software AG

Entire Operations

Release Notes

Version 5.4.2

April 2015

Entire Operations

Table of Contents

Preface

This document supersedes and replaces the Release Notes for the product Entire Operations Version 5.4.1.

Update Information

The following modifications and/or amendments to this document have been done after the release of Entire Operations Version 5.4.2:

The section *Migrating from Previous Versions* has been modified.

This document is organized under the following headings:

●	**Introduction**
●	**Prerequisites for Mainframes (NOP)**
●	**Prerequisites for UNIX (NOP)**
●	**Prerequisites for Entire Operations GUI Client (OGC)**
●	**Special Considerations**
●	**Platforms and Required Middleware**
●	**Migrating from Previous Versions**
●	**Compatibility and Migration**
●	**Codepage Setting**
●	**Solved Problems**
●	**Changes And Enhancements**
●	**Replaced User Exit Parameter Lists**

1 Introduction

These Release Notes list and explain the enhancements and new features provided with Entire Operations Version 5.4.2. They apply to all of the following supported operating systems, insofar as these operating systems are not dealt with in separate release notes:

- z/OS,
- z/VSE,
- BS2000/OSD,
- UNIX (HP-UX, AIX, Sun Solaris, Linux) and
- Windows (Intel) (managed node only).

2 **Prerequisites for Mainframes (NOP)**

Before you can install Entire Operations on a mainframe computer, the following Software AG products must already be installed at your site:

- Adabas Version 8.x or above,

- Natural Version 8.2 or above; the Natural installation must include the Software AG Editor component;

- Entire System Server Version 3.5 or above;

- Entire System Server Version 2.1.5.1 (UNIX and Windows) or above. Note that you require Entire System Server if you intend to run jobs with job type SAP.

- System Automation Tools (SAT) Version 3.4.3 or above;

- Natural Security (optional);

- Entire Network (optional); this product is required for any kind of multi-CPU constellation where mainframe and/or UNIX and/or Windows partners are involved (non-local);

- EntireX Broker Version 7.2.2 for z/VSE (optional);

- EntireX Broker Version 9.x for z/OS (optional);

- EntireX Broker Version 8.1.1 for BS2000/OSD (optional);

- This product is required for any kind of multi-machine constellation, if one partner is a UNIX system or Windows or different UNIX systems are involved. EntireX Broker is not required, if you are running Entire Operations on a UNIX or Windows platform and controlling the job networks on a mainframe system.

- Entire Connection (optional)

  This product is required for importing or exporting data from or to a PC file or a Natural work file on a PC.

The installation procedure for Entire System Server is described in the Entire System Server Installation and Customization Documentation.

The installation procedure for SAT is described in the System Automation Tools Documentation.

3 Prerequisites for UNIX (NOP)

Before you can install Entire Operations on a UNIX system, the following Software AG products must have been installed at your site:

- Natural for UNIX, version 8.3.3 or above;
- Adabas for UNIX, version 6.3 or above.

With Entire Operations 5.4.2 the following products will be installed automatically:

- Entire System Server for UNIX (NPR) 2.1.5.1 or above
- System Automation Tools (SAT) version 3.4.3 or above;
- EntireX Libraries 9.7 or above.

4 Prerequisites for Entire Operations GUI Client (OGC)

Entire Operations GUI Client Version 5.4.2 requires the following products:

- Natural for Windows Version 8.3.3 or above. You can use either Natural Development version or Natural Runtime.
- Entire Operations Server Version 5.4.2.
- EntireX 9.x or above (optional).

5 Special Considerations

DBID 148 is reserved for Entire System Server and must not be used for any data base.

6 Platforms and Required Middleware

The following products are required to connect the individual platforms:

Online System / Monitor	Job Execution	Connection / Products
mainframe	mainframe (local *)	none
mainframe	other mainframe	Entire Net-Work
mainframe	UNIX	EntireX Broker
mainframe	Windows	EntireX Broker
UNIX	UNIX (local *)	none
UNIX	other UNIX	EntireX Broker
UNIX	Windows	EntireX Broker
UNIX	mainframe	Entire Net-Work

* *Local* means that the Entire Operations online system is installed on the same machine on which jobs are executed.

