

FILEXTRACT
ADMINISTRATOR'S GUIDE



Attachmate®

DATABridge™



DATABridge FileXtract

Version 6.2



Contents

About This Guide	5
Abbreviations	5
Conventions	5
Related Documentation	6
Introducing FileXtract	7
Introducing FileXtract	7
Advantages of FileXtract	8
DATABridge Components	9
Getting Started with FileXtract	12
Installing FileXtract	15
System Requirements	15
Before You Install	15
Installing FileXtract	18
Glossary of Terms	21

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About This Guide

This guide contains instructions for installing, configuring, and using Attachmate DATABridge FileXtract (hereafter referred to as FileXtract). This preface includes information to help you use this guide.

To install, configure, and run this program, you should be a system administrator familiar with the following:

- Standard Unisys® operations for MCP-hosted mainframes such as the CS7xxx series, Libra series, ClearPath® NX/LX or ASeries
- DMSII databases and Data And Structure Definition Language (DASDL)
- File layouts and the description of those layouts for the files you will be replicating

Abbreviations

The following abbreviations are used throughout this guide and are provided here for quick reference.

Abbreviation	Name
AA	Absolute Address
ABSN	Audit Block Serial Number
AFN	Audit File Number
API	Application Programming Interface
DASDL	Data and Structure Definition Language
DMSII	Data Management System II
IDX	Index
MCP	Master Control Program
RPC	Remote Procedure Call
SEG	Segment
WFL	Work Flow Language

Conventions

This guide uses the following conventions and terms.

Convention or Term	Used to indicate
<code>this type style</code>	text you type filenames and folder names onscreen messages

<i>italic</i>	emphasis document titles variables
[square brackets]	command options For example, [true false]. (Do not type the brackets.)
UPPERCASE	DMSII data set and data item names
<i>MCP server host mainframe</i> (terms)	Unisys ClearPath NX, LX or A Series mainframe
<i>DBEnterprise</i> (term)	DATABridge Enterprise Server
<i>DBServer</i> (term)	DATABridge Server Accessory

Related Documentation

When using DATABridge, you may need to consult the following resources.

DATABridge product documentation

In the DOCS folder on the DATABridge installation image, you'll find guides for installation, error codes, and a separate administrator's guide for each DATABridge product. These documents require Adobe Reader for viewing, which you can download from the Adobe website at <http://get.adobe.com/reader/>. All DATABridge product documentation, including technical notes, is also available on the Attachmate website at <http://support.attachmate.com/manuals/databridge.html>.

Documentation for DATABridge Enterprise Server and the DATABridge Client Console is also available from the **Help** menu. A modern browser is required for viewing.

Unisys MCP server documentation

If you are not completely familiar with DMSII configuration, refer to the included Unisys documentation.

CHAPTER 1

Introducing FileXtract

In this Chapter

Introducing FileXtract

[7](#)

