



M3 BE 15.1.x Administrator's Guide for Auto Start Jobs and Subsystems

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Version Log

Doc version	Release Date	Description
1.0	March, 2015	New doc based on older docs with the same title. The described functionality is applicable from M3 Business Engine 15.1.x.

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Introduction

This document is intended for those who manage the subsystems and the auto start jobs. It describes the programs and methods used to manage auto start jobs (ASJs) in M3 Business Engine.

The subsystem management programs are used for auto start jobs only. An auto start job is a batch job doing repetitive work or one-time initialization work. Defined auto start jobs are automatically started each time the ASJ subsystem is started. M3 contains a number of predefined auto start jobs. It is possible to run parallel auto start jobs.

The document "M3 Business Engine Auto Start Job Descriptions" available in M3 BE User Documentation Infocenter describes all auto start jobs. It also contains a table with dependencies and other comments about the auto start jobs.

Authorities for subsystems

It is recommended to let only few users have access to the programs that are used to maintain the subsystems. This means that the following programs should be provided with restricted access:

- 'Subsystem. Open' (MNS050)
- 'Subsystem Job. Open' (MNS051)

For further information about security, see the document "Function Security", available in M3 BE User Documentation Infocenter.

Auto start job subsystems

The subsystems used for auto start jobs are managed in one program, 'Subsystem. Open' (MNS050). The jobs in a subsystem can be started and stopped from the Management Pages, or via 'Subsystem Job. Open' (MNS051). Start and stop from Management Pages is described below. Start and stop via (MNS051) is described in section "'Subsystem Job. Open' (MNS051)" on page 6.

Start and stop the jobs in subsystem from Management Pages

When you start jobs from server view with program CSRVASJ, you start all subsystems entered in (MNS050) and their underlying auto start jobs, defined in (MNS051).

Run program CSRVASJ from the Management Pages to start new, previously stopped or un-started auto start jobs. Jobs already started are not affected by CSRVASJ. If the subsystem is down completely, you must run CSRVASJ as type "Autojob" from the Management Pages, to start the subsystem.

CSRVASJ starts the jobs specified by 'Subsystem. Open' (MNS050) and 'Subsystem Job. Open' (MNS051). These jobs are run for the user, company, division and system language specified in these two programs.

If you, for example, want to run a batch job with no use of auto start jobs, you have to shut down the subsystem for auto start jobs and then start CMNGJOB (manager of submitted jobs) in the Management Pages.

To shut down an auto start job, navigate to the Management Pages and select shut down (for example) Subsystem:A

This stops all auto start jobs that are defined in 'Subsystem Job. Open' (MNS051) for the subsystem.

Auto start job names must be unique

The Management Pages displays all jobs for all subsystems. If, for example, there are two subsystems created in (MNS050); ASJ and TST, you must have unique IDs for the connected jobs.

For example, if subsystem ASJ has job MMS901, subsystem TST must have a unique ID for this job, for example MMS90101. All jobs must have unique IDs, even if they belong to different subsystems.

'Subsystem. Open' (MNS050)

Panel B displays the subsystem. ASJ is the only valid subsystem type. Use option 1='Create' to create a new subsystem.

Use related option 11='Job in subsystem' on a subsystem record to see the connected jobs in 'Subsystem Job. Open' (MNS051).

Panel E contains the detailed information about the subsystem. The 'Delay' field specifies the default delay in seconds that a job "sleeps" between iterations. The value is normally 60 seconds.

The 'User' field displays the ID of the user that usually starts the subsystem and runs the jobs. This setting can be overridden by entering a user in 'Subsystem Job. Open' (MNS051). The value is normally M3. The user value can define different configurations per user in (MNS100/L) (retrieved from (MNS102), (MNS104)). If you have different system configurations, then there will be different subsystems with their jobs. If you have the same system configuration there will be one subsystem.

'Subsystem Job. Open (MNS051)

Panel B displays all the jobs in the subsystem and enables you to add new jobs. You can select F14='Crt standard' to automatically create the default set of jobs, or you can select option 3='Copy' to manually create the jobs.

Option 11='Sel records' displays 'Subsystem Job. Select Records' (MNS052), where you can select specific jobs to be included.

F14= 'Crt standard' creates the standard auto start jobs. This function creates all auto start job for one subsystem. If you want to create auto start jobs connected to another subsystem, you must select option 3= 'Copy', in front of the current job.

F19 = 'Start all' starts all jobs in (MNS051). If there are several subsystems in (MNS050), this function starts all jobs for all subsystems.

F20 = 'End all' ends all jobs in (MNS051). If there are several subsystems in (MNS050), this function ends all jobs for all subsystems.

