

Backing up SIMS and FMS Databases

Version 1.1

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Revision History

Doc. Version	Change Description	Date
1.0	Initial Release	14/03/08
1.1	Added DMS backup information and new command line parameters for the SIMS 2008 December Update (7.114)	05/12/08

Introduction

The SIMS and FMS systems both use Microsoft SQL Server 2005 as their database store. They each have their own database which can be stored under the same or separate SQL Servers or Instances.

When considering a backup strategy for a SIMS or FMS database there are four different methods that can be employed to make or restore a backup.

These are:

- Through the SIMS Database Management Utility (DBAttach) for SIMS or FMS.
- Command line use of the SIMS Database Management Utility.
- System Manager (for SIMS backups only).
- FMS (for FMS backups only).

The first two methods enable you to attach/detach a database and/or backup/restore a database. System Manager enables you to backup and restore a database and the last method backs up the current FMS database.

These activities are outlined in the next section along with their relative advantages.

It is important to note that once any type of backup file has been created, it must then be backed up in the conventional way, to tape for example.

IMPORTANT: Where Personnel in SIMS is used to generate Salary Projections in FMS, SIMS and FMS backups should be carried out at the same time. If one of the databases needs to be restored, the other database must be restored to the same point, i.e. if you restore your SIMS database, you must restore your FMS database to the same point and vice versa.

Definitions

Detaching/Attaching a Database

This process involves the SIMS or FMS database and log files (.mdf and .ldf files) being detached from SQL Server for the specified database. The .mdf and .ldf files can then be copied, zipped or backed up by other means. An attach or detach can only be performed by a SQL System Administrator such as SA.

Whilst all of the SIMS data is stored within the SIMS database, the passwords for the SIMS users are stored within the Master SQL Server database, not the SIMS database. Detaching the database retrieves an encrypted version of the SIMS user passwords from the Master database and stores them locally within the SIMS database file (.mdf). When the SIMS database is re-attached:

- If the database is re-attached to the same SQL server and the same users already exist in the Master database against the restored database name, e.g. simsdb.user1, the passwords stored in the backup do not overwrite those in the Master database.
- If the database is re-attached to a different SQL server where the same users do not exist on the Master database against the restored database name, e.g. simsdb.user1 does not exist, the user passwords in the backup are restored to the Master database.

The information held in the detached database is not accessible until the database files are re-attached.

Backup/Restore of a Database

This process involves the SIMS or FMS data being copied into a .bak file either in the SQL backup directory or in a location of the users choice. This provides a method of backing up your database without having to detach it from the SQL Server.

It can be performed by a SQL System Administrator, the SIMS System Manager or a user with Backup rights.

This backup method does not update the user password information inside the SIMS database when it is run (as in the detach method above) due to the likelihood of having reduced access rights when you run this process. Therefore, when the backup is restored it will operate in the following ways:

- If the database has been attached/detached before, it will contain the user passwords as of the time that process was carried out, e.g. if the database was detached and attached the month before, the details will be correct as of a month before.
 - If this database is then restored to a different or new SQL Server where the Master database has no matching passwords for the users stored against that database name, it will restore the user records to the Master database (absent any details changed since the previous attach/detach was carried out). Users can login as normal.
 - If this database is restored to the same SQL Server where the Master database has matching records for the users stored against that database name, it will not change the records held on the Master database and users can login as normal.
- If the SIMS database has never been attached/detached before, it will not contain a copy of the user login information.
 - If this database is restored to a different SQL Server, the user passwords are reset. The System Manager must gain access to System Manager using the credentials Sysman and password and issue new passwords to the SIMS users.
 - If the database is restored to the same SQL Server, the passwords held in the Master database will be unchanged and users can login as normal.

IMPORTANT NOTE: It is only the user password information that is affected as described above. The data held in the SIMS database remains intact and is restored correctly using both backup methods.

Users can continue using SIMS whilst the backup is taken.

Comparison of Different Backup Methods

	SIMS Database Management Utility (DBAttach)	Command line interface to DBAttach	System Manager	FMS
User with rights to run backup	SA (SQL Server System Administrator)	SIMS Backup Manager or System Manager or sa (SQL Server System Administrator) or trusted users. <i>NOTE: The commands available depend on the user.</i>	SIMS System Manager	A user with Level 4 or 5 access rights.
Method beneficial for:	Backing up/restoring a SIMS or FMS database.	Backing up/restoring a SIMS or FMS database.	Backing up/restoring a SIMS database.	Backing up/restoring an FMS database.
	Detaching/attaching a database.	Detaching/attaching a database.	Taking a quick backup from within the SIMS system.	Taking a quick backup from within the FMS system.
	SIMS Support Teams who want to set up a training course using live data.	SIMS Support Teams who want to set up a training course using live data.		
	Can be used to back up the SQL Master tables (<i>master.mdf</i> and <i>msdbdata.mdf</i>) in addition to the SIMS database.	Users who want to automate their backups using the Command line or using Scheduled Tasks.		

Using the SIMS Database Management Utility (DBAttach)

The SIMS Database Management Utility provides the functionality to attach, detach and backup a database. All actions through the SIMS Database Management Utility must be performed using the SQL Server System Administrator username and password.

