Oracle® Communications Convergent Charging Controller

Event Detail Record Reference Guide

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Contents

About This Document

Scope

This document explains the final format of all existing types of Event Detail Records (EDRs) created on the Voucher and Wallet Server and the SMS.

Audience

This guide is written primarily for system administrators of Oracle products.

Prerequisites

Although there are no prerequisites for using this guide, familiarity with the target platform would be an advantage.

Related Documents

The following documents are related to this document:

- *Charging Control Services Technical Guide*
- *Charging Control Services User's Guide*
- *Voucher Manager User's Guide*
- *Feature Nodes Reference Guide*

Document Conventions

Typographical Conventions

The following terms and typographical conventions are used in the Oracle Communications Convergent Charging Controller documentation.

Formatting Convention	Type of Information
Special Bold	Items you must select, such as names of tabs. Names of database tables and fields.
Italics	Name of a document, chapter, topic or other publication. Emphasis within text.
Button	The name of a button to click or a key to press. **Example:** To close the window, either click **Close**, or press **Esc**.
Key+Key	Key combinations for which the user must press and hold down one key and then press another. Example: **Ctrl+P** or **Alt+F4**.
`Monospace`	Examples of code or standard output.
`Monospace Bold`	Text that you must enter.
variable	Used to indicate variables or text that should be replaced with an actual value.
menu option > menu option >	Used to indicate the cascading menu option to be selected. Example: **Operator Functions > Report Functions**
hypertext link	Used to indicate a hypertext link.

Specialized terms and acronyms are defined in the glossary at the end of this guide.

Document format

This reference document lists EDR tag definitions for all versions of products that can produce EDR records.

See chapters for CCS EDR Tag Definitions and VWS Generated EDRs.

However the CCS EDR records are organized by EDR type, with each generic type within a chapter, for example Product Type Swap chapter defines the EDR record content of EDR Types 31 and 32.

Document version

Since this reference guide covers all EDRs for all products, a software number is meaningless.

To satisfy various standards and formatting, what was the software version is now 0.0.0, with just the guide version increasing with each publication.

Chapter 1

EDR Overview

Overview

Introduction

This chapter explains the Convergent Charging Controller processes that generate Event Detail Records (EDR).

In this chapter

This chapter contains the following topics.

EDR Generation

Introduction

EDRs are generated by:

- CCS - on the:
  - SLC (refer to *SLC Generated EDRs* (on page 199)),
  - Billing engine and the SMS (refer to *Billing Engine and SMS EDR Definitions* (on page 11)).
- ACS - slee_acs on the SLC. Refer to *ACS EDRs* (on page 199).
- Messaging Manager - xmsTrigger on the SLC. Refer to *Messaging Manager EDRs* (on page 222).
- Diameter Charging Driver - slee_acs on the SLC. Refer to *DCD EDRs* (on page 213).

About EDR and CDR

The industry standard abbreviation for a record of the event detail type is EDR (Event Detail Record). Previously, in Oracle documentation, the abbreviation CDR (Call Data Record) was used. Over time, EDR will replace CDR in this and other Oracle documentation.

EDR Tag List

Introduction

The following list identifies all the EDR tags documented within this guide.

EDR tag versions

Where a tag is redefined, for a new version of software, both the new and old definition is included. Where the new version is used in a CCS EDR, the tag list will also have both the old and new tags listed.

EDR tags - A

This list covers all application EDRs defined within this guide, starting with the letter A.

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACCT_ID* (on page 149) (changed wallet ID)
- *ACCT_REF_ID* (on page 149) (changed account ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *ACTION* (on page 150) (voucher activity)
- *ACTION_DETAIL* (on page 150) (voucher activity)
- *ACTIVATION_DATE* (on page 151) (account activation date)
- *ADJUSTMENT* (on page 151) (generated by an adjustment)
- *AIDL* (on page 202) (played announcement ID list)
- *ALPH* (on page 224) (alphabet name)
- ANS_TM (answer time)
- *APPLICATION_DESC* (on page 151) (application freeform)
- *ASAD* (on page 225) (ip of originating asp)
- *ASPDF* (on page 225) (asp definition)
- *ASPID* (on page 226) (inbound and outbound path)
- *AXAD* (on page 226) (ip connections from asp)

EDR tags - B

This list covers all application EDRs defined within this guide, starting with the letter B.

- *BAD_PINS* (on page 152) (number of attempts)
- *BALANCE_EXPIRIES* (on page 152) (period hours)
- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCE_TYPES* (on page 153) (account changed or created) - mid call rate changes
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-call or account creation)
- *BALANCES* (on page 154) (pre-call or account creation) - mid call rate changes
- *BALANCES* (on page 154) (pre-transaction account balances)
- *BARRED_LIST_TYPE* (on page 155) (description)
- *BATCH_DESCRIPTION* (on page 155) (for voucher batch)
- *BARCODE* (on page 155) (voucher details)
- BCOR (balance cascade override)
- BEARER_TYPE (bearer type id)
- BFT (billing failure treatment
- *BILLING_ENGINE_ID* (on page 155) (BE where account resides)
- *BONUS_TYPE* (on page 156) (name)
- *BUCKET_IDS* (on page 156) (within balance type recharged)

EDR tags - C

This list covers all application EDRs defined within this guide, starting with the letter C.

- *CA* (on page 203) (called address)
- *CAET* (on page 203) (call attempt elapsed time)
- *CALLINGNUM* (on page 220) (lcr set calling number)

- *CALLINGNOA* (on page 220) (noa of callingnum)
- *CARD_DESIGN* (on page 156) (voucher details)
- *CARRIERNAME* (on page 220) (carrier name)
- *CARRIERPOS* (on page 221) (position of carrier name in hunt list)
- *CASCADE* (on page 156) (always empty for pi)
- *CASCADE_ID* (on page 157) (balance type cascade IDs)
- *CASCADE_ID* (on page 157) (balance type cascade IDs) - mid call rate change
- *CBAT* (on page 203) (connected by attempt termination)
- *CBTD_BALANCE_TYPES* (on page 157) (list to apply to discounts)
- *CBTD_BALANCE_TYPES* (on page 158) (list to apply to discounts) - mid call rate changes
- *CBTD_BALANCES* (on page 158) (value for each cross balance type)
- *CBTD_BALANCES* (on page 158) (value for each cross balance type) - mid call rate change
- *CBTD_CASCADE_ID* (on page 159) (used for this call)
- *CBTD_CASCADE_ID* (on page 159) (used for this call) - mid call rate change
- *CBTD_COSTS* (on page 159) (costs applied to each cross balance type)
- *CBTD_COSTS* (on page 159) (costs applied to each cross balance type) - mid call rate changes
- *CBTD_COSTS_RND_REM* (on page 160) (rounding remainder of cross balance CBTD_COSTS)
- *CBTD_DISCOUNTS* (on page 160) (discounts applied to balance types)
- *CBTD_DISCOUNTS* (on page 160) (discounts applied to balance types) - mid call rate changes
- *CC* (on page 203) (carrier code)
- *CCET* (on page 204) (call connect elapsed time)
- *CCTS* (on page 204) (call connect timestamp)
- *CDR_TYPE* (on page 160) (reason for record generation)
- *CDR_TYPE* (on page 216) (sca reason for record generation)
- CELLID (cell id in the idp)
- *CGN* (on page 204) (calling network number)
- *CGNA* (on page 204) (global calling network address)
- *CGNN* (on page 204) (calling party nature of number)
- *CHARGE_EXPIRY (new periodic charge expiry)* (on page 161) (new periodic charge expiry)
- *CHARGE_NAME* (on page 161) (of periodic charge)
- *CID* (on page 205) (slee call ID)
- *CLI* (on page 205) (calling logical number)
- *CLI* (on page 162) (for the account that will be changed)
- *CLI* (on page 161) (initiating call number)
- *CLI* (on page 161) (initiating call number) - mid call rate changes
- *CLI* (on page 162) (roaming initiating call number)
- *COMPONENT* (on page 162) (from pi command reference)
- *COSTS* (on page 163) (rated calls)
- *COSTS* (on page 163) (rated calls) - mid call rate changes
- *COSTS_RND_REM* (on page 163) (rounding remainder of balance COSTS)
- *CPC* (on page 205) (calling party category)
- *CPN* (on page 205) (control plan name)
- *CPNI* (on page 205) (calling private network ID)
- *CPNN* (on page 206) (called party nature of number)
- *CPPI* (on page 206) (calling party presentation restriced indicator)

- CS (call status, always D)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *CS* (on page 206) (acs connect status)
- *CT_NAME* (on page 164) (credit transfer)
- *CT_TYPE* (on page 164) (credit transfer)
- *CUG_NAME* (on page 164) (closed user group)
- *CUST* (on page 207) (customer database ID)

EDR tags - D

This list covers all application EDRs defined within this guide, starting with the letter D.

- *DADR* (on page 227) (destination address)
- *DATE* (on page 227) (timestamp sms sent to mmx)
- *DELTS* (on page 227) (timestamp of delivery attempt)
- *DIA_RC* (on page 214) (result code)
- *DIA_REQ* (on page 214) (current session message number)
- *DIA_SID* (on page 214) (session id)
- *DIA_TIME* (on page 214) (time ccr sent)
- *DICWR* (on page 164) (Disable Incoming Calls When Roaming)
- *DIMSI* (on page 227) (destination imsi)
- *DISC* (on page 207) (discount override)
- *DISCOUNT* (on page 165) (always zero for pi)
- *DISCOUNT_TYPE* (on page 165) (applied to this call)
- *DISCOUNT_TYPE* (on page 165) (applied to this call) - R*W
- *DISCOUNT_TYPE* (on page 165) (applied to this call) - service discount
- *DISCOUNTS* (on page 166) (for each named event)
- *DISCOUNTS* (on page 166) (rated calls)
- *DISCOUNTS* (on page 166) (rated calls) - mid call rate changes
- *DISPLAY_SPEND_RATIO* (on page 167) (Balance Type Display to Spend Ratio)
- *DISTRIBUTOR_CHANNEL* (on page 167) (voucher details)
- *DISTS* (on page 228) (timestamp of discard)
- *DLOC* (on page 228) (terminating party location information)
- *DLVR* (on page 228) (message delivered flag)
- *DPATH* (on page 228) (delivery path)
- *DSCA* (on page 228) (destination service center address)
- *DSCGT* (on page 229) (destination gt)
- *DSTL* (on page 229) (destination gt of fda msc)
- *DURATION* (on page 167) (call length)
- *DURATION* (on page 216) (session duration)

EDR tags - E

This list covers all application EDRs defined within this guide, starting with the letter E.

- *END_CALL_REASON (reasons for call termination)* (on page 169)
- *ESN* (on page 229) (electronic serial number)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_COST* (on page 169) (for each named event)

- *EVENT_COUNT* (on page 170) (for each named event)
- *EVENT_NAME* (on page 170) (list used for this call)
- *EVENT_TIME_COST* (on page 170) (for a named event)
- *EXPIRED_WALLET* (on page 171) (ID of expired wallet)
- *EXT(0-9)* (on page 207) (extension buffer contents)

EDR tags - F

This list covers all application EDRs defined within this guide, starting with the letter F.

- *FATS* (on page 207) (first announcement timestamp)
- *FCA* (on page 171) (final call address)
- *FREE_TEXT_FIELD_1* (on page 172) (voucher details)
- *FREE_TEXT_FIELD_2* (on page 172) (voucher details)
- *FREE_TEXT_FIELD_3* (on page 172) (voucher details)
- *FROM* (on page 216) (sip message from header)

EDR tags - G

This list covers all application EDRs defined within this guide, starting with the letter G.

- *GPRS* (on page 229) (general packet radio service)

EDR tags - H

This list covers all application EDRs defined within this guide, starting with the letter H.

- *HOST* (on page 172) (initiating credit transfer)
- *HTS* (on page 207) (hunting timestamp)

EDR tags - I

This list covers all application EDRs defined within this guide, starting with the letter I.

- *IGNORE_BARRED* (on page 172) (ignore numbers in call barring list)
- *IPRI* (on page 230) (incoming protocol value)
- *IPRN* (on page 230) (incoming protocol name)
- *ITS* (on page 230) (incoming tele service)

EDR tags - L

This list covers all application EDRs defined within this guide, starting with the letter L.

- *LAC* (on page 208) (last account code used)
- *LENGTHS* (on page 172) (rate durations)
- *LENGTHS* (on page 173) (rate durations) - mid call rate changes
- *LGID* (on page 208) (language ID)
- LI_LOC_NUM (location information for loc_num)
- LOC_NUM (location number in idp)
- *LOCADD* (on page 173) (additional configuration prefixes)
- *LPN* (on page 208) (most recent pin entered)

EDR tags - M

This list covers all application EDRs defined within this guide, starting with the letter M.

- *MAX_CHARGE* (on page 174) (for this call)
- *MAX_CHARGE* (on page 174) (for this call) - mid call rate changes
- *MAX_CONCURRENT* (on page 174) (maximum concurrent accesses allowed)
- MCOR (maximum charge override)
- *METHOD* (on page 217) (sip method of request)
- *MFILE* (on page 174) (for rating data)
- *MID_SESSION* (on page 174) (partial EDR)
- *MSCA* (on page 230) (smsc address)
- *MSGD* (on page 230) (message destination)
- *MSGR* (on page 231) (message reference number)
- *MSISDN* (on page 175) (account calling number)
- *MTYP* (on page 231) (message type)

EDR tags - N

This list covers all application EDRs defined within this guide, starting with the letter N.

- *NACK* (on page 175) (freeform recharge list)
- *NACK* (on page 176) (long list of codes)
- *NACK* (on page 176) (short list of codes)
- *NEW_ACCOUNT* (on page 177) (ID of account type)
- *NEW_ACCT_EXPIRY* (on page 177) (date after account deleted)
- *NEW_ACCT_EXPIRY* (on page 177) (date after account deleted)
  If the expiry date is updated then this tag will be present.
- *NEW_ACCT_EXPIRY* (on page 178) (date after recharge)
- *NEW_ACCT_EXPIRY* (on page 177) (date after update)
- *NEW_ACCT_STATE* (on page 178) (after update)
- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *NEW_ACCT_STATE* (on page 178) (always frozen - F)
- *NEW_ACCT_STATE* (on page 178) (always preuse - P)
- *NEW_ACCT_STATE* (on page 178) (always terminated - T)
- *NEW_ACCT_TYPE* (on page 179) (ID of account after recharge)
- *NEW_ACCT_TYPE* (on page 179) (prod type swap)
- *NEW_ACTIVE_SVC* (on page 179) (account type)
- *NEW_BALANCE_EXPIRIES* (on page 179) (date after balance update)
- *NEW_BALANCE_EXPIRIES* (on page 179) (dates after voucher recharge)
- *NEW_BARRED_LIST* (on page 180) (of call barring numbers)
- *NEW_CHARGE_STATE* (on page 180) (periodic charge subscription state)
- *NEW_FD* (on page 180) (friends destination number)
- *NEW_FF* (on page 180) (list of friends and family numbers)
- *NEW_LAST_USE* (on page 180) (date last used)
- *NEW_WLC_PERIOD* (on page 180) (after update)
- *NEW_WLC_PLAN* (on page 180) (Id)
- *NOAT* (on page 208) (number of attempt terminations)
- *NRQ* (on page 231) (status report requested for message)

- *NRQD* (on page 231) (emi with defined nrq)
- *NT* (on page 209) (network type)
- *NUMBER* (on page 181) (voucher number)

EDR tags - O

This list covers all application EDRs defined within this guide, starting with the letter O.

- *OA* (on page 209) (sccp originating address)
- *OADR* (on page 231) (originating address)
- *OAID* (on page 232) (originating adapter id)
- *OCAU* (on page 232) (acs cause value)
- *OCPI* (on page 209) (original called party)
- *OGEO_ID* (on page 181) (originating geo node id)
- *OIMSI* (on page 232) (originating imsi)
- *OIPA* (on page 232) (originating ip address)
- *OLD_ACCOUNT* (on page 181) (ID of account type)
- *OLD_ACCT_EXPIRY* (on page 181) (date before recharge)
- *OLD_ACCT_EXPIRY* (on page 181) (dates before update)
- *OLD_ACCT_EXPIRY* (on page 181) (dates before update)
  If the expiry date is updated then this tag will be present.
- *OLD_ACCT_STATE* (on page 181) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (before update)
- *OLD_ACCT_STATE* (on page 182) (P or D before update)
- *OLD_ACCT_STATE* (on page 182) (pre-call)
- *OLD_ACCT_TYPE* (on page 182) (ID of account before recharge)
- *OLD_ACCT_TYPE* (on page 182) (prod type swap)
- *OLD_ACTIVE_SVC* (on page 183) (account type)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before balance update)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before voucher recharge)
- *OLD_BARRED_LIST* (on page 183) (of call barring numbers)
- *OLD_CHARGE_EXPIRY* (on page 183) (periodic charge expiry date changes)
- *OLD_CHARGE_STATE* (on page 184) (periodic charge subscription state)
- *OLD_FD* (on page 184) (friends destination number)
- *OLD_FF* (on page 184) (list of friends and family numbers)
- *OLD_WLC_PERIOD* (on page 184) (before update)
- *OLD_WLC_PLAN* (on page 184) (Id)
- *OLOC* (on page 232) (originating party location information)
- *OPERATOR_RELEASED* (on page 184) (commit/revoke reservation)
- *OPRI* (on page 232) (outgoing priority)
- *OPPN* (on page 233) (output protocol name)
- *OPRT* (on page 233) (originating port number)
- *ORIGTRUNK* (on page 221) (idp location number content)
- *OVERDRAWN_AMOUNT* (on page 185) (take Balance Negative)
- *OTI* (on page 209) (originating transaction ID)
- *OTS* (on page 233) (outgoing tele service)
- *OVERRIDDEN_TARIFF_PLAN* (on page 185) (ID)

EDR tags - P

This list covers all application EDRs defined within this guide, starting with the letter P.

- *PCNA* (on page 209) (calling private network address)
- *PC_TYPE* (on page 185) (periodic charge type)
- *PERR* (on page 233) (protocol specific error)
- *PI* (on page 185) (logon name and IP address)
- *PID* (on page 221) (unix process id)
- *PORTED* (on page 185) (name of porting carrier)
- *PTI* (on page 221) (product type id)
- *PTNA* (on page 210) (private terminating network address)
- *PRES* (on page 233) (terminating adapter response)
- *PRID* (on page 234) (protocol identifier)
- *PROVISIONING_DATE* (on page 186) (voucher details)
- *PRO_RATE* (on page 186) (periodic charge subscription)
- *PURCHASING_ACCT_ID* (on page 186) (purchasing wallet ID)
- *PURCHASING_MSISDN* (on page 186) (purchasing CLI)

EDR tags - R

This list covers all application EDRs defined within this guide, starting with the letter R.

- *RATES* (on page 186) (rated calls)
- *RATES* (on page 187) (rated calls) - mid call rate changes
- RDPN (redirecting party id)
- RDPNN (normalised redirecting party id)
- RDRES (redirection reason)
- *RECIPIENT_ACCT_ID* (on page 188) (receiving wallet ID)
- *RECIPIENT_MSISDN* (on page 188) (receiving CLI)
- *RECORD_DATE* (on page 188) (date edr created)
- *REDEEMING_ACCT_REF* (on page 188) (ID of account)
- *REDEEMING_ACCT_TYPE* (on page 188) (name of account type)
- *REFERENCE* (on page 189) (credit card reference, always cc)
- *REFERENCE* (on page 189) (from pi reference)
- *REFERENCE* (on page 189) (operator freeform)
- *REFERENCE* (on page 190) (voucher freeform)
- *REFERENCE* (on page 190) (web site reference - ws)
- *RELC* (on page 210) (acs release cause)
- *RELC* (on page 190) (inap release cause)
- *RELOAD_BONUS* (on page 190) (promotion name)
- *RELOAD_BONUS_AMOUNT* (on page 190) (amount applied)
- *RELOAD_BONUS_EXPIRY* (on page 190) (date remaining bonus expires)
- *RELOAD_BONUS_LEFT* (on page 191) (bonus amount remaining)
- *REMAINING_CHARGE* (on page 191) (partial Charge)
- *REQUEST_URI* (on page 217) (uri request content)
- *RESL* (on page 234) (submit result)
- *RESULT* (on page 191) (frozen or suspended)
- *RESULT* (on page 191) (general cause)

- *RESULT* (on page 191) (pi failure)
- *RESULT* (on page 192) (voucher redemption, always Success)
- *RESULT* (on page 192) (web - success)
- *RETAIL_CHANNEL* (on page 192) (voucher details)
- *REVERSE_CHARGE* (on page 192) (generated by a reverse charge)
- *REWARD* (on page 192) (ID)
- *REWARD_AMOUNTS* (on page 192) (value of reward)
- *REWARD_TYPES* (on page 193) (balance types getting reward)
- *RNCF* (on page 193) (Reservation Not Charged For)
- *ROAMING_COUNTRY* (on page 193) (name)
- *ROAMING_TYPE* (on page 193) (of call)
- *ROUTEDEST* (on page 221) (routing destination for call)

EDR tags - S

This list covers all application EDRs defined within this guide, starting with the letter S.

- SC (service category)
- *SCA* (on page 235) (service center address)
- *SCENARIO* (on page 194) (voucher scenario number)
- *SCP_ID* (on page 194) (where call originated)
- *SCRID* (on page 235) (screening rule ID of the message)
- *SEGN* (on page 235) (message segment number)
- *SEGR* (on page 235) (concatenated message reference)
- *SEGT* (on page 235) (total message segments)
- *SEQUENCE_NUMBER* (on page 194) (call identifier)
- *SESSION_SEQUENCE* (on page 195) (partial EDR)
- *SK* (on page 210) (service key)
- *SN* (on page 210) (service number)
- *SRCL* (on page 235) (source location)
- *SSAD* (on page 236) (ip of originating smsc)
- *SSRID (screening sub-rule id)* (on page 236) (screening sub-rule ID of the message)
- *SSTN* (on page 236) (smpp service type)
- *STATE* (on page 195) (of recharge)
- *STRR* (on page 236) (status report request)
- *SUB_STATUS* (on page 237) (subscriber status)
- *SVC_ID* (on page 195) (single tariff rated calls)

EDR tags - T

This list covers all application EDRs defined within this guide, starting with the letter T.

- *TAID* (on page 237) (terminating adapter id)
- *TARIFF_CODE* (on page 195) (name)
- *TCAU* (on page 237) (acs terminate cause value)
- *TCE* (on page 210) (acs time call ended)
- *TCE* (on page 195) (ccs time call ended)
- *TCS* (on page 211) (acs time call started)

- *TCS* (on page 195) (ccs time call started)
- *TERMINAL* (on page 196) (Network ID)
- *TEXT* (on page 196) (voucher details)
- *TFN* (on page 211) (tracked feature node list)
- *TGEO_ID* (on page 196) (terminating geo node id)
- *TGNA* (on page 212) (global terminating network address)
- *THRD* (on page 237) (throttled flag)
- *TIME* (on page 221) (creation timestamp of lcr edr)
- TIMED_OUT (reservation confirmation)
- *TIMESTAMP* (on page 217) (creation timestamp of scr edr)
- *TLEN* (on page 237) (length of user data in characters)
- *TN* (on page 213) (acs termination number)
- *TN* (on page 196) (ccs called number)
- *TN* (on page 196) (roaming called number)
- *TNNUM* (on page 222) (lcr terminating number)
- *TNNOA* (on page 222) (noa of terminating number)
- *TO* (on page 217) (sip to header content)
- *TPNI* (on page 213) (terminating private network ID)
- *TPO* (on page 213) (tariff plan override)
- *TYPE* (on page 238) (type of edr)
- *TYPE_DESCRIPTION* (on page 197) (voucher type)

EDR tags - U

This list covers all application EDRs defined within this guide, starting with the letter U.

- *ULEN* (on page 238) (length of user data)
- *USER* (on page 197) (operator logon name)
- *USRD* (on page 238) (user data)

EDR tags - V

This list covers all application EDRs defined within this guide, starting with the letter V.

- *VOUCHER* (on page 197) (ID of redeemed voucher)
- *VOUCHER* (on page 197) (serial number of redeemed voucher - 3.1.5)
- *VOUCHER_BATCH* (on page 197) (for voucher batch)
- *VOUCHER_NUMBER* (on page 197) (redeemed voucher)
- *VOUCHER_TYPE* (on page 198) (name)
- *VP* (on page 238) (validity period)

EDR tags - W

This list covers all application EDRs defined within this guide, starting with the letter W.

- *WALLET_DELETED* (on page 198) (always success - Y)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)
- *WALLET_TYPE* (on page 198) (ID of wallet recharged)
- *WALR* (on page 213) (wallet reference)

Chapter 2

Billing Engine and SMS EDR Definitions

Overview

Introduction

This chapter explains the final format of all existing types of Event Data Records (EDRs) created by the billing engine and the SMS.

EDRs are generated for billing operations that occur as part of a voice call, SMS management interaction or voucher redemption. A number of processes may produce EDRs, and EDRs may be produced on either the billing engine or the SMP.

EDR records are enriched on the SMS by ccsCDRLoader and various plug-in processes.

The ccsCDRLoader has two responsibilities:

- It populates the ccs_be_cdr table of the SMF database on the SMS with formatted EDR records.
- It moves the inputted EDR files into an output EDR file directory structure.

The plug-in processes may add additional fields to EDR records and may also update various tables on the SMF database. A detailed description of all the plug-in processes is beyond the scope of this document.

In this chapter

This chapter contains the following topics.

CCS EDR Files

Introduction

EDR files will contain multiple EDRs, potentially of different types.

EDR file names

EDR file names have the following format:

name_of_process-BEID-PIDSecondsSinceEpoch-uSeconds

where:

- *name_of_process* is the name of the process that generated the EDR. One of the following:
  1. bewriter - if the EDR was generated on the billing engine
  2. ccsCDRFileGenerator - if the EDR was generated on the SMS
- *BEID* is the ID of the billing engine that generated the EDR. This will be '0' if the EDR was generated on the SMS.
- *PID* is the ID of the process that generated the EDR

- *SecondsSinceEpoch* indicates the time and date
- *uSeconds* is microseconds

Example:

beWriter-21-18730-1091693014-151357

EDR lines

Each EDR file consists of a series of single line, newline terminated (Unix style newline - '\n') EDR records.

EDR formats

Each EDR record consists of pipe-separated fields as follows:

field1|*field2*|*field3*|…|*fieldN*

Each EDR field consists of tag-value pairs using a tag=value format. In the case where there are many values to list, the values will be comma separated. An example of this format follows:

tag1=value1|*tag2=value2*|*tag3=value3a,value3b*|…|*tagN=valueN*

Example:

```
BILLING_ENGINE_ID=21|SCP_ID=366273322|SEQUENCE_NUMBER=487291|CDR_TYPE=1|RECORD_DATE=
20040803142342|ACCT_ID=83|ACCT_REF_ID=83|CLI=441234|ACS_CUST_ID=1|BALANCE_TYPES=1|BA
LANCES=1000|COSTS=1|ACCOUNT_TYPE=1|CASCADE_ID=1|RATES=50,25|LENGTHS=120.00,0.00|DISC
OUNTS=0,0|MAX_CHARGE=1|DURATION=60|TN=E441234|TCS=20040803141934|TCE=20040803142034|
CS=S|DISCOUNT_TYPE=S*W*R|WALLET_TYPE=1
```

EDR record content

Each CCS caused EDR record consists of two parts: the "header" tags that exists for all CCS EDR types and additional information that will be different depending on the EDR type. The sequence of all fields in the header and the additional information is not guaranteed.

Non-CCS caused EDR records may have "header" tags, but only as defined in the relevant producing application chapters.

Field formats

Each field in an EDR is in a particular format, summarized in this table.

Format	Description
Boolean	Value of "TRUE" or "FALSE" **Example:** `DICWR=TRUE`
Date	A time to the nearest second, in format YYYYMMDDHHmmSS where: • YYYY = year (for example, 2004) • MM = month (for example, 04 for March) • DD = day of the month (for example, 09) • HH = hours (for example, 13 for 1pm) • mm = minutes (for example, 32) • SS = seconds (for example, 00) **Example:** A call answered on 16th May 2004 1 minute and 14 seconds after midnight `TCS=20040516000114`
Integer	A decimal number. Will never exceed a 32 bit number (11 digits), but is often shorter. Leading zeros will not normally be present.

Format	Description
	Example: `WALLET_TYPE=1` In the case where there are multiple values to list, the values will be comma separated. **Example:** `RATES=50,100`
String	String of characters. Can be any length. Should not contain the characters = or |. May include spaces. When the parameter is a string, the string consists of all the characters after the = sign up to the | separator between this parameter and the next. **Example:** `DISCOUNT_TYPE=S*W*R|`
Float	Float is an integer with digits after a decimal point.
List	List is a comma separated list of string values.

Notes:

- Tags may not necessarily be in a fixed order, as the order of processing may vary from one transaction sequence to another.
- Some fields will not be present if the transaction sequence does not reach the state that produces them.

CCS EDR Types

Introduction

The current CCS EDR types created on the Voucher and Wallet Server or the SMS are listed in this topic.

List of EDR types

Each CCS EDR type is summarized in this table.

Type	EDR No.	Description
REGULAR_ CALL	1	**1** A national voice call that may include IVR interaction. **2** A roaming voice call - CAMEL originating or Mobile terminating (depends on current software installed – see EDR type 11). **3** A USSD Callback call (depends on current software installed – see EDR type 11). **4** Failed SMSMO Roaming or National Call. **5** Failed SMSMT Roaming or National Call. **6** Failed OSA Reservation Seconds Charging. **7** Reservation Revoke. **8** Reservation Commit.
OPERATOR_ UPDATE	2	**1** Updating an account using the SMS screens. **2** When the account is activated (the account state moves from Pre-Use to Active). **3** A freeform recharge using the PI (negative amounts only). **4** A freeform recharge using the PI (when recharge amount = 0).
EXPIRATION	3	**1** An account expires. **2** An account balance expires.

Type	EDR No.	Description
RECHARGE	4	**1** Successful or failed voucher recharge using the IVR except where the voucher details entered are invalid. **2** Successful or failed voucher recharge using the SMS screens except where the voucher details entered are invalid. **3** Successful voucher recharge using the PI. **4** Successful voucher recharge using USSD.
EVENT	5	**1** Successful or failed FnF FnD Config change. **2** Successful or failed PrePaid Data Content charging. **3** Failed OSA Reservation Named Events charging. **4** Failed PrePaid Data Volume/Duration charging. **5** Failed SMSMO Roaming or National Call. **6** Failed SMSMT Roaming or National Call.
Voice Calls	6	**1** Direct Amount Charge
Control Plan Service Invoke	7	
FREEFORM_ RECHARGE	8	**1** A freeform recharge using the screens. **2** A freeform recharge using the PI (positive amounts only). **3** A credit card recharge using the PI (WS prefix for value in REFERENCE field).
CREDITCARD_ RECHARGE	9	**1** A credit card recharge using the screens. **2** A credit card recharge using the PI (CC prefix for value in REFERENCE field).
VOUCHER_ FREEFORM	10	**1** A voucher freeform recharge using the screens.
ROAMING	11	This EDR type will only be present if the EDR filter is installed to convert the EDR type from type 1. **1** A roaming voice call - CAMEL originating or Mobile terminating. **2** A USSD Callback call.
SHORT_ MESSAGE Named Event	12	**1** Successful SMSMO national call. **2** Successful SMSMT national call.
SHORT_ MESSAGE Tariffed	13	**1** Successful or failed SMSMO roaming call. **2** Successful or failed SMSMT roaming call.
PREPAID_ DATA	14	**1** Successful PrePaid Data Volume/Duration charging.
VOUCHER_ REDEEM	15	**1** Successful or failed voucher recharge using the IVR. **2** Successful or failed voucher recharge using the screens. **3** Successful voucher recharge using the PI. **4** Successful voucher recharge using USSD
REWARDS	16	**1** Successful or failed reward application resulting from a balance update or expiry.
OSA Reservation Amount	21	**1** Successful or failed OSA amount based charging using amount-based reservations.

Type	EDR No.	Description
OSA Direct Amount	23	**1** Successful or failed OSA amount based charging using single amount-based debits/credits.
OSA Reservation Seconds	24	**1** Successful or failed OSA tariffed based charging using tariffed reservations.
OSA Reservation Named Events	25	**1** Successful or failed OSA named event based charging using named event reservations.
OSA Direct Seconds	26	**1** Successful or failed OSA tariff based charging using single tariff-based debits/credits.
OSA Direct Named Events	27	**1** Successful or failed OSA named event based charging using single named event-based debits/credits.
Friends Number Change	28	**1** Successful FnF FnD change using PI.
Disable Incoming Calls when Roaming	29	**1** The 'disable incoming calls when roaming' check box is changed using the screens. **2** The 'disable incoming calls when roaming' check box is changed using PI.
Call Barring	30	**1** Successful call barring number changes using PI.
PRODUCT_ TYPE_SWAP	31	**1** The product type changes using the screens (may or may not have an associated cost). **2** The product type changes using the IVR (may or may not have an associated cost).
PRODUCT_ TYPE_SWAP_BILLED	32	**1** The product type changes using the screens where there is an associated cost involved. **2** The product type changed using the IVR.
BAD_PIN	33	**1** Invalid voucher number entered using the screens or using the IVR. **2** Invalid secret code entered using the IVR.
Standard voucher type recharge	47	**1** Successful voucher recharge from a control plan. **2** Successful voucher recharge from a periodic charge. **3** Successful voucher recharge from a credit transfer.
Periodic charge	49	Successful or failed recharge and/or charge from a periodic charge.
Periodic charge state change	52	Successful or failed periodic charge state change.
Wallet Migration	54	
Wallet Life Cycle	55	Wallet life cycle plan updates.
Voucher Activity	56	

Note: These EDR types were accurate when the document was written, but additional types may have been created since publication.

EDR Definition

Introduction

Each EDR record contains common header fields and extra information fields that are service specific.

EDR header fields

Each EDR record contains a set of common header fields. Header fields contain generic information that should be available for every call. The standard header fields are listed here:

- *ACCT_ID* (on page 149) (changed wallet ID)
- *ACCT_REF_ID* (on page 149) (changed account ID)
- *BILLING_ENGINE_ID* (on page 155) (BE where account resides)
- *CDR_TYPE* (on page 160) (reason for record generation)
- *RECORD_DATE* (on page 188) (date edr created)
- *SCP_ID* (on page 194) (where call originated)
- *SEQUENCE_NUMBER* (on page 194) (call identifier)

Notes

- The sequence of all fields is not guaranteed.
- If the EDR was generated as a result of a change to the account using the SMS UI then the:
  - SCP_ID will be zero.
  - SEQUENCE_NUMBER will be zero.
- EDR records associated with each wallet expiry contain the MSISDN and product types of all affected subscribers.

  Example: A user may have both a mobile and a data card - each with its own SIM. The mobile and data cards are each represented as subscriber records but they share a single wallet.

  If the:
  - MSISDN of the mobile card is 01234 and that of the data card is 01235
  - Product type of the mobile card is 1 (Prepaid Voice) and the product type of the data card is 2 (Prepaid Data).

  then the expiry EDR would contain the following fields:

  MSISDN=01234,01235
  ACCOUNT_TYPE=1,2

EDR extra information fields

The extra information field varies for each type of EDR record and contains additional information specific to the EDR type.

The extra information fields are detailed in the following chapters, based on the type of service provided where for each service the extra information fields are summarized in a table.

EDR Examples

Most of the EDR definitions have one or more examples of what a raw EDR record looks like.

Due to the ever changing use of EDR contents, these examples will usually pertain to the most current version of the software that produces them.

That means tag content examples will not necessarily be correct of previous versions of software.

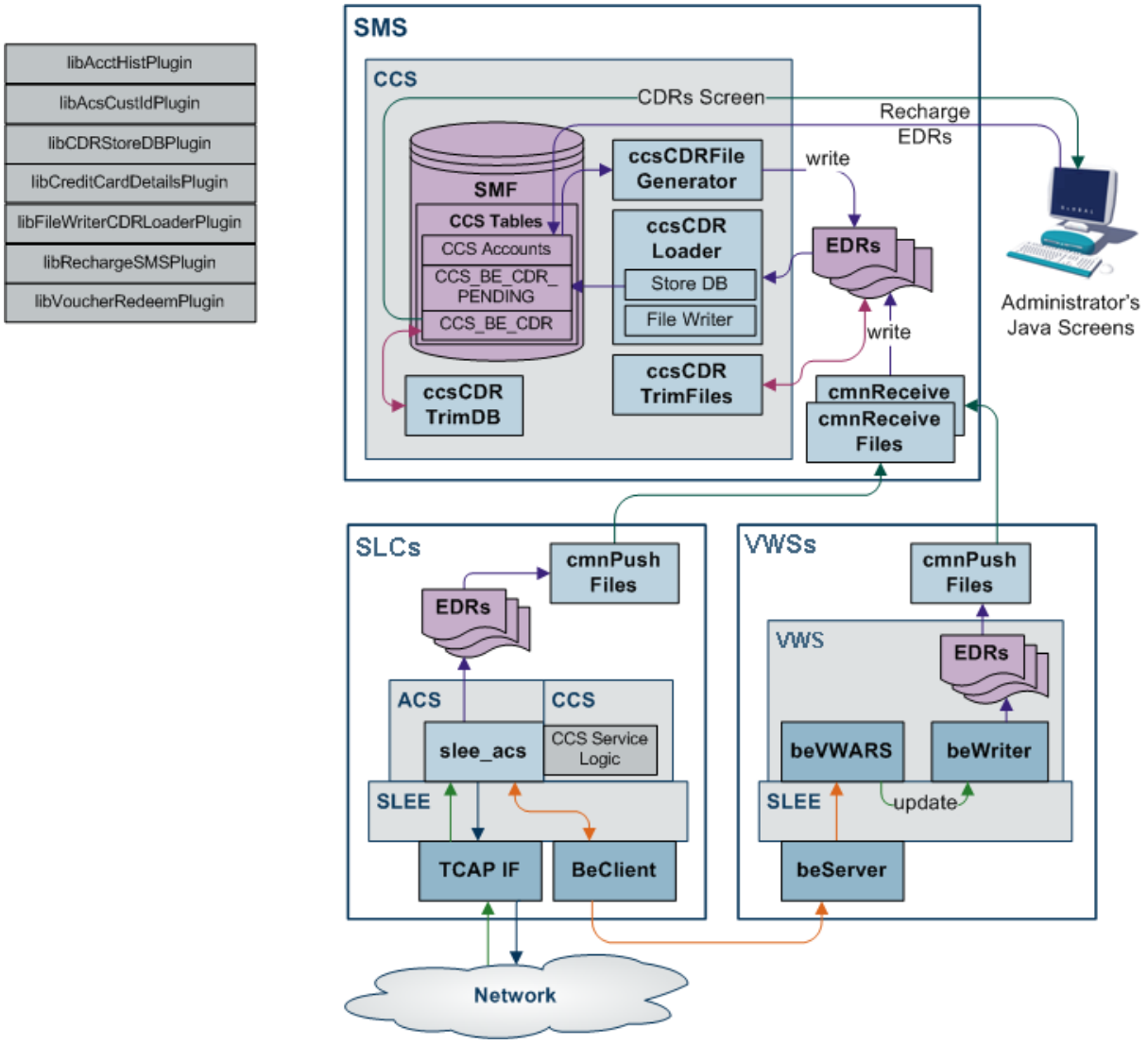
EDRs

Introduction

This section explains how EDRs are used in CCS. For more information, see *CCS Technical Guide*.

Diagram

Here is an example showing EDR creation, transfer to the SMS and processing.



Dataflow

This table shows the process by which EDRs are written and collected to the SMF database.

Stage	Description
1	The SLC is the originator of all events that cause Voucher and Wallet Servers to perform tasks during call processing, as the SLC controls how the service responds to network events. The SLC signals events to the VWS Voucher and Wallet Server using the CCS Billing Engine Protocol. The service sends messages to the Voucher and Wallet Servers through the ccsBeClient interface.
2	EDRs are written out to disk as ASCII files on the VWS.
3	The files are transfered to the SMS.
4	The files are indexed and made available to the Java User Screens and external EDR post-processing tools.
5	CCS screens created EDRs are written by the ccsCDRGenerator process to the same directory the VWS flat files are transfered into. The ccsCDRLoader then loads both the same way.

Stage 2

On the VWS in **/IN/service_packages/eserv.config** the following configuration item tells the beWriter which directory to write the finished flat file of EDRs:

```
BE.beWriter.beCdrOutDirectory = "/IN/service_packages/E2BE/logs/CDR"
```

Stage 3

On the VWS in **/IN/service_packages/eserv.config** the following configuration item tells the cmnPushFiles process which directory to upload flat file EDRs from to the SMP:

```
BE.cmnPushFiles.CDR
    # local BE directory for flat file CDRs
    "-d", "/IN/service_packages/E2BE/logs/CDR"

    # upload files to this directory on the SMP
    "-r", "/IN/service_packages/CCS/logs/CDR-in"

    # Send files to this SMP hostname
    "-h", "ccssmp"
```

The local directory defined with the `-d` switch must match the path defined in the `BE.beWriter.beCdrOutDirectory` configuration parameter.

Stage 4

On the SMS in **/IN/service_packages/eserv.config** the following configuration item tells the ccsCDRLoader process where to get the uploaded flat file EDRs for processing:

```
CCS.ccsCDRLoader.inDir = "/IN/service_packages/CCS/logs/CDR-in"
```

Note: The `inDir` configuration parameter must be the same path as the `-r` switch defined by the `BE.cmnPushFiles.CDR` section on the VWS.

The following configuration item is where the ccsCDRLoader will place the original flat file EDRs once all the plug-ins have been run:

```
CCS.ccsCDRLoader.outDir = "/IN/service_packages/CCS/logs/CDR-store"
```

The following configuration section on the SMS tells the ccsCDRLoader which plug-ins to run over every record in the flat file EDRs:

```
CCS.ccsCDRLoader.pluginLibs = ["libCDRStoreDBPlugin.so",
"libFileWriterCDRLoaderPlugin.so"]
```

The EDR Store DB plug-in loads the EDR record from the input flat file into the CCS_BE_CDR table. The data for each record may have been modified by other plug-ins, so is usually last in the list. If database loading of EDRs is not required, then this plug-in should not be configured to achieve the required behavior.

Other plug-ins may be available, for example, to place modified EDRs into a separate flat file than the original ones or to update the account history.

Stage 5

The ccsCDRFileGenerator process writes SMS produced EDRs to a directory for the ccsCDRLoader process to read. The following parameter value in **eserv.config** should be a different directory to any the ccsCDRLoader uses, as it stores the partially written files until the finished file will be written:

```
CCS.ccsCDRFileGenerator.TempOutputDirectory = "/IN/service_packages/CCS/logs/CDR-tmp"
```

The following parameter should always be set to the same value of the `CCS.ccsCDRLoader.inDir` parameter and is where the ccsCDRFileGenerator writes the finished flat file EDRs for SMS activity:

```
CCS.ccsCDRFileGenerator.OutputDirectory = "/IN/service_packages/CCS/logs/CDR-in"
```

The ccsCDRLoader then reads flat file EDRs produced by the VWS and SMS without knowing where they have come from.

Process descriptions

This table describes the processes involved in EDR creation, transfer and processing in CCS.

Process	Role	Further information
beWriter	beWriter writes EDRs on the VWS based on VWS Account, Wallet and Balance transactions.	*VWS Technical Guide*
cmnPushFiles	cmnPushFiles reads EDRs on the VWS and sends them to a configured directory on the SMS. Once the files have been sent, the read files on the VWS are archived by cmnPushFiles.	cmnPushFiles
cmnReceiveFiles	cmnReceiveFiles accepts EDRs sent from cmnPushFiles and writes them to the directory on the SMS specified by cmnReceiveFiles.	*SMS Technical Guide*
ccsCDRLoader	ccsCDRLoader scans the input directory written to by cmnReceiveFiles and loads any EDRs into the CCS_BE_CDRS table in the SMF database.	ccsCDRLoader
ccsCDRFileGenerator	ccsCDRFileGenerator creates EDRs recording relevant actions taken in the CCS Java Administration screens. Relevant actions include changes to the balances or wallets.	ccsCDRFileGenerator
ccsCDRTrimDB	ccsCDRTrimDB periodically scans the CCS_BE_CDR table in the SMF and removes records past a specified age.	ccsCDRTrimDB
ccsCDRTrimFiles	ccsCDRTrimFiles periodically scans the EDR archive directory on the SMS and removes files over a specified age.	ccsCDRTrimFiles
CCS GUI	The CCS GUI enables: • Subscriber details and Wallets to be updated through EDRs created by ccsCDRGenerator, and • EDRs in CCS_BE_CDR to be viewed.	*CCS User's Guide*

EDR triggers

The following messages, among others, cause the beWriter to write EDRs:

- Call End Notification
- Wallet Recharge Request
- Named Event

CCS-VWS Protocol overview

The new CCS-VWS protocol is built upon an extensible self-describing message format called Escher. The new protocol is easily extensible, versioned, and allows additions without breaking backward compatibility. The CCS-VWS protocol definition is defined for internal use only.

Controlling the flow of EDRs

There are configuration items in **eserv.config** that link where files are read and written to that allow the flow to happen. The out directory of an earlier stage must match the in directory path for the system to function. The defaults at install time are set to work without further modification.

Checking the values in eserv.config

The current value of a configuration item in **eserv.config** can be checked by using the Configuration Read tool. To use this tool use the following command:

`/IN/service_packages/SMS/bin/cmnConfigRead` *`config_item`*

Example:

```
/IN/service_packages/SMS/bin/cmnConfigRead BE.beWriter.beCdrOutDirectory
```

gives: `/IN/service_packages/E2BE/logs/CDR`

Checking the validity of eserv.config

The validity of an **eserv.config** file can be checked using:

```
/IN/service_packages/SMS/bin/cmnConfigSyntaxCheck -v
/IN/service_packages/eserv.config
```

Result:

```
Syntax check passed for file /IN/service_packages/eserv.config
```

Chapter 3

Operator Updates

Overview

Introduction

This chapter defines the CCS EDRs for operator updates.

In this chapter

This chapter contains the following topics.