Option 9 = 'Start job' starts the selected job.

Option 10 = 'End job' ends the selected job.

Note: The tasks of starting and stopping jobs can also be done from the Management Pages.

The 'Status' of a job has the following valid values:

- 10 = Preliminary
- 20 = Definite
- 90 = Blocked/expired.

Note: Only jobs with status 20 will run when the subsystem is started.

The 'Delay' field shows the time, in seconds, that elapses from when the job has stopped processing units of work until it should start again. The processing stops when there are no more units of work to process. The delay time entered in 'Subsystem Job. Open' (MNS051) does not affect the batch job manager, CMNGJOB. That time is set in the M3 properties file.

When the auto start job is activated by a work file, the delay starts to look for new data when the queue does not contain any more records, that is, when the 'No rec' field is equal to 0.

When the auto start job is activated by a transaction file, the delay starts to look for new data after all transactions are run and updated.

The 'File' field defines the work file that activates the auto start job. If this record is blank, the auto start job is activated by a transaction file.

The 'No records' field shows the number of records that are queued and waiting to be processed by the auto start job.

The 'Active' field shows if the job is active and in use. Only jobs with status 20 can be active. However, jobs with status 20 can also be inactive for certain reasons.

The 'Select/Omit' (S/O) field shows if a record is selected with option 11='Sel records' to be displayed in 'Subsystem Job. Select Records' (MNS052), where you can restrict the jobs to be included. For some auto start jobs, a subset of units of work can be selected by using 'Subsystem Job. Select Records' (MNS052). This is useful when more than one instance of a job is needed to increase throughput. For example, one job processes units of work for company 001 and another job processes units of work for company 999.

The 'Active change rate' field is updated from the Management Pages. It displays how active the job is during a period of time. In the Management Pages in a subsystem, you can see that every

auto start job has a status. Possible statuses are SLEEP (a number of seconds), CHAIN (logical file), READ, READ_LOCK, or CONNECTING TO SUPERVISOR. All status changes do not require the same amount of time; for example, SETLL requires almost no time, while a READ_LOCK can take a few seconds. Therefore, the change rate is not an absolute measure of how fast a job is running. It only indicates the frequency of activity in a job.

In (MNS051/E), the following fields are displayed:

- Program - The program that controls the job.
- Delay - See above
- File - See above
- Company, Division – The company and division for which the job is run. If company is not specified here, the default company and division for the user specified in the 'User' field will be used. If no user is specified in the 'User' field, the default company and division for the user entered in 'Subsystem. Open' (MNS050) will be used.
- System Language - The system language for which the job is run. If system language is not specified here, the default system language for the user entered in the 'User' field will be used. (If the user is not connected to a system language, the job will be run with the language of the program.)
- User – The user for which the job is run. If no user is entered here, the job is run for the user entered in 'Subsystem. Open' (MNS050).

How to create auto start jobs connected to another subsystem

You must manually copy/create all jobs to be connected to another subsystem. F14 = 'Create all' only creates jobs for the first subsystem.

Follow these steps:

1. Select option 3='Copy' for the job to be copied/created.
2. On (MNS051/C), you must give the job a unique name. Specify the new subsystem ID. For example: copy MHS855 from subsystem ASJ to subsystem TST. Then you can name the job MHS85501 and select TST in the subsystem field.
3. On the (MNS051/E) panel, the applicable values are retrieved. You can also enter 'User', 'Company' etc.

Selecting records for auto start jobs

For some of the auto start jobs, a subset of units of work can be selected via 'Subsystem Job. Select Records' (MNS052). This is useful when more than one instance of a job is needed to increase throughput. For example, one job processes units of work for company 001 and another job processes units of work for company 999.

The selection is performed in 'Subsystem Job. Select Records' (MNS052). On panel B, enter the conditions for the records to be selected.

The 'Select or omit records' (S/O) field indicates if a record is to be selected. 'Select' = Select the records that have field values within (or equal to) the following values. 'Omit' = Omit the records that have field values within (or equal to) the following values.

The 'Selection 1' field shows the lowest and highest value in the current field in order for the record to be selected or omitted for the job. The field can for example contain the value Company.

The 'Selection 2' field shows the lowest and highest value in the current field in order for the record to be selected or omitted for the job. The field can for example contain the value Warehouse.

The following rules apply to the conditions specified in this panel:

1. If nothing is entered in the S/O field, S=Select is used as default value.
2. If at least one of the entries in the S/O field is O=Omit, everything else is selected.
3. If at least one of the entries in the S/O field is S=Select, everything else is omitted.
4. The specified conditions are evaluated from the top and downwards. When a condition is met, no more conditions are evaluated. This is further described by the examples below.

