

Backing up and restoring HP Systems Insight Manager 5.1 data files in a Windows environment

HOWTO



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Abstract

HP Systems Insight Manager (HP SIM) is a flexible management utility for an enterprise environment employing HP ProLiant, HP BladeSystem, HP StorageWorks, and/or HP Integrity solutions. The system database and configuration files used by HP SIM should be backed up regularly to allow recovery from a catastrophic system failure or an instance of corrupted files. This paper provides step-by-step instructions about how to back up the HP SIM data files and perform a restore if a software reinstallation becomes necessary on a system running the Microsoft® Windows® operating system.

This paper assumes that readers:

- Are familiar with IT administration policies and practice.
- Are familiar with the operating system platform implemented by their data center.
- Have reviewed the *HP SIM 5.1 Installation and User Guide* and/or the *HP SIM 5.1 User Guide*.

Introduction

HP Systems Insight Manager (HP SIM) is the foundation for the HP unified infrastructure management strategy. HP SIM provides hardware-level management for HP ProLiant, HP Integrity, and HP 9000 servers; HP BladeSystems; and HP StorageWorks MSA/EVA/XP storage arrays—all from a single console in the data center or in a remote location.

Server and storage information for a network is kept in a database compiled by HP SIM. The system administrator should back up this database and associated configuration files regularly to allow for a smooth reinstallation or restore process if a catastrophic equipment or software failure should occur.

Additional reference data is available in the form of on-line man pages, which provide quick command-line access to specific topics such as HP SIM commands and parameters. The HP SIM documents listed previously, the man pages, and additional HP SIM support documents are available at the HP SIM information library at the following URL:

<http://h18004.www1.hp.com/products/servers/management/hpsim/infolibrary.html>

NOTE:

This paper describes the backup and restoration of a “same system” for fault insurance purposes only. It does not apply to system migration or software upgrades.

For migration information, refer to the HOWTO paper at the following URL:

http://h10018.www1.hp.com/wwsolutions/misc/hpsim-helpfiles/hpsim_51_migratingNewSystem.pdf

Saving and restoring data files

HP SIM can use one of three databases on a system running the Microsoft® Windows® operating system:

- Microsoft SQL Server Database Engine
- Microsoft Data Engine database
- Oracle® database

Saving and restoring files where HP SIM is installed using a Microsoft SQL database

This section describes saving (backing up) and restoring files used with a Microsoft SQL database.

Saving HP SIM configuration files and SQL server data files

Microsoft SQL Enterprise Manager has built-in utilities for backing up the database, including an automated procedure. HP recommends viewing the Help files provided by the SQL Enterprise Manager to gain a complete understanding of this procedure.

NOTE:

HP recommends stopping the HP SIM service to ensure that the discovery and data collection processes do not occur during the save; however, you can leave the HP SIM service running during the save process if desired.

To save HP SIM configuration and HP SIM database using Microsoft SQL Enterprise Manager, proceed as follows:

1. Using the file management tool of your choice, save the directories and/or files listed in Table 1. For each occurrence of "<SIM>", substitute the actual path name where HP SIM is installed (such as C:\Program Files\HP\System Insight Manager).

NOTE:

You must use a tool that preserves file permissions (such as the Windows Backup tool) while saving directories and/or files.

