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AT&T Call Detail Data Interface Specification

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Director - Network Management

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Technical Reference 62425

This document provides a description of and interface specifications for AT&T Call Detail Data provided by the On-Line Call Detail / Real Time (OCDD/RT) host. The document consists of eight sections, covering the following subjects:

• ***Section 1: Introduction --*** Describes the services supported by OCDD/RT for AT&T Call Detail Data.

• ***Section 2: RCOPY File Transfer Protocol Description*** -- Describes the machine-to-machine interface to the AT&T network for call detail management functions. In addition, interfacing systems must also meet the following criteria:
1. The physical level must be signal compatible with the Digital Data System Channel Interface as described in AT&T Technical Reference 62310, and provide a CCITT Recommendation V.35 interface at the 56 Kbps rate or EIA RS-232-C interface at the 9.6 Kbps, 4.8 Kbps, or 2.4 Kbps rate.
2. The link level must conform to the CCITT Recommendation X.25 Link Access Procedure -Balanced (LAPB).
3. The packet level must support an interface that conforms to CCITT Recommendation X.25 as described in AT&T Technical Reference 54010, and must support the Switch Virtual Circuit (SVC) capability.

• ***Section 3: Bulk Detail Data Download*** -- Describes the formats of the Bulk Detail Data Download Files. Both the Binary Coded Decimal (BCD) and ASCII formats are described.

• ***Section 4: Extended Bulk Detail Data Download*** -- Describes the formats of the Extended Bulk Detail Data Download Files. Both the Binary Coded Decimal (BCD) and ASCII formats are described.

• ***Section 5: Partial Bulk Detail Data Download*** -- Provides an overview of the Partial Bulk Detail Data Download. A reference to the document that provides a complete description is included.

• ***Section 6: Network Remote Access Exception File Format Description***-- Describes the format of the Network Remote Access (NRA) Exception File. Also described is the format of each individual exception message within the NRA file.

• ***Section 7: Directory and File Naming Conventions***-- Describes the destination directory names and the destination file names for RNI and UUCP transfers from the OCDD/RT host to a remote destination for the following:
— user ASCII reports
— bulk data downloads
— NRA files

• ***Section 8: Downloads and Reports to PCs***-- Describes the capability to download reports and bulk call detail data to personal computers.

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• ***Section 9: Acronym List***

1. Introduction

AT&T Call Detail Data is a cross-services capability that will provide business customers with access to detailed information on each call made or received by users of AT&T switched services (domestic and international). This data is provided by the AT&T On-Line Call Detail Data / Real Time (OCDD/RT) host. This capability will support planned call detail management functions of Direct Connect WATS Service, MEGACOM WATS Service, 800 READYLINE® Service, MEGACOM® 800 Service, MultiQuest®Services, Inbound HICAP Service, Software Defined Network (SDN) Service, and International 800 Service.

1.1 Service Description

AT&T Call Detail Data will provide an interface to the following AT&T services for call detail management applications: MEGACOM WATS and Direct Connect WATS Service, 800 READYLINE Service, MEGACOM 800 Service, MultiQuest Services, Inbound HICAP Service, Software Defined Network (SDN) Service, and International 800 Service (Inbound & Outbound).

1.1.1 MEGACOM WATS and Direct Connect WATS

MEGACOM WATS and Direct Connect WATS use the AT&T Worldwide Intelligent Network to transmit voice, data (up to 9.6 Kbps), and graphics information. MEGACOM WATS is designed for businesses generating large volumes of interstate calls, intrastate calls, and international calls. Both MEGACOM WATS and Direct Connect WATS access connect a business premises to an AT&T service office via dedicated facilities.

1.1.2 Classic 800 Service

AT&T Classic 800 Service uses the AT&T Worldwide Intelligent Network to provide voice, data (up to 9.6 Kbps), and graphics information to the subscriber's location from any one of six geographic service areas. Incoming calls are billed on a bulk rate basis rather than on an individual billing basis. AT&T Call Detail Data will support planned call detail management functions of Classic 800 Service.

1.1.3 800 READYLINE Service

AT&T 800 READYLINE Service uses the AT&T Worldwide Intelligent Network to receive voice, data (up to 9.6 Kbps), and graphics information. READYLINE Service enables customers to receive interstate, intrastate, and 800 calls over the telephone line(s) from any station in the continental U.S., Alaska, Hawaii, Puerto Rico, and the U.S. Virgin Islands. AT&T Call Detail Data will support planned call detail management functions of 800 READYLINE Service.

1.1.4 MEGACOM 800 Service

MEGACOM 800 Service uses the AT&T Worldwide Intelligent Network to receive voice, data (up to 9.6 Kbps), and graphics information. It is designed for businesses receiving large volumes of interstate calls, intrastate calls, as well as calls from Alaska, Hawaii, Puerto Rico, and the U.S. Virgin Islands. MEGACOM 800 access connects a business premises to an AT&T service office via dedicated facilities. AT&T Call Detail Data will support planned call detail management functions of MEGACOM 800 Service.

1.1.5 MultiQuest Services

MultiQuest Services use the AT&T Worldwide Intelligent Network to receive voice, and data (up to 9.6 Kbps) information. This 900-type of calling is designed for businesses that provide a variety of information to callers via two-way communications. MultiQuest access connects a business premises to an AT&T service office via dedicated facilities.

AT&T Call Detail Data will support planned call detail management functions of the MultiQuest Services.

1.1.6 Inbound HICAP Service

AT&T Inbound HICAP Service uses the AT&T Worldwide Intelligent Network to receive voice, and data (up to 9.6 Kbps), and graphics information. This service is designed for businesses receiving extremely large volumes (up to 7500 calls/minute) of interstate and intrastate calls. Inbound HICAP access connects a business premises to an AT&T service office via dedicated facilities. AT&T Call Detail Data will support planned call detail management functions of the Inbound HICAP Service.

1.1.7 Software Defined Network

Software Defined Network (SDN) is a virtual private network that enables companies to build private corporate networks (domestic and international) within the AT&T Worldwide Intelligent Network. To connect company locations to the AT&T Worldwide Intelligent Network and provide a path for calls to enter and exit the network, an access (dedicated or switched) arrangement must be established. AT&T Call Detail Data will support planned call detail management functions of Software Defined Network.

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1.1.8 International 800

International 800 (Inbound) uses the AT&T Worldwide Intelligent Network for calls that originate in a foreign country and terminate in the United States mainland and are billed by AT&T. International 800 (Outbound) uses the AT&T Worldwide Intelligent Network for calls that originate in the United States mainland (when callers dial 1-800-NXX-XXXX toll-free) and terminate in a foreign country. AT&T Call Detail Data will support planned call detail management functions of International 800 Service (Inbound & Outbound).

2. RCOPY File Transfer Protocol Description

2.1 Introduction

This section documents the RCOPY file transfer protocol and is organized in two parts. The first part contains the application level message protocol. The second part contains the network level protocol on which the application is built.

2.2 File Transfer Message Protocol

The RCOPY protocol transfers files between two machines. The protocol follows a client/server model in which a client connects to a server process to request a file transfer. The server acts as a Listener waiting for connection requests. The network level protocol described in Section 2.3 is to be used for connection establishment, data transfer, and connection release. The Connector establishes the connection to the Listener. Failure to establish a connection results in the file transfer being aborted. Figure 1 entitled "File Transfer Message Protocol" shows the message flow between the client (Connector) and the server (Listener). The messages in Figure 1 are exchanged after the connection is established. When the message set completes the connection is released. Any failures during data transfer cause the file transfer to abort. Any transfer aborts cause the connection to be released. Once the connection is established the control information is exchanged. After the control information is exchanged the roles of Sender and Receiver are assumed depending on the location of the file. The Sender transfers the file to the Receiver. Multiple files may be transferred in a single connection by repeating the Sender and Receiver messages. The following sections contain the descriptions of the messages. All messages are ASCII text with the exception of the actual file segments. The field separators for attributes within all messages is a blank.

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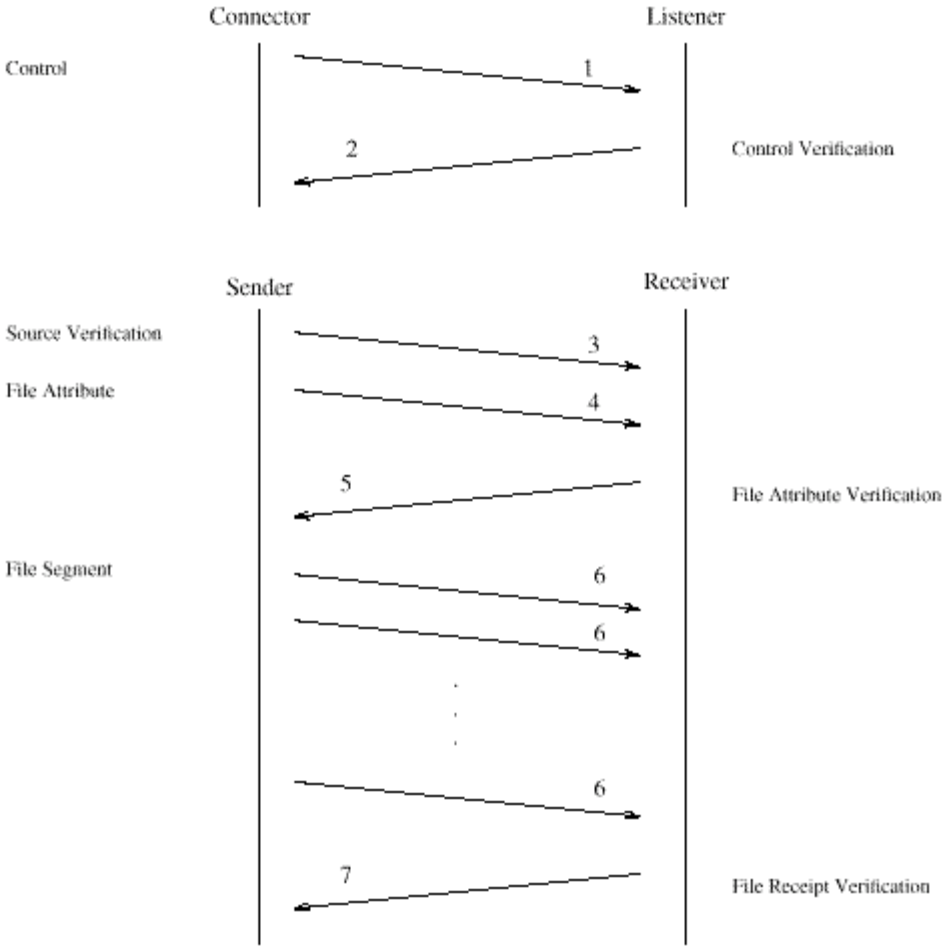

Figure 1. File Transfer Message Protocol

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2.2.1 Control Message

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The control message specifies the initial copy attributes. It is sent by the Connector to the Listener. The structure of the message is :
U=*user* **S=***sflag* **D=***dflag* **F=***file*
User is the user login ID of the caller. *Sflag* is 0 if the Connector sends the file to the Listener, and 1 if the Listener sends the file to the Connector. *Dflag* is 1 if the destination should be a directory, 0 otherwise. *File* is the file name to be sent or destination name to be received into. The message is NULL character terminated and the length will be less than 256 bytes.

2.2.2 Control Verification Message

The control verification message acknowledges the control message information. It is sent by the Listener to the Connector. The structure of the message is :
V=*vflag* **M=***msg*
Vflag is 1 if the control information is accepted, and -1 if it is rejected (e.g., permission problems, nonexistent files). A *vflag* of -1 should result in the transfer being aborted. *Msg* is descriptive text of the verification terminated with a newline character. This allows a user to be informed why a transfer is aborted. The text descriptions are not defined as part of the protocol. The message is NULL character terminated and the length will be less than 256 btes.

2.2.3 Source Verification Message

The source verification message acknowledges that the source file can be transferred. It is sent by the Sender to the Receiver. The structure of the message is : nf
V=*vflag* **M=***msg*
Vflag is 1 if the source file can be transferred, otherwise -1. A *vflag* of -1 should result in the transfer being aborted. *Msg* is descriptive text of the verification terminated with a newline character. This allows a user to be informed why a transfer is aborted. The text descriptions are not defined as part of the protocol. The message is NULL character terminated and the length will be less than 256 bytes.

2.2.4 File Attribute Message

The file attribute contains the attributes of the file to be transferred. It is sent by the Sender to the Receiver. The structure of the message is :
F=*file* **M=***mode* **S=***size* **N=***left*
File is the source file name. *Mode* is the octal representation of the file mode. *Size* is the size in bytes of the file. *Left* is the number of files remaining to be transferred. When *left* is greater than 0, more files remain to be transferred after this file. The message is NULL character terminated and the length will be less than 256 bytes.

2.2.5 File Attribute Verification Message

The file attribute verification message acknowledges the file attribute information. It is sent by the Receiver to the Sender. The structure of the message is :
V=*vflag* **M=***msg*

Vflag is 1 if the file attribute information is accepted, and -1 if it is rejected. A *vflag* of -1 should result in the transfer being aborted. *Msg* is descriptive text of the verification terminated with a newline character. This allows a user to be informed why a transfer is aborted. The text descriptions are not defined as part of the protocol. The message is NULL character terminated and the length will be less than 256 bytes.

2.2.6 File Segment Message

The source file is broken into file segment messages. The messages are sent by the Sender to the Receiver. There is no special format to the messages. The file is broken into segments of length 2048 bytes with the last segment possibly shorter.

2.2.7 File Receipt Verification Message

The file receipt verification message acknowledges the file receipt. It is sent by the Receiver to the Sender. The structure of the message is :
V=*vflag* **M=***msg*
Vflag is 1 if the file was successfully received, otherwise -1. A *vflag* of -1 should result in the transfer being aborted. *Msg* is descriptive text of the verification terminated with a newline character. This allows a user to be informed why a transfer is aborted. The text descriptions are not defined as part of the protocol. The message is NULL character terminated and the length will be less than 256 bytes.

2.3 Network Protocol

The network level protocol consists of connection establishment, data transfer, and connection release. The network level protocol services are provided by a network provider. The network provider provides connection-mode service which has reliable virtual circuits. The network provider choice is specific to the application using RCOPY and not documented here. It will be assumed that the network provider provides data transfer integrity.

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2.3.1 Connection Establishment

Figure 2 shows the connection establishment mechanism which can be mapped to the appropriate network provider calls. The Connector and Listener must first identify itself to the network provider. The Listener must establish a listen endpoint for the Connector to connect to. The Connector issues a call request to the Listener at the address specific to the network provider. The Listener may accept or reject the request. If the request is accepted a virtual circuit between the Connector and Listener is formed.

