SYSPRO 8

MRP Requirements Calculation Temporary Scratchpad

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SYSPRO Help and Reference

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MRP Requirements Calculation

The SYSPRO MRP Requirements Calculation process gathers supply and demand from many source modules and, based on the configured rules, uses a netting-off process to determine time-phased requirements. Where shortages exist, appropriate buying and manufacturing rules are applied to create suggested purchase orders or jobs to fulfil the shortages. This is performed iteratively through all levels until all shortages have been managed.

During the netting-off phase a large amount of temporary data is generated – especially where there are many supply and demand items from the source modules, or where complex rules are used to generate suggestions, or where your bills of material have many levels etc.

Important: From SYSPRO 8 2020 R1 the MRP Calculation has been further SQL Optimized so that you no longer require to use the temporary scratchpad stored in the snapshot folder. You should deselect the processing option **Run Calculation in Legacy mode** to take advantage of this optimization. Only if you use the Legacy mode is the remainder of this document valid.

The SYSPRO MRP Requirements Calculation uses the file system for 'temporary scratchpad' storage when working in 'Legacy mode'. The temporary scratchpad also contains snapshots of selected source data.

The file system is used for the following reasons:

- The temporary scratchpad data does not need to be managed transactionally – i.e. there is no requirement to recover partially generated calculations in the event of a system failure (such as a disk crash). It's a simple case of restarting the requirements calculation process.

- If we were to store temporary scratchpad data in the database, SQL Server still outputs transaction logs for all changes to the temporary data as this is the method that SQL Server uses to ensure that the database (even if temporary in nature) has complete data integrity. This is not a requirement for the temporary scratchpad data.

- In practice, using SQL Server to store large amounts of temporary scratchpad data significantly reduces performance as extremely large transaction log files are generated during the requirements calculation process.

MRP Suggestions and the use of BULK INSERT

During the netting-off phase, suggested purchase orders and jobs are also generated and stored in the temporary scratchpad.

Once the netting-off phase has completed, these suggestions are migrated into SQL Server tables using the SQL Server BULK INSERT statement.

The BULK INSERT statement provides excellent performance, partly as it does not write to the SQL transaction log. Even when you have a very large number of suggestions the BULK INSERT logic provides excellent performance.

Size of Temporary Scratchpad Files

In SYSPRO 8 the default size of each temporary scratchpad file is 4 GB. This is suitable for many companies running the MRP Requirements Calculation.

However, in some cases one or more of the temporary files being created may exceed this size. In which case you can increase the maximum temporary file size to 256 TB – at which point disk space limitations will usually become the limiting factor.

Setting the Maximum Temporary Scratchpad File Size to 256 TB

Create a plain text file using a text editor (such as NOTEPAD) in the `SYSPRO BASE` folder named:

    _large_mrp_temp.txt

This file does not have to contain any specific content – just the existence of the file will cause the MRP Requirements Calculation to support very large temporary scratchpad files.

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