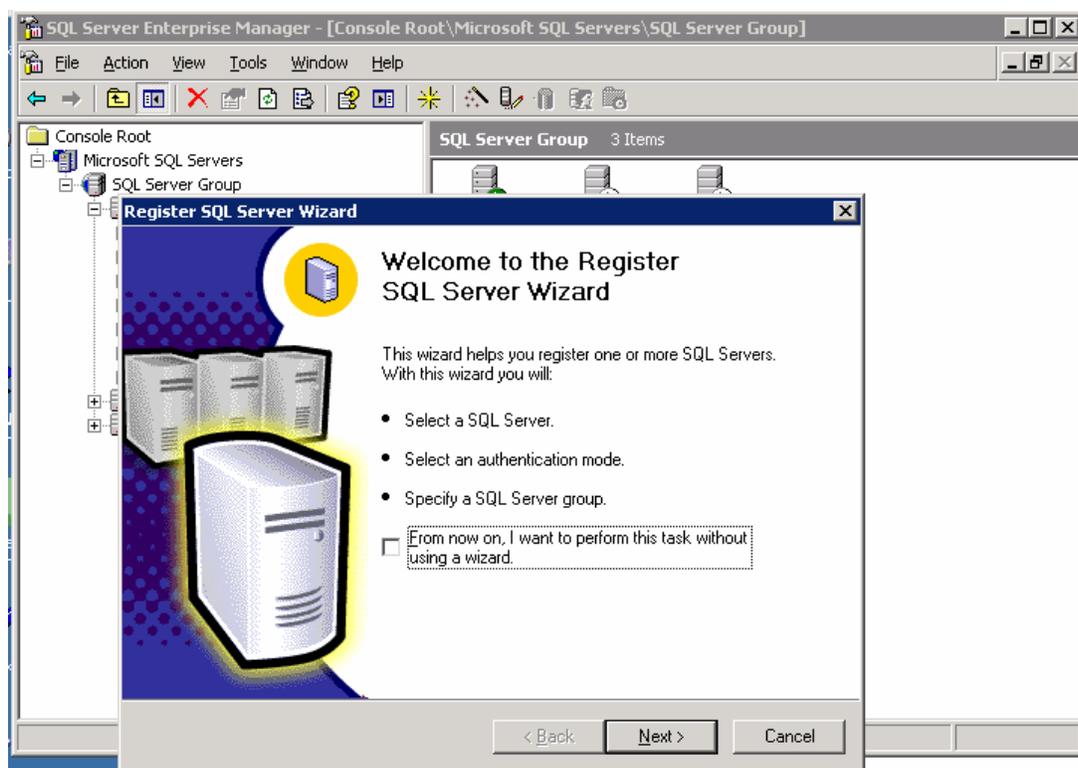
Table 1. Configuration files to back up

Directory or file	Description
<SIM>\config\	Directory of configuration files
hp\sslshare\	Shared openSSL certificate directory
<SIM>\logs\mx.log	Audit log file
<SIM>\patch	Program updates (required if you want to reinstall HP SIM), this may be empty
bin\servercert.pem	Certificate used by the Command Line Interface (CLI)
bin\clclientconfig.cfg	CLI configuration file

Directory or file	Description
<SIM>\installpsp	(if existing)
<SIM>\swmaint	(if existing)
<SIM>\output	(optional) Contains job result output.

