



# **Program Directory for System Automation for z/OS**

V2.3.0

Program Number 5645-006(MLC) 5698-A14(OTC)

FMIDs HKYS300, JKYS301, JKYS302, JKYS303, JKYS304

for Use with  
z/OS Version 1 Release 3 or later

Service Updated

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**Note!**

Before using this information and the product it supports, be sure to read the general information under Appendix B, "Notices" on page 31.

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# Contents

<b>1.0 Introduction</b>	1
1.1 SA for z/OS Description	1
1.2 SA for z/OS FMIDs	3
<b>2.0 Program Materials</b>	5
2.1 Basic Machine-Readable Material	5
2.2 Optional Machine-Readable Material	6
2.3 Program Publications	6
2.3.1 Basic Program Publications	7
2.3.2 Optional Program Publications	7
2.4 Program Source Materials	7
2.5 Publications Useful During Installation	8
<b>3.0 Program Support</b>	9
3.1 Program Services	9
3.2 Preventive Service Planning	9
3.3 Statement of Support Procedures	9
<b>4.0 Program and Service Level Information</b>	11
4.1 Program Level Information	11
4.2 Service Level Information	13
<b>5.0 Installation Requirements and Considerations</b>	15
5.1 Driving System Requirements	15
5.1.1 Machine Requirements	15
5.1.2 Programming Requirements	15
5.2 Target System Requirements	16
5.2.1 Machine Requirements	16
5.2.2 Programming Requirements	16
5.2.2.1 Installation Requisites	16
5.2.2.2 Operational Requisites	16
5.2.2.3 Toleration/Coexistence Requisites	17
5.2.2.4 Incompatibility (Negative) Requisites	17
5.2.3 DASD Storage Requirements	17
5.3 FMIDs Deleted	21
5.4 Special Considerations	21
<b>6.0 Installation Instructions</b>	23
6.1 Installing SA for z/OS	23
6.1.1 SMP/E Considerations for Installing SA for z/OS	23
6.1.2 SMP/E Options Subentry Values	24
6.1.3 SMP/E CALLLIBS Processing	24

6.1.4	Sample Jobs	24
6.1.5	Perform SMP/E RECEIVE	26
6.1.6	Allocate SMP/E Target and Distribution Libraries	26
6.1.7	Create DDDEF Entries	26
6.1.8	Perform SMP/E APPLY	27
6.1.9	Perform SMP/E ACCEPT	28
6.2	Activating SA for z/OS	28
<b>Appendix A. SA for z/OS Install Logic</b>		29
A.1	SMP/E Modification Control Statements	29
A.2	SMP/E JCLIN	29
<b>Appendix B. Notices</b>		31
B.1	Trademarks	32
<b>Reader's Comments</b>		35

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## Figures

1.	Basic Material: Program Tape	5
2.	Program File Content	6
3.	Basic Material: Unlicensed Publications	7
4.	Publications Useful During Installation	8
5.	PSP Upgrade and Subset ID	9
6.	Component IDs	10
7.	Driving System Software Requirements	15
8.	Mandatory Operational Requisites	16
9.	Conditional Operational Requisites	17
10.	Total DASD Space Required by SA for z/OS	17
11.	Storage Requirements for SA for z/OS Target Libraries	19
12.	Storage Requirements for SA for z/OS Distribution Libraries	20
13.	SMP/E Options Subentry Values	24
14.	Sample Installation Jobs	24

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## 1.0 Introduction

This Program Directory is intended for the system programmer responsible for program installation and maintenance. It contains information concerning the material and procedures associated with the installation of System Automation for z/OS. This publication refers to System Automation for z/OS as SA for z/OS.

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 5 identifies the basic and optional program materials and documentation for SA for z/OS.
- 3.0, “Program Support” on page 9 describes the IBM support available for SA for z/OS.
- 4.0, “Program and Service Level Information” on page 11 lists the APARs (program level) and PTFs (service level) incorporated into SA for z/OS.
- 5.0, “Installation Requirements and Considerations” on page 15 identifies the resources and considerations required for installing and using SA for z/OS.
- 6.0, “Installation Instructions” on page 23 provides detailed installation instructions for SA for z/OS. It also describes the procedures for activating the functions of SA for z/OS, or refers to appropriate publications.

Before installing SA for z/OS, read the *CBPDO Memo To Users* and the *CBPDO Memo To Users Extension* that were supplied with this program in softcopy form as well as this Program Directory and then keep them for future reference. Section 3.2, “Preventive Service Planning” on page 9 tells you how to find any updates to the information and procedures in this Program Directory.

SA for z/OS is supplied in a Custom-Built Product Delivery Offering (CBPDO, 5751-CS3). The Program Directory is provided in softcopy form on the CBPDO tape which is identical to the hardcopy form provided with your order. Your CBPDO contains a softcopy preventive service planning (PSP) upgrade for this product. All service and HOLDDATA for SA for z/OS are included on the CBPDO tape.

Do not use this Program Directory if you are installing SA for z/OS with a SystemPac or ServerPac. When using these offerings, use the jobs and documentation supplied with the offering. This documentation may point you to specific sections of the Program Directory as required.

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### 1.1 SA for z/OS Description

System Automation for z/OS (SA for z/OS) is a NetView-based application that provides you with a single point of control for a full range of systems management functions. SA for z/OS functions include the monitoring, control, and automation of a large range of system elements spanning both the hardware and software resources of your enterprise in a sysplex wide scope.

