



HYPERION
RELEASE 9.3.1

BACKUP AND RECOVERY GUIDE

ORACLE | Hyperion

Hyperion Backup and Recovery Guide, 9.3.1

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Overview

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This document provides general high-level guidelines on backing up and recovering Oracle's Hyperion products:

- “Shared Services Backup” on page 11
- “Financial Management Backup” on page 15
- “Planning Backup” on page 17
- “Business Rules Backup” on page 18
- “Reporting and Analysis Backup” on page 21
- “Essbase Backup” on page 23

Hyperion recommends that you customize instructions, based on your resources, software, and hardware systems.

System Failure Types

System failure can be devastating to businesses, resulting in lost data, time and revenue, and creating user dissatisfaction. Whether companies operate one database or multiple databases storing terabytes of data, they must protect themselves from disaster by developing and implementing a backup and recovery plan.

The four general failure types:

- Hardware or operating system failure
- Media failure
- Network outage
- Database crash

Hardware or Operating System Failure

Hardware or operating system failure constitutes system failure, where operations such as machine startup and login are not possible. When such conditions occur, the only option is to repair or replace the machine or bring a standby machine online.

Media Failure

Media (hard disk) failure can be as serious as hardware or operating system failures. If the primary disk drive needs replacing, reinstalling the operating system is usually required. Components must be reinstalled on the machine if the operating system is reinstalled. For secondary disks, simply replacing the failed disk might suffice. However, Hyperion recommends that you reinstall the components on that machine. In some cases, restoring some directories might be adequate for components.

Network Outage

In most cases, intermittent network issues or prolonged network outages can easily be recovered by restarting all machines that involve components. There is substantial communication among software components and between Hyperion software and the database. In certain cases, this can be done without system administrator intervention. Sometimes restarting all the servers is required.

Database Crash

Database crashes can happen for many reasons: hardware or media failure, database machine operating system, or some other issue with the database software release. In any case, protecting the data and recovering the failed system in a timely manner is important. Hyperion strongly recommends that you regularly back up data.

Backup Types

Information backup categories:

- Configuration backup
- Data backup

Configuration Backup

After installing Oracle's Hyperion software, you must configure the components. Configuration information includes but is not limited to: database location, log settings, Web server configuration, and port numbers. Configuration information is stored in the:

- Registry

- Configuration files (generally with `.properties` extensions)
- Configuration `.XML` files
- Directory structure

In general, configuration backup can be used only in limited cases.

Data Backup

Database backup is one of the most important procedures in maintenance. Consider the following database backup types.

Logical Export

In principle, logical export generates necessary SQL statements to obtain all the data from all tables, and in most cases, writes to a binary file. Logical export does not contain database instance-related information such as the physical disk location, so it is possible to restore the same data on another database machine with a different setup. Periodic logical exports (at least once a week) are useful if physical backups fail or the database machine is unavailable.

Physical Full Backup

A physical full backup is a representative copy of data. This copy can include important parts of a database such as the control file, transaction files (redo logs), archive files, and data files. A full backup protects data from application error and acts as a safeguard against unexpected data loss by providing a way to restore original data.

Hyperion strongly recommends that you periodically perform full backups (once a week or every two weeks). During the backup, it is important to shut down all component to ensure full data integrity. After the backup process is complete, components can be restarted for regular use.

Physical Incremental Backup

Physical incremental backups are done more frequently, capturing the changes from the previous full backup. The files differ for databases, but in general, the incremental backup files can be applied on top of the full backup to bring the database to the latest state. Incremental backups can be done during normal use. Database performance might not be optimal during incremental backups, so choose a slow time with less user traffic to perform this operation.

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Oracle's Hyperion Components

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Components

This section discusses components and their dependencies. See the individual product documentation for configuration details.

