

Entire System Server 3.1.1 Release Notes

These Release Notes provide an overview of all changes for Entire System Server 3.1.1.

This document covers the following topics:

- Support of Previous Versions
 - Prerequisites
 - Restrictions
 - New Features
 - Changes/Enhancements
 - Solved SAGSIS Problems
 - Cancelled Support
-

Support of Previous Versions

Note that with the release of Entire System Server 3.1.1, versions of Entire System Server lower than 2.2.2 can no longer be supported. You are therefore strongly advised to migrate to the current version at your earliest convenience.

Prerequisites

Before you can install the Entire System Server, the following Software AG products must already be installed at your site:

- Natural Version 3.1.3 or above;
- Adabas Version 6.2.1 or above;
- Entire System Server Interface (provided with Natural);
- Entire Net-Work Version 5.4.1 (optional, for multi-CPU Support);
- Predict Version 3.4.2 or above (optional).

The Entire System Server Services are available in any Natural environment that runs any or a combination of the following operating systems:

- OS/390 Version 2.6 or above;
- VSE/ESA Version 1.4.4 or above;
- BS2000/OSD Version 2 or above.

For OS/390, JES2 the PTFs for APARs OW35104, OW36019 and OW44349 must be applied.

For OS/390, JES3 the PTFs for APARs OW34753, OW36019, OW36022 and OW44298 must be applied. See also Information APAR II11784 for recommended JES3 SAPI maintenance.

Since Entire System Server on BS2000/OSD is using operating system interfaces introduced with BS2000/OSD Version 2, it cannot run on earlier operating system versions.

If Natural ISPF is used, Version 2.4.3 is required to support the new Entire System Server version.

If Natural ISPF Version 2.4.2 is used, the solutions for the following problems have to be installed:

OS/390:

Problem	Solution	Description
195165	IS24204	Error NAT1305 in ISPJLS1P / 5580 Numeric value truncated

BS2000/OSD:

Problem	Solution	Description
202180	IS24205	Browse / Find in LMS elements slow.

Restrictions

The restrictions described in this section apply only to **OS/390 JES3 installations**.

- Input JCL (JESJCLIN) and SYSIN Datasets are not selectable. (READ-SPOOL, SPOOL-FILES)
- Active SYSOUT Datasets (not yet closed and freed) are not selectable (READ-SPOOL, SPOOL-FILES). This includes the active SYSLOG (CONSOLE-LOG).
- UPDATE authority is required to access spool datasets. (READ-SPOOL, SPOOL-FILES)
- No parallel access to spool datasets from different tasks. (READ-SPOOL, SPOOL-FILES)
- Entire Output Management (NOM) does not work due to the restrictions described above.

If your applications need the missing functionality for the JES3 interface or you are using Entire Output Management (NOM), you must not install Entire System Server Version 3.1.1. Instead, you have to use Entire System Server Version 2.2.2, until the missing functionality of the JES3 interface is implemented in the next maintenance level or release of Entire System Server.

New Features

This section describes new Entire System Server Features. It covers the following topics:

- Common New Features
- New Features under OS/390
- New Features under VSE/ESA
- New Features under BS2000/OSD

Common New Features

Dynamic Server Management for Entire System Server

This feature is available under VSE/ESA and BS2000/OSD. It is not needed for OS/390.

Dynamic Server Management allows you to define a range of servers which will be started and stopped according to the workload in the Entire System Server.

For a detailed description of the Dynamic Server Management, see the subsection Dynamic Server Management for Entire System Server in Section Common Entire System Server Features in the Entire System Server Administration Documentation.

There are the following new startup parameters for Dynamic Server Management:

- SERVER-DYN;
- SERVER-MAX;
- SERVER-MIN;
- SERVER-NONACT;
- SERVER-QUEUE-DEPTH.

For more information, see Section Startup Parameters in the Entire System Server Administration Documentation.

Trace of Entire System Server

Entire System Server creates incore trace data on request for diagnostic purposes. An external trace analyzer (ESYTRACE) reads the incore data and converts it to printable format.

For a detailed description of the Trace feature, see the subsection Creating Trace Data in the Entire System Server in Section Common Entire System Server Features in the Entire System Server Administration Documentation.

There are the following new startup parameters for Trace:

- TRACE;
- TRACE-LEN;
- TRACE-SAV.

For more information, see Section Startup Parameters in the Entire System Server Administration Documentation.