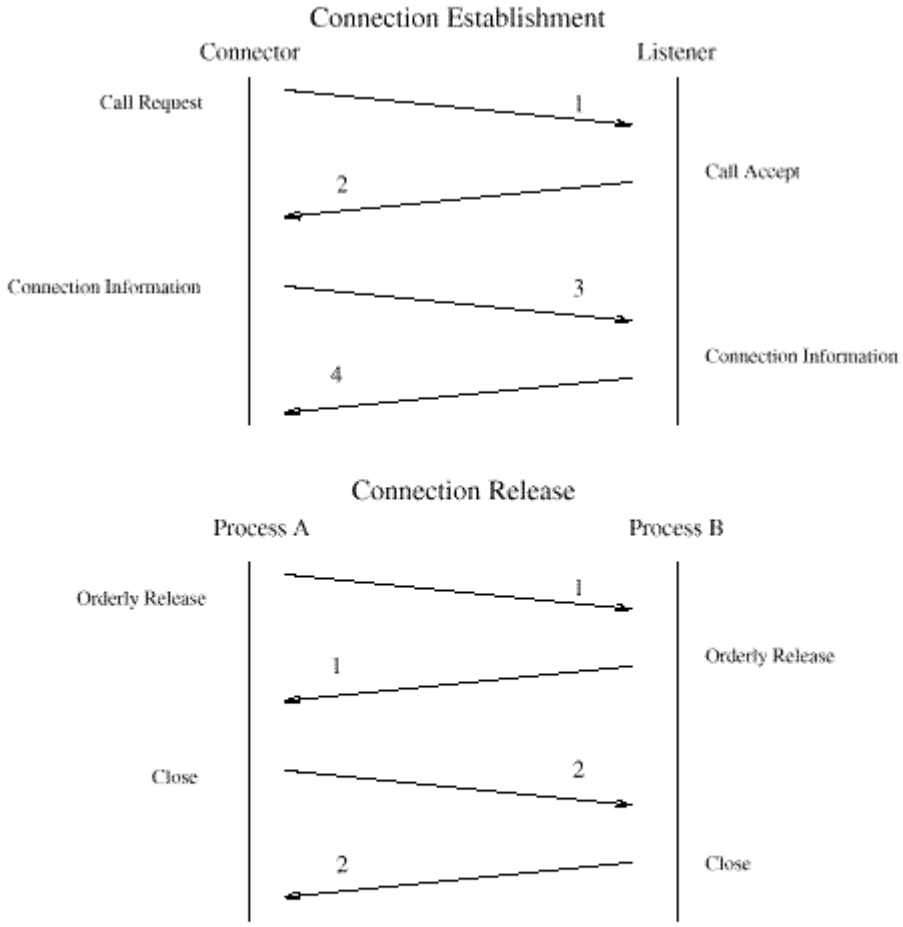

Figure 2. Connection Establishment and Release

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Once the connection has been established the Connector sends a connection information message to the Listener. This message identifies the Connector's host name, service name, and machine type. This message is a 100 byte message as follows:

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Bytes	Type	Name	Value
0-2	binary	size	size in *big endian* byte format
2-10	ASCII	domain	NULL terminated string
11-41	ASCII	service	NULL terminated string "rcopy"
42-50	ASCII	host	NULL terminated string
51-81	ASCII	remote service	NULL terminated string "rcopy"
82-85	ASCII	format	NULL characters
86-89	ASCII	context	NULL terminated string "raw"
90-98	ASCII	machine	NULL terminated string
99	ASCII	instance	1

Domain is the network routing domain name of the application. *Host* is the host name of the machine running the application. *Machine* is the machine type as returned by the UNIX® command *uname(1)*. The tuple of domain, host, service, context and instance uniquely identify an application. The message is transferred using the data transfer mechanisms described below. After the Listener receives the connection information, it replies with its connection information message. The structure of the message is the same as sent by the Connector. Errors in the transfer or content of the connection information should result in the connection being released.

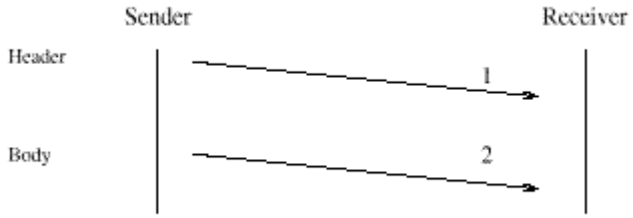

Figure 3. Data Transfer

2.3.2 Data Transfer

Figure 3 shows the data transfer mechanism which can be mapped to the appropriate network provider calls. Messages are sent by the Sender and received by the Receiver. Once a connection is established either side may transfer data. Application messages are transferred as a header/body pair. For each application message to be transferred,a header is transmitted first, followed by the body containing the application message. The header describes the structure of the body. It is a 4 byte structure. The four bytes are the binary representation of the size in bytes of the body in *big endian* byte format. The data transfers should be regarded as normal data by the network provider.

2.3.3 Connection Release

Figure 2 entitled "Connection Establishment and Release" (see section 2.3.1), shows the connection release mechanism which can be mapped to the appropriate network provider calls. The connection release is an orderly release to guarantee no data will be lost. Either side may release the connection. When the network provider does not support orderly release, the initiator of the release should wait for the other side to close before closing. Orderly release procedures consist of two steps by each side. The first step is to issue an orderly release. Both sides complete step 1 before going to step 2. The second step is to close the connection.

3. Bulk Detail Data Download

3.1 Limited BCD Bulk Detail Data Download Format Description

This section describes the file format for Limited BCD Bulk Detail Data (BDD) downloads offered by AT&T's Call Detail Data (CDD) capability. This single format will be used for all Limited BCD BDD

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downloads, regardless of the AT&T service type associated with the calls. The download file may be received in either a compressed or noncompressed state. Refer to Section 3.3 entitled "BDD Compression" for information on the "compression" options available. The Limited BCD BDD download file format consists of two parts: an ASCII-encoded file header (see Section 3.1.1) and a BCD-encoded file body containing CDD records (see Section 3.1.3).

3.1.1 Limited BDD File Header Format

Each BDD download will be preceded with an ASCII-encoded file header. The Limited BDD file header is 116 bytes in length. The file header is composed of fourteen fixed-length fields (with no field separators), as described in Table 3.1-1 and Section 3.1.2.

Table 3.1-1. Limited BDD File Header

FILE HEADER FORMAT		
FIELD NO.	**FIELD NAME**	**DESCRIPTION**
1	File Length in Bytes	9 digits
2	Subscriber ID	16 digits
3	Subaccount Name	8 characters
4	Login ID	8 characters
5	No. of Services in Request	2 digits
6	Service Type	4 characters
7	Request ID	3 digits
8	File Creation Time Stamp	14 characters (MM:dd:yy:hh:mm)
9	Start Date	8 characters (MM:dd:yy)
10	Start Time	5 characters (hh:mm)
11	End Date	8 characters (MM:dd:yy)
12	End Time	5 characters (hh:mm)
13	Call Record Count	6 digits
14	Customer-Provided Header	20 characters

3.1.2 Limited BDD File Header Field Descriptions

Each field in the file header is described below.

3.1.2.1 File Length in Bytes

This field presents the length (in bytes) of the file, where the file is composed of a file header and a file body. The *File Length in Bytes* field is 9 digits in length. This field is right justified and zero filled.

3.1.2.2 Subscriber ID

This field specifies the unique identification number of the OCDD/RT subscriber whose data are contained in this file. The *Subscriber ID* field is 16 digits in length, right justified and zero filled.

3.1.2.3 Subaccount Name

This field specifies the name of the subaccount associated with data in this file. The *Subaccount Name* field is 8 characters in length, left justified, and blank 1 filled.

3.1.2.4 Login ID

This field specifies the login identifier of the user who requested the BDD download. The *Login ID* field is 8 characters in length, left justified, and blank filled.

3.1.2.5 Number of Services in Request

This field indicates how many service-specific files of call records will be sent to fulfill this BDD request. For example, if a BDD request involves call records from M800, C800, and SDN services, then each of the three service-specific call record files will be preceded by a file header that contains the value "3" in this field. (The service identity for each file will be given in the "Service Type" field; see Section 3.1.2.6.) The *No. of Services in Request* field is 2 digits in length. This field is right justified and zero filled.

3.1.2.6 Service Type

This field shows the AT&T service to which the CDD records belong. The *Service Type* field is 4 characters in length, may have one of the values shown in Table 3.1-2, left justified, and blank filled.

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Table 3.1-2. Service Type Codes

SERVICE CODE	INTERPRETATION
C800	Classic 800 Service
M800	MEGACOM 800 Service
RDYL	READYLINE Service
HCAP	Hi-CAP Service
MQST	MultiQuest Service
SDN	Software Defined Network
GSDN	Global SDN
I800	International 800
MWAT	MEGACOM WATS Service
800	I800,M800,C800, and RDYL
INB	C800,M800,RDYL,I800,MQST, and HCAP
OUTB	SDN,GSDN, and MWAT

1. "Blank" (space) is defined as "Hex 20" in ASCII.

3.1.2.7 Request ID
This field shows the system ID generated by this BDD download request. The *Request ID* field is 3 digits in
length. This field is right justified and zero filled.
3.1.2.8 File Creation Time Stamp
This field shows the time and date that this file was created. The format for this time stamp is MM:dd:yy:hh:mm, where MM = month (01-12), dd = day (01-31), yy = year (00-99), hh = hour (00-23), and mm = minute (00-59).
3.1.2.9 Start Date
This field shows the start date of the selection interval for the CDD records included in this file. The format is MM:dd:yy, where MM = month (01-12), dd = day (01-31), and yy = year (00-99).
3.1.2.10 Start Time
This field shows the start time of the selection interval for the CDD records included in this file. The format is hh:mm, where hh = hour (00-23) and mm = minute (00-59).
3.1.2.11 End Date
This field shows the end date of the selection interval for the CDD records included in this file. The format is MM:dd:yy, where MM = month (01-12), dd = day (01-31), and yy = year (00-99).
3.1.2.12 End Time
This field shows the end time of the selection interval for the CDD records included in this file. The format is hh:mm, where hh = hour (00-23) and mm = minute (00-59).
3.1.2.13 Call Record Count
This field shows the number of CDD records in this file. The maximum number of records in a download is 999,999. The *Call Record Count* field is 6 digits in length, right justified, and zero filled.
3.1.2.14 Customer-Provided Header
This field stores the header information provided by the customer at the time of the BDD download request. The *Customer-Provided Header* field is 20 characters in length, left justified, and blank filled.

3.1.3 BCD File Body (CDD Record) Format

The BDD file body consists of variable-length CDD records, each with a unique "End of Record" marker.(Call records can have different lengths because particular fields may or may not contain information, depending on the service and/or features used for the call.) The exact number of records in the file is defined in the file header. The exact length of a call record is defined in the first field of that call record. The format of each field in the call record is described below and further in Section 3.1.4. The BDD download file body will be Binary Coded Decimal (BCD) or ASCII encoded. The CDD record format for BCD BDD downloads will be as described in Table 3.1-3 and Section 3.1.4. The format for ASCII BDD downloads is described in Section 3.2.2.

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Table 3.1-3. Limited BCD BDD Format of CDD Records

BCD BDD CALL RECORD FORMAT		
FIELD NO.	**FIELD NAME**	**BCD LENGTH**
1	Length of Record in Bytes	3
2	Structure Code	5
3	Call Code	3
4	Incoming Switch ID	6
5	Connect Date	5
6	Connect Time	7
7	Timing Indicator	5
8	Answer Indicator	1
9	Originating Number	12
10	Dialed Number	12
11	Terminating Number	12
12	Elapsed Time	8
13	Call Progress Stopped	1
14	Transport Tariff/Usage Sensitive Features	4
15	Station Group Designator	1
16	Authorization Code	15
17	Incoming Trunk Subgroup Number	5
18	Incoming Trunk Subgroup Member Number	4
19	Data Rate Indicator	3
20	ACI Features	3
21	Station Identification (SID)	10
22	Count of Message-Associated UUI	5
23	Count of Call-Associated TVC UUI	7
24	Elapsed Time in Queue	8
25	Service Feature Indicator	3
26	Service Feature	3
27	Bill-to Indicator	1
28	Service Indicator Code (SIC)	3
29	Announcements before Routing	2
30	Alternate Billing Number	10
31	Present Date	5
32	Present Time	7
33	WATS Indicator	1
34	WATS Band or Type Indicator	3
35	SID Indicator	1
36	Time Digits Outpulsed	7
37	Call Disposition Code	3

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BCD BDD CALL RECORD FORMAT (continued)		
FIELD NO.	**FIELD NAME**	**BCD LENGTH**
38	Incoming Access Indicator	1
39	Entered Digits	30
40	Outgoing Switch ID	6
41	Outgoing Access Indicator	1
42	Outgoing Trunk Subgroup Number	5
43	Outgoing Trunk Subgroup Member Number	4
44	Outpulsed Digits	24
45	Charge Number	10
46	Toll-Free Number	7
47	VAB Rate Indicator	1
48	VAB New Charge	5
49	VAB Elapsed Time	8
50	Announcements Elapsed Time	8
51	CPRating Announcement	5
52	CPRating Digits	24
53	Customer Features Available	4
54	Far End NPA	3
55	OLI/II Digits	2
56	Operator Services	1
57	CPR Status Indicator	1
58	TT/USFI Child (TTChild)	5
59	CSID Indication	1

The field sequence shown in the previous table entitled "Limited BCD BDD Format of CDD Records" will be followed for all call detail data records. The only exception is defined below, for a special use of the "End of Record" marker. Within any BCD field, "Hex A" is defined to represent the "#" character, "Hex B" is defined to represent the "*" character, and "Hex C" is defined to be used as the "null character".

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For each call record, a unique, BCD-encoded "Empty Field" marker (a single "Hex D") will be used to replace any field in this sequence that is unpopulated (missing data) or not applicable for the call record. A unique BCD-encoded "End of Record" marker (a single "Hex E") will be used to mark the end of each call record. If the total length of the call record (including the "End of Record" marker) includes a partial byte (i.e., does not fall on a byte boundary), a second "Hex E" will be appended to the record. In the simplest case, the "End of Record" marker(s) will appear after field #59 (*CSID Indication*). However, if (at any position in the call record sequence) all remaining fields for a record are unpopulated, the remaining fields will be truncated and the "End of Record" marker(s) will be sent immediately following the last populated field. For example, if the first 19 fields of a particular call record are either populated with data or marked with "Empty Field" markers, field 20 is populated with data, and fields 21-59 are unpopulated, then the "End of Record" marker(s) would appear immediately after field #20.
In summary, hexadecimal characters A through F will be used to represent the following special circumstances:
• *Hexadecimal A ("Hex A"):* is used to represent a "#" character position.
• *Hexadecimal B ("Hex B"):* is used to represent a "*" character position.
• *Hexadecimal C ("Hex C"):* is used to represent a "null" character position.
• *Hexadecimal D ("Hex D"):* is used to represent an empty data field.
• *Hexadecimal E ("Hex E"):* is used to represent the end of each call record.
• *Hexadecimal F ("Hex F"):* is used to represent an unknown or errored character position.

3.1.4 Limited BCD BDD Call Record Field Descriptions

A description of each call record field follows. Note that in some instances a field may contain a value not listed in the field description given below. If this unlisted value is something other than a special-purpose Hex character (as described in Section 3.1.3), it should be ignored.
For more information about various fields, see [1] .

3.1.4.1 Length of Record in Bytes

The length (in bytes) of this call record (including this field) is recorded in the *BDD Length of Record in Bytes* field. This field is 3 BCD characters in length, right justified, and zero filled.

3.1.4.2 Structure Code

The *BDD Structure Code* field is 5 BCD characters in length, right justified, and zero filled. This field is populated as follows:
• The first character of the BDD field contains the first digit of the Structure Code (ten thousands).
• The second character contains the second digit of the Structure Code field (thousands).
• The third character contains the third digit of the Structure Code field (hundreds).
• The fourth character contains the fourth digit of the Structure Code field (tens).
• The fifth character contains the fifth digit of the Structure Code field (ones).
For example, with structure code 01063, the first BCD character is "0," and the fifth BCD character is "3."

3.1.4.3 Call Code

The *BDD Call Code* field shows the type of call being recorded. This field is 3 BCD characters in length, right justified, and zero filled. This field is populated as follows:
• The first character of the BDD field contains the first digit of the Call Code (hundreds).
• The second character contains the second digit of the Call Code (tens).
• The third character contains the third digit of the Call Code (ones).
For example, with call code 129, the first BCD character is "1," and the third BCD character is "9."
The list of applicable call codes and their interpretation is shown in Table 3.1-4.