In detail it provides:

- Powerful and flexible cluster-wide policy that reduces complexity, implementation time, coding and support effort
- Comprehensive Parallel Sysplex management and automation functions including single system image, single point of control, and unique Parallel Sysplex application automation
- Policy-based e-business automation that can start, stop, monitor, and recover z/OS traditional as well as UNIX applications and resources
- Integration with Tivoli enterprise solutions including network management
- Easy to use graphical user interface
- Comprehensive "canned" automation for IMS, CICS, OPC and DB2

Following is a summary of the enhancements made in SA for z/OS V2.3

- With PDB Import, you can copy definitions from one PDB to another.
- Entries and subsystem names in a PDB can be renamed.
- User descriptions can be added to &AOCCLONE variables for better documentation and clearer understanding.
- System Automation separates policy items into a system part and a user part.
- The SAP/HA and WebSphere V4 automation solution is part of the sample policies.
- Gateway communication uses XCF or RMTCMD and supports both SNA and IP.
- NMC performance is improved by using XCF/RMTCMD to forward status information.
- System Automation supports in-flight repair of takeover files: You can vary a damaged takeover file off-line without stopping the Automation Manager. After you repaired the takeover file you can vary it on-line while the Automation Manager remains running.
- With Easy Message Management, System Automation allows you to automatically generate NetView Automation Tables from System Automation policy databases and MPF exit lists.
- Smart defaults for parameters for generic routines are supplied.
- Sysplex Application Groups can be linked to multiple Sysplexes.
- The maximum number of messages to be captured can be specified on a per application level.
- The ISSUECMD command is enhanced to perform a code match allowing the modification of the command be issued based on CODEX parameters passed.
- The INGRELS command allows you to easily navigate through the dependency graph; you can then launch other commands from the INGRELS display panel.
- INGREQ parameters can be overwritten through the enhanced installation exit AOFEXC01.
- The INGNTFY command is enhanced to incorporate the display function provided by DISPNTFY.
- The INGVOTE command is enhanced to allow you to see the requests/votes from a particular source/user.
- The INGVARS command allows you to share variables among all systems in the same sysplex.

- The AOCTRACE command is enhanced to control/monitor trace and debugging flags from one point of control for any other system in the enterprise.
- With NLS support, messages, message help, command help and panel help information is also available in Japanese.
- With VM Second Level Systems Support, ProcOps enables you to automate Linux images; you can start, stop, issue commands to and monitor them.
- With the new Move Group Behavior, System Automation attaches special meanings to high preference values; thus you can better control if and how groups are to be moved to images within a Sysplex.
- With the Satisfactory Target Range for Server Groups, you can specify a range for the number of members of a Server Group that must be available for the group to obtain the status SATISFACTORY.
- With Health and Performance Monitoring, you can define monitors as resources and use System Automation to check their status.
- You can now specify more than one WLM resource name for an application.
- You can now specify owner information for a particular application in the policy DB. This information is displayed by INGINFO and DISPINFO allowing the operator to contact the person in charge in case of a problem.

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## 1.2 SA for z/OS FMIDs

SA for z/OS consists of the following FMIDs:

HKYS300  
JKYS301  
JKYS302  
JKYS303  
JKYS304

**Note:** JKYS302 and JKYS304 are Japanese NLS FMIDs.





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## 2.0 Program Materials

An IBM program is identified by a program number and feature numbers. The program number for SA for z/OS is 5645-006(MLC) 5698-A14(OTC) and the feature numbers are 5801, 5802, 5811, and 5812.

Basic Machine-Readable Materials are materials that are supplied under the base license and feature numbers, and are required for the use of the product. Optional Machine-Readable Materials are orderable under separate feature numbers, and are not required for the product to function.

The program announcement material describes the features supported by SA for z/OS. Ask your IBM representative for this information if you have not already received a copy.

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### 2.1 Basic Machine-Readable Material

The distribution medium for this program is magnetic tape or downloadable files. It is installed using SMP/E, and is in SMP/E RELFILE format. See 6.0, "Installation Instructions" on page 23 for more information about how to install the program.

*Figure 1. Basic Material: Program Tape*

Medium	Feature Number	Physical Volume	External Label	VOLSER
6250 tape	5801	1	SA for z/OS V2.3	KYS300
3480 cart	5802	1	SA for z/OS V2.3	KYS300
6250 tape	5811	1	SA for z/OS V2.3 JPN	KYS300
3480 cart	5812	1	SA for z/OS V2.3 JPN	KYS300

Figure 2 describes the program file content for SA for z/OS.

#### Notes:

1. The data set attributes in this table should be used in the JCL of jobs reading the data sets, but since the data sets are in IEBCOPY unloaded format, their actual attributes may be different.
2. If any RELFILEs are identified as PDSEs, ensure that SMPTLIB data sets are allocated as PDSEs.

Figure 2. Program File Content

Name	O R G	R E C F M	L R E C L	BLK SIZE
SMPMCS	SEQ	FB	80	6400
<b>For Base Automation:</b>				
IBM.HKYS300.F1	PDS	FB	80	8800
IBM.HKYS300.F2	PDS	FB	80	8800
IBM.HKYS300.F3	PDS	FB	80	8800
IBM.HKYS300.F4	PDS	U	0	6144
<b>For English Upper-case Console Messages (add-on):</b>				
IBM.JKYS301.F1	PDS	FB	80	8800
IBM.JKYS301.F2	PDS	U	0	6144
<b>For Japanese Console Messages (add-on):</b>				
IBM.JKYS302.F1	PDS	FB	80	8800
<b>For System- and Product Automation:</b>				
IBM.JKYS303.F1	PDS	FB	80	8800
IBM.JKYS303.F2	PDS	FB	80	8800
IBM.JKYS303.F3	PDS	FB	80	8800
IBM.JKYS303.F4	PDS	U	0	6144
<b>For Base Automation Japanese:</b>				
IBM.JKYS304.F1	PDS	FB	80	8800

## 2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for SA for z/OS.

## 2.3 Program Publications

The following sections identify the basic and optional publications for SA for z/OS as well as for SA z/OS CICS Automation, SA z/OS IMS Automation and SA z/OS OPC Automation.