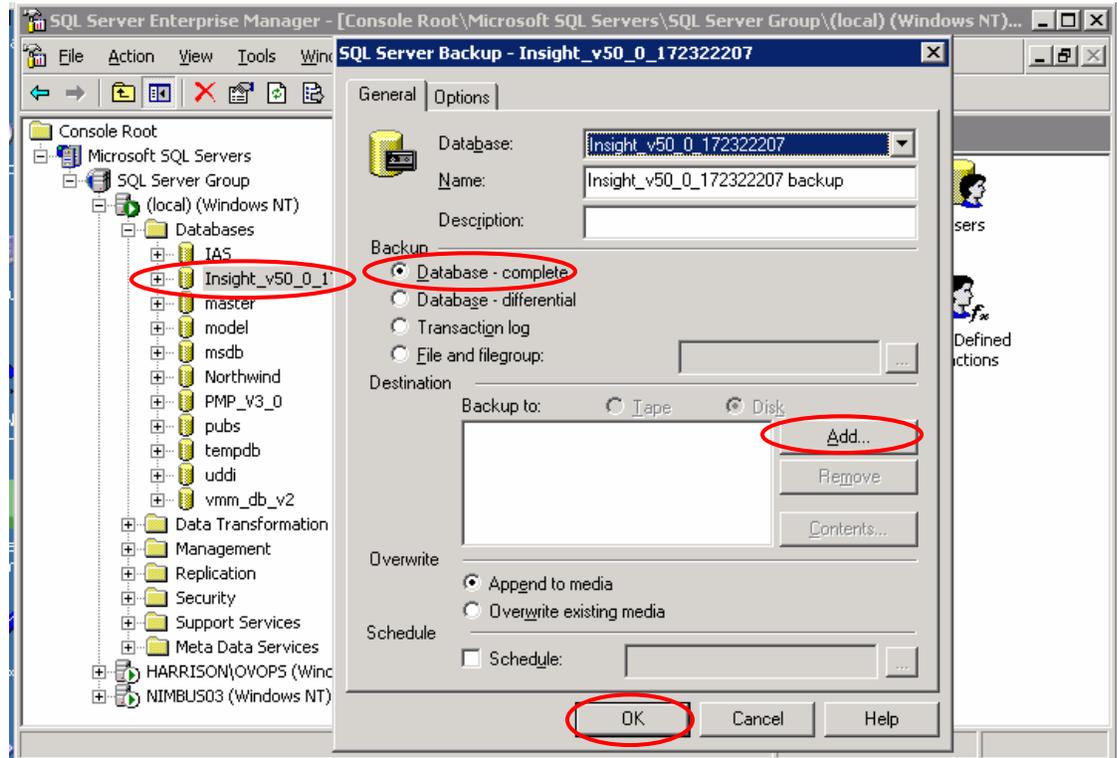
2. Save any existing user-supplied (custom) files contained in the HP SIM directory tree such as tool definition files (TDEFs), Management Information Bases (MIBs), login prompt, actions, etc.
3. Save the OpenSSH Keys from the <OpenSSH Install path>\etc folder.
4. Save any custom support packs used by the Version Control Repository Manager (VCRM).
5. Save any data files corresponding to any plug-in utilities used with HP SIM. Refer to the documentation of the applicable plug-in utility for actual file names/locations.
6. From the Windows **Start** menu, open Microsoft SQL Enterprise Manager.
7. In the tree displayed in the left panel, expand the **Microsoft SQL Servers** branch and **SQL server** group. If the server is not listed where the HP SIM database is located, you can invoke the Register SQL Server Wizard by right-clicking **SQL server group** and selecting **New SQL Server Registration** to bring up the Register SQL Server Wizard window (Figure 1). This procedure assumes the desired server is already listed and that the wizard is not required.

Figure 1. Register SQL Server Wizard window



8. Select the server where the HP SIM database is located. From the **Tools** menu at the top, select **Backup database**. In the dialog box that appears, select the database named *Insight_v**, and select **Database-complete** as the backup option.

Figure 2. SQL Server Backup window



9. In the destination field, click **Add**, select a location (such as disk or tape) for storing the backup copy of database, and then click **OK** to initiate the backup.

Restoring HP SIM configuration files and SQL server data files from a backup

To restore HP SIM configuration files and SQL server data from a backup copy, proceed as follows:

1. If reinstalling HP SIM, for instructions refer to the *HP Systems Insight Manager 5.1 Installation and Configuration Guide for Microsoft Windows*, available at the following URL: <http://docs.hp.com/en/418812-002/index.html>. If not performing a reinstallation of HP SIM, then proceed to step 5.

NOTE:

You must reinstall HP SIM with the same user account used previously. If a local account was used, the host name must also remain the same. For more information about renaming the host name, see

http://h10018.www1.hp.com/wwsolutions/misc/hpsim-helpfiles/hpsim_51_migratingNewSystem.pdf.

Perform rename steps after the backup/restore is complete.

2. Reinstall the WMI mapper, OpenSSH (and previous keys used), and SMH components if needed.

3. Reinstall any backed up custom files (TDEFs, MIBs, login prompt, and other actions) under the HP SIM directory tree, and any custom support packs used by VCRM.