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Table 3.1-4. Call Codes

CALL CODE		INTERPRETATION
100	=	DSDC-Classic 800/A800II
129	=	Basic SDN Call
130	=	SDN Teleconferencing Leg Record
309	=	MEGACOM
318	=	Direct Connect WATS
324	=	I800 Inbound
325	=	Toll-Free MEGACOM
326	=	I800 Outbound
360	=	OSO-FTS2000 Inbound Toll-Free Services, MultiQuest - HICAP
364	=	800 READYLINE
365	=	Custom Net
900	=	MultiQuest
911	=	Classic 800, 800 READYLINE, MEGACOM 800, MultiQuest, I800, Hi-CAP (Alternate Number Translation)

3.1.4.4 Incoming Switch Identification

The *BDD Incoming Switch ID* field uniquely identifies the switching node from which the record's information was received. This field is 6 BCD characters in length, right justified, and zero filled. This field is populated as follows:

- The first BCD character in the BDD field contains the first digit of the Incoming Switch ID code.
- The second BCD character contains the second digit of the Incoming Switch ID code.
- The third BCD character contains the third digit of the Incoming Switch ID code.
- The fourth BCD character contains the fourth digit of the Incoming Switch ID code.
- The fifth BCD character contains the fifth digit of the Incoming Switch ID code.
- The sixth BCD character contains the sixth digit of the Incoming Switch ID code.

The list of applicable Incoming Switch ID codes and their interpretation is shown in Table 3.1-5.

Table 3.1-5. Incoming Switch ID Codes

BCD CHAR.	INTERPRETATION
1-3	Three-digit NPA (area code) of recording location
4	Time Zone: 1 = Bering 2 = Alaska, Hawaii 3 = Yukon 4 = Pacific 5 = Mountain 6 = Central 7 = Eastern 8 = Atlantic 9 = International
5	Daylight Indicator: 0 = Observed 1 = Not Observed 2 = Observed 3 = Not Observed
6	Unique ID of recording location

3.1.4.5 Connect Date

For records not associated with long duration calls, the *BDD Connect Date* field provides either the date on which the call was answered or for unanswered calls, the date on which the circuit was released. For long duration call (midnights passed) records, this field contains the beginning date associated with the portion of the long duration call described by this record.

The *BDD Connect Date* is 5 BCD characters in length and populated as follows:

- The first character of the BDD field contains the last digit of the year (0-9).
- The second character marks the tens place for month (0 or 1).
- The third character marks the ones place for month (0-9).
- The fourth character marks the tens place for day (0-3).

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• The fifth character marks the ones place for day (0-9).

3.1.4.6 Connect Time

For records not associated with long duration calls, the *BDD Connect Time* field provides either the time at which the call was answered or for unanswered calls, the time at which the circuit was released. For long duration call (midnights passed) records, this field contains the beginning time associated with the portion of the long duration call described by this record.

The *BDD Connect Time* field is 7 BCD characters in length and populated as follows:

• The first character of the BDD field contains the tens of hours (0-2).
• The second character contains the ones place for hours (0-9).
• The third character contains the tens place for minutes (0-5).
• The fourth character contains the ones place for minutes (0-9).
• The fifth character contains the tens place for seconds (0-5).
• The sixth character contains the ones place for seconds (0-9).
• The seventh character contains the tenths of a second (0-9).

3.1.4.7 Timing Indicator

The *BDD Timing Indicator* field presents information about a variety of timing anomalies. This field is 5 BCD characters in length and populated as follows:

• The first character of the BDD field contains the first digit of the Timing Indicator code.
• The second character contains the second digit of the Timing Indicator code.
• The third character contains the third digit of the Timing Indicator code.
• The fourth character contains the fourth digit of the Timing Indicator code.
• The fifth character contains the fifth digit of the Timing Indicator code.

The list of applicable Timing Indicator codes and their interpretation is shown in Table 3.1-6.

Table 3.1-6. Timing Indicator Codes

BCD CHAR.	INTERPRETATION
1	0 = Not used 1 = Time Release Disconnect (TRD) 3 = Single Time Line (not used in TSPS)
2	To be ignored
3	0 = Not Long Duration call 1 = Start or activation of Type "A" Long Duration record 2 = Continuation of Type "B" Long-Duration record 3 = End of Type "C" Long-Duration record 4 = Old type Long-Duration call 5 = Complete Long-Duration call (or activation) disconnect before a record output (Type "D" record)
4	0 = Not used 1 = Charge guard (elapsed time) 2 = Message register not stroked 3 = Charge guard and message register not stroked 4 = Charge guard (elapsed time from carrier connect) 5 = Charge guard (elapsed time and elapsed time from carrier connect
5	0 = Not used 1 = Possible time stamp error (answer time) 2 = Possible time stamp error (carrier connect) 3 = Possible time stamp error (answer time and carrier connect) 4 = Time charge rating discrepancy

3.1.4.8 Answer Indicator

The *BDD Answer Indicator* field is 1 BCD character in length. The list of Answer Indicator codes and their interpretation is shown in Table 3.1-7.

Table 3.1-7. Answer Indicator Codes

ANSWER INDIC.	INTERPRETATION
0 or 7 =	Complete
1-6,8 =	Incomplete

3.1.4.9 Originating Number

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The number that originated this call will have the form 1-NPA-NXX-XXXX. The *BDD Originating Number* field is 12 BCD characters in length and populated as follows:
• The first character of the BDD field contains a BCD "null" character ("Hex C").
• The second character contains a "1."
• The third character contains the first digit of the NPA.
• The fourth character contains the second digit of the NPA.
• The fifth character contains the third digit of the NPA.
• The sixth character contains the first digit of the NXX.
• The seventh character contains the second digit of the NXX.
• The eighth character contains the third digit of the NXX.
• The ninth character contains the first digit of the line number (station ID, XXXX).
• The tenth character contains the second digit of the line number (station ID, XXXX).
• The eleventh character contains the third digit of the line number (station ID, XXXX).
• The twelfth character contains the fourth digit of the line number (station ID, XXXX).
For example, with 1-201-555-7558, the first NPA digit is "2," the first NXX digit is "5," the first line number (XXXX) digit is "7," and the last line number (XXXX) digit is "8."
Note: For I800 Inbound calls , the originating number will contain "C1" and the CCITT country code designating the country where the call originated. The CCITT country code is right-justified in the NPA field and zero filled in the NXX-XXXX number.

3.1.4.10 Dialed Number

World Zone 1 [2] (WZ1) calls have dialed numbers 10 digits in length; a "1" will be prepended to these numbers, making the total length 11 digits (1-NPA-NXX-XXXX). Non-World Zone 1 [3] (NWZ1) calls may have dialed numbers 5-12 digits in length.
The *BDD Dialed Number* field is 12 BCD characters in length.
The format is different for calls to WZ1 locations and NWZ1 locations.
— For World Zone 1 calls, the *BDD Dialed Number* field is populated as follows:
• The first character of the BDD field contains a "null" character ("Hex C").
• The second character contains a BCD "1."
• The third character contains the first digit of the NPA.
• The fourth character contains the second digit of the NPA.
• The fifth character contains the third digit of the NPA.
• The sixth character contains the first digit of the NXX.
• The seventh character contains the second digit of the NXX.
• The eighth character contains the third digit of the NXX.
• The ninth character contains the first digit of the line number (station ID, XXXX).
• The tenth character contains the second digit of the line number (station ID, XXXX).
• The eleventh character contains the third digit of the line number (station ID, XXXX).
• The twelfth character contains the fourth digit of the line number (station ID, XXXX).
— For Non-World Zone 1 calls, the *BDD Dialed Number* field contains a 5- to 12-digit number, right justified, and "null" ("Hex C") filled.
For I800 Inbound calls, the dialed number field will contain "C11960000000" (i.e., "196" is the dialed NPA and zeros in the Dialed Number portion

2. World Zone 1 (WZ1) is composed of any locations that are part of the North American Numbering Plan (i.e., those locations that are dialed using the "1-NPA-NXX-XXXX" format).
3. Non-World Zone 1 (NWZ1) is composed of any locations that are *not* part of the North American Numbering Plan.

3.1.4.11 Terminating Number

The terminating number fields may or may not be the same as the dialed number fields depending upon the translations used to route the call. WZ1 calls contain terminating numbers 10 digits in length; a "1" will be prepended to these numbers, making the final length 11 digits (1-NPA-NXX-XXXX). NWZ1 calls may contain terminating numbers 5-12 digits in length.
The *BDD Terminating Number* field is 12 BCD characters in length.
The format is different for calls that terminate at WZ1 locations and NWZ1 locations.
— For World Zone 1 calls, the *BDD Terminating Number* field is populated as follows:

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• The first character of the BDD field contains a "null" character ("Hex C").
• The second character contains a BCD "1."
• The third character contains the first digit of the NPA.
• The fourth character contains the second digit of the NPA.
• The fifth character contains the third digit of the NPA.
• The sixth character contains the first digit of the NXX.
• The seventh character contains the second digit of the NXX.
• The eighth character contains the third digit of the NXX.
• The ninth character contains the first digit of the line number (station ID, XXXX).
• The tenth character contains the second digit of the line number (station ID, XXXX).
• The eleventh character contains the third digit of the line number (station ID, XXXX).
• The twelfth character contains the fourth digit of the line number (station ID, XXXX).

— For Non-World Zone 1 calls, the *BDD Terminating Number* field contains a 5- to 12-digit number, right justified, and "null" ("Hex C") filled.

For SDN International and I800 Outbound calls, the terminating number is an international number of the format: CCITT Country Code followed by the City Code and Local Number.

3.1.4.12 Elapsed Time

The *BDD Elapsed Time* field specifies the duration of a call in minutes, seconds and tenths-of-a-second format. For unanswered calls, the field value is zero.

The *BDD Elapsed Time* field is 8 BCD characters in length and populated as follows:
• The first character of the BDD field marks the ten thousands place for minutes (0-9).
• The second character marks the thousands place for minutes (0-9).
• The third character marks the hundreds place for minutes (0-9).
• The fourth character marks the tens place for minutes (0-9).
• The fifth character marks the ones place for minutes (0-9).
• The sixth character marks the tens place for seconds (0-5).
• The seventh character marks the ones place for seconds (0-9).
• The eighth character contains tenths of a second (0-9).

3.1.4.13 Call Progress Stopped

The *BDD Call Progress Stopped* field indicates whether the call was denied at the Network Control Point (NCP) in the AT&T Network. This field is 1 BCD character in length.

The list of applicable Call Progress Stopped codes and their interpretation is shown in Table 3.1-8.

Table 3.1-8. Call Progress Stopped Codes

CALL PROG. STOP. CODE		INTERPRETATION
0	=	No indication in this character
1	=	No NCP blockage (e.g., call complete, ring-no-answer, etc)
2	=	Screening or privilege blockage
3	=	Resource blockage
4	=	Nonexistent on-net number or feature code
5	=	No digits received at the NSC
6	=	Nonexistent or inactive authorization code
7	=	Crisis Management (call routed to an announcement)
8	=	Foreign database blockage

3.1.4.14 Transport Tariff/Usage Sensitive Features

The *BDD Transport Tariff/Usage Sensitive Features* (TT/USF) field describes the type of SDN access and egress traversed by a voice or 56-Kbps data call (e.g., dedicated egress, dedicated egress Private Network Interface, direct connect, remote access, switched access, etc).

This BDD field is 4 BCD characters in length and populated as follows:
• The first character of the BDD field contains the first digit of the TT/USF code.
• The second character contains the second digit of the TT/USF code.
• The third character contains the third digit of the TT/USF code.

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• The fourth character contains the fourth digit of the TT/USF code.
For example, with TT/USF code "3401," the first digit is "3," and the fourth digit is "1."
The list of TT/USF codes and their interpretation is shown in Table 3.1-9.

Table 3.1-9. TT/USFI Codes

BCD CHAR.	INTERPRETATION
1	0 = No Indication 1 = Centrex Station ID
2	0 = Dedicated Egress (On-Net Dialed #) 1 = Switched Egress, On-Net Dialed #, Call used Off-Net Overflow 2 = Dedicated Egress (Off-Net Dialed #) 3 = Switched Egress (Off-Net Dialed #), Call used Off-Net Routing initially 4 = Dedicated Egress (On-Net), [Outbound GSDN Call]
3	0 = Direct Connect 1 = Remote access 2 = Switched access 3 = Remote and Switched access 4 = 56 Kbps (direct connect SDN during transmission) 5 = 56 Kbps (remote access during transmission) 6 = 56 Kbps (switched access) 7 = 56 Kbps (remote and switched access)
4	0 = No Indication 1 = SDN Cellular Access 2 = Simulated Test Call 3 = Simulated Test Call and Cellular Access 4 = SDN Call Detail Recording (CDR) 5 = SDN CDR + Local Exchange Service Area (LESA) 6 = SDN CDR + simulated test call 7 = SDN CDR + simulated test call to LESA
5	0 = Initial call in sequence dialing, or no indication 1 = Special Announcement Played 2 = NRA subsequent call 3 = Special Announcement and NRA subsequent call

3.1.4.15 Station Group Designator
A Station Group Designator (SGD) is an extra digit output by a PBX to define particular groups behind the PBX. Therefore, SGDs allow different groups of callers behind the same PBX to be assigned different call screening capabilities if so desired. Note that not all PBXs have the SGD functionality. If an SGD characteristic is given by the PBX, the *BDD SGD* field is populated with the given value (0-7). If no SGD characteristic exists for a PBX, the *BDD SGD* field is populated with an "8." This field is 1 BCD character in length. The applicable SGD values are 0-8.

3.1.4.16 Authorization Code
The *BDD Authorization Code* field contains the user-dialed authorization/account code. This field is 15 BCD characters in length.
If the authorization code is less than 15 digits in length, the *BDD Authorization Code* field is right justified and null ("Hex C") filled. For example, if the authorization code is "1234567," then BCD characters 1-8 are filled with null characters ("Hex C"), BCD character 9 is the digit "1," and BCD character 15 is the digit "7."

3.1.4.17 Incoming Trunk Subgroup Number
The *Incoming Trunk Subgroup Number (TSG)* field uniquely identifies the trunk subgroup on which a direct access call originated. The values applicable for the Trunk Subgroup (TSG) range from 00000-13999.
The *BDD Incoming Trunk Subgroup Number* field is 5 BCD characters in length and populated as follows:
• The first character of the BDD field contains the first digit of the TSG (ten-thousands).

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• The second character contains the second digit of the TSG (thousands).
• The third character contains the third digit of the TSG (hundreds).
• The fourth character contains the fourth digit of the TSG (tens).
• The fifth character contains the fifth digit of the TSG (ones).
If the TSG is less than 5 digits in length, the field is right justified and zero filled. For example, with TSG value "230," the first character is "0," the second character is "0," the third character is "2," the fourth character is "3," and the fifth character is "0."

3.1.4.18 Incoming Trunk Subgroup Member Number

The *Incoming Trunk Subgroup Member Number (TRK)* field uniquely identifies the circuit on which a direct access call originated. The values applicable for the Trunk Subgroup Member (TRK) range from 0000-9999.
The *BDD Incoming Trunk Subgroup Member Number* field is 4 BCD characters in length and populated as follows:
• The first character of the BDD field contains the first digit of the TRK (thousands).
• The second character contains the second digit of the TRK (hundreds).
• The third character contains the third digit of the TRK (tens).
• The fourth character contains the fourth digit of the TRK (ones).
If the TRK is less than 4 digits in length, the field is right justified and zero filled. For example, with TRK value "23," the first character is "0," the second character is "0," the third character is "2," and the fourth character is "3."

3.1.4.19 Data Rate Indicator

The *BDD Data Rate Indicator* field shows the data rate used to complete the call. This field is 3 BCD characters in length and populated as follows:
• The first character of the BDD field contains the first digit of the Data Rate Indicator code.
• The second character contains the second digit of the Data Rate Indicator code.
• The third character contains the third digit of the Data Rate Indicator code.
The list of applicable Data Rate Indicator codes and their interpretation is shown in Table 3.1-10.

