Installation and Maintenance Instructions for SAS® 9.2 Installation Kit for Planning DVD Installations on z/OS®

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Before You Begin

This document provides all of the information related to installing a SAS 9.2 DVD Software **planning** order on z/OS systems for which you have purchased licenses. Please review this document in its entirety.

Be sure to review each of the topics in the "Prerequisites" and "Overview" sections before beginning your installation.

Prerequisites

System Requirements

Confirm that your system meets the minimum requirements by referring to the system requirements from the SAS 9.2 Install Center Documentation Web site (http://support.sas.com/documentation/installcenter/922/index.html) and selecting **Documentation for SAS 9.2 Installation on z/OS**, or referring to SAS Note 36008 (http://support.sas.com/kb/36/008.html).

Installation Alert Notes

Click **Outstanding Alert Status Installation Problems** from the http://support.sas.com/notes/index.html Web page. On the **Filter Results By** toolbar, select **z/OS** from the **Operating System** drop-down list box.

Review the Installation Alert Notes that are listed to see if they apply to this installation order.

Important: Be sure to review SAS Note 41697 at http://support.sas.com/kb/41697.

Software Order E-mail (SOE)

To install SAS 9.2 phase 2 on z/OS, start with the Software Order E-mail (SOE) you received from SAS Institute. This e-mail contains details such as the order number, a key, and the type of installation you have: Basic or Planning. Basic orders are generally straightforward single-machine deployments. Planning orders are more complex, multi-machine deployments. This document is for a **planning** order.

Pre-installation Checklists

A pre-installation checklist is a companion to this installation document and must be printed and completed before you continue with this installation. This installation guide leads you step by step through the installation of the SAS Intelligence Platform and, in the course of doing so, has you reference your pre-installation checklist information.
If you are using one of the standard deployment plans, browse through our library of standard deployment plans available at
http://www.sas.com/apps/demosdownloads/samplePlans_PROD_sysdep.jsp?packageID=000501 and select the plan for your installation. Each standard deployment plan includes a checklist which you should follow. For example, you can record information such as the user IDs for special SAS users, port numbers, and the installation locations of third-party products used for this installation.

SAS Installation Data File (SID file)

The SAS Software Depot includes the SAS installation data file (SID file), and is valid for a limited time. The SID file consists of customized installation information and product authorization information. The SAS Deployment Wizard uses the installation information in the SID file to install your licensed software and apply customized product authorization information to your system. The file is named something like `sas92_xxxxxx_yyyyyyyy_zzz.txt`, where `xxxxxx` is your order number, `yyyyyyyy` is your setnumid (a unique identifier that SAS Technical Support uses), and `zzz` is the operating system the order is licensed for.

The SID file for your software order will be located in the `sid_files` directory at the root of your SAS Software Depot or, if you have received media, on the first disk of that installation media.

If your order is more than 90 days old, the SID file shipped with the order may have expired. Contact your SAS site representative who may have received a Renewal Software Order E-mail that will contain a more recent SID file. If the site representative does not have an updated SID file, please contact SAS Customer Service at 1-800-727-0025 (press option 3).

Overview

SAS Deployment Wizard

The SAS Deployment Wizard is the common interface used to install and deploy all SAS 9.2 software. Using the SAS Deployment Wizard, you interact with the SAS Software Depot, the repository of files and data necessary to install your SAS 9.2 software. You will invoke the SAS Deployment Wizard on each system that is part of your SAS software deployment.

Deployment Plan

The deployment plan is an XML-based description of the topology for your SAS system. The plan file is used in the SAS software deployment process to "tell" the SAS Deployment Wizard which software components to install and configure on each machine.

The SAS Deployment Wizard contains a set of standard deployment plans that may be used by many sites with no customization. These are documented at http://www.sas.com/apps/demosdownloads/samplePlans_PROD_sysdep.jsp?packageID=000501. If you are working with a SAS consultant in the deployment of your software, that consultant may create a customized deployment plan for your installation.

SAS Software Depot

The SAS Software Depot is a collection of SAS installation files that represents one or more orders. The SAS Software Depot is organized in a specific format that is meaningful to the SAS Deployment Wizard, which is the tool that is used to install and initially configure SAS. The SAS Software Depot contains the SAS Deployment Wizard executable, one or more deployment plans, a SID file, order data, and product data. ***Please see your Software Order E-Mail for the space required for the SAS Software Depot for your order***.

Location of SAS Software Depot

You can load your SAS Software Depot from the DVD to either UNIX or Windows. You must be able to:

- Mount your UNIX or Windows directory on your z/OS system, using NFS mount, **or**
- Have a third-party utility that can transfer a complete directory tree to your z/OS system.

ASSIZEMAX or TSO Region Parameters

The user ID that will be running the SAS Deployment Wizard to install SAS 9.2 Foundation for z/OS requires a larger region setting:

- If running under OMVS, a TSO region size of at least 800 MB.
- If running UNIX-style commands using rlogin, putty, or telnet, an ASSIZEMAX of at least 800 MB.

The user ID must meet the following requirements:

- Must have a home directory that is not root.
- Must have a default program shell defined.
- Must not be a superuser.
- Must not share a uid with other user IDs.

SAS Home Location

SASHOME is the UNIX directory location where the UNIX file system components of your SAS software are installed on your machine. SASHOME is specified when you install software through the SAS Deployment Wizard for the first time, and that location becomes the default installation location for any other SAS software you install on the same machine. You will need about 3 GB of UNIX file system space for your SAS Home directory.

Many sites prefer to have SAS Home in a separate UNIX file system than their SAS Software Depot. This allows you to easily archive the SAS Software Depot and reuse that disk space. The directory path for your SAS Home location cannot be a directory within your SAS software depot.