Important Information about the SIMS Database Management Utility

There are two versions of the SIMS Database Management Utility and DBUpgrade where both SIMS and FMS are in use and where FMS has been upgraded to 6.100. One of the pairs is for using for SIMS databases, and one for FMS databases.

- The SIMS version can be accessed through **Start | All Programs | SIMS Applications | dbAttach (or DBUpgrade)**.
- The FMS version can be accessed through **Start | All Programs | SIMS Applications | FMSSQL | dbAttach (or DBUpgrade)**.

IMPORTANT: Although the versions will look similar, the SIMS version must only be used with SIMS databases, the FMS version only with FMS databases. This is because the two versions will be updated at different times depending on when the two systems are upgraded.

Detaching a Database

This function will detach the specified database from the SQL Server. This database will not be accessible until it has been re-attached and it will remain in the \Data directory. This function is commonly used to detach a database so that operations such as a file backup can be performed before re-attaching it.

About the Drop SQL Server Logins Option

The SIMS user details are stored at the SQL Server level, not within each database. By default, the SIMS users will remain in the SQL Server and therefore be available if that database is restored. The **Drop SQL Server Logins** check box can be selected to remove these SIMS users from the SQL Server when the detach is performed. This is only recommended when there is no intention of the database being used again on the same SQL Server.

1. Select the correct version of the SIMS Database Management Utility depending on the database to be detached:
 - For SIMS, select **Start | All Programs | SIMS Applications | dbAttach** to display the **SIMS Database Management Utility**.
 - For FMS, select **Start | All Programs | SIMS Applications | FMSSQL | dbAttach** to display the **SIMS Database Management Utility**.
2. Enter the **Server Name** of the SQL Server Instance, e.g. <ComputerName>\SIMS2005.
3. Enter the SQL System Administrator **Username**, i.e. sa, and **Password**, and click the **Connect** button.
4. In the **Detach a Database** section, select the database to be detached from the drop-down list.
5. Click the **Detach** button.

Command Line Parameters for Detaching a Database

The command line parameters are designed to support scheduled unattended backups. They make use of the parameter options in the DBAttach.exe file which you can use as switches to reproduce the functionality offered by the front end of the SIMS Database Management Utility.

The following list contains the parameters and access rights required to detach a database. In all cases you will need to specify a Server, a Database, a User and a Password. Using /AUTO is also recommended to make the process automated.

User with rights to run parameter	Parameter	Details
	/SERVER	Use this switch to specify the SQL Server to be used. For example, /SERVER="ABCD" where ABCD is the name of the SQL Server.
	/DATABASE	This is the name of the SIMS database on the server, e.g. /DATABASE="ABCD" where ABCD is the name of the database. <i>NOTE: If the database name is not supplied, the settings from the Connect.ini file in the current directory will be used.</i>
	/USER	Please specify the username that you want to connect as, e.g. /USER="ABCD" where ABCD is the username for the user. This must be the sa for attaching, detaching and restoring a backup. System Managers and Backup Operators can be used to take a .bak file backup.
	/PASSWORD	Please specify the password for the user that you are connecting as, e.g. /PASSWORD="ABCD".
sa	/AUTODETACHMODE	This command will detach the specified SIMS database to the SQL Server. The .mdf and .ldf pair will remain in the \data directory of the SQL Server instance. It can only be performed with SQL System Administrator rights (SA).
	/AUTO	This command will try and run the process automatically without intervention. If a failure occurs the User Interface screen of The SIMS Database Management Utility will be displayed. This parameter is recommended to be used alongside any Backup/Attach process which you want to run without user intervention.
sa	/NOBACKUP	Using this switch alongside /AUTOATTACHMODE and /AUTODETACHMODE will result in no backups being taken. Furthermore, no restore will be attempted if the detach fails. This is not recommended unless you already have a reliable up-to-date backup.
sa	/DROPSYSLOGINS	This parameter is used to remove SIMS users from the SQL server.

Example

```
DBAttach /Server=xp4886\sims2005 /Database=SIMS /USER=SA /PASSWORD= SAPassw0rd
/AUTODETACHMODE /AUTO
```

This will detach the SIMS database called 'SIMS' under the default SQL database folder, e.g. \Data, using the SQL System Administrator account SA.

Attaching a Database

This function will re-attach databases that have been obtained by detaching them using the SIMS Database Management Utility. It will not restore a backup file (*.bak). It can only be used to attach unattached, unzipped, paired .mdf and .ldf files.

- Select the correct version of the SIMS Database Management Utility depending on the database to be attached:
 - For SIMS, select **Start | All Programs | SIMS Applications | dbAttach** to display the **SIMS Database Management Utility**.

- For FMS, select **Start | All Programs | SIMS Applications | FMSSQL | dbAttach** to display the **SIMS Database Management Utility**.
2. Enter the **Server Name** of the SQL Server Instance, e.g. <ComputerName>\SIMS2005.
 3. Enter the SQL System Administrator **Username**, i.e. sa, and **Password**.
 4. Click the **Connect** button.

5. In the **Attach a Detached Database** section, enter a **Database Name** for the database to be attached.
6. Navigate to the location of the database by clicking the **Browser** button to the right of the **Attach File** field.
7. Click the **Attach** button.

