Administration Guide | PUBLIC
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SAP Frontend Installation Guide

THE BEST RUN SAP

Content

1 Introduction

Scope of this Documentation

The SAP GUI family consists of:

- SAP GUI for Windows
  This GUI is described in detail in this documentation.
- SAP GUI for Java
  SAP GUI for Java is a generic SAP GUI that runs on a variety of platforms including Windows, Mac OS X and Linux platforms. It has the same look and feel as the Windows version with the exception of the platform-specific window design.
  This GUI is not described here. Instead, you can find documentation describing the installation of SAP GUI for Java in either of the following places:
  - In the folder PRES2/GUI/DOC on the Presentation DVD.
  - In the SAP GUI Community under:
    https://wiki.scn.sap.com/wiki/display/ATopics/SAP+GUI+Family → Installation → SAP GUI for Java.
- SAP GUI for HTML
  SAP GUI for HTML is based on the SAP Internet Transaction Server (ITS), which is fully integrated into the kernel of the SAP Web Application Server. On the desktop, a suitable browser is fully sufficient for running SAP GUI for HTML.
  This GUI is not described here since the SAP GUI for HTML does not need SAP software to be deployed on the client.

SAP GUI for HTML and SAP GUI for Java do not have all the capabilities of SAP GUI for Windows. Some applications such as SAP BI or SAP SCM require the SAP GUI for Windows. You find more information in the Master Guides for the relevant SAP products.

For more information about the SAP GUI family, see http://scn.sap.com/docs/DOC-25456

Platforms

You can find information on SAP GUI for Windows platform support in the SAP Product Availability Matrix or in SAP note 66971.

Compatibility

SAP GUI for Windows 7.70 is compatible with all SAP products available when this document was created and which are still supported by SAP.

> **i Note**
>
> Only one version of SAP GUI for Windows is possible.
>
> SAP GUI for Windows uses the Microsoft Controls technology, which means that all controls are registered locally during the installation. As a result, the system database contains an entry indicating where each control can be found. Since the system always registers the latest controls, only the most recently installed version of a control is available at any time.
>
> This means that on a single computer only one version of SAP GUI for Windows can be installed. During installation of a new SAP GUI release, any older SAP GUI release present on the computer is uninstalled.

However, SAP GUI for Windows supports virtualization products which can be used to run multiple SAP GUI versions on the same client in parallel if needed; for details see SAP note 66971.

1.1 Important News

- De-support for saplogon.ini and related configuration files; therefore, SAP UI Landscape is now the obligatory configuration format for SAP Logon entries
  As of SAP GUI for Windows 7.60, the old configuration format for SAP Logon entries (saplogon.ini, sapmsg.ini, saproute.ini) is no longer supported by SAP GUI for Windows. SAP GUI for Windows can still handle this old format for compatibility reasons, because there may be external applications needing this old format, but using SAP GUI for Windows as of version 7.60 with the old format is not supported. SAP will neither test this format nor correct issues affecting it. Therefore, all installations of SAP GUI for Windows 7.60 and newer must use SAP UI Landscape (available since SAP GUI for Windows 7.40). Find more information under Configuration Information [page 8].

1.2 New or Changed Features in SAP GUI for Windows 7.70

- SAP GUI for Windows “core” patches are now full installations
  Up to release 7.50 of SAP GUI for Windows, SAP GUI patches were so-called “delta patches”. This means that the patches only contain those files which have been changed since the initial delivery. The drawbacks of this approach are that you always need an SAP GUI DVD (“Compilation”) to install SAP GUI and that the process is more complex which can result in issues. The original idea of this approach was to keep the size of the patches as small as possible to reduce network traffic during patch update. However, due to improved compression, the size of a SAP GUI patch containing all files is now almost the same as the size of a patch containing only the changed files.
  Therefore, as of release 7.60, the patches for component “SAP GUI FOR WINDOWS <RELEASE> CORE” (with <RELEASE> replaced by the release of SAP GUI for Windows you are using) available on SAP Support Portal are full installations of the following products:
  - SAP GUI for Windows 7.60/7.70
  - i.s.h.med Planning Grid
  - SAP Automatic Workstation Update
  - Calendar Synchronization for Microsoft Outlook
  - 64bit RFC Controls (as of release 7.70)
  - SAP PDFPRINT for SAP GUI 7.70

  This means that you can install/update and upgrade SAP GUI for Windows and the above mentioned products by just applying an SAP GUI patch. Like in prior releases, you can setup an NWSAPSetup installation server and import additional components as required to create installation packages containing all components that you would like to install. The usage of a compilation DVD is no longer required, but it is still recommended, because the DVDs contain a consistent combination of all related components (Add-Ons). See Update of the SAP Frontend [page 49] and Upgrade of the SAP Front End [page 51] for more information.

- A new optional top level component *64Bit RFC Controls* is available, which can only be installed on 64bit operating systems.
  The 64bit RFC Controls (both non-Unicode and Unicode) are used for external access to data within SAP Systems without SAP GUI. They are accessible, for example, from Visual Basic for Applications via COM Interface. In previous SAP GUI releases, these controls only existed in 32bit versions which causes trouble when the controls are used from 64bit processes like Microsoft Office. The new installation component *64Bit RFC Controls* solves this issue. See SAP Note 2724656 for more information."
- SAP GUI for Windows 7.70 introduces an alternative browser control which uses Microsoft Edge based on Chromium ("WebView2 Control")
  The SAP components required to use this alternative to the Internet Explorer Control are installed together with the *SAP GUI Suite* by default, but to be able to activate the new control, you need to make sure to have the Microsoft WebView2 control installed on your clients. The installation and updates for WebView2 control can be downloaded from Microsoft (see https://developer.microsoft.com/en-us/microsoft-edge/webview2/) and be applied via the standard Microsoft deployment tools. They are not provided by SAP . See also SAP Note 2913405.

1.3 Deleted Features

The following components have been removed with SAP GUI 7.70:

- The *SEM Add-On* (Front-end add-on for SAP Strategic Enterprise Management (SEM)) was removed.
  The package contained only few components. Among these components was the *Assignment Control* that has been de-supported, because it is not required anymore (see SAP Note 2704440). The remaining components have been added to the *SAP GUI* component.

1.4 SAP Notes for the Installation

You must read the following SAP notes before you start the installation. These SAP notes contain the most recent information about the installation, as well as corrections to the installation documentation.

Make sure that you have the up-to-date version of each SAP note, which you can find on SAP Service Marketplace at https://support.sap.com/notes.

SAP Note Number	Description
2796898	Latest information on new and changed features in SAP GUI for Windows 7.70
26417	Latest information about hardware and software requirements of SAP GUI for Windows
2928874	SAP Business Client 7.70: Prerequisites and restrictions

SAP Note Number	Description
66971	Latest information about supported front-end platforms
147519	Latest information about release and maintenance strategy of SAP GUI.
2302074	Maintenance strategy and deadlines for SAP Business Client / NWBC
166130	Latest information about delivery and compatibility of the components delivered on the Presentation DVD.
1587566	Lists the known problems concerning SAPSetup and their solutions.

1.5 Information Available Online

Installation of the SAP GUI for Windows

You find the latest version of this document on the SAP GUI Product page or in the SAP NetWeaver Guide Finder: https://help.sap.com/viewer/nwguidefinder

Installation of the SAP GUI for Java

You find information about the installation of SAP GUI for Java on the SAP GUI Family page in the SAP Community under Installation → SAP GUI for Java.

Installation of the SAP Online Documentation

You can access the SAP online documentation from the front end. The installation of the SAP online documentation is described under https://help.sap.com/viewer/nwguidefinder.

SAP GUI Family

You find information about the SAP GUI family in the SAP SAP Community under SAP GUI Family page in the SAP Community.

Supported Platforms

You find information about the platforms on which you can run SAP GUI in the SAP Product Availability Matrix or SAP note 66971.

1.5.1 Naming Conventions

“Upgrade” means the transition from one release to another, for example, from 7.60 to 7.70.

“Update” means a change within the same release. You use a “patch” to apply the update.

2 Configuration Information

Before SAP GUI for Windows 7.40 was released, you had to use the old configuration format for SAP Logon entries (saplogon.ini, sapmsg.ini, saproute.ini). With SAP GUI for Windows 7.40, the new configuration format SAP UI Landscape was introduced. This new format had been created to simplify the configuration by unifying the persisted connection configuration data from SAP GUI for Windows, SAP GUI for Java and SAP Business Client in a modern and easy way:

- There are less configuration files involved and they are stored in the same repository.
- Configuration files can either be stored locally or on a central server or share.
- Deployment options “pull” and “push” are available.
- The configuration files are the same for SAP GUI for Windows, SAP GUI for Java and SAP Business Client.
- If SAP GUI has been used already, the connection data will be migrated automatically into the SAP UI Landscape format.

In the interim period (SAP GUI for Windows releases 7.40 and 7.50), you had the choice between the conventional or classic installation procedure/configuration format and the new file format SAP UI Landscape.

> **i Note**
>
> As of SAP GUI for Windows 7.60, the old configuration format is not supported anymore. SAP GUI for Windows can still handle this old format for compatibility reasons, because there may be external applications needing this old format, but using SAP GUI for Windows 7.60 and newer with the old format is not supported. SAP will neither test this format nor correct issues affecting it. Therefore, all installations of SAP GUI for Windows 7.60 and newer must use SAP UI Landscape.

In the following subchapters, you find information on how to install and configure your SAP GUI for Windows landcape with SAP UI landscape.

2.1 Configuration Files Overview

When installing SAP GUI with SAP UI Landscape, it is possible working only with the following two configuration files that are stored in the same directory:

- Administrator configuration file `SAPUILandscapeGlobal.xml` in `%APPDATA%\SAP\Common\SAPUILandscapeGlobal.xml` contains the files of a migration of the previous files.
- User configuration file `SAPUILandscape.xml` in `%APPDATA%\SAP\Common\`

> **i Note**
>
> However, it is strongly recommended to use the central file, see Configuration File Provision [page 11].
>
> A server configuration file can be supplied on a server in a similar way as in the conventional setup with SAP UI Landscape. For information on the creation and distribution of configuration files in the SAP UI Landscape format, see SAP note 2075073.

In addition, in case of using a central file, you can provide an administrative core configuration file that can be supplied and set only by an administrator and not by the users, see SAP note 2175351.

For information on the configuration file storage, see SAP note 2075150.

2.2 Configuration Scenarios

There are two scenarios when installing SAP GUI with SAP UI Landscape:

- Migration: If SAP GUI has been used already, the data will be migrated once into the new files (see section Migration of Configuration Files [page 10] below).

  > **i Note**
  >
  > After file migration, you can only work on the files in the new format.

- Setup from scratch: If SAP GUI has not been used before, the configuration files have to be created from scratch. For this, you have two possibilities:
  - Easiest way: You can create and edit SAP UI Landscape XML data with the SAP UI Landscape Maintenance Tool which can be either accessed via transaction **SLMT** or by starting report **RSLSMT**. With this tool, XML data can be persisted in the database. You find more information on the functionality in the system documentation of the corresponding transaction or report (i-button).

    > **i Note**
    >
    > - You have to implement SAP note 2311166 to be able to use the report/transaction
    > - You need the corresponding authorization:
    >   - role **SAP_SLMT**
    >   - authorization object **S_LSMT** with the following values:
    >   - **02** for change authorization
    >   - **03** for display authorization

  - You can create the UI landscape file by hand or on the basis of corresponding output data from an SAP NetWeaver server.

    > **i Note**
    >
    > Be careful with the creation by hand, because this might cause problems when the SAP UI Landscape file is not consistent. The GUIDS, for example, need to have a specific format and have to be unique.

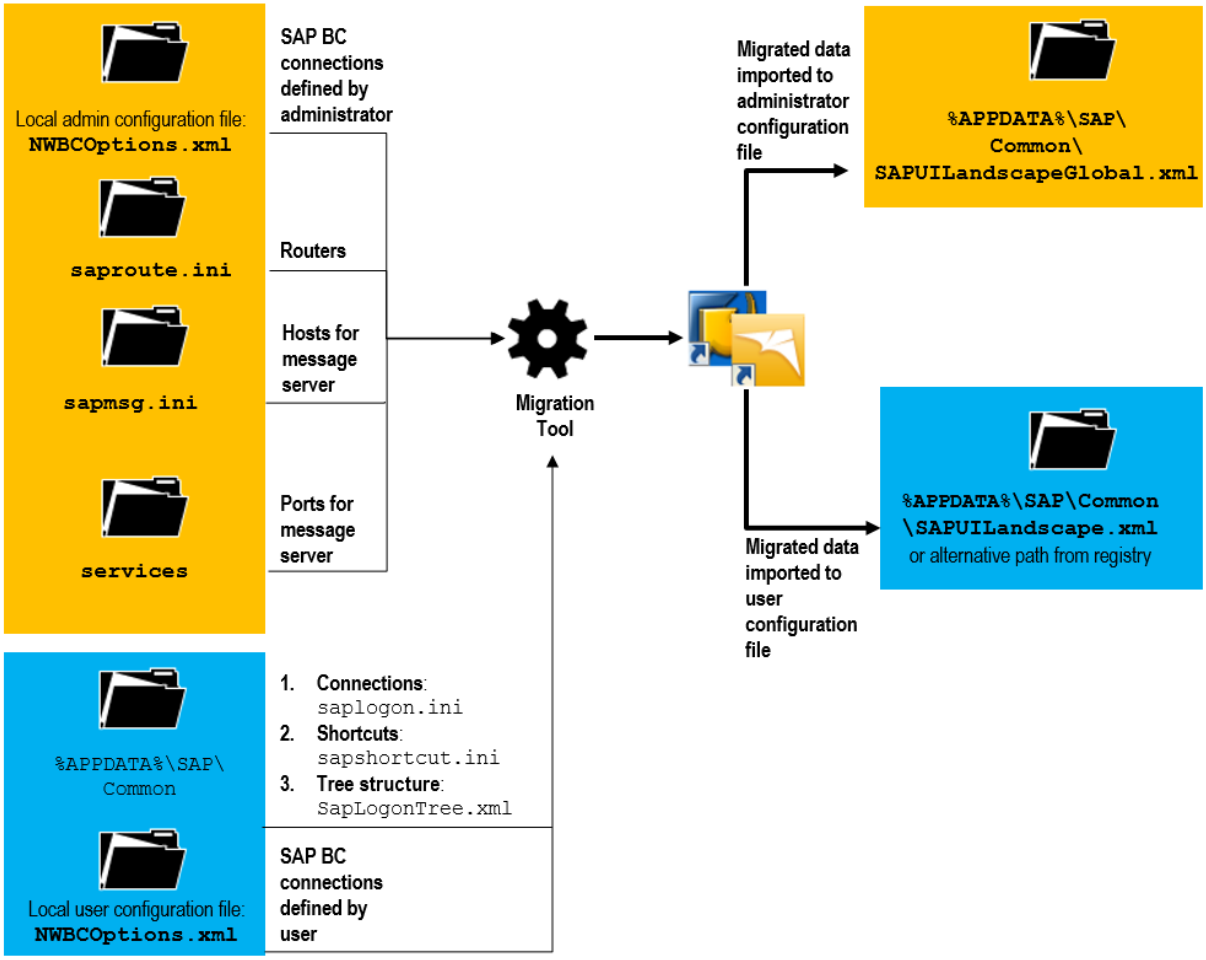
> **i Note**
>
> For more information on the SAP UI Landscape, see the SAP UI Landscape Configuration Guide. You find this guide on Help Portal, the DVD and in the SAP GUI Community wiki.