Note: *The length of the SASHOME path is limited to 54 characters.*

Note: *The SAS Home directory is an integral part of the SAS 9.2 installation and* **MUST** *exist for you to apply maintenance or hotfixes to your SAS 9.2 software.*

SAS Configuration Directory

The SAS Deployment Wizard will prompt you for a configuration directory. The SAS configuration directory is the UNIX directory location where your SAS metadata and server configuration files and scripts will be created. You should have a minimum of 1 GB of space for this data, although total space requirements will depend on your usage of the metadata server.

Installing Required Third-Party Software

The checklist indicates any third-party software that must be installed before you install your SAS software, as well as which third-party software must be obtained from its vendor. An example is the X11 Server, described in the next section. Obtain that software and install it according to the vendor's instructions.

Some of your third-party software may be provided in your software order. That software is listed in your `ordersummary.html` which is available in your SAS Software Depot. Follow the path for each third-party product listed in the Third Party section of the `ordersummary.html` to locate the documentation for its installation.

You must have a supported level of Java installed for a planning installation with SAS 9.2.

X11 Server Availability

The SAS Deployment Wizard has a graphical user interfaces and require the use of an X11 server. At many sites, this software is already available and running on a UNIX and/or Windows system. X11 software is available from commercial and shareware sites.

For more information about X11 server minimum version requirements, see the Web page entitled "SAS 9.2 Support for Additional Software Products" at
http://support.sas.com/resources/thirdpartysupport/v92/othersw.html.

Installation Action—Action A, Action B, or Action C/D

The installation process will prompt you for an installation action to choose. Determine which one of these installation actions below apply to this installation.

- **Action A** is for a <u>new</u> installation—if you do not currently have SAS 9.2 phase 2 installed on your system at all.
- **Action B** installs <u>maintenance and/or new products directly</u> into your existing production SAS 9.2 libraries and directories.
- **Action C** installs <u>maintenance and/or new products</u> into <u>staging libraries for testing</u>, after which you perform an **Action D** install to copy the staging libraries into your production libraries.

Migrating from SAS 9.1.3 (where applicable)

If you are migrating metadata from SAS 9.1.3, you must prepare your software for migration. To prepare your SAS 9.1.3 deployment for migration to SAS 9.2, follow the instructions in the *SAS Intelligence Platform: 9.1.3 to 9.2 Migration Guide* at
http://support.sas.com/documentation/cdl/en/bimig/61696/PDF/default/bimig.pdf.

The –nojobsubmit Command Line Option

Several batch jobs will be used to complete part of the deployment. By default, the SAS Deployment Wizard submits these jobs and:

- Assigns the same job name **xxxxxxA** to each job it automatically submits, where:
  xxxxxxx – is assigned the installer user ID
  "A" – suffix assigned to the installer user
- Uses the FTP JES interface to track the progress of each job, and in particular determine when they have completed.

There are several reasons why the use of the FTP JES interface might not be possible or successful at your site. Below are some of the reasons for using the **–nojobsubmit** command line option which will allow you to edit and submit the batch jobs yourself:

- Your site uses JES3 (not JES2), or
- Your FTP server is configured for JESINTERFACELEVEL=2, or
- The SAS installer ID is not authorized to use FTP, or
- You need to make site-specific changes to the JCL or wish to review the JCL before submission, or
- The FTP JES interface's requirement that the jobname be the user ID performing the install suffixed with a single letter or digit is incompatible with your site's jobname requirements

If any of these conditions apply at your site, you must use the **–nojobsubmit** command line option when you run the `setup.rexx` exec, discussed later in this document.

Installation and Maintenance Process

The remainder of this document describes the installation and maintenance (where applicable) process in detail. At this point you have reviewed and completed all of the pre-requisites for this installation previously documented, including the pre-installation checklist.

Upgrading an Existing SAS 9.2 Deployment

If you already have SAS 9.2 installed, determine the version of SAS 9.2 already installed by either using the **Help → About** box in an interactive SAS session, or by looking at the top of the SAS log from a batch job. This will be important in helping you plan your installation. Otherwise, if you have a previous release of SAS, skip to the section titled "Creating Your SAS Software Depot" below.

If the version appears as **SAS 9.2 TS1M0** or **TS02.01M0P02052008**, then you have SAS 9.2 phase 1. Your new software order will not upgrade this version of SAS 9.2. You **must** perform a new installation, and the SAS Deployment Wizard will require you to specify a SAS Home location which does not already contain SAS 9.2 TS1M0.

Applying Updates to an Existing SAS 9.2 TS2M0 (or above) Maintenance Release

If your order includes **both** maintenance and new software for SAS 9.2 products you already have installed in your version of SAS 9.2, then the **first invocation** of the SAS Deployment Wizard will **only apply that maintenance**. If your order also includes **new** software, you will need to run the SAS Deployment Wizard a **second time** to install the new products.

Creating Your SAS Software Depot

Follow these steps to create your SAS Software Depot:

1. Confirm that you have received the software that you expected.

    - In your installation kit, find the SAS Order Information document, which lists the software that you ordered. Verify that the SAS products and servers listed are correct, and that they match what you expected to receive. If they are not, contact SAS Customer Service at 1-800-727-0025.

    - The SAS Software Depot is a network-accessible repository of your SAS software. After you have installed your software, the SAS Order Information document will also be available from your SAS Software Depot at
      <SAS Software Depot Location>/install_doc/*<order number>*/soi.html.

    - After you have created your SAS Software Depot, you may view an expanded list of the software that makes up your order. Consult the `ordersummary.html`, located in your SAS Software Depot at
      <SAS Software Depot Location>/install_doc/*<order number>*/ordersummary.html.

2. Insert your media into a DVD drive on either a Windows or UNIX system to create or add to your SAS Software Depot.

- If you already have a SAS Software Depot from a 9.2 phase 2 installation, you should use the same location for creating this SAS Software Depot. Only new products, releases, and maintenance will need to be added to the SAS Software Depot, saving disk space. If you are creating a new SAS Software Depot, choose a location that either is, or can be, NFS-mounted on z/OS, or confirm that you have a third-party FTP utility that can move the entire directory tree to the z/OS file system. The directory name must not contain blanks.