Account Creation using Screens (EDR 2)

Mandatory EDR 2 fields

This list identifies the mandatory EDR record fields for account creation using screens (CDR type 2):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-call or account creation)
- *COSTS* (on page 163) (rated calls)
- *MAX_CONCURRENT* (on page 174) (maximum concurrent accesses allowed)
- *MSISDN* (on page 175) (account calling number)
- *NEW_ACCT_STATE* (on page 178) (always preuse - P)
- *TERMINAL* (on page 196) (Network ID)
- *USER* (on page 197) (operator logon name)

Optional EDR 2 fields

This list identifies the optional EDR record fields for account creation using screens (CDR type 2):

- *ACTIVATION_DATE* (on page 151) (account activation date)
- *NEW_ACCT_EXPIRY* (on page 177) (date after update)

Example EDR 2

```
BILLING_ENGINE_ID=21|SCP_ID=110537566|SEQUENCE_NUMBER=139450184|CDR_TYPE=2|RECORD_DA
TE=20040803121758|ACCT_ID=20054|ACCT_REF_ID=0|BALANCE_TYPES=1,2,5|BALANCES=0,0,0|COS
TS=2000,0,0|ACTIVATION_DATE=0|NEW_ACCT_EXPIRY=0|MAX_CONCURRENT=1|
NEW_ACCT_STATE=P|ACS_CUST_ID=1|TERMINAL=192.168.25.108|USER=SU|ACCOUNT_TYPE=1|MSISDN
=1394111111
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Account Creation using PI (EDR 2)

Mandatory EDR 2 fields

This list identifies the mandatory EDR record fields for account creation using PI (CDR type 2):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-call or account creation)
- *COSTS* (on page 163) (rated calls)
- *MAX_CONCURRENT* (on page 174) (maximum concurrent accesses allowed)
- *MSISDN* (on page 175) (account calling number)
- *NEW_ACCT_STATE* (on page 178) (always preuse - P)
- *PI* (on page 185) (logon name and IP address)
- *WALLET_TYPE* (on page 198) (ID of wallet recharged)

Optional EDR 2 fields

This list identifies the optional EDR record fields for account creation using PI (CDR type 2):

- *ACTIVATION_DATE* (on page 151) (account activation date)
- *NEW_ACCT_EXPIRY* (on page 177) (date after update)

Example EDR 2

```
BILLING_ENGINE_ID=21|SCP_ID=110537566|SEQUENCE_NUMBER=139450184|CDR_TYPE=2|
RECORD_DATE=20070703121758|ACCT_ID=20054|ACCT_REF_ID=0|ACCOUNT_TYPE=11|BALANCE_TYPES
=1,2,5|BALANCES=0,0,0|COSTS=2000,0,0|ACTIVATION_DATE=0|NEW_ACCT_EXPIRY=0|MAX_CONCURR
ENT=1|NEW_ACCT_STATE=P|ACS_CUST_ID=1|MSISDN=01394777777|WALLET_TYPE=1|PI=
adminAT192.168.25.106
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Account Balance Changes using Screens (EDR 2)

Mandatory EDR 2 fields

This list identifies the mandatory EDR record fields for account balance changes using screens (CDR type 2):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *COSTS* (on page 163) (rated calls)
- *MSISDN* (on page 175) (account calling number)
  When the ccsCDRLoader plugin is installed on the SMS, this tag will be present.
- *NEW_BALANCE_EXPIRIES* (on page 179) (date after balance update)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before balance update)
- *TERMINAL* (on page 196) (Network ID)
- *USER* (on page 197) (operator logon name)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Optional EDR 2 fields

This list identifies the optional EDR record fields for account balance changes using screens (CDR type 2):

- *NEW_ACCT_STATE* (on page 178) (after update)
- *OLD_ACCT_STATE* (on page 182) (before update)
- *REASON* (on page 188) (change reason)

Example EDR 2

```
BILLING_ENGINE_ID=21|SCP_ID=110537566|SEQUENCE_NUMBER=139450184|CDR_TYPE=2|RECORD_DA
TE=20040803122430|ACCT_ID=83|ACCT_REF_ID=83|USER=SU|TERMINAL=123.123.123.123|ACCOUNT
_TYPE=1|BALANCE_TYPES=1|BALANCES=2000|COSTS=-
1000|OLD_BALANCE_EXPIRIES=|NEW_BALANCE_EXPIRIES=0|ACS_CUST_ID=1|WALLET_TYPE=1|MSISDN
=1394111111|REASON="Balance topped up"
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Account Balance Changes using PI (EDR 2)

Mandatory EDR 2 fields

This list identifies the mandatory EDR record fields for account balance changes using PI (CDR type 2):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *COSTS* (on page 163) (rated calls)
- *MSISDN* (on page 175) (account calling number)
  When the ccsCDRLoader plugin is installed on the SMS, this tag will be present.
- *NEW_ACCT_EXPIRY* (on page 177) (date after update)
- *NEW_BALANCE_EXPIRIES* (on page 179) (date after balance update)
- *OLD_ACCT_EXPIRY* (on page 181) (dates before update)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before balance update)

- *PI* (on page 185) (logon name and IP address)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Optional EDR 2 fields

This list identifies the optional EDR record fields for account balance changes using PI (CDR type 2):

- *NEW_ACCT_STATE* (on page 178) (after update)
- *OLD_ACCT_STATE* (on page 182) (before update)

Example EDR 2

```
BILLING_ENGINE_ID=4|SCP_ID=161986004|SEQUENCE_NUMBER=9|CDR_TYPE=2|RECORD_DATE=200708
09121732|ACCT_ID=1021|ACCT_REF_ID=1021|PI=adminAT192.168.25.108|WALLET_TYPE=1|ACCOUN
T_TYPE=41|OLD_ACCT_EXPIRY=20080901185959|NEW_ACCT_EXPIRY=20080901185959|BALANCE_TYPE
S=1|BALANCES=124495|COSTS=3322|OLD_BALANCE_EXPIRIES=20080131190018|NEW_BALANCE_EXPIR
IES=20080131190018|ACS_CUST_ID=1|MSISDN=11012
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Account State Update using Screens (EDR 2)

Mandatory EDR 2 fields

This list identifies the mandatory EDR record fields for account state update using screens (EDR type 2):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *COSTS* (on page 163) (rated calls)
- *MSISDN* (on page 175) (account calling number)
  When the ccsCDRLoader plugin is installed on the SMS, this tag will be present.
- *NEW_ACCT_EXPIRY* (on page 177) (date after update)
- *NEW_BALANCE_EXPIRIES* (on page 179) (date after balance update)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before balance update)
- *TERMINAL* (on page 196) (Network ID)
- *USER* (on page 197) (operator logon name)

Optional EDR 2 fields

This table lists the optional fields for account state update using screens (EDR type 2):

- *ACTIVATION_DATE* (on page 151) (account activation date)
- *MAX_CONCURRENT* (on page 174) (maximum concurrent accesses allowed)
- *NEW_ACCT_STATE* (on page 178) (after update)
- *NEW_LAST_USE* (on page 180) (date last used)
- *OLD_ACCT_EXPIRY* (on page 181) (dates before update)
- *OLD_ACCT_STATE* (on page 182) (before update)
- *REASON* (on page 188) (change reason)

Example EDR 2

```
BILLING_ENGINE_ID=21|SCP_ID=110537566|SEQUENCE_NUMBER=139450184|CDR_TYPE=2|RECORD_DA
TE=20040803122626|ACCT_ID=83|ACCT_REF_ID=83|USER=SU|TERMINAL=192.168.25.108|ACCOUNT_
TYPE=1|OLD_ACCT_STATE=P|NEW_ACCT_STATE=A|BALANCE_TYPES=1|BALANCES=3000|COSTS=0|OLD_B
ALANCE_EXPIRIES=|NEW_BALANCE_EXPIRIES=0|ACS_CUST_ID=1|MSISDN=1394111111|REASON="Acti
vate wallet"
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Account State Update using PI (EDR 2)

Mandatory EDR 2 fields

This list identifies the mandatory EDR record fields for account state update using PI (EDR type 2):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *COSTS* (on page 163) (rated calls)
- *MSISDN* (on page 175) (account calling number)
  When the ccsCDRLoader plugin is installed on the SMS, this tag will be present.
- *NEW_ACCT_EXPIRY* (on page 177) (date after update)
- *NEW_ACCT_STATE* (on page 178) (after update)
- *NEW_BALANCE_EXPIRIES* (on page 179) (date after balance update)
- *OLD_ACCT_EXPIRY* (on page 181) (dates before update)
- *OLD_ACCT_STATE* (on page 182) (before update)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before balance update)
- *PI* (on page 185) (logon name and IP address)
- *WALLET_TYPE* (on page 198) (ID of wallet recharged)

Optional EDR 2 fields

This list identifies the optional EDR record fields for account state update using PI (EDR type 2):

- *ACTIVATION_DATE* (on page 151) (account activation date)
- *MAX_CONCURRENT* (on page 174) (maximum concurrent accesses allowed)
- *NEW_LAST_USE* (on page 180) (date last used)

Example EDR 2

```
BILLING_ENGINE_ID=21|SCP_ID=161986004|SEQUENCE_NUMBER=139450184|CDR_TYPE=2|RECORD_DA
TE=20070719085005|ACCT_ID=83|ACCT_REF_ID=83|ACCOUNT_TYPE=24|PI=adminAT192.168.25.106
|OLD_ACCT_STATE=F|NEW_ACCT_STATE=A|OLD_ACCT_EXPIRY=0|NEW_ACCT_EXPIRY=0|BALANCE_TYPES
=1|BALANCES=3000|COSTS=0|OLD_BALANCE_EXPIRIES=0|NEW_BALANCE_EXPIRIES=0|ACS_CUST_ID=1
|WALLET_TYPE=1|MSISDN=01892111111
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Account Expiry Update using Screens (EDR 2)

Mandatory EDR 2 fields

This list identifies the mandatory EDR record fields for account expiry update using screens (EDR type 2):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *COSTS* (on page 163) (rated calls)
- *MSISDN* (on page 175) (account calling number)
  When the ccsCDRLoader plugin is installed on the SMS, this tag will be present.
- *NEW_ACCT_EXPIRY* (on page 177) (date after update)
- *NEW_BALANCE_EXPIRIES* (on page 179) (date after balance update)
- *OLD_ACCT_EXPIRY* (on page 181) (dates before update)
- *OLD_ACCT_STATE* (on page 182) (before update)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before balance update)
- *TERMINAL* (on page 196) (Network ID)
- *USER* (on page 197) (operator logon name)
- *WALLET_DELETED* (on page 198) (always success - Y)
- *WALLET_TYPE* (on page 198) (ID of wallet recharged)

Optional EDR 2 fields

This list identifies the optional EDR record fields for account state expiry using screens (EDR type 2):

- *ACTIVATION_DATE* (on page 151) (account activation date)
- *MAX_CONCURRENT* (on page 174) (maximum concurrent accesses allowed)
- *OLD_ACCT_STATE* (on page 182) (before update)
- *NEW_ACCT_STATE* (on page 178) (after update)
- *REASON* (on page 188) (change reason)

Example EDR 2

```
BILLING_ENGINE_ID=21|SCP_ID=110537566|SEQUENCE_NUMBER=13954|CDR_TYPE=2|RECORD_DATE=2
0040803123349|ACCT_ID=83|ACCT_REF_ID=83|USER=SU|TERMINAL=192.168.25.108|ACCOUNT_TYPE
=1|OLD_ACCT_EXPIRY=20140103120000|NEW_ACCT_EXPIRY=20170103120000|BALANCE_TYPES=1|BAL
ANCES=3000|COSTS=0|WALLET_DELETED=N|OLD_ACCT_STATE=A|OLD_BALANCE_EXPIRIES=|NEW_BALAN
CE_EXPIRIES=0|ACS_CUST_ID=1|WALLET_TYPE=1|MSISDN=1394111111|REASON="Extend account
expiry date"
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Balance Expiry Update using Screens (EDR 2)

Mandatory EDR 2 fields

This list identifies the mandatory EDR record fields for balance expiry update using screens (EDR type 2):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *COSTS* (on page 163) (rated calls)
- *MSISDN* (on page 175) (account calling number)
  When the ccsCDRLoader plugin is installed on the SMS, this tag will be present.
- *NEW_BALANCE_EXPIRIES* (on page 179) (date after balance update)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before balance update)
- *TERMINAL* (on page 196) (Network ID)
- *USER* (on page 197) (operator logon name)

Optional EDR 2 fields

This list identifies the optional EDR record fields for balance expiry update using screens (CDR type 2):

- *NEW_ACCT_STATE* (on page 178) (after update)
- *OLD_ACCT_STATE* (on page 182) (before update)
- *REASON* (on page 188) (change reason)

Example EDR 2

```
BILLING_ENGINE_ID=21|SCP_ID=110537566|SEQUENCE_NUMBER=139540184|CDR_TYPE=2|RECORD_DA
TE=20040803123655|ACCT_ID=83|ACCT_REF_ID=83|USER=SU|ACCOUNT_TYPE=1|BALANCE_TYPES=1,2
|BALANCES=1000,3500|COSTS=0,0|OLD_BALANCE_EXPIRIES=20040903122900,20040805122900|NEW
_BALANCE_EXPIRIES=20040910122900,20040812122900|ACS_CUST_ID=1|MSISDN=1394111111
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Account Deleted using Screens (EDR 2)

Mandatory EDR 2 fields

This list identifies the mandatory EDR record fields for account deleted using screens (EDR type 2):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACTIVATION_DATE* (on page 151) (account activation date)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *COSTS* (on page 163) (rated calls)
- *MAX_CONCURRENT* (on page 174) (maximum concurrent accesses allowed)
- *MSISDN* (on page 175) (account calling number)
  When the ccsCDRLoader plugin is installed on the SMS, this tag will be present.
- *NEW_ACCT_EXPIRY* (on page 177) (date after update)
- *NEW_BALANCE_EXPIRIES* (on page 179) (date after balance update)
- *OLD_ACCT_EXPIRY* (on page 181) (dates before update)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before balance update)
- *TERMINAL* (on page 196) (Network ID)

- *USER* (on page 197) (operator logon name)
- *WALLET_DELETED* (on page 198) (always success - Y)

Optional EDR 2 fields

This list identifies the optional EDR record fields for account deleted using screens (CDR type 2):

- *NEW_ACCT_STATE* (on page 178) (after update)
- *OLD_ACCT_STATE* (on page 182) (before update)
- *REASON* (on page 188) (change reason)

Example EDR 2

```
BILLING_ENGINE_ID=21|SCP_ID=175677458|SEQUENCE_NUMBER=139540184|CDR_TYPE=2|RECORD_DA
TE=20070716112330|ACCT_ID=20056|ACCT_REF_ID=20056|USER=SU|TERMINAL=192.168.25.108|BA
LANCE_TYPES=1,2,3,4,5|BALANCES=10000,0,0,0,0|COSTS=10000,0,0,0,0|WALLET_DELETED=Y|AC
TIVATION_DATE=20040703122900|NEW_ACCT_EXPIRY=0|MAX_CONCURRENT=1|OLD_ACCT_STATE=P|ACC
OUNT_TYPE=1|NEW_BALANCE_EXPIRIES=0|OLD_BALANCE_EXPIRIES=20040811100354|OLD_ACCT_EXPI
RY=20040811100357|MSISDN=1394111111
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Account Activated by System (EDR 2)

Mandatory EDR 2 fields

The account will be activated by the system when a call is made on an account that is in a 'PreUse' state.

This list identifies the mandatory EDR record fields for an account activated by the system (EDR type 2):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *COSTS* (on page 163) (rated calls)
- *MSISDN* (on page 175) (account calling number)
  When the ccsCDRLoader plugin is installed on the SMS, this tag will be present.
- *NEW_ACCT_EXPIRY* (on page 177) (date after account deleted)
  If the expiry date is updated then this tag will be present.
- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *NEW_BALANCE_EXPIRIES* (on page 179) (date after balance update)
- *OLD_ACCT_EXPIRY* (on page 181) (dates before update)
  If the expiry date is updated then this tag will be present.
- *OLD_ACCT_STATE* (on page 182) (P or D before update)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before balance update)

Example EDR 2

```
BILLING_ENGINE_ID=21|SCP_ID=110537566|SEQUENCE_NUMBER=139450184|CDR_TYPE=2|RECORD_DA
TE=20040806100354|ACCT_ID=20064|ACCT_REF_ID=20026|BALANCE_TYPES=1|NEW_ACCT_STATE=A|O
LD_ACCT_STATE=P|ACS_CUST_ID=1|ACCOUNT_TYPE=1|MSISDN=1394111111
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Chapter 4

Voucher Activity

Overview

Introduction

This chapter defines the CCS EDRs for voucher activity.

In this chapter

This chapter contains the following topics.

Voucher Activity using Screen or PI (EDR 56)

Mandatory EDR 56 fields

This list identifies the mandatory EDR record fields for a voucher activity using screens or PI (EDR type 56):

- *ACCT_ID* (on page 149) (changed wallet ID)
- *ACCT_REF_ID* (on page 149) (changed account ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *ACTION* (on page 150) (voucher action)
- *ACTION_DETAIL* (on page 150) (voucher action)
- *USER* (on page 197) (operator logon name)
- *NUMBER* (on page 181) (voucher number)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 56

```
BILLING_ENGINE_ID=0|SCP_ID=0|SEQUENCE_NUMBER=463|CDR_TYPE=56|RECORD_DATE=20180328102
552|ACCT_ID=0|ACCT_REF_ID=0|ACS_CUST_ID=21|ACTION=VRC|ACTION_DETAIL=Success|USER=SU|
NUMBER=60041
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Chapter 5

Voucher Recharges

Overview

Introduction

This chapter defines the CCS EDRs for voucher recharges.

In this chapter

This chapter contains the following topics.

Voucher Recharge Succeeds using Screens (EDR 4,15)

Introduction

Two or three EDRs are created for this event:

- A type 4
- A type 15
- A type 16 when the Rewards plug-in is being used. See Rewards chapter for the EDR definition.

Mandatory EDR 4 fields

This list identifies the mandatory EDR record fields for voucher recharge succeeds using screens (EDR type 4):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *BATCH_DESCRIPTION* (on page 155) (for voucher batch)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *NEW_ACCT_EXPIRY* (on page 177) (date after update)
- *NEW_BALANCE_EXPIRIES* (on page 179) (dates after voucher recharge)
- *OLD_ACCT_EXPIRY* (on page 181) (dates before update)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before voucher recharge)
- *TERMINAL* (on page 196) (Network ID)

- *TYPE_DESCRIPTION* (on page 197) (voucher type)
- *USER* (on page 197) (operator logon name)

Optional EDR 4 fields

If they are not present, the ccsCDRLoader voucher plug-in does not process the EDR. For more information about ccsCDRLoader, see Process descriptions.

This list identifies the optional EDR record fields for voucher recharge succeeds using screens (EDR type 4):

- *REFERENCE* (on page 190) (voucher freeform)
- VOUCHER - one of:
  - *VOUCHER* (on page 197) (ID of redeemed voucher)
  - *VOUCHER* (on page 197) (serial number of redeemed voucher - 3.1.5)

Mandatory EDR 15 fields

This list identifies the mandatory EDR record fields for voucher recharge succeeds using screens (EDR type 15):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_EXPIRIES* (on page 152) (period hours)
- *BALANCE_TYPES* (on page 153) (existing account)
- *COSTS* (on page 163) (rated calls)
- *REDEEMING_ACCT_REF* (on page 188) (ID of account)
- *RESULT* (on page 192) (voucher redemption, always Success)
- VOUCHER - one of:
  - *VOUCHER* (on page 197) (ID of redeemed voucher)
  - *VOUCHER* (on page 197) (serial number of redeemed voucher - 3.1.5)

Optional EDR 15 fields

This list identifies the optional EDR record fields for voucher recharge succeeds using screens (EDR type 15):

- *BATCH_DESCRIPTION* (on page 155) (for voucher batch)
- *NEW_ACCOUNT* (on page 177) (ID of account type)
- *OLD_ACCOUNT* (on page 181) (ID of account type)
- *REDEEMING_ACCT_TYPE* (on page 188) (name of account type)
- *SCENARIO* (on page 194) (voucher scenario number)
- *TYPE_DESCRIPTION* (on page 197) (voucher type)
- REDEEMING_SUBSCRIBER_ID (subscriber ID)

Account Activated additional fields

If the account is activated, the following fields are generated:

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (P or D before update)

Reload Bonus additional fields

If the account has a promotional reload bonus configured, the following fields are generated (EDR types 4, 15 and 16):

- *RELOAD_BONUS* (on page 190) (promotion name)
- *RELOAD_BONUS_AMOUNT* (on page 190) (amount applied)
- *RELOAD_BONUS_EXPIRY* (on page 190) (date remaining bonus expires)
- *RELOAD_BONUS_LEFT* (on page 191) (bonus amount remaining)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 4

```
BILLING_ENGINE_ID=21|SCP_ID=110537566|SEQUENCE_NUMBER=139450184|CDR_TYPE=4|
RECORD_DATE=20040803152956|ACCT_ID=61|ACCT_REF_ID=61|ACS_CUST_ID=1|
VOUCHER=7609766|VOUCHER_NUMBER=0000000067|CS=S|USER=SU| ACCOUNT_TYPE=1|
BALANCE_TYPES=1|BALANCES=1001800|COSTS=-1000|NEW_BALANCE_EXPIRIES=|
OLD_BALANCE_EXPIRIES=0
```

Example EDR 15

```
BILLING_ENGINE_ID=21|SCP_ID=110537566|SEQUENCE_NUMBER=139450184|CDR_TYPE=15|
RECORD_DATE=20070719111321|ACCT_ID=61|ACCT_REF_ID=61|ACS_CUST_ID=1|REDEEMING_ACCT_RE
F=61|VOUCHER=7608766|VOUCHER_NUMBER=0000000067|RESULT=Success|BALANCE_TYPES=1|COSTS=
-1000|BALANCE_EXPIRIES=|ACCOUNT_TYPE=24
```

If the **useVoucherRedeemCDR** parameter in the ccsCDRLoader section of eserv.config in SMS is set as true, then additional voucher related fields are also returned as shown in the below example:

```
BILLING_ENGINE_ID=42|SCP_ID=55771394|SEQUENCE_NUMBER=0|CDR_TYPE=15|RECORD_DATE=20180
328121357|ACCT_ID=3|ACCT_REF_ID=4|ACS_CUST_ID=21|REDEEMING_ACCT_REF=4|REDEEMING_ACCT
_TYPE=21|RESULT=Success|VOUCHER=184|VOUCHER_NUMBER=60045|BALANCE_TYPES=78|COSTS=-
10|BALANCE_EXPIRIES=|USER=SU|TERMINAL=10.191.235.82|WALLET_TYPE=5|BARCODE=12|TEXT=ad
ding|CARD_DESIGN=90|DISTRIBUTOR_CHANNEL=fields|RETAIL_CHANNEL=for
a|FREE_TEXT_FIELD_1=CDR|FREE_TEXT_FIELD_2=test|FREE_TEXT_FIELD_3=case|PROVISIONING_D
ATE=20180313091814
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Voucher Recharge Succeeds using IVR (EDR 4,15)

Introduction

Two or three EDRs are created for this event:

- A type 4
- A type 15
- A type 16 when the Rewards plug-in is being used. See Rewards chapter for the EDR definition.

Mandatory EDR 4 fields

This list identifies the mandatory EDR record fields for voucher recharge succeeds using IVR (EDR type 4):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *BATCH_DESCRIPTION* (on page 155) (for voucher batch)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *NEW_BALANCE_EXPIRIES* (on page 179) (dates after voucher recharge)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before voucher recharge)
- *TYPE_DESCRIPTION* (on page 197) (voucher type)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Optional EDR 4 fields

If they are not present, the ccsCDRLoader voucher plug-in does not process the EDR. For more information about ccsCDRLoader, see Process descriptions.

This list identifies the optional EDR record fields for voucher recharge succeeds using IVR (EDR type 4):

- *REFERENCE* (on page 190) (voucher freeform)
- VOUCHER - one of:
  - *VOUCHER* (on page 197) (ID of redeemed voucher)
  - *VOUCHER* (on page 197) (serial number of redeemed voucher - 3.1.5)

Mandatory EDR 15 fields

This list identifies the mandatory EDR record fields for voucher recharge succeeds using IVR (EDR type 15):

- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_EXPIRIES* (on page 152) (period hours)
- *BALANCE_TYPES* (on page 153) (existing account)
- *COSTS* (on page 163) (rated calls)
- *REDEEMING_ACCT_REF* (on page 188) (ID of account)
- *RESULT* (on page 192) (voucher redemption, always Success)
- VOUCHER - one of:
  - *VOUCHER* (on page 197) (ID of redeemed voucher)
  - *VOUCHER* (on page 197) (serial number of redeemed voucher - 3.1.5)

Optional EDR 15 fields

This list identifies the optional EDR record fields for voucher recharge succeeds using IVR (EDR type 15):

- *BATCH_DESCRIPTION* (on page 155) (for voucher batch)
- *NEW_ACCOUNT* (on page 177) (ID of account type)
- *OLD_ACCOUNT* (on page 181) (ID of account type)
- *REDEEMING_ACCT_TYPE* (on page 188) (name of account type)
- *SCENARIO* (on page 194) (voucher scenario number)

- *TYPE_DESCRIPTION* (on page 197) (voucher type)
- REDEEMING_SUBSCRIBER_ID (subscriber ID)

Account Activated additional fields

If the account is activated, the following fields are generated:

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (P or D before update)

Reload Bonus additional fields

If the account has a promotional reload bonus configured, the following fields are generated (EDR types 4, 15 and 16):

- *RELOAD_BONUS* (on page 190) (promotion name)
- *RELOAD_BONUS_AMOUNT* (on page 190) (amount applied)
- *RELOAD_BONUS_EXPIRY* (on page 190) (date remaining bonus expires)
- *RELOAD_BONUS_LEFT* (on page 191) (bonus amount remaining)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 4

```
BILLING_ENGINE_ID=21|SCP_ID=366273322|SEQUENCE_NUMBER=488297|
CDR_TYPE=4|RECORD_DATE=20040804103532|ACCT_ID=61|ACCT_REF_ID=61|
ACS_CUST_ID=1|VOUCHER=7609766|VOUCHER_NUMBER=0000000081|CS=S|
 WALLET_TYPE=1|ACCOUNT_TYPE=1|BALANCE_TYPES=1|BALANCES=1005800|
COSTS=-1000|NEW_BALANCE_EXPIRIES=|OLD_BALANCE_EXPIRIES=0
```

Example EDR 15

```
BILLING_ENGINE_ID=21|SCP_ID=366273322|SEQUENCE_NUMBER=488297|
CDR_TYPE=15|RECORD_DATE=20040803152952|ACCT_ID=61|ACCT_REF_ID=61|
ACS_CUST_ID=1|REDEEMING_ACCT_REF=61|VOUCHER=7609766|VOUCHER_NUMBER=0000000081|
RESULT=Success
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Voucher Recharge Succeeds using PI (EDR 4,15)

Introduction

Two or three EDRs are created for this event:

- A type 4
- A type 15
- A type 16 when the Rewards plug-in is being used.. See Rewards chapter for the EDR definition.

Mandatory EDR 4 fields

This list identifies the mandatory EDR record fields for voucher recharge succeeds using PI (EDR type 4):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *NEW_BALANCE_EXPIRIES* (on page 179) (dates after voucher recharge)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before voucher recharge)
- *PI* (on page 185) (logon name and IP address)
- *TYPE_DESCRIPTION* (on page 197) (voucher type)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Optional EDR 4 fields

If they are not present, the ccsCDRLoader voucher plug-in does not process the EDR. For more information about ccsCDRLoader, see Process descriptions.

This list identifies the optional EDR record fields for voucher recharge succeeds using PI (EDR type 4):

- *REFERENCE* (on page 190) (voucher freeform)
- VOUCHER - one of:
  - *VOUCHER* (on page 197) (ID of redeemed voucher)
  - *VOUCHER* (on page 197) (serial number of redeemed voucher - 3.1.5)

Mandatory EDR 15 fields

This list identifies the mandatory EDR record fields for voucher recharge succeeds using PI (EDR type 15):

- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_EXPIRIES* (on page 152) (period hours)
- *BALANCE_TYPES* (on page 153) (existing account)
- *COSTS* (on page 163) (rated calls)
- *REDEEMING_ACCT_REF* (on page 188) (ID of account)
- *RESULT* (on page 192) (voucher redemption, always Success)
- VOUCHER - one of:
  - *VOUCHER* (on page 197) (ID of redeemed voucher)
  - *VOUCHER* (on page 197) (serial number of redeemed voucher - 3.1.5)

Optional EDR 15 fields

This list identifies the optional EDR record fields for voucher recharge succeeds using PI (EDR type 15):

- *BATCH_DESCRIPTION* (on page 155) (for voucher batch)
- *NEW_ACCOUNT* (on page 177) (ID of account type)
- *OLD_ACCOUNT* (on page 181) (ID of account type)
- *REDEEMING_ACCT_TYPE* (on page 188) (name of account type)
- *SCENARIO* (on page 194) (voucher scenario number)

- *TYPE_DESCRIPTION* (on page 197) (voucher type)
- REDEEMING_SUBSCRIBER_ID (subscriber ID)

Account Activated additional fields

If the account is activated, the following fields are generated:

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (P or D before update)

Reload Bonus additional fields

If the account has a promotional reload bonus configured, the following fields are generated (EDR types 4, 15 and 16):

- *RELOAD_BONUS* (on page 190) (promotion name)
- *RELOAD_BONUS_AMOUNT* (on page 190) (amount applied)
- *RELOAD_BONUS_EXPIRY* (on page 190) (date remaining bonus expires)
- *RELOAD_BONUS_LEFT* (on page 191) (bonus amount remaining)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 4

```
BILLING_ENGINE_ID=21|SCP_ID=161986004|SEQUENCE_NUMBER=2|CDR_TYPE=4|
RECORD_DATE=20040804111124|ACCT_ID=61|ACCT_REF_ID=61|ACS_CUST_ID=1|
VOUCHER=7609766|VOUCHER_NUMBER=0000000086|CS=S|PI=adminAT192.168.25.106|
 WALLET_TYPE=1|ACCOUNT_TYPE=1|BALANCE_TYPES=1|BALANCES=1006800|
COSTS=-1000|NEW_BALANCE_EXPIRIES=|OLD_BALANCE_EXPIRIES=0
```

Example EDR 15

```
BILLING_ENGINE_ID=21|SCP_ID=161986004|SEQUENCE_NUMBER=2|
CDR_TYPE=15|RECORD_DATE=20040803152952|ACCT_ID=61|ACCT_REF_ID=61|
ACS_CUST_ID=1|REDEEMING_ACCT_REF=61|VOUCHER=7609766|VOUCHER_NUMBER=0000000086|RESULT
=Success
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Voucher Recharge Succeeds using USSD (EDR 4,15)

Introduction

Two or three EDRs are created for this event:

- A type 4
- A type 15
- A type 16 when the Rewards plug-in is being used. See *Rewards* (on page 45) chapter for the EDR definition.

Mandatory EDR 4 fields

This list identifies the mandatory EDR record fields for voucher recharge succeeds using USSD (EDR type 4):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *NEW_BALANCE_EXPIRIES* (on page 179) (dates after voucher recharge)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before voucher recharge)
- *TYPE_DESCRIPTION* (on page 197) (voucher type)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Optional EDR 4 fields

If they are not present, the ccsCDRLoader voucher plug-in does not process the EDR. For more information about ccsCDRLoader, see Process descriptions.

This list identifies the optional EDR record fields for voucher recharge succeeds using USSD (EDR type 4):

- *REFERENCE* (on page 190) (voucher freeform)
- VOUCHER - one of:
  - *VOUCHER* (on page 197) (ID of redeemed voucher)
  - *VOUCHER* (on page 197) (serial number of redeemed voucher - 3.1.5)

Mandatory EDR 15 fields

This list identifies the mandatory EDR record fields for voucher recharge succeeds using USSD (EDR type 15):

- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_EXPIRIES* (on page 152) (period hours)
- *BALANCE_TYPES* (on page 153) (existing account)
- *COSTS* (on page 163) (rated calls)
- *REDEEMING_ACCT_REF* (on page 188) (ID of account)
- *RESULT* (on page 192) (voucher redemption, always Success)
- VOUCHER - one of:
  - *VOUCHER* (on page 197) (ID of redeemed voucher)
  - *VOUCHER* (on page 197) (serial number of redeemed voucher - 3.1.5)

Optional EDR 15 fields

This list identifies the optional EDR record fields for voucher recharge succeeds using USSD (EDR type 15):

- *BATCH_DESCRIPTION* (on page 155) (for voucher batch)
- *NEW_ACCOUNT* (on page 177) (ID of account type)
- *OLD_ACCOUNT* (on page 181) (ID of account type)
- *REDEEMING_ACCT_TYPE* (on page 188) (name of account type)
- *SCENARIO* (on page 194) (voucher scenario number)

- *TYPE_DESCRIPTION* (on page 197) (voucher type)
- REDEEMING_SUBSCRIBER_ID (subscriber ID)

Account Activated additional fields

If the account is activated, the following fields are generated:

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (P or D before update)

Reload Bonus additional fields

If the account has a promotional reload bonus configured, the following fields are generated (EDR types 4, 15 and 16):

- *RELOAD_BONUS* (on page 190) (promotion name)
- *RELOAD_BONUS_AMOUNT* (on page 190) (amount applied)
- *RELOAD_BONUS_EXPIRY* (on page 190) (date remaining bonus expires)
- *RELOAD_BONUS_LEFT* (on page 191) (bonus amount remaining)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 4

```
BILLING_ENGINE_ID=1|SCP_ID=114207220|SEQUENCE_NUMBER=139450184|CDR_TYPE=4|
RECORD_DATE=20041216162449|ACCT_ID=46|ACCT_REF_ID=46|ACS_CUST_ID=1|
VOUCHER=7609766|VOUCHER_NUMBER=23439221779469|CS=S|
USSD=VOUCHER_REDEEMED|ACCOUNT_TYPE=23|BALANCE_TYPES=1|
BALANCES=113495,113495|COSTS=1,-20500|NEW_BALANCE_EXPIRIES=,|
OLD_BALANCE_EXPIRIES=0,0|RELOAD_BONUS_AMOUNT=500|
RELOAD_BONUS_LEFT=113494
```

Example EDR 15

```
BILLING_ENGINE_ID=21|SCP_ID=161986004|SEQUENCE_NUMBER=2|
CDR_TYPE=15|RECORD_DATE=20040803152952|ACCT_ID=61|
ACCT_REF_ID=61| ACS_CUST_ID=1| REDEEMING_ACCT_REF=61|
VOUCHER=7609766|VOUCHER_NUMBER=0000000086| RESULT=Success
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Voucher Recharge Fails using Screens or IVR (EDR 4)

Introduction

In this scenario, recharge fails because the account is in either a frozen or suspended state.

A type 4 EDR is created for this event.

Mandatory EDR 4 fields

This list identifies the mandatory EDR record fields for voucher recharge failures using screens or IVR (EDR type 4):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BATCH_DESCRIPTION* (on page 155) (for voucher batch)
- CS (call status, always D)
- *NACK* (on page 176) (long list of codes)
- *RESULT* (on page 191) (frozen or suspended)
- *TERMINAL* (on page 196) (Network ID)
- *TYPE_DESCRIPTION* (on page 197) (voucher type)
- *USER* (on page 197) (operator logon name)

Optional EDR 4 fields

If they are not present, the ccsCDRLoader voucher plug-in does not process the EDR. For more information about ccsCDRLoader, see Process descriptions.

This list identifies the optional EDR record fields for voucher recharge failures using screens or IVR (EDR type 4):

- *REFERENCE* (on page 190) (voucher freeform)
- *SCENARIO* (on page 194) (voucher scenario number)
- VOUCHER - one of:
  - *VOUCHER* (on page 197) (ID of redeemed voucher)
  - *VOUCHER* (on page 197) (serial number of redeemed voucher - 3.1.5)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 4

```
BILLING_ENGINE_ID=21|SCP_ID=110537566|SEQUENCE_NUMBER=139450184|CDR_TYPE=4|
RECORD_DATE=20040804105430|ACCT_ID=61|ACCT_REF_ID=61|ACS_CUST_ID=1|
VOUCHER=7609766|VOUCHER_NUMBER=0000000085|CS=D|RESULT=Frozen Wallet
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Voucher Recharge Fails using Screens or IVR (EDR 15,33)

Introduction

The recharge fails because the voucher details entered are invalid or the voucher is in an invalid state. There are two EDR records created for this event:

- A EDR of type 15
- A EDR of type 33

Mandatory EDR 15 fields

This list identifies the mandatory EDR record fields for voucher recharge failure using screens or IVR (EDR type 15):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *REDEEMING_ACCT_REF* (on page 188) (ID of account)
- *RESULT* (on page 191) (general cause)
- VOUCHER - one of:
  - *VOUCHER* (on page 197) (ID of redeemed voucher)
  - *VOUCHER* (on page 197) (serial number of redeemed voucher - 3.1.5)
- *VOUCHER_NUMBER* (on page 197) (redeemed voucher)

Optional EDR 15 fields

This list identifies the optional EDR record fields for voucher recharge failures using screens or IVR (EDR type 15):

- *BATCH_DESCRIPTION* (on page 155) (for voucher batch)
- *TERMINAL* (on page 196) (Network ID)
- *TYPE_DESCRIPTION* (on page 197) (voucher type)
- *USER* (on page 197) (operator logon name)
- REDEEMING_SUBSCRIBER_ID (subscriber ID)

Mandatory EDR 33 fields

This list identifies the mandatory EDR record fields for voucher recharge failure using screens or IVR (EDR type 33):

- *ACS_CUST_ID* (on page 150)
- *BAD_PINS* (on page 152)
- *TERMINAL* (on page 196)
- *USER* (on page 197)

Optional EDR 33 fields

This list identifies the optional EDR record fields for voucher recharge failures using screens or IVR, when the account is frozen due to the maximum number of bad pins being exceeded (EDR type 33):

- *NEW_ACCT_STATE* (on page 178) (frozen)
- *OLD_ACCT_STATE* (on page 181) (active)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example

```
BILLING_ENGINE_ID=21|SCP_ID=366273322|SEQUENCE_NUMBER=488298|CDR_TYPE=15|RECORD_DATE
=20070719113914|ACCT_ID=61|ACCT_REF_ID=61|ACS_CUST_ID=1|REDEEMING_ACCT_REF=61|VOUCHE
R=8709766|VOUCHER_NUMBER=0000000086|BATCH_DESCRIPTION=Test
Batch|TYPE_DESCRIPTION=STANDARD|RESULT=Failed
Auth|ACCOUNT_TYPE=24|USER=SU|TERMINAL=192.168.25.108
```

Example EDR 33

```
BILLING_ENGINE_ID=21|SCP_ID=366273322|SEQUENCE_NUMBER=488298|CDR_TYPE=33|RECORD_DATE
=20070703145823|ACCT_ID=61|ACCT_REF_ID=61|BAD_PINS=1|ACS_CUST_ID=1|ACCOUNT_TYPE=24|U
SER=SU|TERMINAL=192.168.25.108
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Voucher Type Recharge

Introduction

A type 47 EDR is created for this event.

Note: The type 47 EDR contains fields identical to a type 4. It is given its own EDR number because it is handled differently from a normal voucher recharge. A type 4 EDR generates a recharge notification from the EDR loader plug-in. In the case of the type 47, the notification is generated by the process calling it. This process can be a control plan, periodic charge or a credit transfer.

Mandatory EDR 47 fields

This list identifies the mandatory EDR record fields for voucher type recharge (EDR type 47):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *NEW_BALANCE_EXPIRIES* (on page 179) (dates after voucher recharge)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before voucher recharge)
- *VOUCHER_TYPE* (on page 198) (name)

Optional EDR 47 fields

This list identifies the optional EDR record fields for voucher type recharge (EDR type 47):

- *NEW_ACCT_TYPE* (on page 179) (ID of account after recharge)
- *OLD_ACCT_TYPE* (on page 182) (ID of account before recharge)

Chapter 6

Rewards

Overview

Introduction

This chapter defines the CCS EDRs for rewards.

In this chapter

This chapter contains the following topics.

Reward Application Successful (EDR 16)

Introduction

All successful balance updates (for example: rated voice calls, voucher recharge, balance update or balance expiry, by whatever mechanism) may produce an EDR type 16 if the Rewards plug-in is being used and Rewards are configured, in addition to the normal update EDR(s).

Mandatory EDR 16 fields

This list identifies the mandatory EDR record fields for successful reward application using any of screens, IVR, PI or USSD (EDR type 16):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-call or account creation)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *NEW_BALANCE_EXPIRIES* (on page 179) (dates after voucher recharge)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before voucher recharge)
- *RESULT* (on page 192) (voucher redemption, always Success)
- *REWARD* (on page 192) (ID)
- *REWARD_AMOUNTS* (on page 192) (value of reward)
- *REWARD_CATEGORY* (on page 193)
- *REWARD_TYPES* (on page 193) (balance types getting reward)

Optional EDR 16 fields

This list identifies the optional EDR record fields for successful reward application using any of screens, IVR, PI or USSD (EDR type 16):

- *BEARER_TYPE (bearer type for promotions)* (on page 155) (bearer type for rewards)
- *CHANNEL (for rewards)* (on page 161) (for rewards)
- *NEW_ACCT_EXPIRY* (on page 177) (date after update)
- *OLD_ACCT_EXPIRY* (on page 181) (dates before update)
- *REFERENCE (operator freeform)* (on page 189) (rewards)

Account Activated additional fields

If the account is activated, the following fields are generated:

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (P or D before update)

Reload Bonus additional fields

If the account has a promotional reload bonus configured, the following fields are generated (EDR types 4, 15 and 16):

- *RELOAD_BONUS* (on page 190) (promotion name)
- *RELOAD_BONUS_AMOUNT* (on page 190) (amount applied)
- *RELOAD_BONUS_EXPIRY* (on page 190) (date remaining bonus expires)
- *RELOAD_BONUS_LEFT* (on page 191) (bonus amount remaining)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 16

```
ACCOUNT_TYPE=104|ACCT_ID=325|ACCT_REF_ID=305|ACS_CUST_ID=11|
BALANCES=1|BALANCE_NAMES=Free SMS|BALANCE_TYPES=6|BILLING_ENGINE_ID=1|CDR_TYPE=16|
COSTS=-1|CS=S|NEW_BALANCE_EXPIRIES=0|OLD_ACCOUNT_TYPE=|OLD_BALANCE_EXPIRIES=0|
RECORD_DATE=20120725122635|RESULT=Success|REWARD=295|REWARD_AMOUNTS=1|
REWARD_CATEGORY=TRACKER_THRESHOLD|REWARD_TYPES=6|SCP_ID=0|SEQUENCE_NUMBER=0
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Reward Application Fails using Screens or IVR (EDR 16)

Introduction

All failed balance updates (for example: voucher recharge, balance update or balance expiry, by screens or IVR) will produce an EDR type 16 if the Rewards plug-in is being used, in addition to the normal update failed EDR(s).

Mandatory EDR 16 fields

This list identifies the mandatory EDR record fields for reward application failures using screens or IVR (EDR type 16):

- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- CS (call status, always D)

- *NACK* (on page 176) (long list of codes)
- *REWARD* (on page 192) (ID)
- *REWARD_AMOUNTS* (on page 192) (value of reward)
- *REWARD_CATEGORY* (on page 193)
- *REWARD_TYPES* (on page 193) (balance types getting reward)

Optional EDR 16 fields

This list identifies the optional EDR record fields for reward application failures using screens or IVR (EDR type 16):

- *BATCH_DESCRIPTION* (on page 155) (for voucher batch)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 16

```
ACCT_ID=2129|ACCT_REF_ID=2124|ACS_CUST_ID=1|BILLING_ENGINE_ID=4|
CDR_TYPE=16|CS=D|NACK=BDVR|RECORD_DATE=20071101115704|
RESULT=Invalid Balance Type|REWARD=62|REWARD_AMOUNTS=1,2|
REWARD_CATEGORY=TRACKER_THRESHOLD|REWARD_TYPES=5,27|SCP_ID=110537566|
SEQUENCE_NUMBER=139450184
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Chapter 7

Voice Calls

Overview

Introduction

This chapter defines the CCS EDRs for voice calls.

In this chapter

This chapter contains the following topics.

Successful National Call (EDR 1)

Mandatory EDR 1 fields

This list identifies the mandatory EDR record fields for a successful national call (CDR type 1):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- BALANCE_TYPES - use one of:
  - *BALANCE_TYPES* (on page 152) (account changed or created)
  - *BALANCE_TYPES* (on page 153) (account changed or created) - mid call rate changes
- BALANCES - use one of:
  - *BALANCES* (on page 154) (pre-call or account creation)
  - *BALANCES* (on page 154) (pre-call or account creation) - mid call rate changes
- CASCADE_ID - use one of:
  - *CASCADE_ID* (on page 157) (balance type cascade IDs)
  - *CASCADE_ID* (on page 157) (balance type cascade IDs) - mid call rate change
- CLI - use one of:
  - *CLI* (on page 161) (initiating call number)
  - *CLI* (on page 161) (initiating call number) - mid call rate changes
- COSTS - use one of:
  - *COSTS* (on page 163) (rated calls)
  - *COSTS* (on page 163) (rated calls) - mid call rate changes
- DISCOUNTS - use one of
  - *DISCOUNTS* (on page 166) (rated calls)
  - *DISCOUNTS* (on page 166) (rated calls) - mid call rate changes
- *DURATION* (on page 167) (call length)
- *DURATION_CHARGED* (on page 168)

- *END_CALL_REASON (reasons for call termination)* (on page 169)
- *FCA* (on page 171) (final call address)
- LENGTHS - use one of:
  - *LENGTHS* (on page 172) (rate durations)
  - *LENGTHS* (on page 173) (rate durations) -1end duration
  - *LENGTHS* (on page 173) (rate durations) - mid call rate changes
- MAX_CHARGE - use one of:
  - *MAX_CHARGE* (on page 174) (for this call)
  - *MAX_CHARGE* (on page 174) (for this call) - mid call rate changes
- *OGEO_ID* (on page 181) (originating geo node id)
- RATES - use one of:
  - *RATES* (on page 186) (rated calls)
  - *RATES* (on page 187) (rated calls) - mid call rate changes
- *SVC_ID* (on page 195) (single tariff rated calls)
- *TCE* (on page 195) (ccs time call ended)
- *TCS* (on page 195) (ccs time call started)
- *TGEO_ID* (on page 196) (terminating geo node id)
- *TN* (on page 196) (ccs called number)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Optional EDR 1 fields

This list identifies the optional EDR record fields for a successful national call (CDR type 1):

- *CUG_NAME* (on page 164) (closed user group)
- *OVERRIDDEN_TARIFF_PLAN* (on page 185) (ID)
- *RELC* (on page 190) (inap release cause)
- *TARIFF_CODE* (on page 195) (name)

Partial EDR additional fields

Enabling of Mid-Session EDRs production creates Partial EDRs. Either the Commit Volume Threshold or Mid-Session EDRs parameters are enabled (**Rating Management > Reservation Config > New Reservation Config** screen).

These additional tags are on all the partial EDRs, but not on the final, complete EDR:

- *MID_SESSION* (on page 174) (partial EDR)
- *SESSION_SEQUENCE* (on page 195) (partial EDR)

Timed-out reservation confirmation additional fields

If a confirmed reservation times out, these tags will be added to the EDR.

- *RNCF* (on page 193) (Reservation Not Charged For)
- TIMED_OUT (reservation confirmation)

Account Activated additional fields

If the account is activated, the following fields are generated:

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (P or D before update)

Cross balance type discount additional fields

If the cross balance type discounting has been applied during the call, the following fields will be present:

- *CBTD_BALANCE_TYPES* (on page 157) (list to apply to discounts)
- *CBTD_BALANCE_TYPES* (on page 158) (list to apply to discounts) - mid call rate changes
- *CBTD_BALANCES* (on page 158) (value for each cross balance type)
- *CBTD_BALANCES* (on page 158) (value for each cross balance type) - mid call rate change
- *CBTD_CASCADE_ID* (on page 159) (used for this call)
- *CBTD_CASCADE_ID* (on page 159) (used for this call) - mid call rate change
- *CBTD_COSTS* (on page 159) (costs applied to each cross balance type)
- *CBTD_COSTS* (on page 159) (costs applied to each cross balance type) - mid call rate changes
- *CBTD_DISCOUNTS* (on page 160) (discounts applied to balance types)
- *CBTD_DISCOUNTS* (on page 160) (discounts applied to balance types) - mid call rate changes

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Mobile number portability additional fields

If the Mobile Number Portability (MNP) software is installed, the following fields will be present:

- *PORTED* (on page 185) (name of porting carrier)

Example EDR 1 for single tariff rated call

```
BILLING_ENGINE_ID=21|SCP_ID=366273322|SEQUENCE_NUMBER=487291|CDR_TYPE=1|RECORD_DATE=
20070423190107|ACCT_ID=83|
ACCT_REF_ID=83|CLI=01206233252|ACS_CUST_ID=1|BALANCE_TYPES=1|BALANCES=49880|COSTS=12
0|ACCOUNT_TYPE=22|CASCADE_ID=44|RATES=60|LENGTHS=2810.00|DISCOUNTS=0|
MAX_CHARGE=500|DURATION=120.00|DURATION_CHARGED=120.00|TN=01473|TCS=20070423181310|
TCE=20070423181510|CS=S|DISCOUNT_TYPE=S*W*R|WALLET_TYPE=1|FCA=01473254338|END_CALL_R
EASON=14
```

Example EDR 1 for multi tariff rated call

```
BILLING_ENGINE_ID=42|SCP_ID=789955221|SEQUENCE_NUMBER=11775353|CDR_TYPE=
1|RECORD_DATE=20070430180652|
ACCT_ID=261|ACCT_REF_ID=255|CLI=6610|ACS_CUST_ID=1|BALANCE_TYPES=1,2|BALANCES=1
80,100|COSTS=60,45|ACCOUNT_TYPE=1|
CASCADE_ID=1,49|RATES=aa:10,10,10,20,20,30,30,30,bb:5,10,20,20,15,15,20,20|
LENGTHS=aa:30.00,15.00,15.00,30.00,30.00,30.00,60.00,0.00,bb:30.00,15.00,15.00,
30.00,30.00,30.00,60.00,0.00|
DISCOUNTS=aa:0,0,0,0,0,0,0,0,bb:0,0,0,0,0,0,0,0|
MAX_CHARGE=-1|DURATION=180.00|DURATION_CHARGED=180.00|TN=6610|TCS=20070430180659|
TCE=20070430180959|CS=S|DISCOUNT_TYPE=BASIC|WALLET_TYPE=1|FCA=6610|END_CALL_REASON=1
6
```

Example Account Activated

