

Section 9

Installation

Installation of the SURE software consists of two steps:

- Step 1: the installation of the SURE PC software.
- Step 2: the installation of the mainframe software.

9.1. Installation on the PC

9.1.1. (Installation) License Key

The SURE PC software is protected via a license key mechanism. One copy of the program via the same workstation is initially allowed. With this first copy, the license key may be entered via the SURE explorer Options/License.

This chapter contains valuable information about the structure of the SURE client software. We strongly advise this chapter to be read by the technical support staff. If you have questions about this chapter, then please do not hesitate to contact ITSforSURE.

The actual installation procedure is described in the paragraph 'PC install procedure', further on in this chapter.

9.1.2. (Installation) PC Application Structure

The main components in a SURE PC application are:

- <installation directory>\Ris\Bin\AW_OBJ.EXE

This is the executable program for the client software. The program manager executes this program with the configuration file (see next) as parameter.

- <installation directory>\AW_OBJ.INI

This is the configuration file or INI file that contains redirections for directories. This configuration file is passed as a parameter via the program manager definition. If no parameter is provided in the program definition, a file called AW_OBJ.INI will be used from the Windows directory. A secondary INI file may be located in the same directory as where the executable AW_OBJ.EXE is present. This global AW_OBJ.INI file contains attributes that override the attributes in the private INI file

- <installation directory>\AW_OBJ.CFG

A second configuration file is used with the same name as the AW_OBJ.INI file, but with CFG as extension. This file contains objects in environments that should be added to the

toolbar. In the SURE installation this results in showing the logon screen after starting up. If this file is missing, no logon screen is shown.

- <installation directory>\Ris\Tool*.*

The configuration module of SURE on the PC is a RespectFrameWork system using a tool repository. This tool repository contains definitions for configuration entities such as DLL, Repository, Environment, Security and User. This configuration tool repository is located via the TOOL chapter in the configuration file.

- <installation directory>\Ris\Data*.*

The configuration data that describes the installed modules such as DLL's, Repositories, Environments, Securities and Users are located in the configuration data repository. The configuration data repository contains static data, which is applicable to all installations. The configuration file contains tailored data per installation such as directory redirections.

- <installation directory>\Ris\Bin*.*

The AW_OBJ.EXE executable uses a restricted number of direct linked libraries such as cd_res.dll, cd_ris.dll, cw_formi.dll and cd_prof.dll. These direct linked DLL's are located by the Windows system via the defined default path in the program definition. For this reason, the default path should be the path where the SURE executables are installed; by default the path where file AW_OBJ.EXE is located. The installation will setup a program definition with the correct path supplied. If this path name is altered afterwards, the default Windows search mechanism is invoked using the PATH environment variable and the Windows or Windows\System directory.

- System DLL's

The SURE software requires some system-defined libraries and a WINSOCK interface. By default, these libraries are installed by the Windows software at installation or if the system is upgraded.

- included applications

A SURE application consists of a tool repository with additionally application extension DLL's, a data repository and bitmap files. The included applications are located via the DIRECTORY chapter in the configuration file.

[DIRECTORY]

DLL	=<directory>
TOOL	=<directory>
DATA	=<directory>
BITMAP	=<directory>
CRW	=<directory>

For DLL files and bitmap files a second search level is invoked for the default directory, in other words if the file is not present in the directory defined by the repository redirection, the file is located in the directory defined by the directory redirection.

[<repository>]

DLL	=<directory>
-----	--------------

TOOL	=<directory>
DATA	=<directory>
BITMAP	=<directory>
CRW	=<directory>

9.1.3. (Installation) PC Install Procedure

The SURE PC software can be downloaded from the ITSforSURE web-site:

SURE_xxx (xxx is the release number of the software)

Prepare a PC with the following specifications:

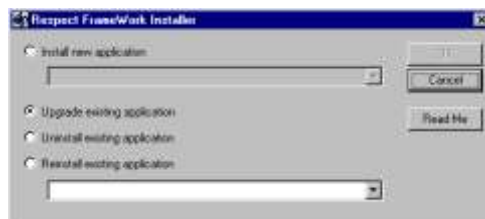
- Processor : 80486 or better
- Memory : at least 8 Mb, preferably 16 Mb
- Hard disk : at least 6Mb free space
- Software : Windows 95, Windows 98, Windows NT, Windows 2000, Windows XP
- A TCP/IP connection to your mainframe

Unzip the downloaded file and double click on program Install.exe to start the installation procedure.

