

ASG-SmartDoc™ Installation Guide

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ASG Support Numbers

ASG provides support throughout the world to resolve questions or problems regarding installation, operation, or use of our products. We provide all levels of support during normal business hours and emergency support during non-business hours. To expedite response time, please follow these procedures.

Please have this information ready:

- Product name, version number, and release number
- List of any fixes currently applied
- Any alphanumeric error codes or messages written precisely or displayed
- A description of the specific steps that immediately preceded the problem
- The severity code (ASG Support uses an escalated severity system to prioritize service to our clients. The severity codes and their meanings are listed below.)
- Verify whether you received an ASG Service Pack for this product. It may include information to help you resolve questions regarding installation of this ASG product. The Service Pack instructions are in a text file on the distribution media included with the Service Pack.

If You Receive a Voice Mail Message:

- 1 Follow the instructions to report a production-down or critical problem.
- 2 Leave a detailed message including your name and phone number. A Support representative will be paged and will return your call as soon as possible.
- 3 Please have the information described above ready for when you are contacted by the Support representative.

Severity Codes and Expected Support Response Times

Severity	Meaning	Expected Support Response Time
1	Production down, critical situation	Within 30 minutes
2	Major component of product disabled	Within 2 hours
3	Problem with the product, but customer has work-around solution	Within 4 hours
4	"How-to" questions and enhancement requests	Within 4 hours

ASG provides software products that run in a number of third-party vendor environments. Support for all non-ASG products is the responsibility of the respective vendor. In the event a vendor discontinues support for a hardware and/or software product, ASG cannot be held responsible for problems arising from the use of that unsupported version.

Business Hours Support

Your Location	Phone	Fax	E-mail
United States and Canada	800.354.3578	941.263.2883	support@asg.com
Australia	61.2.9460.0411	61.2.9460.0280	support.au@asg.com
England	44.1727.736305	44.1727.812018	support.uk@asg.com
France	33.141.028590	33.141.028589	support.fr@asg.com
Germany	49.89.45716.222	49.89.45716.400	support.de@asg.com
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All other countries:	1.941.435.2200		support@asg.com

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Your Location	Phone	Your Location	Phone
United States and Canada	800.354.3578		
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Denmark	00.800.9932.5536	New Zealand	00.800.9932.5536
France	00.800.3354.3578	Singapore	001.800.3354.3578
Germany	00.800.3354.3578	South Korea	001.800.9932.5536
Hong Kong	001.800.9932.5536	Sweden/Telia	009.800.9932.5536
Ireland	00.800.9932.5536	Switzerland	00.800.9932.5536
Israel/Bezeq	014.800.9932.5536	Thailand	001.800.9932.5536
Japan/IDC	0061.800.9932.5536	United Kingdom	00.800.3354.3578
		All other countries	1.941.435.2200

ASG Web Site

Visit <http://www.asg.com>, ASG's World Wide Web site.

Submit all product and documentation suggestions to ASG's product management team at <http://www.asg.com/asp/emailproductsuggestions.asp>.

If you do not have access to the web, FAX your suggestions to product management at (941) 263-3692. Please include your name, company, work phone, e-mail ID, and the name of the ASG product you are using. For documentation suggestions include the publication number located on the publication's front cover.

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Preface

This *ASG-SmartDoc Installation Guide* guides you in installing and maintaining ASG-SmartDoc (herein called SmartDoc). SmartDoc is a product used in the ASG Maintenance Programming Environment that automates the time consuming and error prone process of analyzing and documenting application programs.

Allen Systems Group, Inc. (ASG) provides professional support to resolve any questions or concerns regarding the installation or the use of any ASG product. Telephone technical support is available around the world, 24 hours a day, 7 days a week.

ASG welcomes your comments, as a preferred or a prospective customer, on this publication or on any ASG product.

About this Publication

This publication consists of these chapters:

- [Chapter 1, "Introduction,"](#) contains an overview of SmartDoc.
- [Chapter 2, "SmartDoc Customization,"](#) describes the steps used to customize specific SmartDoc libraries, invoke SmartDoc, and to validate the SmartDoc installation.

Related Publications

The ASG-SmartDoc documentation library consists of these publications (where *nn* represents the product version number):

- The *ASG-Center Installation Guide* (CNX0300-*nn*) contains ASG-Center installation and customization procedures. ASG-Center must be installed before ASG-SmartDoc is installed.
- The *ASG-SmartDoc Installation Guide* (DCX0300-*nn*) provides instruction for installing and maintaining ASG-SmartDoc.
- The *ASG-SmartDoc User's Guide* (DCX0200-*nn*) describes ASG-SmartDoc instructions and report generation.