Command Line Parameters for Attaching a Database

The command line parameters are designed to support scheduled unattended backups. They make use of the parameter options in the DBAttach.exe file which you can use as switches to reproduce the functionality offered by the front end of the SIMS Database Management Utility.

The following list contains the parameters and access rights required to attach a database. In all cases you will need to specify a Server, a Database, a User and a Password. Using /AUTO is also recommended to make the process automated.

User with rights to run parameter	Parameter	Details
	/SERVER	Use this switch to specify the SQL Server to be used. For example, /SERVER="ABCD" where ABCD is the name of the SQL Server.

User with rights to run parameter	Parameter	Details
	/DATABASE	This is the name of the SIMS database on the server, e.g. /DATABASE="ABCD" where ABCD is the name of the database. <i>NOTE: If the database name is not supplied, the settings from the Connect.ini file in the current directory will be used.</i>
	/USER	Please specify the username that you want to connect as, e.g. /USER="ABCD" where ABCD is the username for the user. This must be the sa for attaching, detaching and restoring a backup. System Managers and Backup Operators can be used to take a .bak file backup.
	/PASSWORD	Please specify the password for the user that you are connecting as, e.g. /PASSWORD="ABCD".
sa	/AUTOATTACHMODE	This command will attach the specified SIMS database from SQL Server. It can only be performed with SQL System Administrator rights (SA).
	/AUTO	This command will try and run the process automatically without intervention. If a failure occurs the User Interface screen of The SIMS Database Management Utility will be displayed. This parameter is recommended to be used alongside any Backup/Attach process which you want to run without user intervention.
sa	/SOURCEDB	Use this parameter alongside /AUTOATTACHMODE to specify the source mdf to attach. This must include the full path of the file and include its .mdf extension.
sa	/NOBACKUP	Using this switch alongside /AUTOATTACHMODE and /AUTODETACHMODE will result in no backups being taken. Furthermore, no restore will be attempted if the detach fails. This is not recommended unless you already have a reliable up-to-date backup.

Backing up a Database

This function will create a backup file of the specified SIMS database. In addition, it will back up the Master and MSDB databases. Backups made this way are standard SQL backups and are not zipped.

These backups are stored in the SQL Server Backup Directory of the appropriate SQL Server instance, e.g. C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Backup. The file will be in the format <DatabaseName><Number>.bak where <Number> starts at 1 and increments until it finds a suitable, unique file name.

Performing a Backup Using the SIMS Database Management Utility

IMPORTANT: Where Personnel in SIMS is used to generate Salary Projections in FMS, SIMS and FMS backups should be carried out at the same time. If one of the databases needs to be restored, the other database must be restored to the same point, i.e. if you restore your SIMS database, you must restore your FMS database to the same point and vice versa.

- Select the correct version of the SIMS Database Management Utility depending on the database to be backed up:
 - For SIMS, select **Start | All Programs | SIMS Applications | dbAttach** to display the **SIMS Database Management Utility**.

- For FMS, select **Start | All Programs | SIMS Applications | FMSSQL | dbAttach** to display the **SIMS Database Management Utility**.

- Enter the **Server Name** of the SQL Server Instance, e.g. <ComputerName>\SIMS2005.
- Enter the SQL System Administrator **Username**, i.e. sa, and **Password**.
- Click the **Connect** button.
- Once connected, select the **Database Name** from the **Backup a Database** panel.
- dbAttach will check whether the DMS is being backed up.

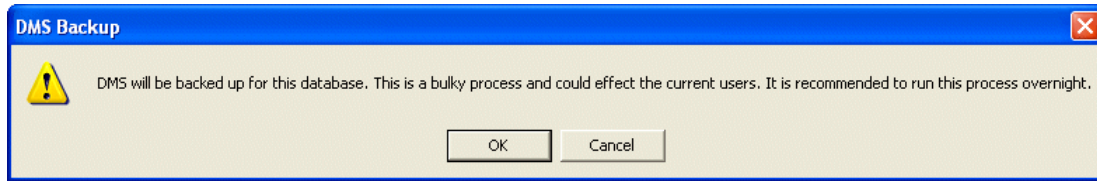
If a DMS backup is running, dbAttach will display a message and provide the option to cancel the backup.

If there is no backup taking place, dbAttach will provide you with the **Include DMS Backup** check box which, if selected, will also backup the DMS (to a location specified during the SIMS Document Server installation) when you backup the database.

NOTE: DMS Backup functionality is included in the SIMS 2008 December Update (7.114). Older SIMS releases do not support DMS Backups.

You must have upgraded the DMS using the SIMS Document Server installation included with the SIMS 2008 December Update (7.114) and specified a backup location during the upgrade, in order for the backups to work.

7. Click the **Backup** button. If you selected the **DMS Backup** check box, a dialog will be displayed, recommending that the backup is run overnight.



8. Click the **OK** button to close the dialog and continue.
9. Click the **Backup** button. A message will be displayed when the backup has been carried out successfully.

The database backup should be stored to tape or other backup media.

NOTES: Backups taken using the SIMS Database Management Utility can be restored using System Manager or Command line in addition to the SIMS Database Management Utility. This excludes backups for FMS databases, which can be restored using the command line in addition to the SIMS Database Management Utility.