2.2.1 Migration of Configuration Files

The migrated data is imported into the following files:

- Administrator configuration file `SAPUILandscapeGlobal.xml` in `%APPDATA%\SAP\Common\` contains migrated data from:
  - `NwbcOptions.xml`
  - `Saproute.ini`
  - `sapmsg.ini`
  - `services`
- User configuration file `SAPUILandscape.xml` file in `%APPDATA%\SAP\Common\` contains migrated data from:
  - `SAP Logon .ini` and `.xml` files
  - `%APPDATA%\SAP\NWBC\NwbcOptions.xml`

The concept described above is shown in the following figure that uses the installation with SAP BC (former NWBC) as example:



2.2.1.1 Configuration File Provision

The administrator configuration file can be provided either by pull request or by push request.

> **i** Note
>
> The pull request is recommended.

2.2.1.1.1 Provision by Pull Request

If the administrator configuration file is provided by pull request, it is located in a central, shared storage such as a remote share or http server. The advantage of a cental storage is that the data does not have to be deployed and that it can be updated centrally.

The administrator must specify the path to the administrator configuration file. Therefore, the administrator defines the path via the registry value `LandscapeFileOnServer` in

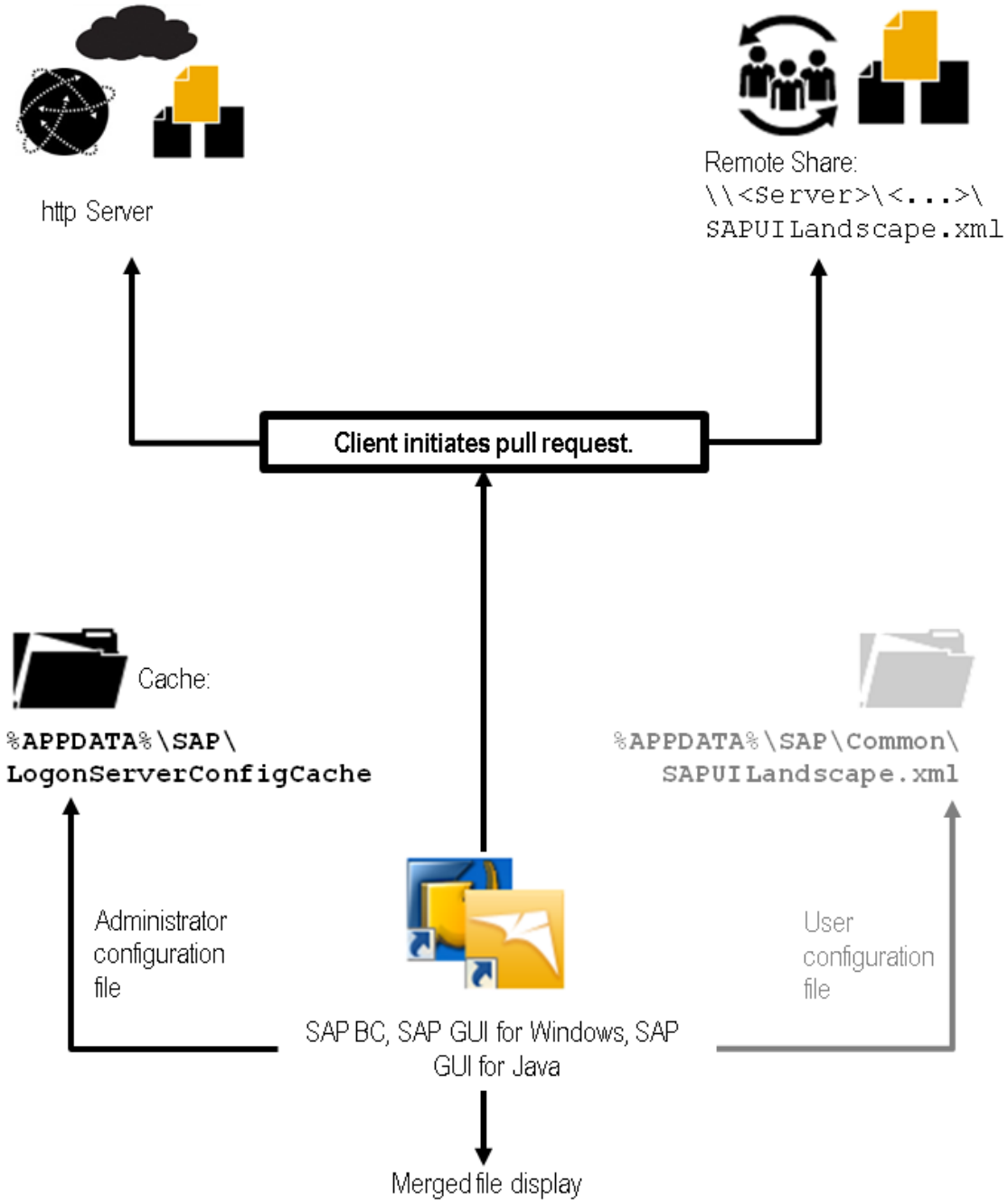
`HKEY_LOCAL_MACHINE\SOFTWARE\SAP\SAPLogon\Options (32 bits)`

`HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\SAP\SAPLogon\Options (64 bits)`

`(REG_EXPAND_SZ)`

The local client can then retrieve the administrator configuration file from the central storage. If this file is not readable for any reason, the last previously loaded version is read from the cache, if the cache is activated. In addition, the user can create his or her own entries locally. However, this is only possible, if the SAP Logon is used and the edit functions are not deactivated. These entries are merged with the central ones. The entries from the administrator configuration file are displayed in another color / style to indicate they cannot be changed by the user.

The concept described above is illustrated by the following figure:



2.2.1.1.2 Provision by Push Request

When using file provision by push request, the administrator distributes (pushes) the administrator configuration file from his or her data storage repository to the local machines.

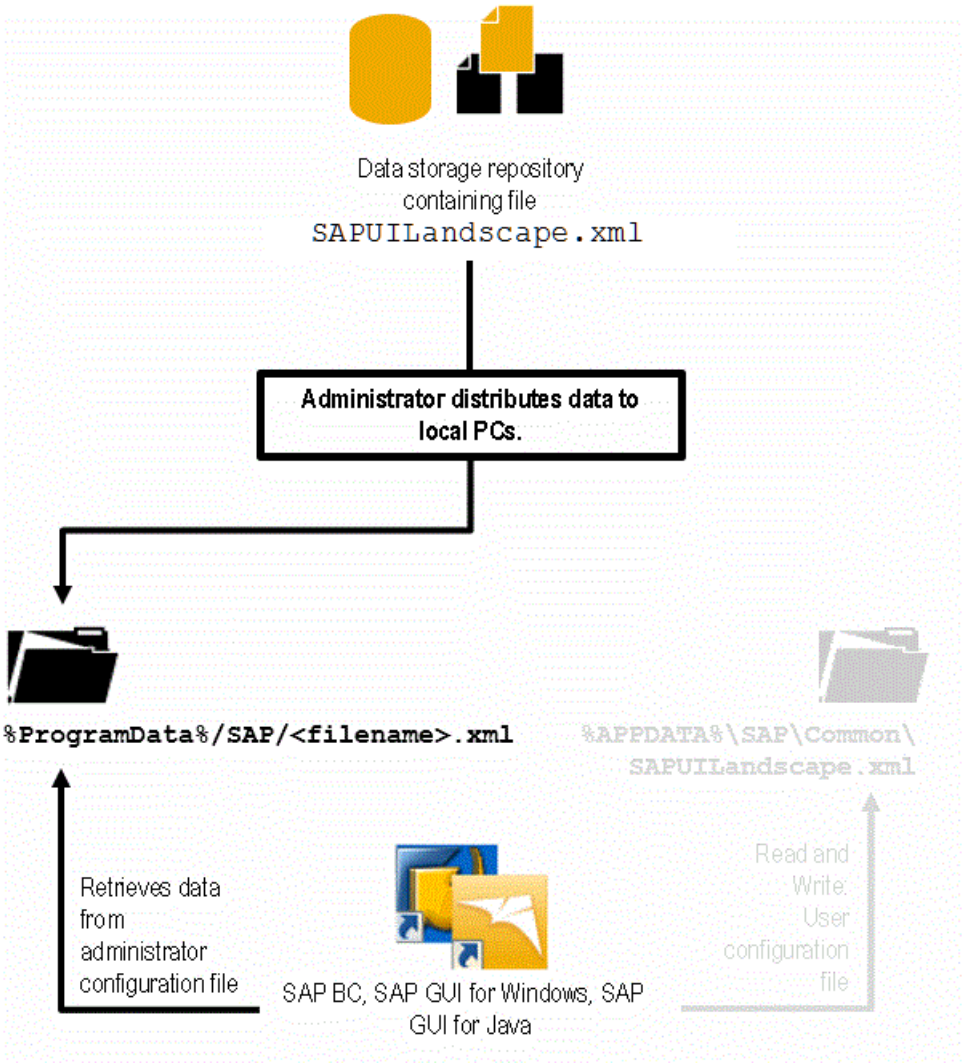
SAP GUI then retrieves the administrator connection configuration from the local client, according to the path which is defined in the registry for the registry value `LandscapeFileOnServer` in

`HKEY_LOCAL_MACHINE\SOFTWARE\SAP\SAPLogon\Options (32 bits)`

`HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\SAP\SAPLogon\Options (64 bits)`

`(REG_EXPAND_SZ)`

The concept described above is illustrated by the following figure:



Thus, push distribution means that the file will not be held centrally on an http server or a central share, but will be sent to the local machines. The recommended folder on the local machines is `%ProgramData%/SAP/`. The administrator distributes the file with a software distribution tool, such as NetWeaver SAP Setup. This means that during an update the file has to be exchanged on all clients.

> **i Note**
>
> When changing system connection configuration data frequently, the push mechanism has severe disadvantages compared to the pull mechanism, because only after an update triggered by the

administrator, the clients have up-to-date connection configurations. Therefore, the push mechanism is not recommended.

2.3 Caching Remote Configuration Files

Configuration files (SAPUILandscape.xml files) loaded from a remote server will be cached by default. The cache folder is *%APPDATA%\SAP\LogonServerConfigCache*.

This feature can be switched on and off via the check box *Allow caching of remote configuration files* in the *SAP Logon Options* > *Configuration Files* dialog. By default, it is activated. In the same dialog, you find information on the the XML file and the caching path.

There are two options available to define with which interval SAP Logon checks the server for new configuration files:

- *Update cache on every SAP Logon (Pad) start*
- *Update cache only in an interval of [hours]*

When using the first option, the cache is updated with every SAP Logon (Pad) start. With the second option the server is only contacted, if the last enquiry or download took place more than x hours ago. This saves long roundtrips in slow networks.

> **i** Note
>
> Using the second option, the check also only takes place at SAP Logon start, not during a SAP Logon session.

In case the corresponding server cannot be reached and the server configuration file is not available anymore, the cached files will be used at SAP Logon restart and displayed in the *SAP Logon Options* > *Configuration Files* dialog under *Loaded Configuration Files*. In case that the given server configuration file and the cache files are not available, only local configuration files will be used.

2.4 Loading Configuration Files via Environment Variable or Command Line Parameter

You can use the Windows environment variable *SAPLOGON_LSXML_FILE* or the command line parameter */LSXML_FILE* to define your own landscape files to be used by SAP GUI for Windows as in the former SAP GUI for Windows releases (see the related SAP Note 38119).

> **i** Note
>
> When using the command line parameter */LSXML_FILE*, SAP GUI assumes the specified file to be a server configuration file, if it is write-protected. Else, it assumes the file to be a local configuration file. This, for example, has an impact on the caching of these files, as local files are not cached.