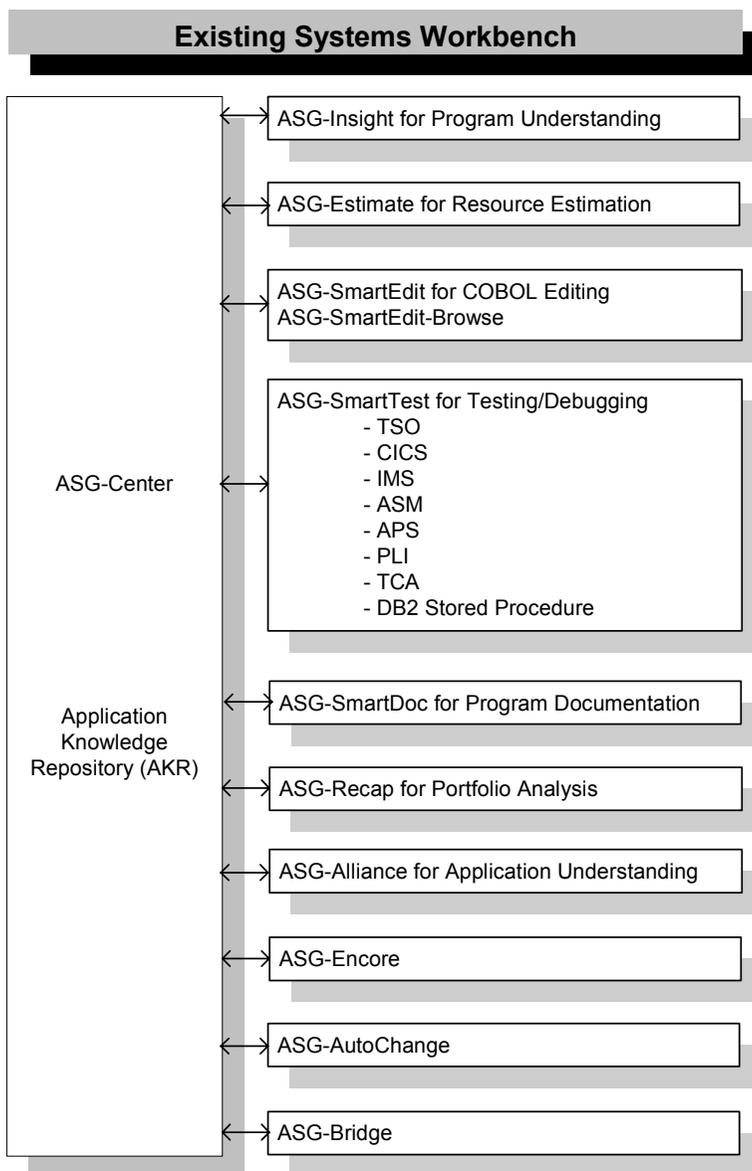
Note: _____

To obtain a specific version of a publication, contact the ASG Service Desk.

ASG-Existing Systems Workbench (ASG-ESW)

ASG-ESW (herein called ESW) is an integrated suite of components designed to assist organizations in enhancing, redeveloping, or re-engineering their existing systems. ESW products use the Application Knowledge Repository (AKR) to store source program analysis information generated by the Analytical Engine. [Figure 1](#) represents the components of ESW.

Figure 1 • ASG Existing Systems Workbench



This table contains the name and description of each ESW component:

ESW Product	Herein Called	Description
ASG-Alliance	Alliance	The application understanding component that is used by IT professionals to conduct an analysis of every application in their environment. Alliance supports the analysis and assessment of the impact of change requests upon an entire application. Alliance allows the programmer/analyst to accurately perform application analysis tasks in a fraction of the time it would take to perform these tasks without an automated analysis tool. The impact analysis from Alliance provides application management with additional information for use in determining the resources required for application changes.
ASG-AutoChange	AutoChange	The COBOL code change tool that makes conversion teams more productive by enabling quick and safe changes to be made to large quantities of code. AutoChange is an interactive tool that guides the user through the process of making source code changes.
ASG-Bridge	Bridge	The bridging product that enables field expansion for program source code, without being required to simultaneously expand the fields in files or databases. Because programs are converted in smaller groups, or on a one-by-one basis, and do not require file conversion, testing during the conversion process is simpler and more thorough.
ASG-Center	Center	The common platform for all ESW products. Center provides the common Analytical Engine to analyze the source program and store this information in the AKR. This common platform provides a homogeneous environment for all ESW products to work synergistically.

ESW Product	Herein Called	Description
ASG-Encore	Encore	The program re-engineering component for COBOL programs. Encore includes analysis facilities and allows you to extract code based on the most frequently used re-engineering criteria. The code generation facilities allow you to use the results of the extract to generate a standalone program, a callable module, a complement module, and a CICS server. Prior to code generation, you can view and modify the extracted Logic Segment using the COBOL editor.
ASG-Estimate	Estimate	The resource estimation tool that enables the user to define the scope, determine the impact, and estimate the cost of code conversion for COBOL, Assembler, and PL/I programs. Estimate locates selected data items across an application and determines how they are used (moves, arithmetic operations, and compares). Time and cost factors are applied to these counts, generating cost and personnel resource estimates.
ASG-Insight	Insight	The program understanding component for COBOL programs. Insight allows programmers to expose program structure, identify data flow, find program anomalies, and trace logic paths. It also has automated procedures to assist in debugging program abends, changing a computation, and resolving incorrect program output values.
ASG-Recap	Recap	The portfolio analysis component that evaluates COBOL applications. Recap reports provide function point analysis and metrics information, program quality assessments, intra-application and inter-application comparisons and summaries, and historical reporting of function point and metrics information. The portfolio analysis information can also be viewed interactively or exported to a database, spreadsheet, or graphics package.
ASG-SmartDoc	SmartDoc	The program documentation component for COBOL programs. SmartDoc reports contain control and data flow information, an annotated source listing, structure charts, program summary reports, exception reports for program anomalies, and software metrics.