## 2.3.1 Basic Program Publications

Figure 3 on page 7 identifies the basic unlicensed program publications for SA for z/OS. One copy of each of these publications is included when you order the basic materials for SA for z/OS. For additional copies, contact your IBM representative.

**Note:** Softcopies of all of the manuals can be found on the homepage of System Automation for z/OS: <http://www.ibm.com/servers/eserver/zseries/software/sa/bkserv/>

<i>Figure 3. Basic Material: Unlicensed Publications</i>	
<b>Publication Title</b>	<b>Form Number</b>
System Automation for z/OS Customizing and Programming	SC33-7035
System Automation for z/OS Planning and Installation	SC33-7038
System Automation for z/OS Defining Automation Policy	SC33-7039
System Automation for z/OS User's Guide	SC33-7040
System Automation for z/OS Messages and Codes	SC33-7041
System Automation for z/OS Operator's Commands	SC33-7042
System Automation for z/OS Programmer's Reference	SC33-7043
System Automation for z/OS Licensed Program Specifications	SC33-7037
System Automation for z/OS Program Directory	GI10-9748
System Automation for z/OS CICS Automation Programmer's Reference and Operator's Guide	SC33-7044
System Automation for z/OS IMS Automation Programmer's Reference and Operator's Guide	SC33-7045
System Automation for z/OS OPC Automation Programmer's Reference and Operator's Guide	SC33-7046

## 2.3.2 Optional Program Publications

No optional publications are provided for SA for z/OS as well as for SA z/OS CICS Automation, SA z/OS IMS Automation and SA z/OS OPC Automation.

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## 2.4 Program Source Materials

Customers with access to View Program Listings (VPL), such as through S/390 SoftwareXcel, can use the VPL facility for online viewing of available program listings. Those customers without access to VPL can contact their IBM representative.

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## 2.5 Publications Useful During Installation

The publications listed in Figure 4 on page 8 may be useful during the installation of SA for z/OS. To order copies, contact your IBM representative or visit the IBM Publications Center on the World Wide Web at:

<http://www.ibm.com/shop/publications/order>

*Figure 4. Publications Useful During Installation*

<b>Publication Title</b>	<b>Form Number</b>
<i>IBM SMP/E for z/OS and OS/390 User's Guide</i>	SA22-7773
<i>IBM SMP/E for z/OS and OS/390 Commands</i>	SA22-7771
<i>IBM SMP/E for z/OS and OS/390 Reference</i>	SA22-7772
<i>IBM SMP/E for z/OS and OS/390 Messages, Codes, and Diagnosis</i>	GA22-7770

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## 3.0 Program Support

This section describes the IBM support available for SA for z/OS.

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### 3.1 Program Services

Contact your IBM representative for specific information about available program services.

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### 3.2 Preventive Service Planning

Before installing SA for z/OS, you should review the current Preventive Service Planning (PSP) information. If you obtained SA for z/OS as part of a CBPDO, there is HOLDDATA and PSP information included on the CBPDO.

If the CBPDO for SA for z/OS is more than two weeks old when you install it, you should contact the IBM Support Center or use S/390 SoftwareXcel to obtain the current "PSP Bucket".

For program support, access the Software Support web site at <http://www-3.ibm.com/software/support/>

PSP Buckets are identified by UPGRADEs, which specify product levels, and SUBSETs, which specify the FMIDs for a product level. The UPGRADE and SUBSET values for SA for z/OS are:

<b>UPGRADE</b>	<b>SUBSET</b>	<b>Description</b>
HKYS300	HKYS300	SA for z/OS Base
HKYS300	JKYS301	Upper-case English for SA for z/OS full product add-on
HKYS300	JKYS302	Japanese for SA for z/OS full product add-on
HKYS300	JKYS303	SA for z/OS full product
HKYS300	JKYS304	SA for z/OS Base Japanese

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### 3.3 Statement of Support Procedures

Report any difficulties you have using this program to your IBM Support Center. If an APAR is required, the Support Center will provide the address to which any needed documentation can be sent.

Figure 6 identifies the component IDs (COMPID) for SA for z/OS.

Figure 6. Component IDs

<b>FMID</b>	<b>COMPID</b>	<b>Component Name</b>	<b>RETAIN Release</b>
HKYS300	565513700	SA z/OS Base Automation	300
HKYS300	565513705	Healthchecker	300
JKYS301	565513700	SA z/OS V2R3 Upper-case English Console Messages	301
JKYS302	565513700	SA z/OS V2R3 Japanese Console Messages	302
JKYS303	565513700	SA z/OS V2R3 in Mixed-case US English	303
JKYS303	56851510C	SA z/OS V2R3 CICS Automation	303
JKYS303	56851510I	SA z/OS V2R3 IMS Automation	303
JKYS303	56851510P	SA z/OS V2R3 OPC Automation	303
JKYS304	565513700	SA z/OS Base Automation Japanese	304

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## 4.0 Program and Service Level Information

This section identifies the program and any relevant service levels of SA for z/OS. The program level refers to the APAR fixes incorporated into the program. The service level refers to the PTFs incorporated into the program.

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### 4.1 Program Level Information

The following APAR fixes against previous releases of SA for z/OS have been incorporated into this release. They are listed by FMID.