The DMS will be backed up to the backup location specified during the DMS upgrade. All the files will be duplicated into folders named [ServerName]\[DatabaseName]\Backup_YYYYMMDD_HHMMSS. The backup files have already been compressed and encrypted by the DMS and remain in the same format.

Command Line Parameters for Performing a Backup

The command line parameters are designed to support scheduled unattended backups. They make use of the parameter options in the DBAttach.exe file which you can use as switches to reproduce the functionality offered by the front end of the SIMS Database Management Utility.

The following list contains the parameters and access rights required to backup a database. In all cases you will need to specify a Server, a Database, a User and a Password. Using /AUTO is also recommended to make the process automated.

User with rights to run parameter	Parameter	Details
	/SERVER	Use this switch to specify the SQL Server to be used. For example, /SERVER="ABCD" where ABCD is the name of the SQL Server.
	/DATABASE	This is the name of the SIMS database on the server, e.g. /DATABASE="ABCD" where ABCD is the name of the database. <i>NOTE: If the database name is not supplied, the settings from the Connect.ini file in the current directory will be used.</i>
	/USER	Please specify the username that you want to connect as, e.g. /USER="ABCD" where ABCD is the username for the user. This must be the sa for attaching, detaching and restoring a backup. System Managers and Backup Operators can be used to take a .bak file backup.
	/PASSWORD	Please specify the password for the user that you are connecting as, e.g. /PASSWORD="ABCD".
	/TRUSTED	Use this parameter instead of /USER and /PASSWORD to use the current Windows Login instead. The current user must have been set up in System Manager as a SIMS user. This parameter can only be used alongside the /BACKUP parameter without /PATH.

User with rights to run parameter	Parameter	Details
sa Trusted User Backup User System Manager	/BACKUP	This parameter will create a Backup of the specified SIMS database and then truncate the log (.ldf) file. The backup file will be created in the SQL Server Backup Directory of the appropriate SQL Server instance, e.g. C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Backup. The backup will be a zipped .bak file of the format sims_cp361_mnw_Date_Time.zip. For example, sims_cp361_mnw_20071023_102525.zip. This parameter is not necessary when using /AUTOATTACHMODE or /AUTODETACHMODE.
	/AUTO	This command will try and run the process automatically without intervention. If a failure occurs the User Interface screen of The SIMS Database Management Utility will be displayed. This parameter is recommended to be used alongside any Backup/Attach process which you want to run without user intervention.
sa	/PATH	Use this parameter to specify both a directory and filename for the backup. The filename must include the .bak extension and will create an uncompressed backup file. When used with /RESTORE or /BACKUP this path must include the filename and the .bak extension. Only those users with SQL System Administrator permissions (SA) can perform this operation.
sa	/MASTER	Use this parameter to back up the master SQL database.
sa	/DMS	Will also back up Document Management Server for the database to the backup location specified during the DMS upgrade. All the files will be duplicated into time stamped folders in their original format (not compressed or encrypted). To restore a DMS backup, copy the files back to the original DMS location.

Examples

DBAttach /Server=xp4886\sims2005 /Database=SIMS /USER=SA /PASSWORD=SAPassw0rd /BACKUP /AUTO

This will backup the SIMS database called 'SIMS' to a .bak file compressed into a zip file on the SQL Server 'xp4886\sims2005' under the \backup directory using the SQL System Administrator account SA

DBAttach /Server=xp4886\sims2005 /Database=SIMS1 /USER=Sysman /PASSWORD=password /BACKUP /AUTO

This will backup the SIMS database called 'SIMS1' to a .bak file compressed into a zip file on the SQL Server 'xp4886\sims2005' under the \backup directory using the SIMS Sysman account.

dbattach /server=xp4886\sims2005 /database=sims /user=SA /password=Liverpool1 /backup /auto Path=d:\backups\simsbackup140308.bak

This command will backup the database 'sims' into the file 'simsbackup140308.bak' into the d:\backups directory using the SQL System Administrator account SA.

Restoring a Backup Using the SIMS Database Management Utility

NOTE: Please refer to Accessing the Restore Interface in the SIMS Database Management Utility on page 15 to view the Restore interface within the SIMS Database Management Utility.

IMPORTANT: Where Personnel in SIMS is used to generate Salary Projections in FMS, SIMS and FMS backups should be carried out at the same time. If one of the databases needs to be restored, the other database must be restored to the same point, i.e. if you restore your SIMS database, you must restore your FMS database to the same point and vice versa.

1. Select the correct, edited version of the SIMS Database Management Utility shortcut depending on the database to be attached:
 - For SIMS, amend the shortcut in **Start | All Programs | SIMS Applications | dbAttach** to include /RESTOREUI to display the amended **SIMS Database Management Utility**.
 - For FMS, amend the shortcut in **Start | All Programs | SIMS Applications | FMSSQL | dbAttach** to include /RESTOREUI to display the **SIMS Database Management Utility**.
2. Open the SIMS Database Management Utility using the edited shortcut.

3. Enter the **Server Name**, **Username** and **Password** and click the **Connect** button.
4. Click the **Browse** button and navigate to the location of the backup to be restored. Select the backup.
5. Click the **Restore** button to restore the database.

NOTE: To restore a DMS backup, copy the files from their backup location back to the original DMS location.