```
BILLING_ENGINE_ID=21|SCP_ID=366273322|SEQUENCE_NUMBER=487291|CDR_TYPE=1|RECORD_DATE=
20040803142342|ACCT_ID=83|ACCT_REF_ID=83|CLI=01206233252|ACS_CUST_ID=1|BALANCE_TYPES
=1|BALANCES=1000|COSTS=1|ACCOUNT_TYPE=1|CASCADE_ID=1|RATES=50,25|LENGTHS=120.00,40.0
0|DISCOUNTS=0,0|MAX_CHARGE=1|DURATION=160|DURATION_CHARGED=160|TN=01473289900|TCS=20
040803141934|TCE=20040803142034|CS=S|OLD_ACCT_STATE=P|NEW_ACCT_STATE=A|DISCOUNT_TYPE
=S*W*R|WALLET_TYPE=1|END_CALL_REASON=14
```

Example Account Activated - MSISDN

```
BILLING_ENGINE_ID=21|SCP_ID=366273322|SEQUENCE_NUMBER=487291|CDR_TYPE=1|RECORD_DATE=
20040803142342|ACCT_ID=83|
ACCT_REF_ID=83|CLI=01206233252|ACS_CUST_ID=1|BALANCE_TYPES=1|BALANCES=1000|COSTS=28|
ACCOUNT_TYPE=1|CASCADE_ID=1|
RATES=50,25|LENGTHS=120.00,40.00|DISCOUNTS=450000,560000|
MAX_CHARGE=500|DURATION=160|DURATION_CHARGED=160|TN=01473289900|TCS=20040803141934|
TCE=20040803142034|CS=S|DISCOUNT_TYPE=S*W*R|WALLET_TYPE=1|MSISDN=01206233252|END_CAL
L_REASON=14
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Commit Reservation (EDR 1)

Mandatory EDR 1 fields

This list identifies the mandatory EDR record fields when a Commit Reservation has been performed (CDR type 1):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- BALANCE_TYPES - use one of:
  - *BALANCE_TYPES* (on page 152) (account changed or created)
  - *BALANCE_TYPES* (on page 153) (account changed or created) - mid call rate changes
- BALANCES - use one of:
  - *BALANCES* (on page 154) (pre-call or account creation)
  - *BALANCES* (on page 154) (pre-call or account creation) - mid call rate changes
- CASCADE_ID - use one of:
  - *CASCADE_ID* (on page 157) (balance type cascade IDs)
  - *CASCADE_ID* (on page 157) (balance type cascade IDs) - mid call rate change
- CLI - use one of:
  - *CLI* (on page 161) (initiating call number)
  - *CLI* (on page 161) (initiating call number) - mid call rate changes
- COSTS - use one of:
  - *COSTS* (on page 163) (rated calls)
  - *COSTS* (on page 163) (rated calls) - mid call rate changes
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- DISCOUNTS - use one of
  - *DISCOUNTS* (on page 166) (rated calls)
  - *DISCOUNTS* (on page 166) (rated calls) - mid call rate changes
- *DISCOUNT_TYPE* (on page 165) (applied to this call) - R*W
- *DURATION* (on page 167) (call length)

- *DURATION_CHARGED* (on page 168)
- *END_CALL_REASON (reasons for call termination)* (on page 169)
- LENGTHS - use one of:
  - *LENGTHS* (on page 172) (rate durations)
  - *LENGTHS* (on page 173) (rate durations) -1end duration
  - *LENGTHS* (on page 173) (rate durations) - mid call rate changes
- MAX_CHARGE - use one of:
  - *MAX_CHARGE* (on page 174) (for this call)
  - *MAX_CHARGE* (on page 174) (for this call) - mid call rate changes
- *MFILE* (on page 174) (for rating data)
- *OPERATOR_RELEASED* (on page 184) (commit/revoke reservation)
- RATES - use one of:
  - *RATES* (on page 186) (rated calls)
  - *RATES* (on page 187) (rated calls) - mid call rate changes
- *TCE* (on page 195) (ccs time call ended)
- *TCS* (on page 195) (ccs time call started)
- *TERMINAL* (on page 196) (Network ID)
- *TN* (on page 196) (ccs called number)
- *USER* (on page 197) (operator logon name)

Example EDR 1 for reservation commit

```
BILLING_ENGINE_ID=21|SCP_ID=366273322|SEQUENCE_NUMBER=487291|CDR_TYPE=1|RECORD_DATE=
20070423190107|ACCT_ID=83|
ACCT_REF_ID=83|CLI=49393520|BALANCE_TYPES=1|BALANCES=89140|COSTS=540|RATES=60|LENGTH
S=-
1|DISCOUNTS=0|MAX_CHARGE=2000|CASCADE_ID=1|ACS_CUST_ID=1|ACCOUNT_TYPE=21|DURATION=54
0.00|DURATION_CHARGED=540.00|TN=47777777|TCS=20100602225949|TCE=20100602230025|CS=S|
DISCOUNT_TYPE=R*W|MFILE=20100602203530|USER=SU|TERMINAL=192.168.2.68|OPERATOR_RELEAS
ED=1|END_CALL_REASON=15
```

Revoke Reservation (EDR 1)

Mandatory EDR 1 fields

This list identifies the mandatory EDR record fields when a Revoke Reservation has been performed (CDR type 1):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- CLI - use one of:
  - *CLI* (on page 161) (initiating call number)
  - *CLI* (on page 161) (initiating call number) - mid call rate changes
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *DISCOUNT_TYPE* (on page 165) (applied to this call) - R*W
- *DURATION* (on page 167) (call length)
- *DURATION_CHARGED* (on page 168)
- *END_CALL_REASON (reasons for call termination)* (on page 169)
- *MFILE* (on page 174) (for rating data)
- *OPERATOR_RELEASED* (on page 184) (commit/revoke reservation)

- *TCE* (on page 195) (ccs time call ended)
- *TCS* (on page 195) (ccs time call started)
- *TERMINAL* (on page 196) (Network ID)
- *TN* (on page 196) (ccs called number)
- *USER* (on page 197) (operator logon name)

Example EDR 1 for single tariff rated call

```
BILLING_ENGINE_ID=21|SCP_ID=366273322|SEQUENCE_NUMBER=487291|CDR_TYPE=1|RECORD_DATE=
20070423190107|ACCT_ID=83|
ACCT_REF_ID=83|ACS_CUST_ID=1|ACCOUNT_TYPE=21|DURATION=0.00|DURATION_CHARGED=60|TN=47
777777|TCS=20100602034410|TCE=20100602034432|CS=S|DISCOUNT_TYPE=R*W|MFILE=2010060203
2245|OPERATOR_RELEASED=1|USER=SU|TERMINAL=192.168.2.68|CLI=49393520
```

Declined National Call

Mandatory EDR 1 fields

This list identifies the mandatory EDR record fields for a declined national call (EDR type 1):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *CLI* (on page 161) (initiating call number)
- *NACK* (on page 176) (long list of codes)
- *TCS* (on page 195) (ccs time call started)
- *TN* (on page 196) (ccs called number)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Optional EDR 1 fields

This list identifies the optional EDR record fields for a declined national call (EDR type 1):

- *CUG_NAME* (on page 164) (closed user group)

Account Activated additional fields

If the account is activated, the following fields are generated:

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (P or D before update)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Mobile number portability additional fields

If the Mobile Number Portability (MNP) software is installed, the following fields will be present:

- *PORTED* (on page 185) (name of porting carrier)

Example EDR 1 for declined national call

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=487291|CDR_TYPE=1|RECORD_DATE=
20070703121758|ACCT_ID=83|ACCT_REF_ID=83|CLI=01206233252|TN=01473289900|TCS=20070725
124332|CS=D|ACCOUNT_TYPE=15| NACK=INSF|WALLET_TYPE=1|ACS_CUST_ID=1END_CALL_REASON=13
```

Example Account Activated

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=487291|CDR_TYPE=1|RECORD_DATE=
20040803121758|ACCT_ID=83|ACCT_REF_ID=83|CLI=01206233252|TN=01473289900|TCS=20040625
124332|CS=D|ACCOUNT_TYPE=15|NACK=INSF|WALLET_TYPE=1|ACS_CUST_ID=1|OLD_ACCT_STATE=P|N
EW_ACCT_STATE=A|END_CALL_REASON=14
```

Example MSISDN

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=487291|CDR_TYPE=1|RECORD_DATE=
20040803121758|ACCT_ID=83|ACCT_REF_ID=83|CLI=01206233252|TN=01473289900|TCS=20040625
124332|CS=D|ACCOUNT_TYPE=15|
NACK=INSF|WALLET_TYPE=1|ACS_CUST_ID=1|OLD_ACCT_STATE=P|NEW_ACCT_STATE=A|MSISDN=01206
233252|END_CALL_REASON=14
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Direct Amount Charge (EDR 6)

Mandatory EDR 23 fields

This list identifies the mandatory EDR record fields for a direct amount charge (EDR type 6):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *APPLICATION_DESC* (on page 151) (application freeform)
- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-call or account creation)
- *CASCADE_ID* (on page 157) (balance type cascade IDs)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *NEW_ACCT_EXPIRY* (on page 177) (date after update)
- *NEW_ACCT_STATE* (on page 178) (after update)
- *NEW_BALANCE_EXPIRIES* (on page 179) (date after balance update)
- *OGEO_ID* (on page 181) (originating geo node id)
- *OLD_ACCT_STATE* (on page 182) (before update)
- *OLD_ACCT_EXPIRY* (on page 181) (dates before update)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before voucher recharge)
- *REFERENCE* (on page 189) (OSA bonus)
- *TCE* (on page 195) (ccs time call ended)
- *TCS* (on page 195) (ccs time call started)
- *TGEO_ID* (on page 196) (terminating geo node id)
- *WALLET_TYPE* (on page 198) (ID of wallet recharged)

Note: See *EDR header fields* (on page 16) for a list of fields common to every EDR.

Note

The sequence of all fields output in an EDR is not guaranteed.

Chapter 8

Freeform Recharges

Overview

Introduction

This chapter defines the CCS EDRs for freeform recharges.

In this chapter

This chapter contains the following topics.

Freeform Recharge Succeeds using the GUI (EDR 8)

Mandatory EDR 8 fields

The recharge succeeds where the account is credited.

This list identifies the mandatory EDR record fields for a successful freeform recharge using the GUI (EDR type 8):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *BONUS_TYPE* (on page 156) (name)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *NEW_BALANCE_EXPIRIES* (on page 179) (dates after voucher recharge)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before voucher recharge)
- *REFERENCE* (on page 189) (operator freeform)
- *RELOAD_BONUS* (on page 190) (promotion name)
- *RELOAD_BONUS_AMOUNT* (on page 190) (amount applied)
- *RELOAD_BONUS_EXPIRY* (on page 190) (date remaining bonus expires)
- *RELOAD_BONUS_LEFT* (on page 191) (bonus amount remaining)
- *RESULT* (on page 192) (voucher redemption, always Success)
- *TERMINAL* (on page 196) (Network ID)
- *USER* (on page 197) (operator logon name)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Optional EDR 8 fields

This list identifies the optional EDR record fields for a freeform recharge succeeds using the GUI (EDR type 8):

- *ADJUSTMENT* (on page 151) (generated by an adjustment)
- *BEARER_TYPE (bearer type for promotions)* (on page 155) (bearer type for rewards)
- *CHANNEL (for rewards)* (on page 161) (for rewards)
- *REVERSE_CHARGE* (on page 192) (generated by a reverse charge)
- *NEW_ACCT_STATE* (on page 178) (after update)
- *OLD_ACCT_STATE* (on page 182) (before update)

Note: The NEW_ACCT_STATE and OLD_ACCT_STATE tags will always be present when the freeform recharge causes a change to the wallet state.

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 8 for freeform succeeds

```
BILLING_ENGINE_ID=21|SCP_ID=110537566|SEQUENCE_NUMBER=139450184|CDR_TYPE=8|RECORD_DA
TE=20040804132135|ACCT_ID=61|ACCT_REF_ID=61|USER=SU|TERMINAL=192.168.25.108|RESULT=S
uccess|BONUS_TYPE=CUSTOM|CS=S|REFERENCE=FreeForm
Recharge|ACCOUNT_TYPE=1|BALANCE_TYPES=1|BALANCES=1000|COSTS=-
100|OLD_BALANCE_EXPIRIES=0|NEW_BALANCE_EXPIRIES=0|ACS_CUST_ID=1|WALLET_TYPE=1
```

Example MSISDN

```
BILLING_ENGINE_ID=21|SCP_ID=110537566|SEQUENCE_NUMBER=13950184|CDR_TYPE=8|RECORD_DAT
E=20040804132135|ACCT_ID=61|ACCT_REF_ID=61|USER=SU|RESULT=Success|CLI=1234|REFERENCE
=FreeForm
Recharge|ACCOUNT_TYPE=1|OLD_ACCT_EXPIRY=0|NEW_ACCT_EXPIRY=0|MAX_CONCURRENT=10|NEW_LA
ST_USE=20040804132122|BALANCE_TYPES=1|BALANCES=1000|COSTS=-
100|OLD_BALANCE_EXPIRIES=0|NEW_BALANCE_EXPIRIES=0|ACS_CUST_ID=1|MSISDN=1234
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Freeform Recharge Succeeds using PI (EDR 8)

Mandatory EDR 8 fields

The recharge succeeds where the account is credited.

This list identifies the mandatory EDR record fields for a successful freeform recharge using PI (EDR type 8):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *BUCKET_IDS* (on page 156) (within balance type recharged)
- *COSTS* (on page 163) (rated calls)

- *NEW_ACCT_EXPIRY* (on page 177) (date after update)
- *NEW_BALANCE_EXPIRIES* (on page 179) (dates after voucher recharge)
- *OLD_ACCT_EXPIRY* (on page 181) (dates before update)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before voucher recharge)
- *PI* (on page 185) (logon name and IP address)
- *RELOAD_BONUS* (on page 190) (promotion name)
- *RELOAD_BONUS_AMOUNT* (on page 190) (amount applied)
- *RELOAD_BONUS_EXPIRY* (on page 190) (date remaining bonus expires)
- *RELOAD_BONUS_LEFT* (on page 191) (bonus amount remaining)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Optional EDR 8 fields

This list identifies the optional EDR record fields for a freeform recharge succeeds using PI (EDR type 8):

- *BEARER_TYPE (bearer type for promotions)* (on page 155) (bearer type for rewards)
- *CHANNEL (for rewards)* (on page 161) (for rewards)
- *NEW_ACCT_STATE* (on page 178) (after update)
- *OLD_ACCT_STATE* (on page 182) (before update)
- *REFERENCE* (on page 189) (from pi reference)

Note: The NEW_ACCT_STATE and OLD_ACCT_STATE tags will always be present when the freeform recharge causes a change to the wallet state.

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Platform dependant additional fields

Depending on the installed platform, the following field will be present:

- *COMPONENT* (on page 162) (from pi command reference)

Example EDR 8 for freeform succeeds

```
BILLING_ENGINE_ID=21|SCP_ID=161986004|SEQUENCE_NUMBER=12|CDR_TYPE=8|RECORD_DATE=2007
0704141927|ACCT_ID=61|ACCT_REF_ID=61|ACS_CUST_ID=1|BALANCES=1000|BALANCE_TYPES=1|BUC
KET_IDS=45844|COSTS=-
100|NEW_BALANCE_EXPIRIES=|OLD_BALANCE_EXPIRIES=|PI=adminAT192.168.25.106|OLD_ACCT_EX
PIRY=0|NEW_ACCT_EXPIRY=0|WALLET_TYPE=1|ACCOUNT_TYPE=1
```

Example MSISDN

```
BILLING_ENGINE_ID=21|SCP_ID=161986004|SEQUENCE_NUMBER=12|CDR_TYPE=8|RECORD_DATE=2004
0804141927|ACCT_ID=61|ACCT_REF_ID=61|ACS_CUST_ID=1|BALANCES=1000|BALANCE_TYPES=1|BUC
KET_IDS=45844|COSTS=-
100|CS=S|NEW_BALANCE_EXPIRIES=|OLD_BALANCE_EXPIRIES=|PI=adminAT192.168.25.106|REFERE
NCE=PIFreeForm|WALLET_TYPE=1|ACCOUNT_TYPE=1|
LAST_USED=200401011234|MSISDN=1394111111
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Freeform Recharge Succeeds using PI (EDR 2)

Mandatory EDR 2 fields

The recharge succeeds where the account is debited.

This list identifies the mandatory EDR record fields for a successful freeform recharge using PI (EDR type 2):

- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *BONUS_TYPE* (on page 156) (name)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *NEW_BALANCE_EXPIRIES* (on page 179) (dates after voucher recharge)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before voucher recharge)
- *PI* (on page 185) (logon name and IP address)
- *REFERENCE* (on page 189) (operator freeform)
- *RESULT* (on page 192) (voucher redemption, always Success)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 2 for freeform succeeds

```
BILLING_ENGINE_ID=21|SCP_ID=161986004|SEQUENCE_NUMBER=13|CDR_TYPE=2|RECORD_DATE=2004
0804141927|ACCT_ID=61|ACCT_REF_ID=61|ACS_CUST_ID=1|BALANCES=1100|BALANCE_TYPES=1|RES
ULT=Success|COSTS=100|CS=S|NEW_BALANCE_EXPIRIES=|OLD_BALANCE_EXPIRIES=|PI=adminAT192
.168.25.106|REFERENCE=PI
FreeForm|WALLET_TYPE=1|BONUS_TYPE=CUSTOM|ACCOUNT_TYPE=1|OLD_ACCT_EXPIRY=0|NEW_ACCT_E
XPIRY=0
```

Example MSISDN

```
BILLING_ENGINE_ID=21|SCP_ID=161986004|SEQUENCE_NUMBER=13|CDR_TYPE=2|RECORD_DATE=2004
0804141927|ACCT_ID=61|ACCT_REF_ID=61|ACS_CUST_ID=1|BALANCES=1100|BALANCE_TYPES=1|BUC
KET_IDS=45844|COSTS=100|CS=S|NEW_BALANCE_EXPIRIES=|OLD_BALANCE_EXPIRIES=|PI=adminAT1
92.168.25.106|REFERENCE=PI
FreeForm|WALLET_TYPE=1|ACCOUNT_TYPE=1|OLD_ACCT_EXPIRY=0|NEW_ACCT_EXPIRY=0|MSISDN=139
4111111
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Freeform Recharge Fails using PI (EDR 2, 8)

Mandatory EDR 2 fields

A EDR type 2 will be produced for a charge attempt, and a EDR type 8 will be produced for a refund attempt.

This list identifies the mandatory EDR record fields for an unsuccessful PI promotional recharge using PI:

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BONUS_TYPE* (on page 156) (name)
- CS (call status, always D)
- *NACK* (on page 175) (freeform recharge list)
- *PI* (on page 185) (logon name and IP address)
- *REFERENCE* (on page 189) (from pi reference)
- *RESULT* (on page 191) (pi failure)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 8 for freeform fails

```
BILLING_ENGINE_ID=21|SCP_ID=161986004|SEQUENCE_NUMBER=12|CDR_TYPE=8|RECORD_DATE=2007
0704141927|ACCT_ID=61|ACCT_REF_ID=61|ACS_CUST_ID=1|BONUS_TYPE=CUSTOM|CS=D|PI=adminAT
192.168.25.106|REFERENCE=PI
FreeForm|WALLET_TYPE=1|NACK=WDISP|ACCOUNT_TYPE=1|RESULT=Frozen Wallet
```

Example MSISDN

```
BILLING_ENGINE_ID=21|SCP_ID=161986004|SEQUENCE_NUMBER=12|CDR_TYPE=8|RECORD_DATE=2004
0804141927|ACCT_ID=61|ACCT_REF_ID=61|ACS_CUST_ID=1|CS=D|PI=adminAT192.168.25.106|REF
ERENCE=PI FreeForm|WALLET_TYPE=1|NACK=NRCH|ACCOUNT_TYPE=1|MSISDN=1394111111
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Chapter 9

Credit Card Recharges

Overview

Introduction

This chapter defines the CCS EDRs for credit card recharges.

In this chapter

This chapter contains the following topics.

Credit Card Recharge Succeeds using Screens (EDR 9)

Mandatory EDR 9 fields

This list identifies the mandatory EDR record fields for a successful credit card recharge using screens (EDR type 9):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *BONUS_TYPE* (on page 156) (name)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *NEW_BALANCE_EXPIRIES* (on page 179) (dates after voucher recharge)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before voucher recharge)
- *REFERENCE* (on page 189) (operator freeform)
- *RESULT* (on page 192) (voucher redemption, always Success)
- *TERMINAL* (on page 196) (Network ID)
- *USER* (on page 197) (operator logon name)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 9 for cc recharge

```
BILLING_ENGINE_ID=21|SCP_ID=175677458|SEQUENCE_NUMBER=14578|CDR_TYPE=9|RECORD_DATE=2
0070716035736|ACCT_ID=61|ACCT_REF_ID=61|RESULT=Success|REFERENCE=Credit Card
Recharge|
ACCOUNT_TYPE=24|BALANCE_TYPES=1|BONUS_TYPE=CUSTOM|BALANCES=1000|COSTS=-
100|CS=S|OLD_BALANCE_EXPIRIES=0|NEW_BALANCE_EXPIRIES=0|ACS_CUST_ID=1|TERMINAL=192.16
8.25.108|USER=SU|WALLET_TYPE=1
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Credit Card Recharge Succeeds using PI (EDR 9)

Mandatory EDR 9 fields

The recharge succeeds where the REFERENCE field of the EDR record has a CC prefix indicating this is a credit card recharge that was initiated through the IVR and the PI was used to recharge the account.

This list identifies the mandatory EDR record fields for a successful credit card recharge using PI (EDR type 9):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *NEW_BALANCE_EXPIRIES* (on page 179) (dates after voucher recharge)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before voucher recharge)
- *PI* (on page 185) (logon name and IP address)
- *REFERENCE* (on page 189) (credit card reference, always cc)
- *STATE* (on page 195) (of recharge)
- *WALLET_TYPE* (on page 198) (ID of wallet recharged)

Optional EDR 9 fields

This list identifies the optional EDR record fields for a successful credit card recharge using PI (EDR type 9):

- *BONUS_TYPE* (on page 156) (name)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 9 for cc succeeds

```
BILLING_ENGINE_ID=21|SCP_ID=161986004|SEQUENCE_NUMBER=15|CDR_TYPE=9|RECORD_DATE=2004
0804141927|ACCT_ID=61|ACCT_REF_ID=61|ACS_CUST_ID=1|BALANCES=1000|BALANCE_TYPES=1|COS
TS=-
100|CS=S|NEW_BALANCE_EXPIRIES=|OLD_BALANCE_EXPIRIES=|PI=adminAT192.168.25.106|REFERE
NCE=CC040804028091|STATE=verified|WALLET_TYPE=1
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Chapter 10

Voucher Freeform Recharges

Overview

Introduction

This chapter defines the CCS EDRs for voucher freeform recharges.

In this chapter

This chapter contains the following topics.

Voucher Freeform Recharge Succeeds using Screens (EDR 10)

Mandatory EDR 10 fields

This list identifies the mandatory EDR record fields for a successful voucher freeform recharge using screens (EDR type 10):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *BONUS_TYPE* (on page 156) (name)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *NEW_BALANCE_EXPIRIES* (on page 179) (dates after voucher recharge)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before voucher recharge)
- *REFERENCE* (on page 190) (voucher freeform)
- *RESULT* (on page 192) (voucher redemption, always Success)
- *TERMINAL* (on page 196) (Network ID)
- *USER* (on page 197) (operator logon name)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Mandatory EDR 53 fields

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 10 for voucher ff succeeds

```
BILLING_ENGINE_ID=21|SCP_ID=175677458|SEQUENCE_NUMBER=12457|CDR_TYPE=10|RECORD_DATE=
20070716103449|ACCT_ID=61|ACCT_REF_ID=61|ACCOUNT_TYPE=24|ACS_CUST_ID=1|BALANCES=1000
|BALANCE_TYPES=1|RESULT=Success|CS=S|
REFERENCE=Voucher Freeform Recharge|COSTS=-
100|OLD_BALANCE_EXPIRIES=0|BONUS_TYPE=CUSTOM|
NEW_BALANCE_EXPIRIES=0|ACS_CUST_ID=1|USER=SU|TERMINAL=192.168.25.108|WALLET_TYPE=1
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Chapter 11

Voucher Batch Deletion

Overview

Introduction

This chapter defines the CCS EDRs for voucher batch deletion using Screens.

In this chapter

This chapter contains the following topics.

Voucher Batch Deletion using Screens (EDR 53)

The following properties must be set in the **ccs_voucher_reference_part.cfg** file (path: /IN/service_packages/CCSVCHRPART/etc/ccs_voucher_reference_part.cfg) in the SMS.

- PARTITION_FILE_ARCHIVE_DIRECTORY=/IN/service_packages/CCSVCHRPART/tmp/
- DO_MANUAL_FILE_ARCHIVE=1
- MANUAL_FILE_ARCHIVE_DIRECTORY=/IN/service_packages/CCSVCHRPART/tmp/
- DO_OTHER_FILE_ARCHIVE=1
- OTHER_FILE_ARCHIVE_DIRECTORY=/IN/service_packages/CCSVCHRPART/tmp/

Mandatory EDR 53 fields

This list identifies the mandatory EDR record fields for a successful voucher batch deletion using screens (EDR type 53):

- *ACCT_ID* (on page 149) (changed wallet ID)
- *ACCT_REF_ID* (on page 149) (changed account ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *STATE* (on page 195) (of recharge)
- *VOUCHER_BATCH* (on page 197) (for voucher batch)
- *VOUCHER_NUMBER* (on page 197) (redeemed voucher)

Example EDR 53

BILLING_ENGINE_ID=3|SCP_ID=|SEQUENCE_NUMBER=|RECORD_DATE=20180412123812|ACCT_ID=|ACCT_REF_ID=|REDEEMING_SUBSCRIBER_ID=|CDR_TYPE=53|ACS_CUST_ID=11|BE_VOUCHER_ENGINE_ID=3|CREATION_DATE=20180412123653|PRIVATE_SECRET=050F308723B5B9D6752A1C5F4D98A4A9B1C65966DFA79555567F982F010BC6B7AFDBC39D03E72309865C18E5DDC12DE82790748FA23C0F4F236A370986A5CC4E|REDEEMED_DATE=|REDEEMING_ACCT_REF_ID=|STATE=A|VOUCHER_BATCH=35|VOUCHER_NUMBER=20051|SCENARIO=2|BARCODE=2232|TEXT=SAMPLE|CARD_DESIGN=0|DISTRIBUTOR_CHANNEL=WHOLESALE|RETAIL_CHANNEL=RETAIL|PROVISIONING_DATE=20180412123702|FREE_TEXT_FIELD_1=FREETEXT1|FREE_TEXT_FIELD_2=FREETEXT2|FREE_TEXT_FIELD_3=FREETEXT3|

Note

The sequence of all fields output in an EDR is not guaranteed.

Chapter 12

Periodic Charge

Overview

Introduction

This chapter defines the CCS EDRs for periodic charges.

In this chapter

This chapter contains the following topics.

Periodic Charge Recharge Succeeds (EDR 49)

Mandatory EDR 49 fields

This list identifies the mandatory EDR record fields for a successful recharge from a periodic charge (EDR type 49):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *COSTS* (on page 163) (rated calls)
- *NEW_BALANCE_EXPIRIES* (on page 179) (dates after voucher recharge)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before voucher recharge)
- *VOUCHER_TYPE* (on page 198) (name)

Optional EDR 49 fields

This list identifies the optional EDR record fields for a successful recharge from a periodic charge (EDR type 49):

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *NEW_ACCT_TYPE* (on page 179) (ID of account after recharge)
- *OLD_ACCT_STATE* (on page 182) (P or D before update)
- *OLD_ACCT_TYPE* (on page 182) (ID of account before recharge)
- *PC_TYPE* (on page 185) (periodic charge type)
- *PRO_RATE* (on page 186) (periodic charge subscription)
- *RELOAD_BONUS* (on page 190) (promotion name)

- *RELOAD_BONUS_AMOUNT* (on page 190) (amount applied)
- *RELOAD_BONUS_EXPIRY* (on page 190) (date remaining bonus expires)
- *RELOAD_BONUS_LEFT* (on page 191) (bonus amount remaining)

Periodic Charge Named Event Succeeds (EDR 49)

Mandatory EDR 49 fields

This list identifies the mandatory EDR record fields for a successful periodic charge for a named event (EDR type 49):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *CASCADE_ID* (on page 157) (balance type cascade IDs)
- *CHARGE_NAME* (on page 161) (of periodic charge)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *DISCOUNTS* (on page 166) (for each named event)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_COST* (on page 169) (for each named event)
- *EVENT_COUNT* (on page 170) (for each named event)
- *EVENT_NAME* (on page 170) (list used for this call)
- *EVENT_TIME_COST* (on page 170) (for a named event)
- *TCS* (on page 195) (ccs time call started)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Optional EDR 49 fields

This list identifies the optional EDR record fields for a successful periodic charge for a named event (EDR type 49):

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (P or D before update)
- *OVERDRAWN_AMOUNT* (on page 185) (take Balance Negative)
- *PC_TYPE* (on page 185) (periodic charge type)
- *PRO_RATE* (on page 186) (periodic charge subscription)
- *REMAINING_CHARGE* (on page 191) (partial Charge)

Periodic Charge Recharge Fails (EDR 49)

Mandatory EDR 49 fields

This list identifies the mandatory EDR record fields for an unsuccessful recharge using a periodic charge (EDR type 49):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- CS (call status, always D)

- *NACK* (on page 176) (short list of codes)
- *RESULT* (on page 191) (general cause)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Periodic Charge Named Event Fails (EDR 49)

Mandatory EDR 49 fields

This list identifies the mandatory EDR record fields for an unsuccessful periodic charge for a named event (EDR type 49):

- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- CS (call status, always D)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_NAME* (on page 170) (list used for this call)
- *NACK* (on page 176) (short list of codes)
- *TCS* (on page 195) (ccs time call started)

Change Subscription State Succeeds (EDR 52)

Mandatory EDR 52 fields

This list identifies the mandatory EDR record fields for a successful periodic charge subscription state change (EDR type 52):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACCT_ID* (on page 149) (changed wallet ID)
- *ACCT_REF_ID* (on page 149) (changed account ID)
- *BILLING_ENGINE_ID* (on page 155) (BE where account resides)
- *CHARGE_EXPIRY (new periodic charge expiry)* (on page 161) (new periodic charge expiry)
- *OLD_CHARGE_EXPIRY* (on page 183) (periodic charge expiry date changes)
- *CHARGE_NAME* (on page 161) (of periodic charge)
- *CLI* (on page 162) (for the account that will be changed)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *NEW_CHARGE_STATE* (on page 180) (periodic charge subscription state)
- *OLD_CHARGE_STATE* (on page 184) (periodic charge subscription state)
- *RECORD_DATE* (on page 188) (date edr created)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Optional EDR 52 fields

This list identifies the optional EDR record fields for a successful periodic charge subscription state change (EDR type 52):

- *SCP_ID* (on page 194) (where call originated)
- *SEQUENCE_NUMBER* (on page 194) (call identifier)

Change Subscription State Fails (EDR 52)

Mandatory EDR 52 fields

This list identifies the mandatory EDR record fields for a failed periodic charge subscription state change (EDR type 52):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACCT_ID* (on page 149) (changed wallet ID)
- *ACCT_REF_ID* (on page 149) (changed account ID)
- *BILLING_ENGINE_ID* (on page 155) (BE where account resides)
- *CHARGE_EXPIRY (new periodic charge expiry)* (on page 161) (new periodic charge expiry)
- *OLD_CHARGE_EXPIRY* (on page 183) (periodic charge expiry date changes)
- *CHARGE_NAME* (on page 161) (of periodic charge)
- *CLI* (on page 162) (for the account that will be changed)
- CS (call status, always D)
- *NEW_CHARGE_STATE* (on page 180) (periodic charge subscription state)
- *OLD_CHARGE_STATE* (on page 184) (periodic charge subscription state)
- *RECORD_DATE* (on page 188) (date edr created)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Optional EDR 52 fields

This list identifies the optional EDR record fields for a failed periodic charge subscription state change (EDR type 52):

- *NEW_CHARGE_STATE* (on page 180) (periodic charge subscription state)
- *OLD_CHARGE_STATE* (on page 184) (periodic charge subscription state)
- *CHARGE_EXPIRY (new periodic charge expiry)* (on page 161) (new periodic charge expiry)

Chapter 13

Web Initiated Recharges

Overview

Introduction

This chapter defines the CCS EDRs for web initiated recharges.

In this chapter

This chapter contains the following topics.

Web Initiated Recharge Succeeds using PI (EDR 8)

Mandatory EDR 8 fields

The recharge succeeds where the REFERENCE field of the EDR record has a WS prefix indicating this is a recharge that was initiated through a web interface.

This list identifies the mandatory EDR record fields for a successful web initiated recharge using PI (EDR type 8):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *BONUS_TYPE* (on page 156) (name)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *NEW_BALANCE_EXPIRIES* (on page 179) (dates after voucher recharge)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before voucher recharge)
- *PI* (on page 185) (logon name and IP address)
- *REFERENCE* (on page 190) (web site reference - ws)
- *RESULT* (on page 192) (web - success)
- *WALLET_TYPE* (on page 198) (ID of wallet recharged)

Optional EDR 8 fields

This list identifies the optional EDR record fields for a web recharge succeeds using PI (EDR type 8):

- *BEARER_TYPE (bearer type for promotions)* (on page 155) (bearer type for rewards)
- *CHANNEL (for rewards)* (on page 161) (for rewards)
- *NEW_ACCT_STATE* (on page 178) (after update)
- *OLD_ACCT_STATE* (on page 182) (before update)

Note: The NEW_ACCT_STATE and OLD_ACCT_STATE tags will always be present when the freeform recharge causes a change to the wallet state.

Example EDR 8 for web

```
ACCOUNT_TYPE=145|ACCT_ID=83938|ACCT_REF_ID=83200|ACS_CUST_ID=11|BALANCES=0|BALAN
CE_TYPES=25|BILLING_ENGINE_ID=16|BONUS_TYPE=CUSTOM|CDR_TYPE=8|COSTS=-
200000|CS=S|NEW_BALANCE_EXPIRIES=|OLD_BALANCE_EXPIRIES=|PI=sdgAT10.11.169.14|RECORD_
DATE=20091102100721|REFERENCE=WS_Recharge|
RESULT=Success|SCP_ID=265805204|SEQUENCE_NUMBER=144298|WALLET_TYPE=21
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Chapter 14

PI Promotional Recharges

Overview

Introduction

This chapter defines the CCS EDRs for Provisioning Interface (PI) promotional recharges.

In this chapter

This chapter contains the following topics.

PI Promotional Recharge Succeeds using PI (EDR 2)

Mandatory EDR 2 fields

This list identifies the mandatory EDR record fields for a successful PI promotional recharge using PI (EDR type 2):

- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *BUCKET_IDS* (on page 156) (within balance type recharged)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *NEW_BALANCE_EXPIRIES* (on page 179) (dates after voucher recharge)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before voucher recharge)
- *PI* (on page 185) (logon name and IP address)
- *REFERENCE* (on page 189) (from pi reference)
- *WALLET_TYPE* (on page 198) (ID of wallet recharged)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 2 for pi promo

```
BILLING_ENGINE_ID=21|SCP_ID=161986004|SEQUENCE_NUMBER=12|CDR_TYPE=2|RECORD_DATE=2004
0804141927|ACCT_ID=61|ACCT_REF_ID=61|ACS_CUST_ID=1|BALANCES=1000|BALANCE_TYPES=1|BUC
KET_IDS=45844|COSTS=-
100|CS=S|NEW_BALANCE_EXPIRIES=|OLD_BALANCE_EXPIRIES=|PI=adminAT192.168.25.106|REFERE
NCE=PI Promotional|WALLET_TYPE=1
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Chapter 15

Friends & Family, Friends & Destination Config Change

Overview

Introduction

This chapter defines the CCS EDRs for Friends & Family and Friends & Destination configuration changes.

In this chapter

This chapter contains the following topics.

F&F/F&D Change Succeeds using IVR (EDR 5)

Mandatory EDR 5 fields

This list identifies the mandatory EDR record fields for a successful F&F and F&D change using IVR (EDR type 5):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *CASCADE_ID* (on page 157) (balance type cascade IDs)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *DISCOUNTS* (on page 166) (for each named event)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_COST* (on page 169) (for each named event)
- *EVENT_COUNT* (on page 170) (for each named event)
- *EVENT_NAME* (on page 170) (list used for this call)
- *EVENT_TIME_COST* (on page 170) (for a named event)
- *TCS* (on page 195) (ccs time call started)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Optional EDR 5 fields

This list identifies the optional EDR record fields for a successful F&F, F&D configuration change (EDR type 5):

- *OVERDRAWN_AMOUNT* (on page 185) (take Balance Negative)
- *REMAINING_CHARGE* (on page 191) (partial Charge)

Account Activated additional fields

If the account is activated, the following fields are generated:

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (P or D before update)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 5 for fnf

```
BILLING_ENGINE_ID=21|SCP_ID=230612513|SEQUENCE_NUMBER=488297|CDR_TYPE=5|RECORD_DATE=
20040803145823|ACCT_ID=61|ACCT_REF_ID=61|WALLET_TYPE=1|ACS_CUST_ID=1|CS=S|TCS=200407
06104957|BALANCE_TYPES=1|BALANCES=1000|COSTS=50|ACCOUNT_TYPE=4|EVENT_CLASS=FnF FnD
Events|EVENT_NAME=FnF Config
Change|EVENT_TIME_COST=0.00|EVENT_COST=50|EVENT_COUNT=1|DISCOUNT=0|CASCADE=5
```

Note

The sequence of all fields output in an EDR is not guaranteed.

F&F/F&D Change Fails using IVR (EDR 5)

Mandatory EDR 5 fields

This list identifies the mandatory EDR record fields for an unsuccessful F&F and F&D change using IVR (EDR type 5):

- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- CS (call status, always D)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_NAME* (on page 170) (list used for this call)
- *NACK* (on page 176) (short list of codes)
- *TCS* (on page 195) (ccs time call started)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 5 for fnf

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=487291|CDR_TYPE=5|RECORD_DATE=
20070723084009|ACCT_ID=83|ACCT_REF_ID=83|EVENT_CLASS=FnF FnD Events|EVENT_NAME=FnF
Config Change| NACK=INSF|TCS=20040706104957|CS=D|ACS_CUST_ID=1
```

Note

The sequence of all fields output in an EDR is not guaranteed.

F&F/F&D Change Succeeds using PI (EDR 28)

Mandatory EDR 28 fields

This list identifies the mandatory EDR record fields for a successful F&F and F&D change using PI (EDR type 28):

- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *CLI* (on page 161) (initiating call number)
- *NEW_ACTIVE_SVC* (on page 179) (account type)
- *NEW_FD* (on page 180) (friends destination number)
- *NEW_FF* (on page 180) (list of friends and family numbers)
- *OLD_ACTIVE_SVC* (on page 183) (account type)
- *OLD_FD* (on page 184) (friends destination number)
- *OLD_FF* (on page 184) (list of friends and family numbers)
- *PI* (on page 185) (logon name and IP address)
- *WALLET_TYPE* (on page 198) (ID of wallet recharged)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 28 for fnf

```
BILLING_ENGINE_ID=1|SCP_ID=110537566|SEQUENCE_NUMBER=26|CDR_TYPE=28|RECORD_DATE=2005
0111105223|PI-
adminAT192.168.25.182|ACCT_ID=22|ACCT_REF_ID=22|ACS_CUST_ID=1|CLI=1473111222|OLD_FF=
488122346|,777777779|NEW_FF=488122346,777777776|OLD_ACTIVE_SVC=D|NEW_ACTIVE_SVC=F|OL
D_FD=44|NEW_FD=22|WALLET_TYPE=1
```

Note

The sequence of all fields output in an EDR is not guaranteed.

F&F/F&D Change Fails using PI (EDR 5)

Mandatory EDR 5 fields

This list identifies the mandatory EDR record fields for an unsuccessful F&F and F&D change using PI (EDR type 5):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- CS (call status, always D)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_NAME* (on page 170) (list used for this call)
- *NACK* (on page 176) (short list of codes)
- *TCE* (on page 195) (ccs time call ended)
- *WALLET_TYPE* (on page 198) (ID of wallet recharged)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 5 for fnf

```
BILLING_ENGINE_ID=4|SCP_ID=161986004|SEQUENCE_NUMBER=10|CDR_TYPE=5|RECORD_DATE=20070
810043324|ACCT_ID=1021|ACCT_REF_ID=1021|EVENT_CLASS=FnF FnD Events|EVENT_NAME=FnD
Config
Change|NACK=WDIS|TCS=20070810043324|CS=D|ACCOUNT_TYPE=41|PI=adminAT192.168.25.108|WA
LLET_TYPE=1|ACS_CUST_ID=1
```

Note

The sequence of all fields output in an EDR is not guaranteed.

F&F/F&D New Entry Succeeds using PI (EDR 5)

Mandatory EDR 5 fields

This list identifies the mandatory EDR record fields for a successful F&F and F&D new entry using PI (EDR type 5):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-call or account creation)
- *CASCADE_ID* (on page 157) (balance type cascade IDs)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *DISCOUNTS* (on page 166) (for each named event)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_COST* (on page 169) (for each named event)
- *EVENT_COUNT* (on page 170) (for each named event)
- *EVENT_NAME* (on page 170) (list used for this call)
- *EVENT_TIME_COST* (on page 170) (for a named event)
- *PI* (on page 185) (logon name and IP address)
- *TCS* (on page 195) (ccs time call started)
- *WALLET_TYPE* (on page 198) (ID of wallet recharged)

Optional EDR 5 fields

This list identifies the optional EDR record fields for a successful F&F, F&D configuration change (EDR type 5):

- *OVERDRAWN_AMOUNT* (on page 185) (take Balance Negative)
- *REMAINING_CHARGE* (on page 191) (partial Charge)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Note

The sequence of all fields output in an EDR is not guaranteed.

Chapter 16

Call Barring Config Change

Overview

Introduction

This chapter defines the CCS EDRs for call barring configuration changes.

In this chapter

This chapter contains the following topics.