  - For **Windows** users:
    - The media should autoplay. If it does not, double-click **setup.exe** at the root of your DVD to start the SAS Deployment Wizard.
    - Using the SAS Deployment Wizard, choose "Create or Add to a SAS Software Depot" to create or add to your SAS Software Depot.
    - When you enter the directory path name for the SAS Software Depot, the name should not contain blanks.

  - For **UNIX** users:
    - UNIX users should mount their DVD with the appropriate mount command and execute setup.sh at the root of the DVD.

      Note: If you launch the SAS Deployment Wizard from an order that spans media, do not use a shell in the removable media's file system when you launch setup.sh. *In addition, the SAS Deployment Wizard should not be invoked via the File Manager. Either of these methods for launching the SAS Deployment Wizard will create a* Device busy *condition, which prevents disk swapping later in the deployment process.*

    - Using the SAS Deployment Wizard, choose "Create or Add to a SAS Software Depot" to create or add to your SAS Software Depot.
    - When you enter the directory path name for the SAS Software Depot, the name should not contain blanks.

Make Your SAS Software Depot Accessible to z/OS

After the SAS Software Depot is created, do one of the following:

- NFS mount the directory on z/OS, **or**
- Transfer the SAS Software Depot to z/OS using a utility that can move a complete directory tree.
  1. FTP the entire directory tree, ensuring that all files are transferred in binary to a z/OS UNIX File System directory, and the case of all file names is preserved.
  2. Be sure to set the execute bits after moving from Windows. Execute the following command:
     ```
     chmod -R a+r+x <SAS Software Depot Location>
     ```

Alternatively, if the SAS Depot is stored on UNIX:

1. Create a tar file of your existing SAS Software Depot on your UNIX machine. Execute the following command:
   ```
   tar -cvf <SAS Software Depot Location> <tar file name>
   ```
2. FTP the tar file created in the previous step to z/OS in binary format.

3. Extract the SAS Software Depot on z/OS in the zFS directory where you want the SAS Software Depot created. Execute the following command from OMVS or rlogin:
   ```
   tar –xvf  <tar file name>
   ```

Note: The "v" option used in the tar commands is for "verbose." Information is displayed back to the terminal about each file as it is processed. It is not required.

Installing Your Software

You **must** have an X11 server available on a Windows PC or UNIX machine at your site, and you **must** use the `setup.rexx` command to install your software.

Important Notes

- Do **not** log in to z/OS as a superuser (sometimes called "root" or "UID(0)").
- The user ID that will be running the SAS Deployment Wizard to install SAS 9.2 Foundation for z/OS must have the same requirements as noted in "ASSIZEMAX or TSO Region Parameters" on page 3.
- You must stop all SAS Servers and processes before applying maintenance or adding new software.

Installing Your SAS Foundation Software

1. Set the DISPLAY environment variable to point to your X11 server.
   Because the SAS Deployment Wizard is used interactively, you will need to have access to a desktop computer with an X11 server installed and active. Issue the following case-sensitive command from the z/OS UNIX shell on your z/OS system before starting the SAS Deployment Wizard:

   ```
   export DISPLAY=<your X11 server name>:0
   ```

   Note: If you do not issue this command, `setup.rexx` will prompt you for the server name. Make sure that the X11 server is started.

2. During the execution of `setup.rexx`, you will be prompted for a Java location. If you are using an installed JRE, be sure to use the same JRE as you are using to run the SAS Deployment Wizard for the "Select Java Runtime Environment prompt." If you are unsure of which JRE you are using, see the messages displayed when the SAS Deployment Wizard starts up which indicate the JRE being used. Alternatively, you may call SAS Technical Support.

3. Start the SAS Deployment Wizard.
   On your z/OS system, from OMVS (**not** ISHELL), rlogin, or putty, enter the z/OS UNIX shell command **`./setup.rexx`** at the root of your SAS Software Depot to start the SAS Deployment Wizard.
   The most commonly used options for are:

   -nojobsubmit   as discussed earlier in this document, using this option means that the SAS Deployment Wizard will not submit the jobs automatically so that you can inspect and/or modify the JCL before execution. You will follow the manual steps in the section "After Running setup.rexx with the –nojobsubmit Command-line Option" on page 11.

   -record   records the values that you enter for the SAS Deployment Wizard prompts in the file specified by the –responsefile option. This is convenient when you have to enter many options such as port numbers and you may have to rerun the configuration later. Note that once you have saved a response file, you can use it in a subsequent invocation of the SAS Deployment Wizard by specifying –responsefile without the –record option.

   -responsefile   if –record is also specified, a new file is created with the responses entered in that invocation of the SAS Deployment Wizard. If –record is not specified, an existing response file from a previous run will be used to fill in the responses from that previous run. Your installation user ID must have write access to the specified file.

   -deploy   if you specify –record you must also specify –deploy to actually deploy the software.