Command Line Parameters for Restoring a Backup

The command line parameters are designed to support scheduled unattended backups. They make use of the parameter options in the DBAttach.exe file which you can use as switches to reproduce the functionality offered by the front end of the SIMS Database Management Utility.

The following list contains the parameters and access rights required to restore a database backup. In all cases you will need to specify a Server, a Database, a User and a Password. Using /AUTO is also recommended to make the process automated.

User with rights to run parameter	Parameter	Details
	/SERVER	Use this switch to specify the SQL Server to be used. For example, /SERVER="ABCD" where ABCD is the name of the SQL Server.
	/DATABASE	This is the name of the SIMS database on the server, e.g. /DATABASE="ABCD" where ABCD is the name of the database. <i>NOTE: If the database name is not supplied, the settings from the Connect.ini file in the current directory will be used.</i>
	/USER	Please specify the username that you want to connect as, e.g. /USER="ABCD" where ABCD is the username for the user. This must be the sa for attaching, detaching and restoring a backup. System Managers and Backup Operators can be used to take a .bak file backup.
	/PASSWORD	Please specify the password for the user that you are connecting as, e.g. /PASSWORD="ABCD".
sa Trusted User Backup User System Manager	/RESTORE	Using the SQL System Administrator account (SA) only, this parameter will restore a SIMS .bak file into the SQL Server. It should be used in conjunction with the /OVERWRITE command if the database already exists.
	/AUTO	This command will try and run the process automatically without intervention. If a failure occurs the User Interface screen of The SIMS Database Management Utility will be displayed. This parameter is recommended to be used alongside any Backup/Attach process which you want to run without user intervention.
sa	/PATH	Use this parameter to specify both a directory and filename for the backup. The filename must include the .bak extension and will create an uncompressed backup file. When used with /RESTORE or /BACKUP this path must include the filename and the .bak extension. Only those users with SQL System Administrator permissions (SA) can perform this operation.
sa	/OVERWRITE	Should be used when attempting to restore a database that already exists. This will overwrite the existing database.

Example

```
DBAttach /Server=xp4886\sims2005 /Database=SIMS /USER=SA /PASSWORD= SAPassw0rd
/AUTOATTACHMODE /SOURCEDB=D:\Microsoft SQL Server\MSSQL.1\MSSQL\Backup\SIMS.mdf /AUTO
```

This will restore the SIMS database called 'SIMS' from the location D:\Microsoft SQL Server\MSSQL.1\MSSQL\Backup using the SQL System Administrator account SA.

Setting Up a Scheduled Backup Using Command line

NOTE: It is recommended that scheduled backups of SIMS and FMS databases are run individually from separate batch files and separate scheduled tasks.

The following example will set up a scheduled task to run a backup at midnight every night.

NOTE: This is meant as a guide only. Some details will vary depending on your particular set up and requirements.

1. Select **Start | All Programs | Accessories | Notepad**.
 2. Enter the required instructions,
e.g. to back up a SIMS database in a Command prompt, navigate to:
`\program files\Microsoft SQL Server\MSSQL.1\MSSQL\Binn\` and enter
`DBAttach /Server=xppc\sims2005 /Database=sims2005 /user=sa`
`/password=Vanessa_12 /backup /auto.`

To back up an FMS database in a Command prompt, navigate to:
`\program files\Microsoft SQL Server\MSSQL.1\MSSQL\Binn\FMSSQL\` and enter
`DBAttach /Server=xppc\sims2005 /Database=FMSSQL /user=sa`
`/password=Vanessa_12 /backup /auto.`
 3. Name the file, give it a `.bat` extension, e.g. `SIMSDailyBackup.bat`, and save it to an appropriate location.
 4. Select **Start | Control Panel | Scheduled Tasks** and double-click on **Add Scheduled Task**.
 5. Click the **Next** button.
 6. Click the **Browse** button and navigate to the location of the bat file specified in step 3.
 7. Enter a name for the task, e.g. `Daily SIMS Backup`, and how often you want the task performed, e.g. **Daily**.
 8. Select the **Start Time** of the task, e.g. `00:00`.
 9. Select the radio button to indicate whether the task should run, e.g. **Every Day**.
 10. Amend the **Start Date**, if required.
 11. Click the **Next** button.
 12. Enter an appropriate **Username** and **Password**.
 13. Click the **Next** button.
 14. Click the **Finish** button.
-

NOTE: It is vital to verify that scheduled backups are taking place and the files are created or updated.

Accessing the Restore Interface in the SIMS Database Management Utility

Shortcuts to the SIMS Database Management Utility can be edited to access the Restore a Backup user interface as follows:

1. Right-click on the DBAttach shortcut and select **Properties** from the drop-down list.
2. Click on the **Shortcut** tab.

- For the SIMS version of the Database Management Utility, the **Target** field will contain text similar to: "C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Binn\SIMSSQLLoad.exe" "C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Binn\dbAttach.exe".
 - For the FMS version of the Database Management Utility, the **Target** field will contain text similar to: "C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Binn\FMSSQLLoad.exe" "C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Binn\FMSSQL\dbAttach.exe".
3. To view the restore interface, add /restoreui to the end of the string,
e.g. for SIMS, "C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Binn\SIMSSQLLoad.exe" "C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Binn\dbAttach.exe" /restoreui.
For FMS, "C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Binn\FMSSQLLoad.exe" "C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Binn\FMSSQL\dbAttach.exe"/restoreui.