Call Barring Change Succeeds using PI (EDR 30)

Mandatory EDR 30 fields

This list identifies the mandatory EDR record fields for a successful call barring change using PI (EDR type 30):

- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BARRED_LIST_TYPE* (on page 155) (description)
- *CLI* (on page 161) (initiating call number)
- *IGNORE_BARRED* (on page 172) (ignore numbers in call barring list)
- *NEW_BARRED_LIST* (on page 180) (of call barring numbers)
- *OLD_BARRED_LIST* (on page 183) (of call barring numbers)
- *PI* (on page 185) (logon name and IP address)
- *WALLET_TYPE* (on page 198) (ID of wallet recharged)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 30 for call barring

```
BILING_ENGINE_ID=2|SCP_ID=110537566|SEQUENCE_NUMBER=1060|CDR_TYPE=30|RECORD_DATE=200
70809113017|ACCT_ID=1021|ACCT_REF_ID=102|PI=adminAT192.168.25.108|ACS_CUST_ID=1|WALL
ET_TYPE=1|CLI=11012|OLD_BARRED_LIST=|NEW_BARRED_LIST=03200000001,03200000002,0320000
0003,03200000004,03200000005|BARRED_LIST_TYPE=ALLOWED
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Chapter 17

Change 'Disable Incoming Calls when Roaming' Flag

Overview

Introduction

This chapter defines the CCS EDRs for 'Disable Incoming Calls when Roaming' (DICWR) flag changes.

In this chapter

This chapter contains the following topics.

DICWR Flag Change Succeeds using Screens (EDR 29)

Mandatory EDR 29 fields

This list identifies the mandatory EDR record fields for a successful DICWR change using screens (EDR type 29):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *CLI* (on page 162) (for the account that will be changed)
- *DICWR* (on page 164) (Disable Incoming Calls When Roaming)
- *USER* (on page 197) (operator logon name)
- *WALLET_TYPE* (on page 198) (ID of wallet recharged)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 29

```
BILLING_ENGINE_ID=0|SCP_ID=110537566|SEQUENCE_NUMBER=139450184|CDR_TYPE=29|RECORD_DA
TE=20070704145441|ACCT_ID=61|ACCT_REF_ID=61|USER=SU|CLI=1234|ACS_CUST_ID=1|WALLET_TY
PE=1|DICWR=TRUE|ACCOUNT_TYPE=24
```

Note

The sequence of all fields output in an EDR is not guaranteed.

DICWR Flag Change Succeeds using PI (EDR 29)

Mandatory EDR 29 fields

This list identifies the mandatory EDR record fields for a successful DICWR change using PI (EDR type 29):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *CLI* (on page 162) (for the account that will be changed)
- *DICWR* (on page 164) (Disable Incoming Calls When Roaming)
- *PI* (on page 185) (logon name and IP address)
- *WALLET_TYPE* (on page 198) (ID of wallet recharged)

Example EDR 29

```
BILLING_ENGINE_ID=2|SCP_ID=110537566|SEQUENCE_NUMBER=1061|CDR_TYPE=29|RECORD_DATE=20
070809120324|ACCT_ID=1032|ACCT_REF_ID=1032|CLI=11023|ACS_CUST_ID=1|WALLET_TYPE=1|PI=
adminat192.168.25.108|DICWR=TRUE|MSISDN=11023|ACCOUNT_TYPE=24
```

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Note

The sequence of all fields output in an EDR is not guaranteed.

Chapter 18

PI Adds Service Charge

Overview

Introduction

This chapter defines the CCS EDRs for Provisioning Interface (PI) adds service charges.

In this chapter

This chapter contains the following topics.

PI Adds Service Charges Succeeds using PI (EDR 2,5)

Mandatory EDR 2 fields CCSSC1

This EDR is produced when **CHARGE** or **REFUND** is specified in the PI command but not **EVENT**.

This list identifies the mandatory EDR record fields for a successful PI adds service charge using PI command CCSSC1 ADD (EDR type 2):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *COSTS* (on page 163) (rated calls)
- *NEW_ACCT_EXPIRY* (on page 177) (date after update)
- *NEW_ACCT_STATE* (on page 178) (after update)
- *NEW_BALANCE_EXPIRIES* (on page 179) (date after balance update)
- *OLD_ACCT_EXPIRY* (on page 181) (dates before update)
- *OLD_ACCT_STATE* (on page 182) (before update)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before balance update)
- *PI* (on page 185) (logon name and IP address)
- *WALLET_TYPE* (on page 198) (ID of wallet recharged)

Optional EDR 2 fields CCSSC1

This list identifies the optional EDR record fields for a successful PI adds service charge using PI command CCSSC1 ADD (EDR type 2):

- *REFERENCE* (on page 189) (from pi reference)

Mandatory EDR 5 fields CCSSC1

This EDR is produced when **EVENT** or **CLASS** is specified in the PI command but not **CHARGE** or **REFUND**.

This list identifies the mandatory EDR record fields for a successful PI adds service charge using PI command CCSSC1 ADD (EDR type 5):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *TCS* (on page 195) (ccs time call started)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Optional EDR 5 fields CCSSC1

This EDR is produced when **EVENT** or **CLASS** is specified in the PI command but not **CHARGE** or **REFUND**.

This list identifies the optional EDR record fields for a successful PI adds service charge using PI command CCSSC1 ADD (EDR type 5):

- *NEW_ACCT_STATE* (on page 178) (after update)
- *OLD_ACCT_STATE* (on page 182) (before update)
- *REFERENCE* (on page 189) (from pi reference)
- *OVERDRAWN_AMOUNT* (on page 185) (take Balance Negative)
- *REMAINING_CHARGE* (on page 191) (partial Charge)

Mandatory EDR 5 fields CCSSC1

This EDR is produced when **CHARGE** or **REFUND** is specified, and also **EVENT** is specified in the PI command.

This list identifies the mandatory EDR record fields for a successful PI adds service charge using PI command CCSSC1 ADD (EDR type 5):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *CASCADE* (on page 156) (always empty for pi)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *DISCOUNT* (on page 165) (always zero for pi)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_COST* (on page 169) (for each named event)
- *EVENT_COUNT* (on page 170) (for each named event)
- *EVENT_NAME* (on page 170) (list used for this call)
- *NEW_ACCT_EXPIRY* (on page 177) (date after update)
- *NEW_ACCT_STATE* (on page 178) (after update)
- *NEW_BALANCE_EXPIRIES* (on page 179) (date after balance update)
- *OLD_ACCT_EXPIRY* (on page 181) (dates before update)
- *OLD_ACCT_STATE* (on page 182) (before update)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before balance update)
- *PI* (on page 185) (logon name and IP address)
- *TCS* (on page 195) (ccs time call started)
- *WALLET_TYPE* (on page 198) (ID of wallet recharged)

Optional EDR 5 fields CCSSC1

This EDR is produced when **CHARGE** or **REFUND** is specified, and also **EVENT** is specified in the PI command.

This list identifies the optional EDR record fields for a successful PI adds service charge using PI command CCSSC1 ADD (EDR type 5):

- *REFERENCE* (on page 189) (from pi reference)
- *OVERDRAWN_AMOUNT* (on page 185) (take Balance Negative)
- *REMAINING_CHARGE* (on page 191) (partial Charge)

Mandatory EDR 2 fields CCSSC2

This list identifies the mandatory EDR record fields for a successful PI adds service charge using PI command CCSSC2 ADD (EDR type 2):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-call or account creation)
- *CASCADE_ID* (on page 157) (balance type cascade IDs)
- *CLI* (on page 161) (initiating call number)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- DISCOUNT_TYPE - one of:
  - *DISCOUNT_TYPE* (on page 165) (applied to this call)
  - *DISCOUNT_TYPE* (on page 165) (applied to this call) - R*W
- *DISCOUNTS* (on page 166) (rated calls)
- *DURATION* (on page 167) (call length)
- *FCA* (on page 171) (final call address)
- LENGTHS - one of:
  - *LENGTHS* (on page 172) (rate durations)
  - *LENGTHS* (on page 173) (rate durations) -1end duration
- *MAX_CHARGE* (on page 174) (for this call)
- *RATES* (on page 186) (rated calls)
- *TCE* (on page 195) (ccs time call ended)
- *TCS* (on page 195) (ccs time call started)
- *TN* (on page 196) (ccs called number)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Mandatory EDR 2 fields CTLSC1

This EDR is produced when **CHARGE** or **REFUND** is specified in the PI command but not **EVENT**.

This list identifies the mandatory EDR record fields for a successful PI adds service charge using PI command CTLSC1 ADD (EDR type 2):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)

- *COSTS* (on page 163) (rated calls)
- *NEW_ACCT_EXPIRY* (on page 177) (date after update)
- *NEW_ACCT_STATE* (on page 178) (after update)
- *NEW_BALANCE_EXPIRIES* (on page 179) (date after balance update)
- *OLD_ACCT_EXPIRY* (on page 181) (dates before update)
- *OLD_ACCT_STATE* (on page 182) (before update)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before balance update)
- *PI* (on page 185) (logon name and IP address)
- *WALLET_TYPE* (on page 198) (ID of wallet recharged)

Mandatory EDR 5 fields CTLSC1

This EDR is produced when **EVENT** or **CLASS** is specified in the PI command but not **CHARGE** or **REFUND**.

This list identifies the mandatory EDR record fields for a successful PI adds service charge using PI command CTLSC1 ADD (EDR type 5):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *TCS* (on page 195) (ccs time call started)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Optional EDR 5 fields CTLSC1

This EDR is produced when **EVENT** or **CLASS** is specified in the PI command but not **CHARGE** or **REFUND**.

This list identifies the optional EDR record fields for a successful PI adds service charge using PI command CTLSC1 ADD (EDR type 5):

- *NEW_ACCT_STATE* (on page 178) (after update)
- *OLD_ACCT_STATE* (on page 182) (before update)
- *OVERDRAWN_AMOUNT* (on page 185) (take Balance Negative)
- *REMAINING_CHARGE* (on page 191) (partial Charge)

Mandatory EDR 5 fields CTLSC1

This EDR is produced when **CHARGE** or **REFUND** is specified, and also **EVENT** is specified in the PI command.

This list identifies the mandatory EDR record fields for a successful PI adds service charge using PI command CTLSC1 ADD (EDR type 5):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *CASCADE* (on page 156) (always empty for pi)
- *COSTS* (on page 163) (rated calls)
- CS (call status, always S)
- *DISCOUNT* (on page 165) (always zero for pi)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_COST* (on page 169) (for each named event)
- *EVENT_COUNT* (on page 170) (for each named event)

- *EVENT_NAME* (on page 170) (list used for this call)
- *NEW_ACCT_EXPIRY* (on page 177) (date after update)
- *NEW_ACCT_STATE* (on page 178) (after update)
- *NEW_BALANCE_EXPIRIES* (on page 179) (date after balance update)
- *OLD_ACCT_EXPIRY* (on page 181) (dates before update)
- *OLD_ACCT_STATE* (on page 182) (before update)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before balance update)
- *PI* (on page 185) (logon name and IP address)
- *TCS* (on page 195) (ccs time call started)
- *WALLET_TYPE* (on page 198) (ID of wallet recharged)

Optional EDR 5 fields CTLSC1

This EDR is produced when **CHARGE** or **REFUND** is specified, and also **EVENT** is specified in the PI command.

This list identifies the optional EDR record fields for a successful PI adds service charge using PI command CTLSC1 ADD (EDR type 5):

- *OVERDRAWN_AMOUNT* (on page 185) (take Balance Negative)
- *REMAINING_CHARGE* (on page 191) (partial Charge)

Mandatory EDR 2 fields CTLSC2

This list identifies the mandatory EDR record fields for a successful PI adds service charge using PI command CTLSC2 ADD (EDR type 2):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-call or account creation)
- *CASCADE_ID* (on page 157) (balance type cascade IDs)
- *CLI* (on page 161) (initiating call number)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- DISCOUNT_TYPE - one of:
  - *DISCOUNT_TYPE* (on page 165) (applied to this call)
  - *DISCOUNT_TYPE* (on page 165) (applied to this call) - R*W
- *DISCOUNTS* (on page 166) (rated calls)
- *DURATION* (on page 167) (call length)
- *FCA* (on page 171) (final call address)
- LENGTHS - one of:
  - *LENGTHS* (on page 172) (rate durations)
  - *LENGTHS* (on page 173) (rate durations) -1end duration
- *MAX_CHARGE* (on page 174) (for this call)
- *RATES* (on page 186) (rated calls)
- *TCE* (on page 195) (ccs time call ended)
- *TCS* (on page 195) (ccs time call started)
- *TN* (on page 196) (ccs called number)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Mandatory EDR 2 fields CTLSC2

This list identifies the mandatory EDR record fields for a successful PI adds service charge using PI command CTLSC2 ADD (EDR type 2):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-call or account creation)
- *CASCADE_ID* (on page 157) (balance type cascade IDs)
- *CLI* (on page 161) (initiating call number)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- DISCOUNT_TYPE - one of:
  - *DISCOUNT_TYPE* (on page 165) (applied to this call)
  - *DISCOUNT_TYPE* (on page 165) (applied to this call) - R*W
- *DISCOUNTS* (on page 166) (rated calls)
- *DURATION* (on page 167) (call length)
- *FCA* (on page 171) (final call address)
- LENGTHS - one of:
  - *LENGTHS* (on page 172) (rate durations)
  - *LENGTHS* (on page 173) (rate durations) -1end duration
- *MAX_CHARGE* (on page 174) (for this call)
- *RATES* (on page 186) (rated calls)
- *TCE* (on page 195) (ccs time call ended)
- *TCS* (on page 195) (ccs time call started)
- *TN* (on page 196) (ccs called number)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

MSISDN example

```
BILLING_ENGINE_ID=21|SCP_ID=110537566|SEQUENCE_NUMBER=139450184|CDR_TYPE=2|RECORD_DA
TE=20040803122626|ACCT_ID=83|ACCT_REF_ID=83|USER=SU||ACCOUNT_TYPE=1|PI=adminAT192.16
8.25.106|OLD_ACCT_EXPIRY=0|NEW_ACCT_EXPIRY=0|MAX_CONCURRENT=1|COMMENT=|BALANCE_TYPES
=1|BALANCES=0|COSTS=10|OLD_BALANCE_EXPIRIES=20050310143044|NEW_BALANCE_EXPIRIES=2005
0310143044| ACS_CUST_ID=1|WALLET_TYPE=1|EVENT_CLASS=ProductType|
EVENT_NAME=ProductTypeSwap|EVENT_COST=100|EVENT_COUNT=1|DISCOUNT=0|CASCADE=0|MSISDN=
1394111111
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Chapter 19

Product Type Swap

Overview

Introduction

This chapter defines the CCS EDRs for product types swaps (PTS).

In this chapter

This chapter contains the following topics.

PTS Succeeds using Screens (EDR type 31)

Mandatory EDR 31 fields

There is no associated cost for the PTS that succeeds using the screens.

This list identifies the mandatory EDR record fields for a successful PTS using screens (EDR type 31):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *CLI* (on page 162) (for the account that will be changed)
- *NEW_ACCT_TYPE* (on page 179) (prod type swap)
- *OLD_ACCT_TYPE* (on page 182) (prod type swap)
- *USER* (on page 197) (operator logon name)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 31

```
BILLING_ENGINE_ID=0|SCP_ID=110537566|SEQUENCE_NUMBER=139450184|CDR_TYPE=31|RECORD_DA
TE=20070704150023|ACCT_ID=61|ACCT_REF_ID=61|ACCOUNT_TYPE=24|CLI=1234|OLD_ACCT_TYPE=o
racle_pt|NEW_ACCT_TYPE=test_pt|USER=SU|ACS_CUST_ID=1
```

Note

The sequence of all fields output in an EDR is not guaranteed.

PTS Succeeds using PI (EDR type 31)

Mandatory EDR 31 fields

There is no associated cost for the PTS that succeeds using PI.

This list identifies the mandatory EDR record fields for a successful PTS using PI (EDR type 31):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *CLI* (on page 162) (for the account that will be changed)
- *NEW_ACCT_TYPE* (on page 179) (prod type swap)
- *OLD_ACCT_TYPE* (on page 182) (prod type swap)
- *USER* (on page 197) (operator logon name)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 31

```
BILLING_ENGINE_ID=0|SCP_ID=110537566|SEQUENCE_NUMBER=139450184|CDR_TYPE=31|RECORD_DA
TE=20040804150023|ACCT_ID=61|ACCT_REF_ID=61|CLI=1234|ACCOUNT_TYPE=11|OLD_ACCT_TYPE=o
racle_pt|NEW_ACCT_TYPE=test_pt|USER=SU|ACS_CUST_ID=1|MSISDN=1234
```

Note

The sequence of all fields output in an EDR is not guaranteed.

PTS Succeeds using the GUI (EDR 31, 32)

Introduction

There is an associated cost for the PTS that succeeds using the GUI.

There are 2 EDR records created for this event - a EDR of type 31 and a EDR of type 32.

Mandatory EDR 31 fields

This list identifies the mandatory EDR record fields for a successful PTS using the GUI (EDR type 31):

- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *CLI* (on page 162) (for the account that will be changed)
- *NEW_ACCT_TYPE* (on page 179) (prod type swap)
- *OLD_ACCT_TYPE* (on page 182) (prod type swap)
- *USER* (on page 197) (operator logon name)

Mandatory EDR 32 fields

This list identifies the mandatory EDR record fields for a successful PTS using the GUI (EDR type 32):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)

- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-call or account creation)
- *CASCADE_ID* (on page 157) (balance type cascade IDs)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *DISCOUNTS* (on page 166) (for each named event)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_COST* (on page 169) (for each named event)
- *EVENT_COUNT* (on page 170) (for each named event)
- *EVENT_NAME* (on page 170) (list used for this call)
- *EVENT_TIME_COST* (on page 170) (for a named event)
- *TCS* (on page 195) (ccs time call started)
- *TERMINAL* (on page 196) (Network ID)
- *USER* (on page 197) (operator logon name)

Optional EDR 32 fields

This list identifies the optional EDR record fields for a successful PTS using the GUI (EDR type 32):

- *OVERDRAWN_AMOUNT* (on page 185) (take Balance Negative)
- *REMAINING_CHARGE* (on page 191) (partial Charge)

Account Activated additional fields

If the account is activated, the following fields will be present:

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (pre-call)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 31

```
BILLING_ENGINE_ID=0|SCP_ID=110537566|SEQUENCE_NUMBER=139450184|CDR_TYPE=31|RECORD_DA
TE=20040804150023|ACCT_ID=61|ACCT_REF_ID=61|CLI=1234|OLD_ACCT_TYPE=test_pt|NEW_ACCT_
TYPE=oracle_pt|USER=SU|ACS_CUST_ID=1
```

Example EDR 32

```
BILLING_ENGINE_ID=21|SCP_ID=110537566|SEQUENCE_NUMBER=139450184|CDR_TYPE=32|RECORD_D
ATE=20070704150312|ACCT_ID=61|ACCT_REF_ID=61|USER=SU|TERMINAL=192.168.25.108|ACS_CUS
T_ID=1|CS=S|TCS=20070704150312|BALANCE_TYPES=1|BALANCES=1000|COSTS=100|ACCOUNT_TYPE=
2|EVENT_CLASS=Product Type| EVENT_NAME=Product Type
Swap|EVENT_COST=100|EVENT_COUNT=1|EVENT_TIME_COST=0:00|DISCOUNT=0|CASCADE=1
```

Account activated example

```
BILLING_ENGINE_ID=21|SCP_ID=110537566|SEQUENCE_NUMBER=139450184|CDR_TYPE=32|RECORD_D
ATE=20040804150312|ACCT_ID=61|ACCT_REF_ID=61|USER=SU|ACS_CUST_ID=1|CS=S|TCS=20040804
150312|BALANCE_TYPES=1|BALANCES=1000|COSTS=100|ACCOUNT_TYPE=2|EVENT_CLASS=Product
Type| EVENT_NAME=Product Type
Swap|EVENT_COST=100|EVENT_COUNT=1|EVENT_TIME_COST=0:00|DISCOUNT=0|CASCADE=0|OLD_ACCT
_STATE=P|NEW_ACCT_STATE=A
```

Example Account Activated - MSISDN

```
BILLING_ENGINE_ID=21|SCP_ID=110537566|SEQUENCE_NUMBER=139450184|CDR_TYPE=32|RECORD_D
ATE=20040804150312|ACCT_ID=61|ACCT_REF_ID=61|USER=SU|ACS_CUST_ID=1|CS=S|TCS=20040804
150312|BALANCE_TYPES=1|BALANCES=1000|COSTS=100|ACCOUNT_TYPE=2|EVENT_CLASS=Product
Type| EVENT_NAME=Product Type
Swap|EVENT_COST=100|EVENT_COUNT=1|DISCOUNT=0|CASCADE=0|OLD_ACCT_STATE=P|NEW_ACCT_STA
TE=A|MSISDN=1394111111
```

Note

The sequence of all fields output in an EDR is not guaranteed.

PTS Succeeds using IVR (EDR 31, 32)

Introduction

There may or may not be an associated cost for the PTS that succeeds using the IVR as a 100% discount may be applied.

There are 2 EDR records created for this event - a EDR of type 31 and a EDR of type 32.

Mandatory EDR 31 fields

This list identifies the mandatory EDR record fields for a successful PTS using IVR (EDR type 31):

- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *CLI* (on page 162) (for the account that will be changed)
- *NEW_ACCT_TYPE* (on page 179) (prod type swap)
- *OLD_ACCT_TYPE* (on page 182) (prod type swap)
- *USER* (on page 197) (operator logon name)

Mandatory EDR 32 fields

This list identifies the mandatory EDR record fields for a successful PTS using IVR (EDR type 32):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-call or account creation)
- *CASCADE_ID* (on page 157) (balance type cascade IDs)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *DISCOUNTS* (on page 166) (for each named event)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_COST* (on page 169) (for each named event)

- *EVENT_COUNT* (on page 170) (for each named event)
- *EVENT_NAME* (on page 170) (list used for this call)
- *EVENT_TIME_COST* (on page 170) (for a named event)
- *NEW_ACCT_TYPE* (on page 179) (prod type swap)
- *TCS* (on page 195) (ccs time call started)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Optional EDR 32 fields

This list identifies the optional EDR record fields for a successful PTS using IVR (EDR type 32):

- *OVERDRAWN_AMOUNT* (on page 185) (take Balance Negative)
- *REMAINING_CHARGE* (on page 191) (partial Charge)

Account Activated additional fields

If the account is activated, the following fields will be present:

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (pre-call)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 31

```
BILLING_ENGINE_ID=0|SCP_ID=110537566|SEQUENCE_NUMBER=139450184|CDR_TYPE=31|RECORD_DA
TE=20040804150023|ACCT_ID=61|ACCT_REF_ID=61|CLI=1234|OLD_ACCT_TYPE=oracle_pt|NEW_ACC
T_TYPE=test_pt|USER=OPS$SMF_OPER|ACS_CUST_ID=1
```

Example EDR 32

```
BILLING_ENGINE_ID=21|SCP_ID=366273322|SEQUENCE_NUMBER=489322|CDR_TYPE=32|RECORD_DATE
=20040804150312|ACCT_ID=61|ACCT_REF_ID=61|USER=SU|ACS_CUST_ID=1|CS=S|TCS=20040804150
312|BALANCE_TYPES=1|BALANCES=1000|COSTS=100|ACCOUNT_TYPE=2|EVENT_CLASS=Product Type
|EVENT_NAME=Product Type
Swap|EVENT_COST=100|EVENT_COUNT=1|EVENT_TIME_COST=0:00|DISCOUNT=0|CASCADE=0
```

Account activated example

```
BILLING_ENGINE_ID=21|SCP_ID=366273322|SEQUENCE_NUMBER=489322|CDR_TYPE=32|RECORD_DATE
=20040804150312|ACCT_ID=61|ACCT_REF_ID=61|USER=SU|ACS_CUST_ID=1|CS=S|TCS=20040804150
312|BALANCE_TYPES=1|BALANCES=1000|COSTS=100|ACCOUNT_TYPE=2|EVENT_CLASS=Product Type
|EVENT_NAME=Product Type
Swap|EVENT_COST=100|EVENT_COUNT=1|EVENT_TIME_COST=0:00|DISCOUNT=0|CASCADE=0|OLD_ACCT
_STATE=P|NEW_ACCT_STATE=A
```

Example MSISDN

```
BILLING_ENGINE_ID=21|SCP_ID=366273322|SEQUENCE_NUMBER=489322|CDR_TYPE=32|RECORD_DATE
=20040804150312|ACCT_ID=61|ACCT_REF_ID=61|USER=SU|ACS_CUST_ID=1|CS=S|TCS=20040804150
312|BALANCE_TYPES=1|BALANCES=1000|COSTS=100|ACCOUNT_TYPE=2|EVENT_CLASS=Product Type
|EVENT_NAME=Product Type
Swap|EVENT_COST=100|EVENT_COUNT=1|DISCOUNT=0|CASCADE=0|OLD_ACCT_STATE=P|NEW_ACCT_STA
TE=A|MSISDN=1394111111
```

Note

The sequence of all fields output in an EDR is not guaranteed.

PTS Fails using the GUI (EDR 32)

Mandatory EDR 32 fields

This list identifies the mandatory EDR record fields for an unsuccessful product type swap (PTS) using the SMS UI. (EDR type 32):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- CS (call status, always D)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_NAME* (on page 170) (list used for this call)
- *NACK* (on page 176) (short list of codes)
- *TCS* (on page 195) (ccs time call started)
- *TERMINAL* (on page 196) (Network ID)
- *USER* (on page 197) (operator logon name)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 32

```
BILLING_ENGINE_ID=21|SCP_ID=110537566|SEQUENCE_NUMBER=139450184|CDR_TYPE=32|RECORD_D
ATE=20070718105233|ACCT_ID=2082|ACCT_REF_ID=2082|EVENT_CLASS=Product
Type|EVENT_NAME=Product Type
Swap|NACK=NENA|TCS=20070718105233|CS=D|ACCOUNT_TYPE=41|USER=SU|TERMINAL=192.168.25.1
08|ACS_CUST_ID=1
```

Example MSISDN

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=487291|CDR_TYPE=32|RECORD_DATE
=20040803121758|ACCT_ID=83|ACCT_REF_ID=83|EVENT_CLASS=Product
Type|EVENT_NAME=Product Type
Swap|NACK=INSF|TCS=20040706104957|CS=D|ACCOUNT_TYPE=1|WALLET_TYPE=1|NEW_ACCT_TYPE=2|
ACS_CUST_ID=1|MSISDN=1394111111
```

Note

The sequence of all fields output in an EDR is not guaranteed.

PTS Fails using IVR (EDR 32)

Mandatory EDR 32 fields

This list identifies the mandatory EDR record fields for an unsuccessful PTS using IVR. (EDR type 32):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- CS (call status, always D)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_NAME* (on page 170) (list used for this call)
- *NEW_ACCT_TYPE* (on page 179) (prod type swap)
- *TCS* (on page 195) (ccs time call started)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 32

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=487291|CDR_TYPE=32|RECORD_DATE
=20040803121758|ACCT_ID=83|ACCT_REF_ID=83|EVENT_CLASS=Product
Type|EVENT_NAME=Product Type
Swap|NACK=INSF|TCS=20040706104957|CS=D|ACCOUNT_TYPE=1|NEW_ACCT_TYPE=2|ACS_CUST_ID=1
```

Example MSISDN

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=487291|CDR_TYPE=32|RECORD_DATE
=20040803121758|ACCT_ID=83|ACCT_REF_ID=83|EVENT_CLASS=Product
Type|EVENT_NAME=Product Type
Swap|NACK=INSF|TCS=20040706104957|CS=D|ACCOUNT_TYPE=1|WALLET_TYPE=1|NEW_ACCT_TYPE=2|
ACS_CUST_ID=1|MSISDN=1394111111
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Chapter 20

Read Secret Code

Overview

Introduction

This chapter defines the CCS EDRs for read secret code changes.

In this chapter

This chapter contains the following topics.

Read Secret Code Change Fails using IVR (EDR 33)

Mandatory EDR 33 fields

This list identifies the mandatory EDR record fields for an unsuccessful read secret code using IVR (EDR type 33):

- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BAD_PINS* (on page 152) (number of attempts)

Optional EDR 33 fields

This list identifies the optional EDR record fields for an unsuccessful read secret code using IVR (EDR type 33):

- *NEW_ACCT_STATE* (on page 178) (always frozen - F)
- *OLD_ACCT_STATE* (on page 181) (always active - A)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 33

```
BILLING_ENGINE_ID=21|SCP_ID=366273322|SEQUENCE_NUMBER=488298|CDR_TYPE=33|RECORD_DATE
=20040803145823|ACCT_ID=61|ACCT_REF_ID=61|BAD_PINS=1|ACS_CUST_ID=1
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Chapter 21

Expiration

Overview

Introduction

This chapter defines the CCS EDRs for expiries.

Note: If the ACCT_REF_ID header field for an expiry EDR is set to zero (0), this indicates that the change was not limited to a single account but was applied to the wallet or balance of all the referenced accounts.

In this chapter

This chapter contains the following topics.

Balance Expiry (EDR 3)

Mandatory EDR 3 fields

This list identifies the mandatory EDR record fields for balance expiry (EDR type 3):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *COSTS* (on page 163) (rated calls)

Optional EDR 3 fields

This list identifies the optional EDR record fields for balance expiry (EDR type 3):

- *EXPIRED_WALLET* (on page 171) (ID of expired wallet)
- *NEW_ACCT_STATE* (on page 178) (after update)
- *OLD_ACCT_STATE* (on page 182) (before update)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before balance update)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 3

```
BILLING_ENGINE_ID=21|SCP_ID=0|SEQUENCE_NUMBER=0|CDR_TYPE=3|RECORD_DATE=2004080314582
3|ACCT_ID=61|ACCT_REF_ID=61|BALANCES=5100|BALANCE_TYPES=1|COSTS=5100|ACCOUNT_TYPE=1
```

Example MSISDN

```
BILLING_ENGINE_ID=21|SCP_ID=0|SEQUENCE_NUMBER=0|CDR_TYPE=3|RECORD_DATE=2004080314582
3|ACCT_ID=61|ACCT_REF_ID=61|BALANCES=5100|BALANCE_TYPES=1|COSTS=5100|EXPIRIES=200407
31212949|ACCOUNT_TYPE=1|MSISDN=1394111111
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Account Expiry (EDR 3)

Mandatory EDR 3 fields

This list identifies the mandatory EDR record fields for account expiry (EDR type 3):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *NEW_ACCT_STATE* (on page 178) (always terminated - T)
- *OLD_ACCT_EXPIRY* (on page 181) (dates before update)
- *OLD_ACCT_STATE* (on page 181) (always active - A)

Optional EDR 3 fields

This list identifies the optional EDR record fields for account expiry (EDR type 3):

- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before balance update)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 3

```
BILLING_ENGINE_ID=21|SCP_ID=0|SEQUENCE_NUMBER=0|CDR_TYPE=3|RECORD_DATE=2004080314582
3|ACCT_ID=61|ACCT_REF_ID=61|NEW_ACCT_STATE=T|OLD_ACCT_STATE=A|ACS_CUST_ID=1|ACCOUNT_
TYPE=1
```

Example MSISDN

```
BILLING_ENGINE_ID=21|SCP_ID=0|SEQUENCE_NUMBER=0|CDR_TYPE=3|RECORD_DATE=2004080314582
3|ACCT_ID=61|ACCT_REF_ID=61|NEW_ACCT_STATE=T|OLD_ACCT_STATE=A|ACS_CUST_ID=1|OLD_ACCT
_EXPIRY=20040731212949|ACCOUNT_TYPE=1|MSISDN=1394111111
```

Note

The sequence of all fields output in an EDR is not guaranteed.

PI Delete (EDR 2)

Mandatory EDR 2 fields

Thislist identifies the mandatory EDR record fields for PI delete (EDR type 2):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *ACTIVATION_DATE* (on page 151) (account activation date)
- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *COSTS* (on page 163) (rated calls)
- *MAX_CONCURRENT* (on page 174) (maximum concurrent accesses allowed)
- *NEW_ACCT_EXPIRY* (on page 177) (date after update)
- *NEW_BALANCE_EXPIRIES* (on page 179) (date after balance update)
- *OLD_ACCT_EXPIRY* (on page 181) (dates before update)
- *OLD_ACCT_STATE* (on page 181) (always active - A)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before balance update)
- *PI* (on page 185) (logon name and IP address)
- *WALLET_DELETED* (on page 198) (always success - Y)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Note

The sequence of all fields output in an EDR is not guaranteed.

Chapter 22

Roaming Voice Calls

Overview

Introduction

This chapter defines the CCS EDRs for roaming voice calls.

In this chapter

This chapter contains the following topics.

Successful Roaming Call (EDR type 1)

Introduction

For the purposes of this document, a roaming voice call is one of the following:

- CAMEL Originating
- Mobile Terminating
- USSD Callback

Depending on the software installed, a roaming voice call may result in either a EDR of type 1 or a EDR of type 11.

A EDR of type 11 will be created through modifying the original EDR type using a ccsCDRLoaderPlugin on the SMS. The ccsCDRLoaderPlugin may also modify the CLI and TN fields of the EDR record and add additional fields into the resulting EDR - details regarding these changes have been included in this section of the document.

Mandatory EDR 1 fields

This list identifies the mandatory EDR record fields for a successful roaming call (EDR type 1):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *CASCADE_ID* (on page 157) (balance type cascade IDs)
- *CLI* (on page 161) (initiating call number)
- DISCOUNT_TYPE - one of:
  - *DISCOUNT_TYPE* (on page 165) (applied to this call)
  - *DISCOUNT_TYPE* (on page 165) (applied to this call) - R*W
- *DISCOUNTS* (on page 166) (rated calls)

- *DURATION* (on page 167) (call length)
- *DURATION_CHARGED* (on page 168)
- *END_CALL_REASON (reasons for call termination)* (on page 169)
- *FCA* (on page 171) (final call address)
- LENGTHS - one of:
  - *LENGTHS* (on page 172) (rate durations)
  - *LENGTHS* (on page 173) (rate durations) -1end duration
- *MAX_CHARGE* (on page 174) (for this call)
- *RATES* (on page 186) (rated calls)
- *TCE* (on page 195) (ccs time call ended)
- *TCS* (on page 195) (ccs time call started)
- *TN* (on page 196) (ccs called number)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Optional EDR 1 fields

This list identifies the optional EDR record fields for a successful roaming call (EDR type 1):

- *CUG_NAME* (on page 164) (closed user group)
- *OVERRIDDEN_TARIFF_PLAN* (on page 185) (ID)
- *RELC* (on page 190) (inap release cause)
- *TARIFF_CODE* (on page 195) (name)

Partial EDR additional fields

Enabling of Mid-Session EDRs production creates Partial EDRs. Either the Commit Volume Threshold or Mid-Session EDRs parameters are enabled (**Rating Management > Reservation Config > New Reservation Config** screen).

These additional tags are on all the partial EDRs, but not on the final, complete EDR:

- *MID_SESSION* (on page 174) (partial EDR)
- *SESSION_SEQUENCE* (on page 195) (partial EDR)

Timed-out reservation confirmation additional fields

If a confirmed reservation times out, these tags will be added to the EDR.

- *RNCF* (on page 193) (Reservation Not Charged For)
- TIMED_OUT (reservation confirmation)

Account Activated additional fields

If the account is activated, the following fields will be present:

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (pre-call)

Cross balance type discount additional fields

If the cross balance type discounting has been applied during the call, the following fields will be present:

- *CBTD_BALANCE_TYPES* (on page 157) (list to apply to discounts)
- *CBTD_BALANCE_TYPES* (on page 158) (list to apply to discounts) - mid call rate changes

- *CBTD_BALANCES* (on page 158) (value for each cross balance type)
- *CBTD_BALANCES* (on page 158) (value for each cross balance type) - mid call rate change
- *CBTD_CASCADE_ID* (on page 159) (used for this call)
- *CBTD_CASCADE_ID* (on page 159) (used for this call) - mid call rate change
- *CBTD_COSTS* (on page 159) (costs applied to each cross balance type)
- *CBTD_COSTS* (on page 159) (costs applied to each cross balance type) - mid call rate changes
- *CBTD_DISCOUNTS* (on page 160) (discounts applied to balance types)
- *CBTD_DISCOUNTS* (on page 160) (discounts applied to balance types) - mid call rate changes

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 1

```
BILLING_ENGINE_ID=21|SCP_ID=366273322|SEQUENCE_NUMBER=487291|CDR_TYPE=1|RECORD_DATE=
20040803142342|ACCT_ID=83|ACCT_REF_ID=83|CLI=01206233252|ACS_CUST_ID=1|BALANCE_TYPES
=1|BALANCES=1000|COSTS=28|ACCOUNT_TYPE=1|CASCADE_ID=1|RATES=50,25|LENGTHS=120.00,40.
00|DISCOUNTS=450000,560000|MAX_CHARGE=500|DURATION=160|DURATION_CHARGED=160|TN=01473
289900|TCS=20040803141934|TCE=20040803142034|CS=S|DISCOUNT_TYPE=S*W*R|END_CALL_REASO
N=14
```

Example Account Activated

```
BILLING_ENGINE_ID=21|SCP_ID=366273322|SEQUENCE_NUMBER=487291|CDR_TYPE=1|RECORD_DATE=
20040803142342|ACCT_ID=83|ACCT_REF_ID=83|CLI=01206233252|ACS_CUST_ID=1|BALANCE_TYPES
=1|BALANCES=1000|COSTS=28|ACCOUNT_TYPE=1|CASCADE_ID=1|RATES=50,25|LENGTHS=120.00,0.0
0|DISCOUNTS=450000,560000|MAX_CHARGE=500|DURATION=60|DURATION_CHARGED=60|TN=01473289
900|TCS=20040803141934|TCE=20040803142034|CS=S|DISCOUNT_TYPE=S*W*R|OLD_ACCT_STATE=P|
NEW_ACCT_STATE=A|END_CALL_REASON=15
```

Example MSISDN

```
BILLING_ENGINE_ID=21|SCP_ID=366273322|SEQUENCE_NUMBER=487291|CDR_TYPE=1|RECORD_DATE=
20040803142342|ACCT_ID=83|ACCT_REF_ID=83|CLI=1234|ACS_CUST_ID=1|BALANCE_TYPES=1|BALA
NCES=1000|COSTS=28|ACCOUNT_TYPE=1|CASCADE_ID=1|RATES=50,25|LENGTHS=120.00,0.00|DISCO
UNTS=450000,560000|MAX_CHARGE=500|DURATION=60|DURATION_CHARGED=60|TN=01473289900|TCS
=20040803141934|TCE=20040803142034|CS=S|DISCOUNT_TYPE=S*W*R|OLD_ACCT_STATE=P|NEW_ACC
T_STATE=A|MSISDN=1234|END_CALL_REASON=15
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Declined Roaming Call (EDR type 1)

Introduction

For the purposes of this document, a roaming voice call is one of the following:

- CAMEL Originating
- Mobile Terminating
- USSD Callback

Depending on the software installed, a roaming voice call may result in either a EDR of type 1 or a EDR of type 11.

A EDR of type 11 will be created through modifying the original EDR type using a ccsCDRLoaderPlugin on the SMS. The ccsCDRLoaderPlugin may also modify the CLI and TN fields of the EDR record and add additional fields into the resulting EDR - details regarding these changes have been included in this section of the document.

Mandatory EDR 1 fields

This list identifies the mandatory EDR record fields for an unsuccessful roaming call (EDR type 1):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *CLI* (on page 161) (initiating call number)
- CS (call status, always D)
- *END_CALL_REASON (reasons for call termination)* (on page 169)
- *NACK* (on page 176) (long list of codes)
- *TCS* (on page 195) (ccs time call started)
- *TN* (on page 196) (ccs called number)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Optional EDR 1 fields

This list identifies the optional EDR record fields for an unsuccessful roaming call (EDR type 1):

- *CUG_NAME* (on page 164) (closed user group)

Account Activated additional fields

If the account is activated, the following fields will be present:

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (pre-call)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Mobile number portability additional fields

If the Mobile Number Portability (MNP) software is installed, the following fields will be present:

- *PORTED* (on page 185) (name of porting carrier)

Example EDR 1

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=487291|CDR_TYPE=1|RECORD_DATE=
20040803121758|ACCT_ID=83|ACCT_REF_ID=83|CLI=1234|TN=01473289900|TCS=20040625124332|
CS=D|NACK=INSF|ACS_CUST_ID=1|ACCOUNT_TYPE=1|END_CALL_REASON=11
```

Example Account Activated

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=487291|CDR_TYPE=1|RECORD_DATE=
20040803121758|ACCT_ID=83|ACCT_REF_ID=83|CLI=1234|TN=01473289900|TCS=20040625124332|
CS=D|NACK=INSF|ACS_CUST_ID=1|OLD_ACCT_STATE=P|NEW_ACCT_STATE=A|ACCOUNT_TYPE=1|END_CA
LL_REASON=11
```

Example MSISDN

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=487291|CDR_TYPE=1|RECORD_DATE=
20040803121758|ACCT_ID=83|ACCT_REF_ID=83|CLI=1234|TN=01473289900|TCS=20040625124332|
CS=D|NACK=INSF|ACS_CUST_ID=1|OLD_ACCT_STATE=P|NEW_ACCT_STATE=A|ACCOUNT_TYPE=1|MSISDN
=1234|END_CALL_REASON=11
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Successful Roaming Call (EDR type 11)

Introduction

For the purposes of this document, a roaming voice call is one of the following:

- CAMEL Originating
- Mobile Terminating
- USSD Callback

Depending on the software installed, a roaming voice call may result in either a EDR of type 1 or a EDR of type 11.

A EDR of type 11 will be created through modifying the original EDR type using a ccsCDRLoaderPlugin on the SMS. The ccsCDRLoaderPlugin may also modify the CLI and TN fields of the EDR record and add additional fields into the resulting EDR - details regarding these changes have been included in this section of the document.

Mandatory EDR 11 fields

This list identifies the optional EDR record fields for a successful roaming call (EDR type 11):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *CASCADE_ID* (on page 157) (balance type cascade IDs)
- *CLI* (on page 162) (roaming initiating call number)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- DISCOUNT_TYPE - one of:
  - *DISCOUNT_TYPE* (on page 165) (applied to this call)
  - *DISCOUNT_TYPE* (on page 165) (applied to this call) - R*W
- *DISCOUNTS* (on page 166) (rated calls)
- *DURATION* (on page 167) (call length)
- *FCA* (on page 171) (final call address)

- LENGTHS - one of:
  - *LENGTHS* (on page 172) (rate durations)
  - *LENGTHS* (on page 173) (rate durations) -1end duration
- *MAX_CHARGE* (on page 174) (for this call)
- *RATES* (on page 186) (rated calls)
- *ROAMING_COUNTRY* (on page 193) (name)
- *ROAMING_TYPE* (on page 193) (of call)
- *TCE* (on page 195) (ccs time call ended)
- *TCS* (on page 195) (ccs time call started)
- *TN* (on page 196) (roaming called number)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Optional EDR 11 fields

This list identifies the optional EDR record fields for a successful roaming call (EDR type 11):

- *CUG_NAME* (on page 164) (closed user group)
- *OVERRIDDEN_TARIFF_PLAN* (on page 185) (ID)
- *RELC* (on page 190) (inap release cause)
- *TARIFF_CODE* (on page 195) (name)

Partial EDR additional fields

Enabling of Mid-Session EDRs production creates Partial EDRs. Either the Commit Volume Threshold or Mid-Session EDRs parameters are enabled (**Rating Management > Reservation Config > New Reservation Config** screen).

These additional tags are on all the partial EDRs, but not on the final, complete EDR:

- *MID_SESSION* (on page 174) (partial EDR)
- *SESSION_SEQUENCE* (on page 195) (partial EDR)

Timed-out reservation confirmation additional fields

If a confirmed reservation times out, these tags will be added to the EDR.

- *RNCF* (on page 193) (Reservation Not Charged For)
- TIMED_OUT (reservation confirmation)

Account Activated additional fields

If the account is activated, the following fields will be present:

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (pre-call)

Cross balance type discount additional fields

If the cross balance type discounting has been applied during the call, the following fields will be present:

- *CBTD_BALANCE_TYPES* (on page 157) (list to apply to discounts)
- *CBTD_BALANCE_TYPES* (on page 158) (list to apply to discounts) - mid call rate changes
- *CBTD_BALANCES* (on page 158) (value for each cross balance type)
- *CBTD_BALANCES* (on page 158) (value for each cross balance type) - mid call rate change

- *CBTD_CASCADE_ID* (on page 159) (used for this call)
- *CBTD_CASCADE_ID* (on page 159) (used for this call) - mid call rate change
- *CBTD_COSTS* (on page 159) (costs applied to each cross balance type)
- *CBTD_COSTS* (on page 159) (costs applied to each cross balance type) - mid call rate changes
- *CBTD_DISCOUNTS* (on page 160) (discounts applied to balance types)
- *CBTD_DISCOUNTS* (on page 160) (discounts applied to balance types) - mid call rate changes

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Mobile number portability additional fields

If the Mobile Number Portability (MNP) software is installed, the following fields will be present:

- *PORTED* (on page 185) (name of porting carrier)

Example EDR 11

```
BILLING_ENGINE_ID=21|SCP_ID=366273322|SEQUENCE_NUMBER=487291|CDR_TYPE=11|RECORD_DATE
=20040803142342|ACCT_ID=83|ACCT_REF_ID=83|CLI=321206233252|ACS_CUST_ID=1|BALANCE_TYP
ES=1|BALANCES=1000|COSTS=28|ACCOUNT_TYPE=1|CASCADE_ID=1|RATES=50,25|LENGTHS=120,0.0|
DISCOUNTS=450000,560000|MAX_CHARGE=500|DURATION=60|TN=441473289900|TCS=2004080314193
4|TCE=20040803142034|CS=S|DISCOUNT_TYPE=S*W*R|ROAMING_TYPE=MT|ROAMING_COUNTRY=United
Kingdom
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Declined Roaming Call (EDR type 11)

Introduction

For the purposes of this document, a roaming voice call is one of the following:

- CAMEL Originating
- Mobile Terminating
- USSD Callback

Depending on the software installed, a roaming voice call may result in either a EDR of type 1 or a EDR of type 11.

A EDR of type 11 will be created through modifying the original EDR type using a ccsCDRLoaderPlugin on the SMS. The ccsCDRLoaderPlugin may also modify the CLI and TN fields of the EDR record and add additional fields into the resulting EDR - details regarding these changes have been included in this section of the document.

Mandatory EDR 11 fields

This list identifies the optional EDR record fields for an unsuccessful roaming call (EDR type 11):

- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- CS (call status, always D)

- *CLI* (on page 162) (roaming initiating call number)
- *NACK* (on page 176) (long list of codes)
- *ROAMING_COUNTRY* (on page 193) (name)
- *ROAMING_TYPE* (on page 193) (of call)
- *TCS* (on page 195) (ccs time call started)
- *TN* (on page 196) (roaming called number)

Optional EDR 11 fields

This list identifies the optional EDR record fields for an unsuccessful roaming call (EDR type 11):

- *CUG_NAME* (on page 164) (closed user group)

Account Activated additional fields

If the account is activated, the following fields will be present:

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (pre-call)

Mobile number portability additional fields

If the Mobile Number Portability (MNP) software is installed, the following fields will be present:

- *PORTED* (on page 185) (name of porting carrier)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 11

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=487291|CDR_TYPE=11|RECORD_DATE
=20040803121758|ACCT_ID=83|ACCT_REF_ID=83|CLI=321206233252|TN=441473289900|TCS=20040
625124332|CS=D|NACK=INSF|ACS_CUST_ID=1|ROAMING_TYPE=MT|ROAMING_COUNTRY=United
Kingdom
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Chapter 23

Data and Video Calls (EDRs 50 and 51)

Overview

Introduction

This chapter describes the CCS EDRs types 50 and 51.

In this chapter

This chapter contains the following topics.

About Type 50 and 51 EDRs

Type 50 and 51 EDRs are based on type 1 EDRs by default. For a list of the fields output by type 1 EDRs, see *Voice Calls* (on page 49). You can override the default EDR type for type 50, and type 51 EDRs, by specifying a different EDR type on the **Capability** tab in the Service Management window in the CCS user interface (UI). The fields output will depend on the EDR type for the triggered scenario. For more information on setting the override EDR type, see the discussion on service management in *CCS User's Guide*.

You can also customize the fields that are output by type 50 and type 51 EDRs by using the Set BE EDR feature node in your control plans; for example, you can add a new field to the EDR or change the value of an existing field. For more information about the Set BE EDR feature node, see *Feature Nodes Reference Guide*.

Chapter 24

Prepaid Data

Overview

Introduction

This chapter defines the CCS EDRs for prepaid charges.

In this chapter

This chapter contains the following topics.

GPRS Content Charge Succeeds (EDR 5)

Mandatory EDR 5 fields

This list identifies the mandatory EDR record fields for a successful GPRS content charge (EDR type 5):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *CASCADE_ID* (on page 157) (balance type cascade IDs)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *DISCOUNTS* (on page 166) (for each named event)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_COST* (on page 169) (for each named event)
- *EVENT_COUNT* (on page 170) (for each named event)
- *EVENT_NAME* (on page 170) (list used for this call)
- *EVENT_TIME_COST* (on page 170) (for a named event)
- *TCS* (on page 195) (ccs time call started)

Optional EDR 5 fields

This list identifies the optional EDR record fields for a successful GPRS content charge (EDR type 5):

- *OVERDRAWN_AMOUNT* (on page 185) (take Balance Negative)
- *REMAINING_CHARGE* (on page 191) (partial Charge)

Account Activated additional fields

If the account is activated, the following fields will be present:

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (pre-call)

Example EDR 5

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=488297|CDR_TYPE=5|RECORD_DATE=
20040803145823|ACCT_ID=61|ACCT_REF_ID=61|ACS_CUST_ID=1|CS=S|TCS=20040706104957|BALAN
CE_TYPES=1|BALANCES=1000|COSTS=90|ACCOUNT_TYPE=4|EVENT_CLASS=PrePaidData|EVENT_NAME=
PPD_Content_10|EVENT_COST=10|EVENT_COUNT=9|DISCOUNT=0|CASCADE=0
```

Note

The sequence of all fields output in an EDR is not guaranteed.

GPRS Content Charge Fails (EDR 5)

Mandatory EDR 5 fields

This list identifies the mandatory EDR record fields for an unsuccessful GPRS content charge (EDR type 5):

- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *CASCADE_ID* (on page 157) (balance type cascade IDs)
- *COSTS* (on page 163) (rated calls)
- CS (call status, always D)
- *DISCOUNTS* (on page 166) (for each named event)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_COST* (on page 169) (for each named event)
- *EVENT_COUNT* (on page 170) (for each named event)
- *EVENT_NAME* (on page 170) (list used for this call)
- *EVENT_TIME_COST* (on page 170) (for a named event)
- *NACK* (on page 176) (short list of codes)
- *TCS* (on page 195) (ccs time call started)

Example EDR 5

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=487291|CDR_TYPE=5|RECORD_DATE=
20040803121758|ACCT_ID=83|ACCT_REF_ID=83|EVENT_CLASS=PrePaidData|EVENT_NAME=PPD_Cont
ent_10|NACK=INSF|TCS=20040706104957|CS=D|ACS_CUST_ID=1
```

Note

The sequence of all fields output in an EDR is not guaranteed.