ESW Product	Herein Called	Description
ASG-SmartEdit	SmartEdit	The COBOL editing component that can be activated automatically when the ISPF/PDF Editor is invoked. SmartEdit provides comprehensive searching, inline copybook display, and syntax checking. SmartEdit allows you to include an additional preprocessor (for example, the APS generator) during syntax checking. SmartEdit supports all versions of IBM COBOL, CICS, SQL, and CA-IDMS.
ASG-SmartTest	SmartTest	The testing/debugging component for COBOL, PL/I, Assembler, and APS programs in the TSO, MVS Batch, CICS (including file services), and IMS environments. SmartTest features include program analysis commands, execution control, intelligent breakpoints, test coverage, pseudo code with COBOL source update, batch connect, disassembled object code support, and full screen memory display.

Invoking ESW Products

The method you use to invoke an ESW product depends on your system setup. If you need assistance to activate a product, see your systems administrator. If your site starts a product directly, use the ISPF selection or CLIST as indicated by your systems administrator. If your site uses the ESW screen to start a product, initiate the ESW screen using the ISPF selection or CLIST as indicated by your systems administrator and then typing in the product command on the command line.

The product names can also vary depending on whether you access a product directly or through ESW. See ["ESW Product Integration" on page ix](#) for more information about using ESW.

To initialize ESW products from the main ESW screen, select the appropriate option on the action bar pull-downs or type the product shortcut on the command line.

Product Name	Shortcut	ESW Pull-down Options
Alliance	AL	Understand ▶ Application
AutoChange	CC	Change ▶ Conversion Set
Bridge	BR	Change ▶ ASG-Bridge
Encore (Re-engineer)	EN	Re-engineer ▶ Program
Estimate	ES	Measure ▶ ASG-Estimate
Insight (Understand)	IN	Understand ▶ Program
Recap (Portfolio Analysis)	RC	Measure ▶ Portfolio
SmartDoc (Document)	DC	Document ▶ Program
SmartEdit	SE	Change ▶ Program Or Change ▶ Program with Options
SmartTest	ST	Test ▶ Module/Transaction

ESW Product Integration

Because ESW is an integrated suite of products, you are able to access individual ESW products directly or through the main ESW screen. As a result, you might see different fields, values, action bar options, and pull-down options on a screen or pop-up depending on how you accessed the screen or pop-up.

Certain ESW products also contain functionality that interfaces with other ESW products. Using SmartTest as an example, if Alliance is installed, SmartTest provides a dynamic link to Alliance that can be used to display program analysis information. If Insight is installed and specified during the analyze, the Insight program analysis functions are automatically available for viewing logic/data relationships and execution path. For example, the Scratchpad option is available on the Options pull-down if you have Insight installed. Access to these integrated products requires only that they be installed and executed in the same libraries.

Example 2. [Figure 4](#) shows the File - Analyze Submit pop-up that displays when you access SmartTest directly. [Figure 5](#) shows the File - Analyze Submit pop-up that displays when you access SmartTest through ESW.

Notice that the Analyze features field in [Figure 5](#) lists additional ESW products than shown on [Figure 4](#). This field is automatically customized to contain the ESW products you have installed on your system.

The actions shown on these screens also vary. For example, the D action (ASG-SmartDoc Options) is available on the File - Analyze Submit screen if the SmartDoc product is installed on your system. In [Figure 4](#), the ASG-SmartDoc Options action is not available.

Figure 4 • File - Analyze Submit Screen

```

                                File - Analyze Submit
Command ==> -----
                E - Edit JCL                      S - Submit JCL

Compile and link JCL (PDS or sequential):
  Data set name 'USER12.REL.CNTL(UIAPCOBC)'

Analyze features (Y/N):
  ASG-SmartTest: Y  Extended Analysis: N

AKR data set name 'USER12.GENERAL.AKR'
AKR program name      (if overriding PROGRAM-ID)

Analyze options:
-----
-----

Compile? (Y/N) . . . . . Y      (Y if needed by features)
Link load Module reusable? (Y/N) Y
  
```

Figure 5 • File - Analyze Submit Screen (Accessed through ESW)

```

                                File - Analyze Submit
Command ==> -----
                E - Edit JCL    S - Submit JCL    D - ASG-SmartDoc Options

Compile and link JCL (PDS or sequential):
  Data set name 'USER12.REL.CNTL(HTEST)'

Analyze features (Y/N):
  ASG-Insight: Y  ASG-SmartTest: Y  Extended Analysis: N
  ASG-SmartDoc: N  ASG-Encore: N
AKR data set name 'USER12.GENERAL.AKR'
AKR program name      (if overriding PROGRAM-ID)

Analyze options:
-----
-----

Compile? (Y/N) . . . . . Y      (Y if needed by features)
Link load Module reusable? (Y/N) Y      (ASG-SmartTest)
  
```

Publication Conventions

ASG uses these conventions in technical publications:

Convention	Represents
ALL CAPITALS	Directory, path, file, dataset, member, database, program, command, and parameter names.
Initial Capitals on Each Word	Window, field, field group, check box, button, panel (or screen), option names, and names of keys. A plus sign (+) is inserted for key combinations (e.g., Alt+Tab).
<i>lowercase italic monospace</i>	Information that you provide according to your particular situation. For example, you would replace <i>filename</i> with the actual name of the file.
Monospace	Characters you must type exactly as they are shown. Code, JCL, file listings, or command/statement syntax. Also used for denoting brief examples in a paragraph.
Vertical Separator Bar () with underline	Options available with the default value underlined (e.g., Y <u>N</u>).