- FMID HKYS300 (FIN APARs against previous releases)

OA02153	OW53932	OW55998
OA04005	OW54819	OW56397
OA04442		

- FMID HKYS300 (against previous release HKYS200)

OA01521	OA03237	OA05161
OA01532	OA03607	OA05164
OA01736	OA03635	OA05248
OA01759	OA03681	OA05370
OA01915	OA03685	OA05471
OA01921	OA03907	OA05528
OA01994	OA03914	OA05579
OA02054	OA04091	OA05610
OA02088	OA04132	OA05704
OA02119	OA04152	OA05706
OA02255	OA04254	OA05734
OA02286	OA04366	OA06055
OA02300	OA04367	OA06214
OA02319	OA04383	OA06294
OA02321	OA04562	OA06306
OA02322	OA04621	OA06440
OA02352	OA04632	OA06477
OA02643	OA04805	OA06527
OA02723	OA04853	OA06587
OA02736	OA04878	OA06773
OA02945	OA04939	OA06778
OA02996	OA04973	OA06976
OA03110	OA05094	OW54640

OW56115	OW57043	OW57400
OW56126	OW57057	OW57436
OW56277	OW57193	OW57489
OW56340	OW57234	OW57523
OW56341	OW57241	OW57588
OW56342	OW57252	OW57645
OW56400	OW57293	OW57706
OW56875	OW57314	OW57741

- FMID JKYS301 (against previous release JKYS201)

OA04519  
 OW54640  
 OW56984

- FMID JKYS303 (against previous release JKYS203)

OA01519	OA02300	OA02960
OA01532	OA02301	OA02962
OA01533	OA02311	OA03067
OA01557	OA02319	OA03084
OA01665	OA02321	OA03110
OA01736	OA02324	OA03237
OA01740	OA02354	OA03283
OA01759	OA02375	OA03291
OA01761	OA02378	OA03332
OA01779	OA02394	OA03337
OA01814	OA02415	OA03352
OA01845	OA02430	OA03467
OA01857	OA02431	OA03469
OA01914	OA02550	OA03472
OA01921	OA02567	OA03485
OA01939	OA02611	OA03491
OA01994	OA02643	OA03495
OA02054	OA02655	OA03607
OA02088	OA02685	OA03627
OA02090	OA02723	OA03681
OA02096	OA02736	OA03682
OA02151	OA02807	OA03685
OA02190	OA02808	OA03713
OA02218	OA02843	OA03743
OA02255	OA02918	OA03777
OA02286	OA02921	OA03846



OA03889	OA05093	OW54640
OA04001	OA05094	OW55287
OA04025	OA05161	OW55789
OA04035	OA05164	OW56115
OA04046	OA05184	OW56126
OA04091	OA05200	OW56262
OA04162	OA05248	OW56272
OA04254	OA05323	OW56277
OA04288	OA05342	OW56300
OA04351	OA05428	OW56340
OA04366	OA05470	OW56341
OA04367	OA05471	OW56342
OA04383	OA05502	OW56394
OA04385	OA05579	OW56528
OA04429	OA05625	OW56723
OA04437	OA05641	OW56875
OA04446	OA05704	OW56926
OA04513	OA05726	OW56984
OA04519	OA05734	OW57129
OA04562	OA05748	OW57135
OA04567	OA05888	OW57188
OA04580	OA05910	OW57208
OA04621	OA06055	OW57234
OA04632	OA06060	OW57240
OA04665	OA06105	OW57241
OA04732	OA06214	OW57266
OA04741	OA06306	OW57293
OA04805	OA06310	OW57400
OA04818	OA06456	OW57403
OA04852	OA06477	OW57419
OA04853	OA06554	OW57436
OA04878	OA06586	OW57489
OA04932	OA06730	OW57505
OA04939	OA06773	OW57645
OA04979	OA06854	OW57676
OA05000	OA06871	OW57706
OA05020	OA06939	OW57731
OA05083	OW53189	OW57745

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## 4.2 Service Level Information

No PTFs against this release of SA for z/OS have been incorporated into the product tape.



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## 5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating SA for z/OS. The following terminology is used:

- *Driving system*: the system used to install the program.
- *Target system*: the system on which the program is installed.

In many cases, the same system can be used as both a driving system and a target system. However, you may want to set up a clone of your system to use as a target system by making a separate IPL-able copy of the running system. The clone should include copies of all system libraries that SMP/E updates, copies of the SMP/E CSI data sets that describe the system libraries, and your PARMLIB and PROCLIB.

Some cases where two systems should be used include the following:

- When installing a new level of a product that is already installed, the new product will delete the old one. By installing onto a separate target system, you can test the new product while still keeping the old one in production.
- When installing a product that shares libraries or load modules with other products, the installation can disrupt the other products. Installing onto a test system or clone will allow you to assess these impacts without disrupting your production system.

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### 5.1 Driving System Requirements

This section describes the environment of the driving system required to install SA for z/OS.

#### 5.1.1 Machine Requirements

The driving system can run in any hardware environment that supports the required software.

#### 5.1.2 Programming Requirements

<i>Figure 7. Driving System Software Requirements</i>	
<b>Program Number</b>	<b>Product Name and Minimum VRM/Service Level</b>
Any <b>one</b> of the following:	
5694-A01	z/OS V1.3.0 or later
5655-G44	IBM SMP/E for z/OS and OS/390 V3.2.0 or later

---

## 5.2 Target System Requirements

This section describes the environment of the target system required to install and use SA for z/OS.

SA for z/OS installs in the z/OS (Z038) SREL.

### 5.2.1 Machine Requirements

The target system can run in any hardware environment that supports the required software.

### 5.2.2 Programming Requirements

**5.2.2.1 Installation Requisites:** An installation requisite is defined as a product that is required and **must** be present or one that is not required but **should** be present on the system for the successful installation of this product.

A mandatory installation requisite identifies products that are required, without exception, or this product **will not install** on your system. This includes products specified as PREs or REQs.

SA for z/OS has no mandatory installation requisites.

A conditional installation requisite identifies products that are **not** required for successful install but may resolve such things as certain warning messages at installation time. They include products that are specified as IF REQs.

SA for z/OS has no conditional installation requisites.

**5.2.2.2 Operational Requisites:** An operational requisite is defined as a product that is required and **must** be present or a product that is not required but **should** be present on the system in order for this product to operate all or some of its functions.

A mandatory operational requisite identifies products that are required, without exception, or this product **will not operate** its basic function unless the requisite is met. This includes products specified as PREs or REQs.

