As databases grow larger, it is important to perform routine maintenance tasks to maintain and improve performance.

WhatsUp Gold uses a relational database, Microsoft SQL Server, to store information in tables. This allows for access to the data from any number of standard programs. The customer can easily write their own reports and examine their data in the tables. The use of a standard database technology makes enhancements and maintenance much easier as well.

SQL Server and MSDE

WhatsUp Gold can be used with either Microsoft SQL Server, or with the free MSDE version of SQL Server. MSDE is limited to 2 GB of database size, and can address a maximum of only 2 GB of physical memory (RAM). Also, Microsoft inserts "sleeps," or a "governor," in MSDE to slow down processing when more than five user connections (and three system connections) are being used at the same time. These restrictions do not seriously limit the performance of WhatsUp I databases under Gold SDE for most small- and medium-size networks.

For more information on procedures to improve the performance of WhatsUp Gold, see the Knowledge Base (KB) article, "Performance Issues with WhatsUp Professional," found at http://support.ipswitch.com.

Monthly Database Maintenance Tasks

As with any database, Microsoft SQL Server or MSDE require regular routine maintenance to spot problems and ensure maximum performance. The KB article, "WhatsUp Professional – Recommended Monthly Database Maintenance Tasks," describes how to create a batch file of commands that can be run as needed, or on a schedule. These commands are also available in the WhatsUp Gold Database Tool. The commands listed are:

DBCC SHRINKDATABASE (WhatsUp) –

Compacts the database to the smallest size it can be. This does not compress the database; it reorders the database to remove areas marked for deletion. The database being shrunk does not have to be in a single user mode; other users can be working in the database when it is shrunk.

EXEC sp_MsForEachTable 'DBCC DBREINDEX ("?","0")' –

Over time, indexes can become highly fragmented, hurting performance. This command rebuilds all indexes for all tables in the database, guaranteeing maximum performance from them. DBCC DBREINDEX is an offline operation. While this operation is running, the underlying table is unavailable to users of the database.

EXEC sp_createstats –

Creates single-column statistics for all eligible columns for all user tables in the current database (columns already having statistics are not touched). Statistics are information that describes the selectivity and distribution of the key values in the index. The selectivity and distribution statistics are used by SQL Server to optimize its navigation through tables, and are used to estimate how efficient an index would be in retrieving data associated with a key value or range specified in a query.

EXEC sp_updates –

Updates the statistical information about the distribution of key values for all tables and indexed views.

EXEC sp_MsForEachTable 'sp_recompile "?" –

Causes stored procedures and triggers to be recompiled the next time they are run. The queries used by stored procedures and triggers are optimized only when they are compiled. As indexes or other changes that affect statistics are made to the database, compiled stored procedures and triggers may lose efficiency. By recompiling stored procedures and triggers that act on a table, you can re-optimize the queries.

DBCC UPDATEUSAGE ('WhatsUp') –

Reports and corrects inaccuracies in the *sysindexes* table, which may result in incorrect space usage reports by the *sp_spaceused* system stored procedure.

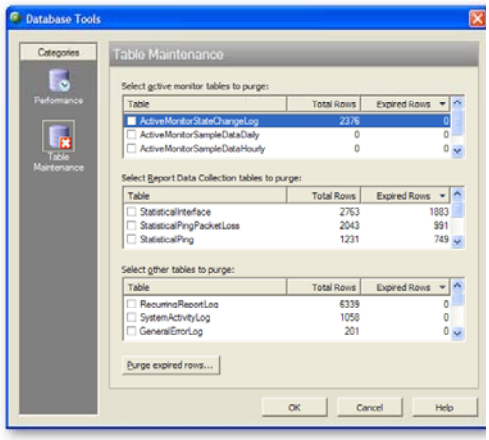
EXEC sp_cycle_errorlog –

Closes the current error log file and cycles the error log extension numbers just like a server restart. The new error log contains version and copyright information and a line indicating that the new log has been created. This improves efficiency in cases where the error log has grown very large.

WhatsUp Gold Database Tools

Some of the tasks listed above can be executed manually from Database Tools under the WhatsUp Gold Tools menu and selecting Database Utilities > Tools. The Performance page can locate and rebuild the indexes that are the most fragmented, validate and shrink the database, and update statistics and usage information.

The Maintenance page allows you to manually purge database records that have been scheduled for deletion, but which have not yet been deleted, which can reduce the size of the database.



Database Tools

Database Backups

WhatsUp Gold uses SQL Server's "Simple Recovery Model," because Simple Recovery requires the least administration. In the Simple Recovery Model, data is recoverable only to the most recent full database or differential backup. Transaction log backups are not used, and minimal transaction log space is used: after the log space is no longer needed for recovery from a potential server failure, it is reused.

When using Simple Recovery, the backup interval should be short enough to prevent the loss of significant amounts of data.

Automated Backups

To automatically make a complete backup of your database, you can setup a scheduled task that calls a batch file. In the batch file, execute the following command:

OSQL -E -n -D WhatsUp -Q "BACKUP DATABASE WhatsUp TO DISK = 'drive:\path\WhatsUp.dat' WITH INIT"

The batch file should be located in the MSDE program installation directory. The default location is **C:\Program Files\Microsoft SQL Server\80\Tools\Binn**.

For an example: To place the backup in **C:\Program Files\Microsoft SQL Server\MSSQL$WHATSUP\Data**, the batch file contains:

OSQL -E -n -D WhatsUp -Q "BACKUP DATABASE WhatsUp TO DISK = 'C:\Program Files\Microsoft SQL Server\MSSQL$WHATSUP\Data\WhatsUp.dat' WITH INIT"

Note: This process overwrites any data in an existing whatsup.dat.

More Information

For more information about how to use WhatsUp Gold, refer to the User Guide, and the WhatsUp Gold online help. Both are great resources for configuration and solution information.

IPSWITCH WhatsUpGold Standard Edition v.11