The value for the environment variable *SAPLOGON_LSXML_FILE* or the command line parameter */LSXML_FILE* can contain

- a full path including the name of the landscape file, or
- an http(s) address, fully specified, including the name of the landscape file

The landscape file to which the environment variable points, can reference to another landscape file. This reference is always realized as an include:

Sample Code

```
<Includes>
<Include
url="http://myserver:myport/config/SAPUILandscapeGeneralExample.xml"/>
</Includes>
```

The internal handling of includes in the landscape file is the following:

1. No include is explicitly specified:
   SAP GUI for Windows searches for a landscape file with standard filename `SAPUILandscapeGlobal.xml` under the same path specified in the environment variable or command line parameter and - if it does exist - includes it automatically.
2. Includes with index **unequal** to 0 are explicitly specified:
   SAP GUI for Windows includes the file(s) from the explicitly specified include(s) (see example above). It also searches for a landscape file with standard filename `SAPUILandscapeGlobal.xml` under the same path specified in the environment variable or command line parameter and - if it does exist - includes it automatically.
3. An include is specified with index **equal** to 0:
   SAP GUI for Windows directly includes the file from the explicitly specified include. It will not search for a landscape file with standard filename `SAPUILandscapeGlobal.xml` under the same path. Additional includes with index equal to 0 will be ignored.

All connections which are defined in an http(s) referenced landscape file or in include files or in a read-only file specified via command line parameter `/LSXML_FILE` are displayed as read-only in SAP Logon.

The searching order of the landscape file in SAP GUI for Windows is as follows:

1. File set in the command line parameter `/LSXML_FILE`.
2. File set in the directory path from the environment variable `SAPLOGON_LSXML_FILE`.
3. Files set in the *SAP Logon Options* dialogue on the Configuration Files Page.
4. Files set in the registry by the administrator.

If the files are not found using any of the searches outlined above, SAP GUI for Windows starts the data migration automatically and tries to create the `SAPUILandscape.xml` and `SAPUILandscapeGlobal.xml` files according to the old configuration file settings, provided that the files can be written under the specified path.

For more information, see SAP Note 2075150.

3 Planning

Purpose

This section tells you how to plan the front-end installation.

Process Flow

1. You plan an installation scenario, see Installation Scenarios [page 17].
2. You meet the Hardware and Software Requirements [page 19].
3. You review the Installation and Maintenance Flow [page 20].

3.1 Installation Scenarios

You can install SAP GUI for Windows in the following ways:

- Workstation installation from a server
  The administrator sets up an installation server, from which the installation of the SAP front-end software is run on many different clients.
  All the necessary files are copied from the server to the client during installation.
- Workstation installation from a distribution medium such as a DVD
  The administrator takes the distribution medium from PC to PC. This is mainly for testing or for standalone computers and is not to be used for software distribution.

  > → Tip
  >
  > We recommend you to use workstation installation from a server because of its greater flexibility, especially if many workstations are involved.

These methods are described in more detail below.

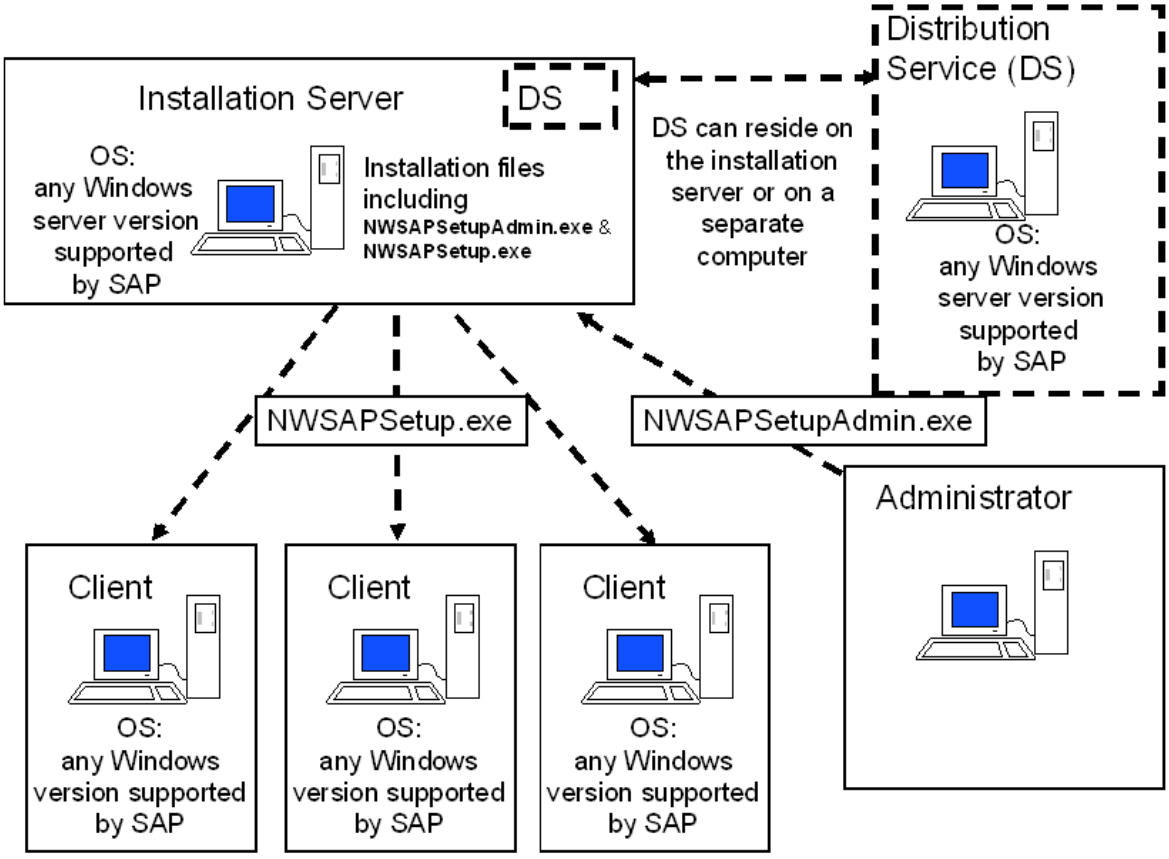
Workstation Installation from a Server

The installation process from an installation server is flexible, easy, and customizable. It makes maintenance easier in any phase of the distribution process, for example, when patches are to be applied.

You have the following options when installing SAP GUI for Windows with server-based workstation installation:

- Without user interaction (unattended)
- With user interaction (attended), where the user can:
  - Select from installation packages that the administrator configured
  - Select from the complete component list of each product available on the installation server

The following figure shows how server-based installation works:



The type of user determines which components to install and on which workstations. Different types of user have different requirements. For example, an employee in the HR department requires different products and components than a software developer.

Using an installation server, the administrator can group various components together as installation packages relevant for certain types of employee. The administrator can also specify which package particular users receive or offer a variety of packages and allow the user to choose the most appropriate one.

In addition, you can configure a distribution service to add local security handling (LSH) functions to the installation server (see also Configuring Local Security Handling [page 37]). With local security handling, the installation can be started even in the context of a user who is not a member of the local group of administrators. The distribution service then installs a service process on the client and starts `NWSAPSetup.exe` in the context of this service. The user rights and privileges are not altered. The installed service does not start other processes except `NWSAPSetup` from configured installation servers.

The hard disk requirement on the installation server depends on the type and number of products that are added to an installation server. SAP GUI for Windows requires approximately 800 MB with all components installed.

As administrator, you can configure your own installation packages with `NWSAPSetupAdmin.exe` on the installation server or use the preconfigured packages provided by SAP.

You apply patches on the installation server and call NWSAPSetup on your client again to apply the patch on the client. You can control the installation using the command line. You can perform unattended installations

with automatic patch installation on the client. To do this you place the appropriate command line in the logon script of the client. The logon script is a program that is executed when you log on.

Alternatively, you can use the SAP Automatic Workstation Update. Whenever the installation server is patched, or the packages installed are updated, this service will update the workstation(s) and reboot them if necessary. The workstation updater works in two modes - one in the presence of a logged-on user and another in his or her absence:

- When a user is logged on, the user is informed of update availability and the update happens on the user's assent. The user is also informed if a reboot is necessary and the reboot is also only executed on the user's assent.
- If no user is logged on, the update is done automatically and the reboot (if necessary) is done automatically, too.

The SAP Automatic Workstation Update is not SAP GUI-specific, it works with all components available on the installation server. For detailed information, see section Configuring SAP Automatic Workstation Update [page 38].

Workstation Installation from a Distribution Medium

Local installation on workstations with a distribution medium such as a DVD is useful for installing SAP GUI or SAP Business Client on single machines (for example, laptops) that are not connected to a Local Area Network (LAN). You can also use it for test purposes.

This installation type has the following disadvantages:

- No installation scenarios are available.
- When patches need to be applied, you need to patch each workstation separately.

3.2 Hardware and Software Requirements

You need to make sure in advance that your system meets the following requirements:

- Front-end workstations:
  - Read SAP note 26417 to check that all hardware and software requirements for the front-end workstations have been met. For installations together with SAP Business Client 7.70, check the requirements in SAP Note 2714160.
  - Hard-disk clones only:
    If the operating systems of your client computers were generated through hard-disk cloning, make sure that the domain is set correctly. To do this, take the computers out of the domain and then put them back in. This is especially important if you intend to use local security handling (LSH); see also Configuring Local Security Handling [page 37].
- The host for server-based installations must:
  - Be accessible to all users at any time, even after the installation is complete
    This is required for maintenance purposes such as the distribution of patches.

- Have broadband network connection for high throughput
- Have 800 MB of free disk space
- You find an overview of the server versions in the Product Matrix of SAP GUI on the SAP GUI DVD or on the SAP GUI Family Page.

3.3 Installation and Maintenance Flow

Purpose

This section describes a typical installation and maintenance flow for a server-based workstation installation.

Process Flow

1. You set up an installation server and, if necessary, local security handling (LSH).
   The installation server contains:
   - Installation programs
   - Configuration information (for example, packages)
   - Service files (for local security handling)
   - Front-end components to be installed
2. You maintain installation packages for different user groups.
   Users can install multiple packages and packages can share components. You can configure installation parameters, such as installation directories for the components that a package contains.
3. We recommend that you configure local security handling and test it.
   You can do this by logging on to a user PC with a user that does not have local administrator rights and running `NWSAPSetup.exe`.

   > **i Note**
   >
   > Many Windows operating systems have local security mechanisms. In these systems, only users with local administrator rights have write access to parts of the system database and the file system.
   >
   > NWSAPSetup solves this problem with the Distribution Service (DS), which resides on the server, and the Installation Service (IS) that has been installed on the workstation. The IS starts a new instance of `NWSAPSetup.exe` that runs with sufficient privileges.
4. You install packages using the logon script of your PC or using other software distribution technologies.
5. You patch the installation server.
6. You upgrade the front-end client computers when a new front-end release becomes available.

Related Information

Setting Up an Installation Server [page 23]
Configuring Local Security Handling [page 37]
Creating and Maintaining Installation Packages [page 29]
Installing Packages Using the Logon Script [page 46]
Patching the Installation Server [page 36]
Upgrade of the SAP Front End [page 51]

4 Preparation

Purpose

This section tells you how to **prepare an installation server** for the front-end software installation.

Process Flow

1. You set up an installation server.
2. If required, you administer your installation server.
3. If required, you add new SAP front-end components to an existing installation.
4. If required, you update products on the installation server with a newer version using a patch.
5. If required, you create and maintain installation packages.
6. If required, you patch the installation server.
7. If required, you configure local security handling.

> **i** Note
>
> After you have set up the installation server, it is ready for use during the deployment of SAP front-end components on the workstations.
>
> Creating packages for deployment is optional. Packages contain administrator-selected components, which are helpful to regulate and customize installation parameters such as the installation directory.

Related Information

Setting Up an Installation Server [page 23]
Administering an Installation Server [page 25]
Adding New SAP Front-End Components to an Existing Installation Server [page 27]
Updating Products on the Installation Server with a Newer Version [page 28]
Creating and Maintaining Installation Packages [page 29]
Patching the Installation Server [page 36]
Configuring Local Security Handling [page 37]

4.1 Setting Up an Installation Server

Use

You use this procedure to help distribute SAP front-end software on multiple workstations on the network.

`NWCreateInstServer` is a wizard driven tool that helps the administrator create a new installation server. After the server is set up, `NWUpdateInstServer` starts importing SAP products from the source into the newly created server.

Prerequisites

You need local administrator rights under Windows operating systems with local security mechanisms.

Procedure

1. Execute the file `NwCreateInstServer.exe` from the `SETUP` folder of the DVD SAP Product Media.
2. Choose *Next* to continue.

   > **i Note**
   >
   > You can choose *Cancel* at any stage to abort the process.

   `NWCreateInstServer.exe` prompts you to supply the path where you want to create the installation server.
3. Enter the folder name manually or use *Browse* to navigate to the folder where you want to create the installation server. Make sure the folder is empty.
4. Choose *Verify* to make sure that the chosen folder meets the prerequisites:
   - It must exist.
   - It must be accessible to the administrator with full access.

   > **i Note**
   >
   > The folder is automatically configured. It is made NULL-session accessible. Thus, it will be automatically shared on the network for everyone to read. If you do not want this automatic configuration, use the command line parameter `DontConfigureServerPath`.
5. If required, choose *Share* to maintain the file-sharing properties of the selected folder.
6. Choose *Next* to continue.
   You see a screen indicating that the server is being created.