When the SIMS Database Management Utility is then run from this shortcut, the restore functionality will be present and can be used to restore a backed up database.

The screenshot shows the 'SIMS Database Management Utility' window. It has a blue title bar and a light blue background. The window is divided into several sections:

- SQL Server Instance:** Contains a 'Server Name' field with the value 'xppc19\SIMS2005'.
- System Administrator Login Details:** Contains 'Username' (sa) and 'Password' (masked with asterisks) fields, and a 'Connect' button.
- Backup Status for all operations:** Includes a checkbox labeled 'Do not make backups' which is currently unchecked.
- Attach a Detached Database:** Features 'Database Name' and 'Attach File' (with a browse button) fields, and 'Details?' and 'Attach' buttons.
- Detach a Database:** Includes a 'Database Name' dropdown menu, a 'Database Detach Options' section with a 'Drop SQLServer Logins' checkbox, and 'Details?' and 'Detach' buttons.
- Backup a Database:** Includes a 'Database Name' dropdown menu, and 'Details?' and 'Backup' buttons.
- Restore a Database:** Includes 'Database Name' and 'Backup File Name' (with a browse button) fields, and 'Restore' and 'Details?' buttons.

At the bottom, a status bar reads: 'Please enter the server name (server\instance), username and password and press Connect.'

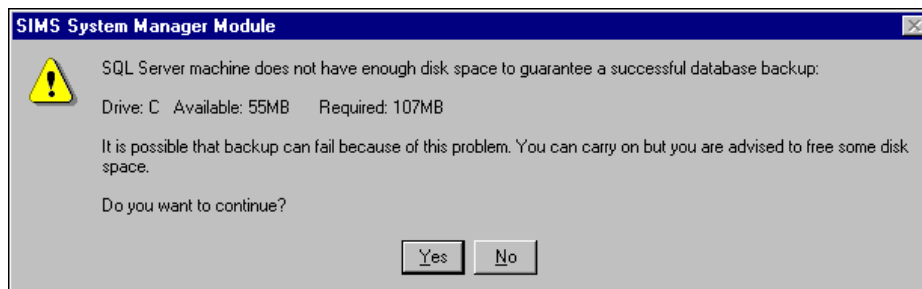
Running Backups Using System Manager

NOTE: FMS databases cannot be backed up using System Manager.

SIMS System Manager can be used to make a full backup of the SIMS database. However, it is important to note that once any type of backup file has been created, it must then be backed up in the conventional way, to tape for example.

IMPORTANT NOTES: Backup files generated by SIMS can consume large amounts of disk space. It is strongly recommended that unwanted backup files are deleted regularly using the **Tidy Backups** utility, which can be accessed from the **Tools** menu.

Before taking a backup, the system will check that you have enough disk space to create a backup file. If you do not have sufficient disk space, a warning is displayed.



If this message is displayed, it is strongly recommended that you click the **No** button to cancel the backup process and then free more disk space before trying again. Alternatively, click the **Yes** button to continue with the backup, irrespective of the warning.

IMPORTANT NOTE: Continuing with the process when there is insufficient disk space can lead to serious problems with your Database Server.

In older versions of System Manager, when a backup was taken, the filename was given a .BAK extension automatically. Due to the size of the SIMS SQL database, a backup file created in System Manager 6.90 (or later) is compressed into a .ZIP file to reduce the amount of disk space used. It is still possible to specify the description of the backup file.

When a backup has been created successfully, you can view basic details of the backup file by hovering over the file in Windows Explorer (if your system has been set up to display details in this way), or by right-clicking the file and selecting **Properties**.

IMPORTANT NOTE: It is advisable to move the backup file to a different server for security reasons. If the backup is stored on the same server as the SIMS SQL database, it could be lost or damaged if the SQL Database Server develops a problem.

The backup procedure truncates the Transaction Log. Some processes can cause the Transaction Log to increase in size up to approximately 1Gb. Once a successful backup is made, the process will truncate the log file to about 1Mb. This is only possible if the SIMS system is not being used by anyone else.

NOTE: When a backup is taken, it does not back up the complete SQL Server. Only the database data is backed up. SIMS user information is not backed up and if the backup is restored to a different SQL Server, the user passwords will be re-set. In these circumstances, please use the sysman/password logon to open System Manager and locate the re-set passwords.

Backup File Naming Conventions

The file is named to provide information about the content of the backup. The filename consists of the following sections, which are separated by an underscore:

- **Database Name** - This will be **SIMS**, or another name representing the database that has been copied.
- **Platform Number** - **CPnnn** is the version of the Common Platform.
- **Originating Module** - This section of the filename represents the area of SIMS used to create a backup file or the type of backup created. Files generated using System Manager are represented by **MNW**.
- **Date** - **YYYY** is the four digit year, **MM** is the two digit month, **DD** is the two digit day.
- **Time** - **HH** is the two digit time in hours, **MM** is the two digit time in minutes, **SS** is the two digit time in seconds.