Table 3.1-10. Data Rate Indicator Codes

DATA RATE IND. CODE		INTERPRETATION
000	=	Not used
001	=	1.536 Mbps clear
002	=	1.536 Mbps restricted
003	=	384 Kbps clear
004	=	384 Kbps restricted
005	=	64 Kbps clear
006	=	56 Kbps
007	=	64 Kbps restricted

3.1.4.20 AT&T Communications ISDN (ACI) Feature

The *BDD AT&T Communications ISDN* (ACI) field provides information about the ISDN features used. It is also used to indicate Intelligent Call Processing (ICP) features. The *BDD ACI* field is 3 BCD characters in length and is populated as follows:
• The first character of the BDD field contains the first digit of the ACI code.
• The second character contains the second digit of the ACI code.
• The third character contains the third digit of the ACI code.
The list of ACI codes and their interpretation is shown in Table 3.1-11.

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Table 3.1-11. ACI Codes

BCD CHAR.	INTERPRETATION
1	0 = No SDN features indicated by the NCP; For ICP: no indication in this character 1 = Reserved to indicate the first leg of a call with multiple legs; For ICP: a customer's database was queried 2 = Reserved to indicate subsequent legs of a call with multiple legs; For ICP: CINFO digits were forwarded 3 = For ICP: a customers database was queried and CINFO digits were forwarded. 4 = For ICP: a customers database was queried and default routing logic was used.
2	0 = No indication in this character 1 = NSC-collected information forwarded 2 = NCP-selected SID/ANI forwarded to terminating end
3	0 = No indication in this character 1 = SID/ANI forwarded at the request of the called party 2 = Connected Line Identification received at the originating switch and forwarded to the originating customer 3 = Both conditions denoted by values 1 and 2 above occurred

3.1.4.21 Station Identification

The *BDD Station Identification* (SID) field (when populated), shows that there is a charge to the caller and information in the record is available about the caller. It is available for ISDN call originations. This field is 10 BCD characters in length and populated as follows:

- The first character of the BDD field contains the first digit of the SID code.
- The second character contains the second digit of the SID code.
- The third character contains the third digit of the SID code.
- The fourth character contains the fourth digit of the SID code.
- The fifth character contains the fifth digit of the SID code.
- The sixth character contains the sixth digit of the SID code.
- The seventh character contains the seventh digit of the SID code.
- The eighth character contains the eighth digit of the SID code.
- The ninth character contains the ninth digit of the SID code.
- The tenth character contains the tenth digit of the SID code.

For example, with SID value "999-234-8823" the first, second and third digits are each "9" and the tenth digit is "3". Note that the last four digits of the SID value correspond to the station ID (XXXX) of the originating call.

3.1.4.22 Count of Message-Associated UUI

The *BDD Count of Message-Associated User-to-User Information (UUI)* field contains a count of the number of messages (e.g., setup, return) sent using the ACI feature--message-associated user-to-user information. For long duration calls, this count is cumulative across records. The *BDD Count of Message-Associated UUI* field is 5 BCD characters in length, right justified, and zero filled.

3.1.4.23 Count of Call-Associated TVC UUI

The *BDD Count of Call-Associated Temporary Virtual Circuit (TVC) User-to-User Information (UUI)* field contains a count of the number of messages (e.g., setup, return) sent using the ACI feature--call-associated, temporary virtual circuit user-to-user information. For long duration calls, this count is cumulative across records.

The *BDD Count of Call-Associated TVC UUI* field is 7 BCD characters in length, right justified, and zero filled.

3.1.4.24 Elapsed Time in Queue

The *BDD Elapsed Time in Queue* field shows, in minutes, seconds, and tenths of seconds format, the time a call was held in queue.

The *BDD Elapsed Time in Queue* field is 8 BCD characters in length and populated as follows:

- The first character of the BDD field marks the ten thousands place for minutes (0-9).
- The second character marks the thousands place for minutes (0-9).
- The third character marks the hundreds place for minutes (0-9).

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• The fourth character marks the tens place for minutes (0-9).
• The fifth character marks the ones place for minutes (0-9).
• The sixth character marks the tens place for seconds (0-5).
• The seventh character marks the ones place for seconds (0-9).
• The eighth character contains tenths of a second (0-9).

3.1.4.25 Service Feature Indicator

The *BDD Service Feature Indicator* field is used to record feature usage. This field is 3 BCD characters in length and populated as follows:
• The first character of the BDD field contains the first digit of the Service Feature Indicator code.
• The second character contains the second digit of the Service Feature Indicator code.
• The third character contains the third digit of the Service Feature Indicator code.

Table 3.1-12. Service Feature Indicator Codes

SVC. FEAT. INDIC. CODE		INTERPRETATION
000	=	No indication
001	=	Music on queue
002	=	Speech recognition call prompter
003	=	Music on queue & speech recognition call prompter
004	=	Call back
005	=	Call back and music on queue
006	=	Call back & speech recognition call prompter
007	=	Call back, speech recognition & music on queue
008	=	Per call Dial-a-View recording
009	=	Not assigned
010	=	Courtesy Response - not used
011	=	Music on queue and courtesy response - not used
012	=	Speech recognition call prompter and courtesy response - not used
013	=	Music on queue, speech recognition call prompter, and courtesy response - not used
014	=	Call back and courtesy response - not used
015	=	Call back, music on queue and courtesy response - not used
016	=	Call back, speech recognition call prompter and courtesy response - not used
017	=	Call back, speech recognition, music on queue, and courtesy response - not used
018	=	Per call Doal-a-View recording and courtesy response - not used
019	=	Not assigned
020	=	Courtesy Response - used

The list of applicable Service Feature Indicator codes and their interpretation is shown in Table 3.1-12.

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SVC. FEAT. INDIC. CODE		INTERPRETATION Continued
021	=	Music on queue and courtesy response - used
022	=	Speech recognition, call prompter, and courtesy response - used
023	=	Music on queue, speech recognition, and call prompter courtesy response - used
024	=	Call back and courtesy response - used
025	=	Call back, music on queue, and courtesy response - used
026	=	Call back, speech recognition call prompter and courtesy response - used
027	=	Call back, speech recognition, music on queue, and courtesy response - used
028	=	Per call Dial-a-View recording and courtesy response - used
029	=	Not assigned
040	=	Ring busy
041	=	Music on queue and ring busy
042	=	Speech recognition, call prompter and ring busy
043	=	Music on queue, speech recognition call prompter, and ring busy
044	=	Call back and ring busy
045	=	Call back, music on queue, and ring busy
046	=	Call back, speech recognition call prompter, and ring busy
047	=	Call back, speech recognition, music on queue, and ring busy
048	=	Per call Dial-a-View recording and and ring busy
049	=	Not assigned

3.1.4.26 Service Feature

The *BDD Service Feature* field is used to show special services or equipment associated with the call. Note that on-net calls are calls between customer locations billed under a tariff that applies specifically to such calls. This field is provided for Inbound Services only.

This field is 3 BCD characters in length and populated as follows:

- The first character of the BDD field contains the first digit of the Service Feature code.
- The second character contains the second digit of the Service Feature code.
- The third character contains the third digit of the Service Feature code.

The list of applicable Service Feature codes and their interpretation is shown in Table 3.1-13.

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Table 3.1-13. Service Feature Codes

SVC. FEAT. CODE		INTERPRETATION
000	=	Not used
040	=	Switched access, switched egress, on-net
041	=	Switched access, switched egress, off-net
042	=	Switched access, direct egress, on-net
043	=	Switched access, direct egress, off-net
044	=	Direct access, switched egress, on-net
045	=	Direct access, switched egress, off-net
046	=	Direct access, direct egress, on-net
047	=	Direct access, direct egress, off-net
078	=	FAX
084	=	USA Direct
800	=	Customer initiated Toll-Free Megacom Access
801	=	Customer Dialed International Toll-Free Number Access
802	=	Operator Dialed Domestic Toll-Free Number Access
803	=	International Operator Center (IOC) Dialed Domestic Toll-Free Access
804	=	1+ Spontaneous Access
805	=	OSPS OUTWATS (II=52)
806	=	OSPS SDN (II=93)
807	=	Ring No Answer First Leg (Redirecting Party)
808	=	Ring No Answer Second Leg (Target Party)
809	=	ADR Redirect due to Busy
812	=	ADR Redirect due to Ring No Answer (RNA)
814	=	Transfer Connect Access (No Attempt)
815	=	Transfer Connect Redirect Conference and Transfer per Transfer (First Attempt)
816	=	Transfer Connect Redirect Conference and Transfer per Transfer (Second Attempt)
817	=	Select Again for Call Prompter
818	=	INFO3 (No Caller-Entered Digits [CED] Forwarded)
819	=	INFO3 (CED Forwarded)
820	=	TeleTravel Access to AT&T Message Service

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SVC. FEAT. CODE		INTERPRETATION Continued
821	=	Transfer Connect Redirect Conference and Transfer per Transfer (Third Attempt)
822	=	Transfer Connect Redirect Conference and Transfer per Transfer (Fourth Attempt)
824	=	Client Call
825	=	Update Call
826	=	Transfer Connect Redirect Courtesy Transfer per Transfer (First Attemp)
827	=	Transfer Connect Redirect Consult and Transfer per Transfer (First Attempt)
828	=	Transfer Connect Redirect Consult and Transfer per Transfer (Second Attempt)
829	=	Transfer Connect Redirect Consult and Transfer per Transfer (Third Attempt)
830	=	Transfer Connect Redirect Consult and Transfer per Transfer (Fourth Attempt)
831	=	AT&T TrueTies 800 with PIN - Valid PIN
832	=	AT&T TrueTies 800 with PIN - Invalid PIN
833	=	Remote Worker Adjunct
834	=	Remote Worker Adjunct - First Attempt
835	=	Remote Worker Adjunct - Second Attempt
836	=	Remote Worker Adjunct - Third Attempt
837	=	Remote Worker Adjunct - Fourth Attempt
838	=	Remote Worker Adjunct - Profile Update
839	=	Message Collect
840	=	Transfer Connect Access Conference and Transfer per call (No Attempts)
841	=	Transfer Connect Redirect Conference and Transfer per Call (First Attempt)
842	=	Transfer Connect Redirect Conference and Transfer per Call (Second Attempt)
843	=	Transfer Connect Redirect Conference and Transfer per Call (Third Attempt)

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SVC. FEAT. CODE		INTERPRETATION Continued
844	=	Transfer Connect Redirect Conference and Transfer per Call (Fourth Attempt)
845	=	Transfer Connect Access Courtesy Transfer per Call (No Attempts)
846	=	Transfer Connect Redirect Courtesy Transfer per Call (First Attempt)
847	=	Transfer Connect Access Consult and Transfer per Call (No Attempts)
848	=	Transfer Connect Redirect Consult and Transfer per Call (First Attempt)
849	=	Transfer Connect Redirect Consult and Transfer per Call (Second Attempt)
850	=	Transfer Connect Redirect Consult and Transfer per Call (Third Attempt)
851	=	Transfer Connect Redirect Consult and Transfer per Call (Fourth Attempt)
852	=	Redirection to Plain Old Telephone Service (POTS)
853	=	Remote Worker Adjunct - Connection Via UCD
854	=	Remote Worker Adjunct - Transfer 1
855	=	Remote Worker Adjunct - Transfer 2
856	=	Remote Worker Adjunct - Transfer 3
857	=	Remote Worker Adjunct - Announcement Played
858	=	Call Eligible for Redirection - Per Call Billing Applies
859	=	Call Redirection Attempted - Per Call Billing Applies
860	=	Call Eligible for Redirection - Per Redirection Billing Applies
861	=	Call Redirection Attempted - Per Redirection Billing Applies
876	=	Call Redirected to Customer Service Center
881*	=	Transfer Connect to Plain Old Telephone Service (POTS)

* When calls are transferred to a POTS service, two records are created which impact the statistics gathered in OCDD/RT and Track It! reports.

3.1.4.27 Bill-to Indicator

The *BDD Bill-to Indicator* field is used to show what portion of the charges are billed to the customer and/or caller.

The *BDD Bill-to Indicator* field is 1 BCD character in length. The list of applicable Bill-to Indicator codes and their interpretation is shown in Table 3.1-14.

Table 3.1-14. Bill-to Indicator Codes

BILL TO IND. CODE		INTERPRETATION
0	=	Null
1	=	All charges to customer
2	=	All transport charges to customer
3	=	Fixed charges to caller; remainder to customer
5	=	Change in rate for caller

3.1.4.28 Service Indicator Code

The *BDD Service Indicator Code* (SIC) field is 3 BCD characters in length and populated as follows:

- The first character of the BDD field contains the first digit of the SIC code.
- The second character contains the second digit of the SIC code.
- The third character contains the third digit of the SIC code.

Service Indicator Codes are frequently updated. The current list of Service Indicator Codes and their interpretation is shown in Table 3.1-15.

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Table 3.1-15. Service Indicator Codes

SVC. IND. CODE		INTERPRETATION
000	=	Classic 800/Masterline
001	=	I800 Inbound
002	=	Toll-Free MEGACOM
003	=	I800 Outbound
004	=	Toll-Free READYLINE
005	=	Dial-a-View
006	=	ANI delivery
007	=	Validator (Direct Connect)/Classic 800 Direct
008	=	VTNS - Toll-Free MEGACOM
009	=	HICAP - Toll-Free MEGACOM
010	=	Classic 800, 800 Validator I800 Canada Southbound, 800 Customized Referral MultiQuest HICAP
011	=	Basic 800 (Direct Connect)
013	=	I800-Canada Northbound
014	=	HICAP VTNS - Toll-Free Megacom
015	=	STARTERLINE - Non-billable
016	=	Network Terminating Calls
020	=	MultiQuest DSD
021	=	MultiQuest Express 900
022	=	MultiQuest Broadcaster
023	=	MultiQuest Call Counter
025	=	MultiQuest HICAP
SIGN (hex-C)		

3.1.4.29 Announcements before Routing
The *BDD Announcements before Routing* field presents the summation of values (unitless) for announcements. This field is 2 BCD characters in length, right justified, and zero filled.

3.1.4.30 Alternate Billing Number
The *BDD Alternate Billing Number* field provides an alternate 800/900 number for billing Inbound calls. This field is 10 BCD characters in length and populated as follows:
• The first character of the BDD field contains the first digit of the Alternate Billing Number NPA.
• The second character contains the second digit of the Alternate Billing Number NPA.
• The third character contains the third digit of the Alternate Billing Number NPA.
• The fourth character contains the first digit of the Alternate Billing Number NXX.
• The fifth character contains the second digit of the Alternate Billing Number NXX.
• The sixth character contains the third digit of the Alternate Billing Number NXX.
• The seventh character contains the first digit of the Alternate Billing Number line number (station ID, XXXX).
• The eighth character contains the second digit of the Alternate Billing Number line number (station ID, XXXX).
• The ninth character contains the third digit of the Alternate Billing Number line number (station ID, XXXX).
• The tenth character contains the fourth digit of the Alternate Billing Number line number (station ID, XXXX).

3.1.4.31 Present Date
The *BDD Present Date* field shows the last date covered by the particular Long Duration Call (LDC) record. For types "A" and "B" LDC records (which cover a period up until midnight), the date should be the one following the midnight cutoff.
The *BDD Present Date* field is 5 BCD characters in length and populated as follows:
• The first character of the BDD field contains the last digit of the year (0-9).
• The second character marks the tens place for the month (0 or 1).
• The third character marks the ones place for the month (0-9).
• The fourth character marks the tens place for the day (0-3).
• The fifth character marks the ones place for days (0-9).

3.1.4.32 Present Time
The *BDD Present Time* field records the last time covered by a particular Long Duration Call (LDC) record.
For types "A" and "B" LDC records, this will be zeros, since they cover a period ending at a midnight cutoff.
The *BDD Present Time* field is 7 BCD characters in length and populated as follows:

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• The first character of the BDD field marks the tens place for hours (0-2).
• The second character marks the ones place for hours (0-9).
• The third character marks the tens place for minutes (0-5).
• The fourth character marks the ones place for minutes (0-9).
• The fifth character marks the tens place for seconds (0-5).
• The sixth character marks the ones place for seconds (0-9).
• The seventh character contains the tenths of a second (0-9).