   > **i Note**
   >
   > Processing is recorded in the following file:

`%ProgramFiles%\SAP\SAPSetup\Logs\NwCreateInstServer.log`

If there are errors, you see a link to an *Error Report*. Any errors are recorded in the following file, which you can view using your normal web browser:

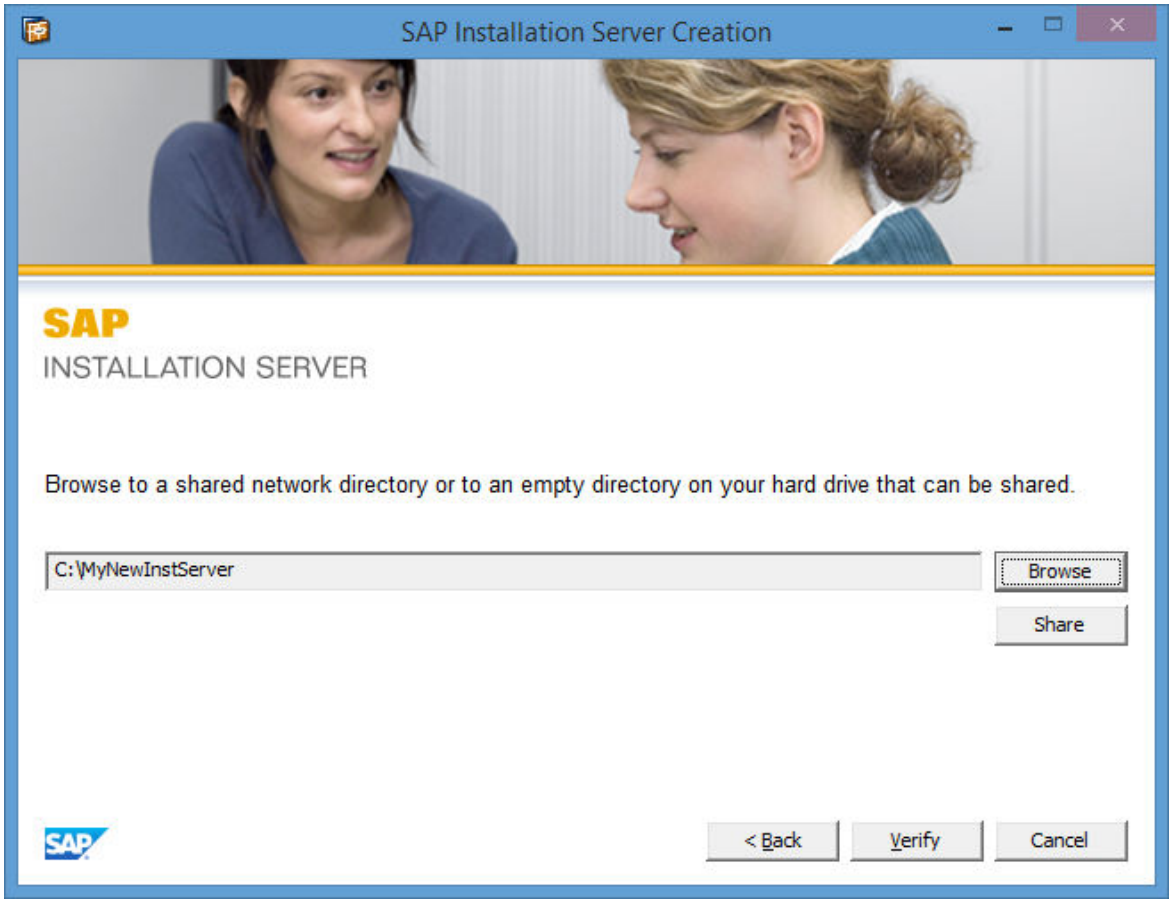
`%ProgramFiles%\SAP\SAPSetup\Errors\NwCreateInstServer_<CurrentDateTime>.xml`

If you have a problem, create a problem message on component BC-FES-INS and attach these files to the message.

When the installation is complete, you see a screen confirming that the server has been successfully created.

You now have a valid but empty SAPSetup installation server.

7. Choose *Next* to continue.
   `NWCreateInstServer.exe` automatically calls `NWUpdateInstServer.exe` to transfer SAP products to your installation server.
8. Choose *Next* to continue.
   You see the following screen:



> **i Note**
>
> `C:\MyNewInstServer` is the path where `NWCreateInstServer.exe` initially created a new installation server in this example.

9. Enter the folder name manually or use `Browse` to navigate to the folder of the installation server that you want to update.
10. Choose `Next` to start the server update.
    You see a screen indicating that the server is being updated.

    > **i Note**
    >
    > Processing is recorded in the following file:
    >
    > `%ProgramFiles%\SAP\SAPSetup\Logs\NWUpdateInstServer.log`
    >
    > If there are errors, you see a link to an *Error Report*. Errors are recorded in the following file, which you can view using your normal web browser:
    >
    > `%ProgramFiles%\SAP\SAPSetup\Errors\NwUpdateInstServer_<CurrentDateTime>.xml`
    >
    > If you have a problem, create a problem message on component BC-FES-INS and attach these files to the message.

    `NWServerUpdate.exe` transfers all SAP products available on the DVD or source to the installation server. When the update is complete, you see a screen confirming that you can use the installation server for SAP product installation on end-user workstations.
11. If you have .NET Framework version 4 installed, choosing *Finish* automatically starts `NWSAPSetupAdmin.exe` from the recently updated installation server.
    The new `NetWeaver SAPAdmin` is a multi-product server administration tool.
    For more information, see Administering an Installation Server [page 25].

    > **i Note**
    >
    > You can replicate an installation server to an existing network share by entering the following command:
    >
    > **`\\InstallationServerShare\Setup\NwCreateInstServer.exe /Dest=<ReplicationPath> /NoDlg`**

After setting up your installation server, it is recommended to look for the latest patches. See also Patching the Installation Server [page 36].

4.2 Administering an Installation Server

After you have successfully set up the installation server, you can find `NWSAPSetupAdmin.exe` in the `SETUP` directory of the installation server.

`NWSAPSetupAdmin.exe` is designed to help you administer the multi-product installation server. It supplies the following features:

- Import Product
  Use this feature to add new products (for example, SAP front-end components) to an existing installation server for distribution over the network.
- Export Product
  Use this feature to export front-end components available on one installation server to another.

- Delete Product
  Use this feature to delete a product from an installation server.
- Create Package
  Use this feature to create packages for deployment. Packages can contain many components and their installation parameters can also be customized.
- Create Package Definition File (PDF)
  You can create a package definition file (PDF) for an installation server package. PDF is a package description format that simplifies the interoperability and information exchange between the SAP Installer and system management products like the System Management Server from Microsoft.
- Configure Package
  Use this feature to change the attributes or the content of your packages.
- Patch
  Use this feature to patch components that are available on the installation server.
- Local Security Handling
  This feature allows workstation users to install SAP components from the installation server without requiring administrative privileges.

  > **i Note**
  >
  > `NWSAPSetupAdmin.exe` requires the .NET Framework 4 to be installed as a prerequisite. You can download the .NET Framework from:http://www.microsoft.com/download/en/details.aspx?displaylang=en&id=17718 .

- Configuring SAP Automatic Workstation Update
  Whenever the installation server is patched, or the packages installed are updated, this service will update the workstation(s) and reboot them if necessary. The workstation updater works in two modes - one in the presence of a logged-on user and another in his or her absence:
  - When a user is logged on, the user is informed of update availability and the update happens on the user's assent. The user is also informed if a reboot is necessary and the reboot is also only executed on the user's assent.
  - If no user is logged on, the update is done automatically and the reboot (if necessary) is done automatically, too.
- Control Remote Workstations
  This functionality uses the Windows Management Instrumentation (WMI) to help you remotely access and control workstations on which you have administration privileges. You access this feature via the *Remote* menu, where you find the options to:
  - collect remote log files
  - execute processes remotely
  - enumerate remote processes

  You find detailed information in section Controlling Remote Workstations [page 41].

4.3 Adding New SAP Front-End Components to an Existing Installation Server

Use

This procedure tells you how to transfer new SAP front-end components on a distribution medium to your installation server. Then you can deploy them to the workstations on the network.

You can add SAP products either using `NWUpdateInstServer.exe` or `NWSAPSetupAdmin.exe` (using the import product wizard) that you can find in the `SETUP` directory of the source medium.

Prerequisites

- An existing installation server
- A medium that contains an SAP product to be added to the installation server
- Enough disk space

> **i** Note
>
> You must **not** use the installation server during processing.

Procedure

To update the installation server with new SAP components, use one of the following two methods:

- Using `NWUpdateInstServer.exe`
  1. `Start NWUpdateInstServer.exe` from the `SETUP` directory of the source that contains the component to be added.
  2. Supply the path of the installation server
  3. Follow the wizard to update it with components that are available on the source.
- Using `NWSAPSetupAdmin.exe`
  1. Start `NWSAPSetupAdmin.exe` from the `SETUP` directory of the installation server that needs to be updated with the new component.
  2. In the toolbar, choose *Import Products*.
  3. Follow the wizard and supply the path to the source containing the product to be added to the installation server.

Example

You can update the installation server with the Adobe LiveCycle Designer which is delivered on the same DVD as the SAP GUI for Windows. You just have to start the program `<Disc Drive of DVD>:`

`\ADOBE_LC_<release>\setup\NwUpdateInstServer.exe`. After being shown a welcome page, you will be asked for the path to the installation server that should be updated. Here, you must navigate to the path of the installation server which has been set up in section 3.1 (`C:\MyNewInstServer\`).

You just have to choose *Next* and wait until the process ends. Afterwards, the `SAPSetup Installation Server Administration Tool (NwSAPSetupAdmin.exe)` is displayed. On the *Products* tab, you will see the added product *Adobe LiveCycle Designer*.

The user can now install the product by starting the program `<Path of the installation server share>\SetupAll.exe` and selecting the product to be installed, in this case the Adobe LiveCycle Designer.

4.4 Updating Products on the Installation Server with a Newer Version

Use

If newer releases of SAP products or components are required, you have to update your installation server to be able to distribute these new products to the workstations using a network.

This wizard-driven process is handled by a tool called `NWUpdateInstServer.exe` that you can find in the `SETUP` directory of your source medium.

Prerequisites

- A medium with an SAP product in a release newer than that on the installation server
- Enough disk space

> **i** Note
>
> You must **not** use the installation server during processing.

Procedure

1. Follow the steps as described in Adding New SAP Front-End Components to an Existing Installation Server [page 27].
2. Start `NWUpdateInstServer.exe` from the source medium.
3. Follow the instructions in the wizard.

> **i** Note
>
> You can also update products on the Installation Server by using the following command line:

```
\\UpdateSource\Setup\NwUpdateInstServer.exe /dest=<installation server setup directory> /NoDlg or /silent
```

For a description of the command line parameters, see section Command-Line Parameters [page 56].

4.5 Deleting Products from the Installation Server

To delete products from the installation server, proceed as follows:

1. Start `NWSAPSetupAdmin.exe` from the `SETUP` directory of the installation server where you want to delete a product.
2. On the *Products* tab, right-click the product to be deleted and choose *Delete Product*.
   The product deletion wizard appears.
3. Follow the deletion wizard.
   At the end of the deletion process, a message will inform you, if the deletion process completed successfully.

> **i Note**
>
> If you delete a product that is still a part of a preselection package, the indicator  appears next to name of the affected package on the *Packages* tab. This indicates that a product that is a part of the package is not available on the installation server. Thus, either the package has to be deleted or the product must be re-imported into the server from another source.

4.6 Creating and Maintaining Installation Packages

After setting up an installation server, you can create packages for an installation performed by users. The tool that you use is `NWSAPSetupAdmin.exe`, which you can find in the `SETUP` folder on the installation server.

The package creation and deployment in the new NetWeaver SAPSetup is enabled on multiple-product level, so enabling the administrator of the installation server to create packages comprising more than one SAP front-end component and parts.

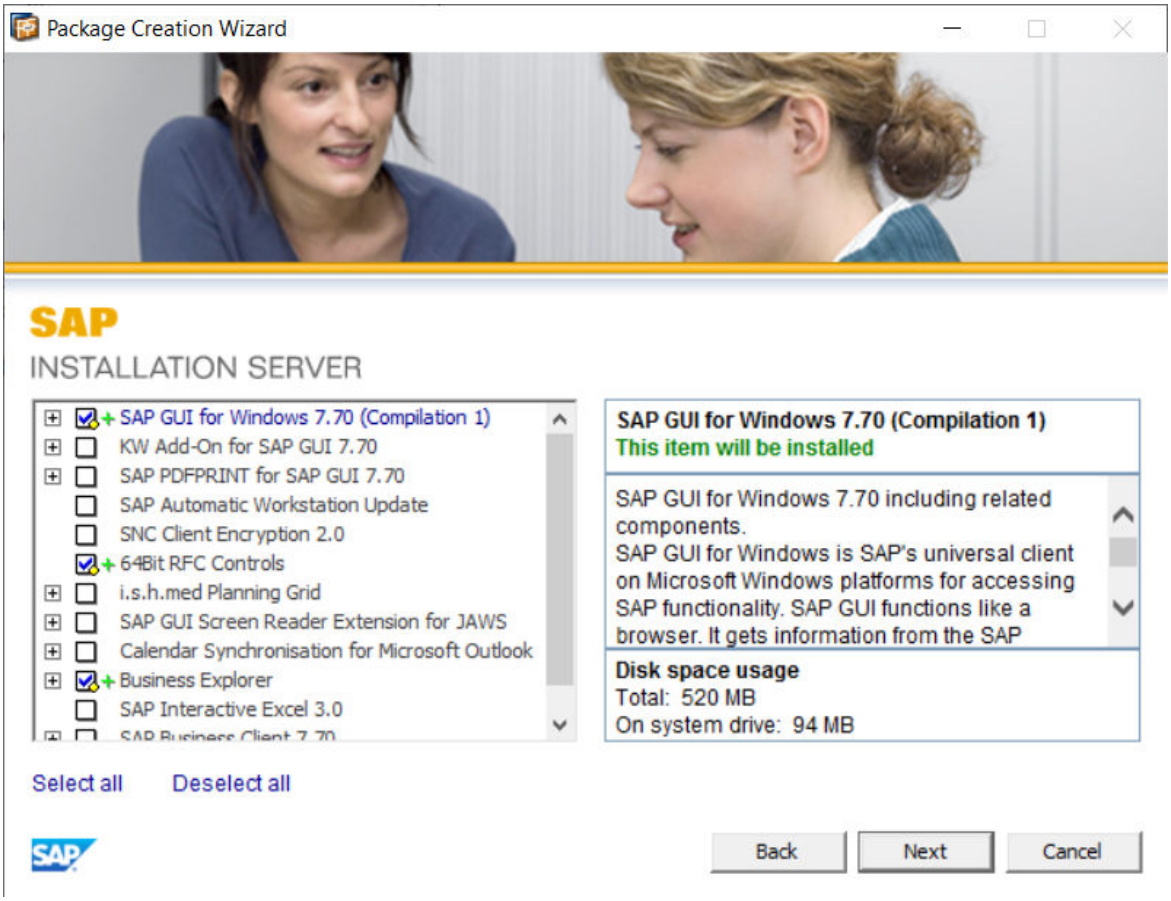
4.6.1 Creating a New Installation Package

Procedure

1. Start `NWSAPSetupAdmin.exe` from the `SETUP` folder of your installation server.
2. In the toolbar, choose *New Package*.
   The *Package Creation Wizard* appears.
3. To continue, choose *Next*.