Therefore, a backup taken at 5.30pm on 27th February 2007 would create a file named:

`SIMS_CPnnn_MNW_20070327_173000.ZIP`

Viewing the Backup Path

The backup path is that defined when the SQL Server Instance was installed and cannot be subsequently edited. You can view the backup path as follows:

1. Select **Tools | Backup Path** to open the **Backup Path** dialog.

The backup path is displayed in the **Backup Path** field. This path cannot be edited.

NOTE: The backup path is the local path on the SQL Server machine.

2. Click the **Close** button to return to the main System Manager screen.

Performing the Backup

The backup procedure in System Manager will take a full backup of the SIMS database and will create an entry in the log file that the database backup has taken place.

A user will be allowed to perform a backup of the SIMS SQL database only if that user has been granted the sufficient Permissions to do so.

It is advisable to ensure that all SIMS users are *logged out* of SIMS when the database is being backed up to ensure that all up-to-date work is included in the backup. It might therefore be appropriate to carry out the backup out of office hours.

1. Select **Tools | Create Backup** to open the **Create backup** dialog.

The destination of the backup file to be created is displayed in the **Backup Path** field.

2. Enter the description of the backup file in the **Backup Description** field.
3. Click the **Create** button.
4. Confirm that you wish to proceed with the backup using the selected description path previously specified by clicking the **Yes** button.

Once the backup has been successfully carried out, the System Manager screen is displayed.

Restoring the SIMS Database

This routine should be run if the data in your SIMS SQL system has become corrupt or unreliable, perhaps due to a system or hardware failure.

The SIMS SQL database can be restored from any machine that can run System Manager, providing you have been granted sufficient Permissions.

It is essential to ensure that all SIMS users are logged out of SIMS when the database is being restored.

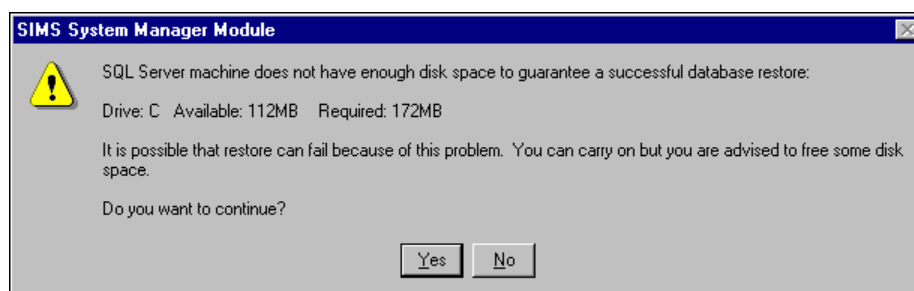
IMPORTANT NOTE: *Once the SIMS SQL database has been restored, it is essential that you log out of System Manager. Failure to do so could lead to data and database corruption. You can then log in again and continue to use the system as normal.*

Please be aware that any data added to or amended in the system at any time *after* the most recent, applicable backup was taken will not be present in the restored database. For example, if you backed up the SIMS SQL database on Monday morning and restored this backup on Tuesday morning, any additions of, or amendments to the data or database, between these times will be lost after restoring the database.

Firstly, the file will need to be restored from tape (or other backup media), in the conventional way to: `\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Backup` folder.

NOTE: *The MSSQL.1 folder may be named differently depending on how the SQL Server Instance was installed.*

Before restoring a database, the system will check that you have enough disk space to restore a backup file. If you do not have sufficient disk space, a warning is displayed.



If this message is displayed, it is strongly recommended that you click the **No** button to cancel the database restore process and then free more disk space before trying again. Alternatively, click the **Yes** button to continue with the restore process, irrespective of the warning.

IMPORTANT NOTE: *Continuing with the process when there is insufficient disk space can lead to serious problems with your Database Server.*

NOTE: *Backups made in older versions of System Manager (.BAK files) can still be restored in the current version of System Manager. To restore a backup file created in a previous version, you should zip the required backup file manually and System Manager will then recognise it as a valid backup file.*

1. Select **Tools | Restore Backup** to open the **Restore Backup** dialog.
 2. The list of backup files available in the **Available Backups** area displays:
 - the **Platform** version
 - the **Module** that made the backup
 - the **Date** on which the backup was taken
 - the **Time** at which the backup was taken
 - whether the backup file is in the log (**In Log**). If the backup was successfully made using System Manager and is recognised as a valid SQL backup, the value will be set to **Y**.
 - whether the backup file is still on disk (**On Disk**). If the backup file has already been deleted using this routine, the value will be set to **N**. If the backup file still exists as a valid backup file, the value will be set to **Y**.
 - the backup **Filename**.
-

NOTE: *Only backups taken of the current SIMS database can be restored using this route.*

To check that the correct backup file has been selected, the **Summary** frame displays the backup file description as well as other important details.

3. Highlight the backup file from which you wish to restore and click the **Restore** button to restore the database.
4. If you choose to restore the database, confirm that you wish to restore the database using the currently selected backup file by clicking the **Yes** button.

NOTE: If the file from which the backup is being restored is invalid or corrupt, you will be prompted to select another backup file from which to restore.