   Example

   ```
   setup.rexx -record -responsefile /u/userid/sdwresponse.properties
   ```
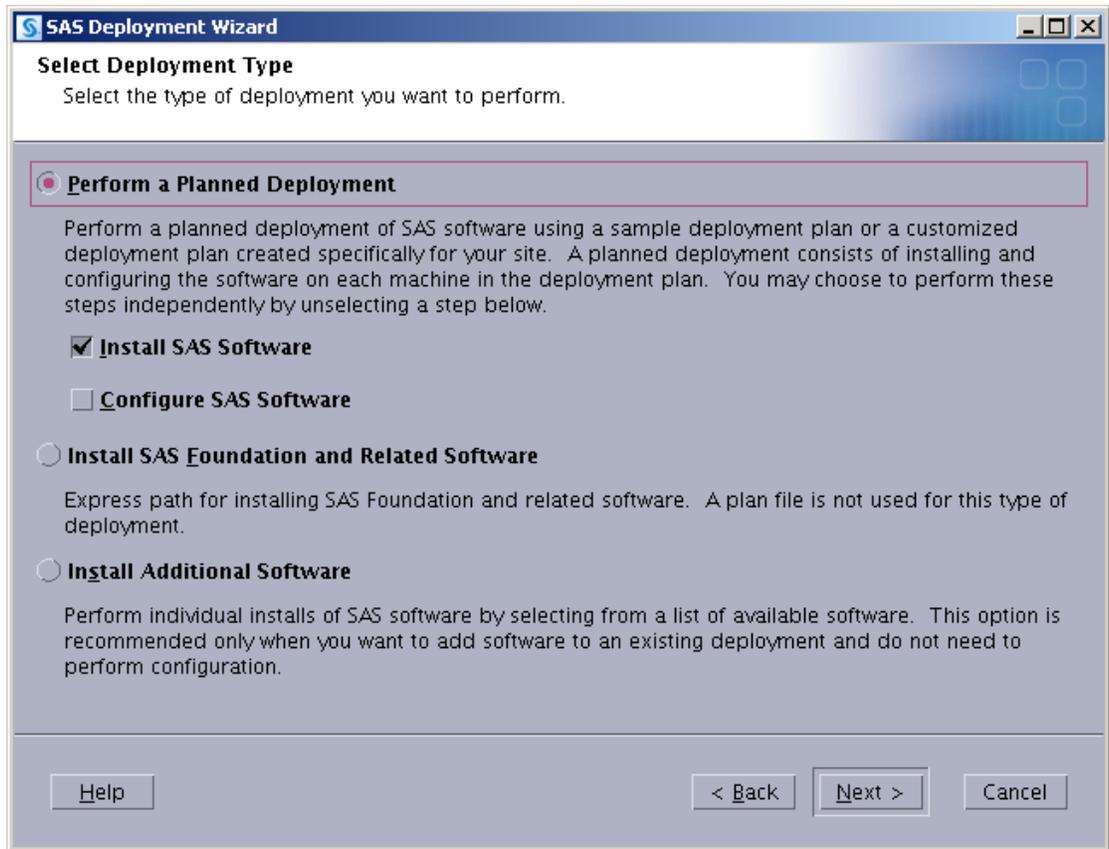
   Notes:

   o By default, no deployment occurs when running in a record mode. In order to force a deployment while recording, use –deploy. For example:
   ```
   setup.rexx -record -responsefile
   /u/userid/sdwresponse.properties –deploy
   ```

   o If you specify a file location where a file already exists, the pre-existing file will be overwritten by the SAS Deployment Wizard.

   o A full listing and description of these command-line options for setup.rexx may be found in the *SAS Deployment Wizard User's Guide*, available from the Install Center at http://support.sas.com/installcenter.

4. Use the SAS Deployment Wizard dialogs to install **and** configure your software.

   *Note: If you are using the –nojobsubmit option, you will need to run through the SAS Deployment Wizard two times. For the first pass, you need to run with just **Install SAS Software** checked. You will then run the manual steps, and then execute the SAS Deployment Wizard again with just the **Configure SAS Software** checked.*

- o Use the **Help** button for more information about the choices available in each page.
- o If you are using an installed JRE, be sure to use the same JRE for as you are using to run the SAS Deployment Wizard for the "Select Java Runtime Environment prompt" (see the screen image which follows). If you are unsure of which JRE you are using, see the messages displayed when the SAS Deployment Wizard starts up which indicate the JRE being used. Alternatively, you may call SAS Technical Support.

    This is an example of the messages displayed by the SAS Deployment Wizard (the highlighted text is what you would have put in the prompt in the SAS Deployment Wizard):
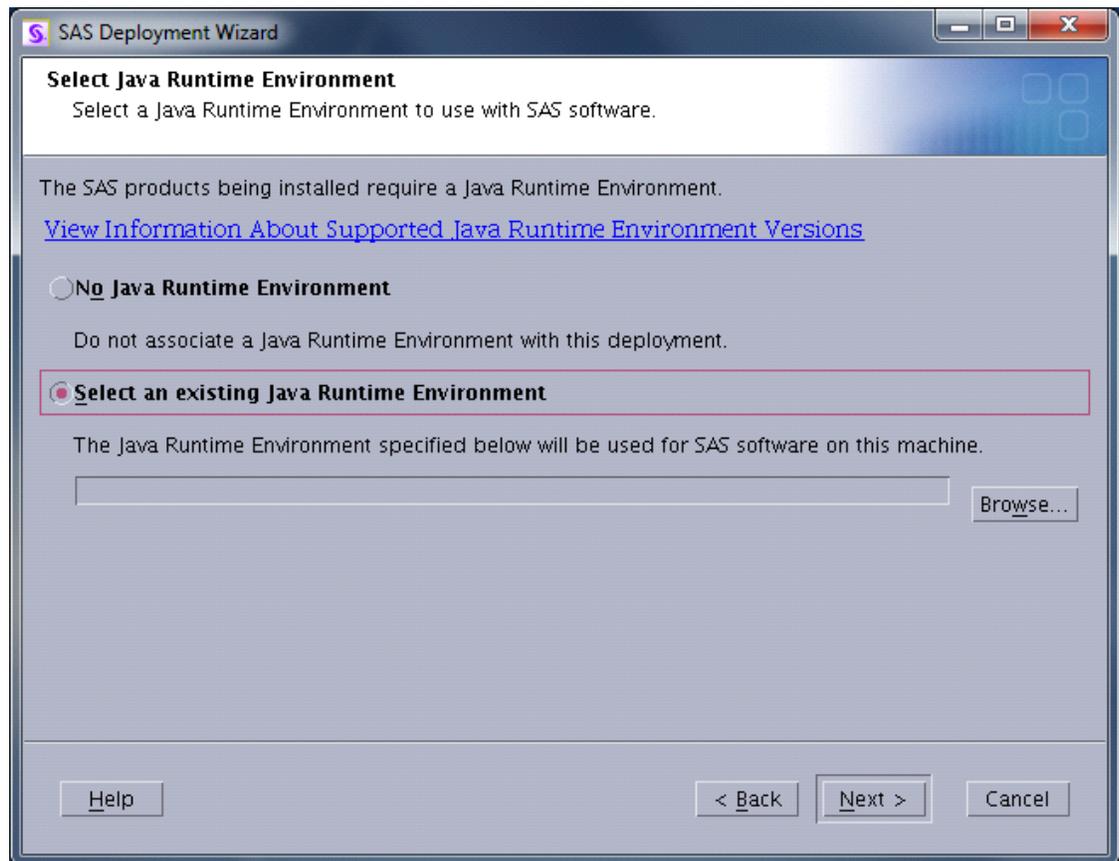
    java runs from /usr/lpp/java/J6.0/bin/java by default.