9.1.4. (Installation) PC Install Program

9.1.4.1. The 1st Installation Dialogue

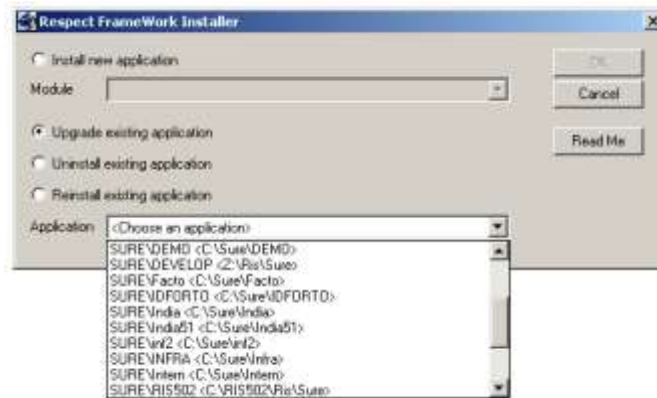
Define the installation action: new, upgrade, uninstall or re-install:



- A click on this button opens the README file. This file contains bootstrap information for the installation. Please read this file before you proceed.
- Install New Application

If SURE must be installed in a new path, then this option is used. This will install all components of SURE including tool repositories, data repositories, executables, a configuration file, and program manager items. A *new* installation in the same directory as an *existing* installation behaves like an 'Upgrade existing installation'

On the client, the installed paths are maintained in an INI file in the Windows directory. It is possible to install SURE multiple times on your PC, each time in a different path. The second drop down box shows the paths on your PC where SURE is already installed. You can upgrade, un-install or re-install the SURE application:



- Upgrade existing application

You can upgrade a previously installed installation, which is named in the drop down box.

- Un-install existing application

You can uninstall a previously installed installation that is named in the drop down box. The uninstall action will remove all files that were previously installed in this path and not updated since then, and it removes the items in the registry.

- Re-install existing application

You can reinstall a previously installed installation that is named in the drop down box. Option reinstall will first do an uninstall, and thereafter an install. You will use this function if too many files are present in a given installation.

9.1.4.2. The 2nd Installation Dialogue

Path:



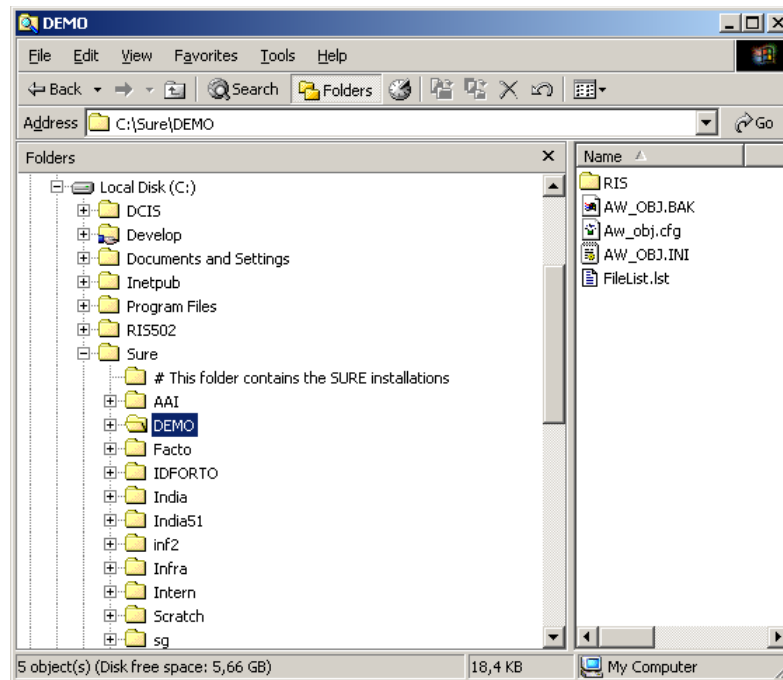
The default path is C:\SURE but you can choose any other path you like.

We recommend to use sub-directories so that it is easy to install the SURE client software a second time, but in another sub-directory.

Example

Consider the case that you have (amongst others) two SURE repositories on the mainframe: one for the AAI department and one for the DEMO department.

In this case, we recommend to install the SURE client software in two sub-directories: C:\Sure\AAI, which routes to the SURE-AAI repository, and C:\Sure\DEMO, which routes to the SURE-DEMO repository.



This example shows that SURE is installed multiple times using sub-directories.