Combinations are also possible. For example, if you want to install the Entire Operations online system on one mainframe and execute jobs on another mainframe and another UNIX or Windows machine, you would need:

- Entire Net-Work (one for each system to be connected) for connecting to the other mainframe and to UNIX or Windows, and
- EntireX Broker (on one system) for connecting to UNIX or Windows.

7 Migrating from Previous Versions

This migration steps described in this section are only required if you migrate data from an Entire Operations Version earlier than Entire Operations Version 5.4.

Migration of Data

To migrate data from Entire Operations Version 5.3.1 to Entire Operations Version 5.4, perform one of the following steps:

- Unload the old database files and fill the new database files using the Import/Export Utility.

  or

- Adapt the old Entire Operations System File 1 for use with Entire Operations Version 5.4.2. Some data fields have larger field lengths and some descriptors have been released or added. This update is **not** upwardly compatible to Entire Operations versions below Version 5.4.2.

  If you want to keep your log data: Adapt the System Automation Tools log file for use with System Automation Tools Version 3.4.3. A field was added. This update is upwardly compatible to System Automation Tools versions below Version 3.3.1 and Entire Operations versions below Version 5.4.1.

  or

- On UNIX: If the necessity for the migration is identified, it is performed automatically within the guided installation.

The Entire Operations log file (System File 2, System Automation Tools log file) remains in the same format.

> **Note:** Direct migration from versions earlier than Entire Operations Version 5.2.1 is possible via the Import/Export Utility only.

8 Compatibility and Migration

Previous Versions

With the release of Entire Operations 5.4.1, versions 5.3.1 and below are no longer supported. We, therefore, strongly advise you to switch to the current version at your earliest convenience.

API Versions

The API versions remain the same as in Entire Operations 5.3.1.

> **Notes:**

1. Fields which were marked "for future use" in a previous NOP version, might have become meaningful.

2. Parameters with names like …`-NETWORK-VERSION` or …`-SYMTAB-VERSION` became meaningful starting with Entire Operations 5.4.2. Please refer to the descriptions of *Versioning of Job Networks* and *Versioning of Symbol Tables* in the *Entire Operations Concepts and Facilities* documentation.

3. For several API's, new return codes were added. Please check the description of the *API Routines* in the *Entire Operations Users Guide* documentation.

Only the latest versions of APIs should be used for new development. These are documented in the section *API Routines*. Starting with the next Entire Operations version, older APIs will be supported for the two previous versions only. The existence of an older API module in the SYSEOR library does not imply that it would still be supported. Most API routines contain a version number as the seventh character of their name.

For example, in this Entire Operations version the Log API is NOPULW*9*N. The previous version NOPULW*8*N will still be supported.

Data Migration

The data migration from version 5.4.1 to version 5.4.2 is being performed as part of the migration process.

The data migration can be run any time manually, using a Natural batch JCL:

```
LOGON SYSEOR
DMDRIV-P
FIN
```

Internal control records prevent repeating of already completed migration steps.

9 Codepage Setting

It is recommended to run the Natural environments for the NOP Monitor, for the NOP character interface, and for the NOP RPC server with activated codepage support. Please refer to the Natural parameter `CFICU` and `CP`.

Reason is that NOP, user-defined exits and Macro JCL then can use the Natural system variable `*CODEPAGE` to determine exactly the code page in effect. So they will be able to perform correct code page translations, e.g. by the Natural `MOVE ENCODED` statement.

The NOP monitor tasks log the current codepage setting during startup. In the NOP character interface, the current codepage setting is shown by the `TECH` direct command.

When using the `CFICU` and `CP` parameters, they must be set to the same values for the NOP Monitor, for the NOP character interface, and for the NOP RPC server.

10   Solved Problems

All solved problems of version 5.4.1 up to the cumulate fix 02 are included in this release.

