumeric characters.                   | Incoming 18x or 200 SIP message to outgoing (outbound) initial SIP INVITE message.                        | The SIP Call ID header field. This field is a truncation of the SIP Call ID header field received through SIP if it is over 64 characters in length. This field is populated only for outgoing SIP calls. If this field is NULL, no data was captured for this record.                                                                                                                                                                                                                                      |
| 145          | Terminating SIP Adjacent Hop Address | String     | 16          | Alphanumeric characters                    | Incoming 18x or 200 SIP message to outgoing (outbound) initial SIP INVITE message.                        | The IP address of the proxy or SIP User Agent that the call is sent to for calls outbound from the Cisco BTS 10200. This field is only populated for outgoing SIP calls. The value for the field after "."<br><br>If this field is NULL, then no data was captured for this record.                                                                                                                                                                                                                         |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                           | Field Type | Field Size* | Potential Values                                                                    | Data Source                                                                                                      | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------|---------------------------------------|------------|-------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 146          | Originating SIP Type                  | Numeric    |             | 1 = SUBSCRIBER<br>2 = SIP<br>3 = SIP-T<br>4 = CMSS                                  | Combination of Incoming initial SIP INVITE message and provisioning (TrunkGroup, TrunkGroupProfile, Subscriber). | The type of SIP call on the inbound side. This field is only populated for SIP originations. If this field has a value of NULL, no data was captured for this record.                                                                                                                                                                                                                                                                    |
| 147          | Terminating SIP Call Type             | Numeric    |             | 1 = SUBSCRIBER<br>2 = SIP<br>3 = SIP-T<br>4 = CMSS                                  | Based on dynamic data; the outbound SIP call type is based on routing.                                           | The type of SIP call on the outbound side. This field is only populated for SIP terminations. If this field has a value of NULL, no data was captured for this record.                                                                                                                                                                                                                                                                   |
| 148          | Originating H.323 Network Provider Id | String     | 16          | Alphanumeric characters.                                                            | H.323 ACF                                                                                                        | This field contains the value contained in the IZCT source zone parameter of the ACF message for the outgoing call leg. If this field is NULL, then no data was captured for this record.                                                                                                                                                                                                                                                |
| 149          | Destination H.323 Network Provider Id | String     | 16          | Alphanumeric characters.                                                            | H.323 ACF                                                                                                        | This field contains the identifier of the destination service provider which is used by external route servers to route the call to the final destination. This field is only applicable for outgoing calls to an H.323 network. This field contains the IntermediateCarrierId field from the IZCT parameter of the ACF message received from the outgoing Gatekeeper. If this field is NULL, then no data was captured for this record. |
| 150          | Video Codec                           | Numeric    |             | 0 = None (future)<br>1 = H.261 (future)<br>2 = H.263 (future)<br>3 = H.264 (future) | n/a                                                                                                              | The codec used to transport the RTP traffic. The value in this field is pulled from the provisioning of the BTS 10200, not from the actual SDP message.<br><br>This field is always 0 (zero) in this release.                                                                                                                                                                                                                            |



Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                       | Field Type | Field Size* | Potential Values                                                                                                                                                                                                                                                            | Data Source            | Field Description                                                                                                                                                                                                                                           |
|--------------|-----------------------------------|------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 151          | Original Originating Number       | String     | 64          | DIGITS                                                                                                                                                                                                                                                                      | SETUP Message          | This field contains the calling number received in the SETUP Message after digit manipulation is performed but before any overriding occurs, such as overwriting with a billing DN.<br><br>If this field is NULL, then no data was captured for this field. |
| 152          | Calling Party Category            | Numeric    |             | 0 = Unknown<br>9 = National Operator<br>10 = Ordinary Subscriber<br>11 = Subscriber w/Priority<br>12 = Voice Band Data<br>13 = Test Call<br>15 = Pay Phone<br>246 = Translated Number<br>249 = Line Test Desk<br>250 = Interception Operator<br>251 = Immediate Charge Info | SS7 IAM message.       | The Calling Party Category value that was received in the SS7 IAM.<br><br>If this field is NULL, then no data was captured for this record.                                                                                                                 |
| 153          | Called Party Category Indicator   | Numeric    |             | 0 = No Indication<br>1 = Ordinary Subscriber<br>2 = Payphone                                                                                                                                                                                                                | SS7 BCI field.         | The Called Party Category Indicator value is derived from the FE bits of the Backward Call Indicator received through SS7.<br><br>If this field is NULL, then no data was captured for this record.                                                         |
| 154          | Called Party Ported In Indicator  | Numeric    |             | 0 = No<br>1 = Yes                                                                                                                                                                                                                                                           | Subscriber:: Ported-In | Indication of whether or not the Called Number (for terminating records) is ported into the reporting Cisco BTS 10200. If this field is NULL, then no data was captured for this record.                                                                    |
| 155          | Calling Party Ported In Indicator | Numeric    |             | 0 = No<br>1 = Yes                                                                                                                                                                                                                                                           | Subscriber:: Ported-In | Indication of whether or not the Called Number (for terminating records) is ported into the reporting Cisco BTS 10200. If this field is NULL, then no data was captured for this record.                                                                    |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                        | Field Type | Field Size* | Potential Values                                                                 | Data Source                                                                           | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------|------------------------------------|------------|-------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 156          | Billing Rate Indicator             | Numeric    |             | 1 = Flat Rate 1<br>2 = Flat Rate 2<br>3 = Measured Rate 1<br>4 = Measured Rate 2 | Subscriber::Billing-Type                                                              | The type of SIP call on the inbound side. This field is only populated for SIP originations. If this field contains a value of NULL, then no data was captured for this record.                                                                                                                                                                                                                                                                                                                                                                                          |
| 157          | Account Id                         | String     | 20          | Alphanumeric characters.                                                         | Subscriber::Account                                                                   | The account ID that the subscriber is associated with. If this field is NULL, then no data was captured for this record. It will always contain NULL in this release.                                                                                                                                                                                                                                                                                                                                                                                                    |
| 158          | Originating End Point TSAP Address | String     | 64          | DNS or IP Address                                                                | Mgw::TSAP-Address or<br>TrunkGroup::Softsw-TSAP-Address or<br>H323-Term::TSAP-Address | The IP address or DNS for the originating endpoint. For an on-net call, this is the TSAP Address of the IAD, SIP phone, ATA, or MTA. This address is indicative of the signaling address for the originating endpoint, which can be different from the bearer (RTP) address.<br><br>For an off-net call, this is the IP address of the trunking gateway. This information is useful for generating usage reports on a per gateway basis or in troubleshooting errors encountered during a call.<br><br>If this field is NULL, then no data was captured for this record. |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                        | Field Type | Field Size* | Potential Values         | Data Source                                                                           | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------|------------------------------------|------------|-------------|--------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 159          | Terminating End Point TSAP Address | String     | 64          | DNS or IP Address        | Mgw::TSAP-Address or<br>TrunkGroup::Softsw-TSAP-Address or<br>H323-Term::TSAP-Address | <p>The IP address or DNS for the originating endpoint. For an on-net call, this is the TSAP Address of the IAD, SIP phone, ATA, or MTA. This address is indicative of the signaling address for the originating endpoint – which can be different from the bearer (RTP) address.</p> <p>For an off-net call, this is the IP address of the trunking gateway. This information is useful for generating usage reports on a per gateway basis or in troubleshooting errors encountered during a call.</p> <p>If this field is NULL, then no data was captured for this record.</p> |
| 160          | Originating CMTS Id                | String     | 64          | Alphanumeric characters. | Aggregation::TSAP-Address                                                             | <p>The IP address or DNS of the aggregation router on the originating side of the call for on-net originators.</p> <p>If this field is NULL, then no data was captured for this record.</p>                                                                                                                                                                                                                                                                                                                                                                                      |
| 161          | Terminating CMTS Id                | String     | 64          | Alphanumeric characters. | Aggregation::TSAP-Address                                                             | <p>The IP address or DNS of the aggregation router on the terminating side of the call for on-net originators.</p> <p>If this field is NULL, then no data was captured for this record.</p>                                                                                                                                                                                                                                                                                                                                                                                      |
| 162          | Originating Fiber Node Id          | String     | 20          | Alphanumeric characters. | Mgw::Fiber-Node                                                                       | <p>The name of the fiber node that the originating MTA is assigned to. An HCF fiber node sits between the CMTS and MTA with each MTA assigned to a particular fiber node. One or more fiber nodes are assigned to a given CMTS.</p> <p>If this field is NULL, then no data was captured for this record.</p>                                                                                                                                                                                                                                                                     |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name               | Field Type | Field Size* | Potential Values                                                                                                                                                                                                                                                                                                                                            | Data Source               | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------|---------------------------|------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 163          | Terminating Fiber Node Id | String     | 20          | Alphanumeric characters.                                                                                                                                                                                                                                                                                                                                    | Mgw::Fiber-Node           | The name of the fiber node that the terminating MTA is assigned to. An HCF fiber node sits between the CMTS and MTA with each MTA assigned to a particular fiber node. One or more fiber nodes are assigned to a given CMTS.<br><br>If this field is NULL, then no data was captured for this record.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 164          | Call Subtype              | Numeric    |             | TEST-CALL subtypes:<br>NONE = 0<br>NCT_LINE_TEST = 15<br>NCT_TRUNK_TEST = 16<br>NLB_LINE_TEST = 17<br>NLB_TRUNK_TEST = 18<br>TEST_ROUTE = 19<br><br>EMG subtypes:<br>AMBULANCE = 2<br>FIRE = 6<br>POLICE = 9<br><br>INFO subtypes:<br>AIRLINES = 1<br>ANALOG = 3<br>DIGITAL = 4<br>DYNAMIC = 5<br>LB_TEST = 7<br>NLB_TEST = 8<br>RAILWAYS = 10<br>TIME = 11 | Destination:: CallSubtype | This field further defines the call based on the Call-Type field. In this release, only CallType=TEST-CALL, EMG, or INFO causes this field to be populated. If this field contains a NULL, then it should be ignored.<br><br>NCT-LINE-TEST is a Network Continuity Test call on a subscriber line. The calling party number format is <test-prefix><DN><br><br>NCT-TRUNK-TEST is a Network Continuity Test call on a trunking endpoint. The calling party number format is <test-prefix><TG><TM>. The number of digits in the trunk group number and trunk member number is determined based on test-trunk- grp-digits and test-trunk-member- digits value set in the Call Agent Configuration table.<br><br>NLB-LINE-TEST is a Network Loopback Test call using a network loop connection on the terminating endpoint. The calling party number format is <test-prefix><DN>. |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name  | Field Type | Field Size* | Potential Values                                     | Data Source | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------|--------------|------------|-------------|------------------------------------------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|              | Call Subtype | Numeric    |             | TRAFFIC = 12<br>TW(Time&Weather) =13<br>WEATHER = 14 |             | <p>LB-TRUNK-TEST is a Network Loopback Test call on a trunking endpoint. The calling party number is in the format &lt;test-prefix&gt;&lt;TG&gt;&lt;TM&gt;. The number of digits in the trunk group number and trunk member number is determined based on test-trunk-grp-digits and test-trunk-member-digits values set in the Call Agent Configuration table.</p> <p>TEST-ROUTE routes the test call based on &lt;DN&gt;. The calling party number is in the format &lt;test-prefix&gt;&lt;TG&gt;&lt;TM&gt;. The number of digits in the trunk group number and trunk member number is determined based on test-trunk-grp-digits and test-trunk-member-digits values set in the Call Agent Configuration table.</p> |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name | Field Type | Field Size* | Potential Values    | Data Source   | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------|-------------|------------|-------------|---------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 165          | Sensor Id   | String     | 6           | Numeric characters. | Pop::SensorId | <p>The field contains 6 numeric characters defined in the POP Table Sensor ID field. The first character contains a value of 0 if the record was not previously output to a downstream system (primary data), a 1 if the record was previously output (secondary data), or a 2 if the record was output but not confirmed. The 2nd through 6th characters contain a 6 digit identification code assigned by the service provider of the sensor that generated or formatted the billing record. The values can range from 000000 to 999998.</p> <p>999999 is reserved for sensors that output only AMA test tapes. The POP table contains the 6 characters that represent the actual Sensor ID; the Cisco BTS 10200 does not support the 1st character as stated in GR-1100. The sensor ID is chosen based on the following factors:</p> <ul style="list-style-type: none"> <li>• Offnet to Onnet call: Use the POP index for the originating party (incoming trunk group's POP).</li> <li>• Onnet to Offnet call: Use the POP index for the originating subscriber on that Cisco BTS 10200 (subscriber's associated POP).</li> <li>• Onnet to Onnet call (same POP on same Cisco BTS 10200): Use the POP index for the originating subscriber.</li> </ul> |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                         | Field Type | Field Size* | Potential Values                                                                          | Data Source          | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------|-------------------------------------|------------|-------------|-------------------------------------------------------------------------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 165          | Sensor Id                           | String     |             |                                                                                           |                      | <ul style="list-style-type: none"> <li>Onnet to Onnet call (different POPs on same Cisco BTS 10200): Use the POP index for the originating subscriber.</li> <li>Onnet to Onnet call (different Cisco BTS 10200s): Use the POP index for the originating subscriber homed on the reporting Cisco BTS 10200.</li> </ul> <p>If this field is NULL, no data was captured for this record.</p>                                                                                                                                                                                                                 |
| 166          | Originating International Indicator | Numeric    |             | 1 = No<br>2 = Yes (call is international in origin)                                       | Signaling parameters | <p>This field indicates if the call terminating to this Cisco BTS 10200 originated internationally. NO indicates the call is domestic in origin. This field is only populated for incoming SS7 calls.</p> <p>A value of NULL indicates that information was not gathered for this field.</p> <p>This field indicates if the call terminating to this Cisco BTS 10200 was originated internationally or not. A value of NO indicates the call was domestic in origin. This field is only populated for incoming SS7 calls. A value of NULL indicates that information was not gathered for this field.</p> |
| 167          | Originating Calling Name            | String     | 15          | Null character,<br>"PRIVATE,"<br>"OUT OF AREA,"<br>"Name string returned from CNAM query" | CNAM Query           | <p>The calling name for the originating party of this call terminating on the Cisco BTS 10200 as returned from the CNAM database query. The strings for PRIVATE and OUT OF AREA are mapped internally in the Cisco BTS 10200 and presented in a format compliant with GR-1188 in this field. If this field is NULL, then no data was captured for this record.</p>                                                                                                                                                                                                                                        |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                         | Field Type | Field Size* | Potential Values                               | Data Source          | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------|-------------------------------------|------------|-------------|------------------------------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 168          | Originating Privacy Indicator       | Numeric    |             | 1 = NONE,<br>2 = NAME<br>3 = FULL              | Signaling parameters | The privacy indicator for the originating party of this call on the Cisco BTS 10200. The field is used for both originating and terminating calls. The field is derived from the appropriate signaling fields as the call terminates to this Cisco BTS 10200. A value of NONE indicates that both calling name and number are displayed—there is no restriction; a value of NAME indicates just the calling number is displayed (name privacy is active); and a value of FULL indicates neither the number nor the name is displayed to the terminating subscriber (full privacy) on the Cisco BTS 10200. This is only applicable to subscribers on the Cisco BTS 10200 that have calling name and/or calling number as a feature, assigned to them. If this field is NULL, then no data was captured for this record. |
| 169          | Originating Called Party Ported NoA | Numeric    |             | 1 = Concatenated RN with DN<br>2 = Separate RN |                      | For an incoming trunk call, if the received Called Party Number has a Nature of Address (NoA) indicating ported number, then one of the following values is provided. Otherwise, the value is NULL. These fields are only applicable for ITU-based Local Number Portability (LNP) when LNP Profile LNP-DB-TYPE=RN.<br><br>Values: <ul style="list-style-type: none"> <li>• WITH RN—Indicates the digits are a Routing Number (RN), or concatenated RN + DN, depending on country specific requirements.</li> <li>• WITHOUT RN—Indicates the digits are for a ported DN, but with no RN present.</li> </ul>                                                                                                                                                                                                             |



Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number                                     | Common Name                         | Field Type | Field Size* | Potential Values                                                                              | Data Source                             | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------|-------------------------------------|------------|-------------|-----------------------------------------------------------------------------------------------|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 170                                              | Terminating Called Party Ported NoA | Numeric    |             | 1 = Concatenated RN with DN<br>2 = Separate RN                                                |                                         | For a call terminating to a Cisco BTS 10200 subscriber, or outgoing trunk call, when LNP Profile LNP-DB-TYPE=RN and the final called party number (after digit translation and manipulation) nature of address indicates ported number, then this field is present and is set to one of the values shown above for Originating Called Party Ported NoA.<br><br>If this field is NULL, then no data was captured for this record.                                                                                                                                     |
| 171                                              | Charging Information                | Numeric    |             | Number of metered or pulsed charge units or Charge Band number. This is a dual purpose field. | ISUP ITX messages                       | The number of metered or pulsed billing units recorded for this call. This is initially only used in conjunction with French and Polish ISUP. No value is recorded in this field for calls that are transiting the BTS 10200.<br><br>The BTS 10200 acts as a CGP node based on the AOC Enabled property associated with the outgoing trunk groups. The property's "enabled" or "disabled" status determines whether the received CRG message in the backward direction should be validated.<br><br>If this field is NULL, then no data was captured for this record. |
| 172<br>(Cisco BTS 10200 Release 4.5.1, MR1 only) | Originating Line Information        | Numeric    |             | 0–99                                                                                          | Subscriber Profile::Oli SS7 IAM message | The Originating Line Information value is received in the SS7 IAM. For subscriber originated calls, the OLI specified in the subscriber-profile record is put into the billing record.                                                                                                                                                                                                                                                                                                                                                                               |
| 173                                              | Centrex Group                       | String     | 16          | A group name of up to 16 characters.                                                          | Subscriber:CtxgId                       | Identity of the Centrex group that this call is associated with. If this field is NULL, then no data was captured for this record.                                                                                                                                                                                                                                                                                                                                                                                                                                   |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name          | Field Type | Field Size* | Potential Values                                                                 | Data Source                                                          | Field Description                                                                                                                                                                                                                                                                                                                                                           |
|--------------|----------------------|------------|-------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 174          | Country Code         | String     | 3           | Numeric Characters                                                               | Intl_dial_plan:Paddd_cc                                              | Three numeric characters<br>Automatically generated by EMS is not provisioned: <ul style="list-style-type: none"> <li>• If 1 digit cc, pad cc with 2 zeros (2 becomes 002)</li> <li>• If 2 digit cc, pad cc with 1 zero (44 becomes 044).</li> <li>• If 3 digit cc, no padding required, copy as is.</li> <li>• If cc &gt; 3 digits, copy the 1st 3 digits here.</li> </ul> |
| 175          | Feature Data Two 1   | String     | 130         | See Chapter 3, “Feature Server-Derived Call Data” for specifics on feature data. | Internal FCP Message sent from the feature server to call processing | The second datum of feature specific data provided by the associated feature server for the Service Type 2 of a given call.<br>If this field is NULL, then no data is captured for this record.                                                                                                                                                                             |
| 176          | Feature Data Two 2   | String     | 130         | See Chapter 3, “Feature Server-Derived Call Data” for specifics on feature data. | Internal FCP Message sent from the feature server to call processing | The second datum of feature specific data provided by the associated feature server for the Service Type 2 of a given call.<br>If this field is NULL, then no data is captured for this record.                                                                                                                                                                             |
| 177          | Feature Data Two 3   | String     | 130         | See Chapter 3, “Feature Server-Derived Call Data” for specifics on feature data. | Internal FCP Message sent from the feature server to call processing | The second datum of feature specific data provided by the associated feature server for the Service Type 2 of a given call.<br>If this field is NULL, then no data is captured for this record.                                                                                                                                                                             |
| 178          | Feature Data Three 1 | String     | 130         | See Chapter 3, “Feature Server-Derived Call Data” for specifics on feature data. | Internal FCP Message sent from the feature server to call processing | The third datum of feature specific data provided by the associated feature server for the Service Type 2 of a given call.<br>If this field is NULL, then no data is captured for this record.                                                                                                                                                                              |
| 179          | Feature Data Three 2 | String     | 130         | See Chapter 3, “Feature Server-Derived Call Data” for specifics on feature data. | Internal FCP Message sent from the feature server to call processing | The third datum of feature specific data provided by the associated feature server for the Service Type 2 of a given call.<br>If this field is NULL, then no data is captured for this record.                                                                                                                                                                              |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                                      | Field Type | Field Size* | Potential Values                                                                                                    | Data Source                                                          | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------|--------------------------------------------------|------------|-------------|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 180          | Feature Data Three 3                             | String     | 130         | See <a href="#">Chapter 3</a> , “ <a href="#">Feature Server-Derived Call Data</a> ” for specifics on feature data. | Internal FCP Message sent from the feature server to call processing | The third datum of feature specific data provided by the associated feature server for the Service Type 2 of a given call.<br><br>If this field is NULL, then no data is captured for this record.                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 181          | Qos Orig Average Network Packet Round Trip Delay | Numeric    |             | 0, 1–65,535                                                                                                         | MGCP DLCX ACK, DLCX                                                  | The average network packet round-trip delay as measured from the RTP interface of the originating endpoint. The boundaries of this interface include: <ul style="list-style-type: none"> <li>• Multiplexing/demultiplexing multiple RTP packets into or out of a single UDP packet</li> <li>• All subsequent handling of transmission and reception of UDP frames in addition to the network delays and peer processing up to the peer's RTP interface</li> </ul> A value of zero indicates that this calculation was not supported by the originating endpoint.<br><br>If this field contains a value of NULL, then no data is captured for this record |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                                      | Field Type | Field Size* | Potential Values                                                | Data Source         | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------|--------------------------------------------------|------------|-------------|-----------------------------------------------------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 182          | Qos Term Average Network Packet Round Trip Delay | Numeric    |             | 0, 1–65,535                                                     | MGCP DLCX ACK, DLCX | <p>The average network packet round-trip delay as measured from the RTP interface of the terminating endpoint. The boundaries of this interface include:</p> <ul style="list-style-type: none"> <li>• Multiplexing/demultiplexing multiple RTP packets into or out of a single UDP packet</li> <li>• All subsequent handling of transmission and reception of UDP frames in addition to the network delays and peer processing up to the peer's RTP interface</li> </ul> <p>A value of zero indicates that this calculation was not supported by the originating endpoint.</p> <p>If this field contains a value of NULL, then no data is captured for this record</p> |
| 183          | Qos Orig Codec Framesize                         | Numeric    |             | 0, 1–65,535                                                     | MGCP DLCX ACK, DLCX | <p>The codec frame size in bytes that is used by the originating endpoint.</p> <p>If this field contains a value of NULL, then no data is captured for this record.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 184          | Qos Term Codec Framesize                         | Numeric    |             | 0, 1–65,535                                                     | MGCP DLCX ACK, DLCX | <p>The codec frame size in bytes that is used by the terminating endpoint.</p> <p>If this field contains a value of NULL, then no data is captured for this record.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 185          | Qos Orig Dead Connection Detection               | Numeric    |             | 1 = Dead Connection Detected,<br>2= No Dead Connection Detected | MGCP DLCX ACK, DLCX | <p>Indicates whether the dead connection timer expired either at the beginning of the call or during non-silence receiver states. This metric is reported by the originating endpoint.</p> <p>If this field contains a value of NULL, then no data is captured for this record.</p>                                                                                                                                                                                                                                                                                                                                                                                    |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                         | Field Type | Field Size* | Potential Values                                                | Data Source         | Field Description                                                                                                                                                                                                                                                                                                                                              |
|--------------|-------------------------------------|------------|-------------|-----------------------------------------------------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 186          | Qos Term Dead Connection Detection  | Numeric    |             | 1 = Dead Connection Detected,<br>2= No Dead Connection Detected | MGCP DLCX ACK, DLCX | Indicates whether the dead connection timer expired either at the beginning of the call or during non-silence receiver states. This metric is reported by the terminating endpoint.<br><br>If this field contains a value of NULL, then no data is captured for this record.                                                                                   |
| 187          | Qos Orig Concealed Seconds          | Numeric    |             | 0–65,535                                                        | MGCP DLCX ACK, DLCX | Contains the number of elapsed seconds reported by the originating endpoint during which some concealment event has occurred. Concealment events are defined as any action when 1–50 ms of missing audio information is accounted for in the RTP stream.<br><br>If this field contains a value of NULL, then no data is captured for this record.              |
| 188          | Qos Term Concealed Seconds          | Numeric    |             | 0–65,535                                                        | MGCP DLCX ACK, DLCX | Contains the number of elapsed seconds reported by the terminating endpoint during which some concealment event has occurred. A concealment event is defined as any action when 1–50 ms of missing audio information is accounted for in the RTP stream.<br><br>If this field contains a value of NULL, then no data is captured for this record.              |
| 189          | Qos Orig Severely Concealed Seconds | Numeric    |             | 0–65,535                                                        | MGCP DLCX ACK, DLCX | Contains the number of elapsed seconds reported by the originating endpoint during which some severe concealment event has occurred. A severe concealment event is defined as any action when >50 ms of missing audio information is accounted for in the RTP stream.<br><br>If this field contains a value of NULL, then no data is captured for this record. |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                         | Field Type | Field Size* | Potential Values | Data Source         | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------|-------------------------------------|------------|-------------|------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 190          | Qos Term Severely Concealed Seconds | Numeric    |             | 0–65,535         | MGCP DLCX ACK, DLCX | Contains the number of elapsed seconds reported by the terminating endpoint during which some severe concealment event has occurred. A severe concealment event is defined as any action when >50 ms of missing audio information is accounted for in the RTP stream.<br><br>If this field contains a value of NULL, then no data is captured for this record.                                                                                                                                                                                                                                                                                                                            |
| 191          | Qos Orig Mos LQK                    | Numeric    |             | 10–50            | MGCP DLCX ACK, DLCX | Contains the computed average MOS score for the listening quality of the call based on the K-factor at the originating endpoint. The K-factor is a clarity of MOS-LQ (listening quality) estimator. It is a predicted MOS score based entirely on impairments due to frame loss and codec. The K-factor does not include any impairments due to delay or channel factors. On a per call basis, only the K-factor or the R-factor is reported, but not both.<br><br>If this field contains a value of NULL, then no data is captured for this record. A value of 127 indicates that information was collected but the endpoint is stating that this metric is not available for this call. |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                                    | Field Type | Field Size* | Potential Values | Data Source            | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------|------------------------------------------------|------------|-------------|------------------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 192          | Qos Term<br>Mos LQK                            | Numeric    |             | 10–50            | MGCP DLCX ACK,<br>DLCX | <p>Contains the computed average MOS score for the listening quality of the call based on the K-factor at the terminating endpoint. The K-factor is a clarity of MOS-LQ (listening quality) estimator. It is a predicted MOS score based entirely on impairments due to frame loss and codec. The K-factor does not include an impairments due to delay or channel factors. On a per call basis, only the K-factor or the R-factor is reported, but not both.</p> <p>If this field contains a value of NULL, then no data is captured for this record. A value of 127 indicates that information was collected but the endpoint is stating that this metric is not available for this call.</p> |
| 193          | Qos Orig<br>Local Total<br>Packet Loss<br>Rate | Numeric    |             | 0–255            | MGCP DLCX ACK,<br>DLCX | <p>Represents the total number of packets sent or expected minus the total number of packets received divided by the total number of packets sent or expected. The total packet loss ratio is equivalent to the average of the interval packet loss ratio. This is the ratio calculated by the originating endpoint. The value represented in this field is the number of 1/256ths of loss that occurred. For example, a value of 12 indicates that 12/256 of the packets over the duration of the call were lost.</p> <p>If this field contains a value of NULL, then no data is captured for this record.</p>                                                                                 |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                           | Field Type | Field Size* | Potential Values | Data Source         | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------|---------------------------------------|------------|-------------|------------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 194          | Qos Term Local Total Packet Loss Rate | Numeric    |             | 0–255            | MGCP DLCX ACK, DLCX | <p>Represents the total number of packets sent or expected minus the total number of packets received divided by the total number of packets sent or expected. The total packet loss ratio is equivalent to the average of the interval packet loss ratio. This is the ratio calculated by the terminating endpoint. The value represented in this field is the number of 1/256ths of loss that occurred. For example, a value of 12 indicates that 12/256 of the packets over the duration of the call was lost.</p> <p>If this field contains a value of NULL, then no data is captured for this record.</p>                  |
| 195          | Qos Orig Local End System Delay       | Numeric    |             | 0,1–65,535       | MGCP DLCX ACK, DLCX | <p>The average end system delay at the originating endpoint is the sum of the accumulated send delay plus the accumulated received delay expressed in milliseconds. The end system fixed delay is computed based on codec selection, frame size, number of frames per packet, and typical or expected nominal queuing delays. This number will vary from endpoint to endpoint based on the specific endpoint's implementation details. A value of zero is present if the endpoint does not support the calculation of this metric.</p> <p>If this field contains a value of NULL, then no data is captured for this record.</p> |



Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                                    | Field Type | Field Size* | Potential Values | Data Source         | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------|------------------------------------------------|------------|-------------|------------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 196          | Qos Term Local End System Delay                | Numeric    |             | 0,1–65,535       | MGCP DLCX ACK, DLCX | <p>The average end system delay at the terminating endpoint is the sum of the accumulated send delay plus the accumulated received delay expressed in milliseconds. The end system fixed delay is computed based on codec selection, frame size, number of frames per packet, and typical or expected nominal queuing delays. This number will vary from endpoint to endpoint based on the specific endpoint's implementation details. A value of zero is present if the endpoint does not support the calculation of this metric.</p> <p>If this field contains a value of NULL, then no data is captured for this record.</p> |
| 197          | Qos Orig Local Cumulative Packet Discard Count | Numeric    |             | 0–255            | MGCP DLCX ACK, DLCX | <p>Represents the number of packets discarded by the originating endpoint since the inception of the call. Packets are considered discarded if they arrive too late to be played out or too early to be buffered. Packets received which are duplicates of previously received packets and hence are discarded, are not counted.</p> <p>If this field contains a value of NULL, then no data is captured for this record.</p>                                                                                                                                                                                                   |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                                    | Field Type | Field Size* | Potential Values | Data Source         | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------|------------------------------------------------|------------|-------------|------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 198          | Qos Term Local Cumulative Packet Discard Count | Numeric    |             | 0–255            | MGCP DLCX ACK, DLCX | <p>Represents the number of packets discarded by the terminating endpoint divided since the inception of the call. Packets are considered discarded if they arrive too late to be played out or too early to be buffered. Duplicates of previously received packets are discarded and are not counted.</p> <p>If this field contains a value of NULL, then no data is captured for this record.</p>                                                                                                                                                                                                                                                                                                                                                                            |
| 199          | Qos Orig Local Mos R Factor                    | Numeric    |             | 0–100,127        | MGCP DLCX ACK, DLCX | <p>This is a configured MOS R-factor value reported by the originating endpoint. The R-factor is based on ITU-T g.107 which was developed primarily for network planning. The MOS R-factor has three basic components:</p> <ul style="list-style-type: none"> <li>• A fudge factor which depends on the equipment and codec used. It is constant for the connection.</li> <li>• The delay impairment factor which depends on real time round-trip delay and echo.</li> <li>• A component that depends on real time packet loss.</li> </ul> <p>A value of 127 indicates that information was collected but the endpoint is stating that this metric is not available for this call.</p> <p>If this field contains a value of NULL, then no data is captured for this record</p> |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                       | Field Type | Field Size* | Potential Values | Data Source            | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------|-----------------------------------|------------|-------------|------------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 200          | Qos Term<br>Local Mos R<br>Factor | Numeric    |             | 0–100,127        | MGCP DLCX ACK,<br>DLCX | <p>This is a configured MOS R-factor value reported by the terminating endpoint. The R-factor is based on ITU-T g.107 which was developed primarily for network planning. The MOS R-factor has three basic components:</p> <ul style="list-style-type: none"> <li>• A fudge factor which depends on the equipment and codec used. It is constant for the connection.</li> <li>• The delay impairment factor which depends on real time round trip delay and echo.</li> <li>• A component that depends on real time packet loss.</li> </ul> <p>A value of 127 indicates that information was collected but the endpoint is stating that this metric is not available for this call.</p> <p>If this field contains a value of NULL, then no data is captured for this record.</p> |
| 201          | Qos Orig<br>Local Mos<br>LQR      | Numeric    |             | 10–50,127        | MGCP DLCX ACK,<br>DLCX | <p>This is the estimated receiving and listening quality MOS value reported by the originating endpoint. The nominal range of MOS score is 0 - 5. Before being expressed in MGCP, the MOS scored is multiplied by 10 and any fractional part is truncated. This parameter is computed from the start of metrics collection. A value of 127 indicates that information was collected but the endpoint is stating that this metric is not available for this call.</p> <p>If this field contains a value of NULL, then no data is captured for this record.</p>                                                                                                                                                                                                                   |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                             | Field Type | Field Size* | Potential Values                                        | Data Source            | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|-----------------------------------------|------------|-------------|---------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 202          | Qos Term<br>Local Mos<br>LQR            | Numeric    |             | 10–50,127                                               | MGCP DLCX ACK,<br>DLCX | This is the estimated receiving and listening quality MOS value reported by the terminating endpoint. The nominal range of MOS score is 0 - 5. Before being expressed in MGCP, the MOS score is multiplied by 10 and any fractional part is truncated. This parameter is computed from the start of metrics collection. A value of 127 indicates that information was collected but the endpoint is stating that this metric is not available for this call.<br><br>If this field contains a value of NULL, then no data is captured for this record. |
| 203          | Qos Orig<br>Local Jitter<br>Buffer Mode | Numeric    |             | 0=unknown<br>1=reserved<br>2=non-adaptive<br>3=adaptive | MGCP DLCX ACK,<br>DLCX | The jitter buffer mode configuration of the originating endpoint.<br><br>If this field contains a value of NULL, then no data is captured for this record.                                                                                                                                                                                                                                                                                                                                                                                            |
| 204          | Qos Term<br>Local Jitter<br>Buffer Mode | Numeric    |             | 0=unknown<br>1=reserved<br>2=non-adaptive<br>3=adaptive | MGCP DLCX ACK,<br>DLCX | The jitter buffer mode configuration of the terminating endpoint.<br><br>If this field contains a value of NULL, then no data is captured for this record.                                                                                                                                                                                                                                                                                                                                                                                            |
| 205          | Qos Orig<br>Local Rtp Ip<br>Address     | String     |             | Dotted Decimal IP<br>Address                            | MGCP DLCX ACK,<br>DLCX | The IP address of the originating endpoint from a bearer (RTP) perspective.<br><br>If this field contains a value of NULL, then no data is captured for this record.                                                                                                                                                                                                                                                                                                                                                                                  |
| 206          | Qos Term<br>Local Rtp Ip<br>Address     | String     |             | Dotted Decimal IP<br>Address                            | MGCP DLCX ACK,<br>DLCX | The IP address of the terminating endpoint from a bearer (RTP) perspective.<br><br>If this field contains a value of NULL, then no data is captured for this record.                                                                                                                                                                                                                                                                                                                                                                                  |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                 | Field Type | Field Size* | Potential Values                                                                                                                                                                                       | Data Source         | Field Description                                                                                                                                   |
|--------------|-----------------------------|------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| 207          | Qos Orig Local Rtp Port     | Numeric    |             | 1-65535                                                                                                                                                                                                | MGCP DLCX ACK, DLCX | The rtp port used by the originating endpoint.<br>If this field contains a value of NULL, then no data is captured for this record.                 |
| 208          | Qos Term Local Rtp Port     | Numeric    |             | 1-65535                                                                                                                                                                                                | MGCP DLCX ACK, DLCX | The rtp port used by the terminating endpoint.<br>If this field contains a value of NULL, then no data is captured for this record.                 |
| 209          | Qos Orig Local Address Type | Numeric    |             | IPV4=0<br>IPV6=1                                                                                                                                                                                       | MGCP DLCX ACK, DLCX | The address type (version 4 or 6) of the originating endpoint.<br>If this field contains a value of NULL, then no data is captured for this record. |
| 210          | Qos Term Local Address Type | Numeric    |             | IPV4=0<br>IPV6=1                                                                                                                                                                                       | MGCP DLCX ACK, DLCX | The address type (version 4 or 6) of the terminating endpoint.<br>If this field contains a value of NULL, then no data is captured for this record. |
| 211          | Qos Orig Codec Type         | Numeric    |             | 1=PCMU G711<br>2=PCMA G711<br>3=G729A<br>4=G729B<br>5=G729E<br>6=G729<br>7=G726-40<br>8=G726-32<br>9=G726-24<br>10=G726-16<br>11=G728<br>12=G723-H<br>13=G723A-H<br>14=G723-L<br>15=G723A-L<br>16=G723 | MGCP DLCX ACK, DLCX | The negotiated codec used by the originating endpoint.<br>If this field contains a value of NULL, then no data is captured for this record.         |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name          | Field Type | Field Size* | Potential Values                                                                                                                                                                                       | Data Source         | Field Description                                                                                                                                                                                                                                                                                                                                                           |
|--------------|----------------------|------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 212          | Qos Term Codec Type  | Numeric    |             | 1=PCMU G711<br>2=PCMA G711<br>3=G729A<br>4=G729B<br>5=G729E<br>6=G729<br>7=G726-40<br>8=G726-32<br>9=G726-24<br>10=G726-16<br>11=G728<br>12=G723-H<br>13=G723A-H<br>14=G723-L<br>15=G723A-L<br>16=G723 | MGCP DLCX ACK, DLCX | The negotiated codec used by the terminating endpoint.<br><br>If this field contains a value of NULL, then no data is captured for this record.                                                                                                                                                                                                                             |
| 213          | Qos Orig R factor LQ | Numeric    |             | 0-120,127                                                                                                                                                                                              | MGCP DLCX ACK, DLCX | R factor (listening quality) parameter collected from the originating endpoint involved in the call. This value represents the listening quality of the RTP session calculated as per ITU-T Recommendation G.107. The parameter is computed from the start of metrics computation.<br><br>If this field contains a value of NULL, then no data is captured for this record. |
| 214          | Qos Term R factor LQ | Numeric    |             | 0-120,127                                                                                                                                                                                              | MGCP DLCX ACK, DLCX | R factor (listening quality) parameter collected from the terminating endpoint involved in the call. This value represents the listening quality of the RTP session calculated as per ITU-T Recommendation G.107. The parameter is computed from the start of metrics computation.<br><br>If this field contains a value of NULL, then no data is captured for this record. |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name           | Field Type | Field Size* | Potential Values                  | Data Source                               | Field Description                                                                                                                                                                                                                          |
|--------------|-----------------------|------------|-------------|-----------------------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 215          | Dqos Orig Buffer Size | Numeric    |             | 32 bit IEEE floating point number | DQOS GATESPEC - Token Bucket Size field   | The buffer size used by the originating endpoint as reported in the Dqos Gatespec message's Token Bucket Size field.<br><br>If this field contains a value of NULL, then no data is captured for this record.                              |
| 216          | Dqos Term Buffer Size | Numeric    |             | 32 bit IEEE floating point number | DQOS GATESPEC - Token Bucket Size field   | The buffer size used by the terminating endpoint as reported in the Dqos Gatespec message's Token Bucket Size field.<br><br>If this field contains a value of NULL, then no data is captured for this record.                              |
| 217          | Dqos Orig Packet Size | Numeric    |             | 32 bit integer                    | DQOS GATESPEC - Maximum Packet Size field | The maximum packet size reported by the originating endpoint as reported in the Dqos Gatespec message's Maximum Packet Size field.<br><br>If this field contains a value of NULL, then no data is captured for this record.                |
| 218          | Dqos Term Packet Size | Numeric    |             | 32 bit integer                    | DQOS GATESPEC - Maximum Packet Size field | The maximum packet size reported by the terminating endpoint as reported in the Dqos Gatespec message's Maximum Packet Size field.<br><br>If this field contains a value of NULL, then no data is captured for this record.                |
| 219          | Dqos Orig Speech Size | Numeric    |             | 32 bit integer                    | DQOS GATESPEC - Maximum Packet Size field | The speech size reported by the originating endpoint. For voice calls, this is the same as the Dqos Gatespec message's Maximum Packet Size field.<br><br>If this field contains a value of NULL, then no data is captured for this record. |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name           | Field Type | Field Size* | Potential Values                  | Data Source                               | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------|-----------------------|------------|-------------|-----------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 220          | Dqos Term Speech Size | Numeric    |             | 32 bit integer                    | DQOS GATESPEC - Maximum Packet Size field | The speech size reported by the terminating endpoint. For voice calls, this is the same as the Dqos Gatespec message's Maximum Packet Size field.<br><br>If this field contains a value of NULL, then no data is captured for this record.                                                                                                                                                                                                                                                                                                          |
| 221          | Dqos Orig Bandwidth   | Numeric    |             | 32 bit IEEE floating point number | DQOS GATESPEC - Rate field                | The allocated bandwidth reported by the originating endpoint as reported in the Dqos Gatespec message's Rate field.<br><br>If this field contains a value of NULL, then no data is captured for this record.                                                                                                                                                                                                                                                                                                                                        |
| 222          | Dqos Term Bandwidth   | Numeric    |             | 32 bit IEEE floating point number | DQOS GATESPEC                             | The allocated bandwidth reported by the terminating endpoint as reported in the Dqos Gatespec message's Rate field.<br><br>If this field contains a value of NULL, then no data is captured for this record.                                                                                                                                                                                                                                                                                                                                        |
| 223          | Orig CAC Type         | Numeric    |             | 1=DQOS<br>2=PCMM_COPS<br>3=NONE   | Qos::ClientType                           | The type of admission control used for the originating side of the call. The type of admission control to be used for the call half can be determined from the provisioned value in the CLIENT-TYPE field of the QOS table. This field is set to NONE if BTS 10200 does not use the Admission Control mechanism for the originating call because of an error scenario, for example, a provisioning errors or the connection to CMTS/Policy Server is down.<br><br>If this field contains a value of NULL, then no data is captured for this record. |



Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name     | Field Type | Field Size* | Potential Values                | Data Source                                         | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------|-----------------|------------|-------------|---------------------------------|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 224          | Term CAC Type   | Numeric    |             | 1=DQOS<br>2=PCMM_COPS<br>3=NONE | Qos::ClientType                                     | <p>The type of admission control used for the terminating side of the call. The type of admission control to be used for the call half can be determined from the provisioned value in the CLIENT-TYPE field of the QOS table. This field is set to NONE if BTS 10200 does not use the Admission Control mechanism for terminating call arising due to an error scenario such as provisioning errors or the connection to CMTS/Policy Server is down.</p> <p>If this field contains a value of NULL, then no data is captured for this record.</p> |
| 225          | Modem Indicator | Numeric    |             | 0=FALSE<br>1=TRUE               | MgwProfile::ModemToneSupp and TGCP/NCS NTFY message | <p>This is an indication of whether or not the call used a modem. This field is populated based on the setting in the media gateway profile table and if an up-speed fax is sent during the call. This is only applicable to TGCP and NCS controlled end point.</p> <p>If this field contains a value of NULL, then no data is captured for this record.</p>                                                                                                                                                                                       |
| 226          | TDD Indicator   | Numeric    |             | 0=FALSE<br>1=TRUE               | MgwProfile::TddToneSupp and TGCP/NCS NTFY message   | <p>This is an indication of whether or not the call used a TDD relay device. This field is populated based on the setting in the media gateway profile table and if triggered by the appropriate NTFY event during the call. This is only applicable to TGCP and NCS controlled end point.</p> <p>If this field contains a value of NULL, then no data is captured for this record.</p>                                                                                                                                                            |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name         | Field Type | Field Size* | Potential Values        | Data Source                                             | Field Description                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------|---------------------|------------|-------------|-------------------------|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 227          | CTRAC Id            | Numeric    |             | Unsigned 32 bit integer | System Generated                                        | <p>This is a unique identifier generated by the BTS 10200 on a per call basis. The scope of this identifier does not extend beyond a single BTS 10200 instance. The value is used for troubleshooting purposes to correlate between the CDR and the associated trace statements produced by the system on a per call basis.</p> <p>If this field contains a value of 0, then no data is captured for this record.</p>        |
| 228          | Originating NE Type | Numeric    |             | 1=CMS<br>3=MGC          | CallAgentProfile::CMS-Id or<br>CallAgentProfile::MGC-Id | <p>This field indicates the type of network element that is reporting the originating side call detail record.</p> <p>If this field contains a value of NULL, then no data is captured for this record.</p> <p>For a SIP based call, the types supported are:</p> <ul style="list-style-type: none"> <li>• Voice Mail - CMS</li> <li>• SIP subscriber - CMS</li> <li>• CMSS TG - MGC</li> <li>• Non-CMSS TG - CMS</li> </ul> |
| 229          | Terminating NE Type | Numeric    |             | 1=CMS<br>3=MGC          | CallAgentProfile::CMS-Id or<br>CallAgentProfile::MGC-Id | <p>This field indicates the type of network element that is reporting the terminating side call detail record.</p> <p>If this field contains a value of NULL, then no data is captured for this record.</p> <p>For a SIP based call, the types supported are:</p> <ul style="list-style-type: none"> <li>• Voice Mail - CMS</li> <li>• SIP subscriber - CMS</li> <li>• CMSS TG - MGC</li> <li>• Non-CMSS TG - CMS</li> </ul> |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                | Field Type | Field Size* | Potential Values                                                                                                                                                                                                                                                            | Data Source                   | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------|----------------------------|------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 230          | Originating BCID           | ASCII      | 40          | The format of this field is: Timestamp converted to ascii concatenated to ElementId concatenated to TimeZone concatenated to EventCounter converted to ascii. Each of these fields is separated by an underscore resulting in:<br>TimeStamp_ElementId_TimeZone_EventCounter | System Generated              | This field is system-generated by the Event Messaging (EM) billing subsystem if it is used in conjunction with post call billing. This field is populated by the originating side of the call. It is used to correlate the billing information within a network element and/or between network elements in a PacketCable compliant deployment.<br><br>If this field contains a value of NULL, then no data is captured for this record. |
| 231          | Terminating BCID           | ASCII      | 40          | The format of this field is: Timestamp converted to ascii concatenated to ElementId concatenated to TimeZone concatenated to EventCounter converted to ascii. Each of these fields is separated by an underscore resulting in:<br>TimeStamp_ElementId_TimeZone_EventCounter | System Generated              | This field is system-generated by the Event Messaging (EM) billing subsystem if it is used in conjunction with post call billing. This field is populated by the terminating side of the call. It is used to correlate billing information within a network element and/or between network elements in a PacketCable compliant deployment.<br><br>If this field contains a value of NULL, then no data is captured for this record.     |
| 232          | SIP Originating Context Id | ASCII      | 64          |                                                                                                                                                                                                                                                                             | SIP INVITE - Context-id field | Contains the originating side context id received in the SIP INVITE message. This is used to correlate calls made to application servers as part of origination side SIP trigger processing.                                                                                                                                                                                                                                            |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                  | Field Type | Field Size* | Potential Values | Data Source                   | Field Description                                                                                                                                                                                                                                                                                                                 |
|--------------|------------------------------|------------|-------------|------------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 233          | SIP Terminating Context Id   | ASCII      | 64          |                  | SIP INVITE - Context-id field | Contains the terminating side context id received in the SIP INVITE message. This is used to correlate calls made to application servers as part of termination side SIP trigger processing.                                                                                                                                      |
| 234          | Qos Orig Remote Packets Sent | Numeric    |             | 0– 4,294,967,295 | MGCP DLCX ACK, DLCX           | The total number of RTP data packets transmitted by the originating end point since starting transmission.<br><br>If this field contains a value of NULL, then no data is captured for this record.                                                                                                                               |
| 235          | Qos Term Remote Packets Sent | Numeric    |             | 0– 4,294,967,295 | MGCP DLCX ACK, DLCX           | The total number of RTP data packets transmitted by the terminating end point since starting transmission.<br><br>If this field contains a value of NULL, then no data is captured for this record.                                                                                                                               |
| 236          | Qos Orig Remote Octets Sent  | Numeric    |             | 0– 4,294,967,295 | MGCP DLCX ACK, DLCX           | The total number of payload octets transmitted in RTP data packets by the originating endpoint since starting transmission. This count does not include headers or padding. This count can be used to estimate the average payload rate.<br><br>If this field contains a value of NULL, then no data is captured for this record. |
| 237          | Qos Term Remote Octets Sent  | Numeric    |             | 0– 4,294,967,295 | MGCP DLCX ACK, DLCX           | The total number of payload octets transmitted in RTP data packets by the terminating endpoint since starting transmission. This count does not include headers or padding. This count can be used to estimate the average payload rate.<br><br>If this field contains a value of NULL, then no data is captured for this record. |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                  | Field Type | Field Size* | Potential Values | Data Source   | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------|------------------------------|------------|-------------|------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 238          | Qos Orig Remote Packets Lost | Numeric    |             | 0–16,717,215     | MGCP DLCX ACK | <p>The total number of RTP data packets from the terminating endpoint that have been lost since the beginning of reception by the originating endpoint. This number is defined as the number of packets expected less the number of packets actually received, where the number of packets received includes any which are late or duplicates. The packets that arrive late are not counted as lost and the loss may be negative if there are duplicates. The number of packets expected is defined as the extended last sequence number received less the initial sequence number received.</p> <p>If this field contains a value of NULL, then no data is captured for this record.</p> |
| 239          | Qos Term Remote Packets Lost | Numeric    |             | 0–16,717,215     | MGCP DLCX ACK | <p>The total number of RTP data packets from the originating endpoint that have been lost since the beginning of reception by the terminating endpoint. This number is defined as the number of packets expected less the number of packets actually received, where the number of packets received includes any which are late or duplicates. The packets that arrive late are not counted as lost and the loss may be negative if there are duplicates. The number of packets expected is defined as the extended last sequence number received less the initial sequence number received.</p> <p>If this field contains a value of NULL, then no data is captured for this record.</p> |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                                  | Field Type | Field Size* | Potential Values | Data Source         | Field Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------|----------------------------------------------|------------|-------------|------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 240          | Qos Orig Remote Average Inter-arrival Jitter | Numeric    |             | 0–536,870,912    | MGCP DLCX ACK, DLCX | <p>This is an estimate of the average statistical variance of the RTP data packet interarrival time, measured in timestamp units and expressed as an unsigned integer by the originating endpoint. The inter-arrival jitter is defined as the mean deviation (smoothed absolute value) of the difference in packet spacing at the receiver compared to the sender for a pair of packets. This is equivalent to the difference between a packet's RTP timestamp and the receiver's clock at the time of arrival. The value is calculated in terms of 125 microsecond ticks and converted to milliseconds for storage in the CDR.</p> <p>If this field contains a value of NULL, then no data is captured for this record.</p>   |
| 241          | Qos Term Remote Average Inter-arrival Jitter | Numeric    |             | 0–536,870,912    | MGCP DLCX ACK, DLCX | <p>This is an estimate of the average statistical variance of the RTP data packet interarrival time, measured in timestamp units and expressed as an unsigned integer by the terminating endpoint. The interarrival jitter is defined to be the mean deviation (smoothed absolute value) of the difference in packet spacing at the receiver compared to the sender for a pair of packets. This is equivalent to the difference between a packet's RTP timestamp and the receiver's clock at the time of arrival. The value is calculated in terms of 125 microsecond ticks and converted to milliseconds for storage in the CDR.</p> <p>If this field contains a value of NULL, then no data is captured for this record.</p> |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                                             | Field Type | Field Size* | Potential Values                                        | Data Source            | Field Description                                                                                                                                                                                      |
|--------------|---------------------------------------------------------|------------|-------------|---------------------------------------------------------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 242          | Qos Orig<br>Local<br>External<br>Mos R<br>Factor        | Numeric    |             | 0–100                                                   | MGCP DLCX,<br>DLCX ACK | A value (XSR) representing the effects of any call segment carried over a network segment external to the one on which the endpoint resides. It is calculated according to ITU-T Recommendation G.107. |
| 243          | Qos Term<br>Local<br>External<br>Mos R<br>Factor        | Numeric    |             | 0–100                                                   | MGCP DLCX,<br>DLCX ACK | A value (XSR) representing the effects of any call segment carried over a network segment external to the one on which the endpoint resides. It is calculated according to ITU-T Recommendation G.107. |
| 244          | Qos Orig<br>Local<br>Estimated<br>MOS-CQ                | Numeric    |             | 0–50                                                    | MGCP DLCX,<br>DLCX ACK | An estimated receiving end Conversational Quality MOS. The nominal range of MOS scores is 0–5. Before being expressed in MGCP, the MOS score is multiplied by 10 and any fractional part is truncated. |
| 245          | Qos Term<br>Local<br>Estimated<br>MOS-CQ                | Numeric    |             | 0–50                                                    | MGCP DLCX,<br>DLCX ACK | An estimated receiving end Conversational Quality MOS. The nominal range of MOS scores is 0-5. Before being expressed in MGCP, the MOS score is multiplied by 10 and any fractional part is truncated. |
| 246          | Qos Orig<br>Local<br>Minimum<br>gap<br>threshold        | Numeric    |             | 1–255                                                   | MGCP DLCX,<br>DLCX ACK | The gap/burst transition threshold. The recommended value is 16.                                                                                                                                       |
| 247          | Qos Term<br>Local<br>Minimum<br>gap<br>threshold        | Numeric    |             | 1–255                                                   | MGCP DLCX,<br>DLCX ACK | The gap/burst transition threshold. The recommended value is 16.                                                                                                                                       |
| 248          | QoS Orig<br>Local Packet<br>loss<br>concealment<br>type | Numeric    |             | 0=UNSPECIFIED<br>1=DISABLED<br>2=ENHANCED<br>3=STANDARD | MGCP DLCX,<br>DLCX ACK | The type of packet loss concealment algorithm in use.                                                                                                                                                  |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                                 | Field Type | Field Size* | Potential Values                                        | Data Source            | Field Description                                                                                                                                                                                                                                                                                                                               |
|--------------|---------------------------------------------|------------|-------------|---------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 249          | QoS Term Local Packet loss concealment type | Numeric    |             | 0=UNSPECIFIED<br>1=DISABLED<br>2=ENHANCED<br>3=STANDARD | MGCP DLCX,<br>DLCX ACK | The type of packet loss concealment algorithm in use.                                                                                                                                                                                                                                                                                           |
| 250          | Qos Orig Local Jitter buffer rate           | Numeric    |             | 0–15                                                    | MGCP DLCX,<br>DLCX ACK | The jitter buffer adjustment rate (JBR).                                                                                                                                                                                                                                                                                                        |
| 251          | Qos Term Local Jitter buffer rate           | Numeric    |             | 0–15                                                    | MGCP DLCX,<br>DLCX ACK | The jitter buffer adjustment rate (JBR).                                                                                                                                                                                                                                                                                                        |
| 252          | Qos Orig Local Nominal Jitter buffer delay  | Numeric    |             | 0–65535                                                 | MGCP DLCX,<br>DLCX ACK | Current nominal delay (JBN) in milliseconds that corresponds to the nominal jitter buffer delay for packets that arrive exactly on time.                                                                                                                                                                                                        |
| 253          | Qos Term Local Nominal Jitter buffer delay  | Numeric    |             | 0–65535                                                 | MGCP DLCX,<br>DLCX ACK | Current nominal delay (JBN) in milliseconds that corresponds to the nominal jitter buffer delay for packets that arrive exactly on time.                                                                                                                                                                                                        |
| 254          | Qos Orig Local Maximum jitter buffer delay  | Numeric    |             | 0–65535                                                 | MGCP DLCX,<br>DLCX ACK | Current maximum delay (JBM) in milliseconds that corresponds to the earliest arriving packet that would not be discarded. In simple queue implementations, this might correspond to the nominal jitter buffer delay. In adaptive jitter buffer implementations, this value can vary dynamically up to the absolute maximum jitter buffer delay. |
| 255          | Qos Term Local Maximum jitter buffer delay  | Numeric    |             | 0–65535                                                 | MGCP DLCX,<br>DLCX ACK | Current maximum delay (JBM) in milliseconds that corresponds to the earliest arriving packet that would not be discarded. In simple queue implementations, this might correspond to the nominal jitter buffer delay. In adaptive jitter buffer implementations, this value can vary dynamically up to the absolute maximum jitter buffer delay. |



Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                                                        | Field Type | Field Size* | Potential Values | Data Source            | Field Description                                                                                                                                                                                                          |
|--------------|--------------------------------------------------------------------|------------|-------------|------------------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 256          | Qos Orig<br>Local<br>Absolute<br>maximum<br>jitter buffer<br>delay | Numeric    |             | 0–65535          | MGCP DLCX,<br>DLCX ACK | Absolute maximum delay (JBS) in milliseconds that an adaptive jitter buffer can reach under worst case conditions. For fixed jitter buffers, this must be set to the maximum jitter buffer delay.                          |
| 257          | Qos Term<br>Local<br>Absolute<br>maximum<br>jitter buffer<br>delay | Numeric    |             | 0–65535          | MGCP DLCX,<br>DLCX ACK | Absolute maximum delay (JBS) in milliseconds that an adaptive jitter buffer can reach under worst case conditions. For fixed jitter buffers, this must be set to the maximum jitter buffer delay.                          |
| 258          | ServiceStatu<br>s1                                                 | Numeric    |             | 0–4              |                        | The defined values related to ServiceType1 are: <ul style="list-style-type: none"> <li>• INSTANCE(1)</li> <li>• ACTIVATION (2)</li> <li>• DEACTIVATION (3)</li> <li>• INTERROGATION (4)</li> <li>• FORWARDED(5)</li> </ul> |
| 259          | ServiceStatu<br>s2                                                 | Numeric    |             | 0–4              |                        | The defined values related to ServiceType2 are: <ul style="list-style-type: none"> <li>• INSTANCE(1)</li> <li>• ACTIVATION (2)</li> <li>• DEACTIVATION (3)</li> <li>• INTERROGATION (4)</li> <li>• FORWARDED(5)</li> </ul> |
| 260          | ServiceStatu<br>s3                                                 | Numeric    |             | 0–4              |                        | The defined values related to ServiceType3 are: <ul style="list-style-type: none"> <li>• INSTANCE(1)</li> <li>• ACTIVATION (2)</li> <li>• DEACTIVATION (3)</li> <li>• INTERROGATION (4)</li> <li>• FORWARDED(5)</li> </ul> |
| 261          | EnumRoute<br>Used                                                  | Numeric    |             | 0=No<br>1=Yes    |                        | This flag is set if the call is routed by means of the domain2route table/default domain when a positive ENUM response is received.                                                                                        |

Table 4-1 Call Detail Block Field Descriptions (continued)

| Field Number | Common Name                    | Field Type | Field Size* | Potential Values                                                                                                                                                                                                                                                                          | Data Source                                                                                                                                                                                                     | Field Description                                                                                                                  |
|--------------|--------------------------------|------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| 262          | Gateway KeepAlive FailureTime  | Numeric    |             | A maximum 128 bit unsigned value in total. Seconds are expressed in GMT epoch time format – the number of seconds since Jan 01, 1970 0:00:00.000h. This is followed by a decimal point (.), with 3 digits for the millisecond value. If the value is NULL, the timestamp is to be ignored | Dynamic run time data from the system clock                                                                                                                                                                     | Time that the call was up with a Gateway Keep Alive Failure condition present.                                                     |
| 263          | IMS Charging Identifier (ICID) | String     | 32          | Alphanumeric                                                                                                                                                                                                                                                                              | The charging vector may be filled in during the establishment of a dialog. The information inside the charging vector can be filled in by multiple network entities and retrieved by multiple network entities. | The ICID is a charging value that identifies a dialog or a transaction outside a dialog. It is used to correlate charging records. |
| 264          | NENA_V6_CALLING_PARTY          | String     | 64          | Digits                                                                                                                                                                                                                                                                                    | Incoming SIP INVITE on NENA V4 interface                                                                                                                                                                        | This field is populated from the FROM header of the V4 invite.                                                                     |
| 265          | NENA V6 Called Party           | String     | 64          | Digits                                                                                                                                                                                                                                                                                    | Incoming SIP INVITE on NENA V4 interface                                                                                                                                                                        | This field is populated from the TO header in the V4 invite.                                                                       |
| 266          | NENA V4 ESQK                   | String     | 64          | Digits                                                                                                                                                                                                                                                                                    | Incoming SIP INVITE on NENA V4 interface.                                                                                                                                                                       | This field is populated from the P-Asserted-ID parameter in the V4 invite.                                                         |
| 267          | NENA V4 ESRN                   | String     | 64          | Digits                                                                                                                                                                                                                                                                                    | Incoming SIP INVITE on NENA V4 interface.                                                                                                                                                                       | This field is populated from the Req-URI in the V4 invite.                                                                         |
| 268          | Incoming Trunk Context         | String     | 64          | Alphanumeric                                                                                                                                                                                                                                                                              | Incoming SIP INVITE message with Req-URI containing the trunk-context user parameter.                                                                                                                           | Represents the trunk-context value that is received in incoming invite.                                                            |

**Table 4-1** Call Detail Block Field Descriptions (continued)

| Field Number | Common Name            | Field Type | Field Size* | Potential Values | Data Source                                                                       | Field Description                                                                                      |
|--------------|------------------------|------------|-------------|------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| 269          | Outgoing Trunk Context | String     | 64          | Alphanumeric     | Outgoing SIP INVITE message with Req-URI containing trunk-context user parameter. | Represents the trunk-context value that is sent in the outgoing invite, when TGRP routing takes place. |

## Operator Call Type in Field 1

### Release 6.0.1 Behavior

In Release 6.0.1, there is a new parameter, `CALLTYPE-OPER-CALL-CDR` in the `ca-config` table. If it is set to `N` (the default value), the system populates billing Field 1 just as it did for Release 5.0 (above). However, if you provision `CALLTYPE-OPER-CALL-CDR=Y`, the system treats the call in the following way:

- User dials 0      The billing call type is shown as 26, OPERATOR (same as in Release 5.0).
- User dials 00     The billing call type is shown as 27, CARRIER-OPERATOR (same as in Release 5.0).
- User dials 0+     The billing call type is shown as 28, OPERATOR-ASSISTED.
- User dials 01+    The billing call type is shown as 44, INTL-OPERATOR.