3.1.4.33 WATS Indicator
The *BDD WATS Indicator* field is populated with a single "Hex D" (implying empty data field) in the download.
3.1.4.34 WATS Band or Type Indicator
The *BDD WATS Band or Type Indicator* field is populated with a single "Hex D" (implying empty data field) in the download.
3.1.4.35 SID Indicator
The *BDD SID* Indicator field is 1 BCD character in length.
The list of applicable SID Indicator codes and their interpretation is shown in Table 3.1-16.

Table 3.1-16. SID Indicator Codes

SID IND. CODE		INTERPRETATION
0	=	SID not received
1	=	SID received on Direct Access Digital Channel (DADC)
2	=	SID transmitted to called party
3	=	SID received on DADC and transmitted to called party

3.1.4.36 Time Digits Outpulsed
The *BDD Time Digits Outpulsed* field is 7 BCD characters in length and populated as follows:
• the first character of the BDD field marks the tens of hours (0-2);
• the second character of the BDD field marks the ones place for hours (0-9);
• the third character of the BDD field marks the tens place for minutes (0-5);
• the fourth character of the BDD field marks the ones place for minutes (0-9);
• the fifth character of the BDD field marks the tens place for seconds (0-5);
• the sixth character of the BDD field marks the ones place for seconds (0-9);
• the seventh character of the BDD field marks the tenths of a second (0-9).
3.1.4.37 Call Disposition Code
The *Call Disposition Code* field contains information on the final handling of the call.
The *BDD Call Disposition Code* field is 3 BCD characters in length; it should be right justified and null ("Hex C") filled.
The list of applicable *Call Disposition Codes* and their interpretation is shown in Table 3.1-17.

Table 3.1-17. Call Disposition Codes

CALL DISP. CODE		INTERPRETATION
000	=	Normal,Complete
010	=	All Lines Busy
020	=	Egress Data Rate Incompatibility
031	=	ACD/PBX Busy or Ring No Answer - 1 Ring
032	=	Ring No Answer - 2 to 4 Rings
033	=	Ring No Answer - More than 4 Rings
034	=	AT&T Network Queue Abandon/Timeout
035	=	AT&T Network BUSY/RNA
036	=	Miscellaneous Default RTN
037	=	Prompter Abandon
038	=	Prompter Handoff
039	=	Courtesy Response
040	=	Non-AT&T Network Condition
050	=	Retry, No Answer
060	=	Invalid Call Attempt
070	=	Temporary Problem-Customer Egress Trunk
080	=	Network Condition
090	=	Unknown

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3.1.4.38 Incoming Access Indicator
The *BDD Incoming Access Indicator* field indicates if the access circuit used to route the call to the AT&T Network is direct connect or switched. The *BDD Incoming Access Indicator* field is 1 BCD character in length. The list of applicable *Incoming Access Indicators* and their interpretation are shown in Table 3.1-18.

Table 3.1-18. Incoming Access Indicator

IN ACC IND		INTERPRETATION
0	=	No indication in this character
1	=	Direct Access
2	=	Switched Access

3.1.4.39 Entered Digits
The *BDD Entered Digits* field is 30 characters in length, right justified, and null ("Hex C") filled.
NOTE: The *BDD Entered Digits* may contain "*" or "#" entries. The BDD field will populate "*" as "Hex B" and "#" as "Hex A".
3.1.4.40 Outgoing Switch Identification
The *BDD Outgoing Switch Identification* (ID) specifies the egress 4ESS switch used to place the call in the AT&T network. The *BDD Outgoing Switch ID* field is 6 BCD characters in length and populated as follows:
• the first character contains the first digit of the Outgoing Switch ID;
• the second character contains the second digit of the Outgoing Switch ID;
• the third character contains the third digit of the Outgoing Switch ID;
• the fourth character contains the fourth digit of the Outgoing Switch ID;
• the fifth character contains the fifth digit of the Outgoing Switch ID;
• the sixth character contains the sixth digit of the Outgoing Switch ID.

The list of applicable Outgoing Switch ID codes and their interpretation is shown in Table 3.1-19.

Table 3.1-19. Outgoing Switch ID Codes

BCD CHAR.	INTERPRETATION
1-3	Three-digit NPA (area code) of recording location
4	Time Zone: 1 == Bering 2 == Alaska, Hawaii 3 == Yukon 4 == Pacific 5 == Mountain 6 == Central 7 == Eastern 8 == Atlantic 9 == International
5	Daylight Indicator: 0 == Observed 1 == Not Observed 2 == Observed 3 == Not Observed
6	Unique ID of recording location

3.1.4.41 Outgoing Access Indicator
The *BDD Outgoing Access Indicator* field indicates if the egress circuit used to place the call is a direct connect or switched facility. The *BDD Outgoing Access Indicator* field is 1 BCD character in length. The list of applicable *Outgoing Access Indicators* and their interpretation are shown in Table 3.1-20.

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Table 3.1-20. Outgoing Access Indicator

OUT. ACC. IND.		INTERPRETATION
0	=	No indication in this character
1	=	Direct Connect Egress
2	=	Switched Egress

3.1.4.42 Outgoing Trunk Subgroup Number
The *BDD Outgoing Trunk Subgroup Number* field uniquely identifies the trunk subgroup on which a direct egress call terminated. The values applicable for the Outgoing Trunk Subgroup (TSG) range from 00000-13999.

The *BDD Outgoing Trunk Subgroup Number* field is 5 BCD characters in length and populated as follows:
• The first character of the BDD field contains the first digit of the TSG (ten-thousands).
• The second character contains the second digit of the TSG (thousands).
• The third character contains the third digit of the TSG (hundreds).
• The fourth character contains the fourth digit of the TSG (tens).
• The fifth character contains the fifth digit of the TSG (ones).
If the TSG is less than 5 digits in length, the field is right justified and zero filled. For example, with TSG value "230," the first character is "0," the second character is "0," the third character is "2," the fourth character is "3," and the fifth character is "0."

3.1.4.43 Outgoing Trunk Subgroup Member Number
The *Outgoing Trunk Subgroup Member Number (TRK)* field uniquely identifies the circuit on which a direct egress call terminated. The values applicable for the outgoing Trunk Subgroup Member (TRK) range from 0000-9999.
The *BDD Outgoing Trunk Subgroup Member Number* field is 4 BCD characters in length and populated as follows:
• The first character of the BDD field contains the first digit of the TRK (thousands).
• The second character contains the second digit of the TRK (hundreds).
• The third character contains the third digit of the TRK (tens).
• The fourth character contains the fourth digit of the TRK (ones).
If the Outgoing TRK is less than 4 digits in length, the field is right justified and zero filled. For example, with TRK value "23," the first character is "0," the second character is "0," the third character is "2," and the fourth character is "3."

3.1.4.44 Outpulsed Digits
The *BDD Outpulsed Digits* field provides the digits transmitted across the egress circuit for the call when the call leaves the terminating 4ESS. These digits can be customer entered or terminating switch outpulsed digits. The *BDD Outpulsed Digits* field is 24 characters in length, right justified, and null ("Hex C") filled.

3.1.4.45 Charge Number
The *BDD Charge Number* field is populated for SDN Network Remote Access (NRA) Improved Sequence Dialing calls with the calling party ANI (when available). The *BDD Charge Number* field is 10 BCD characters in length and populated as follows:
• the first character contains the first digit of the Charge NPA;
• the second character contains the second digit of the Charge NPA;
• the third character contains the third digit of the Charge NPA;
• the fourth character contains the first digit of the Charge Number (NXX);
• the fifth character contains the second digit of the Charge Number (NXX);
• the sixth character contains the third digit of the Charge Number (NXX);
• the seventh character contains the fourth digit of the Charge Number line number (station ID, XXXX);
• the eighth character contains the fifth digit of the Charge Number line number (station ID, XXXX);
• the ninth character contains the sixth digit of the Charge Number line number (station ID, XXXX);
• the tenth character contains the seventh digit of the Charge Number line number (station ID, XXXX).
For example, with 201-949-7558, the first NPA digit is "2," the first NXX digit is "9," the first station ID digit is "7," and the last station ID digit is "8."

3.1.4.46 Toll-Free Number
The *BDD Toll-Free Number* field is populated for SDN Network Remote Access (NRA) Improved Sequence Dialing calls with the 800 number dialed by the calling party to access the network (when available). The *BDD Toll-Free Number* field is 7 BCD characters in length and shall be populated as follows:
• the first character contains the first digit of the Toll-Free Number;
• the second character contains the second digit of the Toll-Free Number;

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• the third character contains the third digit of the Toll-Free Number;
• the fourth character contains the fourth digit of the Toll-Free Number;
• the fifth character contains the fifth digit of the Toll-Free Number;
• the sixth character contains the sixth digit of the Toll-Free Number;
• the seventh character contains the seventh digit of the Toll-Free Number.
For example, with 800-225-7551, the first Toll-Free Number digit is "2," and the last Toll-Free Number digit is "1."

3.1.4.47 VAB Rate Indicator
The *BDD VAB Rate Indicator* [4] field is 1 BCD character in length. Vari-A-Bill allows a Multiquest Interacter sponsor to change the rate at which the caller is charged (the "caller rate") at any point while the call is stable, (i.e., between answer and disconnect). The list of applicable VAB Rate Indicator values and their interpretation are shown in Table 3.1-21.

3.1.4.48 VAB New Charge
The *BDD VAB New Charge* specifies the new rate, or charge, specified by the sponsor. The format of this field is dollars and cents ($$$.¢¢).
The BDD VAB New Charge field is 5 BCD characters in length and populated as follows:
• the first character contains the hundreds of dollars of the new charge ($$$);
• the second character contains the tens of dollars of the new charge ($$$);
• the third character contains the ones of dollars of the new charge ($$$);
• the fourth character contains the tens of cents of the new charge (¢¢);
• the fifth character contains the ones of cents of the new charge (¢¢);

Table 3.1-21. VAB Rate Indicator

VAB IND.		INTERPRETATION
0	=	Not Used
1	=	New Rate
2	=	Flat Rate (including zero which indicates "free")
3	=	Premium Charge
4	=	Premium Credit

4. Vari-A-Bill (VAB) was formerly known as Sponsor Flexibe Rating (SFR).

3.1.4.49 VAB Elapsed Time
The *BDD VAB Elapsed Time* field specifies the duration of a call (in minutes, seconds and tenths-of-a-second format) from the time at which the first message invoking VAB on the call was received from the sponsor.
The *BDD VAB Elapsed Time* field is 8 BCD characters in length and populated as follows:
• The first character of the BDD field marks the ten thousands place for minutes (0-9).
• The second character marks the thousands place for minutes (0-9).
• The third character marks the hundreds place for minutes (0-9).
• The fourth character marks the tens place for minutes (0-9).
• The fifth character marks the ones place for minutes (0-9).
• The sixth character marks the tens place for seconds (0-5).
• The seventh character marks the ones place for seconds (0-9).
• The eighth character contains tenths of a second (0-9).

3.1.4.50 Announcements Elapsed Time
The *Announcements Elapsed Time* field indicates the length of time announcements were played for the call. This field is 8 BCD characters in length, right justified, and zero-filled. The field is populated as follows:
• The first character of the BDD field marks the ten thousands place for minutes (0-9).
• The second character marks the thousands place for minutes (0-9).
• The third character marks the hundreds place for minutes (0-9).
• The fourth character marks the tens place for minutes (0-9).
• The fifth character marks the ones place for minutes (0-9).
• The sixth character marks the tens place for seconds (0-9).
• The seventh character marks the ones place for seconds (0-9).
• The eighth character of the BDD field contains tenths of a second (0-9).

3.1.4.51 CPRating Announcement

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The *CPRating Announcement* field shows the ID of the last announcement played for the call. This field is 5 BCD characters in length, right justified, and zero-filled.

3.1.4.52 CPRating Digits

The *Call Prompter Rating (CPRating) Digits* field shows characters entered by the customer that resulted in the rate choice for the call. This field is 24 BCD characters in length, is right-justified, and padded with Hex C characters.

NOTE: The *BCD BDD CPRating Digits* field may contain "*" or "#" entries. The BCD BDD field will populate "*" as "Hex B" and "#" as "Hex A".

3.1.4.53 Customer Features Available

The *Customer Features Available* field shows whether or not Call Prompter rating was used for a (Multiquest) call. This field is 4 BCD characters in length, right justified, and zero-filled. The field is populated as specified in Table 3.1-22.

Table 3.1-22. Customer Features Available

CFA CODE		INTERPRETATION
0000	=	Null
0001	=	Call Prompter Rated Call
0002	=	Non-Call Prompter Rated Call

3.1.4.54 Far End NPA

The *Far End NPA (FENPA)* field shows the NPA of the LEC/Cellular switching office to which the call originally connected for switched access calls. This field is 3 BCD characters in length. A FENPA value of "000" indicates that the NPA is unknown.

3.1.4.55 OLI/II Digits

The *Originating Line Information/Information Digits* field gives information on the switched access call. This field is 2 BCD characters in length. The list of OLI/II Digit codes and their interpretations are given in Table 3.1-23.

Table 3.1-23. OLI/II Digit Codes

OLI/II DIGIT CODE		INTERPRETATION
00	=	Identified Line - no special treatment
01	=	Operator Number ID (multiparty)
02	=	ANI Failure
20	=	AIOD (Automatic Identified Outward Dialing) - listed directory number sent
61	=	Cellular Mobile Carrier (CMC)
93	=	Virtual Private Network (VPN)

3.1.4.56 Operator Services

The *BDD Operator Services* field shows whether an operator assisted the call. This field is 1 BCD character in length.

The list of Operator Services codes and their interpretations are given in Table 3.1-24.

Table 3.1-24. Operator Services Codes

OP. SVCS. CODE		INTERPRETATION
0	=	No operator assistance (automated)
1	=	Operator assisted (0-)
2	=	Semi-operator assisted (0+)

3.1.4.57 CPR Status Indicator

The *CPR Status Indicator* field shows the status of the (Multiquest Call Prompter Rated) call. This field is 1 BCD character in length.

The list of CPR Status Indicator codes and their interpretations are given in Table 3.1-25.

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Table 3.1-25. CPR Status Indicator Codes

CPR STATUS CODE		INTERPRETATION
1	=	No match - VAB screening failure
2	=	No match - No digits collected, bad digits collected, fewer digits collected than specified in the Call Prompter Rating node, or digits collected do not match
3	=	Match - The caller has entered digits that match those in a Call Prompter Rating node

3.1.4.58 TT/USFI Child (TT Child)
The *TT/USFI Child* field contains information on SDN features used for a call. It expands the meaning and length of the "parent" TT/USFI field. This field is 5 BCD characters in length.
The list of TT/USFI Child Codes and their interpretations are given in Table 3.1-26.

Table 3.1-26. TT/USFI Child Codes

BCD CHAR.	INTERPRETATION		
1	0	=	No indication
	1-5	=	Reserved for features
	6-9	=	Reserved for service indicators
2	Not used		
3	0	=	No indication
	1-7	=	To be assigned
	8	=	Voice Mail
4	0	=	No indication
	1-9	=	To be assigned
5	0	=	No indication
	3	=	Voice input used to place call (automatic speech recognition)
	1,2,4-9	=	To be assigned

3.1.4.59 CSID Indication
The *Centrex Station ID Indicator* field shows whether or not Centrex access was used for the call. This field is 1 BCD character in length.
The list of CSID indicators and their interpretations are given in Table 3.1-27.