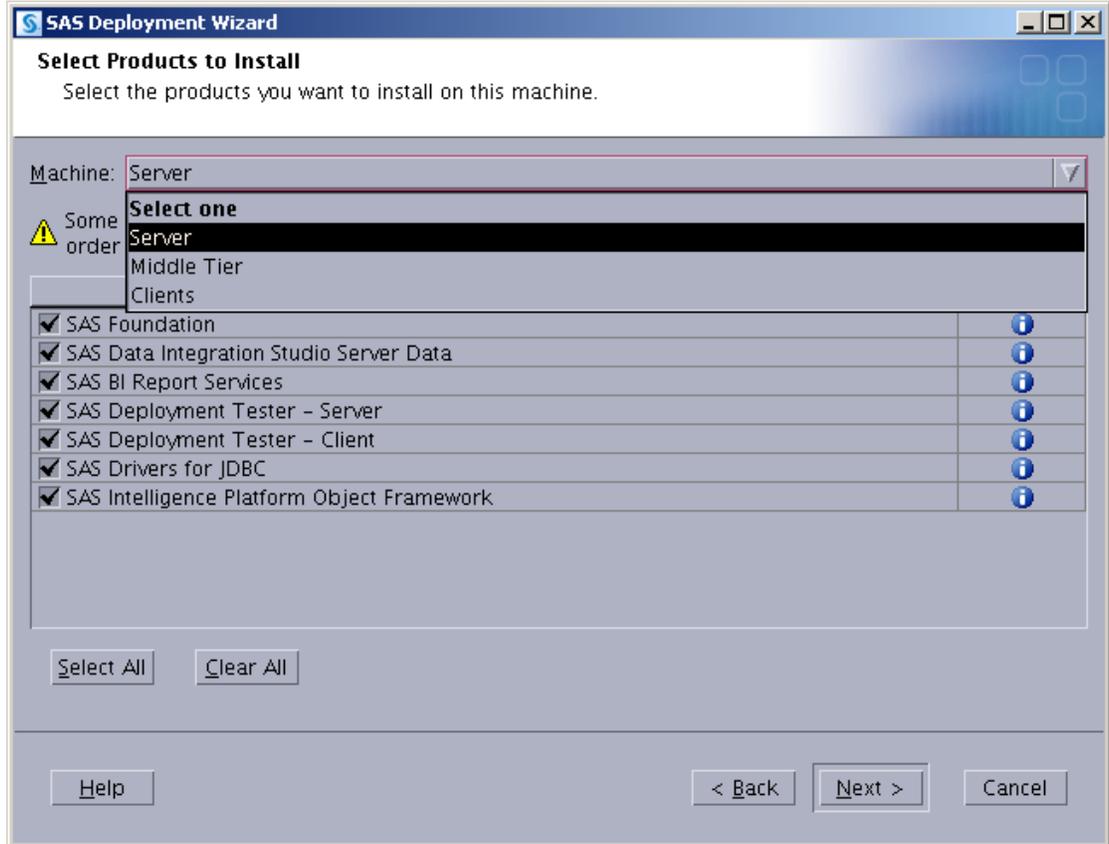   The java version found is:

    java version "1.6.0"

    Java(TM) SE Runtime Environment (build pmz3160sr8fp1-20100624_01(SR8 FP1))

    IBM J9 VM (build 2.4, JRE 1.6.0 IBM J9 2.4 z/OS s390-31 jvmmz3160sr8ifx-20100609_59383 (JIT enabled, AOT enabled)

SAS Deployment Wizard

Select Java Runtime Environment
Select a Java Runtime Environment to use with SAS software.

The SAS products being installed require a Java Runtime Environment.

View Information About Supported Java Runtime Environment Versions

◯ No Java Runtime Environment

Do not associate a Java Runtime Environment with this deployment.

◉ Select an existing Java Runtime Environment

The Java Runtime Environment specified below will be used for SAS software on this machine.

Browse...

Help   < Back   Next >   Cancel

- o For more detailed information, please see the *SAS Deployment Wizard User's Guide*, available from the Install Center at http://support.sas.com/installcenter.

- o One common point of confusion in the SAS Deployment Wizard is selecting which machine in a multi-machine plan you are working with. For z/OS, you will usually be choosing "Server," "SAS Application Server," or "SAS Metadata Server," depending on which plan you are using and what you wish to install on this machine.

Continue through the dialogs until the SAS Deployment Wizard completes.

After Running setup.rexx with the –nojobsubmit Command-line Option

Follow these steps to complete **an installation that used the –nojobsubmit option**.

1. Once the SAS Deployment Wizard shows that the installations have completed (all green checkmarks if using `setup.rexx`), batch jobs for both the foundation installation and the maintenance installation have been created in the `<HLQ>.V92D8nnn.CNTL` partitioned data set.