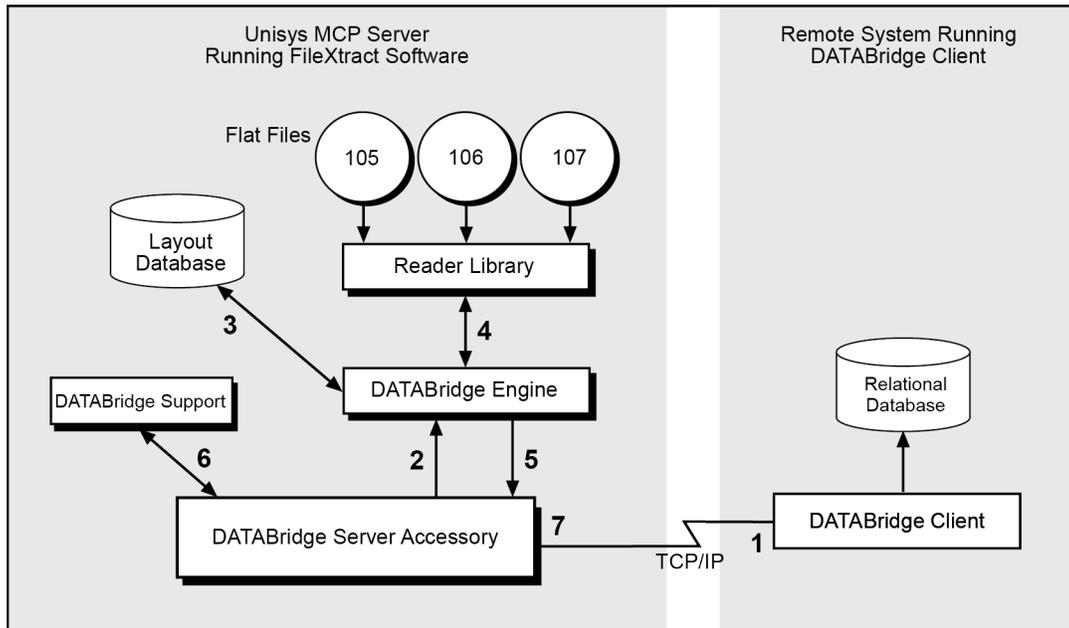
Getting Started with FileXtract

[12](#)

This chapter explains what FileXtract is, how it works, and how to use it.

Introducing FileXtract

FileXtract is bundled with the DATABridge host software. FileXtract includes several Reader libraries and other associated files that enable you to replicate (clone and then update) non-DMSII data (hereafter referred to as flat files) residing on Unisys MCP servers. You can use FileXtract with the DATABridge Client, DBSpan, or DBSnapshot to replicate flat files. The following diagram shows how the DATABridge Client uses FileXtract to replicate flat files.



1. The DATABridge Client calls the DATABridge Server accessory to replicate the specified flat files.
2. The DATABridge Server accessory calls the DATABridge Engine to extract the data for the selected flat files.
3. The DATABridge Engine accesses the specified FileXtract layout database to determine the layout of the flat files.

No updates are actually done to this database. The Engine gets all of the layout information it needs from the DESCRIPTION file. The DMSII CONTROL file and the DMSUPPORT library will exist, but the data sets and audit files will not.

4. The Engine calls the appropriate Reader library, as specified in the layout database, to extract the data from the flat files.
5. The Engine sends the data to DATABridge Server.
6. DATABridge Server calls DATABridge Support to filter, alter, or transform the data, if needed.
7. DATABridge Server sends the data to the DATABridge Client.
8. The DATABridge Client populates the relational database and then either waits for additional flat file information or terminates.

Advantages of FileXtract

FileXtract provides the following advantages:

- You can replicate any type of flat file to a Client database.
 - Sample Reader libraries are provided for system summary log files (SUMLOG), COMS Transaction Trail files (TTRAIL), printer backup files (PRINTFILES), BICSS log files (BICSS), LINC Activity logs (LINCLOG), and the USERDATA system file. You can use these sample Reader libraries without any modifications to the Reader libraries. DASDL files are provided to generate the corresponding layout database. For more information, see Chapter 3, “Using the Sample Reader Libraries.”
 - The DISKFILE Reader library is provided to replicate COBOL created flat files. If you have COBOL 01-level file record descriptions for your flat files, you can use the COBOL-to-DASDL utility to generate the layout database. For more information, see Chapter 4, “Using the COBOL-to-DASDL Utility.”
 - Sample Reader libraries are also provided to allow you to customize replication of any other type of flat file. For more information, see Chapter 5, “Creating a Custom Reader Library.”
- Cloning is required only one time. After the flat files are cloned, FileXtract updates the Client database as new records and flat files become available.
- You can select what you want to replicate from the flat files; it is not necessary to replicate the entire flat file.
- By copying the non-DMSII data to a secondary database, you offload decision support, queries, and reporting from the primary database. The secondary database provides a secure way to make data available to selected individuals, departments, or sites while protecting the flat files on the host.
- The data is available on the Client system even if the host is down or the data communication connection is broken. This eliminates long wait times for data availability. Users can use any database tool available on the Client system to access the data in the secondary database.
-

Note: FileXtract cannot track updates to flat file records. If record modifies or deletes occur, you must reclone.

DATABridge Components

Each of the DATABridge products (for example, DATABridge Host, the DATABridge Client, and DATABridge Enterprise Server) and the components they include are described in the following table.