NOTE:

The HP SIM installation procedure includes loading VCRM on a Windows CMS.

4. Reinstall any plug-in utilities (and associated files and databases) used with HP SIM. You can reinstall using HP SIM integrated installer, the management DVD, or a stand alone installer.
5. Stop the HP SIM Service if it is running, along with any HP SIM plug-in applications such as HP Performance Management Pack.
6. Using the file management tool of your choice, restore the directories and/or files listed in Table 2. For each occurrence of "<SIM>", substitute the actual path name where HP SIM is installed. If offered, make sure that the "Always replace the file on disk" option is selected.

NOTE:

You must use a tool that preserves file permissions (such as the Windows Backup tool) while restoring directories and/or files.

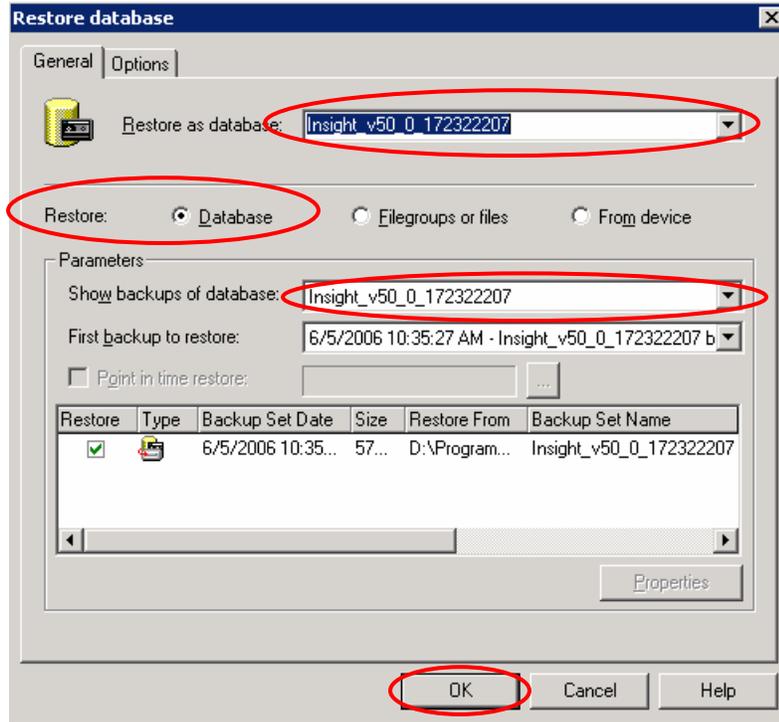
Table 2. Configuration files to restore

Directory or file	Description
<SIM>\config\	Directory of configuration files
C:\hp\sslshare\	Shared openSSL certificate directory
<SIM>\logs\mx.log	Audit log file
<SIM>\patch	Program updates (required if you want to reinstall HP SIM)
<SIM>\bin\servercert.pem	Certificate used by the Command Line Interface (CLI)
<SIM>\bin\cliclientconfig.cfg	CLI configuration file
<SIM>\installpsp	(if existing)
<SIM>\swmaint	(if existing)
<SIM>\output	(optional) Contains job result output.

7. From the Windows **Start** menu on a Windows console, open **Microsoft SQL Enterprise Manager**.
8. In the tree displayed in the left panel, expand the **Microsoft SQL Servers** branch and **SQL Server** group.