2. Determine the location of `<java home>` on your system. You can use either:

    `<SAS Software Depot Location>`/products/javaruntime__92140__mvs__xx__sp0__1/
    This represents the UNIX file system path used to invoke Java provided by SAS and licensed for deployment purposes only.
    Where
    `<SAS Software Depot Location>`
    Represents the UNIX file system path to the location of the SAS Deployment Depot.

    or

If your site already has a 31-bit version of Java installed, use that instead of the supplied JRE; for example: `/usr/lpp/java/J5.0/`

3. If you are applying only maintenance to an existing SAS installation, proceed directly to Step 7.

   Otherwise, if you are performing a new SAS installation, or adding additional products to an existing SAS installation, manually submit the following batch jobs to accomplish the SAS Foundation installation.

   *Note: When adding some products to an existing installation, the EDITMKI job documented below will **not** be generated; a MAINT0 job will be generated instead. Run the MAINT0 job and it will start a second job named MKSASINS. Then continue with the $$$NSTR0 job which is documented below.*

   EDITMKI   This job will start a second job called MKSASINS. After MKSASINS has completed successfully, the jobs that will perform the SAS installation will have been created in the `<HLQ>.V92D8nnn.CNTL` dataset. The names of those jobs are listed in the JOBINDX*x* member, where "*x*" represents the install action selected: A, B, C, or D. (Note: The $$$NSTR0 and $$$NSTR1 jobs are not included in the JOBINDX*x* member, but are also part of the installation job stream.)

   If you have site-specific JCL requirements, you can edit the jobs appropriately. When all JCL edits are complete, submit the $$$NSTR0 job.

   $$$NSTR0   This job will start the series of installation jobs listed in the JOBINDX*x* member, as well as $$$NSTR1, to install SAS Foundation.

   *Note: If you are running an **Action D**, you should not run the remaining steps in this section. Proceed directly to "Additional Configuration Steps" on page 14.*

4. Once the install jobs have completed successfully, run the `<SASHOME>/SASFoundation/9.2/postInstall.sh` script to update the SAS configuration files and TKMVSENV files for proper operation.

   Note: If you are performing an add-on installation without maintenance, you should proceed to "Additional Configuration Steps" on page 14.

5. If your Software Order E-mail shows a version for SAS 9.2, Rev. 920_10w*nn*, where *nn* is **20 or higher**, or Rev. 920_11w*yy*, or Rev. 920_12w*yy*, where *yy* is **any value,** then proceed to Step 7 (you do not need to run the commands in steps 5 and 6).

   Update the deployment registry for SAS Foundation by running the following command:

   Note: The following lines must be entered as one continuous line. There is a space before "-jar" and there are 2 hyphens before the "file" parameter.

   `<java home dir>/bin/java -jar <SASHOME>/deploymntreg/sas.tools.deploymntreg.jar`

   `--file <SASHOME>/SASFoundation/9.2/DepRegUpdateData.xml`

   Note: If your order contains additional new products, rename or delete the `DepRegUpdateData.xml` file before running `setup.rexx` again to install those products.

6. Update the SAS Versioned Jar Repository cache by running the following command:

   Note: The following lines must be entered as one continuous line. Note that there is a space after "-cp" before "<SASHOME>" and there is a space after ".jar" before "com.sas.app.NonAPI."

   ```
   <java home dir>/bin/java -cp
   <SASHOME>/SASVersionedJarRepository/9.2/eclipse/plugins/sas.launcher.jar
   com.sas.app.NonAPI -install
   ```

7. Manually submit the following maintenance jobs that were created by the Maintenance Install Tool in *<HLQ>*.V92D8nnn.CNTL. Submit each one and wait for a successful completion before submitting the next one in the list.

   o MAINT0
      *Note: MAINT0 will only exist if you are performing a maintenance-only or an add-on installation. **Even if you ran this job in Step 3, you must submit it again at this time.***
   o MAINT1
   o MAINT2

8. Once the maintenance jobs have completed successfully, run the *<SASHOME>*/SASFoundation/9.2/postInstall.sh script to update the SAS config files and TKMVSENV files for proper operation.

9. If your Software Order E-mail shows a version for SAS 9.2, Rev. 920_10w*nn*, where *nn* is 20 or higher, or Rev. 920_11w*yy*, or Rev. 920_12w*yy*, where *yy* is **any value,** then proceed to "Additional Configuration Steps" on page 14 (you do **not** need to run the commands in steps 9 and 10).
   Update the deployment registry for SAS Foundation maintenance by running the following command:

   Note: The following lines must be entered as one continuous line. There is a space before and after "-jar" and there are 2 hyphens before the "file" parameter.
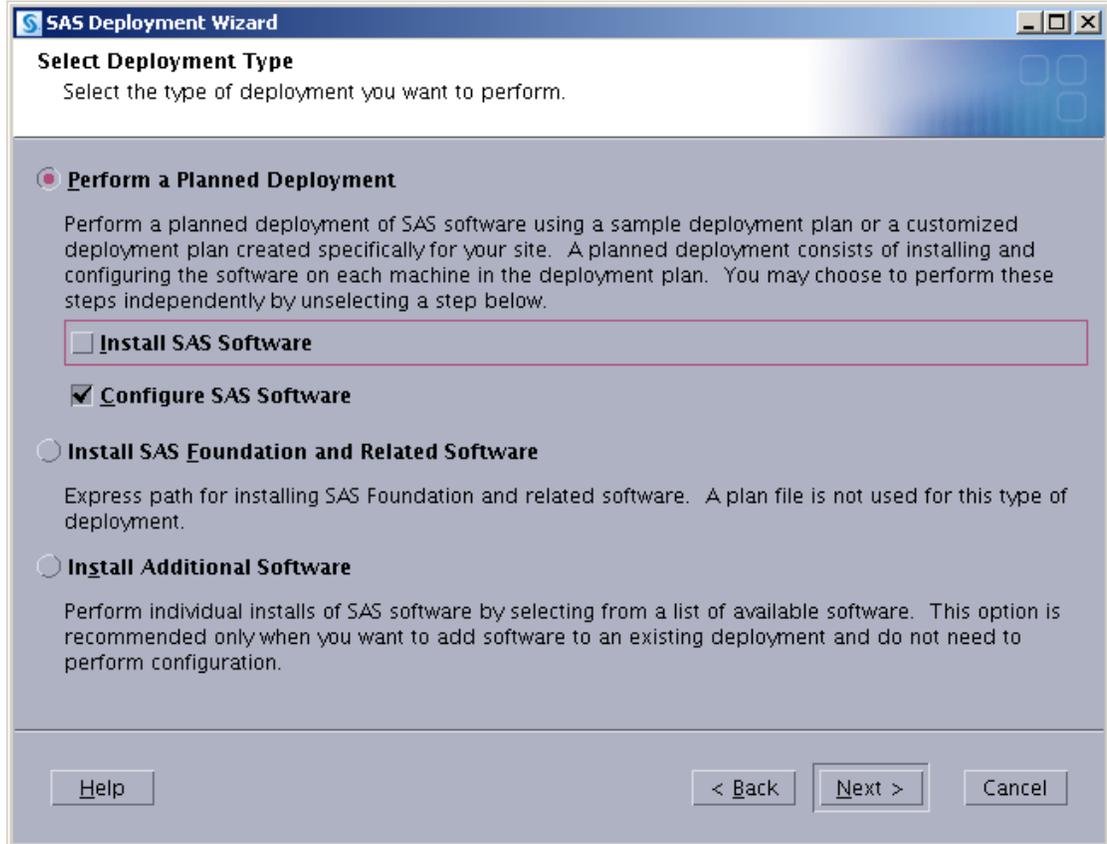
   ```
   <java home dir>/bin/java -jar
   <SASHOME>/deploymntreg/sas.tools.deploymntreg.jar
   --file <SASHOME>/InstallMisc/DepRegUpdateData.xml
   ```

10. Update the SAS Versioned Jar Repository cache by running the command:

    Note: The following lines must be entered as one continuous line. There is a space after "-cp" before "<SASHOME>" and there is a space after ".jar" before "com.sas.app.NonAPI".

    ```
    <java home dir>/bin/java -cp
    <SASHOME>/SASVersionedJarRepository/9.2/eclipse/plugins/sas.launcher.jar
    com.sas.app.NonAPI -install
    ```

11. Invoke the SAS Deployment Wizard again and check **Configure SAS Software** as follows:

Proceed through the remainder of the configuration.

Note: *You should have defined ports, user IDs, servers, etc., in your pre-installation checklist that will provide the information needed for the configuration dialogs.*

Additional Configuration Steps

After all installation jobs have finished, submit the VALID job in the CNTL data set and ensure that all steps complete with a return code of 0.

Consult the configuration instructions available for your operating system for product-specific post-installation steps. The configuration instructions are available from Install Center.

Note: *If you performed a staged install (**Action C**), once you are finished testing you should execute the SAS Deployment Wizard again and perform an **Action D** to copy the staged libraries to your production libraries.*

Managing Server Sessions

After the SAS Deployment Wizard has finished configuration of your software, any servers you have configured (metadata server, object spawner, OLAP server, etc.) will be running as UNIX processes. To stop these processes cleanly, navigate in OMVS to your configuration directory, then the `Lev1` directory below that, and execute the following command:

```
sas.servers stop
```

You can also issue this command

```
sas.servers status
```

to see the status of all servers (and which ones are running)

or

```
sas.servers start
```

to start all servers in the correct order. If you want to run your servers as started tasks, for example, you would stop all the UNIX processes, and then use the JCL created for the started tasks in the data set *<high-level-qualifier>*.Wn.SRVPROC.

Installing SAS 9.2 Mid-tier and Client Software from the SAS Software Depot

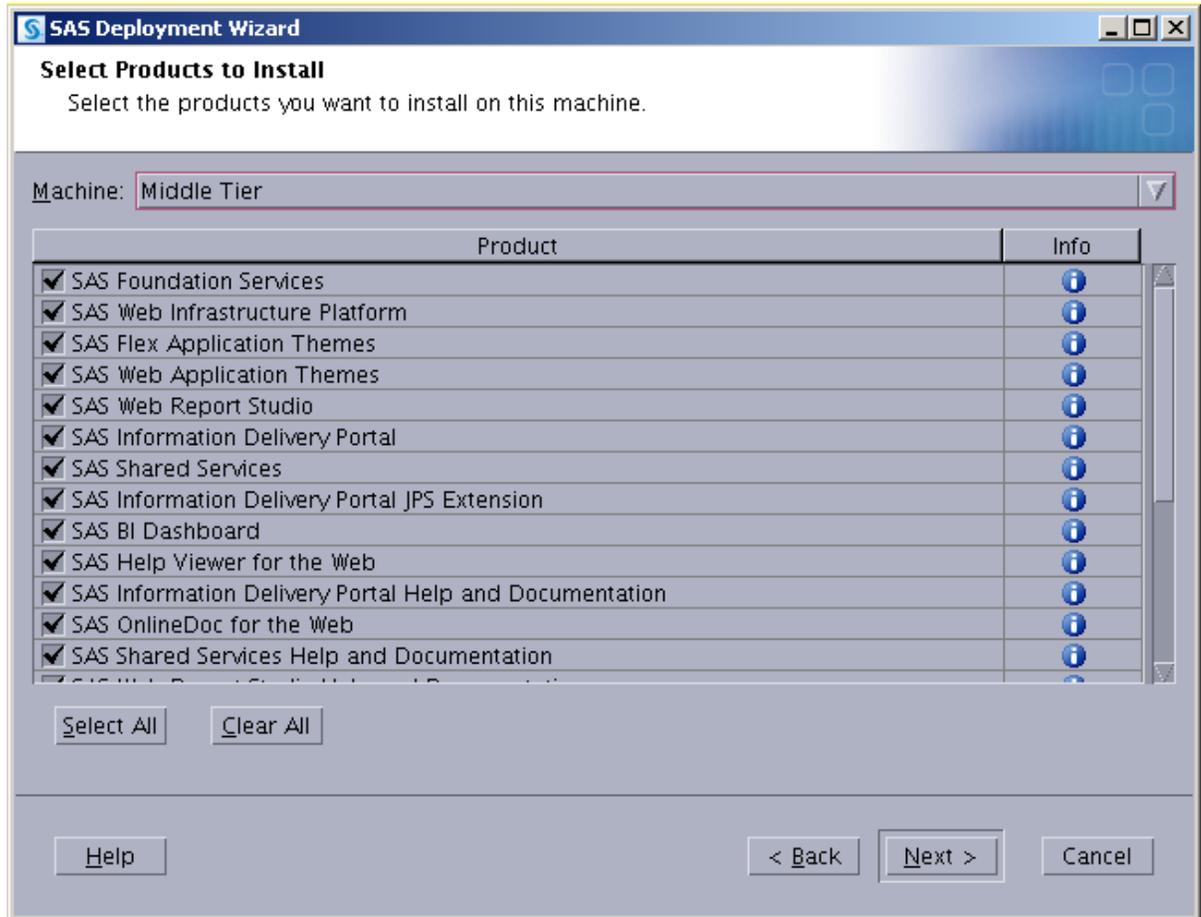## *Creating the SAS Software Depot for Your Mid-tier and Client Machines*