The wizard displays components available on the installation server.

4. Select the products that you want to add to your package.
   Yellow dots indicate changes in the selection list. The green plus signs next to the product names indicate that these products will be installed when the user installs the package on his or her workstation.



5. Choose *Next*.
   You are prompted for a package name.
6. Enter a name and choose *Next*.
   `NWSAPSetupAdmin.exe` now creates a package and confirms the successful creation.
7. To return to `NWSAPSetupAdmin.exe`, choose *Finish*.
   The newly created package is now visible in the *Package View*.
8. Right-click a package and choose Configure from the context menu to customize installation parameters, such as the installation path for components contained in the package.

4.6.2 Configuring Packages and Scripting Events

Purpose

Package configuration lets the administrator change the attributes of a package (for example, the name), give the package a description, set registry keys for the package and customize the installation of the package by adding scripts that are to be executed during events in the package deployment cycle.

Prerequisites

- An installation server
- Packages created by the administrator and available for customization

Process Flow

1. Start `NWSAPSetupAdmin.exe` from the `SETUP` directory of the Installation Server.
2. Switch to the *Configure Packages* tab page. In the left window pane, you can see a tree listing the existing packages.

   > **i Note**
   >
   > The indicator  next to a package indicates that the package is incomplete. This typically occurs when a product that the package contains has been deleted from the installation server. You can either delete this package or re-import the missing product.

3. Select the package that you want to customize. You can for example change the name of the package, add a description, set registry keys for the package or script events.

   > **i Note**
   >
   > The text supplied as description is eventually visible to the end-user wanting to install the package using `NWSAPSetup.exe`.

4. Optional: You can set registry values on package level, for example, for the following registry keys:
   - Registry keys of the Accessibility page
   - Path to the SAP GUI branding image
   - Path to the Central Configuration File (new and old format)
   - Theme Key etc.
     The default value for the used SAP GUI theme is *SAP GUI Default*. This means that NWSAPSetup will remove any registry value presently setting the SAP GUI theme under HKEY_LOCAL_MACHINE so that the default set by SAP GUI itself will be used. For SAP GUI for Windows 7.70, this is the Quartz theme or the Quartz Dark theme (if Windows is running application in the dark mode). If you would like to set another default theme, you need to change this value and supply the decimal value of the respective theme. See section Themes Settings Page in the SAP GUI Administration Guide for more information on the theme selection registry values.

   You find the whole list on the package configuration tab.
   To change a registry key setting for the package, choose *Modify Parameters*. A window opens where you can choose the variable name and enter the corresponding value below. You find a description of the registry key values in the SAP GUI Administration Guide

   > **i Note**
   >
   > Later, this setting cannot be changed with the same tool again. Changes have then to be done via scripting.

5. Optional: Add event-scripting to perform custom actions on the user's workstation during the installation of the package (for example, copying additional files). You can insert scripting samples delivered by SAP via *Insert Script* and adapt them to your requirements. The scripts are executed at the following events:
   - On Begin Install: executed before the installation of a selected package
   - On End Install: executed after the completion of package installation
   - On Begin Uninstall: executed before the uninstallation of a selected package
   - On End Uninstall: executed after the completion of package uninstallation
   - On Begin Update: Executed before the update of a selected Package.
   - On End Update: Executed after the completion of the Package update.
     To learn more about the package update option see the next section Changing the Package Content [page 32].
6. To save your changes, choose *Save*.

Sample Documentation

The documentation of the samples for package event scripting is contained in the `NetWeaver SAP Setup Guide.pdf` file, which you can find using the SAPSetup Installation Server Administration Tool (`NWSAPSetupAdmin.exe`) by choosing the *Help Menu* > *SAP Installatin Server Help*. In this documentation, navigate through the tree structure as follows: *Administering an Installation Server* > *Maintaining Installation Packages* > *Configuring Packages and Scripting Events* > *Package Event Scripting Samples*.

4.6.3 Changing the Package Content

Purpose

The package configuration lets the administrator also update the package content. This means, you can add or remove components to be installed with the package. Also, you can add scripts that are to be executed before or after the update.

Prerequisites

- An Installation Server
- Packages created by the administrator and available for customization.

Process Workflow

1. Start `NWSAPSetupAdmin.exe` from the `SETUP` directory of the Installation Server.
2. Switch to the *Configure Packages* tab. In the left window pane, you can see a tree listing the existing packages.

   > **i** Note
   >
   > The indicator  next to a package indicates that the package is incomplete. This typically occurs when a product that the package contains has been deleted from the installation server. You can either delete this package or re-import the missing product.

3. Select the package for which you want to update the content, and choose *Change Package Content*.
   You can now select or deselect components. Components added will be newly installed on the workstations. Those removed will be uninstalled from the workstations, if they are not part of any other package marked for installation. When updating a package, the package installation parameters are also refreshed and include new variables or delete those that belong to components that are no longer part of this package.
4. Optional: Add event-scripting to perform custom actions on the user's workstation during the update of the package. You can insert scripting samples delivered by SAP via *Insert Script* and adapt them to your requirements. The scripts will be executed before and after the update:
   1. On Begin Update: Executed before the update of a selected Package.
   2. On End Update: Executed after the completion of the Package update.
5. Remember to click the *Save* button to persist changes made.
   Saving the package increases the version number and the package is marked for update on the workstation. When the package installation is updated on the workstation, the package components that have been newly added or removed by the administrator are automatically installed or uninstalled respectively.

   > **i** Note
   >
   > If you are using package event-scripting to transfer your files, the *Mark for Update* link as seen on the *Configure Packages* tab can be used to inform the installer of the availability of an update after you have modified this file. The installer will now recognize the package as updated and the modifications will be transferred to the workstations at update time via the `OnBeginUpdate` and /or `OnEndUpdate` scripts.

4.6.4 Deleting an Installation Package

Procedure

1. Switch to *Package* view.
2. Right-click the package you want to delete.

3. From the context menu, choose *Delete Package*.

The package is deleted. It is removed from the *Package* view.

4.6.5 Creating a Package Definition File

Use

You can create a package definition file (PDF) for an installation server package. PDF is a package description format that simplifies the interoperability and information exchange between the SAP Installer and system management products like the System Management Server from Microsoft.

Procedure

Proceed as follows to create a package definition file:

1. If not already started, start `NWSAPSetupAdmin.exe` from the `SETUP` directory of the installation server.
2. On the *Packages* tab, right-click the package for which you want to create a PDF file and choose *Create Package Definition File*.
3. Choose the directory where you want to save the file, enter a file name, and choose *Save*.

Result

`NWSAPSetupAdmin.exe` creates a PDF and an SMS file in the specified directory.

4.6.6 Creating and Deploying Single File Installers

Use

You can create single-file self-installing .exe-packages via `NWSAPSetupAdmin.exe`.

Such a package contains only those files that belong to the components that are a part of the package. Thus, it reduces your network load in certain distribution scenarios where you previously had to make local copies of your installation source before installing.

This single-file self-installer can also install silently without user interaction.

> **i Note**
>
> The Single File Installer does not work together with SAP Automatic Workstation Update Service. It only works together with an installation server.

Prerequisites

- You have created a SAP installation server using `NWCreateInstServer.exe` available with your SAP GUI DVD, or inside the `SETUP` folder of any other SAP software installed using SAP Installer.
- You have created a package or packages that contain the desired components.
- Optional: If you want to distribute configuration files, e. g. the `SAPUILandscape.xml`, together with the single-file self-installing package, create a folder on the installation server named **`CustomerFiles`**, and copy your files in this folder. See also the scripting example `Sample 1: Copying a file` that you find by following the instructions given in section Configuring Packages and Scripting Events [page 30].

Procedures

Proceed as follows to create or deploy a single-file self-installing package:

Creating a single-file self-installing package

1. Start `NWSAPSetupAdmin.exe` (you will need .NET 4 to use this version).
2. In the *Packages* tree, right-click the package you want to create a self-installing file from, and choose *Compress Package To Single-File Installer*.
3. Following the wizard instructions, you will get a single exe-self-extractor at the end of the process.
4. Close `NWSAPSetupAdmin.exe`.

Deploying a single-file self-installing package

1. The self-installing file created above can be executed on any workstation to install your package.
2. Follow the installation wizard.
   This self-installing package can be installed silently (i.e. without user-interaction) when invoked with the command-line parameter **`/silent`**.

Result

You have created and deployed a self-installing package.

Troubleshooting

If you face problems with creating a self-installing package, check first that your server has no missing files - via the Check Server feature in the NWSAPSetup administration tool (`NwSapSetupAdmin.exe`).

If you encounter problems with installing the self-installing package, use the Check-Workstation tool (`NwCheckWorkstation.exe`).

4.7 Patching the Installation Server

Use

Patching products on the installation server keeps them up-to-date with the most recent correction and enhancements from SAP.

You can configure the SAP Automatic Workstation Update. This service will update the workstation(s) and reboot them if necessary whenever the installation server is patched, or the packages installed are updated. The workstation updater works in two modes - one in the presence of a logged-on user and another in his or her absence. For detailed information, see section Configuring SAP Automatic Workstation Update [page 38].

Prerequisites

- An existing installation server

  > **i Note**
  >
  > To ensure a successful patch and to avoid having to reboot after the patch, you can unshare the installation server during the patch and recreate it when the patch has finished.

- A patch supplied by SAP for products or components available on the installation server.

Procedure

1. Start `NWSAPSetupAdmin.exe` from the `SETUP` directory of the installation server.
2. Choose *Patch Server*.
   This starts the patch wizard.
3. Choose *Next* to continue.
4. Browse to a valid SAP patch file and choose *Next* to continue.
   `NWSAPSetupAdmin.exe` now validates the patch, which takes a few minutes.

If the patch is valid, you are prompted to proceed with it.

> **i Note**
>
> To ensure that the installation server is not in use, the patch now closes `NWSAPSetupAdmin.exe` before continuing. It restarts `NWSAPSetupAdmin.exe` after completing the patch.

5. Choose *Next* to continue.
   `NWUpdateInstServer.exe` starts patching the installation server.
6. Follow the patch wizard, choosing *Next* as required.

> **i Note**
>
> Processing is recorded in the following file:
>
> `%ProgramFiles%\SAP\SapSetup\Logs\NWUpdateInstServer.log`
>
> If there are errors, you see a link to an *Error Report*. Any errors are recorded in the following file, which you can view using your normal web browser:
>
> `%ProgramFiles%\SAP\SapSetup\Errors\`
> `NWUpdateInstServerErrors_<CurrentDateTime>.xml`
>
> If you have a problem, create a problem message on component BC-FES-INS and attach these files to the message.

   At the end of the process, you see a message indicating that the patch was successful.
7. Choose *Finish*.
   `NWSAPSetupAdmin.exe` now restarts.

If you have patched a SAP front-end component (for example, SAP GUI for Windows 7.50), the version number of this component in `NWSAPSetupAdmin.exe` increases after applying the patch.

4.8 Configuring Local Security Handling

Use

Local security handling (LSH) lets users on the network deploy SAP front-end components on their front ends using NetWeaver SAPSetup without requiring administrative privileges on each front end.

Prerequisites

- You have set up an installation server [page 31].
- To enable front ends running Windows Vista or higher to use LSH, you need to change the default firewall setting to enable remote service management as follows:
  1. Open the control panel and choose *Windows Firewall* > *Change Settings*.

2. On tab page *Exceptions*, select *Remote Service Management* and choose *OK*.

Procedure

1. Start *NWSAPSetupAdmin.exe* from the *SETUP* folder of the installation server.
2. Choose *Services* and select *Configure local security handling*.
   The LSH configuration wizard starts.
3. Choose *Next*.
   The wizard prompts you for the credentials of an account that has administrative privileges for all front ends on the network.
4. Enter the account name with domain qualifiers.
5. Choose *Verify*.
   Verification only confirms that the password supplied matches its repetition. Verification does **not** validate credentials.
6. Choose *Next*.
7. Enter details for the installation service (IS) account, verify, and choose *Next* to complete the process.
   The wizard displays the success state in starting the distribution service and the status bar at the bottom of `NWSAPSetupAdmin.exe` displays the service state as *Active*.
8. Test the functioning of the LSH feature by starting `NWSAPSetup.exe` from this installation server on a front end where the logged-on user has ordinary user privileges (that is, the user does not have administrative privileges).