Table 3.1-27. Centrex Access ID Codes

CSID IND.		INTERPRETATION
0	=	No Centrex access
1	=	Centrex access

3.2 Limited ASCII Bulk Detail Data Download Format Description
This section describes the file format for the ASCII Bulk Detail Data Downloads offered by AT&T's Call Detail Data capability. The download file may be received in either a compressed or noncompressed state. Refer to Section 3.3 entitled "BDD Compression" for information regarding the compression options available. The ASCII BDD file format will consist of two parts: a fixed length ASCII header, and a variable length ASCII file body containing the call detail records.

3.2.1 Limited ASCII BDD File Header Format
The ASCII header will be 116 bytes in length. It is comprised of fourteen fixed length fields (with no field separators). The reader should refer to Section 3.1.1 for the format of the header and to Section 3.1.2 for descriptions of the fields in the File Header.

3.2.2 ASCII BDD File Body Format
The ASCII file body will be of variable length. It will consist of variable-length call detail data records each with a newline character at the end of the record. The individual call detail data records may have different lengths because certain fields may or may not contain information, depending on the service and/or features used for the call. The exact number of records in the file is defined in the file header. The exact length of a call record is defined in the first field of that call record. There will be no separators

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between fields. The exact layout of the file body, and the format of each field in the file body are given in Table 3.2-28.

Table 3.2-28. Limited ASCII BDD Format of CDD Records

LIMITED ASCII FILE BODY FORMAT		
FIELD NO.	**FIELD NAME**	**ASCII LENGTH**
1	Length of Record in Bytes	3
2	Structure Code	5
3	Call Code	3
4	Incoming Switch ID	6
5	Connect Date	5
6	Connect Time	7
7	Timing Indicator	5
8	Answer Indicator	1
9	Originating Number	12
10	Dialed Number	12
11	Terminating Number	12
12	Elapsed Time	8
13	Call Progress Stopped	1
14	Transport Tariff/Usage Sensitive Features	4
15	Station Group Designator	1
16	Authorization Code	15
17	Incoming Trunk Subgroup Number	5
18	Incoming Trunk Subgroup Member Number	4
19	Data Rate Indicator	3
20	ACI Features	3
21	Station Identification (SID)	10
22	Count of Message-Associated UUI	5
23	Count of Call-Associated TVC UUI	7
24	Elapsed Time in Queue	8
25	Service Feature Indicator	3
26	Service Feature	3
27	Bill-to Indicator	1
28	Service Indicator Code (SIC)	3
29	Announcements before Routing	2
30	Alternate Billing Number	10
31	Present Date	5
32	Present Time	7
33	WATS Indicator	1
34	WATS Band or Type Indicator	3
35	SID Indicator	1
36	Time Digits Outpulsed	7
37	Call Disposition Code	3

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LIMITED ASCII FILE BODY FORMAT (continued)		
FIELD NO.	FIELD NAME	ASCII LENGTH
38	Incoming Access Indicator	1
39	Entered Digits	30
40	Outgoing Switch ID	6
41	Outgoing Access Indicator	1
42	Outgoing Trunk Subgroup Number	5
43	Outgoing Trunk Subgroup Member Number	4
44	Outpulsed Digits	24
45	Charge Number	10
46	Toll-Free Number	7
47	VAB Rate Indicator	1
48	VAB New Charge	5
49	VAB Elapsed Time	8
50	Announcements Elapsed Time	8
51	CPRating Announcement	5
52	CPRating Digits	24
53	Customer Features Available	4
54	Far End NPA	3
55	OLI/II Digits	2
56	Operator Services	1
57	CPR Status Indicator	1
58	TT/USFI Child (TTChild)	5
59	CSID Indication	1

The sequence of fields given in the previous table will be followed for all call detail data records. The only exception is given below, for a special use of the "End of Record" newline character. For each call record, a dash "-" will be used to replace any field in the sequence that is unpopulated (missing data). A newline character will be used to mark the end of each call record. In the simplest case, the "End of Record" marker will appear after field #59 (*CSID Indication*). However, if at any position in the call record sequence, all remaining fields for a record are unpopulated, the remaining fields will be truncated and the "End of Record" marker will be sent immediately following the last populated field. For example, if the first 19 fields of a particular call record are either populated with data or marked with "Empty Field" markers, field 20 is populated with data, and fields 21-59 are unpopulated, then the "End of Record" marker would appear immediately after field #20.

In summary, the following characters will be used to represent special circumstances:

- blank (" "), octal 040, is used to represent a "null" character position.
- dash ("-"), octal 055, is used to represent an empty data field.
- newline character, octal 012, is used to represent the end of each call record.
- question mark ("?"), octal 077, is used to fill one or more character positions within a data field if the correct data were unknown on the original Automatic Message Accounting (AMA) record.
- lower case "p" will be used to represent the pound sign (#) and lower case "s" will be used to represent the asterisk (*).

3.2.3 Limited ASCII BDD Call Record Field Descriptions

Descriptions of Fields 1 through 59 are given in Section 3.1.4 entitled "Limited BCD BDD Call Record Field Descriptions". For the ASCII Bulk Detail Data downloads, these fields will be represented in ASCII rather than BCD.

3.3 BDD Compression

The following options are available from the OCDD/RT for compression of either the ASCII or BCD bulk detail data download files prior to transmission:

— UNIX *compress*
— UNIX *pack*
— None - No compression

Before interpretation of this data, the contents of all "compressed" files must be restored to original condition by use of the UNIX *uncompress* command (for compressed files), the UNIX *unpack* command (for packed files), or an analogous decompression utility [2] .

4. Extended Bulk Detail Data Download

4.1 Extended BCD Bulk Detail Data Download Format Description

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This section describes the file format for the Extended BCD Bulk Detail Data (BDD) download offered by AT&T's Call Detail Data (CDD) capability. This single format will be used for all Extended BCD BDD downloads, regardless of the AT&T service type associated with the calls. The download file may be received in either a compressed or noncompressed state. Refer to Section 3.3 entitled "Extended BDD Compression" for information on the "compression" options available.
The Extended BCD BDD download file format consists of two parts: an ASCII-encoded file header (see Section 3.1.1) and a BCD-encoded file body containing CDD records (see Section 3.1.3).

4.1.1 Extended BDD File Header Format

Each Extended BDD download will be preceded with an ASCII-encoded file header. The Extended BDD file header is 132 bytes in length. The file header is composed of sixteen fixed-length fields (with no field separators), as described in Table 4.1-29 and Section 4.1.2.

Table 4.1-29. Extended BDD File Header

FILE HEADER FORMAT		
FIELD NO.	**FIELD NAME**	**DESCRIPTION**
1	File Length in Bytes	9 digits
2	Subscriber ID	16 digits
3	Subaccount Name	8 characters
4	Login ID	8 characters
5	No. of Services in Request	2 digits
6	Service Type	4 characters
7	Request ID	3 digits
8	File Creation Time Stamp	14 characters (MM:dd:yy:hh:mm)
9	Start Date	8 characters (MM:dd:yy)
10	Start Time	5 characters (hh:mm)
11	End Date	8 characters (MM:dd:yy)
12	End Time	5 characters (hh:mm)
13	Call Record Count	6 digits
14	Customer-Provided Header	20 characters
15	Download Type	8 characters
16	Report Form	8 characters

4.1.2 Extended BDD File Header Field Descriptions

The descriptions of the fields numbered 1 through 14 within the Extended BDD File Header are the same as those for the BDD File Header defined in Section 3.1.2. The fields numbered 15 and 16 are defined as follows.

4.1.2.1 Download Type

This field is filled with the literal "EXTENDED", which identifies the type of download. The *Download Type* field is 8 characters in length. This field is right justified and blank filled.

4.1.2.2 Report Form

This field specifies the name of the template used to generate the download that follows the header. The *Report Form* field is 8 characters in length, right justified and blank filled.

4.1.3 Extended BCD File Body (CDD Record) Format

The Extended BDD file body consists of variable-length CDD records, each with a unique "End of Record" marker. (Call records can have different lengths because particular fields may or may not contain information, depending on the service and/or features used for the call.) The exact number of records in the file is defined in the file header. The exact length of a call record is defined in the first field of that call record.
The Extended BDD download file body will be Binary Coded Decimal (BCD) or ASCII encoded. The CDD record format for Extended BCD BDD downloads will be as described in Table 4.1-30 and Section 4.1.4. The format for Extended ASCII BDD downloads is described in Section 4.2.

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Table 4.1-30. Extended BCD BDD Format of CDD Records

EXTENDED BCD BDD CALL RECORD FORMAT		
FIELD NO.	**FIELD NAME**	**BCD LENGTH**
1	Length of Record in Bytes	3
2	Structure Code	5
3	Call Code	3
4	Incoming Switch ID	6
5	Connect Date	5
6	Connect Time	7
7	Timing Indicator	5
8	Answer Indicator	1
9	Originating Number	15
10	Originating Number Type	1
11	Originating CCTTT	3
12	Dialed Number	15
13	Dialed Number Type	1
14	Terminating Number	15
15	Terminating Number Type	1
16	Elapsed Time	8
17	Call Progress Stopped	1
18	Transport Tariff/Usage Sensitive Features	4
19	Station Group Designator	1
20	Authorization Code	15
21	Incoming Trunk Subgroup Number	5
22	Incoming Trunk Subgroup Member Number	4
23	Data Rate Indicator	3
24	ACI Features	3
25	Station Identification (SID)	10
26	Count of Message-Associated UUI	5
27	Count of Call-Associated TVC UUI	7
28	Elapsed Time in Queue	8
29	Service Feature Indicator	3
30	Service Feature	3
31	Bill-to Indicator	1
32	Service Indicator Code (SIC)	3
33	Announcements before Routing	2
34	Alternate Billing Number	10
35	Present Date	5
36	Present Time	7
37	WATS Indicator	1
38	WATS Band or Type Indicator	3
39	SID Indicator	1

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EXTENDED BCD BDD CALL RECORD FORMAT (continued)		
FIELD NO.	**FIELD NAME**	**BCD LENGTH**
40	Time Digits Outpulsed	7
41	Call Disposition Code	3
42	Account Code	8
43	Incoming Access Indicator	1
44	Entered Digits	30
45	Outgoing Switch ID	6
46	Outgoing Access Indicator	1
47	Outgoing Trunk Subgroup Number	5
48	Outgoing Trunk Subgroup Member Number	4
49	Outpulsed Digits	24
50	Charge Number	10
51	Toll-Free Number	10
52	VAB Rate Indicator	1
53	VAB New Charge	5
54	VAB Elapsed Time	8
55	Announcements Elapsed Time	8
56	CPRating Announcement	5
57	CPRating Digits	24
58	Customer Features Available	4
59	Far End NPA	3
60	OLI/II Digits	2
61	Operator Services	1
62	CPR Status Indicator	1
63	TT/USFI Child (TTChild)	5
64	CSID Indication	1
65	Time of Day/Day of Week Routing Count	3
66	Geographic Routing Count	3
67	Allocator Count	3
68	Dialed Number Decision Count	3
69	Next Available Agent Count	3
70	Voice Prompter	3
71	1st Annc Number	6
72	1st Annc Listen Time	4
73	1st Annc Type	1
74	1st Annc Category	1
75	2nd Annc Number	6

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EXTENDED BCD BDD CALL RECORD FORMAT (continued)		
FIELD NO.	FIELD NAME	BCD LENGTH
76	2nd Annc Listen Time	4
77	2nd Annc Type	1
78	2nd Annc Category	1
79	3rd Annc Number	6
80	3rd Annc Listen Time	4
81	3rd Annc Type	1
82	3rd Annc Category	1
83	4th Annc Number	6
84	4th Annc Listen Time	4
85	4th Annc Type	1
86	4th Annc Category	1
87	5th Annc Number	6
88	5th Annc Listen Time	4
89	5th Annc Type	1
90	5th Annc Category	1
91	Ofl Annc Count	3
92	Ofl Annc Listen Time	5
93	Disconnect Direction	1
94	Call Attempt	7
95	Redirection Number	15
96	Redirection Number Type	1

The field sequence shown in the previous table entitled "Extended BCD BDD Format of CDD Records" will be followed for all call detail data records. The only exception is defined below, for a special use of the "End of Record" marker. Within any Extended BCD field, "Hex A" is defined to represent the "#" character, "Hex B" is defined torepresent the "*" character, and "Hex C" is defined to be used as the "null character".

For each call record, a unique, BCD-encoded "Empty Field" marker (a single "Hex D") will be used to replace any field in this sequence that is unpopulated (missing data) or not applicable for the call record. A unique BCD-encoded "End of Record" marker (a single "Hex E") will be used to mark the end of each call record. If the total length of the call record (including the "End of Record" marker) includes a partial byte (i.e., does not fall on a byte boundary), a second "Hex E" will be appended to the record. In the simplest case, the "End of Record" marker(s) will appear after field #96 (*Ofl Redirection Number*).

However, if (at any position in the call record sequence) all remaining fields for a record are unpopulated, the remaining fields will be truncated and the "End of Record" marker(s) will be sent immediately following the last populated field. For example, if the first 19 fields of a particular call record are either populated with data or marked with "Empty Field" markers, field 20 is populated with data, and fields 21-96 are unpopulated, then the "End of Record" marker(s) would appear immediately after field #20.

In summary, hexadecimal characters A through F will be used to represent the following special circumstances:

- *Hexadecimal A ("Hex A"):* is used to represent a "#" character position.
- *Hexadecimal B ("Hex B"):* is used to represent a "*" character position.
- *Hexadecimal C ("Hex C"):* is used to represent a "null" character position.
- *Hexadecimal D ("Hex D"):* is used to represent an empty data field.
- *Hexadecimal E ("Hex E"):* is used to represent the end of each call record.
- *Hexadecimal F ("Hex F"):* is used to represent an unknown or errored character position.

4.1.4 Extended BCD BDD Call Record Field Descriptions

Many fields within the Extended BCD BDD Call Record are the same as those within the Limited BCD BDD Call Record. Refer to Section 3.1.4 for complete descriptions of these fields. All fields that differ are defined within the following subsections. Note that in some instances a field may contain a value not listed in the field description given below. If this unlisted value is something other than a special-purpose Hex character (as described in the end of Section 4.1.3), it should be ignored. For more information about various fields, see [3] .

4.1.4.1 Originating Number

The *Extended BDD Originating Number* field is 15 BCD characters in length and populated as follows:

- The first character of the Extended BDD field contains a BCD "null" character ("Hex C").
- The second character contains a BCD "null" character ("Hex C").
- The third character contains a BCD "null" character ("Hex C").

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• The fourth character contains a BCD "null" character ("Hex C").
• The fifth character contains a BCD "null" character ("Hex C").
• The sixth character contains the first digit of the Originating Number.
• The seventh character contains the second digit of the Originating Number.
• The eight character contains the third digit of the Originating Number.
• The ninth character contains the fourth digit of the Originating Number.
• The tenth character contains the fifth digit of the Originating Number.
• The eleventh character contains the sixth digit of the Originating Number.
• The twelfth character contains the seventh digit of the Originating Number.
• The thirteenth character contains the eigth digit of the Originating Number.
• The fourteenth character contains the ninth digit of the Originating Number.
• The fifteenth character contains the tenth digit of the Originating Number.

Note: For I800 Inbound calls, the Originating CCITT field designates the country where the call originated. The Originating CCITT is right-justified and zero filled.

4.1.4.2 Originating Number Type

The Originating Number Type field contains a single character that identifies the type of the originating number.

Table 4.1-31. Values for the BCD EDD Originating Number Type field.

STNF Number Type	EDD Number Type
A	2
C	3
F	0
I	4
K	Hex-C
N	1
S	5
empty field	Hex-D

4.1.4.3 Dialed Number

World Zone 1 [5] (WZ1) calls have dialed numbers 10 digits in length; (NPA-NXX-XXXX). Non-World Zone 1 [6] (NWZ1) calls may have dialed numbers up to 15 digits in length.

The *Extended BDD Dialed Number* field is 15 BCD characters in length.