C:\Sure\AAI; C:\Sure\DEMO; C:\Sure\Facto; et cetera

9.1.4.3. The 3rd Installation Dialogue

Installation components:



- Java scripting tool (for email server)
This option is obsolete and can be ignored.
- Tutorial

The SURE tutorials are also installed.

The tutorials contain a systematic quick introduction to SURE. The tutorial leads you through the basic functions of SURE, and when you finished the tutorial, you will have a better understanding of the features of SURE.

We recommend setting this option to install the SURE tutorials.

- Presentation

The SURE presentations are also installed.

Various PowerPoint presentations about SURE and SURE functions are available. These PowerPoint presentations can be accessed from the SURE explorer and can be used as a help file.

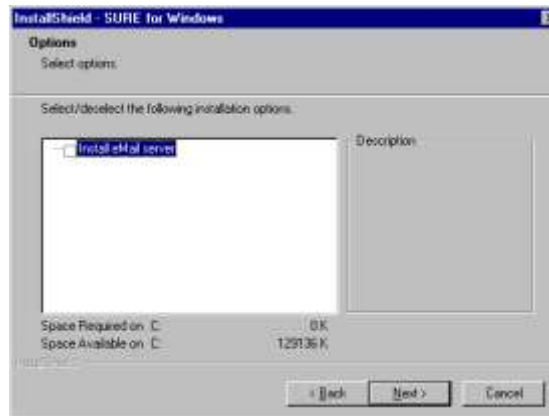
We recommend setting this option to install the SURE presentations.

- PowerPoint viewer

The SURE presentations (as mentioned above) are created with PowerPoint. Set this option to install a PowerPoint viewer if PowerPoint itself is not available on your PC.

9.1.4.4. The 4th Installation Dialogue

Options:



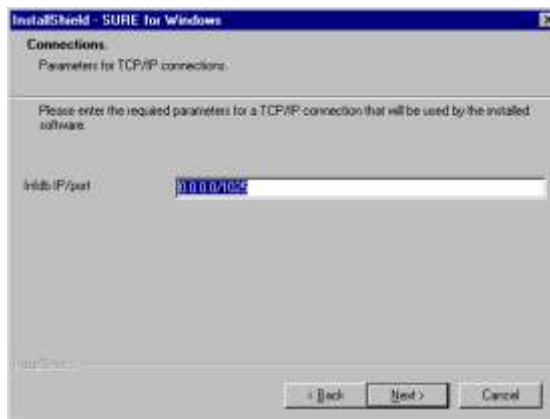
- email server

Set this option if you want to define this PC as SURE email server. Only one PC has to be configured as SURE email server.

This option is obsolete and can be ignored.

9.1.4.5. The 5th Installation Dialogue

Connections:



The IP address of the host and the TCP/IP port number for the communications have to be defined in this dialogue in the format “nnn.nnn.nnn.nnn/pppp”.

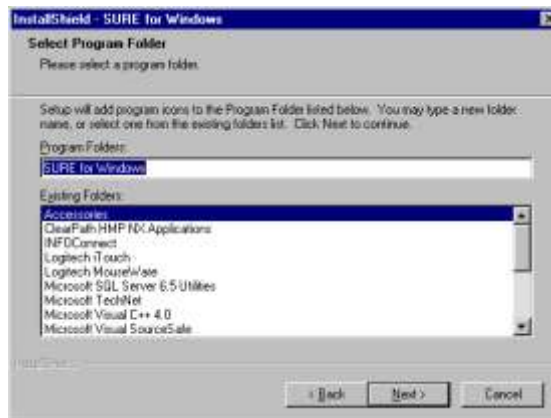
If you are using a LMHOSTS file then you can enter the name of the host followed by the TCP/IP port number in the format “<hostname>/pppp”.

The default port number is 1025. Port numbers less than 1025 are not recommended because since MCP release 47.1 these numbers can be used for internal Unisys processes.

This port number is also used during the mainframe installation procedure. Please make sure that the same port number is used for the mainframe-installation and the PC-installation.