DATABridge Host (installed on the mainframe)

Component	Description
DATABridge Engine (DBEngine)	The main component of the DATABridge software, the DATABridge Engine is a host library program that retrieves structural information, layout information, and data from the DMSII database and passes the information to DATABridge Server.
DATABridge Server (DBServer)	An accessory that provides communications between DBEngine and the DATABridge Client, and also between DBEngine and DATABridge Enterprise Server. DBServer responds to DATABridge Client requests for DMSII data or DMSII layout information. It retrieves updates by reading the audit files on the host and sends the changes to the Client.
Support Library (DBSupport)	A library that provides translation, formatting, and filtering to the DATABridge Server. After DATABridge Server receives data from the DATABridge Engine, it calls the DATABridge Support Library to determine if the data should be replicated, and if so, passes the data to the Support Library for formatting.
DBGenFormat	A host utility that creates translation, filter, and format routines. The GenFormat utility interprets the GenFormat parameter file to generate ALGOL source code patches, which are included in the tailored Support Library.
Span Accessory	Produces a replication of one or more data sets into flat sequential disk files that can be extended when more audit becomes available. The Span Accessory updates the extracted flat files by appending the changes to the end of the flat files (unlike the Snapshot Accessory, which replaces the changed records).
Snapshot Accessory	Produces a clone of one or more data sets into tape or flat sequential disk files that consist of records suitable for bulk loading into a client application (for example, a spreadsheet or a relational database). The Snapshot Accessory clones the selected data sets each time you run it.
Tanker Accessory	Provides filtered audit files for the Span and Server Accessories.
Lister Accessory	Produces a report of the layout of the structures in your DMSII database, including structure numbers and key sets.
Info Utility	Produces a report of your DMSII database timestamps, update levels, DMSII release levels, etc.

WFL (Work Flow Language) Jobs	Provide customizable ways to run DATABridge Accessories. For example, the Notify WFL makes the DATABridge Server notify the Client whenever audit files are available for processing.
AuditTimer Utility	Schedules times for closing an audit file.
Copy Audit Utility	Enables you to specify the number of closed audit files that should be saved on disk, automatically have DATABridge Server notify the Client each time an audit file becomes available, and run the Span Accessory each time an audit file becomes available.
Audit Close Utility	Enables you to close the current audit file.
Audit Remove Utility	Enables you to remove processed audit files that you copied to a separate audit pack.
Sample Source Code and Accessories	Illustrate how to use the DATABridge API to write your own accessories. These sample accessories are not supported. For more information, see the <i>DATABridge Programmer's Reference</i> .
APIs (Application Program Interfaces)	Provide access to DBEngine from any DATABridge or user-written accessory (for example, Span) for the purpose of retrieving information for a DMSII database. For more information about the DATABridge API and the DATABridge COBOL API, see the <i>DATABridge Programmer's Reference</i> .

DATABridge Enterprise Server

A Windows-based product that includes many of the DATABridge host components. Enterprise Server offloads much of the replication workload from the Unisys mainframe to a Windows computer, reducing mainframe resource utilization and initial load time.

DATABridge Clients can connect directly to Enterprise Server, which in turn connects to DATABridge Server on the mainframe. If MCP disks are directly accessible from the Windows server, Enterprise Server extracts the DMSII data directly. Enterprise Server reads the audit trail on the host to retrieve updates that occurred during the extraction and sends the changed information from the audit file to the Client. If MCP disks are not directly accessible, Enterprise Server uses DATABridge Server to retrieve blocks of data from DMSII data sets or the audit files.

Component	Description
DBEnterprise	The executable file for Enterprise Server, frequently used interchangeably with Enterprise Server.
DATABridge Director (DBDirector)	A Windows Service that starts Enterprise Server whenever a data request is received.

DATABridge Client

The Client initiates a connection with DBServer on the host or DBEnterprise on a Windows PC and then specifies the DMSII data sets to be replicated from a DMSII database.

Component	Description
Client Service	A service (Windows) or daemon (UNIX) that automates most Client operations from the Client Console. It handles scheduling for the Client and messaging to the Client Console.
DBClient	A Client program that is launched by the service. DBClient handles the processing of DMSII data and updates the same as dbutility, except that it runs as a background run and uses the Client Console to display its output and interact with the operator.
DBCIntCfgServer	A program that handles all requests from the Client Console specific to a data source. These requests include updating the client configuration file, providing access to the client control tables, and handling the Client Configurator. Like DBClient, this program is run by the service as a background run.
dbutility	An optional program that runs the DATABridge Client from a command-line.
Batch Console (bconsole)	A program that allows command files, such as UNIX shell scripts, issue process-related requests to the Client Service. The Batch Console interprets (and runs) VB-like language scripts.
Client Console (installed separately)	A graphical user interface from which you can connect to Client services. From the Client Console you can start the Client Configurator , which lets you customize the layout of the relational database.