11 Changes And Enhancements

> 📄 **Note:** This section covers the following topics, and are valid for versions 5.4.1 and 5.4.2:

Network Versioning and Symbol Table Versioning

Starting with Entire Operations 5.4.2, network versioning and symbol table versioning is fully supported. Please refer to the *Entire Operations Concepts and Facilities* documentation for detailed information.

New System File – Accounting Data separated from Log File

Starting with Entire Operations 5.4.2, the accounting data will be stored in a new separate system file. Prior to Entire Operations 5.4.2, the accounting data were stored in the log file.

The extraction of accounting data from an existing log file, and their storage into the accounting file is part of the **data migration** from Entire Operations 5.4.1 to Entire Operations 5.4.2.

New UNIX Installation Routine

A new UNIX installation is introduced. Please refer to the section *Installing Entire Operations on UNIX* in the *Installation and Setup* documentation for detailed information.

Other Changes

In addition to the above changes, the following features were added, and issues were solved:

- Bulk execution of MACRO command
- NOP Log Performance improvement and Deletion of symbol table needs long time
- z/OS, JES2 1.13 ff. - extend Spool Class to 8 bytes
- NOP Log access rights – CUI
- Symbol Table Activation Mode as NOP Default
- Concurrent Editing of Active JCL
- Node Name and Broker ID - Length Extension
- z/OS - Support for increased SYSOUT data set numbers in SPOOL-FILES, READ-SPOOL and CONSOLE-LOG
- Detect empty files to be passed to NOM
- Comment field too short
- User setting: Prefix log messages by message code

- Switch for Step Level Accounting
- Increase Number of Symbol Tables in Network Activation
- Separate Accounting Data from Log File
- Input condition dependency from Symbol vs. predefined Symbols
- Log data display and printing: show 1/10 seconds
- Restrict number of versions for networks and symbol tables
- Global network version name check exit
- Network versioning: Mass update function to set the (initial) version
- Email sending: Job result line missing
- Resource checking in large networks
- NSC checking by API NSCLI: support of private libraries
- Switch: Set 'job not ok' conditions, if any end-of-job action was not ok (e.g. to catch error ESY5530 during end-of-job action)
- Re-activation (V) of a job contained in a subnetwork: A symbol defined for the calling job is not found anymore
- OGC: List active jobs - Waiting for an event
- Monitor task wait time API
- Keep Owner for 'NxtSt'
- Set event JNR 'Job not run - JCL error' for symbol replacement errors at submission time
- Task reconfiguration executed immediately after changes
- Windows PowerShell job type
- Compare network versions
- Compare symbol table versions
- Show subcode for EOR8680 messages with error numbers 3xxx
- Schedule modification - invocation from network maintenance
- Global Messages for Events, for Node Error, BS2000 Sysout Browsing
- Function that lists the objects referenced but not defined
- Show Unix HOSTNAME resp. Windows COMPUTERNAME in output protocol of jobs submitted by NOP by enhancing the script
- Reserved Symbols P-JCL-FILE, P-JCL-MEMBER
- z/OS: Retry spool reading in case of incomplete sysout
- NOPLP01P only gives the 1st sysout of a Cyclic job
- No prerequisite check after JCL load
- Recovery Job - problems with multiple jobs starting a recovery job
- NOP CUI: Allow deletion of multiple input conditions
- Networks activated and ran multiple times
- Network name "*" and condition "*" can be defined in active conditions and in active condition deletion
- Job definition - suffix symbol definition - wildcard handling, existence check during activation
- JCL Load - File not found, if built-in symbol P-JOB in file name, and if job is a multiple job
- Unix file deletion performance improvement
- Symbol API: Escape character for recursive replacements
- At deactivation of a multiple recovery job, more than the job's own active symbols are deleted
- NOP reconnect after ADABAS Response Code 224 Subcode 272
- Job performs prerequisite check, although it was set to 'hold' before

- Unix and Windows sysout file names should contain the repeat count (P-REPEAT); P-SYSOUT correction for repetitions and cyclic jobs
- Network sporadically starts jobs without prerequisite check before earliest start time defined
- Start time modification issue
- Export / import user - GUI attributes missing
- Error handling for non-existing reserved symbols
- Macro TEST command generates wrong symbol content
- Suffix Symbol for multiple job activation is not found, if it resides in the <owner>/A symbol table

Bulk execution of MACRO command

Please refer to the description of the batch utility *MAC-GE-P* in the *User's Guide* documentation.