*Figure 8. Mandatory Operational Requisites*

<b>Program Number</b>	<b>Product Name and Minimum VRM/Service Level</b>
5697-B82	Tivoli NetView V1.4 or later
5694-A01	z/OS V1.3 or later

A conditional operational requisite identifies products that are **not required** for the basic function but are needed at run time for this product to utilize specific functions. They may include products specified as IF REQs.

<i>Figure 9. Conditional Operational Requisites</i>		
<b>Program Number</b>	<b>Product Name and Minimum VRM/Service Level</b>	<b>Function</b>
5697-B82	Tivoli NetView for OS/390 V1.4	<ul style="list-style-type: none"> <li>• NetView Management Console Server and Client for Topology Manager functions</li> <li>• NetView Management Console 3270 for NMC workstation</li> </ul>
5739-A03	z/VM V4.3 or later	ProcOps VM Second Level Systems Support
5655-F10	WebSphere MQ for z/OS V5.3 or later	For automation functions

**5.2.2.3 Toleration/Coexistence Requisites:** A toleration/coexistence requisite is defined as a product which must be present on a sharing system. These systems can be other systems in a multisystem environment (not necessarily sysplex), a shared DASD environment (such as test and production), or systems that reuse the same DASD at different time intervals.

SA for z/OS has no toleration/coexistence requisites.

**5.2.2.4 Incompatibility (Negative) Requisites:** A negative requisite identifies products which must *not* be installed on the same system as this product.

SA for z/OS has no negative requisites.

## 5.2.3 DASD Storage Requirements

SA for z/OS libraries can reside on all supported DASD types.

Figure 10 lists the total space required for each type of library.

<i>Figure 10. Total DASD Space Required by SA for z/OS</i>	
<b>Library Type</b>	<b>Total Space Required</b>
Target	3361 (3390 tracks)
Distribution	3149 (3390 tracks)

**Notes:**

1. IBM recommends use of system determined block sizes for efficient DASD utilization for all non-RECFM U data sets. For RECFM U data sets, IBM recommends a block size of 32760, which is the most efficient from a performance and DASD utilization perspective.
2. Abbreviations used for the data set type are:

- U** Unique data set, allocated by this product and used only by this product. To determine the correct storage needed for this data set, this table provides all required information; no other tables (or Program Directories) need to be referenced for the data set size.
- S** Shared data set, allocated by this product and used by this product and others. To determine the correct storage needed for this data set, the storage size given in this table needs to be added to other tables (perhaps in other Program Directories). If the data set already exists, it must have enough free space to accommodate the storage size given in this table.
- E** Existing shared data set, used by this product and others. This data set is NOT allocated by this product. To determine the correct storage needed for this data set, the storage size given in this table needs to be added to other tables (perhaps in other program directories). This existing data set must have enough free space to accommodate the storage size given in this table.

If you currently have a previous release of this product installed in these libraries, the installation of this release will delete the old one and reclaim the space used by the old release and any service that had been installed. You can determine whether or not these libraries have enough space by deleting the old release with a dummy function, compressing the libraries, and comparing the space requirements with the free space in the libraries.

For more information on the names and sizes of the required data sets, please refer to 6.1.6, "Allocate SMP/E Target and Distribution Libraries" on page 26.

3. Abbreviations used for the HFS Path type are:

- N** New path, created by this product.
- X** Path created by this product, but may already exist from a previous release.
- P** Previously existing path, created by another product.

4. All target and distribution libraries listed have the following attributes:

- The default name of the data set may be changed.
- The default block size of the data set may be changed.
- The data set may be merged with another data set that has equivalent characteristics.
- The data set may be either a PDS or a PDSE.

5. All target libraries listed have the following attributes:

- The data set may be SMS-managed.
- It is not required for the data set to be SMS-managed.
- It is not required for the data set to reside on the IPL volume.
- The values in the "Member Type" column are not necessarily the actual SMP/E element types identified in the SMPMCS.

6. All target libraries listed which contain load modules have the following attributes:

- The data set may be in the LPA.

- It is not required for the data set to be in the LPA.
- The data set may be in the LNKLIST.
- It is not required for the data set to be APF-authorized.

The following figures describe the target and distribution libraries and HFS paths required to install SA for z/OS. The storage requirements of SA for z/OS must be added to the storage required by other programs having data in the same library or path.

**Note:** The data in these tables should be used when determining which libraries can be merged into common data sets. In addition, since some ALIAS names may not be unique, ensure that no naming conflicts will be introduced before merging libraries.

*Figure 11 (Page 1 of 2). Storage Requirements for SA for z/OS Target Libraries*

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
SEVIMOD6	LMOD	ANY	U	PO	U	0	2	2
SEVIMOD7	LMOD	ANY	U	PO	U	0	2	2
SEVIMOD8	LMOD	ANY	U	PO	U	0	2	2
SEVIMOD9	LMOD	ANY	U	PO	U	0	2	2
SINGIMOD	LMOD	ANY	U	PO	U	0	78	3
SINGIMSG	MSG	ANY	U	PO	FB	80	12	6
SINGINST	SAMP	ANY	U	PO	FB	80	4	2
SINGIPDB	Data	ANY	U	PO	FB	80	67	2
SINGIPNL	PNL	ANY	U	PO	FB	80	225	65
SINGIREX	EXEC	ANY	U	PO	FB	80	171	23
SINGISKL	SKEL	ANY	U	PO	FB	80	17	12
SINGITBL	Table	ANY	U	PO	FB	80	19	2
SINGJMSG	MSG	ANY	U	PO	FB	80	24	21
SINGJPNL	PNL	ANY	U	PO	FB	80	222	48
SINGJPWS	Data	ANY	U	PO	FB	80	21	2
SINGMODC	LMOD	ANY	U	PO	U	0	20	17
SINGMOD1	LMOD	ANY	U	PO	U	0	942	51
SINGMOD2	LMOD	ANY	U	PO	U	0	27	8
SINGMOD3	LMOD	ANY	U	PO	U	0	6	5
SINGMSGV	MSG	ANY	U	PO	FB	80	2	2
SINGNMSG	MSG	ANY	U	PO	FB	80	24	21