DATABridge FileXtract

An application that allows you to clone and update flat files that reside on Unisys ClearPath NX, LX, or A Series mainframes. You can also use FileXtract with the DATABridge Client to replicate this data. From the Client perspective, FileXtract data sources look like DMSII data sources.

FileXtract is bundled with DATABridge Host software and includes several Reader libraries and other associated files.

DATABridge DMSII Client

A mainframe program that clones and updates a DMSII database as another DMSII database. With the DMSII Client, you can selectively replicate by filtering on both row and column.

DATABridge Plus

A system library program that provides DATABridge 5.0 and later the ability to access current DMSII audit files.

DATABridge Plus applies to all DATABridge Accessories. That is, after DATABridge Plus is established as an SL (System Library), all Accessories automatically use it, even if the Accessories access different databases.

DATABridge Twin

A mainframe program that replicates a DMSII database as another DMSII database. Twin is installed on the primary DMSII database and the cloned data typically resides in a secondary database on a development or departmental mainframe. As DMSII audit becomes available, updates to the primary database are applied to the secondary database.

Getting Started with FileXtract

The following is a description of how to use FileXtract to replicate flat files.

- 1 Install FileXtract. See “Installing FileXtract.”
- 2 Decide which flat files you want to replicate.
- 3 Determine which Reader library you need to use, then select or generate a layout database for the flat files you want to replicate and start the replication process.

For these types of files	Use this Reader library
System summary log files	SUMLOG
COMS Transaction Trail files	TTRAIL
Printer backup files	PRINTFILE
BICSS log files	BICSS
Flat file using a COBOL FD	DISKFILE
LINC Activity logs created by LINC systems	LINCLOG
System USERDATA file	USERDATA
Flat files that contain information in a “proprietary” format (for example, a flat file that requires reading the nth word to find the address of the next record)	A custom, user-written Reader library
The BANKFILE sample flat file supplied with FileXtract	BANKFILE

- 4 If you will be using DATABridge Server (DBServer), define the SOURCE and READER options in the DBServer parameter file. If you will be using the Span or Snapshot accessories, define the READER option in the appropriate Accessory's parameter file.

Refer to the DATABridge Host Administrator's Guide for instructions.

- 5 Run the Accessory (DBServer, DBSpan, or DBSnapshot).

Refer to the *DATABridge Host Administrator's Guide* for instructions on configuring and running DATABridge Accessories.

- 6 If you are replicating to the DATABridge Client, run the DATABridge Client DEFINE command against the SOURCE option in DATABridge Server.

Refer to the *DATABridge Client Administrator's Guide* for instructions on running the DATABridge Client.

CHAPTER 2

Installing FileXtract

In this Chapter

System Requirements	15
Before You Install	15
Installing FileXtract	18

This chapter explains how to install FileXtract.

System Requirements

FileXtract has the following requirements:

- Unisys MCP-hosted server running MCP level SSR 49.1 to 55.1 and DMSII software 49.1 to 55.1 (including the DMALGOL compiler)
- Access to the flat files
- Flat files must meet the following criteria:
 - Have the same layout and a common naming convention
 - Consist of only creates added to the end of the file, not modifications to existing records
 - Flat files in a group must have the same Reader type (interface). For example, all are SUMLOG files

Before You Install

If the DATABridge host database replication software is installed on the mainframe where you want to install FileXtract, it is recommended that you install FileXtract to the same usercode and pack as DATABridge.

Caution: The FileXtract installation WFL overwrites the DATABridge host database replication software files listed in this section; therefore, if you made changes to any of these files, write down the changes before you start the FileXtract installation WFL. When the installation WFL finishes, update the new files to match the settings in the previous ones

DBSupport

If you changed SYMBOL/DATABRIDGE/SUPPORT, note the changes you made and make the corresponding changes to the new SYMBOL/DATABRIDGE/SUPPORT.

DATABridge Compile WFL

If you changed WFL/DATABRIDGE/COMP, note the changes you made and make the corresponding changes to the new WFL/DATABRIDGE/COMP.

Option	Your Setting
QUEUE=	
STARTTIME=	
BDNAME=	
Other:	

Other DATABridge WFL Files

In all of the WFL/DATABRIDGE files, you can modify the following:

- STARTTIME
- QUEUE
- Name of printer backup files

If you changed any of these items, write your changes in the tables that follow. After installation, update the files accordingly.