1

Introduction

This chapter contains an overview of SmartDoc and contains these sections:

Topic	Page
ASG Service Pack	1
SmartDoc Concepts	2
SmartDoc Features	2
Operating Environment	2
COBOL Support	3
Preprocessor Support	3

Note: _____

ASG-Center must be installed and customized before SmartDoc is installed. If Center is not installed, see the *ASG-Center Installation Guide*.

ASG Service Pack

Verify whether you received an ASG Service Pack for this product. If so, read the instructions for installing the Service Pack before proceeding with the product installation. The installation instructions are located in a text file on the distribution media included with the Service Pack. If you have any problems with the Service Pack, contact the ASG Service Desk.

SmartDoc Concepts

Program documentation gives IT professionals information about program structure and logic. This documentation is vital because programs constantly need to be either changed or modified, and often the individual assigned the task is not the original author.

SmartDoc analysis offers you significant program knowledge, and SmartDoc documentation includes a comprehensive report collection for you to use. One of these reports, the program structure chart, displays program logic graphically.

SmartDoc also provides software metrics that allow you to evaluate and rank programs within a system.

SmartDoc Features

SmartDoc gives you an enhanced set of current and accurate program documentation, reports, and documents you can access through an interactive user interface.

Operating Environment

These are the SmartDoc requirements:

- MVS/ESA, or OS/390
- VSAM is required if any AKR is allocated as VSAM
- Storage above the 16M line is used for load modules and GETMAINS
- Direct access storage

Note: _____

See to the *ASG-Center Installation Guide* for the quantities.

- 3270 type terminals; Models 2, 3, 4, or 5

COBOL Support

SmartDoc products support these COBOL compilers:

- COBOL II (including releases 3 and 4)
- CASE Generated COBOL
- COBOL/370
- COBOL for MVS and VM
- COBOL for OS/390

Preprocessor Support

SmartDoc products support these preprocessor languages directly:

- Command Level CICS
- Command Level DL/I
- IDMS
- SQL

Other preprocessed languages can be supported from the generated COBOL code.

2

SmartDoc Customization

This chapter describes how to customize SmartDoc libraries, invoke SmartDoc, validate SmartDoc installation, and contains these sections:

Topic	Page
Prerequisite	5
Step 1 - Modifying CNTL Library Members	6
Step 2 - Adding SmartDoc Modules to MLPA/PLPA	9
Step 3 - Processing Considerations	10
Step 4 - Invoking SmartDoc	10
Step 5 - Validating SmartDoc for ISPF Sites	11
Step 6 - Validating SmartDoc for Non-ISPF Sites	17

Prerequisite

Note:

ASG-Center must be installed and customized before customizing SmartDoc. If ASG-Center has not been installed, see the *ASG-Center Installation Guide*.

Step 1 - Modifying CNTL Library Members

Review these members for modification (if applicable to your environment):

Member	Description
VIADCMP3	JCL to compile the VIADDEM3 COBOL II Release 3 test program.
VIADDCVS	JCL to compile the VIADDDMO test program.
VIADLACV	JCL to compile and link the VIADPRIM training laboratory program.
VIADSDOC	JCL to run SmartDoc on a previously-analyzed program.
VIASAKRU	JCL to maintain the AKR.

Note: _____
Modify the next three members only if ISPF is not installed.

Member	Description
VIASAKRA	JCL to allocate and initialize an AKR.
VIASAKRX	JCL to expand an AKR.
VIASANJC	JCL to run the JCL Conversion program. Specify the correct values for the parameters described in the table on the next page. These are contained in the applicable members listed above.

These are the parameters that are associated with each applicable member:

Parameter	Value	Library
ASG	Specify the high-level node where the ASG products are installed.	VIADCMP3 VIADDCVS VIADLACV VIADSDOC VIASAKRU VIASAKRA VIASAKRX VIASANJC
CENTER	Specify the second-level node where ESW products are installed. If the ESW dataset names contain more than three nodes, then specify all nodes except the first and the last as CENTER. For example, the dataset name of SYS3.CEN _{xx} .NEW.LOADLIB should have ASG=SYS3 and CENTER=CEN _{xx} .NEW.	VIADCMP3 VIADDCVS VIADLACV VIADSDOC VIASAKRU VIASAKRA VIASAKRX VIASANJC
SYSOUT	Specify the correct SYSOUT character.	VIADCMP3 VIADDCVS VIADLACV VIADSDOC VIASAKRU VIASAKRA VIASAKRX VIASANJC
SYSDA	Specify the appropriate UNIT for temporary datasets	VIADCMP3 VIADDCVS VIADLACV VIADSDOC VIASAKRU VIASANJC
COMPILR	Specify the COBOL compiler load module name.	VIADCMP3 VIADDCVS VIADLACV

Parameter	Value	Library
COBCOMP	Specify the COBOL compiler load library name.	VIADCMP3 VIADDCVS VIADLACV
LOADLIB	Specify the user load library.	VIADLACV
VIAAKR	Specify the dataset name for the AKR.	VIADSDOC
AKRIN	Specify the dataset name for the input AKR.	VIASAKRU
AKROUT	Specify the dataset name for the output AKR.	VIASAKRU
PUNCH	Specify the dataset name for the PUNCH file.	VIASAKRU
PERMVOL	Specify the volume for the PUNCH file.	VIASAKRU

Overriding Default SmartDoc Installation Options

To override the default SmartDoc installation options, edit the ASG.VIACEN_{xx}.CNTL member VIA\$PRMD and modify the appropriate option.