Figure 11 (Page 2 of 2). Storage Requirements for SA for z/OS Target Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
SINGNPNL	PNL	ANY	U	PO	FB	80	222	48
SINGNPRF	Data	ANY	U	PO	FB	80	2	2
SINGNPRM	Data	ANY	U	PO	FB	80	141	6
SINGNREX	EXEC	ANY	U	PO	FB	80	1003	68
SINGOBJV	OBJ	ANY	U	PO	FB	80	2	2
SINGPWS1	Data	ANY	U	PO	FB	80	21	2
SINGREXV	EXEC	ANY	U	PO	FB	80	6	2
SINGSAMP	SAMP	ANY	U	PO	FB	80	51	11
SINGSRC	Source	ANY	U	PO	FB	80	24	2

Figure 12 (Page 1 of 2). Storage Requirements for SA for z/OS Distribution Libraries

Library DDNAME	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
AEVIMOD6	U	PO	U	0	2	2
AEVIMOD7	U	PO	U	0	2	2
AEVIMOD8	U	PO	U	0	2	2
AEVIMOD9	U	PO	U	0	2	2
AINGIMOD	U	PO	U	0	58	9
AINGIMSG	U	PO	FB	80	12	6
AINGINST	U	PO	FB	80	4	2
AINGIPDB	U	PO	FB	80	67	2
AINGIPNL	U	PO	FB	80	225	65
AINGIREX	U	PO	FB	80	171	23
AINGISKL	U	PO	FB	80	17	12
AINGITBL	U	PO	FB	80	19	2
AINGJMSG	U	PO	FB	80	24	21
AINGJPNL	U	PO	FB	80	222	48
AINGJPWS	U	PO	FB	80	21	2



Figure 12 (Page 2 of 2). Storage Requirements for SA for z/OS Distribution Libraries

Library DDNAME	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
AINGMODC	U	PO	U	0	18	20
AINGMOD1	U	PO	U	0	779	200
AINGMOD2	U	PO	U	0	6	5
AINGMSGV	U	PO	FB	80	2	2
AINGNMSG	U	PO	FB	80	24	21
AINGNPNL	U	PO	FB	80	222	48
AINGNPRF	U	PO	FB	80	2	2
AINGNPRM	U	PO	FB	80	141	6
AINGNREX	U	PO	FB	80	1003	68
AINGOBJV	U	PO	FB	80	2	2
AINGPWS1	U	PO	FB	80	21	2
AINGREXV	U	PO	FB	80	6	2
AINGSAMP	U	PO	FB	80	51	11
AINGSRC	U	PO	FB	80	24	2

### 5.3 FMIDs Deleted

Installing SA for z/OS may result in the deletion of other FMIDs. To see what FMIDs will be deleted, examine the ++VER statement in the product's SMPMCS.

If you do not wish to delete these FMIDs at this time, you must install SA for z/OS into separate SMP/E target and distribution zones.

**Note:** In case the base element of z/OS msys for Operations is installed the referring FMID will be deleted, too.

**Note:** These FMIDs will not automatically be deleted from the Global Zone. Consult the SMP/E manuals for instructions on how to do this.

### 5.4 Special Considerations

SA for z/OS has no special considerations for the target system.



---

## 6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of SA for z/OS.

Please note the following:

- If you want to install SA for z/OS into its own SMP/E environment, consult the SMP/E manuals for instructions on creating and initializing the SMPCSI and the SMP/E control data sets.
- Sample jobs have been provided to help perform some or all of the installation tasks. The SMP/E jobs assume that all DDDEF entries required for SMP/E execution have been defined in the appropriate zones.
- The SMP/E dialogs may be used instead of the sample jobs to accomplish the SMP/E installation steps.

---

### 6.1 Installing SA for z/OS

The product tape contains the SA z/OS Base Automation, the SA z/OS V2R3 in Mixed-case US English, the SA z/OS V2R3 Upper-case English Console Messages, the SA z/OS V2R3 Japanese Console Messages, and the SA z/OS Base Automation Japanese

The FMIDs are:

- HKYS300 - Base Automation in United States English language
- JKYS301 - United States English upper-case console messages
- JKYS302 - Japanese console messages
- JKYS303 - SA for z/OS V2.3 in United States English language, including SA z/OS CICS Automation, SA z/OS IMS Automation, SA z/OS OPC Automation
- JKYS304 - Base Automation in Japanese language

JKYS301 needs only to be installed if you want I/O Operations upper-case operator console messages. JKYS302 needs only to be installed if you want I/O Operations Japanese console messages.

**Note:** The dependency structure of the FMIDs is as follows:

1. JKYS301 is dependent on JKYS303.
2. JKYS302 is dependent on JKYS303 and on JKYS304
3. JKYS303 is dependent on HKYS300.
4. JKYS304 is dependent on HKYS300.

#### 6.1.1 SMP/E Considerations for Installing SA for z/OS

This release of SA for z/OS is installed using the SMP/E RECEIVE, APPLY, and ACCEPT commands. The SMP/E dialogs may be used to accomplish the SMP/E installation steps.

## 6.1.2 SMP/E Options Subentry Values

The recommended values for some SMP/E CSI subentries are shown in Figure 13 on page 24. Use of values lower than these may result in failures in the installation process. DSSPACE is a subentry in the GLOBAL options entry. PEMAX is a subentry of the GENERAL entry in the GLOBAL options entry. Refer to the SMP/E manuals for instructions on updating the global zone.