The format is different for calls to WZ1 locations and NWZ1 locations.

— For World Zone 1 calls, the *Extended BDD Dialed Number* field is populated as follows:
• The first character of the Extended BDD field contains a BCD "null" character ("Hex C").
• The second character contains a BCD "null" character ("Hex C").
• The third character contains a BCD "null" character ("Hex C").
• The fourth character contains a BCD "null" character ("Hex C").
• The fifth character contains a BCD "null" character ("Hex C").
• The sixth character contains the first digit of the Dialed Number.
• The seventh character contains the second digit of the Dialed Number.
• The eight character contains the third digit of the Dialed Number.
• The ninth character contains the fourth digit of the Dialed Number.
• The tenth character contains the fifth digit of the Dialed Number.
• The eleventh character contains the sixth digit of the Dialed Number.
• The twelfth character contains the seventh digit of the Dialed Number.
• The thirteenth character contains the eigth digit of the Dialed Number.
• The fourteenth character contains the ninth digit of the Dialed Number.
• The fifteenth character contains the tenth digit of the Dialed Number.

— For Non-World Zone 1 calls, the *Extended BDD Dialed Number* field contains up to 15 digits right justified, and "null" ("Hex C") filled.

For I800 Inbound calls, the dialed number field will contain "C11960000000" (i.e., "196" is the dialed NPA and zeros in the Dialed Number portion).

4.1.4.4 Dialed Number Type

The Dialed Number Type field contains a single character that identifies the type of the dialed number.

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Table 4.1-32. Values for the BCD EDD Dialed Number Type field.

STNF Number Type	EDD Number Type
A	2
C	3
F	0
I	4
K	Hex-C
N	1
S	5
empty field	Hex-D

5. World Zone 1 (WZ1) is composed of any locations that are part of the North American Numbering Plan (i.e., those locations that are dialed using the "NPA-NXX-XXXX" format).
6. Non-World Zone 1 (NWZ1) is composed of any locations that are *not* part of the North American Numbering Plan.

4.1.4.5 Terminating Number

The terminating number field may or may not be the same as the dialed number field depending upon the translations used to route the call. WZ1 calls contain terminating numbers that are 10 digits in length. NWZ1 calls may contain terminating numbers up to 15 digits in length. The *Extended BDD Terminating Number* field is 15 BCD characters in length. The format is different for calls that terminate at WZ1 locations and NWZ1 locations.

— For World Zone 1 calls, the *Extended BDD Terminating Number* field is populated as follows:

• The first character of the Extended BDD field contains a BCD "null" character ("Hex C").
• The second character contains a BCD "null" character ("Hex C").
• The third character contains a BCD "null" character ("Hex C").
• The fourth character contains a BCD "null" character ("Hex C").
• The fifth character contains a BCD "null" character ("Hex C").
• The sixth character contains the first digit of the terminating number.
• The seventh character contains the second digit of the terminating number.
• The eight character contains the third digit of the terminating number.
• The ninth character contains the fourth digit of the terminating number.
• The tenth character contains the fifth digit of the terminating number.
• The eleventh character contains the sixth digit of the terminating number.
• The twelfth character contains the seventh digit of the terminating number.
• The thirteenth character contains the eigth digit of the terminating number.
• The fourteenth character contains the ninth digit of the terminating number.
• The fifteenth character contains the tenth digit of the terminating number.

— For Non-World Zone 1 calls, the *Extended BDD Terminating Number* field contains up to 15 digits, right justified, and "null" ("Hex C") filled.

For SDN International and I800 Outbound calls, the terminating number is an international number of the format: CCITT Country Code followed by the City Code and Local Number.

4.1.4.6 Terminating Number Type

The Terminating Number Type field contains a single character that identifies the type of the terminating number.

Table 4.1-33. Values for the BCD EDD Terminating Number Type field.

STNF Number Type	EDD Number Type
A	2
C	3
F	0
I	4
K	Hex-C
N	1
S	5
empty field	Hex-D

4.1.4.7 Originating CCITT

The Originating CCITT field contains the CCITT Country Code corresponding to the country from which the call originated. This field is 3 BCD characters in length, right-justified, and zero filled.

4.1.4.8 Account Code

The Account Code represents the sub-account billing code for Outbound MEGACOM customers. The Account Code field is 8 BCD characters in length, right-justified, and padded with Hex C characters.

4.1.4.9 Toll-Free Number

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The *BDD Toll-Free Number* field is populated for SDN Network Remote Access (NRA) Improved Sequence Dialing calls with the 800 number dialed by the calling party to access the network (when available). The *BDD Toll-Free Number* field is 10 BCD characters in length and shall be populated as follows:

- the first character contains the first digit of the Toll-Free Number;
- the second character contains the second digit of the Toll-Free Number;
- the third character contains the third digit of the Toll-Free Number;
- the fourth character contains the fourth digit of the Toll-Free Number;
- the fifth character contains the fifth digit of the Toll-Free Number;
- the sixth character contains the sixth digit of the Toll-Free Number;
- the seventh character contains the seventh digit of the Toll-Free Number.
- the eighth character contains the eighth digit of the Toll-Free Number.
- the ninth character contains the ninth digit of the Toll-Free Number.
- the tenth character contains the tenth digit of the Toll-Free Number.

For example, with 800-225-7551, the first Toll-Free Number digit is "8," and the last Toll-Free Number digit is "1."

4.1.4.10 Time of Day/Day of Week Routing Count

The Time of Day/Day of Week Routing Count field is 3 BCD characters in length, right-justified, and zero filled.

4.1.4.11 Geographic Routing Count

The Geographic Routing Count field is 3 BCD characters in length, right-justified, and zero filled.

4.1.4.12 Allocator Count

The Allocator Count field is 3 BCD characters in length, right-justified, and zero filled.

4.1.4.13 Dialed Number Decision Count

The Dialed Number Decision Count field is 3 BCD characters in length, right-justified, and zero filled.

4.1.4.14 Next Available Agent Count

The Next Available Agent Count field is 3 BCD characters in length, right-justified, and zero filled.

4.1.4.15 Voice Prompter

The Voice Prompter field is 3 BCD characters in length, right-justified, and zero filled.

4.1.4.16 1st through 5th Annc Number fields

The 1st through 5th Annc Number fields are six BCD characters in length. The first character (0-9) is mapped to a letter as specified in the followiong table for presentation to the customer.

Table 4.1-34. 1st - 5th Annc Number fields - first character mapping.

Extended BDD value	Mapping Value
0	X
1	A
2	B
3	C
4	D
5	E
6	F
7	G
8	S
9	U

The second through sixth characters contain values of 0-9.

4.1.4.17 1st through 5th Annc Listen Time fields

The 1st through 5th Annc Listen Time fields are four BCD characters in length and populated as follows:

— The first character marks the hundreds place for seconds (0-9).
— The second character marks the tens place for seconds (0-9).
— The third character marks the ones place for seconds (0-9).
— The fourth character contains tenths of a second (0-9).

4.1.4.18 1st through 5th Annc Type fields

The 1st through 5th Annc Type fields are one BCD character in length and populated as follows:

— A value of "1" designates a Basic announcement and a value of "2" designates an Enhanced announcement.

4.1.4.19 1st through 5th Annc Category fields

The 1st through 5th Annc Category fields are one BCD character in length and populated as follows:

— A value of "1" designates the Enroute category.
— A value of "2" designates the Call Prompter without Speech Recognition category.
— A value of "3" designates the Into-Queue category.

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— A value of "4" designates the Courtesy Response category.
— A value of "5" designates the Call Prompter with Speech Recognition category.

4.1.4.20 Ofl Annc Count field

The Ofl Annc Count field is three BCD characters in length and populated with the following values, "000-999". It represents the number of announcements played after the fifth announcement on a given call.

4.1.4.21 Ofl Annc Listen Time field

The Ofl Annc Listen Time field is five BCD characters in length and populated as follows:
— The first character marks the thousands place for seconds (0-9).
— The second character marks the hundreds place for seconds (0-9).
— The third character marks the tens place for seconds (0-9).
— The fourth character marks the ones place for seconds (0-9).
— The fifth character contains tenths of a second (0-9).

4.1.4.22 Disconnect Direction

The "Disconnect Direction" field is two BCD characters in length. The field identifies who disconnected a call first (i.e., the calling party, called party, or Network). Refer to the following Table for a definition of the field.

Table 4.1-35. Table 506 - Disconnect Direction (2 BCD chars)

BCD CHAR	MEANING
1	0 = No Indication 1 = Switch Initiated 2 = Calling Party 3 = Called Party 4-9 = Spare
2	SIGN (Hex C)

4.1.4.23 Call Attempt

The "Call Attempt" field contains information on calls affected by the Alternate Destination Routing and Transfer Connect features. Refer to the following Table for a definition of the "Call Attempt" field.

Table 4.1-36. Table 926 - Call Attempt Data

BCD CHAR	MEANING
1-2	00 = No Indication 01 = Alternate Destination Routing (ADR) Feature 02 = Pre-Answer Call Completion (PACC) Feature 03-99 = Reserved
3-5	000 = No Indication 001 = Ring No Answer (RNS) Trigger 002 = Network Busy Trigger 003 = Egress Busy Trigger 004-999 = Reserved
6-7	00 = No Indication 01 = Call Redirected from Redirected Number 02 = Call Redirected to Redirection Number 03-99 = Reserved
8	SIGN (HEX C)

4.1.4.24 Redirection Number

The "Redirection Number" field contains information on calls affected by the Alternate Destination Routing and Transfer Connect features. Refer to the following Table for a definition of the field.

Table 4.1-37. Table 898 - Redirection Number (16 BCD Chars)

BCD CHAR	MEANING
1-15	Digits
16	SIGN (Hex C or D)

4.1.4.25 Redirection Number Type

The "Redirection Number Type" field contains information on the type of the "Redirection Number" described previously. Refer to the following Table for a definition
of the field.

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Table 4.1-38. Table 869 - Numbering Plan Type (2 BCD chars)

BCD CHAR	MEANING
1	0 = No Indication 1 = E.164 2 = APN 3 = IDDD-CCC
2	SIGN (Hex C or D)

4.2 Extended ASCII Bulk Detail Data Download Format Description

This section describes the file format for the Extended ASCII Bulk Detail Data Download offered by AT&T's Call Detail Data capability. The download file may be received in either a compressed or noncompressed state. Refer to Section 4.3 entitled "BDD Compression" for information regarding the compression options available.

The Extended ASCII BDD file format will consist of two parts: a fixed length ASCII header, and a variable length ASCII file body containing the call detail records.

4.2.1 Extended ASCII BDD File Header Format

The ASCII header will be 132 bytes in length. It is comprised of sixteen fixed length fields (with no field separators). The reader should refer to Section 4.1.1 for the format of the header and to Section 4.1.2 for descriptions of the fields in the File Header.

4.2.2 Extended ASCII BDD File Body Format

The Extended ASCII file body will be of variable length. It will consist of variable-length call detail data records each with a newline character at the end of the record. The individual call detail data records may have different lengths because certain fields may or may not contain information, depending on the service and/or features used for the call. The exact number of records in the file is defined in the file header. The exact length of a call record is defined in the first field of that call record. There will be no separators between fields. The exact layout of the file body, and the format of each field in the file body are given in Table 4.2-39.

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Table 4.2-39. Extended ASCII BDD Format of CDD Records

ASCII FILE BODY FORMAT		
FIELD NO.	**FIELD NAME**	**ASCII LENGTH**
1	Length of Record in Bytes	3
2	Structure Code	5
3	Call Code	3
4	Incoming Switch ID	6
5	Connect Date	5
6	Connect Time	7
7	Timing Indicator	5
8	Answer Indicator	1
9	Originating Number	15
10	Originating Number Type	1
11	Originating CCITT	3
12	Dialed Number	15
13	Dialed Number Type	1
14	Terminating Number	15
15	Terminating Number Type	1
16	Elapsed Time	8
17	Call Progress Stopped	1
18	Transport Tariff/Usage Sensitive Features	4
19	Station Group Designator	1
20	Authorization Code	15
21	Incoming Trunk Subgroup Number	5
22	Incoming Trunk Subgroup Member Number	4
23	Data Rate Indicator	3
24	ACI Features	3
25	Station Identification (SID)	10
26	Count of Message-Associated UUI	5
27	Count of Call-Associated TVC UUI	7
28	Elapsed Time in Queue	8
29	Service Feature Indicator	3
30	Service Feature	3
31	Bill-to Indicator	1
32	Service Indicator Code (SIC)	3
33	Announcements before Routing	2
34	Alternate Billing Number	10
35	Present Date	5
36	Present Time	7
37	WATS Indicator	1
38	WATS Band or Type Indicator	3
39	SID Indicator	1

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EXTENDED ASCII FILE BODY FORMAT (continued)		
FIELD NO.	**FIELD NAME**	**ASCII LENGTH**
40	Time Digits Outpulsed	7
41	Call Disposition Code	3
42	Account Code	8
43	Incoming Access Indicator	1
44	Entered Digits	30
45	Outgoing Switch ID	6
46	Outgoing Access Indicator	1
47	Outgoing Trunk Subgroup Number	5
48	Outgoing Trunk Subgroup Member Number	4
49	Outpulsed Digits	24
50	Charge Number	10
51	Toll-Free Number	10
52	VAB Rate Indicator	1
53	VAB New Charge	5
54	VAB Elapsed Time	8
55	Announcements Elapsed Time	8
56	CPRating Announcement	5
57	CPRating Digits	24
58	Customer Features Available	4
59	Far End NPA	3
60	OLI/II Digits	2
61	Operator Services	1
62	CPR Status Indicator	1
63	TT/USFI Child (TTChild)	5
64	CSID Indication	1
65	Time of Day/Day of Week Routing Count	3
66	Geographic Routing Count	3
67	Allocator Count	3
68	Dialed Number Decision Count	3
69	Next Available Agent Count	3
70	Voice Prompter	3
71	1st Annc Number	6
72	1st Annc Listen Time	4
73	1st Annc Type	1
74	1st Annc Category	1
75	2nd Annc Number	6

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EXTENDED ASCII FILE BODY FORMAT (continued)		
FIELD NO.	FIELD NAME	ASCII LENGTH
76	2nd Annc Listen Time	4
77	2nd Annc Type	1
78	2nd Annc Category	1
79	3rd Annc Number	6
80	3rd Annc Listen Time	4
81	3rd Annc Type	1
82	3rd Annc Category	1
83	4th Annc Number	6
84	4th Annc Listen Time	4
85	4th Annc Type	1
86	4th Annc Category	1
87	5th Annc Number	6
88	5th Annc Listen Time	4
89	5th Annc Type	1
90	5th Annc Category	1
91	Ofi Annc Count	3
92	Ofi Annc Listen Time	5
93	Disconnect Direction	1
94	Call Attempt	7
95	Redirection Number	15
96	Redirection Number Type	1

The sequence of fields given in the previous table will be followed for all call detail data records. The only exception is given below, for a special use of the "End of Record" newline character. For each call record, a dash "-" will be used to replace any field in the sequence that is unpopulated (missing data). A newline character will be used to mark the end of each call record. In the simplest case, the "End of Record" marker will appear after field #96 (*Redirection Number Type*). However, if at any position in the call record sequence, all remaining fields for a record are unpopulated, the remaining fields will be truncated and the "End of Record" marker will be sent immediately following the last populated field. For example, if the first 19 fields of a particular call record are either populated with data or marked with "Empty Field" markers, field 20 is populated with data, and fields 21-96 are unpopulated, then the "End of Record" marker would appear immediately after field #20. In summary, the following characters will be used to represent special circumstances:

• blank (" "), octal 040, is used to represent a "null" character position.
• dash ("-"), octal 055, is used to represent an empty data field.
• newline character, octal 012, is used to represent the end of each call record.
• question mark ("?"), octal 077, is used to fill one or more character positions within a data field if the correct data were unknown on the original Automatic Message Accounting (AMA) record.
• lower case "p" will be used to represent the pound sign (#) and lower case "s" will be used to represent the asterisk (*).