Result

If the front-end installer starts successfully and is able to install components available on the installation server, the configuration is successful.

If not, you need to reconfigure LSH.

4.9 Configuring SAP Automatic Workstation Update

Use

The SAP Automatic Workstation Update works only when installed on the workstation. Whenever the installation server is patched, or the packages installed are updated, this service will update the workstation(s) and reboot them if necessary. The workstation updater works in two modes - one in the presence of a logged-on user and another in his or her absence:

- When a user is logged on, the user is informed of update availability and the update happens on the user's assent. The user is also informed if a reboot is necessary and the reboot is also only executed on the user's assent.

- If no user is logged on, the update is done automatically and the reboot (if necessary) is done automatically, too.

> **i Note**
>
> This service updates itself, when a patch of automatic workstation update is available.

> **i Note**
>
> The SAP Automatic Workstation Update Service does not work together with the Single File Installer. See also Creating and Deploying Single File Installers [page 34].

Prerequisites

The workstation side needs a network connection to the installation source for any update to be possible.

On the installation server side, the following prerequisites must be met:

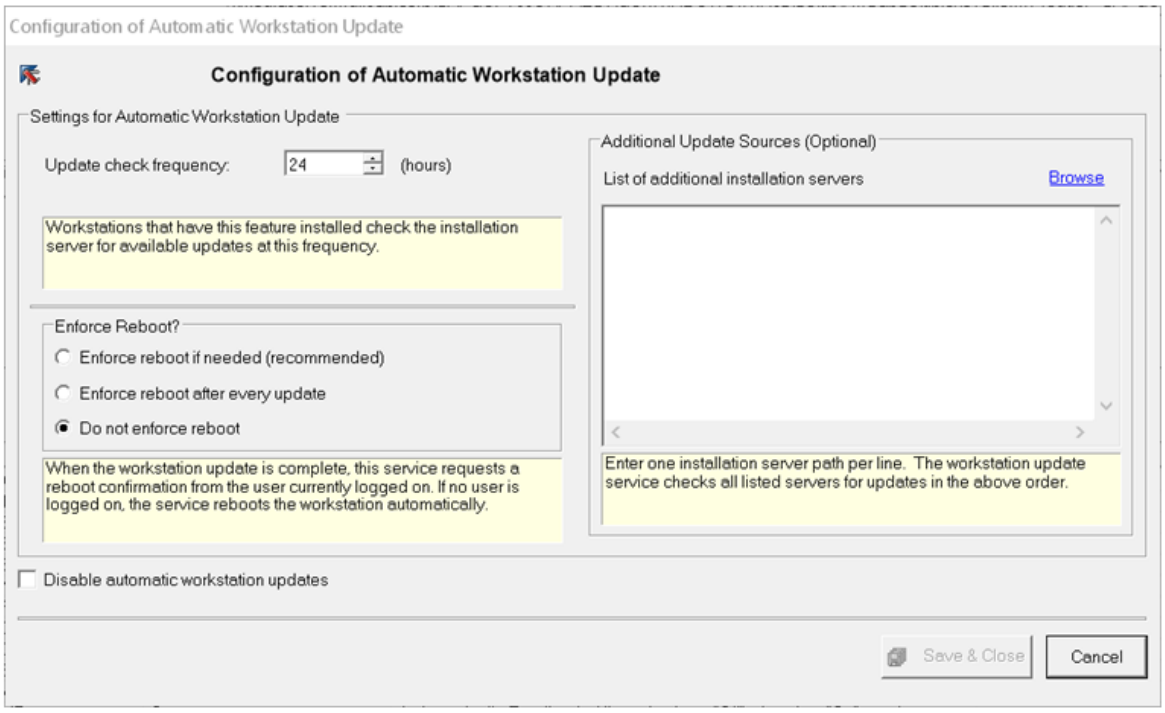
1. The installation server should be hosted on a machine that can work as a file-server and serve numerous network sessions.
2. Windows Server 2003 (or equivalent) is recommended as the installation server operating system with the following 'Local Security Policy':
   - "Accounts: Guest account status" – Enabled.
   - "Network Access: Let Everyone permissions apply to anonymous users" - Enabled.
3. The installation server should be created (and hence configured) using `NWCreateInstServer.exe`.

Procedure

In order to configure automatic workstation update, proceed as follows:

1. Open the administration tool `NWSapSetupAdmin.exe`.
2. Choose *Services* > *Configure automatic update*.

The screen *Automatic Workstation Update Configurations* appears.



You have now several options:

1. Update re-check frequency
   The workstations that will have this feature installed, will poll the installation server at this interval to check for update availability. The default is 24 hours.
2. Enforce reboot after every update
   When this flag is not set, the user is asked to reboot only if it is required to complete the deployment process. When the flag is set, a reboot is enforced, which means that the user is always asked to reboot.
3. Additional Update Sources (optional)
   You can index additional servers. The update service will then look up the indexed servers per line in the given order for available updates.

3. Save your entries and close the program.
   To make the automatic workstation update service available on workstations, you should create a package using `NWSapSetupAdmin.exe` on the installation server. This package should consist of SAP GUI for Windows and SAP Automatic Workstation Update. Once automatic workstation update is installed, then the following programs will run on the workstation in the background: `NWSAPSetupUserNotificationTool.exe` and `NWSAPAutoWorkstationUpdateService.exe`.

> **i Note**
>
> The front-end side will query the last 10 installation sources that are network paths.

Result

You have configured the SAP Automatic Workstation Update and made it available on the workstations.

To disable the service, activate the option *Disable Automatic Workstation Update* in the configuration tool on the installation server (see picture above). This configuration change is propagated as an update to the workstations at the time of the next update check.

4.10 Controlling Remote Workstations

Use

The remote workstation control functionality helps you to remotely access and control workstations on which you have administration privileges.

Prerequisites

- Since this functionality uses the Windows Management Instrumentation (WMI) service, WMI has to be enabled.
- The firewall should be configured, so that WMI access is not blocked.
- You need to be an administrator on the workstation you want to access. This means, you should have either domain administrator privileges or local administrator rights for the corresponding machine.

Procedure

In order to control workstations remotely, proceed as follows:

1. Open the administration tool `NWSapSetupAdmin.exe`.
2. Choose *Remote*.
   You have now several options:
   1. Collect remote log files
      With this option, you can collect log files from remote workstations. For this, you just have to enter the workstation name. In case you want to collect log files from several machines, you have to separate the different names by a comma.

      > **i Note**
      >
      > Concerning the section *Optional - Administrative Credentials*: You need to supply administrative credentials for the workstation only if you are not running this application using the same credentials. For example, if you are domain administrator and the workstation is not part of your domain; however, you have local administration rights for the machine. Then you would enter your local administration credentials here. This data will not be saved.

      Finally, you choose *Collect* to collect the log files from the remote workstations. If you want to stop the collection process, just press Abort. When the file collection is finished, Windows Explorer opens automatically the corresponding folder under `%temp%\SAPRemoteWksta\`.

2. Execute processes remotely
   With this option, you execute processes on a remote workstation. You just have to enter the workstation name as well as the application name in the appropriate field. Also, you can supply the application with the appropriate command line parameter, for example: `c:\program files\sap \sapsetup\setup\nwsapsetup.exe /uninstall /all /silent`. Then choose *Execute* to run the process on the remote machine.

   > **i Note**
   >
   > Start only non-interactive processes with this feature, because WMI will not allow the application started remotely to interact with the user.

   To get a list of running processes, use option *Display Running Processes* (for details see also paragraph 'Enumerate remote processes' below).
3. Enumerate remote processes
   With this option, you get a list of processes running on a remote workstation. Just enter the workstation name and choose *Display*. If you want to terminate a process, select the process and choose *Terminate*.

   > **⚠ Caution**
   >
   > Be careful with the *Terminate* option, because the user may lose unsaved date.

Troubleshooting

If you encounter problems with the WMI feature, diagnose WMI connectivity to a remote workstation using the Microsoft tool `wbemtest.exe`. Note, that you have to supply the connection namespace as `\ \WorkstationName\root\cimv2`.

Delegation

In order to start an installation on a remote workstation that is located on an installation server, delegation is required to be activated for the client machine(s) in question. Please, refer to the Microsoft TechNet article at http://technet.microsoft.com/en-us/library/ee692772.aspx , question 10, for further details.

5 Installation Process

Purpose

This section provides information about the steps that you have to perform to install your SAP front end.

Prerequisites

You have completed planning Planning [page 17] and preparation Preparation [page 22] before you start the installation.

> ⚠ Caution
>
> In the event of errors, consult the log files before creating a problem message; see Viewing Log and Error Files [page 56].
>
> If required, create a problem message in BC-FES-INS and attach these files to the message.

Process Flow

1. You perform the Installation of the SAP Front End [page 43].
2. You perform the required Update of the SAP Frontend [page 49].

5.1 Installation of the SAP Front End

Purpose

This section describes how you install the SAP front-end software.

Process Flow

You have two possibilities to install components on your front end:

- Installing Components from an Installation Server [page 44].
- Installing Components Locally from a Distribution Medium [page 47], such as DVD.

5.1.1 Installing Components from an Installation Server

Use

This procedure tells you how to install **components** from an installation server.

More information on how to install **packages** from an installation server:

- Installing Packages Configured by the Administrator [page 45]
- Installing Packages Using the Logon Script [page 46]

Prerequisites

- You have already set up an installation server, see Setting Up an Installation Server [page 23].
- The user logged on to the front end must have local administrative privileges.
- If the user does **not** have local administrative privileges, make sure that local security handling is correctly configured on the installation server, see Configuring Local Security Handling [page 37].

Procedure

1. Start `NWSAPSetup.exe` from the `SETUP` folder on the installation server.
   The SAPSetup installation wizard appears.
2. Choose *Next*.
   The product list is displayed. Products that have already been installed are pre-selected.
3. Select the products or SAP front-end components that you want to install or deselect the ones you want to remove.
   Yellow dots indicate changes in the selection list. The green plus next to a product name indicates that this product will be installed when the user installs the package on his or her workstation.
   If you deselect a product in this list that has already been installed, a red minus appears to indicate that this product is marked for uninstallation.
4. After (de)selection, choose *Next*.
   The installation wizard might prompt you to enter or change information to customize the installation of the selected products, such as the installation folder.

> **i Note**
>
> The default path for installing SAP GUI for Windows is `C:\%Program Files%\SAP\FrontEnd`, but you can change this if required.
>
> In any case, we strongly recommend that you install SAP GUI for Windows and all components used together with SAP GUI for Windows (like external controls) into protected folders of the operating system (like the %ProgramFiles%). This can protect you from attacks which try to exchange components used by SAP GUI for Windows.

> **i Note**
>
> The default path for installing SAP Business Client 7.70 is `C:\%Program Files%\SAP\NWBC770`.
>
> It is possible to change the installation path. However, SAP strongly recommends that you install SAP Business Client into protected folders of the operating system (like the %ProgramFiles%). This can protect you from attacks which try to exchange components used by SAP Business Client.

5. If necessary, change this information and choose *Next* to start the installation.
   The installation starts and a progress screen appears.

> **i Note**
>
> Processing is recorded in the following file:
>
> `%ProgramFiles%\SAP\SAPetup\Logs\NWSAPSetup.log`
>
> If there are errors, you see a link to an *Error Report*. Errors are recorded in the following file, which you can view using your normal web browser:
>
> `%ProgramFiles%\SAP\SAPSetup\Errors\SAPSetupErrors_<DateTime>.xml`
>
> If you have a problem, create a problem message on component BC-FES-INS and attach these files to the message.

When the update is complete, you see a confirmation screen. Your SAP front-end component is now successfully configured and ready to use.

5.1.1.1 Installing Packages Configured by the Administrator

Use

This procedure lets you install or remove packages on your front end that have been configured by the administrator on the installation server.

> **⚠ Caution**
>
> Be careful when removing packages. Make sure you do not mistakenly remove shared components that are used by other packages you want to keep.

Prerequisites

- You have already set up an installation server, see Setting Up an Installation Server [page 23].
- The user logged on to the front end must have local administrative privileges.
- If the user does **not** have local administrative privileges, make sure that local security handling is correctly configured on the installation server, see also Configuring Local Security Handling [page 37].
- The administrator has created packages using `NWSAPSetupAdmin` for deployment on the front end.

Procedure

1. Start `NWSAPSetup.exe /package` from the `SETUP` folder of the installation server or distribution medium.
   A list of the packages that the user is authorized to install or uninstall is displayed. Packages that have already been installed are pre-selected. In the following case, the package `Hospital Planning Package` is already installed on the workstation.
2. Select the components or packages that you want to install or deselect the ones you want to remove.
   The yellow dot indicates a change in the selection list. The green plus next to the product name indicates that this object will be installed when the user installs the package on his or her workstation. If you deselected a package, you would see a red minus next to the object selected for de-installation.
3. After (de)selection, choose *Next*.
   `NWSAPSetup` now processes the packages and displays the completion status when finished.

> **i** Note
>
> If errors occur during the installation, SAPSetup displays a link to a document in which the errors have been logged. Contact the administrator of the installation server or the network and pass on the information given in this document.

5.1.1.2 Installing Packages Using the Logon Script

Use

Since the front-end software is normally installed on a large number of computers, `NWSAPSetup` lets you automate this task.

By inserting a command line into the logon scripts of the computers on which the front-end software is to be installed, you can start a package installation each time the user logs on.

Prerequisites

Make sure that the front-end software (especially SAP GUI) is not running when you perform the procedure below because program files in use might cause a reboot.