See the *ASG-Center Installation Guide* for information on changing the installation option values.

This table lists specific SmartDoc installation option parameters:

Parameter	
Character-Back-Slash	Report-Program-Exception
Perform-Hier-Chart-Conditionals	Report-Structure-Chart
Perform-Hier-Struct-Duplicates	Report-Subset
Perform-Hierarchy-Chart-GOTO	Report-Verb-Context
Report-Advanced-Source	Report-Verb-Frequency
Report-Call	SmartDoc-COBOL-List-To-SYSPRINT
Report-Compiler-Output	SmartDoc-Help
Report-Condensed-Source	SmartDoc-Minimum-Reports

Parameter	
Report-Copy	Structure-Chart-Birds-Eye
Report-Data-Division	Structure-Chart-Conditionals
Report-Enhanced-Data-Xref	Structure-Chart-GOTOs
Report-Metrics	Structure-Chart-Horizontal-Size
Report-Paragraph-Xref	Structure-Chart-Max-Pages
Report-Perform-Hierarchy-Chart	Structure-Chart-Mode
Report-Perform-Interface	Structure-Chart-Vertical-Size

Step 2 - Adding SmartDoc Modules to MLPA/PLPA

The SmartDoc main load modules VIADBTCH and VIADMAIN are re-entrant, and available for location in Extended LPA. These are the advantages of using Extended LPA:

- Reduced memory requirement per user
- Decreased required swap space
- Improved performance

Moving these modules to MLPA/PLPA is optional. ASG recommends you keep the original ASG load library (from the installation tape) as a staging library so required PTFs can easily be applied. You can copy the re-entrant modules to the Extended LPA and the non-reentrant modules to a separate user library. These steps also require you to either change user logons or product allocations. The CNTL library contains two members, VIASLPAJ and VIASLPXJ, you can use to perform these copy steps.

Caution! Do not use the ISPF 3.3 copy feature to copy these modules because some modules have aliases.

Step 3 - Processing Considerations

COPYLIBs with Debug Limitations

Analyze does not expand copy flagged as DEBUG statements when you do not activate the DEBUG option. The COBOL compiler expands these entries, flagging each expansion line as DEBUG (e.g., a comment line since DEBUG is not active). This results in the line numbers between the COBOL source and the Analyze source being different after the point of the COPYLIB insertion. Such programs produce sequence errors. SmartDoc can view these programs, but statement displacements may be incorrect.

Step 4 - Invoking SmartDoc

Note: _____

This step is not required for SmartDoc installations without ISPF. This step is also skipped if you installed the ESW products menu as described in the *ASG-Center Installation Guide*.

Use these screen definition cards to add a SmartDoc option to the ISPF Primary Menu or to another dialog menu.

Use this line to describe the SmartDoc option to the user:

```
% D +SmartDoc - ASG Static Analyzer and Program Documentation  
Generator
```

Use this line to invoke SmartDoc based on the user selection of the letter D:

```
D, 'CMD(%SMARTDOC) NEWAPPL(VIAD) '
```

Note: _____

After you update the ISPF environment, you may need to reenter ISPF before the facilities are available.

To Invoke SmartDoc with a CLIST, follow this step:

- ▶ Type `TSO VIASMDOC` on the command line in the ESW primary screen.

The VIASMDOC CLIST invokes the SMARTDOC CLIST while specifying the NEWAPPL(VIAD) parameter to set the correct application ID.

Step 5 - Validating SmartDoc for ISPF Sites

If ISPF is installed, review [Chapter 1, "Operating Environment" on page 2](#), and complete this step.

If ISPF is not installed, perform the next step, ["Step 6 - Validating SmartDoc for Non-ISPF Sites" on page 17](#) instead.

To verify that the installation completed successfully, complete the steps beginning on page [11](#). An installation checkout form is included in the Appendix B - ["Installation Checkout." on page 23](#), to assist in the installation.

Note: _____

The dataset names used in validation steps are the default names. If you changed them, use the changed names where the default names have been specified.

To test the logon library allocations

- 1 Select one of these options from the ISPF menu to enter SmartDoc:
 - If you installed SmartDoc as described in ["Step 4 - Invoking SmartDoc" on page 10](#), use the ISPF menu selection or the CLIST.
 - If you installed the ESW product menu described in the *ASG-Center Installation Guide*, use the ISPF menu selection or the CLIST to display the ASG product primary screen.
- 2 Select Document ▶ Program and press Enter to display the SmartDoc Primary screen.