WFL/DATABRIDGE/SPAN

Option	Your Setting
QUEUE=	
STARTTIME=	
BDNAME=	

WFL/DATABRIDGE/LISTER

Option	Your Setting
QUEUE=	
STARTTIME=	
BDNAME=	

WFL/DATABRIDGE/SERVER

Option	Your Setting
---------------	---------------------

QUEUE=

STARTTIME=

BDNAME=

USERCODE=

WFL/DATABRIDGE/SNAPSHOT

Option	Your Setting
--------	--------------

QUEUE=

STARTTIME=

BDNAME=

WFL/DATABRIDGE/DBINFO

Option	Your Setting
--------	--------------

QUEUE=

STARTTIME=

BDNAME=

SAMPLE Files

If you did not rename SAMPLE files before you changed them, save them with a different name now. The SAMPLE files are as follows:

DATA/ENGINE/SAMPLE/CONTROL
 DATA/GENFORMAT/SAMPLE/CONTROL
 DATA/LISTER/SAMPLE/CONTROL
 DATA/SERVER/SAMPLE/CONTROL

DBEngine Control File

The DATA/ENGINE/CONTROL file is overwritten with the new DATABridge key. If you made changes to the parameter file, make a note of them now.

Option	Your Setting
--------	--------------

KEY or EVALKEY

Audit Level =

Property Level =

Checkpoint client...

Workers =

Available From...To... =

ReadAhead =

Print Statistics =

Links =

DBPlus =

DMSII program titles

Mirrored Audit

Installing FileXtract

Complete the following steps to install FileXtract.

- 1 Determine the usercode. Installing to a privileged usercode prevents most problems running the installation WFL.

Caution: If the DATABridge host database replication software is installed on the mainframe where you want to install FileXtract, see *Before You Install* (page [15](#)).

If you plan to replicate flat files	Then install FileXtract
Under the same usercode where you run FileXtract	Under the same usercode from which you plan to run it.
Under two or more usercodes	With no usercode (that is, nonusercoded). If you don't install FileXtract as nonusercoded, establish the DBEngine as a system library (SL). If you don't establish DBEngine as an SL, you must put a copy of DBEngine under every usercode where you will run FileXtract, or you must file equate each time you run FileXtract.

- 2 Choose the primary or secondary pack from the usercode's FAMILY substitution statement.

For example, if the usercode has the following substitution
`FAMILY DISK = PRODPK OTHERWISE DISK`
 store the FileXtract software on either `PRODPK` or `DISK`

3 Copy the installation WFL from the installation image or DVD to the host.

- If you install from the DVD, use the following command:

```
WFL UNWRAP *WFL/DATABRIDGE/INSTALL AS
WFL/DATABRIDGE/INSTALL OTOF *INSTALL FROM DBXX
(DVD) TO DISK (RESTRICTED = FALSE)
```

where *xx* is the version of the software with no decimals (for example, DB62).

- If you install from uploaded files, upload `DISKINSTALL` and `IMAGE` files using a file transfer tool capable of binary/image transfers to the usercode where DATABridge is to be installed. Sign on to the usercode and then use the following command:

```
WFL UNWRAP *WFL/DATABRIDGE/INSTALL AS WFL/DATABRIDGE/
INSTALL OTOF DISKINSTALL
```

4 Run the installation WFL.

- a) From CANDE or another editor, start the installation WFL as follows:

```
START WFL/DATABRIDGE/INSTALL ("FILEEXTRACT"
[, "familyname"])
```

where *familyname* is the optional name of the pack you determined in step 2 and is only required if you did not install the WFL to the primary family. (If you don't include the *familyname* parameter, the installation defaults to DISK.)

- b) Enter the access code (license key) or, if using an evaluation copy, the evaluation code located on the DATABridge host DVD package.
- c) If the installation WFL pauses, complete the remaining steps. Otherwise, skip the remaining steps.
- d) If you installed from DVD to a nonprivileged usercode and the installation WFL is paused, you must unrestrict OBJECT/DATABRIDGE/KEYENTRY, as in this example:

```
RESTRICT -FILE (ENGR)OBJECT/DATABRIDGE/KEYENTRY ON PRODUCTION
```

- e) After you have unrestricted OBJECT/DATABRIDGE/KEYENTRY, transmit `mixnumberOK` to the install WFL job.

OBJECT/DATABRIDGE/KEYENTRY now runs.