GPRS Volume or Duration Charge Succeeds (EDR 14)

Mandatory EDR 14 fields

This list identifies the mandatory EDR record fields for a successful GPRS volume or duration charge (EDR type 14):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-call or account creation)
- *CASCADE_ID* (on page 157) (balance type cascade IDs)
- *CLI* (on page 161) (initiating call number)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *CUG_NAME* (on page 164) (closed user group)
- *DISCOUNTS* (on page 166) (for each named event)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_COST* (on page 169) (for each named event)
- *EVENT_COUNT* (on page 170) (for each named event)
- *EVENT_NAME* (on page 170) (list used for this call)
- *OVERRIDDEN_TARIFF_PLAN* (on page 185) (ID)
- *TARIFF_CODE* (on page 195) (name)
- *TCS* (on page 195) (ccs time call started)

Account Activated additional fields

If the account is activated, the following fields will be present:

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (pre-call)

Example EDR 14

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=488297|CDR_TYPE=14|RECORD_DATE
=20040803145823|ACCT_ID=61|ACCT_REF_ID=61|CLI=321206233252|ACS_CUST_ID=1|CS=S|TCS=20
040706104957|BALANCE_TYPES=1|BALANCES=1000|COSTS=150|ACCOUNT_TYPE=4|EVENT_CLASS=PreP
aidData|EVENT_NAME=PPD_Volume_1|EVENT_COST=1|EVENT_COUNT=150|DISCOUNT=0|CASCADE=0
```

Note

The sequence of all fields output in an EDR is not guaranteed.

GPRS Volume or Duration Charge Fails (EDR 5)

Mandatory EDR 5 fields

This list identifies the mandatory EDR record fields for an unsuccessful GPRS volume or duration charge (EDR type 5):

- *ACS_CUST_ID* (on page 150) (ACS Customer ID)

- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *CASCADE_ID* (on page 157) (balance type cascade IDs)
- *COSTS* (on page 163) (rated calls)
- CS (call status, always D)
- *CUG_NAME* (on page 164) (closed user group)
- *DISCOUNTS* (on page 166) (for each named event)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_COST* (on page 169) (for each named event)
- *EVENT_COUNT* (on page 170) (for each named event)
- *EVENT_NAME* (on page 170) (list used for this call)
- *EVENT_TIME_COST* (on page 170) (for a named event)
- *NACK* (on page 176) (short list of codes)
- *OVERRIDDEN_TARIFF_PLAN* (on page 185) (ID)
- *TARIFF_CODE* (on page 195) (name)
- *TCS* (on page 195) (ccs time call started)

Example EDR 5

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=487291|CDR_TYPE=5|RECORD_DATE=
20040803121758|ACCT_ID=83|ACCT_REF_ID=83|EVENT_CLASS=PrePaidData|EVENT_NAME=PPD_Volu
me_1|NACK=INSF|TCS=20040706104957|CS=D|ACS_CUST_ID=1
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Chapter 25

SMS-MO

Overview

Introduction

This chapter defines the CCS EDRs for SMS-MO messages.

In this chapter

This chapter contains the following topics.

National SMS-MO Succeeds (EDR 12,13)

Introduction

There are two EDR records created for this event - a EDR type 12 and a EDR type 13.

Mandatory EDR 12 fields

This list identifies the mandatory EDR record fields for a successful national SMS-MO (EDR type 12):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-call or account creation)
- *CASCADE_ID* (on page 157) (balance type cascade IDs)
- *CLI* (on page 161) (initiating call number)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *DISCOUNTS* (on page 166) (rated calls)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_COST* (on page 169) (for each named event)
- *EVENT_COUNT* (on page 170) (for each named event)
- *EVENT_NAME* (on page 170) (list used for this call)
- *EVENT_TIME_COST* (on page 170) (for a named event)
- *LOCADD* (on page 173) (additional configuration prefixes)
- *TCS* (on page 195) (ccs time call started)
- *TN* (on page 196) (ccs called number)
- *WALLET_TYPE* (on page 198) (ID of wallet recharged)

Optional EDR 12 fields

This list identifies the optional EDR record fields for a successful national SMS-MO (EDR type 12):

- *OVERRIDDEN_TARIFF_PLAN* (on page 185) (ID)
- *OVERDRAWN_AMOUNT* (on page 185) (take Balance Negative)
- *REMAINING_CHARGE* (on page 191) (partial Charge)
- *TARIFF_CODE* (on page 195) (name)

Mandatory EDR 13 fields

This list identifies the mandatory EDR record fields for a successful national SMS-MO (EDR type 13):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-call or account creation)
- *CASCADE_ID* (on page 157) (balance type cascade IDs)
- *CLI* (on page 161) (initiating call number)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- DISCOUNT_TYPE - one of:
  - *DISCOUNT_TYPE* (on page 165) (applied to this call)
  - *DISCOUNT_TYPE* (on page 165) (applied to this call) - R*W
- *DISCOUNTS* (on page 166) (rated calls)
- *DURATION* (on page 167) (call length)
- LENGTHS - one of:
  - *LENGTHS* (on page 172) (rate durations)
  - *LENGTHS* (on page 173) (rate durations) -1end duration
- *RATES* (on page 186) (rated calls)
- *TCE* (on page 195) (ccs time call ended)
- *TCS* (on page 195) (ccs time call started)
- *TN* (on page 196) (ccs called number)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Optional EDR 13 fields

This list identifies the optional EDR record fields for a successful national SMS-MO (EDR type 13):

- *OVERRIDDEN_TARIFF_PLAN* (on page 185) (ID)
- *TARIFF_CODE* (on page 195) (name)

Account Activated additional fields

If the account is activated, the following fields will be present:

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (pre-call)

Cross balance type discount additional fields

If the cross balance type discounting has been applied during the call, the following fields will be present:

- *CBTD_BALANCE_TYPES* (on page 157) (list to apply to discounts)
- *CBTD_BALANCE_TYPES* (on page 158) (list to apply to discounts) - mid call rate changes
- *CBTD_BALANCES* (on page 158) (value for each cross balance type)
- *CBTD_BALANCES* (on page 158) (value for each cross balance type) - mid call rate change
- *CBTD_CASCADE_ID* (on page 159) (used for this call)
- *CBTD_CASCADE_ID* (on page 159) (used for this call) - mid call rate change
- *CBTD_COSTS* (on page 159) (costs applied to each cross balance type)
- *CBTD_COSTS* (on page 159) (costs applied to each cross balance type) - mid call rate changes
- *CBTD_DISCOUNTS* (on page 160) (discounts applied to balance types)
- *CBTD_DISCOUNTS* (on page 160) (discounts applied to balance types) - mid call rate changes

Mobile number portability additional fields

If the Mobile Number Portability (MNP) software is installed, the following fields will be present:

- *PORTED* (on page 185) (name of porting carrier)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 12

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=488297|CDR_TYPE=12|RECORD_DATE
=20040803145823|ACCT_ID=61|ACCT_REF_ID=61|WALLET_TYPE=1|CLI=321206233252|TN=44147328
9900|LOCADD=E771231473289900|ACS_CUST_ID=1|CS=S|TCS=20040706104957|BALANCE_TYPES=1|B
ALANCES=1000|COSTS=100|ACCOUNT_TYPE=4|EVENT_CLASS=SMSMO|EVENT_NAME=SMSMO_100|EVENT_C
OST=100|EVENT_COUNT=1|DISCOUNT=0|CASCADE=0
```

Example Account Activated

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=488297|CDR_TYPE=12|RECORD_DATE
=20040803145823|ACCT_ID=61|ACCT_REF_ID=61|WALLET_TYPE=1|CLI=321206233252|TN=44147328
9900|LOCADD=E771231473289900|ACS_CUST_ID=1|CS=S|TCS=20040706104957|BALANCE_TYPES=1|B
ALANCES=1000|COSTS=100|ACCOUNT_TYPE=4|EVENT_CLASS=SMSMO|EVENT_NAME=SMSMO_100|EVENT_T
IME_COST=0.00|EVENT_COST=100|EVENT_COUNT=1|DISCOUNT=0|CASCADE=0|OLD_ACCT_STATE=P|NEW
_ACCT_STATE=A
```

Example MSISDN

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=488297|CDR_TYPE=12|RECORD_DATE
=20040803145823|ACCT_ID=61|ACCT_REF_ID=61|WALLET_TYPE=1|CLI=321206233252|TN=44147328
9900|LOCADD=E771231473289900|ACS_CUST_ID=1|CS=S|TCS=20040706104957|BALANCE_TYPES=1|B
ALANCES=1000|COSTS=100|ACCOUNT_TYPE=4|EVENT_CLASS=SMSMO|EVENT_NAME=SMSMO_100|EVENT_C
OST=100|EVENT_COUNT=1|DISCOUNT=0|CASCADE=0|OLD_ACCT_STATE=P|NEW_ACCT_STATE=A|MSISDN=
321206233252
```

Note

The sequence of all fields output in an EDR is not guaranteed.

National SMS-MO Fails (EDR 1, 5,12,13)

Introduction

There are 4 EDR records created for a failed national SMS-MO - EDR types 1, 5, 12 or 13.

Mandatory EDR 1 and 13 fields

This list identifies the mandatory EDR record fields for an unsuccessful national SMS-MO (EDR type 1or type 13):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *CLI* (on page 161) (initiating call number)
- CS (call status, always D)
- *LOCADD* (on page 173) (additional configuration prefixes)
- *NACK* (on page 176) (short list of codes)
- *TCS* (on page 195) (ccs time call started)
- *TN* (on page 196) (ccs called number)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Mandatory EDR 5 and 12 fields

This list identifies the mandatory EDR record fields for an unsuccessful national SMS-MO (EDR type 5 or type 12):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *CLI* (on page 161) (initiating call number)
- CS (call status, always D)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_NAME* (on page 170) (list used for this call)
- *LOCADD* (on page 173) (additional configuration prefixes)
- *NACK* (on page 176) (short list of codes)
- *TCS* (on page 195) (ccs time call started)
- *TN* (on page 196) (ccs called number)

Account Activated additional fields

If the account is activated, the following fields will be present:

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (pre-call)

Mobile number portability additional fields

If the Mobile Number Portability (MNP) software is installed, the following fields will be present:

- *PORTED* (on page 185) (name of porting carrier)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 5

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=487291|CDR_TYPE=5|RECORD_DATE=
20040803121758|ACCT_ID=83|ACCT_REF_ID=83|BALANCE_TYPES=1|BALANCES=500|EVENT_CLASS=SM
SMO|EVENT_NAME=SMSMO_100|NACK=INSF|TCS=20040706104957|CS=D|ACS_CUST_ID=1|ACCOUNT_TYP
E=1
```

Example MSISDN

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=487291|CDR_TYPE=5|RECORD_DATE=
20040803121758|ACCT_ID=83|ACCT_REF_ID=83|EVENT_CLASS=SMSMO|EVENT_NAME=SMSMO_100|NACK
=INSF|TCS=20040706104957|CS=D|ACS_CUST_ID=1|ACCOUNT_TYPE=1|MSISDN=1394111111
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Roaming SMS-MO Succeeds (EDR 12,13)

Introduction

There are 2 EDR records created for a successful roaming SMS-MO - a type 12 and a type 13.

Mandatory EDR 12 fields

This list identifies the mandatory EDR record fields for a successful national SMS-MO (EDR type 12):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-call or account creation)
- *CASCADE_ID* (on page 157) (balance type cascade IDs)
- *CLI* (on page 161) (initiating call number)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *DISCOUNTS* (on page 166) (rated calls)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_COST* (on page 169) (for each named event)
- *EVENT_COUNT* (on page 170) (for each named event)
- *EVENT_NAME* (on page 170) (list used for this call)
- *EVENT_TIME_COST* (on page 170) (for a named event)
- *LOCADD* (on page 173) (additional configuration prefixes)
- *TCS* (on page 195) (ccs time call started)
- *TN* (on page 196) (ccs called number)
- *WALLET_TYPE* (on page 198) (ID of wallet recharged)

Optional EDR 12 fields

This list identifies the optional EDR record fields for a successful roaming SMS-MO (EDR type 12):

- *OVERDRAWN_AMOUNT* (on page 185) (take Balance Negative)
- *REMAINING_CHARGE* (on page 191) (partial Charge)

Optional EDR 13 fields

This list identifies the optional EDR record fields for a successful national SMS-MO (EDR type 13):

- *OVERRIDDEN_TARIFF_PLAN* (on page 185) (ID)
- *TARIFF_CODE* (on page 195) (name)

Account Activated additional fields

If the account is activated, the following fields will be present:

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (pre-call)

Example Account Activated

```
BILLING_ENGINE_ID=21|SCP_ID=36627332|SEQUENCE_NUMBER=487291|CDR_TYPE=13|RECORD_DATE=
20040803142342|ACCT_ID=83|ACCT_REF_ID=83|CLI=321206233252|ACS_CUST_ID=1|BALANCE_TYPE
S=1|BALANCES=1000|COSTS=28|ACCOUNT_TYPE=1|CASCADE_ID=1|
RATES=50,25|LENGTHS=120.00,0.00|DISCOUNTS=450000,560000|MAX_CHARGE=500|DURATION=60|T
N=441473289900|TCS=20040803141934|TCE=20040803142034|CS=S|DISCOUNT_TYPE=S*W*R|WALLET
_TYPE=1|LOCADD=E771234414732899OO|OLD_ACCT_STATE=P|NEW_ACCT_STATE=A|ACCOUNT_TYPE=1
```

Cross balance type discount additional fields

If the cross balance type discounting has been applied during the call, the following fields will be present:

- *CBTD_BALANCE_TYPES* (on page 157) (list to apply to discounts)
- *CBTD_BALANCE_TYPES* (on page 158) (list to apply to discounts) - mid call rate changes
- *CBTD_BALANCES* (on page 158) (value for each cross balance type)
- *CBTD_BALANCES* (on page 158) (value for each cross balance type) - mid call rate change
- *CBTD_CASCADE_ID* (on page 159) (used for this call)
- *CBTD_CASCADE_ID* (on page 159) (used for this call) - mid call rate change
- *CBTD_COSTS* (on page 159) (costs applied to each cross balance type)
- *CBTD_COSTS* (on page 159) (costs applied to each cross balance type) - mid call rate changes
- *CBTD_DISCOUNTS* (on page 160) (discounts applied to balance types)
- *CBTD_DISCOUNTS* (on page 160) (discounts applied to balance types) - mid call rate changes

Mobile number portability additional fields

If the Mobile Number Portability (MNP) software is installed, the following fields will be present:

- *PORTED* (on page 185) (name of porting carrier)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 13

```
BILLING_ENGINE_ID=21|SCP_ID=366273322|SEQUENCE_NUMBER=487291|CDR_TYPE=13|RECORD_DATE
=20040803142342|ACCT_ID=83|ACCT_REF_ID=83|CLI=321206233252|ACS_CUST_ID=1|BALANCE_TYP
ES=1|BALANCES=1000|COSTS=28|ACCOUNT_TYPE=1|CASCADE_ID=1|RATES=50,25|LENGTHS=120.00,4
0.00|DISCOUNTS=450000,560000|MAX_CHARGE=500|DURATION=160|TN=441473289900|TCS=2004080
3141934|TCE=20040803142034|CS=S|DISCOUNT_TYPE=S*W*R|WALLET_TYPE=1|LOCADD=E7712344147
3289900|ACCOUNT_TYPE=1
```

Example MSISDN

```
BILLING_ENGINE_ID=21|SCP_ID=366273322|SEQUENCE_NUMBER=487291|CDR_TYPE=13|RECORD_DATE
=20040803142342|ACCT_ID=83|ACCT_REF_ID=83|CLI=321206233252|ACS_CUST_ID=1|BALANCE_TYP
ES=1|BALANCES=1000|COSTS=28|ACCOUNT_TYPE=1|CASCADE_ID=1|RATES=50,25|LENGTHS=120.00,0
.00|DISCOUNTS=450000,560000|MAX_CHARGE=500|DURATION=60|TN=441473289900|TCS=200408031
41934|TCE=20040803142034|CS=S|DISCOUNT_TYPE=S*W*R|WALLET_TYPE=1|LOCADD=E771234414732
89900|OLD_ACCT_STATE=P|NEW_ACCT_STATE=A|ACCOUNT_TYPE=1|MSISDN=321206233252
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Roaming SMS-MO Fails (EDR 1,5,12,13)

Introduction

There are 4 EDR records created for an unsuccessful roaming SMS-MO - EDR type 1, 5, 12 or 13.

Mandatory EDR 1 and 13 fields

This list identifies the mandatory EDR record fields for an unsuccessful national SMS-MO (EDR type 1or type 13):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *CLI* (on page 161) (initiating call number)
- CS (call status, always D)
- *LOCADD* (on page 173) (additional configuration prefixes)
- *NACK* (on page 176) (short list of codes)
- *TCS* (on page 195) (ccs time call started)
- *TN* (on page 196) (ccs called number)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Mandatory EDR 5 and 12 fields

This list identifies the mandatory EDR record fields for an unsuccessful national SMS-MO (EDR type 5 or type 12):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *CLI* (on page 161) (initiating call number)
- CS (call status, always D)
- *EVENT_CLASS* (on page 169) (list of classes used)

- *EVENT_NAME* (on page 170) (list used for this call)
- *LOCADD* (on page 173) (additional configuration prefixes)
- *NACK* (on page 176) (short list of codes)
- *TCS* (on page 195) (ccs time call started)
- *TN* (on page 196) (ccs called number)

Account Activated additional fields

If the account is activated, the following fields will be present:

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (pre-call)

Mobile number portability additional fields

If the Mobile Number Portability (MNP) software is installed, the following fields will be present:

- *PORTED* (on page 185) (name of porting carrier)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 13

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=487291|CDR_TYPE=13|RECORD_DATE
=20040803121758|ACCT_ID=83|ACCT_REF_ID=83|CLI=321206233252|TN=441473289900|TCS=20040
625124332|CS=D|NACK=INSF|WALLET_TYPE=1|LOCADD=E77123441473289900|ACS_CUST_ID=1
```

Example Account Activated

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=487291|CDR_TYPE=13|RECORD_DATE
=20040803121758|ACCT_ID=83|ACCT_REF_ID=83|CLI=321206233252|TN=441473289900|TCS=20040
625124332|CS=D|NACK=INSF|WALLET_TYPE=1|LOCADD=E77123441473289900|ACS_CUST_ID=1|OLD_A
CCT_STATE=P|NEW_ACCT_STATE=A
```

Example MSISDN

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=487291|CDR_TYPE=5|RECORD_DATE=
20040803121758|ACCT_ID=83|ACCT_REF_ID=83|EVENT_CLASS=SMSMO|EVENT_NAME=SMSMO_100|NACK
=INSF|TCS=20040706104957|CS=D|ACS_CUST_ID=1|ACCOUNT_TYPE=1|MSISDN=1394111111
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Chapter 26

SMS-MT

Overview

Introduction

This chapter defines the CCS EDRs for SMS-MT messages.

In this chapter

This chapter contains the following topics.

National SMS-MT Succeeds (EDR 12,13)

Introduction

There are 2 EDR records for a successful National SMS-MT - EDR type 12 and type 13.

Mandatory EDR 12 fields

This list identifies the mandatory EDR record fields for a successful National SMS-MT (EDR type 12):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-call or account creation)
- *CASCADE_ID* (on page 157) (balance type cascade IDs)
- *CLI* (on page 161) (initiating call number)
- *DISCOUNTS* (on page 166) (rated calls)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_COST* (on page 169) (for each named event)
- *EVENT_COUNT* (on page 170) (for each named event)
- *EVENT_NAME* (on page 170) (list used for this call)
- *EVENT_TIME_COST* (on page 170) (for a named event)
- *LOCADD* (on page 173) (additional configuration prefixes)
- *TCS* (on page 195) (ccs time call started)
- *TN* (on page 196) (ccs called number)
- *WALLET_TYPE* (on page 198) (ID of wallet recharged)

Optional EDR 12 fields

This list identifies the optional EDR record fields for a successful national SMS-MT (EDR type 12):

- *OVERDRAWN_AMOUNT* (on page 185) (take Balance Negative)
- *OVERRIDDEN_TARIFF_PLAN* (on page 185) (ID)
- *REMAINING_CHARGE* (on page 191) (partial Charge)
- *TARIFF_CODE* (on page 195) (name)

Mandatory EDR 13 fields

This table lists the mandatory fields for a successful national SMS-MT (EDR type 13).

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-call or account creation)
- *CASCADE_ID* (on page 157) (balance type cascade IDs)
- *CLI* (on page 161) (initiating call number)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- DISCOUNT_TYPE - one of:
  - *DISCOUNT_TYPE* (on page 165) (applied to this call)
  - *DISCOUNT_TYPE* (on page 165) (applied to this call) - R*W
- *DISCOUNTS* (on page 166) (rated calls)
- *DURATION* (on page 167) (call length)
- LENGTHS - one of:
  - *LENGTHS* (on page 172) (rate durations)
  - *LENGTHS* (on page 173) (rate durations) -1end duration
- *LOCADD* (on page 173) (additional configuration prefixes)
- *MAX_CHARGE* (on page 174) (for this call)
- *RATES* (on page 186) (rated calls)
- *TCE* (on page 195) (ccs time call ended)
- *TN* (on page 196) (ccs called number)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Optional EDR 13 fields

This list identifies the optional EDR record fields for a successful national SMS-MT (EDR type 13):

- *OVERRIDDEN_TARIFF_PLAN* (on page 185) (ID)
- *TARIFF_CODE* (on page 195) (name)

Account Activated additional fields

If the account is activated, the following fields will be present:

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (pre-call)

Cross balance type discount additional fields

If the cross balance type discounting has been applied during the call, the following fields will be present:

- *CBTD_BALANCE_TYPES* (on page 157) (list to apply to discounts)
- *CBTD_BALANCE_TYPES* (on page 158) (list to apply to discounts) - mid call rate changes
- *CBTD_BALANCES* (on page 158) (value for each cross balance type)
- *CBTD_BALANCES* (on page 158) (value for each cross balance type) - mid call rate change
- *CBTD_CASCADE_ID* (on page 159) (used for this call)
- *CBTD_CASCADE_ID* (on page 159) (used for this call) - mid call rate change
- *CBTD_COSTS* (on page 159) (costs applied to each cross balance type)
- *CBTD_COSTS* (on page 159) (costs applied to each cross balance type) - mid call rate changes
- *CBTD_DISCOUNTS* (on page 160) (discounts applied to balance types)
- *CBTD_DISCOUNTS* (on page 160) (discounts applied to balance types) - mid call rate changes

Mobile number portability additional fields

If the Mobile Number Portability (MNP) software is installed, the following fields will be present:

- *PORTED* (on page 185) (name of porting carrier)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example MSISDN

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=488297|CDR_TYPE=12|RECORD_DATE
=20040803145823|ACCT_ID=61|ACCT_REF_ID=61|WALLET_TYPE=1|CLI=321206233252|TN=44147328
9900|LOCADD=E771231473289900|ACS_CUST_ID=1|CS=S|TCS=20040706104957|BALANCE_TYPES=1|B
ALANCES=1000|COSTS=100|ACCOUNT_TYPE=4|EVENT_CLASS=SMSMO|EVENT_NAME=SMSMO_100|EVENT_C
OST=100|EVENT_COUNT=1|DISCOUNT=0|CASCADE=0|OLD_ACCT_STATE=P|NEW_ACCT_STATE=A|MSISDN=
321206233252
```

Note

The sequence of all fields output in an EDR is not guaranteed.

National SMS-MT Fails (EDR 1,5,12,13)

Introduction

There are 4 EDR records created for an unsuccessful national SMS-MT - EDR type 1, 5, 12 or 13.

Mandatory EDR 1 and 13 fields

This list identifies the mandatory EDR record fields for an unsuccessful national SMS-MT (EDR type 1 or type 13):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)

- *CLI* (on page 161) (initiating call number)
- CS (call status, always D)
- *LOCADD* (on page 173) (additional configuration prefixes)
- *NACK* (on page 176) (short list of codes)
- *TCS* (on page 195) (ccs time call started)
- *TN* (on page 196) (ccs called number)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Account Activated additional fields

If the account is activated, the following fields will be present:

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (pre-call)

Mobile number portability additional fields

If the Mobile Number Portability (MNP) software is installed, the following fields will be present:

- *PORTED* (on page 185) (name of porting carrier)

Mandatory EDR 5 and 12 fields

This table lists the mandatory fields for an unsuccessful national SMS-MO (EDR type 5 or type 12):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *CLI* (on page 161) (initiating call number)
- CS (call status, always D)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_NAME* (on page 170) (list used for this call)
- *LOCADD* (on page 173) (additional configuration prefixes)
- *NACK* (on page 176) (short list of codes)
- *TCS* (on page 195) (ccs time call started)
- *TN* (on page 196) (ccs called number)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 5

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=487291|CDR_TYPE=5|RECORD_DATE=
20040803121758|ACCT_ID=83|ACCT_REF_ID=83|BALANCE_TYPES=1|BALANCES=500|EVENT_CLASS=SM
SMT|EVENT_NAME=SMSMT_100|NACK=INSF|TCS=20040706104957|CS=D|ACS_CUST_ID=1
```

Example MSISDN

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=487291|CDR_TYPE=5|RECORD_DATE=
20040803121758|ACCT_ID=83|ACCT_REF_ID=83|EVENT_CLASS=SMSMO|EVENT_NAME=SMSMO_100|NACK
=INSF|TCS=20040706104957|CS=D|ACS_CUST_ID=1|ACCOUNT_TYPE=1|MSISDN=1394111111
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Roaming SMS-MT Succeeds (EDR 12,13)

Introduction

There are 2 EDR records created for a successful roaming SMS-MT - type 12 or 13.

Mandatory EDR 12 fields

This list identifies the mandatory EDR record fields for a successful roaming SMS-MT (EDR type 12):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-call or account creation)
- *CASCADE_ID* (on page 157) (balance type cascade IDs)
- *CLI* (on page 161) (initiating call number)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *DISCOUNTS* (on page 166) (rated calls)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_COST* (on page 169) (for each named event)
- *EVENT_COUNT* (on page 170) (for each named event)
- *EVENT_NAME* (on page 170) (list used for this call)
- *EVENT_TIME_COST* (on page 170) (for a named event)
- *LOCADD* (on page 173) (additional configuration prefixes)
- *TCS* (on page 195) (ccs time call started)
- *TN* (on page 196) (ccs called number)
- *WALLET_TYPE* (on page 198) (ID of wallet recharged)

Mandatory EDR 13 fields

This table lists the mandatory fields for a successful roaming SMS-MT (EDR type 13).

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 152) (account changed or created)
- *BALANCES* (on page 154) (pre-call or account creation)
- *CASCADE_ID* (on page 157) (balance type cascade IDs)
- *CLI* (on page 161) (initiating call number)
- *COSTS* (on page 163) (rated calls)
- CS (call status, always S)
- DISCOUNT_TYPE - one of:
  - *DISCOUNT_TYPE* (on page 165) (applied to this call)
  - *DISCOUNT_TYPE* (on page 165) (applied to this call) - R*W
- *DISCOUNTS* (on page 166) (rated calls)

- *DURATION* (on page 167) (call length)
- LENGTHS - one of:
  - *LENGTHS* (on page 172) (rate durations)
  - *LENGTHS* (on page 173) (rate durations) -1end duration
- *LOCADD* (on page 173) (additional configuration prefixes)
- *MAX_CHARGE* (on page 174) (for this call)
- *RATES* (on page 186) (rated calls)
- *TCE* (on page 195) (ccs time call ended)
- *TCS* (on page 195) (ccs time call started)
- *TN* (on page 196) (ccs called number)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Optional EDR 13 fields

This list identifies the optional EDR record fields for a successful national SMS-MT (EDR type 13):

- *OVERRIDDEN_TARIFF_PLAN* (on page 185) (ID)
- *TARIFF_CODE* (on page 195) (name)

Account Activated additional fields

If the account is activated, the following fields will be present:

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (pre-call)

Cross balance type discount additional fields

If the cross balance type discounting has been applied during the call, the following fields will be present:

- *CBTD_BALANCE_TYPES* (on page 157) (list to apply to discounts)
- *CBTD_BALANCE_TYPES* (on page 158) (list to apply to discounts) - mid call rate changes
- *CBTD_BALANCES* (on page 158) (value for each cross balance type)
- *CBTD_BALANCES* (on page 158) (value for each cross balance type) - mid call rate change
- *CBTD_CASCADE_ID* (on page 159) (used for this call)
- *CBTD_CASCADE_ID* (on page 159) (used for this call) - mid call rate change
- *CBTD_COSTS* (on page 159) (costs applied to each cross balance type)
- *CBTD_COSTS* (on page 159) (costs applied to each cross balance type) - mid call rate changes
- *CBTD_DISCOUNTS* (on page 160) (discounts applied to balance types)
- *CBTD_DISCOUNTS* (on page 160) (discounts applied to balance types) - mid call rate changes

Mobile number portability additional fields

If the Mobile Number Portability (MNP) software is installed, the following fields will be present:

- *PORTED* (on page 185) (name of porting carrier)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example EDR 13

```
BILLING_ENGINE_ID=21|SCP_ID=366273322|SEQUENCE_NUMBER=487291|CDR_TYPE=13|RECORD_DATE
=20040803142342|ACCT_ID=83|ACCT_REF_ID=83|CLI=321206233252|ACS_CUST_ID=1|BALANCE_TYP
ES=1|BALANCES=1000|COSTS=28|ACCOUNT_TYPE=1|CASCADE_ID=1|RATES=50,25|LENGTHS=120.00,4
0.00|DISCOUNTS=450000,560000|MAX_CHARGE=500|DURATION=160|TN=441473289900|TCS=2004080
3141934|TCE=20040803142034|CS=S|DISCOUNT_TYPE=S*W*R|WALLET_TYPE=1|LOCADD=E7712344147
3289900|ROAMING_TYPE=MT|ROAMING_COUNTRY=United Kingdom
```

Example MSISDN

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=488297|CDR_TYPE=12|RECORD_DATE
=20040803145823|ACCT_ID=61|ACCT_REF_ID=61|WALLET_TYPE=1|CLI=321206233252|TN=44147328
9900|LOCADD=E771231473289900|ACS_CUST_ID=1|CS=S|TCS=20040706104957|BALANCE_TYPES=1|B
ALANCES=1000|COSTS=100|ACCOUNT_TYPE=4|EVENT_CLASS=SMSMO|EVENT_NAME=SMSMO_100|EVENT_C
OST=100|EVENT_COUNT=1|DISCOUNT=0|CASCADE=0|OLD_ACCT_STATE=P|NEW_ACCT_STATE=A|MSISDN=
321206233252
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Roaming SMS-MT Fails (EDR 1,5,12,13)

Introduction

There are 4 EDR records created for an unsuccessful roaming SMS-MT - EDR type 1, 5, 12 or 13.

Mandatory EDR 1 and 13 fields

This list identifies the mandatory EDR record fields for an unsuccessful national SMS-MT (EDR type 1 or type 13):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *CLI* (on page 161) (initiating call number)
- CS (call status, always D)
- *LOCADD* (on page 173) (additional configuration prefixes)
- *NACK* (on page 176) (short list of codes)
- *TCS* (on page 195) (ccs time call started)
- *TN* (on page 196) (ccs called number)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Account Activated additional fields

If the account is activated, the following fields will be present:

- *NEW_ACCT_STATE* (on page 178) (always active - A)
- *OLD_ACCT_STATE* (on page 182) (pre-call)

Mobile number portability additional fields

If the Mobile Number Portability (MNP) software is installed, the following fields will be present:

- *PORTED* (on page 185) (name of porting carrier)

Mandatory EDR 5 and 12 fields

This table lists the mandatory fields for an unsuccessful national SMS-MO (EDR type 5 or type 12):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *CLI* (on page 161) (initiating call number)
- CS (call status, always D)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_NAME* (on page 170) (list used for this call)
- *LOCADD* (on page 173) (additional configuration prefixes)
- *NACK* (on page 176) (short list of codes)
- *TCS* (on page 195) (ccs time call started)
- *TN* (on page 196) (ccs called number)

MSISDN additional fields

If the MSISDN ccsCDRLoader plug-in is installed on the SMS, the following field will be present:

- *MSISDN* (on page 175) (account calling number)

Example Account Activated

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=487291|CDR_TYPE=13|RECORD_DATE
=20040803121758|ACCT_ID=83|ACCT_REF_ID=83|CLI=321206233252|TN=441473289900|TCS=20040
625124332|CS=D|NACK=INSF|WALLET_TYPE=1|LOCADD=E77123441473289900|ACS_CUST_ID=1|OLD_A
CCT_STATE=P|NEW_ACCT_STATE=A
```

Example MSISDN

```
BILLING_ENGINE_ID=21|SCP_ID=230612530|SEQUENCE_NUMBER=487291|CDR_TYPE=13|RECORD_DATE
=20040803121758|ACCT_ID=83|ACCT_REF_ID=83|CLI=321206233252|TN=441473289900|TCS=20040
625124332|CS=D|NACK=INSF|WALLET_TYPE=1|LOCADD=E77123441473289900|ACS_CUST_ID=1|OLD_A
CCT_STATE=P|NEW_ACCT_STATE=A|MSISDN=32120623325
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Chapter 27

Wallet Credit Transfer

Overview

Introduction

This chapter defines CCS EDRs for inter and intra wallet credit transfers.

In this chapter

This chapter contains the following topics.

Wallet Credit Transfer Succeeds or Fails (EDR 47)

Mandatory EDR 47 fields

This list identifies the mandatory EDR record fields, regardless of whether it succeeds or fails, an inter or intra wallet credit transfer generates this EDR (EDR type 47):

- *CT_NAME* (on page 164) (credit transfer)
- *CT_TYPE* (on page 164) (credit transfer)
- *MSISDN* (on page 175) (account calling number)
- *PURCHASING_ACCT_ID* (on page 186) (purchasing wallet ID)
- *PURCHASING_MSISDN* (on page 186) (purchasing CLI)
- *USER* (on page 197) (operator logon name)
- *VOUCHER_TYPE* (on page 198) (name)

Optional EDR 47 fields

This list identifies the optional EDR record fields for this EDR (EDR type 47):

- *HOST* (on page 172) (initiating credit transfer)

Cost of Credit Transfer Succeeds (EDR 5)

Mandatory EDR 5 fields

This list identifies the mandatory EDR record fields for a successful wallet credit transfer with an associated cost (EDR type 5):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- *BALANCE_TYPES* (on page 153) (existing account)

- *BALANCES* (on page 154) (pre-transaction account balances)
- *CASCADE_ID* (on page 157) (balance type cascade IDs)
- *COSTS* (on page 163) (rated calls)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *DISCOUNTS* (on page 166) (for each named event)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_COST* (on page 169) (for each named event)
- *EVENT_COUNT* (on page 170) (for each named event)
- *EVENT_NAME* (on page 170) (list used for this call)
- *EVENT_TIME_COST* (on page 170) (for a named event)
- *MSISDN* (on page 175) (account calling number)
- *RECIPIENT_ACCT_ID* (on page 188) (receiving wallet ID)
- *RECIPIENT_MSISDN* (on page 188) (receiving CLI)
- *TCS* (on page 195) (ccs time call started)
- *VOUCHER_TYPE* (on page 198) (name)
- *WALLET_TYPE* (on page 198) (ID of wallet recharged)

Optional EDR 5 fields

This list identifies the optional EDR record fields for a successful wallet credit transfer with an associated cost (EDR type 5):

- *OVERDRAWN_AMOUNT* (on page 185) (take Balance Negative)
- *REMAINING_CHARGE* (on page 191) (partial Charge)

Example EDR 5

```
BILLING_ENGINE_ID=21|SCP_ID=366273322|SEQUENCE_NUMBER=488298|CDR_TYPE=5|RECORD_DATE=
20070719113914|ACCT_ID=61|ACCT_REF_ID=61|ACS_CUST_ID=1|WALLET_TYPE=1|MSISDN=11012|RE
CIPIENT_MSISDN=11012|RECIPIENT_ACCT_ID=1021|VOUCHER_TYPE=ATM Reload
Reward|CS=S|TCS=20070723040732|BALANCE_TYPES=1|BALANCES=102970|COSTS=100|ACCOUNT_TYP
E=24|EVENT_CLASS=Oracle Events|EVENT_NAME=Cash-
|EVENT_COST=100|EVENT_TIME_COST=0.00|EVENT_COUNT=1|DISCOUNT=0|CASCADE=1
```

Cost of Credit Transfer Fails (EDR 5)

Mandatory EDR 5 fields

This list identifies the mandatory EDR record fields for a failed wallet credit transfer with an associated cost (EDR type 5):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACS_CUST_ID* (on page 150) (ACS Customer ID)
- CS (call status, always D)
- *EVENT_CLASS* (on page 169) (list of classes used)
- *EVENT_NAME* (on page 170) (list used for this call)
- *NACK* (on page 176) (long list of codes)
- *TCS* (on page 195) (ccs time call started)
- *WALLET_TYPE* (on page 198) (ID of wallet recharged)

Chapter 28

Wallet Migration

Oveview

Introduction

This chapter defines CCS EDRs for wallet migration.

In this chapter

This chapter contains the following topics.

Wallet Migration (EDR 54)

Mandatory EDR 54 fields

This list identifies the mandatory EDR record fields for wallet migration (EDR type 54):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *ACTIVATION_DATE* (on page 151) (account activation date)
- *BALANCE_TYPES* (on page 153) (existing account)
- *BALANCES* (on page 154) (pre-transaction account balances)
- *COSTS* (on page 163) (rated calls)
- *DOMAIN_MIGRATION* (on page 167) (wallet migration)
- *MAX_CONCURRENT* (on page 174) (maximum concurrent accesses allowed)
- *MSISDN* (on page 175) (account calling number)
  When the ccsCDRLoader plugin is installed on the SMS, this tag will be present.
- *NEW_ACCT_EXPIRY* (on page 177) (date after update)
- *NEW_BALANCE_EXPIRIES* (on page 179) (date after balance update)
- *OLD_ACCT_EXPIRY* (on page 181) (dates before update)
- *OLD_ACCT_STATE* (on page 182) (before update)
- *OLD_BALANCE_EXPIRIES* (on page 183) (dates before balance update)
- *TERMINAL* (on page 196) (Network ID)
- *USER* (on page 197) (operator logon name)
- *WALLET_DELETED* (on page 198) (always success - Y)

Example EDR 54

```
BILLING_ENGINE_ID=21|SCP_ID=175677458|SEQUENCE_NUMBER=139450184|CDR_TYPE=54|RECORD_D
ATE=20090316112330|ACCT_ID=189234|ACCT_REF_ID=20056|USER=SU|TERMINAL=192.168.25.108|
DOMAIN_MIGRATION=Y|BALANCE_TYPES=1,2,3,4,5|BALANCES=10000,0,0,0,0|COSTS=10000,0,0,0,
0|WALLET_DELETED=Y|ACTIVATION_DATE=20070303122900|NEW_ACCT_EXPIRY=0|MAX_CONCURRENT=1
|OLD_ACCT_STATE=P|ACCOUNT_TYPE=3|NEW_BALANCE_EXPIRIES=0|OLD_BALANCE_EXPIRIES=2004081
1100354|OLD_ACCT_EXPIRY=20040811100357|MSISDN=1394111111
```

Note

The sequence of all fields output in an EDR is not guaranteed.

Chapter 29

Wallet Life Cycle

Overview

Introduction

This chapter defines the CCS EDR for wallet life cycle.

In this chapter

This chapter contains the following topics.

Wallet Life Cycle (EDR 55)

Mandatory EDR 55 fields

This list identifies the mandatory EDR record fields for wallet life cycle updates (EDR type 55):

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *CLI* (on page 162) (for the account that will be changed)
- *CS (call status, S or D)* (on page 164) (call status, S or D)
- *OLD_WLC_PERIOD* (on page 184) (before update)
- *NEW_WLC_PERIOD* (on page 180) (after update)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Optional EDR 55 fields

This list identifies the optional EDR record fields for this EDR (EDR type 55):

- *NEW_WLC_PLAN* (on page 180) (Id)
- *OLD_WLC_PLAN* (on page 184) (Id)

Note

The sequence of all fields output in an EDR is not guaranteed.

Chapter 30

Credit Card Updates

Overview

Introduction

This chapter describes the CCS EDRs for operator updates to credit cards by using the CCS user interface (UI).

Note: The EDR fields in this section are listed alphabetically. The actual sequence of the fields output in an EDR is likely to be different.

In this chapter

This chapter contains the following topics.

Credit Card EDRs (Types 57, 58, 59, 60, 61, 62, 63, and 64)

About EDRs for Operator Updates to Subscriber Credit Card Records

An EDR is generated each time an operator updates the credit card details for a subscriber through the CCS UI. When the operator:

- Adds a new credit card for a subscriber, a type 57 EDR is generated
- Deletes a subscriber's credit card, a type 58 EDR is generated
- Registers a credit card to a subscriber, a type 59 EDR is generated
- Deregisters a credit card from a subscriber, a type 60 EDR is generated
- Freezes a subscriber's credit card, a type 61 EDR is generated
- Activates a subscriber's credit card, a type 62 EDR is generated
- Confirms a credit card to a subscriber, a type 63 EDR is generated
- Modifies a subscriber's credit card, a type 64 EDR is generated

These EDRs output all the same mandatory fields.

Mandatory Credit Card EDR Fields (Type 57 to Type 64)

This list identifies the mandatory EDR record fields for operator updates to a subscriber's credit card records:

- *ACCOUNT_TYPE* (on page 149) (Product Type ID)
- *CLI* (on page 162) (for the account that will be changed)
- *DISPLAY_NUMBER* (on page 167) (credit card)
- *EXPIRY_DATE* (on page 171) (for a credit card)
- *NAME_ON_CARD* (on page 177) (for a credit card)
- *MSISDN* (on page 175) (subscriber ids)
- *REASON* (on page 188) (change reason)

- *RECORD_DATE* (on page 188) (date edr created)
- *TERMINAL* (on page 196) (Network ID)
- *USER* (on page 197) (operator logon name)
- *WALLET_TYPE* (on page 198) (ID of wallet changed)

Chapter 31

Billing Engine Control Plan Invocation

Overview

Introduction

This chapter defines CCS EDRs for billing engine control plan invocation.

In this chapter

This chapter contains the following topics.

Control Plan Service Invoke (EDR 7)

Mandatory EDR 7 fields

This list identifies the mandatory EDR record fields for control plan service invoke (EDR type 7):

- *CLI* (on page 161) (initiating call number)
- *Called Number* (on page 156)
- *Control Plan* (on page 162) (name of invoked control plan)
- *Service Handle* (on page 194) (invoked service handle)
- *Service Response* (on page 194) (from service function)

Note

The sequence of all fields output in an EDR is not guaranteed.

Chapter 32

CCS EDR Tag Definitions

Overview

Introduction

This chapter lists the Event Data Record (EDR) file tag definitions created by CCS processes.

In this chapter

This chapter contains the following topics.

CCS EDR Tag List

EDR tags

The following list details the tag values of EDRs created by the CCS service, the type and length of data required, and a description of the value.

`ACCOUNT_TYPE (Product Type ID)`

Description: The ID of the account type (product type) for this account.

Format: Integer

Version: CCS 2.3.3

Notes: This is the database ID of the CCS product type from the CCS_ACCT_REFERENCE table, ID column. This will be set to 0 (zero) for balance expiries.

Example: `ACCOUNT_TYPE=1`

`ACCT_ID (changed wallet ID)`

Description: The ID of the account's wallet that changed during the call's processing. An account may have multiple wallets 'Personal' and 'Business' so it is necessary to identify which wallet changed.

Format: Integer

Version: CCS 2.3.3 to current

Notes: This is an internal wallet reference only (ccs_acct.BE_ACCT_ID or be_wallet.ID).

Example: `ACCT_ID=1021`

`ACCT_REF_ID (changed account ID)`

Description: The ID of the account that changed during the call's processing.

Format: Integer

Version: CCS 2.3.3 to current

Notes:
- This is an internal account reference only (ccs_acct_reference.ID)
- If this field for an expiry EDR is set to zero (0), this indicates that the change was not limited to a single account but was applied to the wallet or balance of all the referenced accounts..

Example: `ACCT_REF_ID=0`

ACS_CUST_ID (ACS Customer ID)

Description: The ID of the ACS customer for this account.
Format: Integer
Version: CCS 2.3.3
Notes: This is an internal ACS customer reference only (acs_customer.ID).
Example: `ACS_CUST_ID=1`

ACTION (voucher activity)

Description: The action or activity performed on a voucher.
Format: String
Version: NCC 6.0.1
Notes: Values can be:
- VCU: Voucher Channel Used
- VTC: Voucher Type Created
- VTM: Voucher Type Modified
- VTD: Voucher Type Deleted
- VBC: Voucher Batch Created
- VBE: Voucher Batch Edited
- VBD: Voucher Batch Deleted
- VSC: Voucher State Changed
- VVD: Voucher Validated
- VRC: Voucher Recharged
- PKI: Public Key Imported
- PKV: Public Key Verified
- VEC: Voucher Expiry Changed
- VES: Voucher Expiry and State Changed

Example: `ACTION=VSC`

ACTION_DETAIL (voucher activity)

Description: Additional details of the specified action.
Format: String
Version: NCC 6.0.1

Notes: For example, If the ACTION is VSC (Voucher State Changed), then ACTION_DETAIL can have any of the following values, which indicate the new voucher state:

- C = Created
- A = Active
- F = Frozen
- D = Deleted

The other ACTION field values are as follows:

- VCU: <not used>
- VRC: "Success" or "Failure"
- VVD: "Success" or "Failure"
- PKV: "Success" or "Failure"
- PKI: Displays the public key name and description
- VTC: Displays the voucher name
- VTM: Displays the changed value for type. For example, name of the voucher type.
- VTD: Displays voucher name
- VBC: Displays batch name
- VBE: Displays the change. For example, for a status change, displays "Status Changed to " *new_status*
- VBD: Displays batch name
- VEC: Displays the voucher expiry change with details (new date:description)
- VES: Displays the voucher expiry and state with details (new date:state:description). If voucher expiry date is set to an earlier date (a past date), then the voucher state displayed will be **'Expired**.

Example: `ACTION_DETAIL=A`

ACTIVATION_DATE (account activation date)

Description: The activation date for the account.

Format: Date (yyyymmddhhmmss format)

Version: CCS 2.3.3

Notes: '0' indicates that the activation date for the account is not set.

Example: `ACTIVATION_DATE=20040703122900`

ADJUSTMENT (generated by an adjustment)

Description: Was this EDR generated by an adjustment.

Format: Boolean

Version: CCS 3.1.4

Notes:

Example:

APPLICATION_DESC (application freeform)

Description: A freeform reference string entered by the application that made the reservation.

Format: String

Version: CCS 2.3.3

Notes:

Example: `APPLICATION_DESC=OSA Reservation Amount`

BAD_PINS (number of attempts)

Description: The pre-transaction bad PIN attempts for this account.
Format: Integer
Version: CCS 3.1.0
Notes:
Example: `BAD_PINS=1`

BALANCE_EXPIRIES (period hours)

Description: The balance expiry period in hours.
Format: Integer
Version: CCS 2.5.0
Notes:
Example: `BALANCE_EXPIRIES=100`

BALANCE_NAMES

Description: The balance names that correspond to the ID's in the BALANCE_TYPES field.
Format: String
Version:
Notes:
Example: `BALANCE_NAMES=Roam Zone 3 MB`

BALANCE_TYPES (account changed or created)

Description: A list of the balance types that changed or were created during the call.

An account may have balance type IDs that correspond to the following balance type names:

- General Cash
- Promotional Cash
- Free SMS

For multi tariff rated calls, this is a comma separated list of the service ID and the balance type that was changed by that service ID.

Format: Integer(s)
Version: CCS 3.0.0
Notes:

- This is an internal reference to the balance type ids only (ccs_balance_type.ID).
- The service ID and Balance type are colon separated.

Example: Single tariff:

```
BALANCE_TYPES=1,2,5
```

Multi tariff:

```
BALANCE_TYPES=service ID1:1,service ID2:49
```

BALANCE_TYPES (account changed or created) - mid call rate change

Description: A list of the balance types that changed or were created during the call.

An account may have balance type IDs that correspond to the following balance type names:

- General Cash
- Promotional Cash
- Free SMS

For multi tariff rated calls, this is a comma separated list of the service ID and the balance type that was changed by that service ID.

For single tariff calls with mid call rate changes, this is a semi colon separated list of the tariff plan ID, time stamp and balance type for each rate change. The tariff plan ID, time stamp and balance type are colon separated.

For multi tariff calls with mid call rate changes, then the service ID:balance type combinations are included in the list as well.

Format: Integer(s)

Version: CCS 3.1.4

Notes:

- This is an internal reference to the balance type ids only (ccs_balance_type.ID).
- The service ID and balance type are colon separated.

Example: Single tariff:

```
BALANCE_TYPES=1,2,5
```

Multi tariff:

```
BALANCE_TYPES=service ID1:1,service ID2:49
```

Single tariff mid call rate change:

```
BALANCE_TYPES=Tariff Plan ID1:Time Stamp:64;Tariff Plan
ID2:Time Stamp:64
```

Multi tariff mid call rate change:

```
BALANCE_TYPES=Tariff Plan ID1:Time Stamp:Service
ID1:64:Service ID2:64;Tariff Plan ID2:Time Stamp:Service
ID1:64:Service ID2:64
```

BALANCE_TYPES (existing account)

Description: A list of the balance types that currently exist for this account.

An account may have balance types IDs that correspond to the following balance type names:

- General Cash
- Promotional Cash
- Free SMS

Format: List of integer numbers

Version: CCS 3.0.0

Notes: This is an internal reference to the balance type IDs only (ccs_balance_type.ID).

Example:

```
BALANCE_TYPES=1
```

BALANCES (pre-call or account creation)

Description: A list of the pre-call account balance values for each account.

For multi tariff rated calls, this is a comma separated list of the service ID (as listed in BALANCE_TYPES) and the balance that was changed by that service ID. The service ID and balance are colon separated.

Format: Integer or Float

Version: CCS 3.0.0

Notes: Float type if time balances (two decimal places), integer type if currency balances.

Example: Single tariff:

```
BALANCES=0,0,0
```

Multi tariff:

```
BALANCES=service ID1:1000,service ID2:10000
```

BALANCES (pre-call or account creation) - mid call rate change

Description: A list of the pre-call account balance values for each account.

For multi tariff rated calls, this is a comma separated list of the service ID (as listed in BALANCE_TYPES) and the balance that was changed by that service ID. The service ID and balance are colon separated.

For calls with mid call rate changes, this is a semi colon separated list of the tariff plan id, time stamp and balance that was changed. The tariff plan ID, time stamp and balance are colon separated.

For multi tariff rated calls with mid call rate changes, then the service ID:balance combinations are included in the list as well.

Format: Integer or Float

Version: CCS 3.1.4

Notes: Float type if time balances (two decimal places), integer type if currency balances.

Example: Single tariff:

```
BALANCES=0,0,0
```

Multi tariff:

```
BALANCES=service ID1:1000,service ID2:10000
```

Single tariff mid call rate change:

```
BALANCES=Tariff Plan ID1:Time Stamp:1000;Tariff Plan
ID2:Time Stamp:1000
```

Multi tariff mid call rate change:

```
BALANCES=Tariff Plan ID1:Time Stamp:Service ID1:1000:Service
ID2:10000;Tariff Plan ID2:Time Stamp:Service
ID1:1000:Service ID2:10000
```

BALANCES (pre-transaction account balances)

Description: A list of the pre-transaction account balance values for each balance type ID.

For multi tariff rated calls, this is a comma separated list of the service ID (as listed in BALANCE_TYPES) and the balance that was changed by that service ID.