Note: _____

If you used the ESW product primary screen to enter SmartDoc, the product name displays as ESW - Program Documentation.

- 3 Select Help ▶ About and press Enter.

This allows you to verify the product releases and levels of SmartDoc and Center that are installed. The name, release number, maintenance level, and operating system display.

- 4 Press PF3/15 to exit Help About.

To review and/or modify SmartDoc options

- 1** Select Options ▶ Product Parameters from the SmartDoc Primary screen and press Enter. The Options - Parameter Definition pop-up displays.

Review and/or modify the parameter definitions, then press PF3/15.
- 2** Select Options ▶ Log and press Enter. The Options - Log File Definition pop-up displays.
 - a** Review and/or modify the Log file defaults.
 - b** Enter the JOB statement information and press PF3/15.
- 3** Select Options ▶ PF keys and press Enter. The Options - PF Key Definition pop-up displays.
 - a** Review and/or modify the PF key definitions.
 - b** Press Enter to switch between PF keys 1 through 12 and 13 through 24.
 - c** Press PF3/15 to exit the Options - PF Key Definition pop-up.

To allocate an AKR

Note: _____

Skip this step if you have already created an AKR while validating another ASG product.

- 1** Select File ▶ AKR utility from the SmartDoc Primary screen and press Enter. The File - AKR Utility pop-up displays.
- 2** Enter the name of the AKR to allocate.
- 3** Type A in the command area and press Enter.

Note: _____

The fields on the File - AKR Allocate/Expand pop-up vary depending on the settings for the Center installation option parameters, AKR-DSORG-VSAM and SMS.

- 4** Verify the AKR name on the File - AKR Allocate/Expand pop-up.
- 5** Enter the values for the Management Class, Storage Class, and Data Class if you are using SMS managed datasets.

SMS Managed Datasets

If you did not specify SMS managed datasets in the VIA\$PRMS parameter SMS while installing Center, the ASMS fields do not display. If they do not display, perform these tasks:

- Enter the value for VOLUME where the permanent AKR is to be placed.
- Review the Space Units and Space Amount.
- Enter the UNIQUE parameter for the selected volume if you are allocating a VSAM AKR.
- If this dataset needs to be cataloged under a user catalog, type C in the command input area to display the AKR Catalog Information pop-up. Enter the Catalog DSN and password, and press PF3/15 to exit the AKR Catalog Information pop-up.
- Enter this JOB statement information for your site and enter S in the command area to submit the job.
- Wait for the job to finish, then verify the AKR was allocated and initialized.
- Press PF3/15 to return to the primary SmartDoc screen.

[Figure 6](#) shows how the File - AKR Allocate/Expand pop-up looks when displaying a VSAM AKR with SMS support installed.

Figure 6 • File - AKR Allocate/Expand Pop-up with SMS and a VSAM AKR

```

File View Options Help
-----
File - AKR Allocate/Expand
Command ==> _____
          S - Submit JCL      E - Edit JCL      C - Specify Catalog
Expand existing AKR . . . NO          (Yes or No)
AKR data set name . . . 'USERID.TEST.AKR'
Volume . . . . . _____
Unit . . . . . SYSDA          (Generic unit name)
Space units . . . . . RECORDS  (Records, Tracks or Cylinders)
Primary space . . . . . 4000   (Primary amount in above units)
Secondary space . . . . . 0    (Secondary amount in above units)

Job statement information:
//USERA JOB (ACCOUNT),'AKR-RUN',
// MSGCLASS=X,CLASS=A,NOTIFY=USERID,PRTY=6
//* INSERT /*ROUTE PRINT NODE.USER' HERE IF NEEDED.
/*

```

To analyze the demonstration programs

- 1 Select File ► Analyze from the SmartDoc Primary screen and press Enter. Either the Analyze Submit pop-up or the ESW - Prepare Program pop-up displays.

Enter the appropriate information on the Analyze Submit pop-up.

Note:

The compile and link JCL dataset name is ASG.VIACEN_{xx}.CNTL. Use member VIADDCVS for VSCOBOL and member VIADCMP3 for COBOL II Release 3.

- 2 Enter the AKR dataset name.
- 3 Type D in the command area to view the File - SmartDoc Report pop-up.
 - a Verify the parameters displayed match the default options.
 - b Set the parameters shown in this table:

Set...	To...
Analyze	/
Compile?	Y
Extended Analyst	/
Produce Reports	/

- 4 Select the number for Select Reports in the Actions field and press Enter. The File - Select Reports pop-up displays.
 - a Verify that the selected reports match the default installation options set earlier in this chapter.
 - b Select each applicable Report Option for review to verify that the options for that report match the default installation options set earlier in this chapter.
 - c Press PF3/PF15 to return to the File - SmartDoc Report pop-up.
- 5 Verify the JOB card and routing information by typing the code for Edit JCL in the Actions field. Press Enter.

To submit the Compile/Analyze/SmartDoc job

- 1 Enter the ISPF SUBMIT command on the Editor screen.
- 2 Press PF3/15 to return to the File - SmartDoc Report pop-up.
- 3 Press PF3/15 to return to the Analyze Submit pop-up.
 - a Change the JCL member name to VIADLACV.
 - b Type E in the command area to submit the new analyze job.
 - c Check the job information, and then enter the ISPF SUBMIT in the command area.
- 4 Verify that the analyze job and all requested SmartDoc reports completed.