Component Name	Description	Dependencies
Oracle's Hyperion® Shared Services	Provides a core set of services, such as authentication and user provisioning.	OpenLDAP, Database
Oracle's Hyperion® Financial Management – System 9	Financial consolidation and reporting solution.	Shared Services, Database
Oracle's Hyperion® Planning – System 9	Centralized planning, budgeting, and forecasting solution.	Shared Services, Database, Oracle's Hyperion® Essbase® – System 9 , Oracle's Essbase® Administration Services
Oracle's Hyperion® Business Rules	Guides users through management of business rules on Essbase server.	Shared Services, Database, Administration Services
Oracle's Enterprise Performance Management Architect	Business process modeling tool for building and maintaining EPM applications.	Financial Management, Planning
Oracle's Hyperion® Reporting and Analysis – System 9	Comprehensive business intelligence platform for reporting and analysis. Includes: Oracle's Hyperion® Workspace, Oracle's Hyperion® Financial Reporting – System 9, Oracle's Hyperion® Interactive Reporting – System 9, Oracle's Hyperion® SQR® Production Reporting – System 9, and Oracle's Hyperion® Web Analysis – System 9	Shared Services, Database
Essbase	Analytic platform for business modeling and analysis	

Administration Services	Enables distribution of processing across multiple servers	Shared Services, Financial Management, Planning
Oracle's Hyperion® Data Integration Management	Integrates external source data with EPM applications	
Oracle's Hyperion® Application Link	Integrates external source data with EPM applications	

General Backup Procedures

These backup steps apply for all Hyperion products:

- Before file backup, stop all services that might hinder the backup process, specifically Hyperion-related services.
- Some Oracle's Hyperion products have configuration files and data that are updated throughout the usage cycle. Daily, recursively back up the entire installation directory, for example, `C:\Hyperion`.
- Back up all system environment variables, for example: `ARBORPATH`, `ESSLANG`, and `HYPERION_HOME`.
- Back up the entire Windows OS registry, including entries made by installation and configuration, for example: `HKEY_LOCAL_MACHINE\SOFTWARE\Hyperion Solutions`.

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Shared Services

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Shared Services Backup

The Shared Services installation includes scripts that perform the backup process. These files should be backed up on a daily basis:

- Shared Services application server configuration files
- OpenLDAP database configuration file
- All OpenLDAP data and log files

Relational databases for Shared Services store event, administrator, and metadata services-related data. Procedures for backing up relational databases are specific to the database type for which Shared Services is configured. See the database vendor documentation for instructions.

OpenLDAP database is installed with and automatically configured by Shared Services. OpenLDAP stores security services-related data.

Note:

Shared Services can run during OpenLDAP backups.

To ensure that Shared Services can recover from catastrophic failure, back up data sources simultaneously (to ensure that data is synchronized).

Note:

If you manually deployed the application server (bypassing Oracle's Hyperion® Configuration Utility™), the backup script (`<HSS_HOME>\server\scripts\hss_backup.bat`) does not back up the application server configuration. Therefore you must manually edit the backup script with the correct path location of the Shared Services installation.

► To create a hot backup of OpenLDAP:

- 1 Ensure that the Shared Services database is in online backup mode.

2 Run these commands:

Windows: `<HSS_HOME>\server\scripts\backup.bat backup_folder_name`

UNIX: `<HSS_HOME>/server/scripts/backup.sh backup_folder_name`

where `<HSS_HOME>` is the Shared Services installation location and `backup_folder_name` is the path to the backup folder.

Windows example:

```
c:\hyperion\SharedServices\9.3\server\scripts\backup.bat c:\HSS_backup
```

UNIX example:

```
/home/username/Hyperion/SharedServices/9.3/server/scripts/backup.sh/  
home/username/HSS_backup
```

3 Optional: Copy the backup folder to a backup device, such as a CD-ROM, alternate disk, or tape.

These files are backed up:

Directory	Files
Windows: <code><HYPERION_HOME>\deployments\<i>appServer</i> \<version>\</code> Note: For WebLogic 8.1.x, the location is: <code><HSS_HOME>\AppServer \InstalledApps\WebLogic\8.1\.</code> UNIX: <code><HYPERION_HOME>/deployments/<i>appServer</i>/<i>version</i>/</code> Note: For WebLogic 8.1.x, the location is: <code><HSS_HOME>/AppServer/ InstalledApps/WebLogic/8.1/.</code>	Domain.xml slide.properties CSS.xml WorkflowEngine.properties Scheduler.properties manage_data.properties
Windows: <code><HSS_HOME>\OpenLDAP</code> UNIX: <code><HSS_HOME>/OpenLDAP</code>	slapd.conf
Windows: <code><HSS_HOME>\OpenLDAP\var\openldap-data</code> UNIX: <code><HSS_HOME>/OpenLDAP/var/openldap-data</code>	*.bdb files log.* files

Shared Services Recovery

To recover Shared Services from a catastrophic failure, restore configuration and data files and run the `Sync OpenLDAP` utility. Installing Shared Services includes scripts that perform the recovery process.