Format: Integer or Float

Version: CCS 3.0.0

Notes:
- The service ID and balance are colon separated.
- Float type if time balances (two decimal places), integer type if currency balances.

Example: Single tariff:

```
BALANCES=2000,0
```

Multi tariff:

```
BALANCES=service ID1:1000,service ID2:10000
```

BARCODE (voucher details)

Description: The barcode number of the voucher.

Format: Integer

Version: 12.0.1

Notes: You can use a maximum of 12 digits.

Example: `BARCODE=12`

BARRED_LIST_TYPE (description)

Description: The list type description.

Format: String

Version: CCS 3.0.0

Notes: Values can be:
- Allowed
- Barred

Example: `BARRED_LIST_TYPE=ALLOWED`

BATCH_DESCRIPTION (for voucher batch)

Description: The textual description for the voucher batch.

Format: String

Version: CCS 3.0.0

Notes:

Example: `BATCH_DESCRIPTION=Test Batch`

BEARER_TYPE (bearer type for promotions)

Description: The bearer for the balance recharge event. This indicates the type of service used for performing the recharge, such as voice or SMS.

Format: String

Version: NCC 5.0.2

Notes: This is an optional field, available only for a flash promotion where the event category selected is `Balance Recharge`.

Example: `BEARER_TYPE=voice`

BILLING_ENGINE_ID (BE where account resides)

Description: The ID of the billing engine where this account resides.

Format: Integer

Version: CCS 2.3.3 to current

Notes: This is an internal reference only (ccs_acct.BE_ACCT_ENGINE_ID).

Example: `BILLING_ENGINE_ID=21`

BONUS_TYPE (name)

Description: The name of the bonus type applying to this recharge.

Format: String

Version: CCS 3.0.0

Notes: Values can be:

- CREDIT CARD
- CUSTOM.

Warning: This value must be in upper case format for bonus to be applied.

Example: `BONUS_TYPE=CUSTOM`

BUCKET_IDS (within balance type recharged)

Description: A list of the bucket IDs within the balance type that were credited or debited during this recharge.

Format: Integer

Version: CCS 3.0.0

Notes: This is an internal bucket reference only (be_bucket.ID).

Example: `BUCKET_IDS=45844`

CALLED_NUMBER

Description: The number being called.

Format: String

Version: CCS 3.1.7

Notes:

Example: CALLED_NUMBER=01473516345

CARD DESIGN (voucher details)

Description: Version number of the voucher design.

Format: Integer

Version: 12.0.1

Notes: You can use a maximum of 4 digits.

Example: `CARD_DESIGN=90`

CASCADE (always empty for pi)

Description: This PI command will always produce an empty value for this field.

Format: Integer

Version: CCS 3.0.0

Notes:

Example: `CASCADE=`

CASCADE_ID (balance type cascade IDs)

Description: This is the ID of the balance type cascade that was used for this call.

An account will have a balance type cascade that lists the order in which the account's balance types will be debited or credited for each call.

For multi tariff rated calls, this is a comma separated list of the service ID and cascade IDs for each of the tariffs in the rate. The service ID and cascade ID are colon separated.

Format: Integer(s)

Version: CCS 3.1.0

Notes: This is an internal reference to the balance cascade ID only (ccs_balance_type_cascade.ID).

Example: Single tariff:

```
CASCADE_ID=44
```

Multi tariff:

```
CASCADE_ID=service ID1:1,service ID2:49
```

CASCADE_ID (balance type cascade IDs) - mid call rate change

Description: This is the ID of the balance type cascade that was used for this call.

An account will have a balance type cascade that lists the order in which the account's balance types will be debited or credited for each call.

For multi tariff rated calls, this is a comma separated list of the service ID and cascade IDs for each of the tariffs in the rate. The service ID and cascade ID are colon separated.

For calls with mid call rate changes, this is a semi colon separated list of the tariff plan ID, time stamp and cascade IDs for each rate. The tariff plan ID, time stamp and cascade IDs are colon separated.

For multi tariff calls with mid call rate changes, then the service ID is included in the list as well.

Format: Integer(s)

Version: CCS 3.1.4

Notes: This is an internal reference to the balance cascade ID only (ccs_balance_type_cascade.ID).

Example: Single tariff:

```
CASCADE_ID=44
```

Multi tariff:

```
CASCADE_ID=service ID1:1,service ID2:49
```

Single tariff mid call rate change:

```
CASCADE_ID=Tariff Plan ID1:Time Stamp:1;Tariff Plan ID2:Time
Stamp:1
```

Multi tariff mid call rate change:

```
CASCADE_ID=Tariff Plan ID1:Time Stamp:Service ID1:1:Service
ID2:1;Tariff Plan ID2:Time Stamp:Service ID1:1:Service ID2:1
```

CBTD_BALANCE_TYPES (list to apply to discounts)

Description: A list of the cross balance types used during the call to apply the cross balance type discounts.

Format: Integer(s)

Version: CCS 3.1.1

Notes:

Example: `CBTD_BALANCE_TYPES=174`

CBTD_BALANCE_TYPES (list to apply to discounts) - mid call rate change

Description: A list of the cross balance types used during the call to apply the cross balance type discounts.

For calls with mid call rate changes the tariff plan ID and time stamp for each rate change will also be listed. Items in the list are colon separated.

Format: Integer(s)

Version: CCS 3.1.4

Notes:

Example: Single rate:

```
CBTD_BALANCE_TYPES=174
```

Mid call rate change:

```
CBTD_BALANCE_TYPES=Tariff Plan ID1:Time Stamp:2,4;Tariff
Plan ID2:Time Stamp:2,4
```

CBTD_BALANCES (value for each cross balance type)

Description: A list of the balance values for each cross balance type displayed in the CBTD_BALANCE_TYPE field of the EDR record.

Format: Integer(s) or float

Version: CCS 3.1.1

Notes: Float type if time balances (two decimal places), Integer type if currency balances.

Example: `CBTD_BALANCES=440.00`

CBTD_BALANCES (value for each cross balance type) - mid call rate change

Description: A list of the balance values for each cross balance type displayed in the CBTD_BALANCE_TYPE field of the EDR record.

For calls with mid call rate changes, this is a semi colon separated list of the tariff plan ID, time stamp and balance that was changed. The tariff plan ID, time stamp and balance are colon separated.

Format: Integer(s) or Float

Version: CCS 3.1.4

Notes: Float type if time balances (two decimal places), integer type if currency balances.

Example: Single tariff:

```
CBTD_BALANCES=440.00
```

Mid call rate change:

```
CBTD_BALANCES=Tariff Plan ID1:Time Stamp:1000;Tariff Plan
ID2:Time Stamp:1000
```

CBTD_CASCADE_ID (used for this call)

Description: This lists the order in which the account's cross balance types will be debited during calls. It is only present where a cross balance type discount has been applied.

Format: Integer

Version: CCS 3.1.1

Notes: This is an internal reference to the cross balance cascade ID only.

Example:

CBTD_CASCADE_ID (used for this call) - mid call rate change

Description: This lists the order in which the account's cross balance types will be debited during calls. It is only present where a cross balance type discount has been applied.

For calls with mid call rate changes, this is a semi colon separated list of the tariff plan ID, time stamp and cascade IDs for each rate. The tariff plan ID, time stamp and cascade IDs are colon separated.

Format: Integer

Version: CCS 3.1.4

Notes: This is an internal reference to the cross balance cascade ID only.

Example: Single tariff:

```
CASCADE_ID=44,33
```

Mid call rate change:

```
CASCADE_ID=Tariff Plan ID1:Time Stamp:1;Tariff Plan ID2:Time Stamp:1
```

CBTD_COSTS (costs applied to each cross balance type)

Description: Lists the costs applied to each cross balance type ID displayed in the CBTD_BALANCE_TYPE field of the EDR record.

Format: Integer(s) or Float

Version: CCS 3.1.1

Notes: Float type if time balances (two decimal places), Integer type if currency balances.

Example:

```
CBTD_COSTS=440.00
```

CBTD_COSTS (costs applied to each cross balance type) - mid call rate change

Description: Lists the costs applied to each cross balance type ID displayed in the CBTD_BALANCE_TYPE field of the EDR record.

For calls with mid call rate change the tariff plan ID and time stamp for each rate change are also included. Items in the list are colon separated.

Format: Integer(s) or float

Version: CCS 3.1.4

Notes: Float type if time balances (two decimal places), integer type if currency balances.

Example: Single call rate time balance:

```
CBTD_COSTS=440.00
```

Mid call rate change currency balance:

```
CBTD_COSTS=Tariff Plan ID1:Time Stamp:30,5,0;Tariff Plan
ID2:Time Stamp:30,5,0
```

CBTD_COSTS_RND_REM (rounding remainder of cross balance CBTD_COSTS)

Description: A list of rounding remainder of each cost displayed in the CBTD_COSTS field of the EDR record.

Format: Float(s)

Version: NCC 12.0

Notes: Floating point remainder in decimal or scientific notation.

Example:

```
CBTD_COSTS_RND_REM=3.552714e-15,-3.911111
```

CBTD_DISCOUNTS (discounts applied to balance types)

Description: Lists the cross balance type discounts (in 1/10000's of a percent) applied during this call to the chargeable balance types.

Format: Integer(s)

Version: CCS 3.1.1

Notes:

Example:

```
CBTD_DISCOUNTS=200000
```

CBTD_DISCOUNTS (discounts applied to balance types) - mid call rate change

Description: Lists the cross balance type discounts (in 1/10000's of a percent) applied during this call to the chargeable balance types.

For calls with mid call rate changes the tariff plan ID and time stamp for each rate change are also included. Items in the list are colon separated.

Format: Integer(s)

Version: CCS 3.1.4

Notes:

Example: Single call rate:

```
CBTD_DISCOUNTS=200000
```

Mid call rate change:

```
CBTD_DISCOUNTS=Tariff Plan ID1:Time
Stamp:200000,100000;Tariff Plan ID2:Time Stamp:200000,100000
```

CDR_TYPE (reason for record generation)

Description: The reason that the EDR record was generated. This will be the result of either a CCS or other service. The extra information fields, which are present in the resulting EDR record, are dependent on the EDR type.

Format: String

Version: CCS 2.3.3 to current

Notes:

Example:

```
CDR_TYPE=2
```

CHANNEL (for rewards)

Description: The channel for the balance recharge event. This indicates the mechanism used for performing the recharge. The following default global channels are provided:

- ATM
- Any
- MPOS
- Other
- Voucher

Format: String

Version: NCC 5.0.2

Notes: This is an optional field, available only for a flash promotion where the promotional balance type is `Balance Recharge`.

Example: `CHANNEL=ATM`

CHARGE_EXPIRY (new periodic charge expiry)

Description: The new date the periodic charge will expire.

Format: Date (yyyymmddhhmmss format)

Version: CCS 3.1.5

Notes:

Example: `CHARGE_EXPIRY=20110122221708`

CHARGE_NAME (of periodic charge)

Description: The name of the periodic charge applied.

Format: String

Version: CCS 3.0.0

Notes:

Example:

CLI (initiating call number)

Description: The calling line identifier (calling number) that initiated the call.

Format: String

Version: CCS 2.5.0

Notes: This is the party making the call, and is the value stored in cs_acct_reference.CLI unless the location area code (LAC) is used to initiate the call. In this case, the CLI is made up from the mobile country code (MCC), mobile network code (MNC), LAC, and cell ID.

Example: `CLI=01206233252`

CLI (initiating call number) - mid call rate change

Description: The calling line identifier (calling number) that initiated the call.

For calls with mid call rate changes, this is a semi colon separated list of the tariff plan ID, time stamp and CLI for each rate. The tariff plan ID, time stamp and CLI are colon separated.

Format: String

Version: CCS 3.1.4

Notes: This is the party making the call, and is the value stored in cs_acct_reference.CLI unless the location area code (LAC) is used to initiate the call. In this case, the CLI is made up from the mobile country code (MCC), mobile network code (MNC), LAC, and cell ID.

Example: Single call rate:

```
CLI=01206233252
```

Mid call rate change:

```
CLI=Tariff Plan ID1:Time Stamp:44111110;Tariff Plan ID2:Time Stamp:44111110
```

CLI (for the account that will be changed)

Description: The calling line identifier for the account which will be changed.

Format: String

Version: CCS 3.0.0

Notes: From ccs_acct_reference.CLI

Example:

```
CLI=1234
```

CLI (roaming initiating call number)

Description: The calling line identifier (calling number) that initiated the call. This is the party making the call, and is the value stored in cs_acct_reference.CLI unless the location area code (LAC) is used to initiate the call. In this case, the CLI is made up from the mobile country code (MCC), mobile network code (MNC), LAC, and cell ID.

Format: String

Version: CCS 2.5.0

Notes:

- The Roaming software provides a ccsCDRLoaderPlugin on the SMP. This plug-in will determine the type of roaming call.
- If a CAMEL Originating call is determined, then the roaming prefix will be stripped from the CLI field.

Example:

```
CLI=321206233252
```

COMPONENT (from pi command reference)

Description: A freeform reference string taken from the PI COMMAND REFERENCE field.

Format: String

Version: CCS 3.0.0

Notes: This is the reference entered by the operator that performed the recharge.

Example:

CONTROL_PLAN (name of invoked control plan)

Description: The name of the invoked control plan

Format: String

Version: CCS 3.1.7

Notes:

Example:

```
CONTROL_PLAN=SrmPlan
```

COSTS (rated calls)

Description: A list of the costs debited or credited from each service ID displayed in the BALANCE_TYPES field of the EDR record. For a 'Debit' account, a credit to the account will be indicated by a negative value.

For multi tariff rated calls, the costs will also be broken down by the service ID used to identify each tariff. All balance types used will be listed against each service id even if there was no charge.

Format: Integer or float

Version: CCS 3.0.0

Notes: Float type if time balances (two decimal places), integer type if currency balances.

Example: Single tariff:

```
COSTS=120
```

Multi tariff:

```
COSTS=service ID1:5,5,service ID2:10,0
```

COSTS (rated calls) - mid call rate change

Description: A list of the costs debited or credited from each service ID displayed in the BALANCE_TYPES field of the EDR record. For a 'Debit' account, a credit to the account will be indicated by a negative value.

For multi tariff rated calls, the costs will also be broken down by the service ID used to identify each tariff. All balance types used will be listed against each service id even if there was no charge.

For calls with mid call rate changes, the costs will be broken down by tariff plan ID and time stamp for each rate change. The tariff plan ID, time stamp and costs are colon separated.

For multi tariff rated calls with mid call rate changes, then the service ID is included as well.

Format: Integer or float

Version: CCS 3.1.4

Notes: Float type if time balances (two decimal places), integer type if currency balances.

Example: Single tariff:

```
COSTS=120
```

Multi tariff:

```
COSTS=service ID1:5,5,service ID2:10,0
```

Single tariff mid call rate change:

```
COSTS=Tariff Plan ID1:Time Stamp:10;Tariff Plan ID2:Time
Stamp:20
```

Multi tariff mid call rate change:

```
COSTS=Tariff Plan ID1:Time Stamp:Service ID1:10:Service
ID2:0;Tariff Plan ID2:Time Stamp:Service ID1:20:Service
ID2:0
```

COSTS_RND_REM (rounding remainder of balance COSTS)

Description: A list of rounding remainder of each cost displayed in the COSTS field of the EDR record.

Format: Float(s)

Version: NCC 12.0

Notes: Floating point remainder in decimal or scientific notation.

Example: `COSTS_RND_REM=3.552714e-15,-3.911111`

CS (call status, S or D)

Description: The call status.

Format: String

Version: CCS 3.0.0

Notes: This value will usually be 'S' (Success) for this EDR record.

For EDR types 5, 12, 25, 27, 32 and 49, the success EDR will be returned with a call status of 'D' if a partial charge occurred or if the balance became negative as a result of the charge.This scenario can only occur if your insufficient funds policy is configured either to take a wallet balance negative or process a partial charge.

If your configuration allows negative balances, the EDR includes the optional field **OVERDRAWN_AMOUNT**. If a partial charge occurs, the EDR includes the optional field **REMAINING_CHARGE**.

Example: `CS=S, CS=D`

CT_NAME (credit transfer)

Description: Credit transfer name.

Format: String

Version: CCS 3.0.1

Notes: From CCS_CREDIT_TRANSFER.name.

Example:

CT_TYPE (credit transfer)

Description: Credit transfer type.

Format: String

Version: CCS 3.0.1

Notes: From CCS_CREDIT TRANSFER.type.

Example:

CUG_NAME (closed user group)

Description: The name of the closed user group (CUG) for the current call.

Format: String

Version: CCS 3.0.0

Notes:

Example:

DICWR (Disable Incoming Calls When Roaming)

Description: A Flag indicating whether the 'Disable Incoming Calls When Roaming' flag has been enabled or disabled.

Format: String

Version:

Notes: Valid values are:

- TRUE
- FALSE

Example: DICWR=TRUE

DISCOUNT (always zero for pi)

Description: This PI command will always produce a value of zero for this field.

Format: Integer

Version: CCS 3.0.0

Notes:

Example: DISCOUNT=0

DISCOUNT_TYPE (applied to this call)

Description: The discount type applied to this call.

Format: String

Version: CCS 3.0.0

Notes: Valid values are:

- BASIC'
- COMPOUND'
- CUMULATIVE
- OVERRIDE

Example: DISCOUNT_TYPE=BASIC

DISCOUNT_TYPE (applied to this call)

Description: The discount type applied to this call.

Format: String

Version: CCS 3.1.1

Notes: The value is the uppercase value of the discountRuleType parameter. See *CCS Technical Guide* - ccsReservationHandler topic.

Example: DISCOUNT_TYPE="S*W*R"

DISCOUNT_TYPE (applied to this call) - service discount

Description: The discount type applied to this call.

Format: String

Version: CCS 3.1.6

Notes: The value is the uppercase value of the discountRuleType parameter. See *CCS Technical Guide* - ccsReservationHandler topic.

The **S** character in the value string will only be included when a service discount has been used. As a result, the possible values depend on both the configured discountRuleType parameter and the presence of a service discount for this call.

This allows correlation with CCS 3.0.0 values, where the:

- Presence of the **S** character maps to COMPOUND, CUMMULATIVE or OVERRIDE
- Absence of the **S** character maps to BASIC

Example: With service discount:

DISCOUNT_TYPE=S*R*W

Without service discount:

DISCOUNT_TYPE=R*W

DISCOUNTS (for each named event)

Description: A list of discounts (in 1/10000's of a percent) that correspond to each named event that is specified in the EVENT_NAME field of this EDR record.

Format: Integer or Float

Version: CCS 3.0.0

Notes:
- This field is determined by the tariff associated with this named event and is not fixed for a specific account.
- Float type if time balances (two decimal places), Integer type if currency balances.

Example:
```
DISCOUNTS=200000
```

DISCOUNTS (rated calls)

Description: This will be a list of discounts (in 1/10000's of a percent) that exist for this call.

For multi tariff rated calls this is a comma separated list of the service ID (as listed in the BALANCE_TYPES) used to identify the tariff followed by a colon and the list of associated charge period discounts for each of the tariffs in the rate. The service ID and discount list are colon separated.

Format: Integer or Float

Version: CCS 3.1.0

Notes:
- This field is determined by the tariff associated with this call and is not fixed for a specific account.
- Float type if time balances (two decimal places), Integer type if currency balances.

Example: Single tariff:

```
DISCOUNTS=0
```

Multi tariff:

```
DISCOUNTS=service ID1:0,0,0,0,service ID2:0,0,0,0
```

DISCOUNTS (rated calls) - mid call rate change

Description: This will be a list of discounts (in 1/10000's of a percent) that exist for this call.

For multi tariff rated calls this is a comma separated list of the service ID (as listed in the BALANCE_TYPES) used to identify the tariff followed by a colon and the list of associated charge period discounts for each of the tariffs in the rate. The service ID and discount list are colon separated.

For calls with mid call rate changes, the discounts will be broken down by tariff plan ID and the time stamp for each rate change. The tariff plan ID, time stamp and discount list are colon separated.

For multi tariff rated calls with mid call rate changes, then the Service ID is included in the list as well.

Format: Integer or float

Version: CCS 3.1.4

Notes:
- This field is determined by the tariff associated with this call and is not fixed for a specific account.
- Float type if time balances (two decimal places), Integer type if currency balances.

Example: Single tariff:

```
DISCOUNTS=0
```

Multi tariff:

```
DISCOUNTS=service ID1:0,0,0,0,service ID2:0,0,0,0
```

Single tariff mid call rate change:

```
DISCOUNTS=Tariff Plan ID1:Time Stamp:0,0,0,0;Tariff Plan
ID2:Time Stamp:0,0,0,0,0
```

Multi tariff mid call rate change:

```
DISCOUNTS=Tariff Plan ID1:Time Stamp:Service
ID1:0,0,0,0:Service ID2:0,0,0,0;Tariff Plan ID2:Time
Stamp:Service ID1:0,0,0,0:Service ID2:0,0,0,0
```

DISPLAY_NUMBER (credit card)

Description: The credit card number. For security reasons, some digits will have been replaced by the * character. The number of digits replaced depends on the credit card masking rules that have been set for the service provider.

Format: String

Version: NCC release 5.0.2

Notes: For more information about credit card masking rule configuration, see *Charging Control Services User's Guide*.

Example: `DISPLAY_NUMBER=****102351068723`

DISPLAY_SPEND_RATIO (Balance Type Display to Spend Ratio)

Description: The Display to Spend ratio configured against each balance type used for this service.

Format: Comma separated list of floating point numbers.

Version: NCC 6.0.1

Notes: A ratio of an accounts actual balance to what is used within a rating system.

Example: `DISPLAY_SPEND_RATIO=1.0,2.0,1.0`

DISTRIBUTOR_CHANNEL (voucher details)

Description: Distributor of the voucher.

Format: String

Version: 12.0.1

Notes: You can use a maximum of 50 characters.

Example: `DISTRIBUTOR_CHANNEL=Channel1`

DOMAIN_MIGRATION

Description: Indicates that the wallet was migrated successfully.

Format: String

Version: CCS 3.1.6

Notes: This value will always be 'Y' for the EDR record.

Example: `DOMAIN_MIGRATION=Y`

DURATION (call length)

Description: The actual call length ignoring any grace period that may result in the call not being charged.

Format: Integer or Float

Version: CCS 3.0.0

Notes: If a CAMEL Phase 2 or Phase 3 type switch is being used, this field will be in float format to two decimal places (seconds and deci-seconds).

If a Nokia type switch is being used the field will be in integer format (seconds).

Example: Nokia switch is whole seconds

```
DURATION=120.00
```

CAMEL Phase 2 or Phase 3 type switch is decimal seconds

```
DURATION=162.30
```

DURATION_CHARGED

Description: The actual charged duration or charged volume for the session.

Format: Integer

Version: NCC 4.4.1.4, NCC 5.0.0.1.

Notes: The value output is the duration of the session rounded up to the nearest quanta, based on the billing resolution (the minimum unit length for billing calls) and the minimum session length value (must be a multiple of the billing resolution). For example, if the minimum session length is 60 seconds, and the billing resolution is 10 seconds, then:

- For a session that lasts for 20 seconds, the charged duration will be 60 seconds. In the EDR, the **DURATION** field is set to 20, and the **DURATION_CHARGED** field is set to 60 (the minimum session length).
- For a session that lasts for 73 seconds, the charged duration will be 80 seconds. In the EDR, the **DURATION** field is set to 73, and the **DURATION_CHARGED** field is set to 80 (the actual session length rounded up to the nearest 10 seconds).

Example:

```
DURATION_CHARGED=60
```

END_CALL_REASON

Description: A number that specifies the reason that the call terminated:

No.	Description
1	There was a problem playing the pre-call low balance warning
2	Abort flag set on ACR, where ACR is received before event report
3	Abort status for AT before ACR received
4	Abort flag set on ACR, where ACR is received after event report
5	Abort status for AT after ACR received
6	Abort status for AT while waiting for BE response
7	ACR indicated switch released call on timer expiry
8	Last reservation failed, and no funds held back
9	Last reservation failed, and no funds held back (disconnect leg supported by switch)
10	Called party busy, no charge
11	Failed to route call, no charge
12	Calling party abandoned prior to called party answer, no charge
13	Called party did not answer, no charge
14	Calling party hung up
15	Called party hung up
16	Calling party hung up but last ACR indicated call still active
17	Called party hung up but last ACR indicated call still active

Format: Integer
Version: 5.0.0
Example: `END_CALL_REASON=12`

EVENT_CLASS (list of classes used)

Description: A list of event classes that were used for this call.
Format: String(s)
Version: CCS 2.4.1
Notes:
Example:

EVENT_COST (for each named event)

Description: A list of event costs (in small currency) that correspond to each named event that is specified in the EVENT_NAME field of this EDR record.
Format: Integer(s)
Version: CCS 2.4.1

Notes:

- Each event cost will have an associated event count as specified by the EVENT_COUNT field and an associated discount (in 1/10000's of a percent) as specified by the DISCOUNT field for the EDR record. This field is determined by the tariff associated with this named event and is not fixed for a specific account.
- This field needs to be associated with the EVENT_COUNT and DISCOUNT fields to determine the cost of the call.

Example:

EVENT_COUNT (for each named event)

Description: A list of event counts that correspond to each named event that is specified in the EVENT_NAME field of this EDR record.

Format: Integer(s)

Version: CCS 2.4.1

Notes:

Example:

EVENT_NAME (list used for this call)

Description: A list of event names that were used for this call.

Format: String(s)

Version: CCS 2.4.1

Notes:

Example:

EVENT_TIME_COST (for a named event)

Description: Shows the time-cost of a named event, which will be debited against a time balance.

Format: Integer

Version: CCS 2.4.1

Notes: This field is only valid for systems running CCS version 2.4.1 or greater, for all other systems this field will always be shown as "0".

Example:

EXCEEDED_BALANCE_NAMES

Description: The names that correspond to the IDs in the EXCEEDED_BALANCE_TYPES field.

Format: String

Version:

Notes:

Example: `EXCEEDED_BALANCE_NAMES=Roam Zone 3 MB`

EXCEEDED_BALANCE_TYPES

Description: The balance types that exceeded a maximum limit on recharge.

Format: Integer

Version:

Notes:

Example: `EXCEEDED_BALANCE_TYPES=1103`

EXCEEDED_VALUES

Description: The unused balance value exceeding the configured maximum balance for the balance types.

Format: Integer

Version:

Notes: The values above the maximum limits are displayed as negative values.

Example: `EXCEEDED_VALUES=-10000`

EXPIRED_WALLET (ID of expired wallet)

Description: If the balance has expired due to a wallet expiry, then this field will contain the ID of the account's wallet if configured to do so.

Format: Integer

Version: CCS 3.0.0

Notes: This is an internal wallet reference only (ccs_acct.BE_ACCT_ID or be_wallet.ID).

Example:

EXPIRY_DATE (for a credit card)

Description: The date when the credit card expires, and that is specified on the credit card.

Format: String

Version: NCC 5.0.2

Notes: The expiry date has the following format, *MMYY*.

Example: `EXPIRY_DATE=0814`

FCA (final call address)

Description: The final called address (FCA) for this call

Format: String

Version: CCS 3.1.0

Notes: This information is provided when the call info record is received from the switch through the UATB node.

Example: `FCA=01473254338`

FAILED_BALANCE_NAMES

Description: The names that correspond to the IDs in the FAILED_BALANCE_TYPES field.

Format: String

Version:

Notes:

Example: `FAILED_BALANCE_NAMES=Roam Zone 3 MB`

FAILED_BALANCE_TYPES

Description: The balance type that failed to recharge.

Format: Integer

Version:

Notes: If the recharge exceed the maximum value configured for any of the balance types, it will result in failure and the balance will not be updated or recharged.

The balance types causing the failure will be recorded in the FAILED_BALANCE_TYPES.

Example: FAILED_BALANCE_TYPES=1103

FREE_TEXT_FIELD_1 (voucher details)

Description: Field for capturing business process information.
Format: String
Version: 12.0.1
Notes: You can use a maximum of 50 characters.
Example: FREE_TEXT_FIELD_1=Freetext1

FREE_TEXT_FIELD_2 (voucher details)

Description: Field for capturing business process information.
Format: String
Version: 12.0.1
Notes: You can use a maximum of 50 characters.
Example: FREE_TEXT_FIELD_1=Freetext2

FREE_TEXT_FIELD_3 (voucher details)

Description: Field for capturing business process information.
Format: String
Version: 12.0.1
Notes: You can use a maximum of 50 characters.
Example: FREE_TEXT_FIELD_1=Freetext2

HOST (initiating credit transfer)

Description: Name of the host that initiated the credit transfer.
Format: String
Version: CCS 3.0.1
Notes:
Example:

IGNORE_BARRED (ignore numbers in call barring list)

Description: Flag to determine whether or not to ignore the numbers specified in the call barring list.
Format: Integer
Version: CCS 3.0.0
Notes:
Example:

LENGTHS (rate durations)

Description: A list of rate durations (in seconds) that exist for this call. This field is determined by the tariff associated with this call and is not fixed for a specific account.
Format: Float (two decimal places)
Version: CCS 3.1.0
Notes: Every duration will have an associated rate (in small currency) as specified by the RATES field for the EDR record.

Example: LENGTHS=2810.00

LENGTHS=60.00,60.00,90.00,0.00

LENGTHS (rate durations) -1end duration

Description: A list of rate durations (in seconds) that exist for this call. This field is determined by the tariff associated with this call and is not fixed for a specific account.

A LENGTHS tag value of -1 will be used for the final rate duration of the call. This means that this rate duration is undefined and the rate will be used for the remainder of the call.

If a call uses a rate with a single charge period, then this will be shown in the EDR as LENGTHS=-1.

Format: Float (two decimal places)

Version: CCS 3.1.4

Notes: Every duration will have an associated rate (in small currency) as specified by the RATES field for the EDR record.

Example: LENGTHS=-1

LENGTHS=60.00,60.00,90.00,-1

LENGTHS (rate durations) - mid call rate change

Description: A list of rate durations (in seconds) that exist for this call. This field is determined by the tariff associated with this call and is not fixed for a specific account.

A LENGTHS tag value of -1 will be used for the final rate duration of the call. This means that this rate duration is undefined and the rate will be used for the remainder of the call.

If a call uses a rate with a single charge period, then this will be shown in the EDR as LENGTHS=-1.

For calls with mid call rate changes, the lengths will be broken down by tariff plan ID and time stamp for each rate change. The tariff plan ID, time stamp and lengths are colon separated.

Format: Float (two decimal places)

Version: CCS 3.1.4

Notes: Every duration will have an associated rate (in small currency) as specified by the RATES field for the EDR record.

Example: Single call rate:

LENGTHS=-1

Mid call rate change:

LENGTHS=Trff Plan ID1:<TimeStamp>:120,-1;Trff Plan ID2:<TimeStamp>:120,-1

LOCADD (additional configuration prefixes)

Description: The CLI field with additional configuration prefixes added.

Format: String

Version: CCS 3.0.0

Notes:

Example: LOCADD=E771231473289900

MAX_CHARGE (for this call)

Description: The maximum charge for this call.

Format: Integer

Version: CCS 3.0.0

Notes: This value will be taken from either the maximum charge for the tariff associated with this call or if a discount (holiday or weekly) is applied, then the maximum charge for the associated discount.

Example:
```
MAX_CHARGE=500
```

MAX_CHARGE (for this call) - mid call rate change

Description: The maximum charge for this call.

For calls with mid call rate changes, the maximum charge will also be broken down by tariff plan ID and time stamp for the start of each rate change. The tariff plan ID, time stamp and maximum charge are colon separated.

Format: Integer

Version: CCS 3.1.4

Notes: This value will be taken from either the maximum charge for the tariff associated with this call or if a discount (holiday or weekly) is applied, then the maximum charge for the associated discount.

Example: Single call rate:

```
MAX_CHARGE=500
```

Mid call rate change:

```
MAX_CHARGE=Tariff Plan ID1:Time Stamp:100;Tariff Plan
ID2:Time Stamp:100
```

MAX_CONCURRENT (maximum concurrent accesses allowed)

Description: The number of maximum concurrent accesses allowed for this account.

Format: Integer

Version: CCS 3.0.0

Notes:

Example:
```
MAX_CONCURRENT=1
```

MFILE (name)

Description: The date/time stamp MFile file name that the rating information for the call is within.

Format: String

Version:

Notes:

Example:
```
MFILE=20100602203530
```

MID_SESSION

Description: This tag is added to indicate a partial, mid call produced EDR.

Format: String

Version: CCS 3.1.7.2

Notes: Only ever added when true, for false (or the final complete EDR) the tag is omitted.

Partial EDRs may be created when the commit volume threshold (**Rating Management > Reservation Config > Add/Edit Reservation Config** panel) is enabled.

Example: `MID_SESSION=TRUE`

MSISDN (account calling number)

Description: The calling line identifier (calling number) of the account that changed during the call's processing.

Format: String

Version: CCS 2.3.3

Notes:

- When the ccsCDRLoader plugin is installed on the SMS, this tag will be present.
- Value is taken from ccs_acct_reference.CLI.
- EDR records associated with each wallet expiry contain the MSISDN and product types of all affected subscribers.

Example 1: Standard format:

`MSISDN=1394111111`

Example 2: Wallet expiry format:

A user may have a mobile and a data card - each with its own SIM. The mobile and data cards are each represented as subscriber records, but they share a single wallet.

If the:

- MSISDN of the mobile card is 01234 and of the data card is 01235
- product types are 1 (mobile card - Prepaid Voice) and 2 (data card - Prepaid Data),

then the expiry EDR would contain the following fields:

`MSISDN=01234,01235`

`Account_Type=1,2`

MSISDN (subscriber ids)

Description: The calling line identifier (calling number) for each subscriber who is authorized to use the credit card.

Format: String

Version: NCC 5.0.2

Notes:

Example: `MSISDN=1394111111,1395111111`

NACK (freeform recharge list)

Description: The internal failure reason code for the failed call.

Format: String

Version: CCS 3.0.0

Notes: Valid failure codes are:

BDVR	Bad recharge attempt (duplicate or invalid balance type, no expiration, or cannot recharge terminated wallet)
NRCH	Balance not chargeable (single use wallet)
SNIL	State not in list (when wallet state is invalid)
WDIS	Wallet's current state is not valid. Wallet will be in one of the following states - 'F' (Frozen), 'T' (Terminated) or 'S' (Suspended)

Example: `NACK=WDIS`

NACK (long list of codes)

Description: The internal failure reason code for the failed call.

Format: String

Version: CCS 3.0.0

Notes: Valid failure codes are:

INSF	Insufficient funds
CRIS	Calling and/or called number restricted
NACC	No account type entry defined for this tariff
NGEO	No geography set defined for this tariff
NRAT	No rate information defined for this tariff
NBIL	No billing periods defined for this tariff
NCAS	No balance type cascade defined for this tariff
NTAR	No tariff plan selector defined for this tariff
MAXL	The maximum length defined for this account has been exceeded
WDIS	Wallet's current state is not valid. Wallet will be in one of the following states - 'F' (Frozen), 'T' (Terminated) or 'S' (Suspended)
TMNY	The maximum number of concurrent accesses allowed defined for this account has been exceeded

Example:

NACK (short list of codes)

Description: The internal failure reason code for the failed call.

Format: String

Version: CCS 3.0.0

Notes: Valid failure codes are:

INSF	Insufficient funds.
NENA	Named event not allowed. No row in CCS_PRODUCT_CATALOGUE or CCS_PRODUCT_CATALOGUE_EVENTS for requested ProductType/EventClass/EventName.
NBTY	No balance type.
WDIS	Wallet's current state is not valid. Wallet will be in one of the following states - 'F' (Frozen), 'T' (Terminated) or 'S' (Suspended).
TMNY	The maximum number of concurrent accesses defined for this account has been exceeded.

Example: `NACK=INSF`

NAME_ON_CARD (for a credit card)

Description: The name of the credit card holder as it appears on the card.

Format: String

Version: NCC 5.0.2

Notes:

Example: `NAME_ON_CARD=TOM SMITH`

NEW_ACCOUNT (ID of account type)

Description: The ID of the account type (product type) for this account after a product type swap.

Format: Integer

Version: CCS 3.0.0

Notes:

Example:

NEW_ACCT_EXPIRY (date after account deleted)

Description: The expiry date for the account after the update.

Format: Date

Version: CCS 3.0.0

Notes: This will always be '0' indicating no expiry.

Example: `NEW_ACCT_EXPIRY=0`

NEW_ACCT_EXPIRY (date after update)

Description: The expiry date for the account after the update.

Format: Date (*yyyymmddhhmmss* format)

Version: CCS 3.0.0

Notes: '0' or blank indicates that the expiry date for the account is not set - it will never expire.

Example: `NEW_ACCT_EXPIRY=0`

NEW_ACCT_EXPIRY (date after recharge)

Description: The current wallet expiry date after a successful voucher recharge.
Format: Date (*yyyymmddhhmmss* format)
Version: CCS 3.0.0
Notes:
Example: `NEW_ACCT_EXPIRY=20071206080259`

NEW_ACCT_STATE (always active - A)

Description: The account state after the call.
Format: String
Version: CCS 3.0.0
Notes: This value will always be ‘A’ (Active) for this EDR record.
Example: `NEW_ACCT_STATE=A`

NEW_ACCT_STATE (always frozen - F)

Description: The account state after the recharge.
Format: String
Version: CCS 3.0.0
Notes: This value will always be 'F' (Frozen).
Example: `NEW_ACCT_STATE=F`

NEW_ACCT_STATE (always preuse - P)

Description: The account state when the update has completed.
Format: String
Version: CCS 3.0.0
Notes: This value will always be ‘P’ (PreUse).
Example: `NEW_ACCT_STATE=P`

NEW_ACCT_STATE (always terminated - T)

Description: The account state after the recharge.
Format: String
Version: CCS 3.0.0
Notes: This value will always be 'T' (Terminated) for this EDR record.
Example: `NEW_ACCT_STATE=T`

NEW_ACCT_STATE (after update)

Description: The account state after the update.
Format: String
Version: CCS 3.0.0
Notes: Valid values are:

- 'P' (PreUse)
- 'A' (Active)
- 'D' (Dormant)
- 'F' (Frozen)
- 'S' (Suspended)
- 'T' (Terminated)

Example: NEW_ACCT_STATE=A

NEW_ACCT_TYPE (ID of account after recharge)

Description: The ID of the account type (product type) for this account following the recharge.

Format: Integer.

Version: CCS 3.0.0

Notes: This is an internal account type reference only (ccs_acct_type.ID).

Example:

NEW_ACCT_TYPE (prod type swap)

Description: The ID of the account type (product type) for this account after the product type swap.

Format: Integer

Version: CCS 3.0.0

Notes: This is an internal account type reference only (ccs_acct_type.ID).

Example:

NEW_ACTIVE_SVC (account type)

Description: New active account type.

Format: String

Version: CCS 3.0.0

Notes:

Example: NEW_ACTIVE_SVC=F

NEW_BALANCE_EXPIRIES (date after balance update)

Description: A list of the expiry dates for each balance type ID displayed in the BALANCE_TYPES field of the EDR record after the update.

Format: List of date(s) (*yyyymmddhhmmss* format)

Version: CCS 3.0.0

Notes:

- '0' indicates that the expiry date for this balance is not set - it will never expire.
- If the balance has an expiry date set then it will be displayed regardless of whether it is changed during the update.

Example: NEW_BALANCE_EXPIRIES=0

NEW_BALANCE_EXPIRIES (dates after voucher recharge)

Description: A list of the expiry dates for each balance type ID displayed in the BALANCE_TYPES field of the EDR record after the recharge.

Format: List of date(s) (*yyyymmddhhmmss* format)

Version: CCS 3.0.0

Notes:

- An empty string indicates that the expiry date for this balance is not set - it will never expire.
- If the balance has an expiry date set then it will be displayed.

Example: NEW_BALANCE_EXPIRIES=0

NEW_BARRED_LIST (of call barring numbers)

Description: Comma separated list of call barring numbers following the update.
Format: List
Version: CCS 3.0.0
Notes:
Example: `NEW_BARRED_LIST=03200000001,03200000002,03200000003,03200000004,03200000005`

NEW_CHARGE_STATE (periodic charge subscription state)

Description: The state the periodic charge subscription was changed to.
Format: String
Version: CCS 3.1.5
Notes:
Example: `NEW_CHARGE_STATE=SUBSCRIBED`

NEW_FD (friends destination number)

Description: New friends destination number.
Format: String
Version: CCS 3.0.0
Notes:
Example: `NEW_FD=22`

NEW_FF (list of friends and family numbers)

Description: New list of friends and family numbers.
Format: List
Version: CCS 3.0.0
Notes:
Example: `NEW_FF=488122346,777777776`

NEW_LAST_USE (date last used)

Description: The date of last use.
Format: Date (*yyyymmddhhmmss* format)
Version: CCS 3.0.0
Notes:
Example: `NEW_LAST_USE=0`

NEW_WLC_PERIOD (after update)

Description: Identifies the new period in the wallet life cycle.
Format: Integer
Version: CCS 3.1.9
Notes:
Example: `NEW_WLC_PERIOD=2`

NEW_WLC_PLAN (Id)

Description: The internal ID of the new wallet life cycle plan.
Format: Integer

Version: CCS 3.1.9
Notes:
Example: NEW_WLC_PLAN=2

NUMBER (voucher number)

Description: Indicates the voucher number.
Format: String
Version: NCC 6.0.1
Notes:
Example: NUMBER=00000250

OGEO_ID (originating geo node id)

Description: The voice call originating geographic node ID.
Format: Integer
Version: CCS 3.1.8
Notes:
Example: OGEO=13

OLD_ACCOUNT (ID of account type)

Description: The ID of the account type (product type) for this account prior to a product type swap.
Format: Integer
Version: CCS 3.0.0
Notes:
Example:

OLD_ACCT_EXPIRY (dates before update)

Description: The expiry date for the account prior to the update.
Format: Date (*yyyymmddhhmmss* format)
Version: CCS 3.0.0
Notes: '0' indicates that the expiry date for the account was not set - it would have never expired.
Example: OLD_ACCT_EXPIRY=20080901185959

OLD_ACCT_EXPIRY (date before recharge)

Description: The wallet expiry date before a successful voucher recharge.
Format: Date (*yyyymmddhhmmss* format)
Version: CCS 3.0.0
Notes: '0' indicates that the expiry date for the account was not set - it would have never expired.
Example: OLD_ACCT_EXPIRY=20070904083550

OLD_ACCT_STATE (always active - A)

Description: The account state prior to the recharge.
Format: String

Version: CCS 3.0.0
Notes: This value will always be 'A' (Active).
Example: `OLD_ACCT_STATE=A`

OLD_ACCT_STATE (before update)

Description: The account state prior to the update.
Format: String
Version: CCS 3.0.0
Notes: Valid values are:
- 'P' (PreUse)
- 'D' (Dormant)
- 'F' (Frozen)
- 'S' (Suspended)
- 'T' (Terminated)

Example: `OLD_ACCT_STATE=P`

OLD_ACCT_STATE (pre-call)

Description: The account state prior to the call.
Format: String
Version: CCS 3.0.0
Notes: Valid values are:
- P (PreUse)
- D (Dormant)

Example: `OLD_ACCT_STATE=D`

OLD_ACCT_STATE (P or D before update)

Description: The account state prior to the update.
Format: String
Version: CCS 3.0.0
Notes: Valid values are:
- 'P' (PreUse)
- 'D' (Dormant)

Example: `OLD_ACCT_STATE=P`

OLD_ACCT_TYPE (ID of account before recharge)

Description: The ID of the account type (product type) for this account prior to the recharge.
Format: Integer.
Version: CCS 3.0.0
Notes:
Example:

OLD_ACCT_TYPE (prod type swap)

Description: The ID of the account type (product type) for this account prior to the product type swap.
Format: Integer.
Version: CCS 3.0.0

Notes:

Example:

OLD_ACTIVE_SVC (account type)

Description: Old active account type.

Format: String

Version: CCS 3.0.0

Notes:

Example: OLD_ACTIVE_SVC=D

OLD_BALANCE_EXPIRIES (dates before balance update)

Description: A list of the expiry dates for each balance type ID displayed in the BALANCE_TYPES field of the EDR record prior to the update.

Format: List of date(s) (*yyyymmddhhmmss* format)

Version: CCS 3.0.0

Notes:

- An empty string indicates that the expiry date for this balance is not set - it will never expire.
- If the balance has an expiry date set then it will be displayed regardless of whether it is changed during the update.

Example: OLD_BALANCE_EXPIRIES=0

OLD_BALANCE_EXPIRIES (dates before voucher recharge)

Description: A list of the expiry dates for each balance type ID displayed in the BALANCE_TYPES field of the EDR record prior to the recharge.

Format: list of date(s) (*yyyymmddhhmmss* format)

Version: CCS 3.0.0

Notes:

- '0' indicates that the expiry date for this balance is not set - it will never expire.
- If the balance has an expiry date set then it will be displayed.

Example: OLD_BALANCE_EXPIRIES=0

OLD_BARRED_LIST (of call barring numbers)

Description: The list of call barring numbers prior to the update.

Format: List

Version: CCS 3.0.0

Notes:

Example: OLD_BARRED_LIST=

OLD_CHARGE_EXPIRY (periodic charge expiry date changes)

Description: The expiry date for the periodic charge before it changed.

Format: Date (*yyyymmddhhmmss* format)

Version: CCS 3.1.9

Notes:

Example: OLD_CHARGE_EXPIRY=20101222221708

OLD_CHARGE_STATE (periodic charge subscription state)

Description: The state the periodic charge was in before it was changed.
Format: String
Version: CCS 3.1.5
Notes:
Example: OLD_CHARGE_STATE=SUBSCRIBED

OLD_FD (friends destination number)

Description: Old friends destination number.
Format: String
Version: CCS 3.0.0
Notes:
Example: OLD_FD=44

OLD_FF (list of friends and family numbers)

Description: The old list of friends and family numbers.
Format: List
Version: CCS 3.0.0
Notes:
Example: OLD_FF=488122346

OLD_WLC_PERIOD (before update)

Description: The internal id of the current period in the wallet life cycle.
Format: Integer
Version: CCS 3.1.9
Notes:
Example: OLD_WLC_PERIOD=1

OLD_WLC_PLAN (Id)

Description: The internal id of the current wallet life cycle plan.
Format: Integer
Version: CCS 3.1.9
Notes:
Example: OLD_WLC_PLAN=1

OPERATOR_RELEASED (commit/revoke reservation)

Description: Indicator that the commit or revoke was done by an operator as identified by the USER tag.
Format: Integer
Version:
Notes: When present, will always be 1.
Example: OPERATOR_RELEASED=1

OVERDRAWN_AMOUNT (take Balance Negative)

Description: The negative portion of the amount charged from the last element in the cascade that the user has in their wallet.

Format: Integer

Version:

Notes: This tag is used when:

- The NSF policy is set to takeBalanceNegative
- There were not sufficient funds

The negative portion of the amount charged is the value for this tag.

Example: `OVERDRAWN_AMOUNT=1234`

OVERRIDDEN_TARIFF_PLAN (ID)

Description: The ID of the tariff plan that is being overridden for the current call through the CUG feature node, or the Tariff Plan Override node.

Format: Integer

Version: CCS 3.0.0

Notes:

Example:

PC_TYPE (periodic charge type)

Description: The type of periodic charge.

Format: String

Version: 3.1.8

Notes: The possible values are:

- SUB – Subscribe or ReSubscribe
- CHRG – Charge Alignment
- UNSUB – Unsubscribe
- TERM – Terminate

Example: `PC_TYPE=CHRG`

PI (logon name and IP address)

Description: The PI logon name and IP address of the operator that performed the recharge.

Format: String (*PIlogonNameATOperator'sIPAddress* format)

Version: CCS 3.0.0

Notes:

Example: `PI= adminAT192.168.25.106`

PORTED (name of porting carrier)

Description: The name of the carrier that ported this call.

Format: String

Version: CCS 3.0.0

Notes:

- The MNP software provides a ccsCDRLoaderPlugin on the SMS. This plug-in will determine if the call has been ported during processing.
- If so, then the CLI and TN fields will have the MNP prefix stripped and the PORTED field will be added.

Example:

PRO_RATE (periodic charge subscription)

Description: The percentage value a periodic charge subscription has been pro-rated at.

Format: Integer

Version: 3.1.8

Notes: This value is the relative percentage, where:

- 0 represents the full subscription charge.
- < 0 indicates an increased charge (period has been extended) and
- > 0 indicates a reduced charge (for less than the full period).

Example: `PRO_RATE=27`

PROVISIONING_DATE (voucher details)

Description: Date on which the voucher is created.