This utilizes the JCL conversion system and verifies that it operates correctly in your environment.

Note: _____

See the *ASG-SmartDoc User's Guide* and/or Online Help for information on the Analyze pop-ups.

To verify SmartDoc report formatting and correctness

- 1 Route the Compile/Analyze/SmartDoc job SYSOUT to the printer(s) normally used to print SmartDoc reports.
- 2 Separate SmartDoc reports from the job output.
- 3 Review the reports for proper formatting.

Note: _____

If the printer does not provide either vertical bars or colons, it may be necessary to provide replacement characters in the default options as explained in the printer's manual.

To validate IDMS support by analyzing an IDMS program.

- 1 Select File ► Analyze from the SmartDoc Primary screen and press Enter. The Analyze Submit pop-up displays.
- 2 Enter the dataset name for the compile and link JCL for the IDMS program to be analyzed.
- 3 Enter the AKR dataset name.
- 4 Type D to view the File - SmartDoc Report pop-up.
 - a Set the parameters shown in this table:

Set...	To...
Analyze	/
Compile?	Y
Extended Analysist	/
Produce Reports	/

- b Enter the number of Submit JCL in the Actions: field.
 - c Press Enter to submit the Compile/Analyze/SmartDoc job.
- 5 Verify the analyze job and SmartDoc reports ran.

Validating DB2 Support by Analyzing a DB2 Program

Note:

If you have DB2, verify that ASG.VIACEN_{xx}.CNTL(VIASBIND) ran (refer to the *ASG-Center Installation Guide*). This step is required for sites having DB2. Failure to complete the DB2 installation step results in erroneous behavior by ESW products.

- 1 Select File ► Analyze from the SmartDoc Primary screen and press Enter. The Analyze Submit pop-up displays.
 - a Enter the dataset name for the compile and link JCL for the DB2 program to be analyzed.
 - b Enter the AKR dataset name.

- 2 Type D to view the File - SmartDoc Report pop-up.
 - a Set the parameters shown in this table:

Set...	To...
Analyze	/
Compile?	Y
Extended Analysist	/
Produce Reports	/

- b Enter the number for Submit JCL in the Actions: field.
- 3 Press Enter to submit the Compile/Analyze/SmartDoc job.
- 4 Verify the analyze job and SmartDoc reports ran.

Step 6 - Validating SmartDoc for Non-ISPF Sites

Note: _____

If ISPF is installed, see [Chapter 1, "Operating Environment" on page 2](#), and bypass this step.

If ISPF is not installed, complete these steps.

To validate SmartDoc for non-ISPF sites

- 1 Edit and submit the VIASAKRA JCL to allocate and initialize an AKR.
- 2 Verify that the VIASAKRA job ran. If necessary, make corrections and resubmit the job.
- 3 Edit and submit the VIASANJC JCL with VIADDCVS as the input JCL.

For this job, use these parameters in the parameters string or in the VIAIN DD statement:

- CMPL
- NOPANEL
- AKR(name of AKR allocated in 1)
- PGM(VIADDDMO)
- SD

4 Verify that the VIASANJC job ran. Make corrections and resubmit the job if required. VIASANJC produces JCL that compiles, links (if your original JCL linked), and analyzes your program.

5 Edit and submit the converted JCL.

For this job, use these additional parameters in the VIAIN DD statement:

- SDX
- SDR
- NOSYSRINT
- VIADCOMP
- CMPL

6 Print the VIADDDMO output. Separate the SmartDoc reports, and verify the formatting and output.

Note: _____

If the printer does not provide either vertical bars or colons, it may be necessary to provide replacement characters in the default options as explained in the printer's manual.

7 Edit and submit the VIADSDOC JCL by using VIADDDMO as the program. Use the AKR allocated in the first step. As no parameters are necessary, run with the defaults.

Verify that the VIADSDOC job ran. Make corrections and resubmit the job if required.

- 8** Edit and submit the VIASAKRX JCL to test the AKR expansion job.

Verify that the VIASAKRX job ran. Make corrections and resubmit the job if required.

The customization and checkout of SmartDoc is complete.

Appendix A

COBOL Compiler Options

Introduction

These tables list the COBOL compiler options used by SmartDoc. Each table contains the options that apply to a particular compiler such as COBOL II.

CA-Optimizer Compiler Options

These are the CA-Optimizer compiler options:

Required Compiler Option	Related Option	Comments
BUF=256K	SIZE	Minimum. Individual programs may require more
MDMAP		Required for proper variable display during testing
NONAME		Required for proper link editing of test modules
NONUM		Required for source display during testing
PMAP	NOCLIST	Required for source code tracing during testing
SIZE=512K	BUF	Minimum. Individual programs may require more
SOURCE		Required

COBOL II Compiler Options

These are the COBOL II compiler options:

Required Compiler Option	Related Option	Comments
LIST	NOOFFSET	Required to establish the location of verbs and paragraph/section names
MAP		Required to establish the location of data items in the user's load module
NONUM		Required for compiler generated line numbers
NOOFFSET	LIST	Required since OFFSET overrides LIST
SOURCE		Required
NOOPTIMIZER		Required

CA-Optimizer II Compiler Options

These are the CA-Optimizer compiler options:

Required Compiler Option	Related Option	Comments
LIST	NOOFFSET	Required to establish the location of verbs and paragraph/section names
MDMAP		Required to establish the location of data items in the user's load module
NONUM		Required for compiler generated sequence numbers
NOOFFSET	LIST	Required since OFFSET overrides LIST
SOURCE		Required

Appendix B

Installation Checkout

Company:

Installer:

Date: _____ / _____ / _____

Step 1- Product Test

Bypass this step if ISPF is not installed.