To recover Shared Services data, you recover the relational and OpenLDAP databases. When recovering from backups, ensure that the time stamps of the OpenLDAP database backup and the relational database backup match (or are close). The procedures for recovering relational databases are specific to the database type for which Shared Services is configured. See the database vendor documentation for instructions.

► To recover the configuration and data:

1 Stop the OpenLDAP service (Hyperion SharedServices9 OpenLDAP).

2 Perform an action:

- For a normal (non-catastrophic) recovery, run these commands:

Windows: `<HSS_HOME>\server\scripts\recover.bat backup_folder_name`

UNIX: `<HSS_HOME>/server/scripts/recover.sh backup_folder_name`

where `<HSS_HOME>` is the Shared Services installation location and `backup_folder_name` is the path to the backup folder.

Windows example:

```
c:\hyperion\SharedServices\9.3\server\scripts\recover.bat c:\HSS_backup
```

```
UNIX example: /home/username/Hyperion/SharedServices/9.3/server/scripts/recover.sh/home/username/HSS_backup
```

The recover script locates the backed up configuration and data files and places them in the appropriate directory under `<HSS_HOME>`.

- For a catastrophic recovery, run these commands:

Windows: `<HSS_HOME>\server\scripts\recover.bat backup_folder_name catRecovery`

UNIX: `<HSS_HOME>/server/scripts/recover.sh backup_folder_name catRecovery`

where `<HSS_HOME>` is the Shared Services installation location and `backup_folder_name` is the path to the backup folder.

Windows example:

```
c:\hyperion\SharedServices\9.3\server\scripts\recover.bat c:\HSS_backup catRecovery
```

```
UNIX example: /home/username/Hyperion/SharedServices/9.3/server/scripts/recover.sh/home/username/HSS_backup catRecovery
```

To ensure that the Shared Services relational and OpenLDAP databases are synchronized, run the Sync Native Directory (OpenLDAP) utility. See the *Hyperion Security Administration Guide*.

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Financial Management

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Financial Management Backup

Most of the Financial Management configuration information is stored in the registry under `HKEY_LOCAL_MACHINE\SOFTWARE\Hyperion Solutions\Hyperion Financial Management`. In addition, some DCOM security information is associated with `HFMServer` and `HsvDataSource` executables. Because it is difficult to back up and restore this information, Hyperion highly recommends that you rerun the Financial Management Configuration Utility to configure this information correctly.

Back up these items:

- Registry export for `HKEY_LOCAL_MACHINE\SOFTWARE\Hyperion Solutions\Hyperion Financial Management`
- UDL file (database connection information)
- Customized style sheets, for example, for Intercompany Reports

➤ To back up the database:

1. Stop the HFM Web Services and IIS.
2. Stop all the HFM Services and processes, including `HFMServer`, `HsvDataSource`, `CASSecurity` and `HFMService`.
3. Perform a full database backup.
4. **Optional:** Start the HFM Service.
5. Start the IIS and Web Services.

Financial Management Recovery

In general, reconfiguring Financial Management in its entirety is easier than recovering individual items. Since DCOM security backup is not possible, to reset this information, you

must rerun the Financial Management Configuration Utility. This information can be restored if needed:

- UDL file (database connection information)
- Customized style sheets

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Planning Backup

Back up these items daily to be able to restore to a previous state:

- Planning database
- Essbase outline files for all applications
- Essbase security file
- Essbase configuration file
- Full export of Essbase data

These items require backup on an as-needed basis:

- Back up recursively the entire Planning installation directories, for example: `C:\Hyperion\Planning` and `C:\Program Files\Hyperion Solutions`.
- Back up the properties files (`PlanningSystemDB.properties`, `HBRServer.properties`, `essbase.properties`). These should have been backed up as part of the entire installation directory but are listed as a double-check measure.
- Back up the entire OS registry, including entries made by the installer.
- Back up the entire OS System folder where it contains many Planning Shared Libraries, for example `C:\Windows\System32`.
- Back up the entire third-party vendor's Application Server directory that is used to deploy the products, for example: `C:\BEA` or `C:\WebSphere`.
- Back up `vpd` properties. Search the installation drive, which is typically in `C:\Windows` (Windows 2000) or `C:\Documents and Settings\user\WINDOWS` (Windows 2003).
- On UNIX, back up custom scripts such as startup files that are associated with Oracle's Hyperion products.

- On UNIX, back up the Hyperion user home directory, which contains important profiles such as `Hyperion.<server name>`, `.profile`, and `vpd.properties` file, for example: `/export/home/Hyperion`.
- ▶ To back up the database:
 1. Stop Shared Services, Administration Services, Essbase, and Planning services.
 2. Perform a full database backup.
 3. Start all services in the order listed above.

Planning Recovery

- ▶ To recover the configuration:
 1. Stop Shared Services, Administration Services, Essbase, and Planning services.
 2. Restore recursively the entire Hyperion directory. Using the backup tool, restore directories and files that are considered corrupted or lost.
 3. Restore the Planning-specific directory recursively, for example: `C:\Hyperion`.
 4. Restore Shared Services from the backup, using instructions in the *Hyperion Shared Services Installation Guide*.
 5. Restore all system environment variables that were previously backed up.
 6. Restore third-party Application Server directories. Using the backup tool, restore directories and files that are considered corrupted or lost.
 7. Restore all registry entries pertaining to Oracle's Hyperion installation and configuration that were previously backed up.
 8. Restore the entire OS System folder where it contains Planning Shared Libraries footprint, for example: `C:\Windows\System`. Optionally, using the backup tool, restore directories and files that are considered corrupted or lost.
 9. Restore Administration Services / Business Rules database.
 10. Restore the backed up Business Rules property file.
 11. Restore Essbase directories, including all outline files.
 12. Populate data in the Essbase database from the data backups.
 13. Restore the Planning database.
 14. Restore Planning property files that were backed up.
 15. Restart all servers.

Business Rules Backup

Daily, back up:

- AdminServices\storage directory
 - Dao.properties, Hub.properties, Locale.properties, OlapAdmin.properties, WorkflowClient.properties, HBRServer.properties, *.xml (located in the AdminServices\server directory).
- To back up the database:
1. Stop Shared Services, Administration Services, Essbase, and Planning services.
 2. Perform a full database backup.
 3. Start all services in the order listed above.

Business Rules Recovery

See the Planning Configuration recovery procedures. If only data recovery is needed so that Planning and Business Rules can be rolled back to an earlier date and time, only these steps are needed.

- To recover the database:
1. Restore Administration Services / Business Rules database.
 2. Restore the backed up Oracle's Hyperion® Business Rules property file.
 3. Restore Essbase directories, including all outline files.
 4. Populate data in the Essbase database from the data backups.
 5. Restore the Planning database.
 6. Restore Planning property files that were backed up.
 7. Restart all servers.

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Reporting and Analysis Backup

These items should be backed up to be able to restore to a previous state:

- Reporting and Analysis database
- Reporting and Analysis installation directory and all subdirectories, for example, C:\Hyperion\BIPlus.
- Hyperion_Home common directory and all subdirectories, for example, C:\Hyperion\common.
- OS registry including entries made by the installer
- Third-party vendor's Application Server directory that is used to deploy Reporting and Analysis, for example, C:\BEA or C:\WebSphere.
- ANDALE fonts, typically found in C:\Windows\fonts\ANDALE*.ttf (Windows 2000) or C:\Documents and Settings\\WINDOWS\fonts\ANDALE*.ttf (Windows 2003).
- VPD properties file, which is typically located in C:\Windows (Windows 2000) or C:\Documents and Settings\\WINDOWS (Windows 2003).
- On UNIX, Reporting and Analysis user's home directory, which contains important information profiles such as .hyperion.<server name>, .profile, and .vpd.properties file, for example: export/home/hyperion.