<i>Figure 13. SMP/E Options Subentry Values</i>		
<b>SUB-ENTRY</b>	<b>Value</b>	<b>Comment</b>
DSSPACE	750,750,300	Size of largest file F3.
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

## 6.1.3 SMP/E CALLLIBS Processing

SA for z/OS uses the CALLLIBS function provided in SMP/E to resolve external references during installation. When SA for z/OS is installed, ensure that DDDEFs exist for the following libraries:

For NetView TME V1.4 or later

- CNMLINK
- NVULIB

For ISPF, shipped with OS/390, resp. z/OS

- SISPLOAD

For LE Libraries for PL/I, C and C++

- SCEELKED
- SCEESPC
- SIBMCALL

**Note:** The DDDEFs above are used only to resolve the link-edit for SA for z/OS using CALLLIBS. These data sets are not updated during the installation of SA for z/OS.

## 6.1.4 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install SA for z/OS:

<i>Figure 14 (Page 1 of 2). Sample Installation Jobs</i>			
<b>Job Name</b>	<b>Job Type</b>	<b>Description</b>	<b>RELFILE</b>
INGALLOC	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.HKYS300.F3
INGDDDEF	DDDEF	Sample job to define SMP/E DDDEFs	IBM.HKYS300.F3

Figure 14 (Page 2 of 2). Sample Installation Jobs

Job Name	Job Type	Description	RELFIL
INGDDDCL	DDDEF	Sample job to define prerequisite product DDDEFS	IBM.HKYS300.F3
INGAPPLY	APPLY	Sample APPLY job	IBM.HKYS300.F3
INGACCPT	ACCEPT	Sample ACCEPT job	IBM.HKYS300.F3

You can access the sample installation jobs by performing an SMP/E RECEIVE and then copying the jobs from the relfiles to a work data set for editing and submission. See Figure 14 on page 24 to find the appropriate relfile data set.

You may also choose to copy the jobs from the tape or product files by submitting the job below. Use either the //TAPEIN or the //FILEIN DD statement, depending on your distribution medium, and comment out or delete the other statement. Add a job card and change the lowercase parameters to uppercase values to meet your site's requirements before submitting.

```
//STEP1 EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=*
//TAPEIN DD DSN=IBM.HKYS300.F3,
// UNIT=tunit,VOL=SER=KYS300,
// LABEL=(4,SL),DISP=(OLD,KEEP)
//FILEIN DD DSN=IBM.HKYS300.F3,UNIT=SYSALLDA,DISP=SHR,
// VOL=SER=filevol
//OUT DD DSNAME=jcl-library-name,
// DISP=(NEW,CATLG,DELETE),
// VOL=SER=dasdvol,UNIT=SYSALLDA,
// SPACE=(TRK,(5,2,2))
//SYSUT3 DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN DD *
COPY INDD=xxxxIN,OUTDD=OUT
SELECT MEMBER=(INGALLOC,INGDDDEF,INGDDDCL)
SELECT MEMBER=(INGAPPLY,INGACCPT)
/*
```

In the sample above, update the statements as noted below:

If using TAPEIN:

*tunit* is the unit value matching the product tape.

If using FILEIN

*filevol* is the volume serial of the DASD device where the downloaded files reside.

OUT

*jcl-library-name* is the name of the output data set where the sample jobs will be stored.

*dasdvol* is the volume serial of the DASD device where the output data set will reside.

SYSIN

*xxxxIN* is either TAPEIN or FILEIN depending on your input DD statement.

## 6.1.5 Perform SMP/E RECEIVE

Having obtained SA for z/OS as part of a CBPDO, use the RCVPDO job found in the CBPDO RIMLIB data set to RECEIVE the SA for z/OS FMIDs as well as any service, HOLDDATA, or preventive service planning (PSP) information included on the CBPDO tape. For more information, refer to the documentation included with the CBPDO.

You can also choose to edit and submit the following sample job to perform the SMP/E RECEIVE for SA for z/OS.

Replace *smpe.global.csi* and *tape* below with a value appropriate for your system. Add job card as necessary and update SMPCSI with the appropriate data set.

```
//JOB1      JOB ...
//RECEIVE   EXEC PGM=GIMSMP,REGION=4096K
//SMPCSI    DD DSN=smpe.global.csi,DISP=SHR
//SMPPTFIN  DD DSN=SMPMCS,DISP=(OLD,KEEP),
//          VOL=SER=KYS300,LABEL=(1,SL),
//          UNIT=(tape,,DEFER)
//SMPHOLD   DD DUMMY
//SMP_CNTL  DD *
            SET BOUNDARY(GLOBAL).
            RECEIVE S(HKYS300,JKYS303,JKYS301,JKYS302,JKYS304).
/*
```

**Expected Return Codes and Messages:** 0.

## 6.1.6 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job INGALLOC to allocate the SMP/E target and distribution libraries for SA for z/OS. Consult the instructions in the sample job for more information.

**Expected Return Codes and Messages:** 0.

## 6.1.7 Create DDDEF Entries

1. Edit and submit sample job INGDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for SA for z/OS. Consult the instructions in the sample job for more information.

**Expected Return Codes and Messages:** This job should complete with a return code 0. However, if some or all of these DDDEF entries already exist, then the job will complete with a return code 8. You will have to examine the output and determine whether or not the existing entries should be replaced. You can change the 'ADD' to 'REP' in this job to replace existing entries.

2. Job INGDDDCL defines the DDDEFs, for the SA for z/OS prerequisite product libraries, to SMP/E. These DDDEFs are used by the SMP/E CALLLIB function during installation.

Edit sample job INGDDDCL. Consult the instructions in the sample job for more information and submit sample job INGDDDCL.

If the prerequisite products are installed in the same SMP/E CSI zones as SA for z/OS, the DDDEFs may already be defined. Edit the job to comment out the libraries that are already defined.

**Expected Return Codes and Messages:** INGDDDCL will complete with message GIM35601E and a return code of 8 if a DDDEF entry already exists. Otherwise, INGDDDCL should complete with a return code of 0.