OK	Pending	Task
_____	_____	Using the AKR Utilities pop-up, perform these tasks: <ul style="list-style-type: none">• Allocate a new temporary AKR• Expand the new temporary AKR by using the EDIT JCL option on the AKR pop-up• Delete the temporary AKR by entering this in the command line: <pre>TSO DELETE 'temporary.akr.dsn'</pre>

Step 2 - Product Test

Note: _____

Testing the Program Analyzer entails loading all variations of COBOL, source managers, and preprocessors into the AKR.

OK	Pending	Task
_____	_____	Analyze and run all of the SmartDoc reports for the VIADDDMO demonstration program (by using VIADDCVS JCL) and the VIADPRIM training laboratory problem program (by using VIADLACV JCL). Print the SmartDoc reports and verify the formatting.
_____	_____	Analyze and run all of the SmartDoc reports for various user programs to test the preprocessors and source managers. Print the SmartDoc reports and verify formatting. After all user programs have been successfully tested, use the AKR Directory pop-up or the VIASAKRU JCL to delete all but the demo programs from the AKR.
_____	_____	Reanalyze and run all of the SmartDoc reports for the VIADDDMO demonstration program (by using VIADDCVS JCL) and the VIADPRIM training laboratory problem program (by using VIADLACV JCL). Print the SmartDoc reports and verify the formatting. Verify that there are two values shown on each of the Metrics Report graphs.

Step 3 - Product Test

Bypass this step if ISPF is not installed.

OK	Pending	Task
_____	_____	Enter the KEYS command to verify that the default PF key assignments match those shown in the <i>ASG-SmartDoc User's Guide</i> .
_____	_____	Test the log file allocation by using the DEBUG LOG command to force the log file allocation. Follow that command with the PRODLVL command to force output to the log file.
_____	_____	Test the log file job submission facility by entering option 1 to release the log file to print.

Step 4 - Product Test

Bypass this step if ISPF is installed.

OK	Pending	Task
_____	_____	Edit and submit the VIASAKRA JCL to allocate and initialize an AKR. Verify that the VIASAKRA job ran successfully.
_____	_____	Edit and submit the VIASANJC JCL with VIADDCVS as the input JCL. For this job, use these parameters in the parameter string or in the VIAIN DD statement: <ul style="list-style-type: none"> • CEMPL • NOPANEL • AKR (<i>previously allocated AKR name</i>) • PGM(VIADDDMO) • SD
_____	_____	<ul style="list-style-type: none"> • Edit and submit the converted JCL. For this job, use these additional parameters in the parameter string or in the VIAIN DD statement: <ul style="list-style-type: none"> • SDX • SDR • NOSYSPRINT • VIADCOMP • CEMPL
_____	_____	Edit and submit the VIADSDOC JCL, with VIADDDMO as the program, and using the AKR allocated above. Verify that the VIADSDOC job ran successfully.
_____	_____	Edit and submit the VIASAKRX JCL to test the AKR expansion job. Verify that the VIASAKRX job ran successfully

The installation of SmartDoc is now complete.

Appendix C

SmartDoc CNTL and CLIST Members

SmartDoc CNTL Members

These are the SmartDoc CNTL members:

Member	Description
VIASPRMD	SmartDoc installation options member
VIADCALC	SmartDoc COBOL training laboratory problem program
VIADCMP3	JCL to compile the VIADDEM3 COBOL II Release 3 test program
VIADDATA	Test data for VIADPRIM training laboratory program
VIADDCVS	JCL to compile and link the VIADDDMO and VIADDEM1 test programs
VIADDDMO	SmartDoc test program
VIADDEMO	SmartDoc COBOL test program
VIADDEM1	SmartDoc COBOL test program
VIADDEM3	SmartDoc COBOL II Release 3 test program
VIADLAB	JCL to run VIADPRIM
VIADLACV	JCL to compile and link the VIADPRIM, VIADCALC and VIADPRT training laboratory programs
VIADMAST	Copy member for VIADDDMO and VIADDEM3
VIADPRIM	SmartDoc COBOL training laboratory problem program

Member	Description
VIADPRT	SmartDoc COBOL training laboratory problem program
VIADSDOC	JCL to run SmartDoc on a previously-analyzed program

SmartDoc CLIST Members

These are the SmartDoc CLIST members:

Member	Description
SMARTDOC	Used by the VIASMDOC CLIST to invoke the SmartDoc product from native TSO
VIADTEST	Invokes the SmartDoc program under TSO test for diagnostic purposes only
VIAEDUSR	User exit to support source managers other than the ISPF options of Librarian and Panvalet
VIASMDOC	Invokes the SmartDoc program from a CLIST by using the correct application ID (VIAD)

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