➤ To back up the database:

1. Stop all Reporting and Analysis services.
2. Perform a full backup of the Reporting and Analysis database.
3. Start all Reporting and Analysis services.

Reporting and Analysis Recovery

- ▶ To recover the configuration:
 1. Restore the Reporting and Analysis database.
 2. Restore the Reporting and Analysis installation directory and all subdirectories, for example, `C:\Hyperion\BIPlus`.
 3. Restore the Hyperion Home common directory and all subdirectories, for example, `C:\Hyperion\common`.
 4. Restore all registry entries pertaining to Oracle's Hyperion installation in the OS registry if it was corrupt.
 5. Restore the third-party vendor's Application Server directory that is used to deploy Reporting and Analysis, for example, `C:\BEA` or `C:\WebSphere`.
 6. Restore the `vpd.properties` file to the original location.
 7. Restore the ANDALE fonts to the original location.
 8. On UNIX, restore the Reporting and Analysis user's home directory.
 9. Restart all servers.

- ▶ To recover the database:
 1. Stop all Reporting and Analysis services.
 2. Restore the backup of the Reporting and Analysis database.
 3. Start all Oracle's Hyperion® Reporting and Analysis – System 9 services.

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Essbase

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Essbase Backup

A key part of a database maintenance routine includes regular backups of Essbase files and data. It is important to integrate regular database backups into production server maintenance.

The frequency of backups depends on the volatility of the database and server environment, and the demand for quick database restores if the server crashes.

Regularly back up the server, application, and database files listed in [Table 1](#):

Table 1 Items to Back Up

File	Description	Location
ess.z.ind Note: Back up all .ind files related to a database because a single database can have multiple .ind files.	Essbase index file	\ARBORPATH\app\ <i>appname</i> \ <i>dbname</i>
ess.z.pag Note: Back up all .pag files related to a database because a single database can have multiple .pag files.	Essbase data file	\ARBORPATH\app\ <i>appname</i> \ <i>dbname</i>
<i>dbname</i> .esm	Essbase Kernel file that contains control information used for database recovery	\ARBORPATH\app\ <i>appname</i> \ <i>dbname</i>
<i>dbname</i> .tct	Transaction control table	\ARBORPATH\app\ <i>appname</i> \ <i>dbname</i>
<i>dbname</i> .ind	Free fragment file for data and index free fragments	\ARBORPATH\app\ <i>appname</i> \ <i>dbname</i>
<i>dbname</i> .otl	Outline file, which does not store data but stores all metadata for a database and defines how data is stored	\ARBORPATH\app\ <i>appname</i> \ <i>dbname</i>

File	Description	Location
<i>dbname</i> .app	Application file containing application settings	\ARBORPATH\app
<i>dbname</i> .db	Database file containing database settings	\ARBORPATH\app\ <i>appname</i> \ <i>dbname</i>
<i>x</i> .lro	Linked Reporting Objects	\ARBORPATH\app\ <i>appname</i> \ <i>dbname</i>
essbase.sec Note: Shut down the Agent before backing up <i>essbase.sec</i> .	Essbase security file	\ARBORPATH\bin
essbase.bak	Backup of the Essbase security file	\ARBORPATH\bin
essbase.cfg	Essbase Server configuration file	\ARBORPATH\bin
.otl, .csc, .rul, .rep, .eqd, .sel	Database artifact files	\ARBORPATH\app\ <i>appname</i> \ <i>dbname</i>
ESSCMD or MaxL scripts		No defined storage location

You must back up both Essbase files and data. See:

- [“Backing up Files” on page 24](#) or [“Backing up Files During Run-time” on page 24](#)
- [“Backing up Data” on page 26](#)

Backing up Files

When performing a file system backup, use the file system backup software of your choice. You can back up specific directories or files, or you can back up the entire Essbase directory structure. Be sure to back up data on every disk volume.

Typically, you should perform a backup after Essbase applications and databases, and the Agent, are shut down.