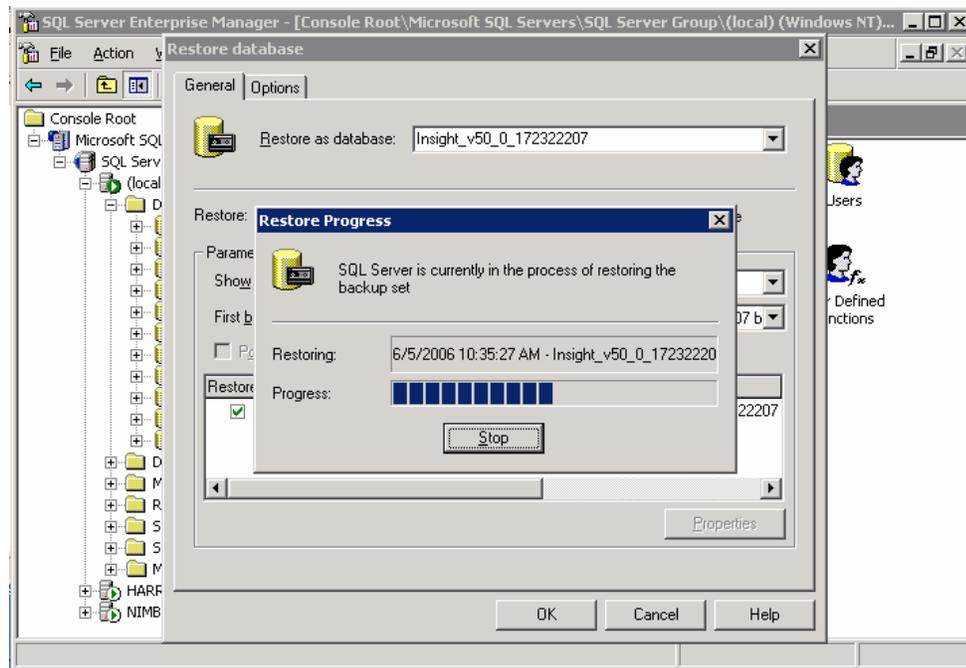
9. Select the server where the HP SIM database is located. From the **Tools** menu, select **Restore Database**. The Restore Database box appears as displayed in Figure 3.

Figure 3. Restore Database box



10. From the **Restore as Database** list, select the name of the restored HP SIM database (such as Insight_v*), and then select **Database** as the type of Restore.
11. From the **Show backups of database** list, choose the backup set to use, and then click **OK**. The database is restored with a dialog box indicating the progress as shown in Figure 4.

Figure 4. Restoring the backup set



12. Open the command line window and type `mxconfigrepo -c` to check for database errors. Use the command `mxconfigrepo -f` to fix any errors, and run the command `mxconfigrepo -c` once again as a final check.
13. Start the HP SIM service and any plug-in application.

Saving and restoring files where HP SIM is installed using a Microsoft Data Engine database

Microsoft Data Engine (MSDE) allows backing up both data files and transaction logs. In the event of a failure, the most recent database backup is restored. When the restore is complete, you can apply the changes contained in all subsequent transaction log files to bring the database back to the same state as when the last nightly transaction log was backed up prior to the failure.

For backing up and restoring an MSDE database, Microsoft Access 2000 includes the **BACKUP** and **RESTORE** command in the **Database Utilities** menu of an Access project. If SQL Client Tools are installed, you can also use SQL Enterprise Manager to back up and restore an MSDE database.

Saving HP SIM configuration files and MSDE database

The following procedure applies to MSDE 2000:

NOTE:

A tool that preserves file permissions (such as the Windows Backup tool) must be used while saving directories and/or files.

1. Stop the HP SIM service to ensure that the discovery and data collection processes do not occur during the save; however, you can leave the HP SIM service running during the save process if desired.
2. Using the file management tool of your choice, save the directories and/or files listed in Table 3. For each occurrence of "<SIM>", substitute the actual path name where HP SIM is installed (such as `C:\Program Files\HP\System Insight Manager`).

Table 3. Configuration files to save for MSDE

Directory or file	Description
<SIM>\config\ 	Directory of configuration files
C:\hp\sslshare\ 	Shared openSSL certificate directory
<SIM>\logs\mx.log 	Audit log file
<SIM>\patch 	Program updates (required if you want to reinstall HP SIM)
<SIM>\bin\servercert.pem 	Certificate used by the Command Line Interface (CLI)
<SIM>\bin\clclientconfig.cfg 	CLI configuration file
<SIM>\installpsp 	(if existing)
<SIM>\swmaint 	(if existing)
<SIM>\output 	(optional) Contains job result output.