## Release 5.0.x Behavior

In Release 5.0.x, the system reports the following data in Field 1 (Call Type) of the call detail block (CDB) when the user dials a call to the operator (0 or 00) or a call involving an operator (0+ or 01+):

- |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| User dials 0   | The billing call type is shown as 26, OPERATOR.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| User dials 00  | The billing call type is shown as 27, CARRIER-OPERATOR.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| User dials 0+  | The billing call type depends on the type of call dialed following the 0+. For example <ul style="list-style-type: none"><li>• If the call is 0+ and the call has call-type=INTERLATA in the destination table, the billing call type is shown as 5, INTERLATA.</li><li>• If the call is 0+ and the call has call-type=TOLL in the destination table, the billing call type is shown as 4, TOLL.</li><li>• If the call is 0+ and the call has call-type=NATIONAL in the destination table, the billing call type is shown as 31, NATIONAL.</li><li>• If the call is 0+ and the call has call-type=NAT_OPR in the destination table, the billing call type is shown as 45, NATL_OPERATOR.</li></ul> |
| User dials 01+ | The billing call type depends on the type of call dialed following the 01+. For any call type following the 01+, the call-type provisioned in the destination table is the call type reported in Field 1 of the CDB.                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |



# CHAPTER 5

## QoS Metrics in CDRs

Revised: August 10, 2011, OL-24995-01

This chapter describes the metrics that can be collected and stored in the call detail records created by the Cisco BTS 10200 softswitch. The system collects the metrics post-call through a best-effort mechanism. The available metrics can be collected from the originating and/or terminating endpoints. If the defined wait period for receiving metrics from the endpoints is exceeded, then the corresponding fields within the CDR are NULL filled for any information not collected. Also, if the reporting endpoints do not support any of the listed metrics, then those too are NULL filled.

Currently the BTS 10200 supports QoS metrics collection from endpoints controlled through NCS/MGCP protocols. The BTS 10200 supports both RTCP and RTCP-XR based metrics, and these metrics are reported if supported by the endpoints associated with the call.

Many of the metrics peered between the two endpoints by RTP, RTCP, or RTCP-XR are gathered from both the local and remote sides of the originating and terminating endpoints. Only a concise set of these metrics is reported in the CDRs produced by the Cisco BTS 10200. If the reporting BTS 10200 controls both endpoints of the call, then only the "local" metrics of each endpoint are stored in the CDR. If only one of the endpoints is controlled by the reporting BTS 10200, then the local metrics for that endpoint and the remote metrics for the other endpoint as peered to the endpoint controlled by the BTS 10200 are stored in the corresponding CDR.

Table 5-1 lists the metrics that can be collected per call along with information on how to best leverage the data collected.

**Table 5-1** Call Termination Cause Values and Definitions

| Name Termination                   | Category           | MGCP Field | RTCP Field | RTCP-XR Field | Peer Reporting | Valid Range           | Units Type |
|------------------------------------|--------------------|------------|------------|---------------|----------------|-----------------------|------------|
| Codec Type                         | Basic<br>Mandatory | CDC        |            |               | No             |                       | Enum       |
| Codec Framesize                    | Basic<br>Mandatory | FRSZ       |            |               | No             | 0–65535               | Bytes      |
| Possible Dead Connection Detection | Basic<br>Mandatory | DCD        |            |               | No             | 0=timed out<br>1=good | Enum       |

Table 5-1 Call Termination Cause Values and Definitions (continued)

| Name Termination                               | Category        | MGCP Field | RTCP Field                         | RTCP-XR Field    | Peer Reporting | Valid Range       | Units Type    |
|------------------------------------------------|-----------------|------------|------------------------------------|------------------|----------------|-------------------|---------------|
| Cumulative Packets Sent                        | Basic Mandatory | PS, RPS    | Sender's Packet Count              |                  | Yes            | 0–4,294, 967,295  | Packets       |
| Cumulative Octets Sent                         | Basic Mandatory | OS, ROS    | Sender's Octet Count               |                  | No             | 0–4,294, 96295    | Octets        |
| Cumulative Packets Received                    | Basic Mandatory | PR         |                                    |                  | No             | 0–4,294, 967, 295 | Packets       |
| Cumulative Octets Received                     | Basic Mandatory | OR         |                                    |                  | No             | 0–4,294, 967,295  | Octets        |
| Concealed Seconds                              | Basic Mandatory | CNS        |                                    |                  | No             | 0–65535           | Seconds       |
| Severely Concealed Seconds                     | Basic Mandatory | SCS        |                                    |                  | No             | 0–65535           | Seconds       |
| Average Inter-Arrival Jitter                   | Basic Mandatory | JI, RJI    | IAJ                                |                  | Yes            | 0–536,870, 912    | Milliseco nds |
| Jitter Buffer Mode                             | Basic Mandatory | JBA        |                                    |                  | Yes            | 0-3               | Type          |
| Average MOS LQK                                | Basic Mandatory | MLK        |                                    |                  | Yes            | 10–50,127         | Mos           |
| Average Transmission Delay (old latency field) | Basic Mandatory | LA         |                                    |                  | No             | 0–65535           | Milliseco nds |
| Average Network Packet Round Trip Time         | RTCP Detailed   | RTD        |                                    | Round Trip Delay | Yes            | 0–65535           | Milliseco nds |
| Cunmulative Packet Loss Count                  | RTCP Mandatory  | PL, RPL    | Cumulat ive Number of Packets Lost |                  | Yes            | 0–16,717, 215     | Packets       |
| Cumulative Packet Loss Rate                    | RTCP Detailed   | NLR        | Fraction Lost                      | Loss Rate        | Yes            | 0–255             | Ratio         |

**Table 5-1** Call Termination Cause Values and Definitions (continued)

| Name Termination                              | Category          | MGCP Field | RTCP Field | RTCP-XR Field    | Peer Reporting | Valid Range   | Units Type     |
|-----------------------------------------------|-------------------|------------|------------|------------------|----------------|---------------|----------------|
| Average End System Delay                      | RTCP-XR Mandatory | ESD        |            | End System Delay | Yes            | 0,1–65535     | Milliseconds   |
| Cumulative Jitter Buffer Packet Discard Count | RTCP-XR Detailed  | JDR        |            | Discard Rate     | Yes            | 0–16,717, 215 | Packets        |
| Average MOS R Factor                          | RTCP-XR Mandatory | RCQ        |            | R Factor         | Yes            | 0–100,127     | Mos            |
| Average MOS LQR                               | RTCP-XR Mandatory | MLQ        |            | MOS LQ           | Yes            | 10–50,127     | Mos            |
| IP Address                                    | RTCP-XR Mandatory | IPAS, IPAD |            |                  | No             |               | Dotted Decimal |
| Address Type                                  | RTCP-XR Mandatory | IPTS, IPTD |            |                  | No             | string        |                |
| RTP Port                                      | RTCP-XR Mandatory | RTUS, RTUD |            |                  | No             |               | Port number    |
| Negotiated Codec                              | RTCP-XR Mandatory | VCD        |            |                  | No             | string        |                |
| R Factor Listening Quality                    | RTCP-XR Mandatory | RLQ        |            | R Factor         | Yes            | 0–100, 127    | Mos            |







# APPENDIX **A**

## Call Termination Cause Codes

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### Introduction

This appendix lists call termination cause values and definitions.

### BTS 10200 Call Termination Cause Values and Definitions

[Table A-1](#) lists the BTS 10200 call termination cause values and definitions.



**Note**

A “\*” next to the value in [Table A-1](#) indicates the cause code is not a standard BAF cause code; it is unique to the Cisco BTS 10200 Softswitch. All values of 400 or higher are used internally only and do not appear in the billing records transmitted from the EMS.

**Table A-1** *Call Termination Cause Values and Definitions*

| <b>Value</b> | <b>Cause Definition</b>                                                 | <b>In Release 6.0.1</b> |
|--------------|-------------------------------------------------------------------------|-------------------------|
| 1            | Attempted termination to an unallocated or unassigned directory number. | Yes                     |
| 2            | No route available to the specified transit network.                    | Yes                     |
| 3            | No route available to the specified destination.                        | Yes                     |
| 4            | Vacant code.                                                            | Yes                     |
| 6            | Channel unacceptable.                                                   | Yes                     |
| 7            | Call awarded and being delivered in an established channel.             | Yes                     |
| 8            | Prefix 0 was dialed in error.                                           | Yes                     |
| 9            | Prefix 1 was dialed in error.                                           | Yes                     |
| 10           | Prefix 1 was not dialed when required.                                  | Yes                     |
| 11           | Excessive digits received, call is progressing.                         | Yes                     |
| 12           | Call is proceeding.                                                     | Yes                     |

Table A-1 Call Termination Cause Values and Definitions (continued)

| Value | Cause Definition                                                                                                                                                                                     | In Release 6.0.1 |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 13    | The requested service was denied.                                                                                                                                                                    | Yes              |
| 14    | Indicates an exchange detected that the called number was ported out.                                                                                                                                | Yes              |
| 16    | Normal call clearing.                                                                                                                                                                                | Yes              |
| 17    | Termination called is busy.                                                                                                                                                                          | Yes              |
| 18    | No user responding.                                                                                                                                                                                  | Yes              |
| 19    | User altering, no answer.                                                                                                                                                                            | Yes              |
| 21    | Call was rejected.                                                                                                                                                                                   | Yes              |
| 22    | The terminating number was changed.                                                                                                                                                                  | Yes              |
| 23    | Terminating party rejects all calls with Calling Line Identification Restriction.                                                                                                                    | Yes              |
| 24    | The destination business group is not defined.                                                                                                                                                       | Yes              |
| 25*   | Exchange routing error occurred.                                                                                                                                                                     | Yes              |
| 26*   | For ANSI calls, the destination is misrouted because the number is ported out of the switch.<br><br>For ISDN calls, the destination is able to accept calls but no user is assigned to the endpoint. | Yes              |
| 27    | The specified destination was out of order.                                                                                                                                                          | Yes              |
| 28    | Invalid number format or incomplete address.                                                                                                                                                         | Yes              |
| 29    | Facility rejected.                                                                                                                                                                                   | Yes              |
| 30    | Response to STATUS ENQ message.                                                                                                                                                                      | Yes              |
| 31    | Normal, unspecified.                                                                                                                                                                                 | Yes              |
| 34    | Circuit or channel congestion.                                                                                                                                                                       | Yes              |
| 35    | Requested VPCI/VCI was not available.                                                                                                                                                                | Yes              |
| 36    | VPCI/VCI assignment failure.                                                                                                                                                                         | Yes              |
| 37    | The user cell rate was unavailable.                                                                                                                                                                  | Yes              |
| 38*   | Network out of order.                                                                                                                                                                                | Yes              |
| 39    | The destination Permanent Virtual Circuit (PVC) is out of order.                                                                                                                                     | Yes              |
| 41    | Temporary failure.                                                                                                                                                                                   | Yes              |
| 42    | Switching Equipment Congestion.                                                                                                                                                                      | Yes              |
| 43    | Access information discarded.                                                                                                                                                                        | Yes              |
| 44    | Requested channel not available.                                                                                                                                                                     | Yes              |
| 45    | No VPCI/VCI available.                                                                                                                                                                               | Yes              |
| 46    | Precedence call blocked.                                                                                                                                                                             | Yes              |
| 47    | Network resource unavailable or unspecified.                                                                                                                                                         | Yes              |
| 49    | Quality of service unavailable.                                                                                                                                                                      | Yes              |
| 50    | Requested facility not subscribed to.                                                                                                                                                                | Yes              |

**Table A-1** Call Termination Cause Values and Definitions (continued)

| <b>Value</b> | <b>Cause Definition</b>                                               | <b>In Release 6.0.1</b> |
|--------------|-----------------------------------------------------------------------|-------------------------|
| 51           | Bearer capability incompatible with service request.                  | Yes                     |
| 53           | Service operation violated.                                           | Yes                     |
| 57           | Bearer capability not authorized.                                     | Yes                     |
| 58           | Bearer capability not presently available.                            | Yes                     |
| 63           | Service or option unspecified.                                        | Yes                     |
| 65           | Bearer capability not implemented.                                    | Yes                     |
| 66*          | Channel type not implemented.                                         | No                      |
| 69           | Requested facility not implemented.                                   | Yes                     |
| 70           | Restoration digital bearer capacity only available.                   | No                      |
| 73           | Unsupported combination of traffic parameters.                        | Yes                     |
| 78           | AAL parameter cannot be supported.                                    | Yes                     |
| 79           | Service or option not implemented.                                    | Yes                     |
| 81           | Invalid call reference value.                                         | Yes                     |
| 82           | Identified channel does not exist.                                    | Yes                     |
| 84*          | Call id already in use.                                               | No                      |
| 85*          | No call suspended.                                                    | No                      |
| 86*          | Call id cleared.                                                      | No                      |
| 88           | Incompatible destination.                                             | Yes                     |
| 89           | Invalid endpoint reference.                                           | Yes                     |
| 90*          | Unspecified invalid message error.                                    | No                      |
| 91           | Invalid transit network selection.                                    | Yes                     |
| 92           | Too many pending add party requests.                                  | Yes                     |
| 96           | Mandatory information element missing.                                | Yes                     |
| 97           | Message type nonexistent or not implemented.                          | Yes                     |
| 98*          | Message type not compatible.                                          | No                      |
| 99           | Information element nonexistent or not implemented.                   | Yes                     |
| 100          | Invalid information element contents.                                 | Yes                     |
| 101          | Message not compatible with call state.                               | Yes                     |
| 102          | Recovery on timer expiration.                                         | Yes                     |
| 104          | Incorrect message length.                                             | Yes                     |
| 111          | Protocol error – unspecified.                                         | Yes                     |
| 112          | Protocol error – threshold exceeded.                                  | Yes                     |
| 120          | Special intercept announcement.                                       | No                      |
| 121          | Special intercept announcement—undefined code.                        | No                      |
| 122          | Special intercept announcement—call blocked due to group restriction. | No                      |