Zap Reports in Entire System Server

During startup, Entire System Server reports all applied zaps and additional information about the running load modules.

For a detailed description, see the subsection ZAP Reports in Entire System Server in Section Common Entire System Server Features in the Entire System Server Administration Documentation.

Deferred Shutdown of Entire System Server

Entire System Server must stop all NATURAL-SUB-TASKS before shutting down.

This procedure is described under Deactivating SAT during Entire System Server Stop within the Running System Automation Tools in Entire System Server subsection in Section Common Entire System Server Features.

A new startup parameter has been created therefore to limit the delay:

SHUTDOWN-MAX-DELAY

For more information, see Section Startup Parameters in the Entire System Server Administration Documentation.

Additional Fields Supported in NATPROC-USERS View

The following new fields:

- FULL-SCAN;
- INTERNAL-TASK;
- TASK-ID;
- JOB-ID (on BS2000/OSD only)

have been added to provide information about internal tasks of ESY.

This enhancement completes the information about the activities inside Entire System Server. For more details, see View Description of NATPROC-USERS in the Entire System Server User's Guide.

New Features under OS/390

New and Changed Fields for WRITE-SPOOL

Fields have been added or changed to the view WRITE-SPOOL that may be used by a functional subsystem (FSS) that can perform Internet Protocol (IP) transmission (for example, IP PrintWay). See the documentation for the particular subsystem for additional information.

The DESTINATION field has been expanded to a length of 50 bytes to allow the specification of a TCP/IP address or host name in the form 'IP:ipaddr'.

The FSSDATA field has been added to allow the specification of a subsystem-defined parameter for a functional subsystem.

The PORTNO field has been added to allow the specification of the TCP/IP port number at which a FSS connects to a printer.

The PRTOPTNS field has been added to allow the specification of additional print option data for a functional subsystem.

The PRTQUEUE field has been added to allow the specification of the name of the target print queue on a remote host system.

See the view description of WRITE-SPOOL in the Entire System Server User's Guide for a detailed description of the new and changed fields.

Copying of PDSE Program Objects

Copying of program objects (PDSE load modules) is now supported by COPY-FILE on the local node. Remote copy support will be available in a future release.

New Common JES Interface

The former JES2 and JES3 interfaces have been rewritten and integrated into a Common JES Interface, exploiting the OS/390 MVS subsystem interface functions 79 (SYSOUT API) and 80 (Extended Status). However, for JES3 some restrictions apply (see chapter Restrictions above), that will be lifted with a future release.

The Common JES Interface needs not be assembled during installation and therefore is distributed only as load module. It currently supports all JES2 and JES3 releases from OS/390 V2R6 to V2R10. Support for new releases of JES2 and JES3 will be added via problem solutions.

All required security checks are done within the Common JES Interface and the SYSOUT API implementations using the SAF router interface. Therefore the former security exit JESVRACF is no longer required. However, for compatibility reasons, a dummy exit is provided that may be used to perform additional authorization functions.

With the Common JES Interface, the views ACTIVE-JOBS, SPOOL-QUEUE and SPOOL-FILES may return job queue entries and spool file entries in a different order than with the former JES2 and JES3 interfaces. Also, some error codes related to the former interfaces are no longer used, and some new error codes have been added for the new interface. Please see the corresponding view descriptions in the Entire System Server User's Guide for details on the error codes.

The startup parameter SYSLOG-REFRESH is no longer supported and will be ignored, if specified. Please remove any SYSLOG-REFRESH specifications from your startup parameters to avoid initialization errors with future releases of Entire System Server.

Security Exits Distributed as Load Modules

To simplify installation, all security exits are pre-assembled and also distributed as load modules. If no modifications to these exits are needed to satisfy special customer requirements, they no longer need to be assembled and linked during installation.

New Features under VSE/ESA

Security

User exits for support of the SAF Security Interface (available starting with VSE/ESA 2.4) may now be used. Please contact Software AG support for details.

New Features under BS2000/OSD

Addressing Mode

All tasks of Entire System Server run in AMODE 31. This is independent from settings in the job control. The startup parameter AMODE is not evaluated any more and can be omitted.

Usage of Operating System Interfaces

The views of Entire System Server use macros and SVCs recommended for BS2000/OSD Version 2. Therefore, views were redesigned to benefit from the new interfaces.