3. Save any existing user-supplied (custom) files contained in the HP SIM directory tree such as tool definition files (TDEFs), Management Information Bases (MIBs), login prompt, actions, etc.
4. Save the OpenSSH Keys from the <OpenSSH Install path>\etc folder.
5. Save any custom support packs used by the Version Control Repository Manager (VCRM).
6. Save any data files corresponding to any plug-in utilities used with HP SIM. Refer to the documentation of the applicable plug-in utility for actual file names/locations.
7. Paste the following TSQL script in Notepad and save it to a file called myBackup.sql. This script creates a backup job and calls sp_start_job to run the job.

NOTE:

The following code is an example of how to use the various stored procedures with MSDE to perform a backup. Depending on your actual environment, some functions such as changing the database name and the server name may require some code modification. For more information, refer to the Microsoft Knowledgebase paper at the following location:
<http://support.microsoft.com/kb/q241397/>

```
--This TSQL script creates a backup job and calls sp_start_job to
--run the job.
--Create job.
--You may specify an e-mail address, commented below, and/or
--pager, etc.
--For more details on this option or others, reference SQL Books
--Online.
USE msdb
EXEC sp_add_job @job_name = 'mydbBackupJob',
               @enabled = 1,
               @description = 'mydbBackupJob',
```

```

@owner_login_name = 'sa',
@notify_level_eventlog = 2,
@notify_level_email = 2,
@notify_level_netsend =2,
@notify_level_page = 2
-- @notify_email_operator_name = 'email name'

go

-- Add job step (backup data).

USE msdb
EXEC sp_add_jobstep @job_name = 'mydbBackupJob',
@step_name = 'Backup INSIGHT Data',
@subsystem = 'TSQL',
@command = 'BACKUP DATABASE "Insight_v*" TO DISK
='c:\INSIGHT.dat_bak'',
@on_success_action = 3,
@retry_attempts = 5,
@retry_interval = 5
go

-- Add job step (backup log).

USE msdb
EXEC sp_add_jobstep
@job_name = 'mydbBackupJob',
@step_name = 'Backup INSIGHT Log',
@subsystem = 'TSQL',
@command = <command> 'BACKUP LOG "Insight_v*" TO DISK' =
'c:\INSIGHT.log_bak'',
@on_success_action = 1,
@retry_attempts = 5,
@retry_interval = 5
go

--Add the target servers.

USE msdb
EXEC sp_add_jobserver @job_name = 'mydbBackupJob',
@server_name = N'(local)'
-- Run job. Starts the job immediately.

USE msdb
EXEC sp_start_job @job_name = 'mydbBackupJob'
-- The file has to be copied under /mssql/binn folder

-- The command to execute it is OSQL -Smysqlserver
-- -U sa -P password if any -i mybackup.sql -n

```

Restoring files HP SIM configuration files and the MSDE database

To restore the data files for MSDE use, perform the following procedure.

1. If reinstalling HP SIM, for instructions refer to the *HP Systems Insight Manager 5.1 Installation and Configuration Guide for Microsoft Windows*, available at the following URL: <http://docs.hp.com/en/418812-002/index.html>. If not performing a reinstallation of HP SIM, then proceed to step 5.

NOTE:

You must reinstall HP SIM with the same user account used previously. If a local account was used, the host name must also remain the same.

2. Reinstall the WMI mapper, OpenSSH (and previous keys used), and SMH components if needed.
3. Reinstall any backed up custom files (TDEFs, MIBs, login prompt, and other actions) under the HP SIM directory tree, and any custom support packs used by VCRM.

NOTE:

The HP SIM installation procedure includes loading VCRM on a Windows CMS.