**Table A-1** Call Termination Cause Values and Definitions (continued)

| Value | Cause Definition                                               | In Release 6.0.1 |
|-------|----------------------------------------------------------------|------------------|
| 127   | Interworking error—unspecified.                                | Yes              |
| 150   | Call Terminated due to Session Timer Refresh Request Time Out. | Yes              |
| 901   | NE Cause Audit Release.                                        | Yes              |

## BTS 10200 Bye Message Cause Code to GR-1100 Cause Code Mapping

The call termination cause code contained in a CDR is a mapping of the BTS 10200 call termination code to a GR-1100 code. In several cases, the cause code used during call processing does not map directly into a GR-1100. In these instances, the mapping shown in [Table A-2](#) is performed to generate the CDR call termination cause code:

**Table A-2** BTS 10200 Bye Message Cause Code to GR-1100 Cause Code Mapping

| Bye Message Cause Code | Bye Message Cause Code Definition    | Mapped BAF GR-1100 Cause Code | Mapped BAF GR-1100 Cause Code Definition |
|------------------------|--------------------------------------|-------------------------------|------------------------------------------|
| 5                      | CA CCITT NE CAUSE TRUNKPREF MISDIAL  | 41                            | TEMPORARY FAILURE                        |
| 8                      | CA ANSI NE CAUSE PREFIX 0 ERROR      | 8                             | ZERO DIALED IN ERROR                     |
| 20                     | CA CCITT NE SUBSCRIBER ABSENT        | 1                             | UNASSIGNED NUMBER                        |
| 23                     | CA ANSI NE DEST NUMBER UNALLOCATED   | 1                             | UNASSIGNED NUMBER                        |
| 24                     | CA ANSI NE BUSINESS GRP UNDEFINED    | 1                             | UNASSIGNED NUMBER                        |
| 25                     | CA ANSI NE CAUSE EXCHG ROUTE ERROR   | 47                            | RESOURCE UNAVAILABLE                     |
| 38                     | CA CCITT NRU CAUSE NET OUTFORDER     | 47                            | RESOURCE UNAVAILABLE                     |
| 39                     | CA CCITT NRU CAUSE PVC OUTFORDER     | 47                            | RESOURCE UNAVAILABLE                     |
| 46                     | CA CCITT NRU PRECEDENCE CALL BLOCKED | 21                            | CALL REJECTED                            |
| 54                     | CA ANSI SNA GRP RESTR CALL BLOCKED   | 21                            | CALL REJECTED                            |

Table A-2 *BTS 10200 Bye Message Cause Code to GR-1100 Cause Code Mapping (continued)*

| <b>Bye Message Cause Code</b> | <b>Bye Message Cause Code Definition</b>           | <b>Mapped BAF GR-1100 Cause Code</b> | <b>Mapped BAF GR-1100 Cause Code Definition</b> |
|-------------------------------|----------------------------------------------------|--------------------------------------|-------------------------------------------------|
| 55                            | CA CCITT SNA IN CUG CALL BARRED                    | 21                                   | CALL REJECTED                                   |
| 62                            | CA CCITT SNA CAUSE SERVICE INCONSISTENCY           | 13                                   | SERVICE DENIED                                  |
| 66                            | CA CCITT SNI CAUSE CHANNELTYPE UNIMPLEMENTED       | 65                                   | BEARER CAPABILITY NOT IMPLEMENTED               |
| 70                            | CA CCITT SNI CAUSE RESTDIGITAL BEARERCAP ONLYAVAIL | 49                                   | QOS UNAVAILABLE                                 |
| 83                            | CA CCITT IM CAUSE SUSP CALLID NOTEXIST             | 31                                   | NORMAL UNSPECIFIED                              |
| 84                            | CA CCITT IM CAUSE CALLID INUSE                     | 31                                   | NORMAL UNSPECIFIED                              |
| 85                            | CA CCITT IM CAUSE NOCALL SUSPENDED                 | 31                                   | NORMAL UNSPECIFIED                              |
| 86                            | CA CCITT IM CAUSE CALLID CLEARED                   | 31                                   | NORMAL UNSPECIFIED                              |
| 87                            | CA CCITT IM CAUSE USER NOT CUG MEMBER              | 31                                   | NORMAL UNSPECIFIED                              |
| 90                            | CA CCITT IM CAUSE CUG NOT EXIST                    | 31                                   | NORMAL UNSPECIFIED                              |
| 95                            | CA CCITT IM CAUSE UNSPECIFIED                      | 31                                   | NORMAL UNSPECIFIED                              |
| 98                            | CA CCITT PE CAUSE MSGTYPE NOTCOMPAT                | 101                                  | MESSAGE INCOMPATIBLE WITH CALLSTATE             |
| 103                           | CA CCITT PE CAUSE NOTEXIST UNIMPL PARAM PASSON     | 100                                  | INVALID INFOELEMENT                             |
| 110                           | CA CCITT PE CAUSE UNRECOGNIZE PARAM DISCARD        | 100                                  | INVALID INFOELEMENT                             |

■ **BTS 10200 Bye Message Cause Code to GR-1100 Cause Code Mapping**



# APPENDIX **B**

## Time Zone Mapping Table

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Revised: August 10, 2011, OL-24995-01

This appendix defines the various time zones supported by the Cisco BTS 10200 softswitch for localization of the various timestamps in the billing records. [Table B-1](#) contains the CLI string used to provision of the associated value that appears in the billing record fields of Originating Pop Time Zone and/or Terminating Pop Time Zone.

The times shown in the record below are in Pacific Standard Time (PST), which is offset minus 8 hours from Greenwich Mean Time (GMT).

**Table B-1** Time Zone Mapping Table

| Provisioning String | CDB Value |
|---------------------|-----------|
| Local               | 0         |
| EST                 | 1         |
| CST                 | 2         |
| MST                 | 3         |
| AST                 | 4         |
| PST                 | 5         |
| EDT                 | 6         |
| CDT                 | 7         |
| MDT                 | 8         |
| PDT                 | 9         |
| ADT                 | 10        |
| GMT                 | 11        |
| PRC                 | 12        |
| HONGKONG            | 13        |
| CET                 | 14        |
| CEST                | 15        |
| UTC                 | 16        |
| US_ALASKA           | 17        |
| US_ALEUTIAN         | 18        |

**Table B-1** Time Zone Mapping Table (continued)

| <b>Provisioning String</b> | <b>CDB Value</b> |
|----------------------------|------------------|
| US_ARIZONA                 | 19               |
| US_CENTRAL                 | 20               |
| US_EAST_INDIANA            | 21               |
| US_EASTERN                 | 22               |
| US_HAWAII                  | 23               |
| US_MICHIGAN                | 24               |
| US_MOUNTAIN                | 25               |
| US_PACIFIC                 | 26               |
| US_SAMOA                   | 27               |
| GMT_MINUS1                 | 28               |
| GMT_MINUS2                 | 29               |
| GMT_MINUS3                 | 30               |
| GMT_MINUS4                 | 31               |
| GMT_MINUS5                 | 32               |
| GMT_MINUS6                 | 33               |
| GMT_MINUS7                 | 34               |
| GMT_MINUS8                 | 35               |
| GMT_MINUS9                 | 36               |
| GMT_MINUS10                | 37               |
| GMT_MINUS11                | 38               |
| GMT_MINUS12                | 39               |
| GMT_PLUS1                  | 40               |
| GMT_PLUS2                  | 41               |
| GMT_PLUS3                  | 42               |
| GMT_PLUS4                  | 43               |
| GMT_PLUS5                  | 44               |
| GMT_PLUS6                  | 45               |
| GMT_PLUS7                  | 46               |
| GMT_PLUS8                  | 47               |
| GMT_PLUS9                  | 48               |
| GMT_PLUS10                 | 49               |
| GMT_PLUS11                 | 50               |
| GMT_PLUS12                 | 51               |
| HST                        | 52               |
| PST8PDT                    | 53               |
| MST7MDT                    | 54               |



**Table B-1** Time Zone Mapping Table (continued)

| Provisioning String      | CDB Value |
|--------------------------|-----------|
| CST6CDT                  | 55        |
| EST5EDT                  | 56        |
| CANADA_ATLANTIC          | 57        |
| CANADA_EAST_SASKATCHEWAN | 58        |
| CANADA_MOUNTAIN          | 59        |
| CANADA_PACIFIC           | 60        |
| CANADA_CENTRAL           | 61        |
| CANADA_EASTERN           | 62        |
| CANADA_NEWFOUNDLAND      | 63        |
| CANADA_YUKON             | 64        |
| AUSTRALIA_ACT            | 65        |
| AUSTRALIA_LHI            | 66        |
| AUSTRALIA_NSW            | 67        |
| AUSTRALIA_SOUTH          | 68        |
| AUSTRALIA_VICTORIA       | 69        |
| AUSTRALIA_YANCOWINNA     | 70        |
| AUSTRALIA_BROKEN_HILL    | 71        |
| AUSTRALIA_NORTH          | 72        |
| AUSTRALIA_QUEENSLAND     | 73        |
| AUSTRALIA_TASMANIA       | 74        |
| AUSTRALIA_WEST           | 75        |
| JAMAICA                  | 76        |
| MEXICO_BAJANORTE         | 77        |
| MEXICO_BAJASUR           | 78        |
| MEXICO_GENERAL           | 79        |
| TAIWAN                   | 80        |
| ROK                      | 81        |
| EUROPE_LONDON            | 82        |
| EUROPE_BELFAST           | 83        |
| EUROPE_DUBLIN            | 84        |
| EUROPE_TIRANE            | 85        |
| EUROPE_ANDORRA           | 86        |
| EUROPE_VIENNA            | 87        |
| EUROPE_MINSK             | 88        |
| EUROPE_BRUSSELS          | 89        |
| EUROPE_SOFIA             | 90        |

**Table B-1 Time Zone Mapping Table (continued)**

| <b>Provisioning String</b> | <b>CDB Value</b> |
|----------------------------|------------------|
| EUROPE_PRAGUE              | 91               |
| EUROPE_COPENHAGEN          | 92               |
| EUROPE_TALLINN             | 93               |
| EUROPE_HELSINKI            | 94               |
| EUROPE_PARIS               | 95               |
| EUROPE_BERLIN              | 96               |
| EUROPE_GIBRALTAR           | 97               |
| EUROPE_ATHENS              | 98               |
| EUROPE_BUDAPEST            | 99               |
| EUROPE_ROME                | 100              |
| EUROPE_RIGA                | 101              |
| EUROPE_VADUZ               | 102              |
| EUROPE_VILNIUS             | 103              |
| EUROPE_LUXEMBOURG          | 104              |
| EUROPE_MALTA               | 105              |
| EUROPE_CHISINAU            | 106              |
| EUROPE_MONACO              | 107              |
| EUROPE_AMSTERDAM           | 108              |
| EUROPE_OSLO                | 109              |
| EUROPE_WARSAW              | 110              |
| EUROPE_LISBON              | 111              |
| EUROPE_BUCHAREST           | 112              |
| EUROPE_KALININGRAD         | 113              |
| EUROPE_MOSCOW              | 114              |
| EUROPE_SAMARA              | 115              |
| EUROPE_MADRID              | 116              |
| EUROPE_STOCKHOLM           | 117              |
| EUROPE_ZURICH              | 118              |
| EUROPE_ISTANBUL            | 119              |
| EUROPE_KIEV                | 120              |
| EUROPE_SIMFEROPOL          | 121              |
| EUROPE_BELGRADE            | 122              |
| EUROPE_VATICAN             | 123              |
| EUROPE_SAN_MARINO          | 124              |
| EUROPE_BRATISLAVA          | 125              |
| EUROPE_LJUBLJANA           | 126              |

