



BID-0004

July 1990

**Station Message Detail Record
File Transfer System
(SMDR FTS)**

Terminal-to-Network Interface

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DOCUMENT HISTORY

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1.0 SERVICE DESCRIPTION

At present, the **Station Message Detail Recording (SMDR)** data for Centrex III customers is collected within the network on a nightly basis. This data is reformatted and partitioned by customer identifier. The records resulting from this process are concatenated monthly for each customer, by customer location, and are made available on magnetic tapes for delivery to customers.

The **SMDR File Transfer System (FTS)** feature is a new Bell Canada offering. With a planned introduction in the 3rd quarter the **SMDR FTS** will provide Centrex III **SMDR FTS** customers with one-way electronic delivery of **SMDR** files. The schedule of record transfer and location(s) of delivery will be mutually agreed upon between Bell Canada and the Centrex III **SMDR FTS** customers.

The data that is delivered electronically by the **FTS** is the same as that made available in the existing tape delivery system. For faster file transmission the data may be compressed and then transmitted to customers. Upon a request, the data originating from different Centrex III switches may be delivered to one central location and data originating from one Centrex III location can be broadcast to several customer locations.

2.0 FEATURE DESCRIPTION

2.1 Background on the File Transfer System

The **SMDR FTS** was developed as an alternative to the current monthly tape transfer. It provides more frequent electronic delivery of **SMDR** data to customer designated locations.

The currently used manual tape delivery system has been modified to provide the following characteristics:

- Electronic delivery of the same data as contained in the existing tape delivery system. The format of the records is retained.
- One-way delivery from Bell Canada data centres on a predetermined schedule mutually agreed upon with the customers.
- The same data can be delivered (broadcast) to up to 10 locations designated by the customer.
- For faster transmission, the data can be compressed by a ratio of 8:1. In order to benefit from this feature the customer requires appropriate decompression software.
- Customers with multiple Centrex III systems located in different exchanges may have all their data delivered to one central location.
- The customers processing equipment must be able to communicate using UNIX to UNIX CoPy (UUCP) communications protocol.
- A variety of tariff facilities will be used to transport the data from Bell Canada's data centres to the customer's receiving location. DataPac 3000 can be used with customers having CT X.25 (e.g., a Convergent Technologies) processor. The data can be also sent by means of the Public Switched Telephone Network (PSTN) to a Centrex III data unit (19.2 kbps) or an analogue dial-up modem (2.5 kbps).

- The data can be sent daily, weekly or monthly at the customer's choice. All calls completed before 7:30 p.m. are included in that days data. This data is available for transmission by 7:00 a.m. the next delivery day as follows:

<u>Day Polled</u>	<u>Day Delivered to Customer</u>
Tuesday	Wednesday
Wednesday	Thursday
Thursday	Friday
Friday	Saturday
Saturday	Tuesday
Sunday	Tuesday
Monday	Tuesday

2.2 Customer Premises System (CPS) or Customer Designated System (CDS)

The CPS receives the **SMDR** files and processes them. It will typically contain the following components and procedures:

- An application to process **SMDR** data (e.g., INFOSCOPE, Service Bureau, Third Party Software, Customer Designated Software. INFOSCOPE Call Accounting for **SMDR**, for example, runs on a MS-DOS PC equipped with UUCP to allow it to communicate with **SMDR FTS**).
- The procedures for backup and recovery of the CPS, its software and its data.

3.0 PHYSICAL CHARACTERISTICS OF THE TERMINAL-TO-NETWORK INTERFACE

3.1 Data Interface

The RS 232C Async 8 bit binary data (for example Centrex III Data Unit) modem is used for data transportation.

3.2 Facilities

The **FTS** will transmit data over three facility types:

a) Dial-up Analogue

The **FTS** is equipped with UDS224A/D Async Auto-Dial Access Modems set to 2400 bps, 8-bit no parity.

Note: These modems might be upgraded with 9.6 kbps UZD9M Hayes Smart (V-series) autodial async/sync model in the future.

Customers are responsible for providing their dial-up lines, modems and the appropriate modem settings.

b) Centrex III Data Units (D.U.)

The **FTS** is equipped with one Centrex III D.U. port and communication is set at 19.2 kbps with 8-bit no parity.

c) DataPac

The **FTS** is equipped with DataPac 3000 lines. It is recommended that a stand-alone Packet Assembler/Disassembler (PAD) be used.

3.3 Transmission Protocol

The **FTS** transmits data files to remote CPS or CDS sites using UUCP protocol. Two communication scenarios are possible:

- a) CPS with a UNIX Operating System

FTS -> MODEM -> UUCP -> PSTN -> UUCP -> MODEM -> CPS

- b) CPS or CDS with a Non-UNIX Operating System

FTS->MODEM->UUCP->PSTN->UUCP->MODEM->PC or-> Non-
Frontend
Unix Unix

3.4 File Compression

The **FTS** uses the program "compress" included in the System V (Version 4) of UNIX. It is also available in the Berkeley version of UNIX and in most other UNIX systems.

Note: Compress uses the modified Lempel-Ziv algorithm described in Reference 6.1.

Customers requiring transmission of compressed data should provide for the decompression software on their CPS/CDS or CPS/CDS frontend.

4.0 MACHINE SET-UP**4.1 CPS or CPS Frontend UUCP Set-Up**

Configuration files are used by the UUCP to keep track of the systems with which a link can be established. These files contain configuration information such as valid connection times, telephone numbers, types of modem used, operating speeds and other details.

5.0 EXAMPLE OF A POSSIBLE REMOTE SITE SET-UP

In order to set-up a remote site to receive files from the **FTS**, the following steps might have to be taken:

- a) Modify the Systems file with the following line:

```
fts
```

Note: The Systems file resides in the directory /usr/lib/uucp.

- b) Include the following lines in the Permission file:

```
MACHINE=fts LOGNAME=u_fts  
SENDFILES=yes REQUEST=yes COMMANDS=ALL\  
READ=/usr/spool/uucppublic\  
WRITE=/usr/spool/uucppublic
```

Note: The Permissions file resides in the directory /usr/lib/uucp.

- c) Add a new userid (e.g., "u-fts") to the password file (/etc/passwd) by including the following line:

```
u-fts:fHJX9BSTiiQ6w:107:1:fts uucp id:/usr/spool/uucppublic  
/usr/lib/uucp/uucico
```

Note: The field fHJX9BSTiiQ6w is the encrypted password for this userid. This will vary according to the password actually assigned. The **FTS** must have the password in its System file so it can logon to transfer files in the CPS.

The userid number 107 and the group 1 will also vary according to the administration of the system.

Files that are transferred from the **FTS** will reside in the CPS directory /usr/spool/uucppublic.

- d) Assign a node name to the system.

6.0 REFERENCES

- 6.1 "A Technique for High Performance Data Compression". Welch, T.A., Computer (USA), June 1984, Volume 17, Issue 6, pages 8 to 19.
- 6.2 "DOS and UNIX on Speaking Terms". Yager T., Byte, June 1990, pages 281 to 292.