NOP Log Performance improvement and Deletion of symbol table needs long time

Some new descriptors have been added to positive impact the response time when reading or deleting NOP data.

z/OS, JES2 1.13 ff. - extend Spool Class to 8 bytes

For further information see *Monitor Defaults* in the *Entire Operations Administration* documentation.

NOP Log access rights – CUI

For security reasons, for users of type 'G' (general user) the flag 'Log Display' in the sub menu 'Monitoring' of the user profile will be extended by the values O = restrict to Owner and L = restrict to Owner and Owner list.

Symbol Table Activation Mode as NOP Default

The symbol table activation is definable as a system-wide default.

The new system wide default is used for new network definitions, and for networks, which have no explicit definition for the symbol table activation mode

Object locking remnants will be removed by the NOP cleanup processing, if they are older than 2 hours.

Concurrent Editing of Active JCL

In case that another user is editing an active JCL, the edit attempt will be blocked with a message like:

```
EOR4022 - Active JCL locked by <user> at 13:59 ↵
```

An user is not allowed to lock the same object more than once (e.g. out of several CUI sessions he started).

The active JCL will be unlocked when the user leaves the edit session.

Node Name and Broker ID - Length Extension

The node name length is to be extended from 16 to 32 bytes. The Broker ID is to be extended from 32 to 64 bytes.

This will allow the handling of lengthy IPv6 Broker ID's.

z/OS - Support for increased SYSOUT data set numbers in SPOOL-FILES, READ-SPOOL and CONSOLE-LOG

The extension requires NPR 3.5.2 or above.

Detect empty files to be passed to NOM

New Global switch 'Pass empty files to NOM (Y/N)' introduced to support write a NOP log message to NOM or just doing a NOP log (warning) message.

Comment field too short

When defining jobs in NOP you can write a comment up to 50 characters.

User setting: Prefix log messages by message code

For better retrieval it is possible to display also the error message in a message line.

For compatibility reasons the functionality is selectable in the user profile.

Switch for Step Level Accounting

A new global switch (default setting) to enable / disable z/OS step level accounting is to be added.

The default is "N" (not enabled).

Increase Number of Symbol Tables in Network Activation

For more flexibility the number of symbol tables for network activation is increased to 100.

Separate Accounting Data from Log File

For performance issues the accounting data are stored in a separate LOG file named `EOR-ACCOUNTING`.

Input condition dependency from Symbol vs. predefined Symbols

For detailed information refer to *Input Condition: Symbol Value* in the *Entire Operations Users Guide* documentation.

Log data display and printing: show 1/10 seconds

The value has been changed for a better precision.

Restrict number of versions for networks and symbol tables

Global network version name check exit

For detailed information see *Global Exit for Version Names* in the *Entire Operation Administration* documentation.

Network versioning: Mass update function to set the (initial) version

Email sending: Job result line missing

Improved the error cause reporting in emails sent by NOP.

Resource checking in large networks

For performance reasons a new switch "passive wake up limit" introduced to limit the number of active jobs to be awaked.

NSC checking by API NSCLI: support of private libraries

Switch: Set 'job not ok' conditions, if any end-of-job action was not ok (e.g. to catch error ESY5530 during end-of-job action)

New Switch: Set "job not ok" conditions, if any end-of-job action was not ok (e.g. to catch error ESY5530 during end-of-job action).

If any end-of-job action fails, the job status will be set to 'not ok', and the conditions defined for 'job not ok' will be set, instead of the conditions defined for 'job ok'.