No more Data Limitations for CATALOG and VTOC Views

Due to enhancements in operating system interfaces, there is no limitation of retrieved file information any more. The amount of return data is limited only by the available storage for the ESY SERVER address space.

Using Global Access Tables in READ-FILE

READ-FILE maintains access tables for SAM files if the field DIRECT has not been set to YES. These tables contain information about the number of records per block in a file and improve direct access to certain records within a file. These tables have been moved from the user-specific context to the global context in Entire System Server to improve the READ-FILE performance if different users are working with the same file non-sequentially.

The new startup parameter NUMFAT has been added to specify the number of internal access tables. For details, see Section Startup Parameters in the Entire System Server Administration Documentation.

Create an LMS Library via FILE-ALLOCATE

The new FILE-ALLOCATE view supports the creation of LMS libraries. The field PRODUCT has been added therefore. For more details, see the description of the PRODUCT field and the sample FIND statement in View Description of FILE-ALLOCATE in the Entire System Server User's Guide. See also the description of the REPLACE field for restrictions.

Parameter Handling

The parser routine for the ESY parameter file has been redesigned to improve the robustness and fault-tolerance.

Code Optimization

The communication between the different ESY tasks has been redesigned to use the Forward Eventing interfaces of BS2000/OSD to improve the performance.

New Library Concept

The load modules are link-edited to reduce the ESY startup duration. Now there is a strict distinction between the ESY delivery library and the ESY user library to separate user exits from the ESY delivery module library.

For more information, see Library Concept in the subsection Details for Running Entire System Server on BS2000/OSD, Section Administration - BS2000/OSD Considerations.

The required assignments of LINK-NAME DDLIB (MAIN task only) and DDLIB2 (all tasks) will be tested explicitly during startup of the ESY tasks.

Console error message ESY2160 is issued to report a missing LINK-NAME.

SVC Usage Reduction

An internal stack has been implemented to reduce the number of memory requests by using the stack.

Stopping Entire System Server via Program

The module ESYSTOP has been implemented to stop the Entire System Server without using any operator commands but by only running a program. For more details, see Shutdown of Entire System Server on BS2000/OSD in Section BS2000/OSD Considerations of the Entire System Server Administration Documentation.

Additional Fields Supported in FILE-ATTRIBUTES View

Information about

- BACKUP-INFO;
- BACKUP-VERSION-NUMBER;
- MIGRATE;
- STORAGE-LEVEL

will be returned from the view FILE-ATTRIBUTES. For more details, see View Description of FILE-ATTRIBUTES in the Entire System Server User's Guide.

Additional Values for Startup Parameter MSGLEVEL

Value I (INFORMATION) can be specified instead of 1 (same meaning) to improve readability of MSGLEVEL values. For more information, see Section Startup Parameters in the Entire System Server Administration Documentation.

New Startup Parameter NUMUSER

The number of ESY users working in parallel can now be defined in the parameter file. See the parameter NUMUSER in the section Startup Parameters of the Entire System Server Administration Documentation.

New CONSOLE Program

The CONSOLE program delivered with Entire System Server 3.1.1 uses new data structures. New ESYCONS cannot serve nodes running former ESY versions. It uses different serialization items to run old and new ESYCONS in parallel on the same machine. Therefore, you are required to establish another user ID for the new UCON interface task. If no parallel operation of old and new ESY is needed, the existing user ID should be used for the

UCON interface.

Changes/Enhancements

This section describes implemented changes and enhancements of Entire System Server.

It covers the following topics:

- Changes / Enhancements on OS/390
- Changes / Enhancements on VSE/ESA
- Changes / Enhancements on BS2000/OSD

Changes / Enhancements on OS/390

C/E Description

C/E	Description
3210	Return code at ESY termination. See Return Codes Issued by Entire System Server at Termination in Installation for OS/390.
5617	Support PDSE in FILE-ATTRIBUTES. See the new field PAGES-USED in View Description of FILE-ATTRIBUTES in the Entire System Server User's Guide. The field PERCENT-USED is also provided for PDSE.
5766	Large record support in READ-SPOOL (SEGMENT's). See the new field SEGMENT-LENGTH in View Description of READ-SPOOL in the Entire System Server User's Guide.
6132	Operator command "START ALL" to restart ESM monitors after shutting down. See Activating/Deactivating NATURAL-SUBTASKS (SAT) during Operation.
8724	New field TAPE-UNLOAD in WRITE-FILE view to unload tapes after CLOSE. For more details, see View Description of WRITE-FILE in the Entire System Server User's Guide.