Backing up Files During Run-time

If any Essbase databases must be running at the time of the backup, follow these steps:

1. [“Placing a Database in Read-Only Mode” on page 24](#).
2. [“Performing a File Backup” on page 25](#).
3. [“Returning a Database to Read-Write Mode” on page 25](#).

Placing a Database in Read-Only Mode

Placing the database in read-only (or archive) mode protects the database from updates during the backup process.

- To place a database in read-only mode, use a tool:

Tool	Topic	Location
MaxL	alter database begin archive	<i>Essbase Technical Reference</i>
ESSCMD	BEGINARCHIVE	<i>Essbase Technical Reference</i>

After you perform the backup, return the database to read-write mode.

The BEGINARCHIVE utility performs these tasks:

- Commits modified data to disk.
- Switches the database to read-only mode.
- Reopens the database files in shared, read-only mode.
- Creates in the *ARBORPATH*\app*appname**dbname* directory a file (default name of *archive.lst*) containing a list of files to be backed up.

Attempting to modify data during the backup process results in an error message that data is in read-only mode.

BEGINARCHIVE does not perform the backup; it protects the database during the backup process. If you cancel the BEGINARCHIVE ESSCMD command or the **alter database begin archive** MaxL statement and you receive a “can’t cancel” message, the system may be in the final stage of writing items to the drive, when the operation cannot be cancelled.

Caution!

If you back up data without using a BEGINARCHIVE utility, ensure that all Essbase applications are closed and that all users are logged off during the backup process to avoid corrupting the database.

Performing a File Backup

After putting the database in read-only mode, you are ready to perform the backup.

- To back up data, use a third-party backup utility to back up the files listed in *archive.lst* and the files listed in [Table 1, “Items to Back Up,” on page 23](#), or back up the entire Essbase directory structure.

Returning a Database to Read-Write Mode

- To return the database to read-write mode, after performing a backup, use a tool:

Tool	Topic	Location
MaxL	alter database end archive	<i>Essbase Technical Reference</i>

Tool	Topic	Location
ESSCMD	ENDARCHIVE	<i>Essbase Technical Reference</i>

The ENDARCHIVE utility:

- Returns the database to read-write mode.
- Re-opens database files in exclusive, read-write mode.

Note:

You must use the ENDARCHIVE utility to put the database back into read-write mode, even if you shut down and restart the database. The ENDARCHIVE utility does not restart the database.

Backing up Data

Exporting data copies it to a file that you specify.

When exporting data to a text file, the data is not compressed. The text export file contains data only and does not include control, outline, or security information.

Consider exporting data to:

- Transfer data across platforms
- Back up only part of the data; for example, level 0 blocks
- Create an exported file in text format, rather than binary format

The advantages of exporting data:

- You can use text export files to load data from the source database into databases on other platforms. The option to export a database in column format enables you to manipulate the export file and use it with a rules file to load the data back or to another database.

Loading an export file into a database fails if the database outline does not contain all the members in the export file.

If the outline changes between the time that the export file is created and reloaded (and the new outline contains all the members found within the export file), the load time might be significantly higher than if the outlines were identical.

- Data integrity is verified because every block is checked to confirm whether corresponding page and index files match.
- Exporting data, clearing all data from the database, and reloading the text file can reduce fragmentation.

The disadvantages of exporting data:

- Unless dynamic calculations are executed at the time of the export, only stored data and data from previously calculated Dynamic Calc And Store members are included in the export.

- During a database export, users cannot write to the database. After an export has started, users can do read operations. Exports of large databases require considerable amounts of time, during which users can only read the data.

Note:

You can export subsets of data by creating reports or calculation scripts.

- To export data, use a tool:

Tool	Topic	Location
Administration Services	Exporting Databases	<i>Essbase Administration Services Online Help</i>
Report Writer	Use a Report Writer script to export selected data.	<i>Hyperion Essbase - System 9 Database Administrator's Guide</i>
Calculation script (block storage only)	DATAEXPORT calculation commands	<i>Hyperion Essbase - System 9 Database Administrator's Guide</i>
ESSCMD	EXPORT or PAREXPORT	<i>Essbase Technical Reference</i>
MaxL	export data	<i>Essbase Technical Reference</i>

Note:

To improve export performance, you can export data in parallel to a specified number of files.