Format: Date (yyyymmddhhmmss format)

Version: 12.0.1

Notes:

Example: `PROVISIONING_DATE=20180313091814`

PURCHASING_ACCT_ID (purchasing wallet ID)

Description: Purchasing wallet ID.

Format: Integer

Version: CCS 3.0.1

Notes: From ccs_acct.BE_ACCT_ID.

Example:

PURCHASING_MSISDN (purchasing CLI)

Description: Purchasing CLI

Format: String

Version: CCS 3.0.1

Notes: From ccs_acct_reference.CLI

Example:

RATES (rated calls)

Description: A list of rates that exist for this call.

For multi tariff rated calls this is a comma separated list of the service ID (as listed in BALANCE_TYPES) and the list of rates for each tariff in the rate. The service ID and list of rates is colon separated.

Format: Integer(s) or Float

Version: CCS 3.1.0

Notes:

- Each rate will have an associated length (in seconds) as specified by the LENGTHS field and an associated discount (in 1/10000's of a percent) as specified by the DISCOUNTS field for the EDR record.
- This field is determined by the tariff associated with this call and is not fixed for a specific account.
- This field needs to be associated with the LENGTHS, DURATION, MAX_CHARGE and DISCOUNTS fields to determine the cost of the call.
- Float type if time rates (up to five decimal places), Integer type if currency rates

Example: Single tariff:

```
RATES=60
```

Multi tariff:

```
RATES=Service Id 1:10,20,30,30,Service ID 2:5,5,5,5
```

Time rate:

```
RATES=9.66667
```

RATES (rated calls) - mid call rate change

Description: A list of rates that exist for this call.

For multi tariff rated calls this is a comma separated list of the service ID (as listed in BALANCE_TYPES) and the list of rates for each tariff in the rate. The service ID and list of rates is colon separated.

For calls with mid call rate changes, rates will also be broken down by tariff plan ID and the time stamp for each rate change. The tariff plan ID, time stamp and rates are colon separated.

For multi tariff rated calls with mid call rate changes, then the service ID is included as well.

Format: Integer(s) or float

Version: CCS 3.1.0

Notes:

- Each rate will have an associated length (in seconds) as specified by the LENGTHS field and an associated discount (in 1/10000's of a percent) as specified by the DISCOUNTS field for the EDR record.
- This field is determined by the tariff associated with this call and is not fixed for a specific account.
- This field needs to be associated with the LENGTHS, DURATION, MAX_CHARGE and DISCOUNTS fields to determine the cost of the call.
- Float type if time rates (up to five decimal places), Integer type if currency rates

Example: Single tariff:

```
RATES=60
```

Multi tariff:

```
RATES=Service Id 1:10,20,30,30,Service ID 2:5,5,5,5
```

Time rate:

```
RATES=9.66667
```

Single tariff mid call rate change:

```
RATES=Tariff Plan ID1:Time Stamp:10,20,30;Tariff Plan
ID2:Time Stamp:10,20,30
```

Multi tariff mid call rate change:

```
RATES=Tariff Plan ID1:Time Stamp:Service
ID1:10,20,30:Service ID2:10,15,20;Tariff Plan ID2:Time
Stamp:Service ID1:10,20,30:Service ID2:10,15,20
```

REASON (change reason)

Description: The reason that is entered by the operator for updating a subscriber's financial status; for example by updating their wallet balance, or credit card details.

Format: String

Version: NCC 5.0.2

Notes: The change reason can be up to 200 characters long.

Example: `REASON="Add new credit card details"`

RECIPIENT_ACCT_ID (receiving wallet ID)

Description: Recipient wallet ID.

Format: Integer

Version: CCS 3.0.1

Notes: From ccs_acct.BE_ACCT_ID.

Example: `RECIPIENT_ACCT_ID=1021`

RECIPIENT_MSISDN (receiving CLI)

Description: The recipient CLI.

Format: String

Version: CCS 3.0.1

Notes: From ccs_acct_reference.CLI.

Example: `RECIPIENT_MSISDN=11012`

RECORD_DATE (date edr created)

Description: The date of the EDR record creation.

Format: Date (*yyyymmddhhmmss* format)

Version: CCS 2.3.3 to current

Notes:

Example: `RECORD_DATE=20040803121758`

REDEEMING_ACCT_REF (ID of account)

Description: The reference ID of the account that redeemed the voucher.

Format: Integer

Version: CCS 3.0.0

Notes: This is an internal account reference only (ccs_acct_reference.ID).

Example: `REDEEMING_ACCT_REF=61`

REDEEMING_ACCT_TYPE (name of account type)

Description: The name of the redeeming account type (product type) for this voucher recharge.

Format: String

Version: CCS 3.0.0

Notes:

Example:

REFERENCE (credit card reference, always cc)

Description: A reference string for the transaction generated by the system.

Format: String

Version: CCS 3.0.0

Notes: There will always be a 'CC' prefix on this reference to indicate the reference was created as a result of a credit card recharge through the IVR where the PI is being used to credit the account.

Example: `REFERENCE=CC040804028091`

REFERENCE (operator freeform)

Description: A freeform reference string entered by the operator who performed the recharge.

Format: String

Version: CCS 3.0.0

Notes:

Example: `REFERENCE=FreeForm Recharge`

REFERENCE (operator freeform)

Description: The reference text provided by the caller of the web service.

Format: String

Version: NCC 5.0.2

Notes:

Example: `REFERENCE=REF125`

REFERENCE (OSA Bonus)

Description: The bonus reference used in conjunction with the bonus type to determine the applicable bonus to be applied to the value when crediting the subscriber's wallet. A match will be done against the configured bonus in the database using the CCS_BONUS_TYPE.component column.

Format: String

Version: CCS 3.0.0

Notes:

Example: `REFERENCE=Osa Bonus`

REFERENCE (from pi reference)

Description: A freeform reference string taken from the PI REFERENCE field.

Format: String

Version: CCS 3.0.0

Notes: This is the reference entered by the operator that performed the recharge.

Example: `REFERENCE=PI`

REFERENCE (voucher freeform)

Description: A voucher freeform reference string entered by the operator who performed the recharge.

Format: String

Version: CCS 3.0.0

Notes:

Example: TAG=

REFERENCE (web site reference - ws)

Description: A reference string for the transaction generated by the system.

Format: String

Version: CCS 3.0.0

Notes: There will always be a 'WS' prefix on this reference to indicate the transaction was initiated by an external web interface.

Example: REFERENCE=WS040804028091

RELC (inap release cause)

Description: The INAP release cause for the call.

Format: Integer

Version: CCS 3.0.0

Notes:

Example:

RELOAD_BONUS (promotion name)

Description: The name of the promotional reload bonus being applied to this recharge.

Format: String

Version: CCS 3.0.0

Notes:

Example:

RELOAD_BONUS_AMOUNT (amount applied)

Description: The amount of the reload bonus being applied to this recharge.

Format: Integer

Version: CCS 3.0.0

Notes: The account will be credited by the original voucher value + the value of this promotional bonus.

Example:

RELOAD_BONUS_EXPIRY (date remaining bonus expires)

Description: The date when the remaining promotional reload bonus amount will expire.

Format: Date

Version: CCS 3.0.0

Notes: '0' indicates that the expiry date for this reload bonus is not set - it will never expire.

Example:

RELOAD_BONUS_LEFT (bonus amount remaining)

Description: The amount remaining in the promotional reload bonus balance for this account after the recharge.

Format: Integer

Version: CCS 3.0.0

Notes:

Example:

REMAINING_CHARGE (partial Charge)

Description: The amount unable to be charged from the last element in the cascade that the user has in their wallet.

Format: Integer

Version:

Notes: This tag is used when:

- The NSF policy is set to partialCharge
- There were not sufficient funds

The amount unable to be charged is the value for this tag.

Example: `REMAINING_CHARGE=1234`

RESULT (general cause)

Description: The failure reason indicating the voucher state.

Format: String

Version: CCS 3.0.0

Notes: Valid failure reasons are:

- Not Found
- Failed Auth
- Already Redeemed
- Frozen
- Batch Unavailable
- Batch Stale

Example: `RESULT=Failed Auth`

RESULT (frozen or suspended)

Description: The failure reason indicating the account state.

Format: String

Version: CCS 3.0.0

Notes: Valid failure reasons are:

- Frozen Wallet
- Suspended Wallet

Example: `RESULT=Frozen Wallet`

RESULT (pi failure)

Description: The reason that the recharge failed.

Format: String

Version: CCS 3.0.0

Notes:
Example: `RESULT=Frozen Wallet`

RESULT (voucher redemption, always Success)

Description: The result of the voucher redemption.
Format: String
Version: CCS 3.0.0
Notes: This value will always be 'Success' for the EDR record.
Example: `RESULT=Success`

RESULT (web - success)

Description: The result of the web initiated recharge.
Format: String
Version: CCS 3.0.0
Notes: This value will always be 'Success' for the EDR record.
Example: `RESULT=Success`

RETAIL_CHANNEL (voucher details)

Description: Retailer of the voucher.
Format: String
Version: 12.0.1
Notes: You can use a maximum of 50 characters.
Example: `RETAIL_CHANNEL=channel2`

REVERSE_CHARGE (generated by a reverse charge)

Description: Was this EDR generated by an reverse charge.
Format: Boolean
Version: CCS 3.1.4
Notes:
Example:

REWARD (ID)

Description: The ID of the reward applied.
Format: String
Version: CCS 3.0.0
Notes: From CCS_REWARDS.ID.
Example: `REWARD=62`

REWARD_AMOUNTS (value of reward)

Description: A comma-separated list of the value of the reward for the associated balance in REWARD_TYPES.
Format: String
Version: CCS 3.0.0
Notes: From CCS_MB_VOUCHER.VALUE.
Example: `REWARD_AMOUNTS=1,2`

REWARD_CATEGORY

Description: The value represents the reward category value assigned to the promotion in the SMS UI.

Format: String

Version:

Notes:

Example: `REWARD_CATEGORY=TRACKER_THRESHOLD`

REWARD_TYPES (balance types getting reward)

Description: A comma-separated list of one or more balance type ID's on which the reward has been applied.

Format: String

Version: CCS 3.0.0

Notes: From CCS_MB_VOUCHER.BALANCE_TYPE_ID.

Example: `REWARD_TYPES=5,2`

RNCF (Reservation Not Charged For)

Description: The difference between the total reservation and the total units consumed (Reservation Not Charged For).

Format: Integer

Version: CCS 3.1.3, CCS 3.1.7.2(2degrees), CCS 3.1.8

Notes: A TIMED_OUT tag will also be present in the EDR.

Example: `RNCF=100`

ROAMING_COUNTRY (name)

Description: The roaming country as determined from the following:

- CAMEL Originating - the country will be determined from prefix of the CLI field of this EDR record.
- Mobile Terminating - the country will be determined from the prefix of the TN field of this EDR record.
- USSD Callback - the country will be determined from the prefix of the CLI field of this EDR record.

Format: String

Version: CCS 3.0.0

Notes: The roaming country is taken from the COUNTRY field of the country_codes table using country_codes.CODE as the queried prefix.

Example: `ROAMING_COUNTRY=United Kingdom`

ROAMING_TYPE (of call)

Description: The type of roaming call.

Format: String

Version: CCS 3.0.0

Notes: The type will be one of the following:

- CAMEL Originating - the value will always be 'CAMEL'
- Mobile Terminating - the value will always be 'MT
- USSD Callback - the value will always be 'USSD'

Example: ROAMING_TYPE=MT

SCENARIO (voucher scenario number)

Description: The number of the voucher scenario for this voucher recharge.

Format: Integer

Version: CCS 3.1.4

Notes: Not reported if default scenario used.

Example: SCENARIO=3

SCP_ID (where call originated)

Description: The unique identifier for the client from where the call originated. The client will be:

- An SCP for calls
- The SMS for updates through the UI.

Format: Integer

Version: CCS 2.3.3 to current

Notes: If the EDR was generated as a result of an account or balance expiry then the SCP_ID will be zero.

Example: SCP_ID=117692813

SEQUENCE_NUMBER (call identifier)

Description: This is the unique identifier used internally within the context of the call. This sequence number will be the same across multiple EDR records if the current action results in multiple EDR records being generated, for example, a voucher recharge.

Format: Integer

Version: CCS 2.3.3 to current

Notes: If the EDR was generated as a result of an account or balance expiry, then the SEQUENCE_NUMBER will be zero.

Example: SEQUENCE_NUMBER=24477838

SERVICE_HANDLE (invoked service handle)

Description: The service handle invoked by the billing engine that should run the control plan.

Format: String

Version: CCS 3.1.7

Notes:

Example: SERVICE_HANDLE=CCS_BPL_REWARDS

SERVICE_RESPONSE (from service function)

Description: The response returned from the service function after the execution of the control plan.

Format: String

Version: CCS 3.1.7

Notes:

Example: SERVICE_RESPONSE=404 Not Found (INAP 31)

SESSION_SEQUENCE

Description: This tag is added to all partial EDR records to indicate the generation sequence.

Format: Integer

Version: CCS 3.1.7.2

Notes: The first EDR in the sequence will have a value of 0 (zero). The tag is not on the final complete EDR.

Partial EDRs may be created when the commit volume threshold (**Rating Management > Reservation Config > Add** or **Edit Reservation Config** panel) is enabled.

Example: `SESSION_SEQUENCE=1`

STATE (of recharge)

Description: The state of the recharge.

Format: String

Version: CCS 3.0.0

Notes: This value will always be 'verified' for the EDR record.

Example: `STATE=verified`

SVC_ID (single tariff rated calls)

Description: For single tariff rated calls, the service ID description for the CLI-DN.

For multi tariff rated calls this is redundant since the information is included in the multi tariff component of the relevant tags (such as COSTS), and should not appear in the EDR record.

Format: String

Version: CCS 3.1.0

Notes:

Example: `SVC_ID=ServiceA`

TARIFF_CODE (name)

Description: The name of the tariff code associated with the CLI_DN or discount, sent to the TCAP interface.

Format: String

Version: CCS 3.0.0

Notes:

Example:

TCE (ccs time call ended)

Description: Time the call ended. The time of A-party and B-party disconnect or zero if no connection was made.

Format: Date (*yyyymmddhhmmss* format)

Version: CCS 3.0.0

Notes:

Example: `TCE=20070423181510`

TCS (ccs time call started)

Description: Time the call started.

Format: Date (*yyyymmddhhmmss* format)

Version: CCS 3.0.0
Notes:
Example: `TCS=20070423181310`

TERMINAL (Network ID)

Description: Network ID of terminal using screens that generate EDRs.
Format: String
Version: CCS 3.1.0
Notes:
Example: `TERMINAL=192.168.25.108`

TEXT (voucher details)

Description: Description of the voucher.
Format: String
Version: 12.0.1
Notes: You can use a maximum of 50 characters.
Example: `TEXT=Added`

TGEO_ID (terminating geo node id)

Description: The voice call terminating geographic node ID.
Format: Integer
Version: CCS 3.1.8
Notes:
Example: TGEO_ID`=23`

TIMED_OUT (reservation confirmation)

Description: Added when a timed-out reservation confirmation event occurs.
Format: String
Version: CCS 3.1.3, CCS 3.1.7.2(2degrees), CCS 3.1.8
Notes: A RNCF tag will also be present in the EDR.
Example: `TIMED_OUT=TRUE`

TN (called number)

Description: The terminating number (called number) being called.
Format: String
Version: CCS 3.0.0
Notes:
Example: TN=01473

TN (roaming called number)

Description: The terminating number (called number) being called.
Format: String
Version: CCS 3.0.0

Notes:
- The roaming software provides a ccsCDRLoaderPlugin on the SMP. This plug-in will determine the type of roaming call.
- If a mobile termination call is determined, then the roaming prefix will be stripped from the TN field.

Example: TN=441473289900

TYPE_DESCRIPTION (voucher type)

Description: A textual description for the voucher type.
Format: String
Version: CCS 3.0.0
Notes:
Example: TYPE_DESCRIPTION=STANDARD

USER (operator logon name)

Description: The name used by the operator who performed the action to log in to the Convergent Charging Controller UI (user interface).
Format: String
Version: CCS 3.0.0
Notes:
Example: USER=SU

VOUCHER (ID of redeemed voucher)

Description: The ID of the redeemed voucher.
Format: Integer
Version: CCS 3.0.0
Notes: This is an internal voucher identifier only (ccs_voucher_reference.ID).
Example: VOUCHER=68

VOUCHER (serial number of redeemed voucher - 3.1.5)

Description: The serial number of the redeemed voucher.
Format: Integer
Version: CCS 3.1.5
Notes: This is an internal voucher identifier only (ccs_voucher_reference.serial_number).
Example: VOUCHER=6878367520

VOUCHER_BATCH (for voucher batch)

Description: The voucher batch ID.
Format: Integer
Version: CCS 3.0.0
Notes:
Example: VOUCHER_BATCH=35

VOUCHER_NUMBER (redeemed voucher)

Description: The voucher number of the redeemed voucher.
Format: String

Version: CCS 3.0.0
Notes:
Example: VOUCHER_NUMBER=0000000067

VOUCHER_TYPE (name)

Description: Voucher type name.
Format: String
Version: CCS 3.0.1
Notes: Internal reference (ccs_voucher_type.NAME)
Example:

WALLET_DELETED (always success - Y)

Description: Indicates that the wallet was deleted successfully.
Format: String
Version: CCS 3.0.0
Notes: This value will always be 'Y' for the EDR record.
Example: WALLET_DELETED=N

WALLET_TYPE (ID of wallet changed)

Description: The ID of the wallet type changed for this call.
Format: Integer
Version: CCS 3.0.0
Notes: This is an internal wallet type reference only (ccs_wallet_type.ID).
Example: WALLET_TYPE=1

WALLET_TYPE (ID of wallet recharged)

Description: The ID of the wallet that was recharged.
Format: Integer
Version: CCS 3.0.0
Notes: This is an internal wallet type reference only (ccs_wallet_type.ID).
Example: WALLET_TYPE=1

Chapter 33

SLC Generated EDRs

Overview

Introduction

This chapter explains the EDRs generated on the SLC.

In this chapter

This chapter contains the following topics.

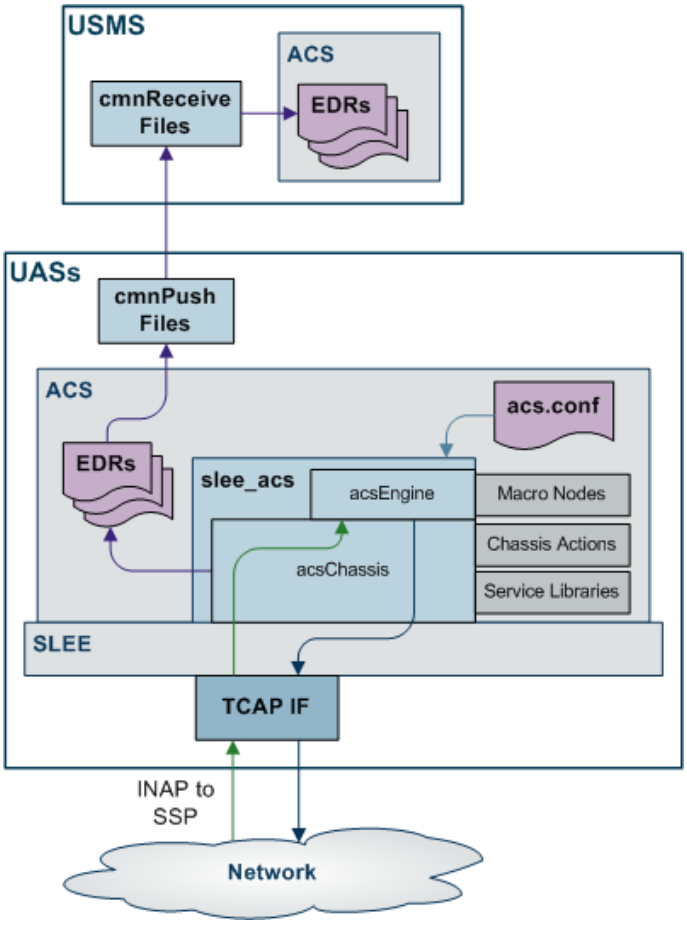
ACS EDRs

EDR generation

ACS EDRs are generated and processed by the slee_acs on each SLC and uploaded at regular intervals to the SMS using the cmnPushFiles process.

Diagram

This diagram shows the components of the ACS installation on the SLC and SMS which generate and migrate EDRs.



EDR File Names

ACS EDR file names have the following format:

machine_app_starttime_closetime_pid.cdr
where:

- *machine* is the SLC which generated the EDR.
  Note: This is added when the file is moved to the SMS.
- *app* is the application that produced the EDR
- *starttime* is the date and time that the first EDR in the file was created. The format used is: yyyymmddhh24missff1, where ff1 is the decisecond portion of the timestamp.
- *closetime* is the date and time that the last EDR in the file was created and the file closed. The format used is: yyyymmddhh24missff1, where ff1 is the decisecond portion of the timestamp.
  Note: This is present if the `CdrFileAppendCloseTime` parameter in acs.conf is set.
- *pid* is the Unix Process ID - up to 5 numeric characters.
  Note: This is present if the `CdrFileAppendPid` parameter in acs.conf is set.

Example file names

File name on SMS, with the default parameter settings (with the PID appended):

```
UAS01_ACS_200805061707_11501.cdr
```

File name on SMS, with the Close Time and PID appended:

```
UAS01_ACS_200805061707_200805061809_11501.cdr
```

EDR collection

The ACS EDRs are saved to file in the following locations on the SMS:

- **IN/service_packages/SMS/cdr/received**
- If customer configured processing is done, they may be moved to: **IN/service_packages/SMS/cdr/processed**

File format

The only file format supported by the ACS EDR API is the 'Pipe Tag LineFeed' format. This encodes data using the following format.

```
APP|Tag=Value|Tag=Value[,Value…]<LF>
```

The format has the following characteristics:

- `APP` is the name of service which created the EDR.
- The format is entirely formed of printable ASCII characters, plus the LF character (Unix style newline '\n') as a terminator.
- Special characters are:
  - '|' - The pipe character is used to separate fields
  - '=' - The equals character is used to separate Tag and Value
  - ',' - The comma character is used with fields which allow multiple values for a single tag
- Maximum record length is 256 characters (255 + LF)
- The file may contain zero or more records. There is no specified limit to the number of records in any given file, however the maximum file:
  - size is specified in the CdrFileMaxSize parameter, and
  - age in the CdrFileMaxAge parameter

  in acs.conf.
- There must be at least one tag in each record.
- The order of tags is not significant and may change, possibly within a single file.
- The presence of any particular tag is not guaranteed.
- There is no dependency of tags (for example: the presence of any specific tag does not guarantee the presence of any related tags).

Example slee_acs EDRs

Example 1

Unsuccessful voice call.

```
ACS|CID=135883|OA=0|OTI=0|CUST=1|SN=81822222|TN=81822222|CGN=81811111|CLI=81811111|S
K=111|TCS=20080506050720|LPN=|LAC=|CS=3|CPC=10|CC=|CPNI=0|PCNA=|TPNI=0|PTNA=|CGNA=|T
GNA=|TFN=ST-1,SDTN-2,UTTP-4,END-
3|LGID=0|CPN=81822222|OCPI=|CPNN=3|CGNN=3|CPPI=1|NOAT=0|CBAT=0|FATS=0|CCTS=200805060
50721|HTS=20080506050721|AIDL=
```

Example 2:

Successful national call from CCS on a SLC.

```
CCS|CID=487291|OA=0|OTI=0|CUST=1|SN=123456789|TN=|CGN=7|CLI=123456789|SK=1|TCS=20060
701173254|LPN=|LAC=|CS=1|CPC=10|CC=|CPNI=0|PCNA=|TPNI=0|PTNA=|CGNA=|TGNA=|TFN=ST-
1,uatb-4,DISC-5,END-
3|LGID=0|CPN=|OCPI=|CPNN=3|CGNN=3|CPPI=1|NOAT=0|CBAT=0|FATS=0|CCTS=0|HTS=0|AIDL=|WAL
R=
```

Example 3:

Voice MO call.

```
VOICE_MO|CID=135883|OA=0|OTI=0|CUST=1|SN=9393009|TN=9393009|CGN=93933301|CLI=6421939
340|SK=2|TCS=20080506050226|TCE=20080506050327|LPN=|LAC=|CS=4|CPC=10|CC=|CPNI=0|PCNA
=|TPNI=0|PTNA=|CGNA=|TGNA=|TFN=ST-1.0,DDS-68.01,STTP-18.013,CCDR-19.0,CCDR-
20.0,uatb-2.01111111,STC-59.01,END-
3.0|LGID=0|CPN=VOICE_MO|CAET=0|CCET=60.0|OCPI=|CPNN=3|CGNN=3|CPPI=1|NOAT=1|CBAT=0|FA
TS=0|CCTS=20080506050227|HTS=20080506050227|AIDL=|ANS_TM=20080506050127|BEARER_TYPE=
24|FCA=9393009|LOC_NUM=502180100004465|NT=6|RDPN=21939340|RDPNN=6421939340|RDRES=2|S
C=1300|SST=1|EXT9=12345678
```

ACS EDR tags

The following list details the tag values of EDRs created by the ACS service, the type and length of data required, and a description of the value.

AIDL (played announcement ID list)

Description: Played Announcement ID List, sequence of ACS_ANNOUNCEMENT_ENTRY.ID

This is a comma list of all of the elementary message IDs played during the call in sequence, either as a result of an:

- INAP PlayAnnouncement, or
- INAP PromptAndCollectUserInformation

operation.

Format: comma sequence of unsigned 32-bit integer

Version: ACS 2.3.3 to current

Notes: 1) Enabled by CdrExtraFields acs.conf flag.

2) If the DigitsInAnnouncementList acs.conf flag is set to true, each elementary message ID has the following added immediately after the ID value. If this was:

- a successful PlayAnnouncement or is not the last elementary message ID in the announcement, then nothing.
- PlayAnnouncement, during which the caller abandoned, then "Z"
- a successful PromptAndCollectUserInformation, then "^<*digits collected*>", for example, "^12345678"
- PromptAndCollectUserInformation, for which an improper caller response error, or timeout, was received, then "^X"
- PromptAndCollectUserInformation, during which the caller abandoned, then "^Z"

3) The announcements that match the ids can be seen via the **ACS > Configuration > Announcements Tab > Edit** screens, the column heading **ResourceID** are the numbers referred to in the AIDL list.

Examples: off - `AIDL=10,20,30,40`
on - `AIDL=10,20^X,20^12345678,30Z`

BCOR (balance cascade override)

Description: Indicates a balance cascade override was used instead of the original balance cascade.

Format: Integer

Version: ACS 2.4.2

Notes: Used by FOX and DCD InitialTimeReservation and DirectTimeCharge.

Example: `BCOR=257`

BFT (billing failure treatment)

Description: Indicates that Billing Failure Treatment has been used for the call. The value is the total amount of time reserved (including that withheld), before BFT occurred.

Format: Integer

Version: ACS 2.4.2

Notes:
- This is set by the UATB node.
- For a system failure on initial reservation this will be 0.

Example: `BFT=3000`

CA (called address)

Description: Called Address
Called address from the CallInformationReport INAP operation.

Format: This is a string of digits, 0-32 chars.
Valid value are:
0-9A-F*#

Version: ACS 2.3.3 to current

Notes: Enabled by SendCIR acs.conf flag.

Example: `CA=9393009`

CAET (call attempt elapsed time)

Description: Call Attempt Elapsed Time

Format: Integer

Version: ACS 2.4.2 to current

Notes: Seconds to the nearest second.
If elapsedTimesFromApplyChargingReport flag is set to '1' then it is from the Apply Charging Report.

Example: `CAET=20`

CBAT (connected by attempt termination)

Description: Call was connected by attempt termination, was the Connect operation sent along with a RequestReportBCSM to arm for busy, etc.

Format: Integer

Version: ACS 2.3.3 to current

Notes: 1 for true, 0 for false.

Example: `CBAT=0`

CC (carrier code)

Description: Carrier Code

Format: 0-9A-F*#
(0-32 chars)

Version: ACS 2.3.3 to current

Notes: The digits of the carrier code as given in the Set Carrier Code feature node.

Example: CC=

CCET (call connect elapsed time)

Description: Call Connect Elapsed Time.

Format: Seconds to the nearest tenth of a second as a decimal number with one decimal place.

Version: ACS 2.3.3 to current

Notes: If elapsedTimesFromApplyChargingReport flag is set to '1' then it is from the Apply Charging Report.

Example: CCET=121.3 for 121.3 seconds.

CCTS (call connect timestamp)

Description: Call Connect Timestamp
The time the Connect operation was sent to the SSP.

Format: Date - YYYYMMDDHHMMSSS

Version: ACS 2.3.3 to current

Notes:

Example: CCTS=20080413221947

CGN (calling network number)

Description: The normalised digits of the Calling Network Number. The caller's network address as determined by the Chassis. This is derived from one of the parameters of the Initial DP according to the config options on the service line of the acs.conf file.

Format: 0-9A-F*#
(0-32 chars)

Version: ACS 2.3.3 to current

Notes: From IDP

Example: CGN=93933301

CGNA (global calling network address)

Description: Global Calling Network Address, as stored in VPN_STATION.GVNS_ADDRESS

Format: 0-9A-F*#
(0-32 chars)

Version: ACS 2.3.3 to current

Notes: VPN only. If VPN is not installed, value is blank.

Example: CGNA=

CGNN (calling party nature of number)

Description: Calling Party ID Nature of Number

Format: Integer - 0..255

Version: ACS 2.3.3 to current

Notes: The nature of address of the number using the standard ITU-T notation i.e.

1 = subscriber
2 = unknown
3 = national
4 = international

Example: CGNN=3

CID (slee call ID)

Description: The slee call ID
Unique SLEE identifier assigned to the current call.
Format: Unsigned 32 bit integer
Version: ACS 2.3.3 to current
Notes:
Example: `CID=135883`

CLI (calling logical number)

Description: Calling Line Identifier.
The caller's network address as determined by the Chassis. More accurately, the calling logical number. This is derived from one of the parameters of the Initial DP according to the config options on the service line of the acs.conf file.
Format: 0-9A-F*#
(0-32 chars)
Version: ACS 2.3.3 to current
Notes: From IDP. May match CGN
Example: `CLI=6421939340`

CPC (calling party category)

Description: Incoming Calling Party Category.
Format: Integer 0..255
Version: ACS 2.3.3 to current
Notes: From IDP
Example: `CPC=10`

CPN (control plan name)

Description: Control Plan Name
The name of the last ACS Control Plan to be executed for this call.
Format: String, 0-50 chars
Version: ACS 2.3.3 to current
Notes:
Example: `CPN=VOICE_MO`

CPNI (calling private network ID)

Description: Calling Private Network ID
This is the database ID of the VPN network from which the call originated.
Format: Unsigned 32-bit integer
Version: ACS 2.3.3 to current
Notes: This is only relevant when using the Convergent Charging Controller VPN product. Otherwise, it is set to 0.
Example: `CPNI=0`

CPNN (called party nature of number)

Description: Called Party Nature of Number.
This is the nature of address of the called party number, which is derived from one of the parameters of the Initial DP in the same way as calling logical number and calling network number. In practice, it will be derived from the called party number field of the Initial DP as there are no suitable alternative fields.

Format: Integer 0..255

Version: ACS 2.3.3 to current

Notes: The number itself is held in the EDR as "SN".

Example: `CPNN=3`

CPPI (calling party presentation restriced indicator)

Description: Calling Party Presentation restricted Indicator
("|CPPI=0|"appears in the EDR.) When it is, it will indicate whether the calling logical number may be presented to subscribers.

- 1 means no (restricted)
- 0 means yes (not restricted).

Format: Integer 0..255

Version: ACS 2.3.3 to current

Notes: Future Field

Example: `CPPI=1`

CS (acs connect status)

Description: Connect Status.
Whether AACS 2.4.2CS tried to connect the call and if so, what happened to it.

Format: Integer 0 to 12

Version: ACS 2.3.3 to current

Notes: Statuses include:

- 0 Connect status not recorded.
- 1 ACS sent a ReleaseCall operation.
- 2 ACS sent a Continue operation (or a Connect operation with destination routing address (DRA) set to the called party number in the IDP in certain circumstances. See the ACS Technical guide.) What happened to the call after the operation was sent is not recorded.
- 3 ACS attempted to connect the call. What happened to the call after the operation was sent is not recorded.
- 4 ACS attempted to connect the call and the call was answered.
- 5 ACS attempted to connect the call but the called party was busy.
- 6 ACS attempted to connect the call but hit route select failure.
- 7 ACS attempted to connect the call but the no answer timeout expired.
- 8 ACS attempted to connect the call but either the caller abandoned before answer or a TC abort was received. (TC abort is unlikely.)
- 9 ACS got to an END node but there had been a service handover and so, rather than disconnecting the call. It is awaiting an event report for mid call. Only relevant with the VPN product.
- 10 ACS sent a Continue operation. What happened to the call after the operation was sent is not recorded.
- 11 ACS received a TCAP Abort, unknown status.
- 12 ACS received a release by SSP on credit expiry.

Example: CS=4

CUST (customer database ID)

Description: ACS Customer Database ID (From the ACS_CUSTOMER table).

Format: Unsigned 32-bit integer.

Version: ACS 2.3.3 to current

Notes: The customer is the one who "owns" the call. The meaning of "own" is service specific. For example, with the ACS service it is the customer who owns the called number or the calling number record that triggered the Control Plan.

Example: CUST=1

DISC (discount override)

Description: Identifies the discount percentage override used instead of the original (if any) discount that was to be applied.

Format: Integer

Version: ACS 2.4.2

Notes:
- May be a comma separated list of discount values.
- Used by FOX and DCD InitialTimeReservation and DirectTimeCharge.

Example: DISC=15

EXT(0-9) (extension buffer contents)

Description: There are 10 extension digits buffers in ACS numbered 0 to 9. These can be populated via, for example, decoding extensions from the Initial DP.

Whenever a EDR is logged, the values of all the non-empty extension digits buffers will be put in the EDR.

Format: Integer

Version: ACS 2.4.0 to current

Notes:

Example: If extension buffer 0 contains 12345678 and extension buffer 5 contains 222 you will get:
EXT0=12345678|EXT1=222|

FATS (first announcement timestamp)

Description: First Announcement Timestamp
The time the first PlayAnnouncement or PromptAndCollectUserInformation operation was sent to the SSP for this call.

Format: Date (yyyymmddhhmmsss format)

Version: ACS 2.3.3 to current

Notes:

Example: FATS=0

HTS (hunting timestamp)

Description: Hunting time stamp.
The time the first Connect operation was sent for this call.

N.B. Not necessarily the 1st Connect for this hunt group.

Format: Date (yyyymmddhhmmsss format)

Version: ACS 2.3.3 to current

Notes:

Example: HTS=20080413221947

LAC (last account code used)

Description: Last Account Code
Digits of the last account code used in this call. Most recent Account Code entered during the service logic.

Format: 0-9A-F*#
(0-32 chars)

Version: ACS 2.3.3 to current

Notes: See AC node

Example: LAC=

LGID (language ID)

Description: Language ID
From first match in loaded profile
The ACS database ID of the language used for announcements etc. From the ACS_LANGUAGE table.

Format: Unsigned 32-bit integer.

Version: ACS 2.3.3 to current

Notes:

Example: LGID=0

LPN (most recent pin entered)

Description: Last PIN Number.
Most recent PIN entered during the service logic. The digits of the last PIN collected by a PIN authorisation node for this call.

Format: 0-9A-F*#
(0-32 chars)

Version: ACS 2.3.3 to current

Notes: See PIN authorisation node.

Example: LPN=

MCOR (maximum charge override)

Description: Indicates a maximum charge override was used instead of the original (if any) maximum charge that was to be applied.

Format: Integer

Version: ACS 2.4.2

Notes:
- If no maximum charge override has been used, the value is -1.
- Used by FOX and DCD InitialTimeReservation and DirectTimeCharge.

Example: MCOR=-1

NOAT (number of attempt terminations)

Description: Number of Attempt Terminations
The number of times an attempt termination type node has been encountered for this call, that is, the number of times a Connect operation has been sent with busy, RSF and similar, EDPs armed.

Format: Integer 0..255

Version: ACS 2.3.3 to current

Notes:

Example: `NOAT=1`

NT (network type)

Description: Network type (determined from Service Key).

Format: Integer

Version: ACS 2.4.0 to current

Notes:
- 0 = Unspecified
- 1 = CDMA
- 2 = TDMA

Example: `NT=0`

OA (sccp originating address)

Description: The SCCP Originating Address where the TCAP messages are coming from.

Format: Integer

Version: ACS 2.4.2

Notes: This would be 0 if you haven't included it in your test tool (slpit) script.

Example: `OA=0`

OCPI (original called party)

Description: Original Called Party
The digits of the original called party ID form the Initial DP.

Format: 0-9A-F*# (0-32 chars)

Version: ACS 2.3.3 to current

Notes: From IDP

Example: `OCPI=`

OTI (originating transaction ID)

Description: Originating Transaction ID
TCAP transaction ID for invoking Internal DP.

Format: Integer

Version: ACS 2.3.3 to current

Notes:

Example: `OTI=0`

PCNA (calling private network address)

Description: Calling Private Network Address.
The VPN address of the calling station.

Format: 0-9A-F*#
(0-32 chars

Version: ACS 2.3.3 to current

Notes: VPN only. If VPN is not installed, value is blank.

Example: `PCNA=`

PTNA (private terminating network address)

Description: Private Terminating Network Address.
The VPN address of the terminating station.

Format: 0-9A-F*#
(0-32 chars)

Version: ACS 2.3.3 to current

Notes: VPN only. If VPN is not installed, value is blank.

Example: `PTNA=`

RELC (acs release cause)

Description: Release Cause.
The decimal value of the release cause, either from the CallInformationReport or from the ReleaseCall operation sent by ACS (as appropriate). For the coding of release causes, see ITU_T recommendation Q.850.

Format: Integer 0..255

Version: ACS 2.3.3 to current

Notes: Enabled by SendCIR acs.conf flag.

Example: `RELC=31`

SK (service key)

Description: Service Key
Numeric service key invoking service. The decimal value of the INAP service key from the Initial DP operation.

Format: Unsigned 32-bit integer.

Version: ACS 2.3.3 to current

Notes: From IDP

Example: `SK=1000`

SN (service number)

Description: Service (original called) Number
The called party number. Called number which invoked the service (for example, 1-800…). See notes for *CPNN* (on page 206).

Format: 0-9A-F*#
(0-32 chars)

Version: ACS 2.3.3 to current

Notes:

Example: `SN=9393009`

TCE (acs time call ended)

Description: Time Call End

Format: Date

Version: ACS 2.3.3 to current

Notes: If elapsedTimesFromApplyChargingReport flag is set to '1' then it is from the Apply Charging Report.

Example: `TCE=20080413222047`

TCS (acs time call started)

Description: Time Call Start
The start time of the call.

Format: Date

Version: ACS 2.3.3 to current

Notes:

Example: `TCS=20080413221947`

TFN (tracked feature node list)

Description: Tracked feature node list.

A Comma separated list of feature nodes traversed in the Control Plan.

The complete set of mnemonics is:

- {"ST", "Start"},
- {"END", "End"},
- {"UT", "Unconditional Termination"},
- {"AT", "Attempt Termination"},
- {"PLAY", "Play Announcement"},
- {"DOY", "Day of year"},
- {"DOW", "Day of week"},
- {"TOD", "Time of day"},
- {"DN", "Dialled Number"},
- {"CP", "Calling Party"},
- {"GR", "Geographic Region"},
- {"PD", "Proportional Distribution"},
- {"EV_C", "Event counting"},
- {"EV_S", "Event setting"},
- {"EV_B", "Event branching"},
- {"DISC", "Disconnect Call"},
- {"SD", "Selection dependent routing"},
- {"SHO", "Service Handover"},
- {"PINA", "PIN Authorisation"},
- {"ACE", "Account Code Entry"},
- {"CDPT", "Collect Digits to pending TN"},
- {"CDST", "Collect digits to sub tag"},
- {"CF", "Call filtering"},
- {"TPTT", "Test Pending TN Type"},
- {"SEPP", "Set Pending TN from Profile"},
- {"TOWP", "Time of week profile"},
- {"ATTP", "Attempt terminate to pending"},
- {"UTTP", "Unconditional terminate to pending"},
- {"PB", "Profile branching"},

- {"MCM", "Mid call mark"},
- {"STTP", "Store pending TN to profile"},
- {"DDS", "Dynamically driven switch"},
- {"NLT", "Number lookup and translate"},
- {"ACP", "Activate Control Plan"},
- {"ALP", "ACS Load Profile"},
- {"CPC", "Calling Party Category"},
- {"SCC", "Set carrier code"},
- {"MCJ", "Mid Call Jump"},
- {"STC", "Set Tariff code"},
- {"CPNT", "Control Plan Notes"},
- {"CONT", "Terminate Unchanged"},
- {"PAPV", "Play Variable Part Announcement"},
- {"MTCH", "Number Matching"},
- {"SSMF", "Send Short Message F"},
- {"CNPA", "Set Cut and Paste"},
- {"CUTC", "Cut Calling Number"},
- {"SDTN", "Store Digits to Pending TN"},
- {"TPTT", "Test Pending TN Type"},
- {"STPF", "Store Profile"}

Format: String. Comma sequence of type-#,type-#…

Version: ACS 2.3.3 to current

Notes: Enabled by CdrExtraFields acs.conf parameter.

Example: If CdrExtraFields is set to 1 (track traversed feature nodes and played announcements - the default):

"`TFN=ST-1,SDTN-2,UTTP-4,END-3`" for a:

- Start node (node number 1),
- Store Digits to Pending TN node (node number 2),
- Unconditional terminate to pending (node number 4) and
- End (node number 3).

If CdrExtraFields is set to 2 (include node substates):

"`TFN=ST-1.0,SDTN-2.012,UTTP-4.01,END-3.0`"

TGNA (global terminating network address)

Description: Global Terminating Network Address
VPN_STATION.GVNS_ADDRESS

Format: String, zero, up to 32 characters.

Version: ACS 2.3.3 to current

Notes:

- VPN only
- Characters 0-9A-F*#
- If VPN is not installed, value is blank.

Example: `TGNA=`

TN (acs termination number)

Description: Termination number.
The number we returned to the SSP in Connect, or empty for Disconnect/Continue. The digits of the destination routing address (DRA) in the Connect operation.

Format: String, zero, up to 32 characters.

Version: ACS 2.3.3 to current

Notes:
- From Control Plan.
- Characters 0-9A-F*#

Example: `TN=9393009`

TPNI (terminating private network ID)

Description: Terminating Private Network ID
This is the database ID of the VPN network to which the call is made.

Format: unsigned 32-bit integer.

Version: ACS 2.3.3 to current

Notes: VPN only. If VPN is not installed, value is blank.

Example: `TPNI=0`

TPO (tariff plan override)

Description: Identifies the tariff plan used to override the original tariff plan that was to be applied.

Format: Integer

Version: ACS 2.4.2

Notes: Used by FOX and DCD InitialTimeReservation and DirectTimeCharge.

Example: `TPO=667`

WALR (wallet reference)

Description: Identifies the affected wallet if the ID is available.

Format: Integer

Version: ACS 2.4.2

Notes: Used by FOX and DCD InitialTimeReservation and DirectTimeCharge.

Example: `WALR=`

DCD EDRs

EDR Generation

EDRs are generated and processed by the slee_acs on the SLC and uploaded at regular intervals to the SMS using the cmnPushFiles process.

Diameter Charging Driver (DCD) tags are appended to the EDRs generated by the Advanced Control Services application. See *Event Detail Record Reference Guide* for the full list and descriptions.

DCD EDR Tags

Here are the EDR tags produced by DCD.

DIA_RC (result code)

Description: Number indicating diameter result-code received in CCA message.

Format: Integer

Concept: Result-Code

Notes:

Example: `DIA_RC=2001`

DIA_REQ (current session message number)

Description: Sequential number, indicating message within the current session.

Format: Integer

Concept: CC-Request-Number

Notes: For Diameter event based messages, this will always be 0, and hence not recorded.

Example: `DIA_REQ=1`

DIA_SID (session id)

Description: This is a unique value identifying the Diameter session.

Format: Of the form:

DiameterIdentity;*time*;*SLEE_CallID*

Where:

- *DiameterIdentity* is that of the SLC (that is, the Origin-Host used in the CCR message)
- *time* is the time of the first request (expressed as the number of seconds since the Unix epoch time)
- *SLEE_CallID* is a unique call identifier used by the SLEE processes to track each active session

Concept: Session-ID

Notes: The values for *time* and *SLEE_CallID* are in decimal format, but they are actually sent out in hexadecimal format.

Example: `DIA_SID=scp1.oracle.com;47A228C3;15459A`

DIA_TIME (time ccr sent)

Description: The time the CCR was sent, in hundredths of second

Format: Date - "YYYY-MM-DD-HH-MM-SSSS"

Concept: Session-ID

Notes:

Example: `DIA_TIME=2008-03-27-20-41-3831`

Custom Tag Names

The `cdrTag` configuration parameter allows for an EDR to have tag names that are customer defined.

Example EDRs

Here are some example EDRs generated by DCD.

Refer to *ACS EDR Tags* for the non-DCD tags.

Example 1

Whole EDR for an InitialTimeReservation and ConfirmTimeReservation:

```
EDR:
'VOICE_MO|CID=285222|OA=0|OTI=0|CUST=1|SN=0777666444|TN=0777666444|CGN=8888887|CLI=8
888887|SK=1|TCS=20080327204138|TCE=20080327204241|LPN=|LAC=|CS=4|CPC=10|CC=|CPNI=0|P
CNA=|TPNI=0|PTNA=|CGNA=|TGNA=|TFN=ST-2,SDTN-21,uatb-3,PB-22,END-
14|LGID=0|CPN=uatbWcseBrch|CAET=3|CCET=60.0|CA=60777666555|RELC=17|OCPI=|CPNN=3|CGNN
=3|CPPI=1|NOAT=1|CBAT=0|FATS=0|CCTS=20080327204138|HTS=20080327204138|AIDL=|DIA_SID=
nzwn-test03-z2;47ec0682;45a26|DIA_REQ=0|DIA_RC=2001|DIA_TIME=2008-03-27-20-41-
3831|DIA_SID=nzwn-test03-z2;47ec0682;45a26|DIA_REQ=1|DIA_RC=2001|DIA_TIME=2008-03-
27-20-41-3847|FCA=60777666555|WALR=86'
```

Note the DCD part of the EDR. All four tags are present twice:

- The Initial Time Reservation
  `DIA_SID=nzwn-test03-z2;47ec0682;45a26|DIA_REQ=0|DIA_RC=2001|DIA_TIME=2008-03-27-20-41-3831|`
- The Termination Time Reservation
  `DIA_SID=nzwn-test03-z2;47ec0682;45a26|DIA_REQ=1|DIA_RC=2001|DIA_TIME=2008-03-27-20-41-3847|`

Example 2

Whole EDR for DirectNamedEvent:

```
EDR:
'VOICE_MO|CID=287224|OA=0|OTI=0|CUST=1|SN=0777666444|TN=|CGN=8888887|CLI=8888887|SK=
1|TCS=20080327231115|TCE=0|LPN=|LAC=|CS=1|CPC=10|CC=|CPNI=0|PCNA=|TPNI=0|PTNA=|CGNA=
|TGNA=|TFN=ST-1,bevt-2,END-
3|LGID=0|CPN=DirectDebit|CAET=0|CCET=0.0|CA=|RELC=31|OCPI=|CPNN=3|CGNN=3|CPPI=1|NOAT
=0|CBAT=0|FATS=0|CCTS=0|HTS=0|AIDL=|DIA_SID=nzwn-test03-
z2;47ec2993;461f8|DIA_RC=2001|DIA_TIME=2008-03-27-23-11-1577'
```

Note in the DCD part of the EDR that event based EDRs only need to receive DIA_SID, DIA_RC and DIA_TIME, that is, no DIA_REQ:

```
DIA_SID=nzwn-test03-z2;47ec2993;461f8|DIA_RC=2001|DIA_TIME=2008-03-27-23-11-1577'
```

Example 3

For cdrTag for MMM_TAG and ZZZ_TAG, the following would be an example of what the resulting EDR would look like.

```
CCS_BE|CID=205383|OA=0|OTI=0|CUST=1|SN=1130|TN=|CGN=0212994768|CLI=0212994768|SK=3|T
CS=20091117192600|LPN=|LAC=|CS=1|CPC=10|CC=|CPNI=0|PCNA=|TPNI=0|PTNA=|CGNA=|TGNA=|TF
N=ST-1,CCDR-8,CCDR-12,CCDR-14,bevt-2,DISC-3,END-7|LGID=0|CPN=ST-BE-
END|OCPI=|CPNN=3|CGNN=3|CPPI=1|NOAT=0|CBAT=0|FATS=0|CCTS=0|HTS=0|AIDL=|AAA_TAG=11111
|CMX_EC=CR96791|CMX_EN=BasicTest|DIA_SID=eng-host06-
z6.usp.co.nz;4b02f8c8;32247|DIA_RC=2001|DIA_TIME=2009-11-17-19-26-
0062|MMM_TAG=55555|ZZZ_TAG=777
```

SCA EDRs

EDR collection

The SCA can be configured to produce EDRs for use in post processing as required. The EDRs are saved to file in a location specified in the **sca.config**.