Changes / Enhancements on VSE/ESA

C/E Description

C/E	Description
3210	Return code at ESY termination. See Return Codes Issued by Entire System Server at Termination in Installation for VSE/ESA.
6132	Operator command "START ALL" to restart ESM monitors after shutting down. See Activating/Deactivating NATURAL-SUBTASKS (SAT) during Operation.

Changes / Enhancements on BS2000/OSD

C/E Description

C/E	Description
3210	Return code at ESY termination. For detailed information, see Program Characteristics in Details for Running Entire System Server on BS2000/OSD.
3313	Support LMS Record Type. New field ELEMENT-RECORD-TYPE is available in READ-FILE and WRITE-FILE view to copy LMS object modules properly. See View Description of READ-FILE and WRITE-FILE in the Entire System Server User's Guide.
6132	Operator command "START ALL" to restart ESM monitors after shutting down. See Activating/Deactivating NATURAL-SUBTASKS (SAT) during Operation.
7751	<p>CONSOLE WAIT in WAIT task only.</p> <p>A request such as</p> <pre>"FIND CONSOLE WITH FUNCTION = 'DISPLAY' AND NODE = node AND WAIT-TIME = greater_than_0 AND READ-DIRECTION = 'F' AND RECORD-NUMBER = last+_1"</pre> <p>was performing a VPASS in the SERVER task and thus blocked the request processing of other users. This wait has been moved to the EVENTING wait task to avoid blocking the SERVER.</p> <p>If Eventing is not configured, an error "ESY5809 Subsystem not active" is returned.</p>
7758	<p>NATURAL-SUB-TASK job skeleton as part of ESY startup parameter file. See the subsection Start of SAT under BS2000/OSD in Section Administration - BS2000/OSD Considerations.</p> <p>New startup parameters have been added therefore:</p> <ul style="list-style-type: none"> ● SATSKEL-BEGIN <p>and</p> <ul style="list-style-type: none"> ● SATSKEL-END. <p>For more information, see Section Startup Parameters.</p>
8724	New field TAPE-UNLOAD in WRITE-FILE view to unload tapes after CLOSE. For more details, see View Description of WRITE-FILE in the Entire System Server User's Guide.
8943	Use new CMD macro Version 4 with an increased output buffer size.
9079	Startup parm SPOOL=YES/NO for BS2000/OSD to support environments with temporarily disabled Spooling subsystem. For more information, see Section Startup Parameters.

Solved SAGSIS Problems

This section describes solved SAGSIS problems for Entire System Server.

It covers the following topics

- Solved SAGSIS Problems on OS/390
- Solved SAGSIS Problems on VSE/ESA
- Solved SAGSIS Problems on BS2000/OSD

Solved SAGSIS Problems on OS/390

Problem	Description
188324	CLOG LAYOUT=5 support for NPR.

Solved SAGSIS Problems on VSE/ESA

Problem	Description
172472	Moved dataset causes 4342D.
188324	CLOG LAYOUT=5 support for NPR.
194062	OP77I at XMCSV035 + X' 6DE'.
193365	No line feed during VTAM print.

Solved SAGSIS Problems on BS2000/OSD

Problem	Description
188324	CLOG LAYOUT=5 support for NPR.

Other Problems Solved on BS2000/OSD

A bug fix is implemented to post all other ESY tasks if the MAIN task has abended abnormally. The non-MAIN tasks will also stop immediately.

The NATURAL-SUB-TASK feature is available also if the startup parameter JOBNATSUB is omitted but startup parameter NATNUMSUB has been specified. This allows you to start NATURAL-SUB-TASK at any time.

Users will be cleaned up asynchronously to avoid a temporarily blocked MAIN task. Therefore, the ESY0007 confirmation message will not be issued until the responses of all involved SERVER tasks have been received.

Cancelled Support

Cancelled Support on BS2000/OSD

As already announced with Entire System Server 2.2.2, the support of the LMS Version 1 is cancelled with Entire System Server 3.1.1. The appropriate startup parameter LMSVERS is not needed any more and will be ignored.

XEND and ADAEND commands

In the past, the undocumented XEND command may have been used instead of the ADAEND command to terminate an Entire System Server region. This command should not be used, and it will go away in a future release.