5. If users are still logged into SIMS when you attempt to perform a restoration of the database, you will be presented with the following options:
 - **Retry** - Click the **Retry** button to once again attempt to lock the database in order to perform the restore procedure.
 - **Warn** - Click the **Warn** button to inform the user still logged on, via an on-screen warning, that a restoration of the database is going to be performed and that they should log off immediately.
 - **Force** - Click the **Force** button to force the user to log off. Their connection to the SIMS system will be reset and will not be permitted to log into SIMS until the database restoration has been completed successfully.

NOTE: Forcing a user to log out of the SIMS system could potentially lead to data loss if they have not saved their work.

- **Cancel** - Click the **Cancel** button to cancel the request to back up the SIMS database and return to the previous screen.

A message is displayed once the restoration of the SQL database has been successfully completed.

6. Click the **OK** button to return to the main System Manager screen.

Once the restore of the database has been successfully completed, you will be informed of any errors that occurred during the restore and whether the restore process completed successfully.

Tidying Database Files

This routine is designed to enable the removal of unwanted backup files (.BAK and .ZIP) from your system. By selecting the oldest backup file that you wish to delete, this procedure will delete that backup file and all previous backup files from the file system.

The tidy database files routine can be run from any machine that can run System Manager, providing you have been granted sufficient Permissions.

It is important that this process is carried out regularly, because backup files can consume large amounts of disk space.

Backup files can also be deleted manually. Please see *Deleting Backup Files Manually* on page 21 for more information.

1. Select **Tools | Tidy Backups** to open the **Tidy Backups** dialog.

The list of backup files available displays:

- the **Platform** version.
- the **Module** that made the backup.
- the **Date** on which the backup was taken.
- the **Time** at which the backup was taken.
- whether the backup file is in the log (**In Log**). If the backup was successfully made using System Manager and is recognised as a valid SQL backup, the value will be set to **Y**.

- whether the backup file is still on disk (**On Disk**). If the backup file has already been deleted using this routine, the value will be set to **N**. If the backup file still exists as a valid backup file, the value will be set to **Y**.
 - the backup **Filename**.
2. From the list of all backup files known to the system, highlight the most recent backup that you want to delete. The highlighted backup and all backups made prior to that one will be deleted from the SIMS system.

*NOTE: Before proceeding with the backup tidy, ensure that the correct backup files have been selected by checking the **Summary** frame. The description displayed will be that entered when the backup was created.*

If the most recent backup file is selected for deletion, ALL backup files are deleted.

3. Click the **Tidy** button to tidy the backup files.
4. Confirm that you wish to proceed with the deletion of the selected backup file(s). Alternatively, click the **Cancel** button to return to the main System Manager screen.

A message is displayed once the deletion of the backup file(s) has been successfully completed.

5. Click the **OK** button to return to the main System Manager screen.

Deleting Backup Files Manually

IMPORTANT NOTE: *It is strongly recommended that unwanted backup files are deleted regularly using the **Tidy Backups** utility, which can be accessed from the **Tools** menu. Please see Tidying Database Files on page 20 for more information.*

You should only delete backup files manually under exceptional circumstances, e.g. system corruption, etc. Deleting the files manually through Windows Explorer, for example, will delete the file but a record in the SQL log will still exist signifying that a backup has made by SIMS. Having a record of a backup in the SQL log but not having the corresponding backup file can lead to confusion when running the **Tidy Backups** routine. The dialog displays a record of a backup being taken, but you will not be able to delete the backup as it has already been deleted.

Backup files can be deleted manually from: \Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Backup folder.

Backing up the FMS Database through FMS

NOTE: This option is intended to be used in addition to your normal backup procedures, not in replacement of them.

An option has been provided within FMS to carry out a backup of the database. The backup performed is similar to the one carried out under **Tools | Create Backup** in SIMS System Manager. A user with Level 4 or 5 access rights can carry out the backup. The backup is created on the SQL Server, not the workstation, unless these are one and the same.

NOTE: This backup routine creates a backup of the current database. Where multiple databases are accessed using FDS, these databases will need to be backed up individually.

This backup does not back up the master database, i.e. it does not back up login details. For this reason, this routine is not designed to replace your regular scheduled backups.

1. Select **Tools | FMS Transactions Backup**.
 2. A confirmation dialog is displayed. Click the **Yes** button to carry out the backup.
-

NOTE: If there is not enough disk space to carry out the backup, a message is displayed and the backup aborted.

3. Once complete, an information dialog is displayed stating the filename and location on the server. The naming convention is similar to that described in *Backup File Naming Conventions* on page 18. Backup files will be saved in the Microsoft SQL Server backup folder, e.g. \Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Backup.

An audit trail message is recorded stating that the FMS Transactions Backup completed successfully. This will be written in the lowest open year with a status of Started or Not Started.

The backup can be restored using the `/restoreui` command line through the SIMS Database Attachment Utility or by appending `/restoreui` to the shortcut 'Target', e.g. "C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Binn\FMSSQL\DBAttach.exe" /restoreui. However, the .bak file must first be extracted from the zip file, as otherwise it will not be recognised by the restore routine.

NOTE: When extracting the backup file from WinZip, you can specify the location that the bak file will be saved to. However, whichever location is chosen, the following folders will be added to the path. ... \C_\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\backup. When restoring this backup, you will need to navigate through these folders to select the bak file to be restored.

To extract to the same folder as the zip, in the **Extract** dialog, deselect the **Use folder names** check box and put a full stop in the **Extract to:** field.