To install software on your mid-tier and client machines, the SAS Software Depot must be accessible to those machines. If your machines can share directories, a single copy of the SAS Software Depot can be shared between machines, even on machines with different operating systems. You can use either of the following methods to create the depot:

- Download the SAS Download Manager for either UNIX or Windows and follow the instructions to create the SAS Software Depot for each of your mid-tier and client machines. From the following link, identify the appropriate operating system where you will be downloading your SAS software and click **Request Download**.
  http://www.sas.com/downloadmgr
- Copy your SAS Software Depot from z/OS to the other machines using a third-party FTP utility that can transfer entire directory trees in binary mode and preserve the case of all file names.

Installing Required Third-Party Software

- Your checklist names any third-party software that must be installed before you install your SAS software. If you have no third-party software listed in the checklist or the ordersummary.html, skip to "Installing SAS Software from the SAS Software Depot" on page 16.
- The checklist indicates which third-party software must be obtained from its vendor. Obtain that software and install it according to the vendor's instructions.
- Some of your third-party software may be provided in your software order. That software is listed in your ordersummary.html which is available in your SAS Software Depot. Follow the path for each third-party product listed in the Third Party section of the ordersummary.html to locate the documentation for its installation.

Note: *You should use the same plan as you used for the z/OS Server tier. Select **Middle Tier** or **Clients** as appropriate.*

Installing SAS Software from the SAS Software Depot

- Windows users should double-click the **setup.rexx** file at the top level of your SAS Software Depot.

  The most commonly used options are:

  -record   records the values that you enter for the SAS Deployment Wizard prompts in the file specified by the -responsefile option. This is convenient when you have to enter many options such as port numbers and you may have to rerun the configuration later. Note that once you have saved a response file, you can use it in a subsequent invocation of the SAS Deployment Wizard by specifying -responsefile without the -record option.

  -responsefile if -record is also specified, a new file is created with the responses entered in that invocation of the SAS Deployment Wizard. If -record is not specified, an existing response file from a previous run will be used to fill in the responses from that previous run.

  -deploy   if you specify -record you must also specify -deploy to actually deploy the software.

Example

```
setup.exe –record –responsefile "C:\Program Files\SAS\sdwresponse.properties"
```

Notes:

- o By default, no deployment occurs when running in a record mode. In order to force a deployment while recording, use –deploy. For example (enter as one line):

```
setup.exe -record -responsefile "C:\Program Files\SAS\
sdwresponse.properties " –deploy
```

- o If you specify a file location where a file already exists, the pre-existing file will be overwritten by the SAS Deployment Wizard.
- o For more information about the choices available in each dialog, click the **Help** button. A full listing and description of these command-line options for setup.exe may be found in the *SAS Deployment Wizard User's Guide*, available from the Install Center at http://support.sas.com/installcenter.
- o UNIX users should execute **setup.sh** from the root of your SAS Software Depot.

Archiving Your SAS Software Depot

For future maintenance or installation of additional SAS software products, you will need your SAS Software Depot. It can be recreated, but you may find it easier to keep a backup of your SAS Software Depot so that only updates must be downloaded in the future. SAS Note 37119 (available at http://support.sas.com/kb/37/119.html) contains sample jobs to back up and restore your SAS Software Depot.

Tips and Additional Information

For the latest installation news, please visit these sites for tips and additional information that may not be in your documentation:

General support for SAS issues (including a link to Tech Support)

http://support.sas.com

SAS 9.2 Installation and Configuration FAQ

http://support.sas.com/kb/33/144.html

General Information and Troubleshooting for Electronic Software Delivery

http://support.sas.com/kb/30/950.html

Locating the log files for SAS 9.2 installations

http://support.sas.com/kb/37/838.html

Documentation for a SAS 9.2 Phase 2 installation on z/OS

http://support.sas.com/kb/36/008.html

Technical Support

- If you need assistance with the software, we ask that only the SAS Installation Representative or the SAS Support Consultant call our Technical Support Division.

  For U.S. and Canadian customers, support is provided from our corporate headquarters in Cary, North Carolina. You may call (919) 677-8008, Monday through Friday.

  Customers outside of the U.S. can obtain local-language technical support through the local office in their countries. Customers in these locations should contact their local office for specific support hours. See http://support.sas.com/techsup/contact/index.html for contact information for local offices.

- Before calling, you may want to explore the SAS Institute Technical Support Web site at http://support.sas.com/techsup/. The Technical Support Web site offers a Knowledge Base, FAQs, Technical Support Documents and more that may answer your questions. This Web site also provides a mechanism for reporting problems.

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