Re-activation (V) of a job contained in a subnetwork: A symbol defined for the calling job is not found anymore

OGC: List active jobs - Waiting for an event

Corrected status range handling of active jobs in the related OGC server module.

Monitor task wait time API

For detailed information refer to *Display Monitor Task Status* in the *Entire Operations Administration* documentation.

Keep Owner for 'NxtSt'

Set event JNR 'Job not run - JCL error' for symbol replacement errors at submission time

If a symbol replacement error occurs at submission time, the event JNR 'Job not run - JCL error' is set to 'occurred.

For detailed information refer to *Symbol Replacement at Submission Time* in the *Entire Operations Users Guide* documentation.

Task reconfiguration executed immediately after changes

For detailed information refer to *Monitor Defaults* in the *Entire Operations Administration* documentation.

Windows PowerShell job type

Compare network versions

For detailed information refer to *Compare Networks Report* in the *Entire Operations Users Guide* documentation.

Compare symbol table versions

For detailed information refer to *Compare Symbol Tables Report* in the *Entire Operations Users Guide* documentation.

Show subcode for EOR8680 messages with error numbers 3xxx

Schedule modification - invocation from network maintenance

Schedule modification - invocation from network maintenance can now be activated directly.

For detailed information refer to *Schedule Modification and Planned Starts* in the *Entire Operations Users Guide* documentation.

Global Messages for Events, for Node Error, BS2000 Sysout Browsing

Avoid too many node-related global messages and emails.

The NPR errors 509 "ESY5509 Logon failed - check LOGON-ID / PASSWORD" and 510 "ESY5510 Logon required" will no longer be sent as message or email, if their origin is a NOP CUI or OGC user.

This applies even if "Global messages for node errors" is being set.

Function that lists the objects referenced but not defined

There is a new function in the cross reference menu that lists those objects that are referenced by other objects but that are not defined.

For detailed information refer to *List Undefined Objects* in the *Entire Operations Users Guide* documentation.

Show Unix HOSTNAME resp. Windows COMPUTERNAME in output protocol of jobs submitted by NOP by enhancing the script

Reserved Symbols P-JCL-FILE, P-JCL-MEMBER

For detailed information refer to *Predefined and Reserved Symbols* in the *Entire Operations Users Guide* documentation.

z/OS: Retry spool reading in case of incomplete sysout

NOPLP01P only gives the 1st sysout of a Cyclic job

Corrected the replacement of the reserved symbol P-SYSOUT with the name of the current sysout file of an active job.

No prerequisite check after JCL load

JCL loading:

Corrected internal status setting after JCL loading. Mainly affected is the JCL (re-)generation performed by OGC users

Recovery Job - problems with multiple jobs starting a recovery job

Recovery jobs for multiple (parallel) jobs:

To avoid interferences between parallel recoveries for multiple jobs, the suffix appended to the job name of the job to be recovered will be appended to the job name of the recovery job too.

The sum of the lengths must not exceed the maximum field lengths for job names.

Example:

```
Master job = AAAA
Recovery job for AAAA = RCV
Suffix symbol values = 001, 002, 003
```

For this definition:

■ job AAAA001 will be recovered by RCV001,

■ job AAAA002 will be recovered by RCV002,

■ job AAAA003 will be recovered by RCV003.

NOP CUI: Allow deletion of multiple input conditions

Networks activated and ran multiple times

Definition of explicit network schedule dates in NOP CUI:

■ Do not trigger a schedule extraction, if nothing was changed.

Schedule extraction:

■ Avoid multiple activation for the same day, if explicit dates were defined or modified in the network schedule.

Network name "*" and condition "*" can be defined in active conditions and in active condition deletion

Check condition names for new conditions and allow selection of Network when defining active conditions.

Allow global conditions (name starting with "+").

Provide selection list of owners, when owner * is given as mass-deletion parameter.

Job definition - suffix symbol definition - wildcard handling, existence check during activation

The error handling for the case 'missing suffix symbol' was extended and corrected.