4. Reinstall any plug-in utilities (and associated files and databases) used with HP SIM.
5. Stop the HP SIM Service if it is running, along with any HP SIM plug-in applications such as HP Performance Management Pack.
6. Using the file management tool of your choice, restore the directories and/or files listed in Table 4. For each occurrence of "<SIM>", substitute the actual path name where HP SIM is installed. If offered, make sure that the "Always replace the file on disk" option is selected.

NOTE:

You must use a tool that preserves file permissions (such as the Windows Backup tool) while restoring directories and/or files.

Table 4. Configuration files to restore

Directory or file	Description
<SIM>\config\	Directory of configuration files
C:\hp\sslshare\	Shared openSSL certificate directory
<SIM>\logs\mx.log	Audit file
<SIM>\patch	Program updates (required to reinstall HP SIM)
<SIM>\bin\servercert.pem	Certificate used by the Command Line Interface (CLI)
<SIM>\bin\cli\clientconfig.cfg	CLI configuration file
<SIM>\installpsp	(if existing)
<SIM>\swmaint	(if existing)
<SIM>\output	(optional) Contains job result output.

7. Paste the following TSQL script in Notepad and save it to a file called `myRestore.sql`. This code creates a backup job and calls `sp_start_job` to run the job.

NOTE:

The following code is an example of how to use the various stored procedures with MSDE to perform a restore. Depending on your actual environment, some functions such as changing the database name and server name may require code modification.

```
--This TSQL script creates a restore job and calls sp_start_job to
--run the job.
--Create job.
--You may specify an e-mail address, commented below, and/or
--pager, etc.
--For more details on this option or others, reference SQL Books
--Online.
USE msdb
    EXEC sp_add_job @job_name = 'mydbRestoreJob',
        @enabled = 1,
        @description = 'mydbRestoreJob',
        @owner_login_name = 'sa',
        @notify_level_eventlog = 2,
        @notify_level_email = 2,
        @notify_level_netsend = 2,
        @notify_level_page = 2
    -- @notify_email_operator_name = 'email name'

go

-- Add job step (restore data).

USE msdb
    EXEC sp_add_jobstep @job_name = 'mydbRestoreJob',
        @step_name = 'Restore INSIGHT Data',
        @subsystem = 'TSQL',
        @command = 'RESTORE DATABASE "Insight_v*" FROM DISK
        = ''c:\INSIGHT.dat_bak'',
        @on_success_action = 3,
        @retry_attempts = 5,
        @retry_interval = 5

go

-- Add job step (restore log).

USE msdb
    EXEC sp_add_jobstep
        @job_name = 'mydbRestoreJob',
        @step_name = 'Restore INSIGHT Log',
        @subsystem = 'TSQL',
        @command = <command> 'RESTORE LOG "Insight_v*" FROM DISK' =
        'c:\INSIGHT.log_bak'',
        @on_success_action = 1,
        @retry_attempts = 5,
        @retry_interval = 5

go

--Add the target servers.
```

```

USE msdb
EXEC sp_add_jobserver @job_name = 'mydbRestoreJob',
@server_name = N'(local)'
-- Run job. Starts the job immediately.

USE msdb
EXEC sp_start_job @job_name = 'mydbRestoreJob'
-- The file has to be copied under /mssql/binn folder

-- The command to execute it is OSQL -Smysqlserver
-- -U sa -P password if any -i myrestore.sql -n

```

8. Open the command line window and type `mxconfigrepo -c` to check for database errors. Use the command `mxconfigrepo -f` to fix any errors, and then run `mxconfigrepo -c` once again as a final check.
9. Start the HP SIM service and any plug-in applications.

Saving and restoring files for an Oracle database

The following procedures describe backing up and restoring data files for a system using an Oracle database with HP SIM. A user with Oracle Database Administrator (DBA) privileges must conduct the backup and restore processes.

Saving data files for use with Oracle

To save (back up) Oracle database files, use the following procedure:

NOTE:

HP recommends stopping the HP SIM service to ensure that the discovery and data processes do not occur during the save; however, you can leave the HP SIM service running during the save process if desired.