EDRs are saved to file in tag/value pairs, separated by "|", in the following form:

```
tag1=value1|tag2=value2
```

Field formats

Each field in an EDR is in a particular format, summarized in this table.

Format	Description
Date / Time	A time to the nearest second, in format *YYYYMMDDHHmmSS* where: • *YYYY* = year (for example, 2005) • *MM* = month (for example, 03 for March) • *DD* = day of the month (for example, 09) • *HH* = hours (for example, 13 for 1pm) • *mm* = minutes (for example, 32) • *SS* = seconds (for example, 00) **Example:** A request submitted on 16th November 2007 1 minute and 14 seconds after midnight `TIMESTAMP=20071116000114`
Integer	A decimal number. Will never exceed a 32 bit number (11 digits), but is often shorter. Leading zeros will not normally be present. **Example:** `DURATION=30`
String	String of characters. Can be any length. Should not contain the characters = or |. May include spaces. When the parameter is a string, the string consists of all the characters after the = sign up to the | separator between this parameter and the next. **Example:** `REQUEST_URI=aname@oracle.com;SLEESK=1`

Notes: Tags may not necessarily be in a fixed order, as the order of processing may vary from one call type to another.

EDR fields

Here are the SCA tags within an EDR.

CDR_TYPE (sca reason for record generation)

Description: Type of EDR (that is, where and why it was generated).
Format: Integer
Version: SCA 1.0
Notes: 1 - Call attempt
2 - Success
3 - Error
Example: `CDR_TYPE=2`

DURATION (session duration)

Description: The session duration (in seconds).
Format: Integer
Version: SCA 1.0
Notes: This tag value is only present where the CDR_TYPE is 2.
Example: `DURATION=30`

FROM (sip message from header)

Description: Contains the contents of the From header in the SIP message.
Format: String

Version: SCA 1.0
Notes:
Example: FROM=

METHOD (sip method of request)

Description: The SIP method for the request that caused the EDR to be generated.
Format: String
Version: SCA 1.0
Notes:
Example: METHOD=

REQUEST_URI (uri request content)

Description: Contains the contents of the URI request.
Format: String
Version:
Notes:
Example: REQUEST_URI=aname@oracle.com;SLEESK=1

TIMESTAMP (creation timestamp of sca edr)

Description: The date and time when the EDR was generated.
Format: Date
Version: SCA 1.0
Notes:
Example: TIMESTAMP=20071116000114

TO (sip to header content)

Description: Contains the contents of the To header in the SIP message.
Format: String
Version:
Notes:
Example: TO=

NP EDRs

Introduction

The NP Service Pack produces ACS and LCR EDRs, on the SLC, for use in post processing as required.

EDR collection

Each call processed can produce a single EDR, or multiple EDRs, depending on the type and outcome of the call. As a minimum, each call invokes either an ACS or a CCS service, producing one ACS/CCS EDR for every termination attempt.

Where Least Cost Routing (LCR) is invoked, an LCR EDR is produced for every carrier selected for termination as part of the LCR service logic, in addition to theACS/CCS EDR produced for every termination attempt. This means that the number of LCR EDRs and the number of ACS/CCS EDRs produced for the call is the same.

NP EDR files

The EDRs are saved to file in a location specified in the **cdrIF.cfg** configuration file. For details, see Configuring EDR Collection.

EDR files have the following names, depending on the EDR type.

EDR Type	File Name
ACS	ACS_*yyyymmddhhss*_*PID*.cdr
LCR	LCR_*yyyymmddhhss*_.cdr

Where:

- *yyyymmddhhss* = the date and time when the file was opened
- *PID* = the Unix process ID of the service instance that created the EDR file

Note: For the LCR EDRs, the file name is configured in the **cdrIF.cfg** and may be different to the format described in this topic.

Later the files are moved by the cmnPushFiles process from each SLC to a configurable location on the SMS. This location is specified in the **cmnPushFilesStartup.sh** script located in the **NP_SERVICE_PACK/bin** directory of each SLC.

The cdr files moved from the SLCs are prefixed with the name of their corresponding SLC, that is, **LCR**_*YYYYMMDDHHMMSS*.**cdr** from 'SLC1' will be renamed to **SLC1_LCR**_*YYYYMMDDHHMMSS*.**cdr** in the SMS.

Note: If the location directories for the EDR files are changed manually to something different from the package defaults, the new location directories will have to be manually created in the system and the process that create and move the EDR files (cmnPushFiles and cdrIF) will have to be manually restarted.

EDR fields

EDRs are saved to file in tag/value pairs, separated by "|", each record separated by a Unix newline character, in the following form:

```
APP|tag1=value1|tag2=value2|...
```

Note: The first field in the EDR is not a tag/value pair. It contains the name of the service (either ACS or CCS) that created the EDR. For more information about the format of SLC generated EDRs, see *SLC Generated EDRs* (on page 199).

For LDR EDRs, the row trailer (newline) and column separator can be configured in the **cdrIF.cfg** and may be different to the default described in this topic.

NP ACS tags

The following ACS tags are generated in the EDR.

- *AIDL (played announcement ID list)* (on page 202)
- *CA* (on page 203)
- *CAET* (on page 203)
- *CBAT* (on page 203)
- *CCET* (on page 204)

- *CCTS* (on page 204)
- *CGNA* (on page 204)
- *CGNN* (on page 204)
- *CID* (on page 205)
- CLI
- *CPC* (on page 205)
- *CPN* (on page 205)
- *CPNI* (on page 205)
- *CPNN* (on page 206)
- *CPPI* (on page 206)
- *CS* (on page 206)
- *CUST* (on page 207)
- *FATS* (on page 207)
- *HTS* (on page 207)
- *LAC* (on page 208)
- *LGID* (on page 208)
- *LPN* (on page 208) (not applicable for NP)
- *NOAT* (on page 208)
- *OA* (on page 209)
- *OCPI* (on page 209)
- *OTI* (on page 209)
- *PCNA* (on page 209) (not applicable for NP)
- *PTNA* (on page 210) (not applicable for NP)
- *RELC* (on page 210)
- *SK* (on page 210)
- *SN* (on page 210)
- *TCE* (on page 210)
- *TCS* (on page 211)
- *TFN* (on page 211)
- *TGNA* (on page 212) (not applicable for NP)
- *TN* (on page 213)
- *TPNI* (on page 213) (not applicable for NP)

Note: These are standard tags, as described in *ACS EDR tags* (on page 202).

Example ACS EDRs

Example 1

This example shows the output produced for a successful termination attempt EDR.

```
ACS|CID=61080|OA=0|OTI=0|CUST=1|SN=2125551212|TN=2125551212|
CGN=93933301|CLI=3135551212|SK=111|TCS=20051026133312|
TCE=20051026133317|LPN=|LAC=|CS=4|CPC=10|CC=|CPNI=0|PCNA=|TPNI=0|
PTNA=|CGNA=|TGNA=|TFN=ST-1,DDS-5,ATTP-6,ATTP-8,END-3|LGID=0|
CPN=atp|CAET=5|CCET=0.1|CA=2125551212|RELC=16|OCPI=|CPNN=1|
CGNN=4|CPPI=1|NOAT=2|CBAT=1|FATS=0|CCTS=20051026133312|
HTS=20051026133312|AIDL=
```

Example 2

This example shows the output produced for a failed termination attempt EDR.

```
ACS|CID=61080|OA=0|OTI=0|CUST=1|SN=2125551212|TN=2125551212|
CGN=93933301|CLI=3135551212|SK=111|TCS=20051026133312|
TCE=20051026133312|LPN=|LAC=|CS=0|CPC=10|CC=|CPNI=0|PCNA=|
TPNI=0|PTNA=|CGNA=|TGNA=|TFN=ST-1,DDS-5,ATTP-6|LGID=0|CPN=atp|
CAET=0|CCET=0.0|CA=2125551212|RELC=25|OCPI=|CPNN=1|CGNN=4|
CPPI=1|NOAT=1|CBAT=0|FATS=0|CCTS=20051026133312|
HTS=20051026133312|AIDL=
```

LCR EDR tags

The following standard ACS tags are generated in the LCR EDR.

- *CID* (on page 205)
- CLI
- *CPN* (on page 205)
- *CUST* (on page 207)
- *SK* (on page 210)
- *SN* (on page 210)

Note: These are standard tags, as described in *ACS EDR tags* (on page 202).

LCR EDRs do not contain any information on whether the termination attempt was successful or not – this data is stored in the ACS/CCS EDRs.

The LCR EDRs also contain the same CID field that can be used for correlation purposes with ACS/CCS EDRs and with other LCR EDRs.

The following LCR tags are unique to NP.

CALLINGNOA (noa of callingnum)

Description: The nature of address of the CALLINGNUM.

Format: A single digit

Version: NP 2.4.1.1

Notes:

Example: `CALLINGNOA=4`

CALLINGNUM (lcr set calling number)

Description: The calling number set by the LCR service.

This is the number that the service uses as the calling number when an attempt is made to connect the call.

Format: Integer. May be up to 32 digits long.

Version: NP 2.4.1.1

Notes:

Example: `CALLINGNUM=33111111111111`

CARRIERNAME (carrier name)

Description: The name of the selected carrier.

Format: String. May be up to 30 characters long.

Version: NP 2.4.1.1

Notes:

Example: `CARRIERNAME=Test`

CARRIERPOS (position of carrier name in hunt list)

Description: The position of the selected carrier in the hunt list.
Format: Integer from 1 to 8.
Version: NP 2.4.1.1
Notes:
Example: `CARRIERPOS=2`

ORIGTRUNK (idp location number content)

Description: Contains contents of location number field from the IDP.
Format: integer
Version: NP 2.4.1.1
Notes:
Example: `ORIGTRUNK=441473`

PID (unix process ID)

Description: The Unix process ID of the service instance.
Format: Integer
Version: NP 2.4.1.1
Notes:
Example: `PID=4355`

PTI (product type ID)

Description: The product type ID for the CCS account type of the calling subscriber.
Format: Integer
Version: NP 2.4.1.1
Notes:
Example: `PTI=2`

ROUTEDEST (routing destination for call)

Description: The routing destination for the call.
Format: String. May be up to 64 characters long.
Version: NP 2.4.1.1
Notes:
Example: `ROUTEDEST=Destination_3`

TIME (creation timestamp of lcr edr)

Description: The timestamp for when the LCR EDR was created.
Format: Date
Version: NP 2.4.1.1
Notes:
Example: `TIME=20051020154857`

TNNOA (noa of terminating number)

Description: The nature of address of the terminating number.

Format: Integer. A single digit.

Version:

Notes: This should correspond to the first digit of the TNNUM field.

Example: `TNNOA=4`

TNNUM (lcr terminating number)

Description: The terminating number set by the LCR service (the number that the service attempts to connect to).

Format: Number. May be up to 32 digits long.

Version: NP 2.4.1.1

Notes: The first digit of the number provides an indication of the NOA.

Example: `TNNUM=4ABCD12AB987654321`

Example LCR EDRs

Example 1

This example shows the output produced for a successful termination attempt EDR.

```
PID=4355|CID=142163|CUST=1|SN=987654321|TNNUM=4ABCD12AB987654321|TNNOA=4|CLI=3311111
1111111|SK=111|CPN=Rob_HR_LCR_plan|PTI=2|TIME=20051020154857|CALLINGNUM=331111111111
11|CALLINGNOA=4|ROUTEDEST=Destination_3|CARRIERNAME=Test Carrier
2|CARRIERPOS=2|ORIGTRUNK=441473
```

Example 2

This example shows the output produced for a failed termination attempt EDR.

```
PID=4355|CID=142163|CUST=1|SN=987654321|TNNUM=4123412AB987654321|TNNOA=4|CLI=3311111
1111111|SK=111|CPN=Rob_HR_LCR_plan|PTI=2|TIME=20051020154857|CALLINGNUM=331111111111
11|CALLINGNOA=4|ROUTEDEST=Destination_3|CARRIERNAME=Test Carrier
1|CARRIERPOS=1|ORIGTRUNK=441473
```

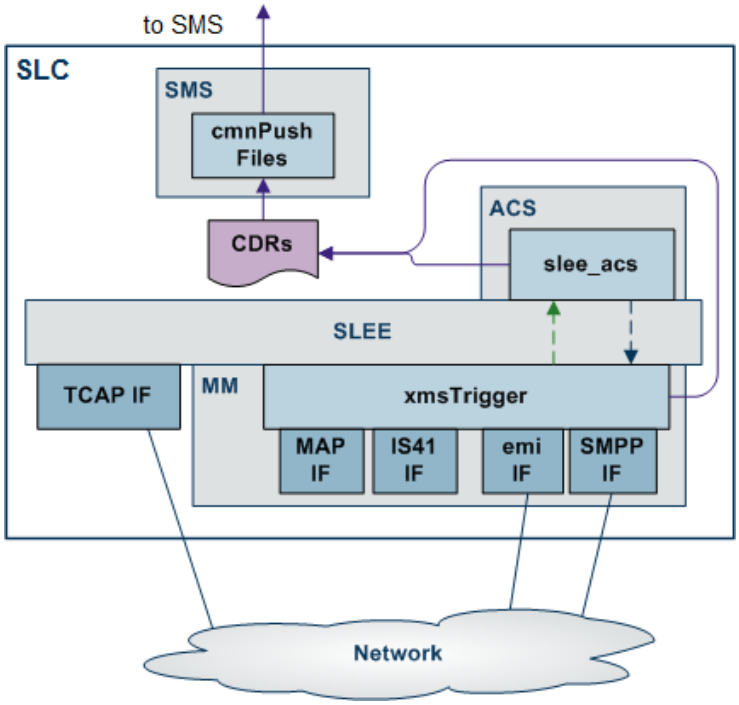
Messaging Manager EDRs

EDR collection

The xmsTrigger of Messaging Manager produces EDRs to be used in post processing as required.

Diagram

This diagram shows the components on the SLC that generate and migrate Messaging Manager EDRs.



File name and location

Messaging Manager EDRs are saved to file, in the **eserv.config**:

- With the base filename specified by the filename parameter (in the format B*ase_file_nameDate_and_time*.**cdr**)
- In the location specified by the destdir parameter (by default `"/IN/service_packages/XMS/cdr/closed/"`)

File format

EDRs are saved to file in tag/value pairs, separated by "|", in the following form:

```
tag1=value1|tag2=value2
```

Field formats

Each field in an EDR is in a particular format, summarised in this table.

Format	Description
Boolean	Value of 0 (untrue) or 1 (true). **Example:** `DLVR=1`

Format	Description
Date / Time	A time to the nearest second, in format *YYYYMMDDHHMMSS* where: • YYYY = year (for example, 2004) • MM = month (for example, 04 for March) • DD = day of the month (for example, 09) • HH = hours (for example, 13 for 1pm) • mm = minutes (for example, 32) • SS = seconds (for example, 00) **Example:** A message submitted on 16th May 2004 1 minute and 14 seconds after midnight `DATE=20040516000114`
Integer	A decimal number. Will never exceed a 32 bit number (11 digits), but is often shorter. Leading zeros will not normally be present. **Example:** `ULEN=30`
Network Number	A sequence of hexadecimal characters representing a phone number. Usually consists of only the characters 0 – 9, but can also contain A – F (representing characters such as # and *). Leading zeros will be present if required. **Example:** `DADR=0020006449393471`
String	String of characters. Can be any length. Should not contain the characters = or |. May include spaces. When the parameter is a string, the string consists of all the characters after the = sign up to the | separator between this parameter and the next. **Example:** `USRD=hello, whats up`

Notes:

- Tags may not necessarily be in a fixed order, as the order of processing may vary from one call type to another.
- Some fields will not be present if the call does not reach the call state that produces them – for example, the call duration will not be present for calls which are not answered.

Messaging Manager EDR tags

This topic describes the tags within an EDR. The EDR content can include the user payload (SMS text).

ADAP (adaptations)

Description: If MMS adaptations are allowed for this message
Format: Integer
Version: MM 4.1
Notes:
Example: `ADAP=1`

ALPH (alphabet name)

Description: The alphabet name
Format: String
Version:
Notes: See a list of character sets specified by the alphabet parameter
Example: `ALPH=GSM7Bit`

APPA (auxiliary applications)

Description: Auxiliary applications for MMS messages
Format: String
Version: MM 4.1
Notes:
Example: `APPA=MAFIA instance #04`

APPD (destination application)

Description: The destination application for MMS messages
Format: String
Version: MM 4.1
Notes:
Example: `APPD=ifx.com.neon.downloadedPackage.MAFIA`

APPR (reply application)

Description: The reply application for MMS messages
Format: String
Version: MM 4.1
Notes:
Example: `APPR=ifx.com.neon.downloadedPackage.MAFI`

ASAD (ip of originating asp)

Description: The IP address of the originating ASP
Format: String
Version: MM 3.1
Notes:
Example:

ASPDF (asp definition)

Description: The ASP definition. This can be used to derive the connection path using the config file. The tag will be added to EDRs for messages sent/relayed by MM using EMI or SMPP.
Format: String
Version:
Notes: This tag will be logged in the following format:

`ASPDF=ASPSname.S.smscLoginId`

where:

- ASPSname - The value of the ASPS.name entry in the config file. This entry in the config file identifies the ASP from which this messages originated.
- smscLoginId - The value of the corresponding `ASPS.smscLogins.smscConnection.smscLoginId` entry. This entry in the config files identifies the SMSC connection where the message was sent.

Example:

ASPID (inbound and outbound path)

Description: The inbound path and the outbound path.

Format: String

Version:

Notes: Used twice

Example:

AXAD (ip connections from asp)

Description: This is used for IP connections from ASPs.

Format: String

Version:

Notes: It indicates the internet listen address used for the ASP connection.

Example:

BILLID

Description: The billing identifier allows the ASP to send some extra billing information to the SMSC.

Format: String

Version: MM 4.1

Notes: BILLID can come from incoming EMI or SMPP messages.

In EMI it is the item tagged 12 in the extra services part of the message and is a variable length string.

In SMPP it is referred to as "billing identification" and is the TLV tagged 0x060B (1547). See the SMPP version 5 spec for more information.

Example:

CCLS (mms content class)

Description: The MMS content class.

Format: Integer

Version: MM 4.1

Notes:
0=None
1=Text
2=Basic Image
3=Rich Image
4=Basic Video
5=Rich Video
6=MegaPixel
7=Basic Content
8=Rich Content

Example: `CCLS=1`

CHPY (charged party)

Description: The charged party for the MMS.

Format: Integer

Version: MM 4.1

Notes: 0=None
1=Sender
2=Recipient
3=Both
4=Neither
5=Third Party

Example: `CHPY=1`

CT (mime type)

Description: The MIME type as specified in SIP or email messages.

Format: String

Version: MM 4.1

Notes:

Example: `CT=text/plain`

DADR (destination address)

Description: The destination address

Format: Refer to *EDR address format* (on page 239).

Version:

Notes:

Example: `DADR=tel:0020006449383471`

DATE (timestamp sms sent to mmx)

Description: The date and time at which the short message was submitted to MM.

Format: Date

Version:

Notes:

Example: `DATE=20080901041701`

DELTS (timestamp of delivery attempt)

Description: The delivery timestamp. The time of delivery attempt.

Format: Date

Version:

Notes:

Example: `DELTS=20041214040046`

DIMSI (destination imsi)

Description: The destination IMSI.

Format: Integer

Version:

Notes: Only included where MM has attempted FDA.
B party IMSI of FDA messages.

Example:

DISTS (timestamp of discard)

Description: Discard timestamp.
Format: Date
Version:
Notes: Added if all delivery routes fail.
Example: `DISTS=20080901041706`

DLOC (terminating party location information)

Description: Specifies the terminating party location information
Format: String
Version: MM 2.2.7 and 3.1
Notes: This value will be set in the following order:

- Cell ID returned in the MAP_ATI response if available,
- Default MSC ID from the **eserv.config** parameter, "defaultTerminatingLocation", or
- A null value, if the Control Plan does not initiate a MAP-ATI for the called party.

Example:

DLVR (message delivered flag)

Description: Message delivered
Format: Boolean
Version:
Notes: 0 - not delivered
1 - delivered
This is only present on EDRs for delivery receipt messages.
Example: `DLVR=1`

DPATH (delivery path)

Description: Path used for outbound delivery/submit attempt
Format: String
Version: MM 4.1
Notes:
Example: `DPATH=SMPP_SME_SMPP1`

DRM (drm content)

Description: If the MMS contains DRM content present
Format: Integer
Version: MM 4.1
Notes:
Example: `DRM=1`

DSCA (destination service center address)

Description: Destination service center address.
Format: Integer
Version:

Notes: Service center address of the configured destination SMSC.
Included only when MAP delivery to the SMSC is attempted.

Example:

DSCGT (destination gt)

Description: Destination global title.

Format: String

Version:

Notes: Global title of the configured destination SMSC.
Included only when MAP delivery to the SMSC is attempted.

Example:

DSTL (destination gt of fda msc)

Description: Destination global title of FDA MSC.

Format: String

Version:

Notes:

Example:

EDELT (earliest delivery time)

Description: The earliest delivery time

Format: Integer

Version: MM 4.1

Notes: The number of seconds since 1 Jan 1970

Example: `EDELT=1354152268`

ESN (electronic serial number)

Description: Electronic serial number

Format: 32 bit "number", having a sub format of 14 bit manufacturer code and 18 bit serial number.

Version:

Notes: Used with AMPS, TDMA and CDMA phones in the United States, equivalent to IMEI numbers used by all GSM phones.

Example:

GPRS (general packet radio service)

Description: General packet radio service supported indicator.

Format: Boolean

Version:

Notes: 0 = GPRS not supported
1 = GPRS supported

Example: `GPRS=0`

IPRI (incoming protocol value)

Description: Incoming priority value
Format: String
Version:
Notes:
Example: `IPRI=PriorityNormal`

IPRN (incoming protocol name)

Description: Incoming protocol name
Format: String
Version:
Notes: For internally-generated delivery reports, the protocol name will be **Wrapper**.
Example: `IPRN=MAP`

ITS (incoming tele service)

Description: Incoming tele-service
Format:
Version:
Notes:
Example:

MMC (mms message class)

Description: The MMS message class
Format: Integer
Version: MM 4.1
Notes: 0 - None
1 - Personal
2 - Advertisement
3 - Informational
4 - Automatic
Example: MMC=1

MSCA (smsc address)

Description: SMSC address
Format: Refer to *EDR address format* (on page 239).
Version:
Notes: For an IS41 FDA delivery, the MSCA tag shows the MSC address used for the actual delivery attempt.
Example: `MSCA=tel:0040015114406267`

MSGD (message destination)

Description: Outbound/outgoing message destination
Format: Integer
Version:
Notes: 0 – Short Message Entity, that is, direct delivery to handset or ASP
1 – Message Center
Example: `MSGD=1`

MSGR (message reference number)

Description: Message reference number

Format: Integer

Version:

Notes:

Example: `MSGR=5`

MTYP (message type)

Description: Incoming/inbound message type

Format: Integer

Version:

Notes: 0 - Submit
1 - Deliver
2 - Notify
3 - Command
4 - RouteInfo

Example: `MTYP=1`

NRQ (status report requested for message)

Description: Was a notification (status report) requested for this message?

Format: Boolean

Version:

Notes: 0 = not requested
1 = requested

Example: `NRQ=0`

NRQD (emi with defined nrq)

Description: EMI with defined NRQ

Format: List

Version:

Notes: This is an EMI only field. If the incoming EMI message has a defined NRQ, then the following will be appended:

`NRQD=`*`nrq`*`,,`*`npid`*

Note that npid may be "" if not present.

Example:

OADR (originating address)

Description: Originating address

Format: Refer to *EDR address format* (on page 239).

Version:

Notes:

Example: `OADR=tel:0010006449393414`

OAID (originating adapter id)

Description: Originating adapter ID

Format: String

Version:

Notes: For all internally-generated delivery reports this will be **MMX_INTERNAL_DR_ADAPTER**.

Example: `OAID=MAP1`

OCAU (acs cause value)

Description: Cause value returned by ACS on originating call model.

Format:

Version:

Notes:

Example:

OIMSI (originating imsi)

Description: Originating IMSI (if present).

Format: String

Version:

Notes:

Example:

OIPA (originating ip address)

Description: Originating IP address

Format: String

Version:

Notes:

Example:

OLOC (originating party location information)

Description: Specifies the originating party location information.

Format: String

Version: MM 2.2.7 and 3.1

Notes: This value will be set in the following order:

- Cell ID returned in the MAP_ATI response if available,
- MSC ID from the SCCP layer if available
- Default MSC ID from the <co_conf> parameter, `defaultOriginatingLocation`

Example:

OPRI (outgoing priority)

Description: Outgoing priority

Format: String

Version:

Notes:

Example: `OPRI=PriorityNormal`

OPRN (output protocol name)

Description: Output protocol name
Format: String
Version:
Notes:
Example: OPRN=SMPP

OPRT (originating port number)

Description: Originating port number
Format: Integer
Version:
Notes:
Example: OPRT=

OSA (originator system address)

Description: The originator system address of MMS messages
Format: Refer to *EDR address format* (on page 239).
Version: MM 4.1
Notes:
Example: OSA=0010013094219300

OTS (outgoing tele service)

Description: Outgoing tele-service
Format:
Version:
Notes:
Example:

PERR (protocol specific error)

Description: Protocol specific error or abort
Format: String
Version:
Notes:
- MAP: error-34, pabort-2, uabort-1
- SMPP: ESME_RSYSERR, ESME_RINVMSGID
- EMI: error-03, error-24
- IS41: error-0x81, error-0x8c

Example:

PRES (terminating adapter response)

Description: Terminating adapter response, whether the SMS was successfully delivered or not.
(was - adapter response to Submit)
Format: Integer
Version:

Notes: 1 – Success
2 – Failed
3 – Rejected

Example: PRES=1

PRID (protocol identifier)

Description: Protocol identifier. Provides any protocol specific information in an incoming message.

Format: Integer

Version:

Notes:

Example: PRID=1

RECN (current recipient number)

Description: The current recipient number. Which numbered destination address this message is for when dealing with a multi-destination message.

Format: Integer

Version: MM 4.1

Notes:

Example: RECN=1

RECT (number of recipients)

Description: The number of recipients for this message.

Format: Integer

Version: MM 4.1

Notes:

Example: RECT=3

RESL (submit result)

Description: Submit result. The response given to the A-party.

Format: Integer

Version:

Notes: 0 – Success
1 – Transient Failure
2 – Permanent Failure
3 – Abort

Example: RESL=0

RRR (read reply request)

Description: The read reply request. If a read reply has been requested

Format: Integer

Version: MM 4.1

Notes:

Example: RRR=1

SCA (service center address)

Description: Service center address.

Format: Refer to *EDR address format* (on page 239).

Version:

Notes: The value will be the same as either MSCA or DSCA depending on the message type.

Example: `SCA=0010013094219300`

SCRID (screening rule id)

Description: The screening rule ID in the EDR which identifies the filtering rule of the message.

Format: Integer

Version:

Notes:

Example: `SCRID=21`

SEGN (message segment number)

Description: The message was message segment *n* of a potentially segmented message.

Format: Integer

Version:

Notes: This is logged irrespective of segmentation or not of the message.

Example: `SEGN=0`

SEGR (concatenated message reference)

Description: Concatenated message reference

Format:

Version:

Notes:

Example:

SEGT (total message segments)

Description: The total number of message segments.

Format: Integer

Version:

Notes: This is logged irrespective of segmentation or not of the message.

Example: `SEGT=0`

SRCL (source location)

Description: SourceLocation Information, that is, VMSC address for MAP/IS-41.

Format:

Version:

Notes: E.164 of sending VMSC

Example: `SRCL=00001310:9`

SRQ (storage requested)

Description: If storage is requested of this MMS message
Format: Integer
Version: MM 4.1
Notes:
Example: SRQ=1

SSAD (ip of originating smsc)

Description: The IP address of originating SMSC
Format:
Version:
Notes:
Example:

SSRID (screening sub-rule id)

Description: The screening sub-rule ID in the EDR which identifies the sub-rule that filters the message.
Format: Integer
Version:
Notes:
Example: SSRID=1

SSTN (smpp service type)

Description: The SMPP service type
Format:
Version:
Notes:
Example:

STRR (status report request)

Description: Status report request.
Format: Integer
Version:
Notes: 0 - no report requested
1 - handset/asp request (for its own purposes)
2 - requested by MM (ACS), for billing purposes.
3 - requested by SME and MM.
Example: STRR=0

SUBJ (message subject)

Description: The message subject for MIME encoded messages
Format: String
Version: MM 4.1
Notes:
Example: SUBJ=Lunch

SUB_STATUS (subscriber status)

Description: The subscriber status
Format: Integer
Version:
Notes: 0 - subscriber information not retrieved
1 - unknown subscriber
2 - error
3 - active
4 - canceled
Example: SUB_STATUS=0

SV (sender visibility)

Description: The sender visibility property of MMS messages
Format: Integer
Version: MM 4.1
Notes:
Example: SV=1

TAID (terminating adapter id)

Description: Terminating adapter ID
Format: String
Version:
Notes:
Example: TAID=SMPP1

TCAU (acs terminate cause value)

Description: Cause value returned by ACS on terminating call model
Format: Integer
Version:
Notes:
Example:

THRD (throttled flag)

Description: 1 if message is throttled, otherwise tag is absent
Format: Integer
Version:
Notes:
Example: THRD=1

TLEN (length of user data in characters)

Description: Length of the user data (that is, message) in characters.
Format: Integer
Version:
Notes:
Example: TLEN=12

TYPE (type of edr)

Description: Type of EDR; that is, where and why it was generated.

Format: Integer

Version:

Notes: 1 - MO/MT short messages

Example: `TYPE=1`

ULEN (length of user data)

Description: Length of the user data (that is, message) in octets (bytes).

Format: Integer

Version:

Notes:

Example: `ULEN=11`

USRD (user data)

Description: Contains the user data.

Format: See notes

Version:

Notes: If MM:

- Can parse the user data into the UTF-8 alphabet, then the corresponding UTF-8 string will be displayed.
  In this case, the ULEN field denotes the number of bytes, which may differ from the number of contained alphabetic characters.
- Cannot convert the user data into a UTF-8, then the output will be displayed as a hex, using 00-FF to denote the content of each byte. In this case, ULEN will exactly match the number of bytes represented in the USRD field output.

Any control characters, if found, are converted as follows:

- \n, \r , \f converted to ' ' (space)
- | converted to ¦

Example: `USRD=Hello, whats up`

VP (validity period)

Description: Validity period.

The time period in seconds during which the originator considers the short message to be valid.

Format: Integer

Version:

Notes: If this field is set to 0, then there is no time limit.

Example: `VP=0`

Multiple field occurrences

Every delivery attempt will write the fields OPRN, TAID, MSCA, OADR, DADR, SRCL, OPRI, MSGD, STRR and PRES to the EDR.

If there is at least one attempt, the fields MSCA, OADR, DADR, SRCL, MSGD and STRR are written twice.

- Once when the incoming call is passed to Messaging Manager
- Once when termination is attempted

The fields are not necessarily the same though, as Messaging Manager/ACS can change the values. However, MSCA and SRCL are not present for all protocols.

Example EDR 1

Here is an example MM EDR. It is an 7-bit GSM text message from 6449393414 to 6449393471 (MAP to SMPP). The message was normal priority, successfully delivered, unsegmented, with no delivery receipt requested.

```
TYPE=1|DATE=20080901041701|IPRN=MAP|OAID=MAP1|MSCA=0040015114406267|OADR=00100064493
93414|DADR=0020006449383471|IPRI=PriorityNormal|MTYP=0|MSGD=1|SRCL=00001310:9|MSGR=0
|USRD=Test
Message|ALPH=GSM7Bit|ULEN=11|TLEN=12|PRID=0|STRR=0|VP=0|NRQ=0|SEGN=0|SEGT=0|DELTS=20
041214040046|OPRN=SMPP|TAID=SMPP1|MSCA=0040015114406267|OADR=0010006449393414|DADR=0
020006449393471|OPRI=PriorityNormal|MSGD=1|PRES=1|SRCL=00001310:9|STRR=0|RESL=0
```

Example EDR 2

This example EDR is a message from 6449393414 to 6449393471 (IS-41 to IS-41). The message was emergency priority GSM 7-bit text of "hello, how are you", successfully delivered, unsegmented, with no delivery receipt requested.

```
TYPE=1|DATE=20060901041701|IPRN=IS41|OAID=CDMA1|MSCA=0040015114406267|OADR=001000644
9393414|DADR=0020006449393471|IPRI=PriorityEmergency|MTYP=0|MSGD=1|SRCL=00001310:9|M
SGR=5|USRD=hello, how are
you|ALPH=GSM7Bit|ULEN=33|TLEN=18|PRID=1|STRR=0|VP=0|NRQ=0|SEGN=0|SEGT=0|DELTS=200412
14040046|OPRN=IS41|TAID=CDMA1|MSCA=0040015114406267|OADR=0010006449393414|DADR=00200
06449393471|OPRI=PriorityEmergency|MSGD=0|PRES=1|SRCL=00001310:9|STRR=0|RESL=0
```

Example EDR 3

Here is an example EDR of a failed delivery receipt or a prior successful message. The delivery receipt failed because of a numberRules misconfiguration in Messaging Manager Navigator.

The call was an IS-41 to IS-41 delivery receipt from 6449393471 to 6449393414. The message was emergency priority GSM 7-bit text of "hello world."

```
TYPE=1|DATE=20060901041701|IPRN=IS41|OAID=CDMA1|MSCA=0040015114406267|OADR=002000644
9393471|DADR=0010006449393414|IPRI=PriorityEmergency|MTYP=1|DLVR=1|MSGD=0|SRCL=00001
310:9|MSGR=5|USRD=hello
world.|ALPH=GSM7Bit|ULEN=11|TLEN=12|PRID=1|STRR=0|VP=0|NRQ=0|SEGN=0|SEGT=0|DELTS=200
41214040046|OPRN=IS41|TAID=CDMA1|MSCA=0040015114406267|OADR=0020006449393471|DADR=00
10006449393414|OPRI=PriorityEmergency|MSGD=0|PRES=1|SRCL=00001310:9|STRR=0|RESL=1
```

EDR address format

Several EDR tags contain addresses. These tags include:

- MSCA
- OADR
- DADR

All addresses are specified using the following format:

```
(TON)(NPI)(Address Digits)
```

This table describes the components in the EDR Addresses.

Component	Explanation	Value
TON	The type of number value indicator. Where: 000 = unknown 001 = international 002 = national 003 = network_specific 004 = subscriber_number 005 = alphanumeric 006 = abbreviated	000 - 006
NPI	The number plan indicator value for the prefix. Where: 000 = unknown 001 = ISDN (E.163/E.164) 003 = Data (X.121) 004 = Telex (F.69) 006 = Land mobile (E.212) 008 = National 009 = Private 010 = ERMES 013 = Point Code & subscriber number 014 = Internet (IP) 018 = WAP	000 - 001, 003 - 004, 006, 008 - 010, 013- 014, 018
Address Digits	Addresses used include SMSC, originating, destination address and source location information.	

Example: `–MSCA= 00000148500000007`

```
TON = 000 (unknown), NPI = 001 (isdn), Address digits = 48500000007
```

Note: Unless normalized otherwise, the EDR shows the TON and NPI as they are set in the incoming message. According to GSM specification (ETSI TS 100 901 V7.3.0).

Glossary of Terms

AAA

Authentication, Authorization, and Accounting. Specified in Diameter RFC 3588.

AC

Application Context. A parameter in a TCAP message which indicates what protocol is conveyed. May indicate, for example, MAP, CAMEL, or INAP. Also usually specifies the particular version of the conveyed protocol, for example, which CAMEL Phase.

ACS

Advanced Control Services configuration platform.

ANI

Automatic Number Identification - Term used in the USA by long-distance carriers for CLI.

API

Application Programming Interface

ASP

- Application Service Provider, or
- Application Server Process. An IP based instance of an AS. An ASP implements a SCTP connection between 2 platforms.

ATI

Any Time Interrogation - this process is used on a GSM network to interrogate the HLR for location and or subscriber information.

BFT

Billing Failure Treatment - the process that is applied if the system has lost all connections to a billing engine. It allows for limited continuation of call processing functions, if configured.

C7

See SS7.

CAMEL

Customized Applications for Mobile network Enhanced Logic

This is a 3GPP (Third Generation Partnership Project) initiative to extend traditional IN services found in fixed networks into mobile networks. The architecture is similar to that of traditional IN, in that the control functions and switching functions are remote. Unlike the fixed IN environment, in mobile networks the subscriber may roam into another PLMN (Public Land Mobile Network), consequently the controlling function must interact with a switching function in a foreign network. CAMEL specifies the agreed information flows that may be passed between these networks.

CC

Country Code. Prefix identifying the country for a numeric international address.

CCA

Credit-Control-Answer, used in Diameter by the credit-control server to acknowledge a Credit-Control-Request (CCR) from the credit-control client.

CCR

Credit-Control-Request, used in Diameter by the credit-control client to request credit authorization from the credit-control server.

CCS

1) Charging Control Services component.

2) Common Channel Signalling. A signalling system used in telephone networks that separates signalling information from user data.

CDMA

Code Division Multiple Access is a method for describing physical radio channels. Data intended for a specific channel is modulated with that channel's code. These are typically pseudo-random in nature, and possess favourable correlation properties to ensure physical channels are not confused with one another.

CDR

Call Data Record

Note: The industry standard for CDR is EDR (Event Detail Record).

CID

Call Instance Data

CLI

Calling Line Identification - the telephone number of the caller. Also referred to as ANI.

Connection

Transport level link between two peers, providing for multiple sessions.

Convergent

Also “convergent billing”. Describes the scenario where post-paid and pre-paid calls are handed by the same service platform and the same billing system. Under strict converged billing, post-paid subscribers are essentially treated as “limited credit pre-paid”.

CORBA

Common Object Request Broker Architecture. It is a framework that provides interoperability between objects built in different programming languages, running on different physical machines perhaps on different networks. It specifies an Interface Definition Language, and API that allows client / server interaction with the ORB.

DB

Database

Diameter

A feature rich AAA protocol. Utilises SCTP and TCP transports.

DP

Detection Point

DRA

Destination Routing Address. The parameter in the INAP Connect operation, sent from ACS to the SSP. This is the number the SSP is instructed to connect to.

DTMF

Dual Tone Multi-Frequency - system used by touch tone telephones where one high and one low frequency, or tone, is assigned to each touch tone button on the phone.

EMI

Exchange Message Interface protocol

ETSI

European Telecommunications Standards Institute

FDA

First Delivery Attempt - the delivery of a short message directly to the SME rather than relaying it through the MC.

FOX

Fast OSA eXtensions. A TCP/IP billing protocol intended for use with external vendors. Based on OSA, it fills in functional gaps missing in OSA, and defines “combined” OSA operations to increase platform throughput. Uses a non-CORBA transport layer in order to provide enhanced fail-over and connection redundancy.

GPRS

General Packet Radio Service - employed to connect mobile cellular users to PDN (Public Data Network- for example the Internet).

GSM

Global System for Mobile communication.

It is a second generation cellular telecommunication system. Unlike first generation systems, GSM is digital and thus introduced greater enhancements such as security, capacity, quality and the ability to support integrated services.

GUI

Graphical User Interface

GVNS

Global Virtual Numbering Scheme - When multiple VPNs are in use by a customer, the capability to route calls between these VPNs requires a numbering scheme that uses destination addresses based on a customer id and extension number. These GVNS addresses can then be interpreted to provide inter VPN operation.

HLR

The Home Location Register is a database within the HPLMN (Home Public Land Mobile Network). It provides routing information for MT calls and SMS. It is also responsible for the maintenance of user subscription information. This is distributed to the relevant VLR, or SGSN (Serving GPRS Support Node) through the attach process and mobility management procedures such as Location Area and Routing Area updates.

HPLMN

Home PLMN

Hunting

A terminating call feature where a subscriber may request a list of alternate destination addresses. If their mobile station is not attached, or does not answer a call, then the service logic should attempt to reach the supplied alternate destinations in sequence.

IDP

INAP message: Initial DP (Initial Detection Point)

IMSI

International Mobile Subscriber Identifier. A unique identifier allocated to each mobile subscriber in a GSM and UMTS network. It consists of a MCC (Mobile Country Code), a MNC (Mobile Network Code) and a MSIN (Mobile Station Identification Number).

The IMSI is returned by the HLR query (SRI-SM) when doing FDA. This tells the MSC exactly who the subscriber is that the message is to be sent to.

IN

Intelligent Network

INAP

Intelligent Network Application Part - a protocol offering real time communication between IN elements.

Initial DP

Initial Detection Point - INAP Operation. This is the operation that is sent when the switch reaches a trigger detection point.

IP

1) Internet Protocol

2) Intelligent Peripheral - This is a node in an Intelligent Network containing a Specialized Resource Function (SRF).

IP address

Internet Protocol Address - network address of a card on a computer.

IS-41

Interim Standard 41 is a signaling protocol used in cellular telecommunications systems. It deals with the signalling between the MSC and other network elements for the purpose of handovers and roaming etc.

ISDN

Integrated Services Digital Network - set of protocols for connecting ISDN stations.

ISUP

ISDN User Part - part of the SS7 protocol layer and used in the setting up, management, and release of trunks that carry voice and data between calling and called parties.

ITU

International Telecommunication Union

IVR

Interactive Voice Response - systems that provide information in the form of recorded messages over telephone lines in response to user input in the form of spoken words or, more commonly, DTMF signalling.

LAC

Location Area Code. This is an integer value specified as the third level of detail in the location area information. One LAC contains multiple Cell IDs or SAIs.

MAP

Mobile Application Part - a protocol which enables real time communication between nodes in a mobile cellular network. A typical usage of the protocol would be for the transfer of location information from the VLR to the HLR.

MC

Message Centre. Also known as SMSC.

MCC

Mobile Country Code. In the location information context, this is padded to three digits with leading zeros. Refer to ITU E.212 ("Land Mobile Numbering Plan") documentation for a list of codes.

Messaging Manager

The Messaging Manager service and the Short Message Service components of Oracle Communications Convergent Charging Controller product. Component acronym is MM (formerly MMX).

MM

Messaging Manager. Formerly MMX, see also *XMS* (on page 250) and *Messaging Manager* (on page 245).

MNC

Mobile Network Code. The part of an international address following the mobile country code (MCC), or at the start of a national format address. This specifies the mobile network code, that is, the operator owning the address. In the location information context, this is padded to two digits with a leading zero. Refer to ITU E.212 ("Land Mobile Numbering Plan") documentation for a list of codes.

MNP

Mobile Number Portability

MO

Mobile Originated

MS

Mobile Station

MSC

Mobile Switching Centre. Also known as a switch.

MSIN

Mobile Station Identification Number.

MSISDN

Mobile Station ISDN number. Uniquely defines the mobile station as an ISDN terminal. It consists of three parts; the country code (CC), the national destination code (NDC) and the subscriber number (SN).

MT

Mobile Terminated

MTP

Message Transfer Part (part of the SS7 protocol stack).

NOA

Nature Of Address - a classification to determine in what realm (Local, National or International) a given phone number resides, for the purposes of routing and billing.

NP

Number Portability

NPI

Number Plan Indicator

ORB

Object Request Broker. Within an Object based communication system, an ORB keeps track of the actual addresses of all defined objects and thus is used to route traffic to the correct destination. The CORBA defines the ORB in a series of standards enabling different platforms to share common information.

OSA

Open Service Access provides a standard interface through which developers can design services that may interact with functions within the network.

Peer

Remote machine, which for our purposes is capable of acting as a Diameter agent.

PI

Provisioning Interface - used for bulk database updates/configuration instead of GUI based configuration.

PIN

Personal Identification Number

PLMN

Public Land Mobile Network

SCA

1) Service Centre Address

2) Session Control Agent for Session Initiation Protocol (SIP)

SCCP

Signalling Connection Control Part (part of the SS7 protocol stack).

SCP

Service Control Point. Also known as SLC.

SCTP

Stream Control Transmission Protocol. A transport-layer protocol analogous to the TCP or User Datagram Protocol (UDP). SCTP provides some similar services as TCP (reliable, in-sequence transport of messages with congestion control) but adds high availability.

Session

Diameter exchange relating to a particular user or subscriber access to a provided service (for example, a telephone call).

SGSN

Serving GPRS Support Node

SIM

Usually referred to as a SIM card, the Subscriber Identity Module is the user subscription to the mobile network. The SIM contains relevant information that enables access onto the subscripted operator's network.

SIP

Session Initiation Protocol - a signaling protocol for Internet conferencing, telephony, event notification and instant messaging. (IETF)

SLC

Service Logic Controller (formerly UAS).

SLEE

Service Logic Execution Environment

SME

Short Message Entity - This is an entity which may send or receive short messages. It may be located in a fixed network, a mobile, or an SMSC.

SMP

Service Management Platform (also referred to as SMS).

SMPP

Short Message Peer-to-Peer protocol

SMS

Depending on context, can be:

- Service Management System hardware platform
- Short Message Service
- Service Management System platform
- Convergent Charging Controller Service Management System application

SMSC

Short Message Service Centre stores and forwards a short message to the indicated destination subscriber number.

SMS-MO

Short Message Service Mobile Originated

SMS-MT

Short Message Service Mobile Terminating

SN

Service Number

SRF

Specialized Resource Function – This is a node on an IN which can connect to both the SSP and the SLC and delivers additional special resources into the call, mostly related to voice data, for example play voice announcements or collect DTMF tones from the user. Can be present on an SSP or an Intelligent Peripheral (IP).

SRI

Send Routing Information - This process is used on a GSM network to interrogate the HLR for subscriber routing information.

SS7

A Common Channel Signalling system is used in many modern telecoms networks that provides a suite of protocols which enables circuit and non-circuit related information to be routed about and between networks. The main protocols include MTP, SCCP and ISUP.

SSP

Service Switching Point

Switching Point

Anything that can send and receive C7 messages.

TCAP

Transaction Capabilities Application Part – layer in protocol stack, message protocol.

TCP

Transmission Control Protocol. This is a reliable octet streaming protocol used by the majority of applications on the Internet. It provides a connection-oriented, full-duplex, point to point service between hosts.

TDMA

Time Division Multiple Access - a communications technique that uses a common channel for communications among multiple users by allocating each a unique time slot.

TLV

Tag-Length-Value. Optional parameters introduced in the SMPP protocol since version 3.4.

URI

Uniform Resource Identifier.

USSD

Unstructured Supplementary Service Data - a feature in the GSM MAP protocol that can be used to provide subscriber functions such as Balance Query.

VLR

Visitor Location Register - contains all subscriber data required for call handling and mobility management for mobile subscribers currently located in the area controlled by the VLR.

VMSC

Visited Mobile Switching Centre

Voice Call

The term “voice call” in this document is intended to denote any call controlled by CAMEL or INAP InitialDP. In practice this also includes fax calls, data-over-voice calls, and also includes 3G voice and video conference calls.

VPN

The Virtual Private Network product is an enhanced services capability enabling private network facilities across a public telephony network.

VWS

Oracle Voucher and Wallet Server (formerly UBE).

WAP

Wireless Application Protocol. A standard designed to allow the content of the Internet to be viewed on the screen of a mobile device such as mobile phones, personal organisers and pagers. It also overcomes the processing limitation of such devices. The information and services available are stripped down to their basic text format.

XMS

Three letter code used to designate some components and path locations used by the Oracle Communications Convergent Charging Controller *Messaging Manager* (on page 245) service and the Short Message Service. The published code is *MM* (on page 246) (formerly MMX).

Index

A

B

C

D

E

F

G

H

I

L

M

N

O

P

R

S

T

U

V

W

X