All methods require:

- Names of export data files
- The amount of data to export
 - All data
 - Level 0 blocks only (blocks containing only level 0 sparse member combinations; these blocks may contain data for upper-level dense dimension members)
 - Data from input blocks only (blocks containing data from a previous data load or spreadsheet Lock & Send)
- Whether to export data in a columnar or non-columnar format

In each row, the columnar format displays a member name from every dimension. Names can be repeated from row to row.

The columnar format provides a structure to the exported data, so that it can be used for further data processing by applications other than Essbase tools; for example, relational databases. In non-columnar format, sparse members identifying a data block are included only once for the block. Because the export file in non-columnar format is smaller than in columnar format, reloading a file in non-columnar format is faster.

Exporting Files Larger Than 2 GB

Some file management systems do not support text files larger than 2 GB. On any operating system, if Essbase anticipates that an export file exceeds 2 GB, it creates two or more export files, as needed. The requested file name for the main file is used. An underscore and a sequential cardinal number are appended to the names of the additional files, starting with `_1`. For example, if the requested file name is `expJan.txt` and the exported data would exceed 4 GB, Essbase creates three files, naming them `expJan.txt`, `expJan_1.txt`, and `expJan_2.txt`. Exported data files can be reloaded in any sequence.

Essbase Recovery

Restoring the File Backup

To restore a database, replace the files on disk with the corresponding files from backup.

The application should be stopped, unless you are restoring from an export file. In that case, ensure the application is not accepting client connections.

Restoring the Data Backup

- To reload exported data, use a tool:

Tool	Topic	Location
Oracle's Essbase® Administration Services	Performing a Data Load or Dimension Build	<i>Essbase Administration Services Online Help</i>
ESSCMD	IMPORT	<i>Essbase Technical Reference</i>
MaxL	import data	<i>Essbase Technical Reference</i>
Calculation script	DATAIMPORTBIN (exported binary files only)	<i>Essbase Technical Reference</i>

When you reload data that has been exported, the data is marked as input data. If you reload data exported from level 0 blocks or input blocks, you must recalculate the database after reloading. When Essbase recalculates the database, it recalculates every data block.

If you export all data in a database and then reload, Essbase marks all blocks in the database as input blocks. Consequently, if you try to clear data, no data is cleared because the database contains no non-input blocks.

When you reload data that has been exported, Essbase also marks the data blocks as dirty. If you had calculated the database before exporting it, to save time during the next calculation, you should set the status of the blocks as clean. If you had not calculated the database before exporting it, it is not necessary to set the status of the blocks as clean.

- To clean block status in a database after exporting all data and reloading, you can run this calculation script:

```
Set ClearUpdateStatus Only;  
Calc All;
```

Restoring Corrupted Databases

If there is a problem with any one of these essential database files, the entire database becomes corrupted and Essbase Server cannot start the database:

- `essn.pag`
- `essn.ind`
- `dbname.esm`
- `dbname.tct`
- `dbname.ind`

To restore the database, delete these file, restart the database, and reload from data files or from export files backed up before the corruption.



Other Product Components

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Performance Management Architect Backup

Regularly, back up the Performance Management Architect database. See the database vendor documentation for instructions.

Performance Management Architect Recovery

- To recover the configuration:
 1. Restore the databases.
 2. Configure Oracle's Hyperion® Shared Services, which must be up and running before you reconfigure Performance Management Architect.
 3. Run the Oracle's Hyperion® Configuration Utility™ and reconfigure Financial Management or Planning as needed, and then reconfigure Performance Management Architect.
- To recover the database:
 1. Stop all Performance Management Architect services.
 2. Restore the backup of the database.
 3. Start all Oracle's Enterprise Performance Management Architect services.

Data Integration Management and Application Link

There are no specific backup procedures for Oracle's Hyperion® Data Integration Management or Oracle's Hyperion® Application Link. Import the data to Oracle's Hyperion® Financial Management – System 9, Oracle's Hyperion® Planning – System 9, or Oracle's Hyperion® Essbase® – System 9 and follow the backup procedures for those applications to back up data.

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