- f) When prompted, enter the access code (same as license key) located on your DATABridge host DVD package.
- g) After the installation WFL completes, mark all of the DATABridge object files as unrestricted by entering the following from either the ODT or from a privileged usercode in MARC:

```
RESTRICT -FILE objectfilename
```

DATABridge Accessories and other programs will need to specify a location for the DATABridge Engine each time they access it, unless you establish the Engine as a System Library (SL). However, this can pose a security risk to your system and is not recommended.

Glossary of Terms

A

About this Glossary

This section includes terms that are unique to DATABridge, as well as terms that are standard for DMSII databases.

Note: Some of the terms listed here are standard terms for Unisys mainframes. Complete, detailed definitions for these terms can be found in Unisys ClearPath NX, LX or A Series documentation.

Accessories

DATABridge Accessories access the services in DBEngine and DBSupport. Some of the Accessories provided with DATABridge are as follows:

- DBServer, which provides communication and DMSII database replication services to DATABridge Clients.
- DBSpan, which produces a replication of one or more data sets into flat sequential disk files. DBSpan updates the cloned flat files by appending the changes to the end of the flat files (unlike DBSnapshot, which replaces the changed records).
- DBSnapshot, which produces a one-time replication of one or more data sets into flat sequential disk files or tape.
- DBTanker, which provides filtered audit files for the DBSpan and DBServer Accessories.
- DBInfo, which produces a report of your DMSII database timestamps, update levels, DMSII release levels, etc.
- DBLister, which produces a report of the layout of the structures in your DMSII database, including structure numbers and key sets.
- DBAuditTimer, which closes the current audit file when it is older than a specified length of time.

C

cloning

Cloning is the one-time process of generating a complete snapshot of a data set to another file. Cloning creates a static picture of a dynamic database. DATABridge uses the DMSII data sets and the audit trail to ensure that the cloned data represents a synchronized snapshot of the data sets at a quiet point, even though other programs may be updating the database concurrently. DATABridge clones only those data sets you specify.

Cloning is one phase of the database replication process. The other phase is tracking (or updating), which is the integration of database changes since the cloning.

CONTROL file

The DMSII CONTROL file is the runtime analog of the DESCRIPTION file. The DESCRIPTION file is updated only when you compile a modified DASDL. The CONTROL file controls database interlock. It stores audit control information and verifies that all database data files are compatible by checking the database timestamp, version timestamp, and update level. The CONTROL file is updated each time anyone opens the database for updates. The CONTROL file contains timestamps for each data set (when the data set was defined, when the data set was updated). It contains parameters such as how much memory the Accessroutines can use and titles of software such as the DMSUPPORT library (DMSUPPORT/databasename).

DATABridge uses the CONTROL file for the following information:

- Timestamps
- INDEPENDENTTRANS option
- AFN for the current audit file and ABSN for the current audit block
- Data set pack names
- Audit file pack name
- Database user code

D

DASDL

Data and Structure Definition Language (DASDL) is the language that defines DMSII databases. The DASDL must be compiled to create a DESCRIPTION file.

data set

A data set is a file structure in DMSII in which records are stored. It is similar to a table in a relational database. You can select the data sets you want to store in your replicated database.

DATABridge Engine

The DATABridge Engine (also referred to as DBEngine) is a host library program that provides several entry points for retrieving both data definition and data records from a DMSII database. To provide this information, DBEngine reads the DMSII DESCRIPTION file, the CONTROL file, and the audit trail. DBEngine uses the services of the Accessroutines to retrieve data from the database for the initial cloning.

E

extraction

Extraction is the process of reading through a data set sequentially and writing those records to a file (either a secondary database or flat file).

R**replication**

Replication is the ongoing process of cloning and tracking a DMSII database.

S**set**

An index into a data set. A set has an entry (key + pointer) for every record in the data set.

structure

A data set, set, subset, access, or remap. Each structure has a unique number called the structure number.

Support Library

A library that provides translation, formatting, and filtering to DATABridge Server. After DATABridge Server receives data from the DATABridge Engine, it calls the DATABridge Support Library to determine if the data should be replicated, and if so, passes the data to the Support Library for formatting.

T**tracking**

Tracking is an ongoing process for propagating changes made to records in the DMSII primary database to the replicated database. The DATABridge Span accessory and DATABridge Server perform extraction as well as tracking.

Tracking is one phase of the database replication process. The other phase is cloning.