4.2.3 Extended ASCII BDD Call Record Field Descriptions

Descriptions of Fields 1 through 8, 16 through 50, and 52 through 64 within the Table entitled "Extended ASCII BDD Format of CDD Records" are provided in Section 3.1.4 entitled "BCD BDD Call Record Field Descriptions". Descriptions of Fields 9 through 15, 51, and 64 through 96 within the same Table are available in Section 4.1.4 entitled "Extended BCD BDD Call Record Field Descriptions". For the ASCII Bulk Detail Data download, all fields will be represented in ASCII rather than BCD.

4.3 BDD Compression

The following options are available from OCDD/RT for compression of the Extended ASCII, and Extended BCD bulk detail data download files prior to transmission:

— UNIX *compress*
— UNIX *pack*
— None - No compression

Before interpretation of this data, the contents of all "compressed" files must be restored to original condition by use of the UNIX *uncompress* command (for compressed files), the UNIX *unpack* command (for packed files), or an analogous decompression utility [4] .

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5. Partial Bulk Detail Data Download

5.1 Partial Bulk Detail Data Download Overview

The Partial BDD download file contains a subset of the fields comprising the Complete BDD download file. The Partial BDD is available in two different download formats; "limited" and "extended". The following fields comprise the data record of the "limited" download format of the Partial BDD download file:

- Connect Date
- Connect Time
- Terminating/Originating Number
- Dialed Number/Account Code
- Elapsed Time
- Completion Indicator
- Station Identification
- Call Code
- Service Feature
- Service Feature Indicator
- Announcement Before Routing

The following fields are contained in the data record of the "extended" download format of the Partial BDD download file:

- Incoming Switch ID
- Connect Date
- Connect Time
- Originating Number
- Originating Number Type
- Terminating Number
- Terminating Number Type
- Dialed Number
- Dialed Number Type
- Account Code
- Elapsed Time
- Call Disposition Code
- Station Identification
- Call Code
- Service Feature
- Service Feature Indicator
- Announcement Before Routing

The "limited" and "extended" Partial BDD download files use either the ASCII or Spreadsheet character set and are not compressed. These files are only transmitted via uucp from the OCDD/RT host (i.e., RCOPY is not supported for the Partial BDD).

The "extended" PBDD is equivalent to the fields numbered 2 through 42 within the "extended" Bulk Data Download which is described in detail within Section 4 of this document. However, note that only the fields identified previously will contain data. The remainder of the 41 fields will be filled with dashes ("-"), indicating that no data is included. The "extended" Partial BDD file naming conventions follow:

Scheduled ASCII Extended Partial Bulk Data Downloads (via UUCP) sent to UNIX sites are named as follows:

ecd.<request number>

<request number> equals YYDDDSSSSS where:

ecd - fixed 3 character prefix
YY - the year (e.g., 94)
DDD - the Julian Date
SSSSS - a system generated sequence number

Scheduled Spreadsheet Extended Partial Bulk Data Downloads (via UUCP) sent to UNIX sites are named as follows:

esp.<request number>

<request number> equals YYDDDSSSSS where:

esp - fixed 3 character prefix
YY - the year (e.g., 94)
DDD - the Julian Date
SSSSS - a system generated sequence number

Scheduled ASCII Extended Partial Bulk Data Downloads (via UUCP) sent to MS-DOS sites (e.g. using UULINK) are named as follows:

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<request number>.ecd
<request number> equals DDDSSSSS where:
DDD - the Julian Date
SSSSS - a system generated sequence number
ecd - fixed 3 character suffix
Scheduled Spreadsheet Extended Partial Bulk Data Downloads (via UUCP) sent to MS-DOS sites (e.g. using UULINK) are named as follows:
<request number>.esp
<request number> equals DDDSSSSS where:
DDD - the Julian Date
SSSSS - a system generated sequence number
esp - fixed 3 character suffix
The "limited" Partial BDD, both single and group RTN formats, are described in detail within the AT&T On-Line Call Detail Data Technical Reference [5] (Release 1.5).

6. Network Remote Access Exception File Format Description

6.1 Introduction

OCDD/RT provides a Network Remote Access (NRA) exception capability which allows customers to specify an NRA number which will generate a message when an incoming AMA record has an originating number which matches the trigger condition. Network Remote Access is an SDN-only feature.
The NRA Exception file consists of a file header and one or more occurrences of NRA Exception messages.
Each match of a trigger condition results in an exception message, where each NRA exception message consists of a message header and a message body.
The NRA Exception file will arrive in a compressed state. Before interpretation of this data, the contents must be restored to original condition by use of the UNIX *uncompress* command or an analogous decompression utility [4] .

6.2 NRA File Header Format

Each NRA file will contain one fixed length file header consisting of 10 bytes. The NRA file header is encoded in ASCII, and contains two fields as described in Table 6.2-40.

Table 6.2-40. NRA File Header Format

NRA FILE HEADER FORMAT		
SEQ. NO.	FIELD NAME	DESCRIPTION
1	File Length in Bytes	6 digits
2	NRA Message Count	4 digits

The fields in the NRA file header are defined below:
• **File Length in Bytes**
This field presents the combined length (in bytes) of the NRA file header and the NRA file body. The NRA file body consists of one or more NRA messages. The *File Length in Bytes* field is 6 digits in length. This field should be right justified and zero filled.
• **NRA Message Count**
This field indicates the number of NRA messages in this file. The *NRA Message Count* field is 4 digits in length; it should be right justified and zero filled.

6.3 NRA Message Header Format

The *NRA Message Header* is associated with each NRA exception message sent. It is a fixed length header (6 bytes), encoded in BCD, and defined as follows:
• the first character in the header will designate that the Exception Type is NRA by a value of "1";
• the second character is unused ("0");
• the third character is the first digit in the value used in the exception specification (ie., the originating NPA input parameter);
• the fourth character is the second digit in the value used in the exception specification (ie., the originating NPA input parameter);
• the fifth character is the third digit in the value used in the exception specification (ie., the originating NPA input parameter);
• the sixth character is the fourth digit in the value used in the exception specification (ie., the originating NXX input parameter);
• the seventh character is the fifth digit in the value used in the exception specification (ie., the originating NXX input parameter);

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• the eighth character is the sixth digit in the value used in the exception specification (ie., the originating NXX input parameter);
• the ninth character is the seventh digit in the value used in the exception specification (ie., the originating station ID (XXXX) input parameter);
• the tenth character is the eighth digit in the value used in the exception specification (ie., the originating station ID (XXXX) input parameter);
• the eleventh character is the ninth digit in the value used in the exception specification (ie., the originating station ID (XXXX) input parameter);
• the twelfth character is the tenth digit in the value used in the exception specification (ie., the originating station ID (XXXX) input parameter).

For example, if the value used in the exception specification is "128-050-1000", then the third character in the header is "1", the fourth character in the header is "2", the fifth character in the header is "3", and the twelfth character in the header is "0".

Within the NRA message header, the exception specification value field may contain zero or more wildcard characters (up to a maximum of 7). Furthermore, wildcard characters are prohibited in the first three (leftmost) digit positions of the exception specification value. Within the exception specification value field of the BCD-encoded NRA message header, "Hex B" is defined as the wildcard character. Thus, using the example above, if wildcards were entered by the user for the station range, then the exception specification value would be "128050BBBB".

6.4 NRA Message Body Format

The *NRA Exception Message Body* format is the same as the BCD encoded call record format as described in Section 3.1.3 (Table 3.1-3). Each exception message body follows its corresponding exception message header within the file.

7. Directory and File Naming Conventions

7.1 Introduction

The destination directory names and the destination file names for RNI and UUCP transfers from the OCDD/RT host to a remote destination are defined in this section for the following:
— user ASCII reports
— bulk data downloads
— NRA files

The file naming convention will not exceed the UNIX limit of 14 characters for any file type.

7.2 Destination Directory Names

Files sent to a remote destination (via RNI/RCOPY or UUCP) are stored in directories segregated by report category and SERVICE type. The destination directory names are shown in Figure 4. The SERVICE types are specified in Table 6.2-30. The report categories are specified in Table 6.2-31.

```
/usr/cdds/bdd/SERVICE
/usr/cdds/cdd/SERVICE
/usr/cdds/adm/SERVICE
/usr/cdds/exc/SERVICE
/usr/cdds/nra/SERVICE
```

Figure 4. Destination Directory Names

The destination directory SERVICE Types listed in Table 7.2-41 include all service types supported by OCDD/RT with the exception of the added General ("GNRL") service type. The "GNRL" service type is used for reports where multiple service types are specified (e.g., "all") in the report request. "GNRL" is also the service type used for reports which have no associated service type.

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Table 7.2-41. Destination Directory SERVICE Types

SERVICE TYPE	SERVICE DESCRIPTION
C800	Classic 800 Service
M800	MEGACOM® 800
RDYL	READYLINE®
HCAP	Hi-CAP
MQST	MULTIQUEST
SDN	Software Defined Network
GSDN	Global SDN
I800	International 800
MWAT	MEGACOM WATS Service
GNRL	General (no single service)

Table 7.2-42. Report Categories and Report Names

REPORT CATEGORIES AND REPORT NAMES		
REPORT DESCRIPTION	**REPORT CATEGORY**	**REPORT NAME**
Bulk Data Download Reports:	bdd	----
Extended BCD Bulk Data Download File	bdd	e
Extended ASCII Bulk Data Download File	bdd	f
Complete BCD Bulk Data Download File	bdd	b
Complete ASCII Bulk Data Download File	bdd	a
Partial Bulk Data Download File	bdd	n/a
Complete BDD Transmission Report	bdd	t
Partial BDD Transmission Report	bdd	p
Call Detail Data Reports:	cdd	----
Search Call Detail - complete	cdd	s
Search Call Detail - partial	cdd	p
Call Completion Summary	cdd	c
Call Detail Summary	cdd	d
Call Disposition Summary	cdd	i
Network Traffic Summary	cdd	n
NPA/Country Code Summary	cdd	a
Exception Reports:	exc	----
Hourly Exception Report Summary	exc	h
Daily Exception Report Summary	exc	d
Exception Violation Message	exc	v
User Administration Reports:	adm	----
Current RTN State Status Report	adm	c
Trunk Group Report	adm	t
RTN Mnemonic Report	adm	r
Grouped RTN Report	adm	g
Scheduled Requests Report	adm	s
Assigned RTN Report	adm	a
Task Permission Assignment Report	adm	u
RTN Provisioning Update Report	adm	p
Login Provisioning Report	adm	l
Subaccount Provisioning Report	adm	b
NRA Exception Reports:	nra	----
NRA Exception File	nra	n

7.3 ASCII Report and BDD Destination File Names

The ASCII User Report and Bulk Data Download files transferred from the OCDD/RT host to a remote destination will be named as described in Figure 5:

```
file_name = reptJJJHHMMRqSA
where rept -- one character depicting report name
[specified in Table 5.2-31 for each report]
[e.g., for cdd reports: s, p, c, d, i, n, a]
JJJ -- Julian date (001-366)
HH -- Hour (00-23)
MM -- Minutes (00-59)
```

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```
Rq -- Request ID (00-30)
SA -- SubAccount ID (00-50)
```

Figure 5. ASCII Report and BDD File Naming Conventions

The `JJJ` is the Julian date and the `HHMM` is the time entered into the OCDD/RT host as the delivery date and time for the user reports or bulk data downloads.
The Request ID (`Rq`) is an internally generated request ID which corresponds to the given scheduled report.
The SubAccount ID (`SA`) is an internally generated SubAccount ID which corresponds to this user's SubAccount.
NOTE: For compressed BDD files, a .Z (uppercase "Z") will be appended to the BDD file name. For "packed" BDD files , a .z (lowercase "z") will be appended to the BDD file name.

7.4 NRA Exception Destination File Names

The Network Remote Access exception file naming convention must support the transmission of multiple NRA files (from different users) to a single downstream system. The NRA exception files transferred from the OCDD/RT host to remote destinations will be named as described in Figure 6:

```
file_name = reptJJJHHMMSubID
where rept -- one character depicting report name
[always "n" for nra reports]
JJJ -- Julian date (001-366)
HH -- Hour (00-23)
MM -- Minutes (00-59)
SubID -- Subscriber ID (0000-9999)
[last four digits of Subscriber ID]
```

Figure 6. NRA Exception File Naming Conventions

For NRA exceptions, the `JJJ` is the Julian date and the `HHMM` is the time of the reporting period.
The Subscriber ID (`SubID`) is populated by OCDD/RT with the least significant four digits of the subscriber ID established for this customer. The subscriber ID for the SDN customers is provisioned with the 10-digit SDN SMS ID. For example, subscriber ID "8880000938" would have SubID = "0938".

8. Downloads and Reports to PCs

8.1 Downloads and Reports to PCs Overview

OCDD/RT provides users with the capability to download the following reports and bulk call detail data to personal computers (PCs):
— All user reports.
— Extended ASCII BDD download.
— Complete ASCII BDD download.
— Partial BDD download.
Users are able to download files to their personal computers using terminal emulation software that supports the Kermit, YMODEM, or ZMODEM protocols.

9. Acronym List

ACI AT&T Communications ISDN
ACP Action Point
AIOD Automatic Identified Outward Dialing
AMA Automatic Message Accounting
ANI Automatic Number Identification
APS ACCUNET Packet Service
ASCII American Standard Code for Information Interexchange
AT&T American Telephone & Telegraph
BCD Binary Coded Decimal
BDD Bulk Detail Data
CADCR Centralized Alternate Destination Call Redirection
C800 Classic 800 Service
CDD Call Detail Data
CDR Call Detail Recording

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CDS Caller Destination Selection
CED Caller Entered Digits
CFA Customer Features Available
CPR Call Prompter Rating
CSID Centrex Station Identification
DADC Direct Access Data Channel
DC Direct Connect
DSD Direct Services Dialing
DWAT Direct-Connect WATS
ESS Electronic Switching System
FENPA Far End Numbering Plan Area
GSDN Global Software Defined Network
HCAP see HICAP
HICAP High Capacity Service
HOC Host Collector
I800 International 800 Service
ICCS International City Center Service
ICP Intelligent Call Processing
ID Identification
IDSD Inbound Direct Services Dialing
IOC International Operator Center
ISDN Integrated Services Digital Network
LAPB Link Access Procedure--Balanced
LDC Long Duration Call
LEC Local Exchange Company
M800 MEGACOM 800 Service
MQST MultiQuest
MWAT MEGACOM WATS Service
NCP Network Control Point
NPA Numbering Plan Area
NRA Network Remote Access
NSC Network Services Complex
NWZ1 Non-World Zone 1
OCDD On-Line Call Detail Data
OLI Originating Line Information
OSO Originating Screening Office
OSPS Operator Service Position System
PBX Private Branch Exchange
PNI Private Network Interface
PACR Post Answer Call Redirection
RCP Recurrent Call Prompter
RDYL READYLINE Service
RNI Rapid Network Interface
RTN Routing Telephone Number
SDDN Software Defined Data Network
SDN Software Defined Network
SGD Station Group Designator
SIC Service Indicator Code
SID Station Identification
SMS Service Management System
STA Standard Terminating Announcements
SVC Switch Virtual Circuit
TAN Trunk Appearance Number
TRD Time Release Disconnect
TRK Trunk Subgroup Member
TSG Trunk Subgroup
TSPS Traffic Service Position System
TT Transport Tariff
TVC Temporary Virtual Circuit
USF Usage-Sensitive Features
USI Usage-Sensitive Indicators
UUI User-to-User Information
VAB Vari-A-Bill
VTNS Virtual Telecommunications Network Service

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WATS Wide Area Telecommunications Services
WZ1 World Zone 1

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