

# Running SIMS Patches and SQL Maintenance Tasks

#### **Summary**

This document explains and helps customers improve the speed and reliability of SIMS and FMS by running regular SIMS patches and optional SQL maintenance tasks. Microsoft SQL Server can be a complex technology and this document does not look to replace any Microsoft SQL Server Best Practice recommendations.

If you are not confident in running a SIMS or FMS patch or using SQL Management Studio please contact your local SIMS Support team for help and advice.

This document is suitable for both **Microsoft SQL Server 2012** and **Microsoft SQL Server 2014** database engines.

**IMPORTANT NOTE:** Maintenance Tasks can only be created and managed on Microsoft SQL Server Standard or higher; they cannot be created if you're using Express SQL installations.



### **Guidance for Schools**

The simplest approach for improving the speed of SIMS or FMS, is to manually run the following SQL performance improvement patches on a regular basis. These patches can be run using either the dbUpgrade tool or SOLUS<sup>3</sup> and obtained through the service desk.

Action	Description	Frequency
SIMS Patch ID 22573 FMS Patch ID 22789	Rebuilds the database indexes and improves performance.	Once a term
SIMS Patch ID 20647 FMS Patch ID 22788	Recreates the database statistics and improves performance.	Once a term

**WARNING:** Please be aware it is recommended to run these patches out of normal working hours as they can take a long time to complete.

# When else should you run the performance improvement patches?

You may also wish to consider running the performance improvement patches after these events:

- after you have changed the SQL compatibility mode.
- after you have moved a SIMS or FMS database to a new server or SQL instance.



# Guidance for support teams

As well as the performance improvement patches we recommend for individual schools, SIMS Support teams may also wish to run additional maintenance tasks to optimise their SQL databases; this includes customers who centrally host SIMS or FMS databases.

Action	Description	Frequency
Run Database Integrity SQL server command	Checks the database integrity for issues and errors.	Once a term
Run Clean-Up Tasks SQL server command	Removes older files as specified.	Once a term

# **Appendix**

#### Resources

Description	Resources
Installing Microsoft SQL Server 2014	https://msdn.microsoft.com/en- US/library/bb500395(v=sql.120).aspx
Microsoft SQL 2012 Best Practice Analyser	https://www.microsoft.com/en- gb/download/details.aspx?id=29302



#### Creating a Maintenance Plan using SQL Management Studio

- On the Microsoft SQL Server (or a workstation with Microsoft SQL Management Studio 1. installed), Log in to your SQL instance as a System Administrator.
- Once logged in, open the Management folder, and right click on Maintenance Plans, 2. followed by Maintenance Plan Wizard.
- The following screen will be displayed, press **Next** when you're ready. 3.

Maintenance Plan Wizard			
	SQL Server Maintenance Plan Wizard		
	This wizard helps you create a maintenance plan that SQL Server Agent can run on a regular basis. With this wizard you can perform routine database administration tasks such as: • Check database integrity • Perform index maintenance • Update database statistics • Perform database backups This wizard will create maintenance plans that can be edited in SQL Server Management Studio. Edit maintenance plans to add new tasks or define workflow among the tasks.		
	Do not show this starting page again.		
Help	< Back Next > Finish Cancel		

You will need to name your Maintenance Plan something relevant for future reference. 4.

🛐 Maintenance Pla	n Wizard	_ 🗆 ×
Select Plan Pl How do you war	roperties It to schedule your maintenance tasks?	
Name:	SIMS Maintenance Plan	
Description:	SIMS Maintenance Plan	*
Run as:	SQL Server Agent service account	<u>v</u>
<ul> <li>Separate scheo</li> <li>Single schedule</li> </ul>	lules for each task for the entire plan or no schedule	
Schedule: Not scheduled (On De	emand)	Change
Help	< Back Next > Finish	Cancel



5. By default, the **Maintenance Plan Wizard** will assume no schedule, and an On Demand task only. If you want to change this, please click **Change**, and adjust the schedule accordingly.

🗰 New Job Schedule	_ 🗆 ×
Name:	SIMS Maintenance Plan Jobs in Schedule
Schedule type:	Recurring  Fabled
One-time occurrence	
Date:	20/02/2017 Time: 17:01:48
Frequency	
Occurs:	Weekly
Recurs every:	1 • week(s) on
	🗖 Monday 🗖 Wednesday 🗖 Friday 🗖 Saturday
	🗖 Tuesday 🗖 Thursday 🔽 Sunday
Daily frequency	
<ul> <li>Occurs once at:</li> </ul>	00:00:00
O Occurs every:	1 🚔 hour(s) 🔽 Starting at: 00:00:00 😤
	Ending at: 23:59:59
Duration	
Start date:	20/02/2017 🔽 C End date: 20/02/2017 🔽
	No end date:
Summary	
Description:	Dccurs every week on Sunday at 00:00:00. Schedule will be used starting on 20/02/2017.
	OK Cancel Help

6. Next, select the type of maintenance task(s) you require. As an example, we recommend the following; Check Database Integrity, Reorganise Index, Rebuild Index, Update Statistics, and Maintenance Cleanup Task.

🛐 Maintenance Plan Wizard	_ 🗆 🗵
Select Maintenance Tasks Which tasks should this plan perform?	· Ju
Select one or more maintenance tasks:	
Check Database Integrity	
Shrink Database	
Reorganize Index	
Clean Lie History	
Execute SQL Server Agent Job	
Back Up Database (Full)	
Back Up Database (Differential)	
Back Up Database (Transaction Log)	
Maintenance Cleanup Task	
(i) The Check Database Integrity task performs internal consistency checks of t	be data and
index pages within the database.	
·	
Help < Back Next > Finish	Cancel



- 7. On the next screen, you can change the order of the tasks, but we recommend leaving this as default, so click **Next** again.
- 8. The following screen will allow you to select which database(s) to run the first maintenance task against. Please select '**These databases**:' and then only tick your SIMS and FMS databases.

🛐 Maintenance Plan Wizard				
Define Database Che Configure the maintenance t	<b>ck Integrity Task</b> <sup>ask.</sup>			A.
<u>D</u> atabases:	<select more="" one="" or=""></select>			
Include indexes				
Schedule:				
Not scheduled (On Demand)				<u>C</u> hange
Help	< Back	Next >	Finish >>	Cancel //

9. Once all maintenance tasks have been configured, you can then choose to have a text file report of the Maintenance Plan upon completion, or have it emailed to you. This is your preference if you wish to have either of these enabled. Once completed, please click **Next**.

🛐 Maintenance Plan Wiza	ard	
Select Report Opt Select options for savin actions.	ions g or distributing a report of the maintenance plan	· Ju
✓ Write a report to a text fill	e	
Folder location:	D:\SQLDatabases\MSSQL11.MSSQLSER\	/ER\M:
🔲 E-mail report		
To:	ITOV Monitor	Ŧ
Help	< Back Next > Finish >>	Cancel



10. This is the final screen for setting up a Maintenance Plan. It provides you a summary of what you're setting up, and allows you to review the configuration. If you're happy with the configuration, click on **Finish**.



You have now successfully setup a scheduled, or on demand Maintenance Plan. This can be modified, or reviewed at a later date if necessary from within the Maintenance Plan folder that you right clicked at the beginning of this guide.