Procedure

Enter the following command (both the path and either the package name or unique package identifier must be used):

```
\\<server>\<shared folder>\setup\NWSAPSetup.exe /package:"<package command-line name>" /silent
```

> **i** Note
>
> You can also call `NWSAPSetupAdmin.exe` in the same way to perform this task.

When you start this command for the first time on a computer, `NWSAPSetup` installs the specified package.

For a list of options, see Command-Line Parameters [page 56].

5.1.2 Installing Components Locally from a Distribution Medium

Use

This procedure installs SAP front-end software components on a single computer from a distribution medium such as a DVD.

Prerequisites

The user logged on to the front end must have local administrative privileges.

Procedure

1. In folder `Gui\Windows\Win32` on the Presentation DVD, start `SAPGUISetup.exe` to install SAP GUI for Windows. To install SAP Business Client, start `SapNwBcSetup.exe`.
   The SAPSetup installation wizard appears, showing you a list of components that are part of the product SAP GUI for Windows.

> **i Note**
>
> To view and optionally install all products – that is, SAP front-end components available on the installation medium including SAP GUI and others (the *Presentation DVD* contains SAP GUI for Windows and SAP BI front end as well as other components that can be integrated on an individual basis) – use `SetUpAll.exe`.

2. Choose *Next*.
   A list with (de)selectable products is displayed.
   Products that have already been installed are pre-selected.
3. Select the products or SAP front-end components that you want to install or deselect the ones you want to remove.
   Changes in the selection list are indicated by a yellow dot. If you select a product for installation, you will see a green plus next to the product to install. If you select a product for de-installation, a red minus appears.
4. Choose *Next*.
   The installation wizard might prompt you to enter or change information to customize the installation of the selected products, such as the installation folder.

   > **i Note**
   >
   > The default path for installing SAP GUI for Windows is `%ProgramFiles(x86)%\SAP\Frontend`, but you can change this if required.
   >
   > In any case, we strongly recommend that you install SAP GUI for Windows and all components used together with SAP GUI for Windows (like external controls) into protected folders of the operating system (like the %ProgramFiles%). This can protect you from attacks which try to exchange components used by SAP GUI for Windows.

   > **i Note**
   >
   > The default path for installing SAP Business Client 7.70 is `C:\%Program Files%\SAP\NWBC770`.
   >
   > It is possible to change the installation path. However, SAP strongly recommends that you install SAP Business Client into protected folders of the operating system (like the %ProgramFiles%). This can protect you from attacks which try to exchange components used by SAP Business Client.

5. If necessary, change this information and choose *Next* to start the installation.
   The installation starts and you see a progress screen.

   > **i Note**
   >
   > Processing is recorded in the following file:
   >
   > `%ProgramFiles%\SAP\SAPetup\Logs\NWSAPSetup.log`
   >
   > If there are errors, you see a link to an *Error Report*. Errors are recorded in the following file, which you can view using your normal web browser:
   >
   > `%ProgramFiles%\SAP\SAPSetup\Errors\SAPSetupErrors_<DateTime>.xml`
   >
   > If you have a problem, create a problem message on component BC-FES-INS and attach these files to the message.

When the update is complete, you see a confirmation screen. Your SAP front-end component is now successfully configured and ready to use.

5.2 Update of the SAP Frontend

Purpose

This section describes how you update the installed front ends when a newer version is available as a patch either on the installation server or on a distribution medium (such as a DVD).

> **i** Note
>
> As of release 7.60, patches for SAP GUI for Windows contain the complete set of files required for SAP GUI for Windows. Therefore, you can upgrade to release 7.60 by just applying a patch to your existing installation.
>
> Prior to release 7.60 you first had to start the installation of the new release using the SAP GUI version delivered on the Presentation DVD and afterwards you could use patches to update SAP GUI for Windows.
>
> However, if you are not doing the upgrade via the Presentation DVD, you should upgrade all SAP Frontend products you are using by applying the individual patches for these products. This ensures that you are running a fully consistent setup in which all components fit together.

Process Flow

You can update the SAP front end in one of the following ways:

Updating the Front End from an Installation Server [page 49]

Patching a Standalone Front End [page 50]

5.2.1 Updating the Front End from an Installation Server

Use

You can update the front end from an installation server.

Procedure

Updating the front end basically involves the same steps as an installation, see section Installing Components from an Installation Server [page 44] [page 48].

You have the possibility to have the update run unattendedly or automatically:

- For unattended update, use the following command line:
  `\\<server_path>\setup\NWSAPSETUP.exe /UPDATE /silent`

  > **i Note**
  >
  > To update a specific package or product, add:
  >
  > **`/package="package command-line name"`**
  >
  > Or
  >
  > **`/product="product command-line name"`**
  >
  > You will find the command-line name of the package or product in the administrative console `NWSAPSetupAdmin.exe`.

- For automatic update, you can use the SAP Automatic Workstation Update. Whenever the installation server is patched, or the packages installed are updated, this service will update the workstation(s) and reboot them if necessary. The workstation updater works in two modes - one in the presence of a logged-on user and another in his or her absence
  - When a user is logged on, the user is informed of update availability and the update happens on the user's assent. The user is also informed if a reboot is necessary and the reboot is also only executed on the user's assent.
  - If no user is logged on, the update is done automatically and the reboot (if necessary) is done automatically, too.

  The SAP Automatic Workstation Update is not SAP GUI-specific, it works with all components available on the installation server. For details, see section Configuring SAP Automatic Workstation Update [page 38].

5.2.2 Patching a Standalone Front End

You can update a standalone front end by running a patch on it. Updating involves the same steps as an installation.

More information: Installation of the SAP Front End [page 43]

> **i Note**
>
> We recommend Updating the Front End from an Installation Server [page 49] instead of updating individual front ends by running a patch.

5.3 Upgrade of the SAP Front End

This section describes how to upgrade SAP GUI for Windows to a new major version.

5.3.1 Upgrading an Installation Server

To migrate an existing Front-End Installation server that is based on release 7.20 or newer to a newer compilation or release, proceed as follows:

1. Download the new compilation CD or DVD.
2. Create a copy of your existing installation server for fallback purposes.
3. Extract the downloaded CD or DVD to a folder of your choice.
4. In the extracted media, browse to the folder `GUI\WINDOWS\WIN32\setup` and start `NwUpdateInstServer.exe` from that folder.
5. On the first wizard page, choose *Next* on the first wizard page.
6. On the next wizard page, choose *Browse*, navigate to the shared folder of the Front-End Installation Server to be upgraded, select that folder and then confirm the browse dialog.
7. Choose *Verify* and then *Next* in case of a verification success.
   The upgrade starts now and the progress bar of the wizard informs you about the progress of the upgrade.
8. Start `NwSapSetupAdmin.exe` of the upgraded installation server and find your packages in the *Packages* tab. Mark your package with the right mouse button and choose *Configure Properties*. In the *Configure Packages* tab, click on the link *Change Package Content*. Some components of your old selection might be unselected because they were moved in the product hierarchy. Mark them as selected. Then save the package.
9. Test whether the new package updates existing clients successfully.

5.3.2 Upgrading a Standalone Front End

To upgrade a standalone version of SAP GUI for Windows to a new major release, follow the steps described in chapter Installing Components Locally from a Distribution Medium [page 47].

> **i Note**
>
> As of release 7.60, patches for SAP GUI for Windows contain the complete set of files required for the following products:
>
> - SAP GUI for Windows <release>
> - i.s.h.med Planning Grid
> - SAP Automatic Workstation Update
> - Calendar Synchronization for Microsoft Outlook
> - 64Bit RFC Controls (as of SAP GUI for Windows 7.70)
> - SAP PDFPRINT for SAP GUI 7.70

If you are updating a local installation with a patch and are using the parameter **`/silent`** (see also Command-Line Parameters [page 56]), you should consider also using the parameter **`/update`** or **`/product:<PRODUCTS YOU WOULD LIKE TO UPDATE>`**.

Without these parameters, the patch will install all the products mentioned above, even if some of them have not been installed before.

i Note

Separate patches are available for:

- BI 7.0 AddOn for SAP GUI 7.70
- KW AddOn for SAP GUI 7.70
- SAPSPrint 7.70
- SAP Interactive Excel 3.0
- Screen Reader Extension
- SAP Business Client 7.70
- SNC Client Encryption

6 Additional Information

The following sections are **optional** and provide additional information:

6.1 Removing an Installation Server

Use

You can remove an installation server if it is no longer needed.

Procedure

1. If local security handling is configured, (seeConfiguring Local Security Handling [page 37]), start `NWSAPSetupAdmin.exe` and stop it using the *Services* menu.
2. First, unshare the folder so that the installation server is not available to front ends on the network.
3. Delete the folder from the file system using the Windows explorer.

6.2 Uninstalling the SAP Front End

Prerequisites

Make sure that SAP GUI for Windows and/or SAP Business Client are not running at uninstall time. If an application is running during the uninstallation, the user is prompted to reboot afterwards.

Procedure

1. Choose *Start* > *Settings* > *Control Panel* > *Add or Remove Programs*.
   A list of the installed applications appears.
2. Select the installed version of SAP GUI for Windows or SAP Business Client.
3. Choose *Remove*.
4. Choose *Next*.

Result

The component is uninstalled and a log file is generated.

> **i Note**
>
> To ensure the upgrade possiblity, the product name of the SAP GUI for Windows is SAPGUI.

> **i Note**
>
> To perform silent, unattended uninstallation, enter the following commands:
>
> **`NWSAPSetup.exe /Product="<product name>" /Silent /Uninstall`** for uninstalling a certain product, for example SAPGUI.
>
> **`NWSAPSetup.exe /all /Silent /Uninstall`** for uninstalling all SAP components installed by SAPSetup without having to call specific command-lines for specific products.
>
> You find more information on this in section Command-Line Parameters [page 56].

6.3 FAQs

You can find FAQs for the server and the client part of NetWeaver SAP Setup either from the DVD, from the installation directory, or in the system documentation of the NetWeaver SAPSetup Server Installation Administration Tool (`NWSAPSetup.exe`) choosing *Help* > *SAP Installation Server Help*.

The FAQs for the server can be found under *SAP Installation Server Help* > *Troubleshooting and FAQs*.

The FAQs for the client can be found under *SAP Front-End Installer Help* > *Troubleshooting and FAQs*.

6.4 Diagnosing Front-End Software Installations using NWCheckWorkstation

To diagnose a workstation containing installed SAP components, start `NWCheckWorkstation.exe` from either the `SETUP` directory of the Installation Server or from the `SETUP` directory of the workstation (`%PROGRAMFILES%\SAP\SAPSetup\Setup`), and follow the wizard. You will be presented with a report on completion of the check process.

`NWCheckWorkstation` verifies the installation of SAP front-end components by checking for discrepancies in files, services, registry-keys, and other artifacts deployed using NWSAPSetup.

The workstation check tool will collect critical installation files and compress them into a cabinet archive. This `CAB`-File will be presented to the user after the completion of the process, and can be supplied to SAP support staff when reporting installation issues - for quicker diagnosis.

6.5 Repairing Front-End Software Installations using NWSAPSetup

To repair a workstation containing installed SAP components, start `NWSAPSetup.exe` from the `SETUP` directory of the Installation Server. `NWSAPSetup.exe` has to be called from the command line with **`/repair`**.

`NWSAPSetup /repair` checks for discrepancies in files, services, registry-keys, and other artifacts deployed using NWSAPSetup and repairs the installation of SAP front-end components based on the outcome of these checks.

> **i** Note
>
> The repair process includes an update of all Front End components as described in chapter Updating the Front End from an Installation Server [page 49]. If the version of a component on the installation server is higher than of the component installed on the workstation, then this component will be udpated.

When the repair process starts, a progress screen appears. Processing is recorded in the following file: `%ProgramFiles%\SAP\SAPetup\Logs\NWSAPSetup.log`

If there are errors, you see a link to an *Error Report*. Errors are recorded in the following file, which you can view using your normal web browser:

`%ProgramFiles%\SAP\SAPSetup\Errors\SAPSetupErrors_<DateTime>.xml`

If you have a problem, create a problem message on component BC-FES-INS and attach these files to the message.

When the repair process is complete, you see a confirmation screen. Your SAP front-end components are now successfully repaired and ready to use.

6.6 Viewing Log and Error Files

Log Files

All the installation tools described in this document maintain an activity record in log files that you can find here:

`%ProgramFiles%\SAP\SAPSetup\Logs`

Each tool stores the last twenty log files.

Error Files

Errors are stored in an XML format in files that you can view in any browser and you can find in the following folder:

`%ProgramFiles%\SAP\SAPSetup\Errors`

If you have a problem, create a problem message in BC-FES-INS and attach the relevant log files to the message.

Log and Error Files for each Tool

Tool	Log File	Error File
`NWCreateInstServer.exe`	`NWCreateInstServer.log`	`NwCreateInstServerErrors_<DateTime>.xml`
`NWUpdateInstServer.exe`	`NWUpdateInstServer.log`	`NwUpdateInstServerErrors_<DateTime>.xml`
`NWSAPSetupAdmin.exe`	`NwSAPSetupAdmin.log`	`NWSAPSetupAdminErrors_<DateTime>.xml`
`NWSAPSetup.exe`	`NWSAPSetup.log`	`SAPSetupErrors_<DateTime>.xml`

6.7 Command-Line Parameters

In this section, you find two tables with command line parameters:

- for installation server creation and update
- for frontend installation and update

Installation Server Creation and Update Command Line Parameters

NWCreateInstServer/ NWUpateInstServer Parameter	Description
`/Dest`	Use this parameter to supply the destination folder where you wish to create your installation server. Sample: **`/Dest="C:\MyInstServerPath"`**
`/noDlg`	Shows only the progress dialog Displays no other user interface. You can use it instead of **`/silent`**, if you wish to see progress. ⚠ Caution If using **`/noDlg`**, you need to supply the destination server path via **`/Dest`**.
`/silent`	Displays no user interface – not even progress ⚠ Caution If using **`/silent`**, you need to supply the destination server path via **`/Dest`**.
`/DontConfigureServerPath`	Disables the automatic installation source folder configuration (network share creation and null-session accessibility).