Example 1

Scenario: Select Company 100-110. Omit company 105.

Result: If the current company is 105, it will be selected since the first condition is met. (The second condition is not evaluated.)

Example 2

Scenario: Omit company 105. Select company 100-110.

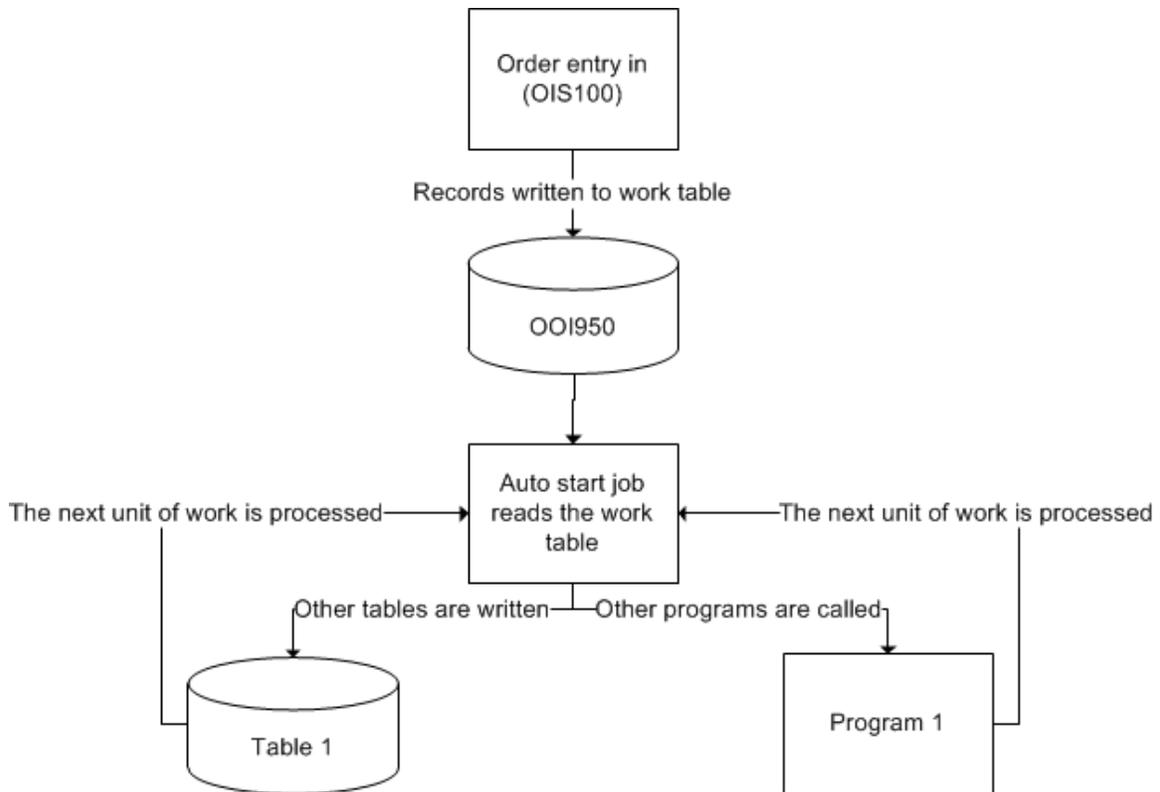
Result: If the current company is 105, it will be omitted since the first condition is met. (The second condition is not evaluated.)

Auto start jobs

The M3 auto start job subsystem has a number of predefined jobs that are performed according to the settings in the subsystem maintenance programs described in this document. The predefined jobs can be used for purposes such as:

- Allocating order lines
- Rescheduling manufacturing orders
- Processing and printing picking lists
- Printing order confirmations
- Releasing stock locations
- Updating transaction history

The units of work, e.g. records to be processed, are stored in queues within work tables until the corresponding auto start job has processed them.



When for example customer orders are entered, records are created and stored in the work table. The auto start job continuously monitors the work table and processes the records.

In the auto start job functionality for M3 Business Engine, it is possible to run parallel jobs against a work table to consume the queue faster. As an alternative, you can set priorities in 'Subsystem Job. Select Record' (MNS052).

Subsystem control

The following properties describe the auto start jobs:

- Job start - The auto start jobs are automatically started each time the subsystem is started. When the subsystem is active, the auto start job functionality is active and works as described in the figure above.
- Inactive subsystem - Even when the subsystem is not active, the necessary records are written to the work tables. When the auto start jobs are started again, all records are processed. The records are sorted according to the first in, first out principle. It must be observed, however, that when the subsystem is down, certain data, (for instance available to promise), may not be completely up to date.