**Table B-1 Time Zone Mapping Table (continued)**

| <b>Provisioning String</b> | <b>CDB Value</b> |
|----------------------------|------------------|
| EUROPE_SARAJEVO            | 127              |
| EUROPE_SKOPJE              | 128              |
| EUROPE_ZAGREB              | 129              |
| AFRICA_CEUTA               | 130              |
| AFRICA_ALGIERS             | 131              |
| AFRICA_LUANDA              | 132              |
| AFRICA_PORTO_NOVO          | 133              |
| AFRICA_GABORONE            | 134              |
| AFRICA_OUAGADOUGOU         | 135              |
| AFRICA_BUJUMBURA           | 136              |
| AFRICA_DOUALA              | 137              |
| AFRICA_BANGUI              | 138              |
| AFRICA_NDJAMENA            | 139              |
| AFRICA_KINSHASA            | 140              |
| AFRICA_LUBUMBASHI          | 141              |
| AFRICA_BRAZZAVILLE         | 142              |
| AFRICA_ABIDJAN             | 143              |
| AFRICA_DJIBOUTI            | 144              |
| AFRICA_CAIRO               | 145              |
| AFRICA_MALABO              | 146              |
| AFRICA_ASMERA              | 147              |
| AFRICA_ADDIS_ABABA         | 148              |
| AFRICA_LIBREVILLE          | 149              |
| AFRICA_BANJUL              | 150              |
| AFRICA_ACCRA               | 151              |
| AFRICA_CONAKRY             | 152              |
| AFRICA_BISSAU              | 153              |
| AFRICA_NAIROBI             | 154              |
| AFRICA_MASERU              | 155              |
| AFRICA_MONROVIA            | 156              |
| AFRICA_TRIPOLI             | 157              |
| AFRICA_BLANTYRE            | 158              |
| AFRICA_BAMAKO              | 159              |
| AFRICA_TIMBUKTU            | 160              |
| AFRICA_NOUAKCHOTT          | 161              |
| AFRICA_CASABLANCA          | 162              |

**Table B-1 Time Zone Mapping Table (continued)**

| <b>Provisioning String</b> | <b>CDB Value</b> |
|----------------------------|------------------|
| AFRICA_EL_AAIUN            | 163              |
| AFRICA_MAPUTO              | 164              |
| AFRICA_WINDHOEK            | 165              |
| AFRICA_NIAMEY              | 166              |
| AFRICA_LAGOS               | 167              |
| AFRICA_KIGALI              | 168              |
| AFRICA_SAO_TOME            | 169              |
| AFRICA_DAKAR               | 170              |
| AFRICA_FREETOWN            | 171              |
| AFRICA_MOGADISHU           | 172              |
| AFRICA_JOHANNESBURG        | 173              |
| AFRICA_KHARTOUM            | 174              |
| AFRICA_MBABANE             | 175              |
| AFRICA_DAR_ES_SALAAM       | 176              |
| AFRICA_LOME                | 177              |
| AFRICA_TUNIS               | 178              |
| AFRICA_KAMPALA             | 179              |
| AFRICA_LUSAKA              | 180              |
| AFRICA_HARARE              | 181              |
| AMERICA_SCORESBYSUND       | 182              |
| AMERICA_GODTHAB            | 183              |
| AMERICA_THULE              | 184              |
| AMERICA_BUENOS_AIRES       | 185              |
| AMERICA_ROSARIO            | 186              |
| AMERICA_CORDOBA            | 187              |
| AMERICA_JUJUY              | 188              |
| AMERICA_CATAMARCA          | 189              |
| AMERICA_MENDOZA            | 190              |
| AMERICA_ARUBA              | 191              |
| AMERICA_LA_PAZ             | 192              |
| AMERICA_NORONHA            | 193              |
| AMERICA_BELEM              | 194              |
| AMERICA_FORTALEZA          | 195              |
| AMERICA_ARAGUAINA          | 196              |
| AMERICA_MACEIO             | 197              |
| AMERICA_SAO_PAULO          | 198              |

**Table B-1** Time Zone Mapping Table (continued)

| <b>Provisioning String</b>   | <b>CDB Value</b> |
|------------------------------|------------------|
| AMERICA_CUIABA               | 199              |
| AMERICA_PORTO_VELHO          | 200              |
| AMERICA_MANAUS               | 201              |
| AMERICA_PORTO_ACRE           | 202              |
| AMERICA_SANTIAGO             | 203              |
| AMERICA_BOGOTA               | 204              |
| AMERICA_CURACAO              | 205              |
| AMERICA_GUAYAQUIL            | 206              |
| AMERICA_CAYENNE              | 207              |
| AMERICA_GUYANA               | 208              |
| AMERICA_ASUNCION             | 209              |
| AMERICA_LIMA                 | 210              |
| AMERICA_PARAMARIBO           | 211              |
| AMERICA_PORT_OF_SPAIN        | 212              |
| AMERICA_MONTEVIDEO           | 213              |
| AMERICA_CARACAS              | 214              |
| AMERICA_NEW_YORK             | 215              |
| AMERICA_CHICAGO              | 216              |
| AMERICA_DENVER               | 217              |
| AMERICA_LOS_ANGELES          | 218              |
| AMERICA_JUNEAU               | 219              |
| AMERICA_YAKUTAT              | 220              |
| AMERICA_ANCHORAGE            | 221              |
| AMERICA_NOME                 | 222              |
| AMERICA_ADAK                 | 223              |
| AMERICA_PHOENIX              | 224              |
| AMERICA_BOISE                | 225              |
| AMERICA_INDIANAPOLIS         | 226              |
| AMERICA_INDIANA_MARENGO      | 227              |
| AMERICA_INDIANA_KNOX         | 228              |
| AMERICA_INDIANA_VEVAY        | 229              |
| AMERICA_INDIANA_INDIANAPOLIS | 230              |
| AMERICA_LOUISVILLE           | 231              |
| AMERICA_DETROIT              | 232              |
| AMERICA_MENOMINEE            | 233              |
| AMERICA_ST_JOHNS             | 234              |

**Table B-1 Time Zone Mapping Table (continued)**

| <b>Provisioning String</b> | <b>CDB Value</b> |
|----------------------------|------------------|
| AMERICA_GOOSE_BAY          | 235              |
| AMERICA_HALIFAX            | 236              |
| AMERICA_GLACE_BAY          | 237              |
| AMERICA_MONTREAL           | 238              |
| AMERICA_THUNDER_BAY        | 239              |
| AMERICA_NIPIGON            | 240              |
| AMERICA_RAINY_RIVER        | 241              |
| AMERICA_WINNIPEG           | 242              |
| AMERICA_REGINA             | 243              |
| AMERICA_SWIFT_CURRENT      | 244              |
| AMERICA_EDMONTON           | 245              |
| AMERICA_VANCOUVER          | 246              |
| AMERICA_DAWSON_CREEK       | 247              |
| AMERICA_PANGNIRTUNG        | 248              |
| AMERICA_IQALUIT            | 249              |
| AMERICA_RANKIN_INLET       | 250              |
| AMERICA_YELLOWKNIFE        | 251              |
| AMERICA_INUVIK             | 252              |
| AMERICA_WHITEHORSE         | 253              |
| AMERICA_DAWSON             | 254              |
| AMERICA_CANCUN             | 255              |
| AMERICA_MEXICO_CITY        | 256              |
| AMERICA_CHIHUAHUA          | 257              |
| AMERICA_MAZATLAN           | 258              |
| AMERICA_TIJUANA            | 259              |
| AMERICA_ENSENADA           | 260              |
| AMERICA_ANGUILLA           | 261              |
| AMERICA_ANTIGUA            | 262              |
| AMERICA_NASSAU             | 263              |
| AMERICA_BARBADOS           | 264              |
| AMERICA_BELIZE             | 265              |
| AMERICA_CAYMAN             | 266              |
| AMERICA_COSTA_RICA         | 267              |
| AMERICA_HAVANA             | 268              |
| AMERICA_DOMINICA           | 269              |
| AMERICA_SANTO_DOMINGO      | 270              |

**Table B-1** Time Zone Mapping Table (continued)

| Provisioning String    | CDB Value |
|------------------------|-----------|
| AMERICA_EL_SALVADOR    | 271       |
| AMERICA_GRENADA        | 272       |
| AMERICA_GUADELOUPE     | 273       |
| AMERICA_GUATEMALA      | 274       |
| AMERICA_PORT_AU_PRINCE | 275       |
| AMERICA_TEGUCIGALPA    | 276       |
| AMERICA_JAMAICA        | 277       |
| AMERICA_MARTINIQUE     | 278       |
| AMERICA_MONTSERRAT     | 279       |
| AMERICA_MANAGUA        | 280       |
| AMERICA_PANAMA         | 281       |
| AMERICA_PUERTO_RICO    | 282       |
| AMERICA_ST_KITTS       | 283       |
| AMERICA_ST_LUCIA       | 284       |
| AMERICA_MIQUELON       | 285       |
| AMERICA_ST_VINCENT     | 286       |
| AMERICA_GRAND_TURK     | 287       |
| AMERICA_TORTOLA        | 288       |
| AMERICA_ST_THOMAS      | 289       |
| AMERICA_SHIPROCK       | 290       |
| ASIA_YEKATERINBURG     | 291       |
| ASIA_OMSK              | 292       |
| ASIA_NOVOSIBIRSK       | 293       |
| ASIA_KRASNOYARSK       | 294       |
| ASIA_IRKUTSK           | 295       |
| ASIA_YAKUTSK           | 296       |
| ASIA_VLADIVOSTOK       | 297       |
| ASIA_MAGADAN           | 298       |
| ASIA_KAMCHATKA         | 299       |
| ASIA_ANADYR            | 300       |
| ASIA_ISTANBUL          | 301       |
| ASIA_KABUL             | 302       |
| ASIA_YEREVAN           | 303       |
| ASIA_BAKU              | 304       |
| ASIA_BAHRAIN           | 305       |
| ASIA_DACCA             | 306       |

**Table B-1** Time Zone Mapping Table (continued)

| Provisioning String | CDB Value |
|---------------------|-----------|
| ASIA_THIMBU         | 307       |
| ASIA_BRUNEI         | 308       |
| ASIA_RANGOON        | 309       |
| ASIA_PHNOM_PENH     | 310       |
| ASIA_HARBIN         | 311       |
| ASIA_SHANGHAI       | 312       |
| ASIA_CHUNGKING      | 313       |
| ASIA_URUMQI         | 314       |
| ASIA_KASHGAR        | 315       |
| ASIA_HONG_KONG      | 316       |
| ASIA_TAIPEI         | 317       |
| ASIA_MACAO          | 318       |
| ASIA_NICOSIA        | 319       |
| ASIA_TBILISI        | 320       |
| ASIA_CALCUTTA       | 321       |
| ASIA_JAKARTA        | 322       |
| ASIA_UJUNG_PANDANG  | 323       |
| ASIA_JAYAPURA       | 324       |
| ASIA_TEHRAN         | 325       |
| ASIA_BAGHDAD        | 326       |
| ASIA_JERUSALEM      | 327       |
| ASIA_TOKYO          | 328       |
| ASIA_AMMAN          | 329       |
| ASIA_ALMATY         | 330       |
| ASIA_AQTOBE         | 331       |
| ASIA_AQTAU          | 332       |
| ASIA_BISHKEK        | 333       |
| ASIA_SEOUL          | 334       |
| ASIA_PYONGYANG      | 335       |
| ASIA_KUWAIT         | 336       |
| ASIA_VIENTIANE      | 337       |
| ASIA_BEIRUT         | 338       |
| ASIA_KUALA_LUMPUR   | 339       |
| ASIA_KUCHING        | 340       |
| ASIA_ULAN_BATOR     | 341       |
| ASIA_KATMANDU       | 342       |



**Table B-1** Time Zone Mapping Table (continued)

| <b>Provisioning String</b> | <b>CDB Value</b> |
|----------------------------|------------------|
| ASIA_MUSCAT                | 343              |
| ASIA_KARACHI               | 344              |
| ASIA_GAZA                  | 345              |
| ASIA_MANILA                | 346              |
| ASIA_QATAR                 | 347              |
| ASIA_RIYADH                | 348              |
| ASIA_SINGAPORE             | 349              |
| ASIA_COLOMBO               | 350              |
| ASIA_DAMASCUS              | 351              |
| ASIA_DUSHANBE              | 352              |
| ASIA_BANGKOK               | 353              |
| ASIA_ASHKHABAD             | 354              |
| ASIA_DUBAI                 | 355              |
| ASIA_SAMARKAND             | 356              |
| ASIA_TASHKENT              | 357              |
| ASIA_SAIGON                | 358              |
| ASIA_ADEN                  | 359              |