## 6.1.8 Perform SMP/E APPLY

Edit and submit sample job INGAPPLY to perform an SMP/E APPLY CHECK for SA for z/OS. Consult the instructions in the sample job for more information.

At this point you must decide which format of SA for z/OS I/O Operations operator console messages you want to use.

Mixed-case US English is included in the base. No action is required for this selection.

Upper-case US English is supplied for installations which must print the console log on an upper-case-only printer. It is installed by doing an APPLY of the dependent feature JKYS301.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the following on the APPLY CHECK: PRE, ID, REQ, and IFREQ. This is because the SMP/E root cause analysis identifies the cause only of **ERRORS** and not of **WARNINGS** (SYSMODs that are bypassed are treated as warnings, not errors, by SMP/E).

Once you have taken any actions indicated by the APPLY CHECK, remove the CHECK operand and run the job again to perform the APPLY.

**Note:** The GROUPEXTEND operand indicates that SMP/E apply all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

**Expected Return Codes and Messages from APPLY CHECK: 0.**

**Expected Return Codes and Messages from APPLY: 4.**

**Note:** If both, the FMID JKYS303 and the dependent features JKYS301 and JKYS302 are ACCEPTED together, 'NOT SEL' messages will be received for JKYS303 CSECTs that are also in the feature FMIDs and can be ignored.

INGAPPLY will complete with messages GIM23903W or GIM23913W (depending on system setup), IEW2646W, IEW2651W, IEW2454W, and a return code 4.

Be aware that SA z/OS utilizes the SMP/E CALLLIB function. Basically two Link Edits are done. The first Link Edit will have UNRESOLVED REFERENCES. These REFERENCES will be resolved during the second Link Edit.

## 6.1.9 Perform SMP/E ACCEPT

Edit and submit sample job INGACCPT to perform an SMP/E ACCEPT CHECK for SA for z/OS. Consult the instructions in the sample job for more information.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the following on the ACCEPT CHECK: PRE, ID, REQ, and IFREQ. This is because the SMP/E root cause analysis identifies the cause only of **ERRORS** and not of **WARNINGS** (SYSMODs that are bypassed are treated as warnings, not errors, by SMP/E).

Before using SMP/E to load new distribution libraries, it is recommended that you set the ACCJCLIN indicator in the distribution zone. This will cause entries produced from JCLIN to be saved in the distribution zone whenever a SYSMOD containing inline JCLIN is ACCEPTed. For more information on the ACCJCLIN indicator, see the description of inline JCLIN in the SMP/E manuals.

Once you have taken any actions indicated by the ACCEPT CHECK, remove the CHECK operand and run the job again to perform the ACCEPT.

**Note:** The GROUPEXTEND operand indicates that SMP/E accept all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

### **Expected Return Codes and Messages from ACCEPT CHECK: 0.**

If PTFs containing replacement modules are being ACCEPTed, SMP/E ACCEPT processing will linkedit/bind the modules into the distribution libraries. During this processing, the Linkage Editor or Binder may issue messages documenting unresolved external references, resulting in a return code of 4 from the ACCEPT step. These messages can be ignored, because the distribution libraries are not executable and the unresolved external references will not affect the executable system libraries.

### **Expected Return Codes and Messages from ACCEPT: 0.**

**Note:** If both, the FMID JKYS303 and the dependent features JKYS301 and JKYS302 are APPLIED together, 'NOT SEL' messages will be received for JKYS303 CSECTs that are also in the feature FMIDs and can be ignored.

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## 6.2 Activating SA for z/OS

The publication *System Automation for z/OS User's Guide, SC33-7040* contains the step-by-step procedures to activate the functions of SA for z/OS.



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## Appendix A. SA for z/OS Install Logic

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### A.1 SMP/E Modification Control Statements

The SMP/E Modification Control Statements (SMPMCS) for SA for z/OS are contained in the SMPMCS file on the installation tape. The SMPMCS for each FMID in the product will be loaded to the SMPPTS data set, with a member name matching the FMID, when the FMID is SMP/E RECEIVED. You may browse or print these members using TSO/E, ISPF, or IEBGENER (or IEBTPCH).

---

### A.2 SMP/E JCLIN

The JCLIN for SA for z/OS is contained in the RELFILES on the installation tape. These files will be loaded to disk by SMP/E when the product is SMP/E RECEIVED. You may browse or print these files using TSO/E, ISPF, or IEBGENER (or IEBTPCH).

The files containing JCLIN are:

FMID HKYS300: DSPREFIX.HKYS300.F1(HKYS300)

FMID JKYS301: DSPREFIX.JKYS301.F1(JKYS301)

FMID JKYS303: DSPREFIX.JKYS303.F1(JKYS303)

**Note:** The high-level qualifier is the qualifier specified as the DSPREFIX in the SMP/E OPTIONS.



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very satisfied	<----->	very dissatisfied	not applicable		
1	2      3      4	5	N		

	Satisfaction					
Ease of product installation	1	2	3	4	5	N
Contents of Program Directory	1	2	3	4	5	N
Installation Verification Programs	1	2	3	4	5	N
Time to install the product	1	2	3	4	5	N
Readability and organization of Program Directory tasks	1	2	3	4	5	N
Necessity of all installation tasks	1	2	3	4	5	N
Accuracy of the definition of the installation tasks	1	2	3	4	5	N
Technical level of the installation tasks	1	2	3	4	5	N
Ease of getting the system into production after installation	1	2	3	4	5	N

How did you order this product?

- CBPDO
- CustomPac
- ServerPac
- Independent
- Other

Is this the first time your organization has installed this product?

- Yes
- No

Were the people who did the installation experienced with the installation of z/OS products?

- Yes

\_\_\_ No

If yes, how many years? \_\_\_

If you have any comments to make about your ratings above, or any other aspect of the product installation, please list them below:

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