→ Tip

You can use command-line parameters to automatically replicate your (master) installation server across multiple locations.

Front-End Installation and Update Command Line Parameters

You can call `NWSAPSetup.exe` with the command-line parameters listed below.

NWSAPSetup Parameter	Description
`/package:["<package command-line name>"] [/silent] [/uninstall] [/update]`	Displays the wizard that lets you choose packages **i Note** You **cannot** switch to *Product View*.
`/Product:["<product command-line name>"] [/uninstall] [/silent] [/update]`	• If no product name is supplied, this command line parameter enables a view of available products and products that have already been installed. • If a product name is supplied, the installer displays information about the supplied product only. **i Note** You **cannot** switch to *Package View*.
`/ForceWindowsRestart`	Restarts the workstation automatically when the installation is done. Use in combination with package and product after `/silent` or `/nodlg`. **Example:** `<installation source>\setup \nwsapsetup.exe /silent /product="SAPGUI " /ForceWindowsRestart`
`/noDlg`	Shows only the progress dialog Displays no other user interface. You can use it instead of `/silent`. **⚠ Caution** If using `/noDlg`, you need to specify a product name or package name.
`/silent`	Displays no user interface – not even progress **⚠ Caution** If using `/silent`, you need to specify a product name or package name.

NWSAPSetup Parameter	Description
/SMS:["<package command-line name>"] [/noDlg] [/silent] [/uninstall]	Creates a status file (`Package Name.MIF`) in the `%TEMP%` folder that indicates the success or failure of the package installation, or uninstallation. Typically used by software distribution systems such as SMS to determine the success or failure of a remote installation (advertised package installation).
/uninstall	Uninstalls components that belong to a specified product or a package This command-line parameter is valid only together with one of the following: **/Product=”Product Command-Line Name”** **/Package=”Package Command-Line Name”** **/all** for uninstalling all SAP components installed by SAP-Setup; works only when supplied with **/nodlg** or **/silent**
/update	Updates components present in a newer version on the installation server due to a patch. To update a specific product or package, supply an additional parameter: **/Product="Product Command-Line Name"** or **/Package="Package Command-Line Name"**

You can install multiple products using a single command with the + operator, as shown in the following example:

```
\\ServerName\ShareName\Setup\NwSAPSetup.exe /Product=”SAPGUI+SAPBI” /NoDlg
```

Product Command Line Names

The following table lists the command line names of the products delivered on Presentation CD 1. These command line names can be used with `NwSapSetup.exe` in the command line when installing in product mode.

Product	Command Line Name
Business Explorer	**SapBI**

Product	Command Line Name
Calendar Synchronization for Microsoft Outlook	**CALSYNC**
i.s.h.med Planning Grid	**GUIISHMED**
KW-Add-On for SAP GUI 7.70	**KW**
SAP Automatic Workstation Update	**SAPWUS**
SAP Business Client 7.70	**NWBC770**
SAP GUI for Windows 7.70	**SAPGUI**
SAP GUI Screen Reader Extension for JAWS	**SRX**
SAP Interactive Excel	**AXL**
SAP PDFPRINT for SAP GUI 7.70	**PdfPrintGui**
SAP Secure Login Client	**SLC** ⚠ Caution If you have both SAP Secure Login Client (SLC) and SAP SNC Client Encryption (SCE) installed and want to uninstall **only one** of the two products, read SAP note 2220853 before doing so.
SNC Client Encryption	**SCE** ⚠ Caution If you have both SAP Secure Login Client (SLC) and SAP SNC Client Encryption (SCE) installed and want to uninstall **only one** of the two products, read SAP note 2220853 before doing so.
64Bit RFC Controls	RFC64

6.8 Return Codes

If you start `NwSapSetup.exe` from a batch file, the return code can be caught by the *%ErrorLevel%* environment variable.

Example

```
<Path to your installation source>\setup\NwSAPsetup.exe /package="<Name of your Installation package>" /silent echo %ErrorLevel%
```

The following table gives an overview of the return codes for NwSapSetup.exe and their descriptions:

Return Code	Description
0	Process ended without any errors detected.
48	General Failure
67	Installation is canceled by the user.
68	Invalid patch
69	Installation engine registration failed.
70	Invalid XML Files
129	Reboot is recommended.
130	Reboot was forced.
144	Error report has been created.
145	Error report has been created and reboot is recommended.
146	Error report has been created and reboot is forced.

> **i Note**
>
> In case of return codes 144-146, have a look at the error and log file for `NwSapSetup.exe` as described in section Viewing Log and Error Files [page 56].

6.9 Component List

The component list describes the features and functions of the selectable components, and the prerequisites for using them. The components are grouped under component groups.

List of Component Groups / Top Level Components

Group	Description
SAP GUI for Windows 7.70	Installs SAP GUI for Windows 7.70 including related components. SAP GUI for Windows is SAP's universal client on Microsoft Windows platforms for accessing SAP functionality. SAP GUI functions like a browser. It gets information from the SAP system like the following: Which contents to display in its window as well as where, when, and how.
SAP Business Client 7.70	Installs the SAP Business Client 7.70
SAP GUI Suite	SAP GUI for Windows along with all essential sub-components
R/3 Add-On	Front-end add-on for SAP R/3 Enterprise This package contains application extensions that are needed for some R/3 transactions.
KW Add-On	Front-end add-on for SAP Knowledge Workhouse. This package contains components to create, edit, translate and display content.
SCM Add-On	Front-end add-on for of SAP Supply Chain Management (SCM)
i.s.h.med Planning Grid	The i.s.h.med Planning Grid is the graphics-based tool for planning appointments in the clinical system i.s.h.med. This component contains the current planning grid version as of SAP ECC 6.0, Industry Extension Healthcare, Enhancement Package 4. Its installation requires the Java Runtime Environment to be installed on the machine. For more information, see SAP note 1013957.
SAP Screenreader Extensions (SRX)	SAP GUI Screen Reader Extensions (SRX) enable the use of SAP GUI together with the screen reader program Jaws for Windows. The Extensions are Jaws-based scripts that make the SAP GUI accessible via the SAP GUI object model. The prerequisites for SRX are as follows: • Freedom Scientific JAWS is installed in a supported version (see also SAP note 755545) • SAP GUI is installed or will be installed

Group	Description
SAP PDFPRINT for SAP GUI 7.70	To be able to print Interactive Forms (previously known as PDF-based forms) on a printer with any device type, you can additionally install the component SAP PDFPRINT. SAP PDFPRINT allows you to address any printer when printing Interactive Forms, in a similar way to using SAPWIN-based device types. See SAP Note 2775797 for more information.
SAP Automatic Workstation Update	The Automatic Workstation Update works only when installed on the workstation. Whenever the installation server is patched, or the packages installed are updated, this service will update the workstation(s) and reboot them if necessary. The workstation updater works in two modes - one in the presence of a logged-on user and another in his absence: • When a user is logged on, the user is informed of update availability and the update happens on the user's assent. The user is also informed if a reboot is necessary and the reboot is also only executed on the user's assent. • If no user is logged on, the update is done automatically and the reboot (if necessary) is done automatically, too.
SNC Client Encryption	SNC Client Encryption is an optional feature of SAP GUI and SAP NetWeaver technology platform. It enables users to protect communication between SAP GUI for Windows and SAP NetWeaver Application Server (AS) ABAP. The component also enables encryption for RFC clients, such as BEx Query Designer.
Calendar Synchronization for Microsoft Outlook	Outlook client extension for the synchronization of SAPoffice calendar with the Outlook calendar . The prerequisites for using the calendar synchronization are as follows: • Microsoft Outlook 2010 32bit, 2013 32bit or 2016 32bit • Microsoft VSTO 2010 for .NET 4.0; see https://www.microsoft.com/en-us/download/details.aspx?id=48217 • Microsoft .NET 4.5.2 or later; see https://www.microsoft.com/net/download/dotnet-framework-runtime/net452

Group	Description
Business Explorer	The Business Explorer is the SAP Business Information Warehouse component that provides flexible reporting and analysis tools for strategic analyses and decision-making support within a company. These tools include query, reporting, and analysis functions. You can perform a local installation of the Business Explorer by running `SAPBISetup.exe` from the `PRES1\GUI \WINDOWS\WIN32` subfolder of the *Presentation DVD*. You can also import "Business Explorer" to an installation server and define your own packages to include this product. The Business Explorer tree node also contains the OLE DB for OLAP clients to connect to SAP NetWeaver Business Intelligence (BI).
SAP Interactive Excel	Module FI or EC: Add-on to Microsoft Excel for creating reports in Microsoft Excel using data from FI-LC or EC-CS consolidation Excel sheets can be filled with data from the SAP system or the Remote Data Entry tools for FI-LC and EC-CS. It can be used for data entry into the FI-LC or EC-CS Remote Data Entry tool. See also SAP note 1844598.
64Bit RFC Controls	The 64bit RFC Controls (both non-Unicode and Unicode) are used for external access to data within SAP Systems without SAP GUI. They are accessible for example from Visual Basic for Applications via COM Interface. In previous SAP GUI releases, these controls only existed in 32bit versions which causes trouble when the controls are used from 64bit processes like Microsoft Office. The new installation component *64Bit RFC Controls* solves this issue. See SAP Note 2724656 for more information. The 64Bit RFC Controls can be installed in addition to the 32bit RFC Controls which are part of the *SAP GUI Suite* component group.

List of Available Components

SAP GUI Suite

Component	Description
SAP GUI	SAP graphical front end with starter application SAP Logon Pad The user can only display preconfigured connection information for SAP systems provided by the administrator (see documentation for details).
SAP Logon Pad	Desktop and *Start* menu shortcuts for SAP Logon Pad **i Note** The functionality of SAP Logon Pad is fully contained in SAP Logon. Therefore these shortcuts are **only** created if SAP Logon is not selected.
SAP Logon	Extended starter application SAP Logon with desktop and *Start* menu shortcuts The user can display and modify connection information for SAP systems.
SAP GUI Scripting	SAP GUI scripting interface More information: `SAP_GUI_Scripting_API.pdf` from the `PRES1/DOCU` folder on the Presentation DVD
SAP GUI Documentation	HTML-based SAP GUI documentation for end users and SAP GUI Scripting API documentation. If this component is not installed, the online help from help.sap.com is used instead.
GUI XT	SAP GUI extensions for client side customizing of SAP Dynpro screens
32bit Unicode RFC Libraries	Unicode RFC libraries for software developers Supports Unicode and non-Unicode communication partners Accessible from Visual Basic through COM Interface These are the 32bit Unicode versions of the controls contained in component group *64bit RFC controls* (see also section *List of Component Groups / Top Level Components* above). The 32bit non-Unicode versions of the same controls are contained in the *SAP GUI Suite* component group.

R/3 Add-On

Component	Description
EH&S WWI	Module EH&S: Windows Word Processor Integration Report tool for SAP PLM Environment, Health and Safety to generate reports such as material safety data sheets and labels RTF Viewer required
Visual Configuration Tool	With the Visual Configuration Tool (VCT), it is possible to carry out the configuration of screen sequences and screens with drag and drop in BDT (transaction BUCO).

SCM Add-On

Component	Description
SCM Front End	Front-end add-on of SAP Supply Chain Management (SCM)

Business Explorer

Component	Description
Business Exlorer with OLE DB for OLAP Provider	The Business Explorer is the SAP Business Information Warehouse component that provides flexible reporting and analysis tools for strategic analyses and decision-making support within a company. These tools include query, reporting, and analysis functions. The Business Explorer tree node also contains the OLE DB for OLAP clients to connect to SAP NetWeaver Business Intelligence (BI).

KW Add-On for SAP GUI

Component	Description
KW Online Editing	Knowledge Warehouse Editing within SAP GUI Requires Microsoft Internet Explorer 5 or higher
KW Translator	Knowledge Warehouse Translator: Translation tool to process translation packages offline Requires Microsoft Internet Explorer 5 or higher
KW HTML Editor	Allows creating and editing HTML documents in SAP GUI for area HTML-Based Documents. This is an alternative to the old component Html Pad which allows creating and editing HTML documents within Knowledge Workbench (KWB)

SAP Business Client 7.70

Component	Description
SAP BC (former NWBC)	User interface (UI) that presents a single entry point to different SAP business applications and technologies. It is a high-fidelity shell that integrates various UI technologies and design generations aimed at a more efficient, intuitive, and complete user experience over different UI technologies.You find more information on the SAP BC Community page.
Chromium for SAP Business Client 7.70	With this component it is possible to use the open source framework Chromium instead of Microsoft Internet Explorer within SAP Business Client 7.70 for rendering HTML content.

SCN Client Encryption

Component	Description
SNC Client Encryption	Is an optional feature of SAP GUI and SAP NetWeaver technology plattform. It enables users to protect communication between SAP GUI for Windows and SAP NetWeaver Application Server (AS) ABAP. The component also enables encryption for RFC clients, such as BEx Query Designer.

SAP GUI Screen Reader Extensions for JAWS

Component	Description
Accessibility settings for SAP GUI	This component applies typical settings required for using SAP GUI for Windows together with a screenreader. One of these settings is to activate the SAP GUI Accessibility mode by default.

7 Appendix

7.1 Copyright Notices for Included 3rd Party Components

Copyright Notices for the WebView2Loader.dll

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