JCL Load - File not found, if built-in symbol P-JOB in file name, and if job is a multiple job

The new built-in (predefined) symbol P-JM is being replaced by the master job name, for multiple jobs too.

> **Note:** Always the rule "P-JOB is a concatenation of P-JM and P-SUFFIX" applies.

Since for normal (non-multiple) jobs P-SUFFIX is empty, then P-JOB is equal to P-JM.

Unix file deletion performance improvement

Unix and Windows file deletion, for network and job deactivation:

Avoid unnecessary wildcards in the file specification for the deletion.

> **Note:** The performance improvement will really be in effect, if NPR / Unix 2.1.4.20 or above is being used, due to the related correction NPROS-91.

Symbol API: Escape character for recursive replacements

API NOPUSYxN, function I (recursive symbol replacement):

Corrected the escape character handling.

If the API is being invoked with empty P-JOB, the escape characters cannot be taken from the active job or master job. Instead, the escape characters defined on network level will be used in this case.

At deactivation of a multiple recovery job, more than the job's own active symbols are deleted

Added several checks:

■ Check of concatenated job name length, during normal job activation.

   The resulting length must not exceed 10 characters.

   Otherwise the job activation will be aborted with the error message:

```
EOR0119 - Job name too long: :1: ↵
```

■ Check of concatenated job name length, during recovery job activation.

   The resulting length must not exceed 10 characters.

   Otherwise the job activation will be aborted with the error message:

```
EOR0119 - Job name too long: :1: ↵
```

■ Check of the uniqueness of active job names, during job activation.

   In case of a duplicate job name, the job activation will be aborted with the error message:

```
EOR1074 - Job :1: is already active ↵
```

The job with this job number or operating system name has already been activated. This activation was interrupted.

This may occur also if concatenated multiple job names are not unique.

Example:

Prefix A + suffix 1234, prefix A1 + suffix 234 both result in the active job name A1234.

NOP reconnect after ADABAS Response Code 224 Subcode 272

End-of-job actions:

If the Adabas response code 224 is being returned from Entire System Server (mainframe) during passing of sysout or files to NOM, this case will be handled as a temporary error. The request for passing to NOM will be set into the "passive wait" state, until the ESY node becomes operational again.

Job performs prerequisite check, although it was set to 'hold' before

Corrected status check during revival of jobs passively waiting for a condition.

Unix and Windows sysout file names should contain the repeat count (P-REPEAT); P-SYSOUT correction for repetitions and cyclic jobs

Unix and Windows sysout file name generation:

For uniqueness for repetitions and cyclic jobs, the sysout file name will always contain the repeat count (= P-REPEAT). The repeat count in the file name contains 8 digits, with leading zeros.

For the first (or original submission), the repeat count is zero.

Sysout files will no more be renamed prior to a resubmission, since they are created with unique names now.

Network sporadically starts jobs without prerequisite check before earliest start time defined

More messages are being written to the NOP log now:

■ Prerequisite Check requested (replaces "Prerequisite Check")

■ Prerequisite Check begins

■ Job ready to submit :1:

This shall show more detailed, why and when a job is set into the status "ready to submit".

Start time modification issue

"Next activations" screen, start time modification:

Get the start time from "earliest start" instead of "next action time".

Export / import user - GUI attributes missing

GUI profiles are transferred with user definition.

Error handling for non-existing reserved symbols

Corrected the error detection for missing symbols with prefix "P-".

Macro TEST command generates wrong symbol content

Corrected the symbol search hierarchy for the Macro TEST function.

Suffix Symbol for multiple job activation is not found, if it resides in the <owner>/A symbol table

Multiple symbol for parallel job activation:

The multiple symbol is being searched in the <owner>/A symbol table too, if it could not be found in the symbol table specified in the job definition.

The <owner>/A symbol table is being searched for the symbol table version "(current)".

12 Replaced User Exit Parameter Lists

The parameter list NOPSYP2A has been replaced by NOPSYP3A.