1. Using the file management utility of your choice, save the configuration files listed in Table 5. For each occurrence of "<SIM>", substitute the actual path name where HP SIM is installed (such as `c:\Program Files\HP\System Insight Manager`).

NOTE:

You must use a tool that preserves file permissions (such as the Windows Backup tool) while saving directories and/or files.

Table 5. Configuration files to back up for Oracle

Directory or file	Description
<SIM>\config\database.props	Directory of configuration files
C:\hp\sslshare\	Shared openssl certificate directory
<SIM>\logs\mx.log	Audit file
<SIM>\patch	Program updates (required if you want to reinstall HP SIM)
<SIM>\bin\servercert.pem	Certificate used by the Command Line Interface (CLI)
<SIM>\bin\cliclientconfig.cfg	CLI configuration file
<SIM>\installpsp	(if existing)
<SIM>\swmaint	(if existing)
<SIM>\output	(optional) Contains job result output.

2. Open the <SIM>/config/database.props file and check the property value for hp.database.username. A user with Oracle Database Administrator (DBA) privilege must conduct the backup and restore process.
3. Save any existing user-supplied (custom) files contained in the HP SIM directory tree such as tool definition files (TDEFs), Management Information Bases (MIBs), login prompt, actions, etc.
4. Save the OpenSSH Keys from <OpenSSH Install path>\etc folder.
5. Save any custom support packs used by the Version Control Repository Manager (VCRM).
6. Save any data files corresponding to any plug-in utilities used with HP SIM. Refer to the documentation of the applicable plug-in utility for actual file names/locations.
7. Back up the Oracle data files (refer to Oracle documentation for detailed information).

Restoring data files for use with Oracle.

To restore the Oracle database from a saved copy, use the following procedure:

1. If necessary, reinstall HP SIM as directed in the *HP Systems Insight Manager 5.1 Installation and Configuration Guide for Microsoft Windows* available at the following URL: <http://docs.hp.com/en/418812-002/index.html>. If not performing a reinstallation of HP SIM, then proceed to step 5.

NOTE:

You must reinstall HP SIM with the same user account that was used previously.

2. Reinstall the WMI mapper, OpenSSH (and previous keys used), and SMH components if needed.
3. Reinstall any backed up custom files (TDEFs, MIBs, login prompt, and other actions) under the HP SIM directory tree, and any custom support packs used by VCRM.

NOTE:

The HP SIM installation procedure includes loading VCRM on a Windows CMS.

4. Reinstall any plug-in utilities (and associated files and databases) used with HP SIM.
5. If it is running, stop the HP SIM Service, along with any HP SIM plug-in applications such as HP Performance Management Pack.
6. Reinstall Oracle as directed in Oracle documentation. For more information, see http://download-west.oracle.com/docs/cd/B19306_01/backup.102/b14192/toc.htm.
7. Using the file management tool of your choice, restore the directories and/or files listed in Table 6. For each occurrence of "<SIM>", substitute the actual pathname where HP SIM is installed (such as c:\Program Files\HP\System Insight Manager).

NOTE:

You must use a tool that preserves file permissions (such as the Windows Backup tool) while restoring directories and/or files.

Table 6. Configuration files to restore for Oracle

Directory or file	Description
<SIM>\config\ (see note)	Directory of configuration files
C:\hp\sslshare\	Shared openssl certificate directory
<SIM>\logs\mx.log	Audit file
<SIM>\patch	Program updates (required to reinstall HP SIM)
<SIM>\bin\servercert.pem	Certificate used by the Command Line Interface (CLI)
<SIM>\bin\cliclientconfig.cfg	CLI configuration file
<SIM>\installpsp	(if existing)
<SIM>\swmaint	(if existing)
<SIM>\output	(optional) Contains job result output.

8. Start the HP SIM service and any plug-in applications.

For more information

For additional information about HP SIM, visit www.hp.com/go/hpsim.

Call to action

Send comments about this paper to TechCom@HP.com.

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