9.1.4.6. The 6th and Last Installation Dialogue

Entry in the programs list:



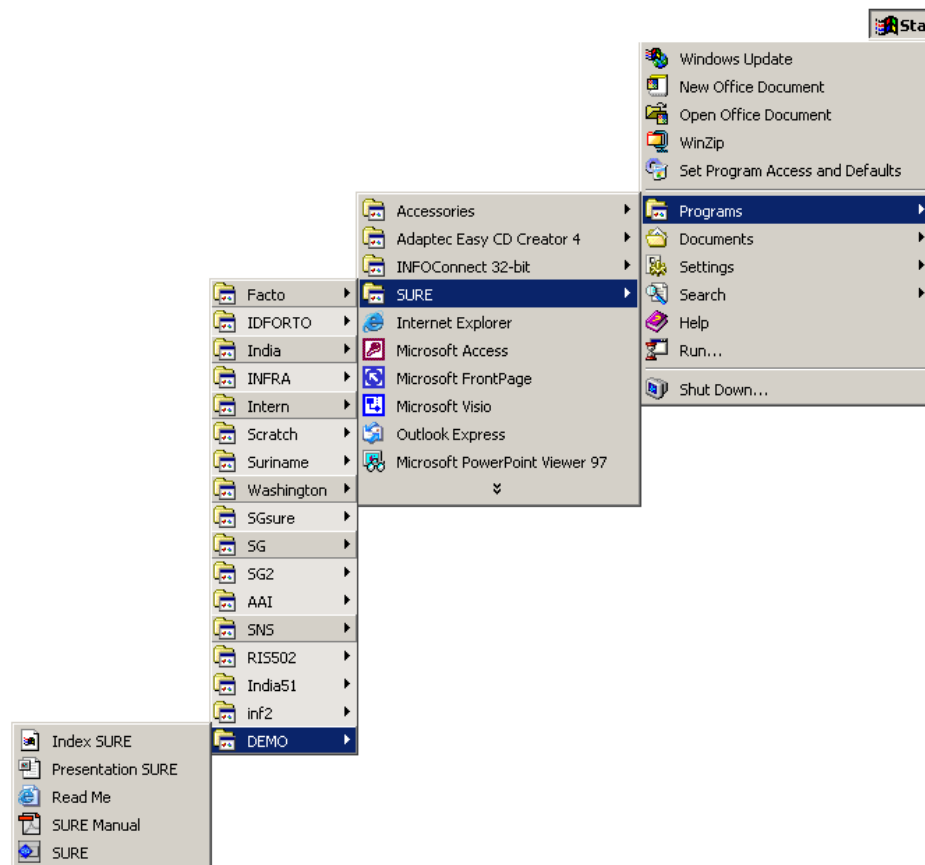
- This creates an entry in the programs list in the start menu. The default is ‘SURE for Windows’.

We recommend using sub-directories in the program folder so that it is easy to install the SURE client software a second time.

Example

Consider the case that you have (amongst others) two SURE repositories on the mainframe: one for the AAI department and one for the DEMO department.

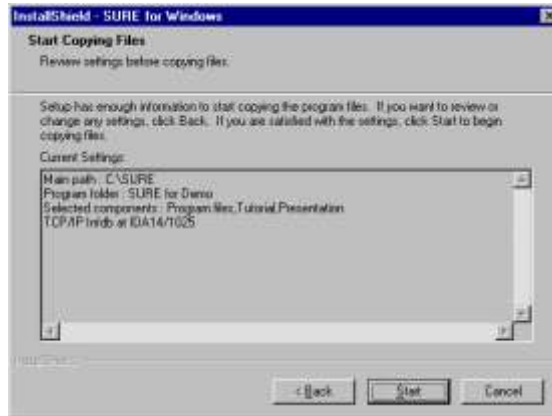
In this case, we recommend installing the SURE client software with two sub-folders: Sure\AAI, which routes to the SURE-AAI repository, and Sure\DEMO, which routes to the SURE-DEMO repository.



This example shows that SURE is installed multiple times using sub-folders.

Sure\AAI; Sure\DEMO; Sure\Facto; et cetera

After these dialogues, a confirmation screen is presented, with a summary of the installation that will take place. Not all choices presented here were user-enterable in this demonstration. If the data is correct, press <Start>. Pressing <Back> will let you go through the dialogues again.



The set-up program will now install the SURE software. During this installation, it will spawn several programs that will finish automatically.

The set-up program will create a program group 'SURE for Demo', which is added to the programs start menu of your PC. This program group contains the following shortcut to SURE:

```
<directory>\RIS\BIN\AW_OBJ.EXE <directory>\AW_OBJ.INI
```

The installation of the client software is now complete.

9.1.5. (Installation) PC Configuration Management

The client software of SURE can be configured in various ways depending on the location of executables and repositories.

The following configurations are possible:

- All the files are located and executed from a single workstation.
- All the executables, tool and data repositories are located on the shared server disk. The client does not contain a single file.

9.1.5.1. (Installation) PC Standalone Configuration

The standalone configuration installs all files on a single computer. In case of a standalone configuration, all files are installed in a single directory (defined during the installation procedure). The installation procedure creates a program manager entry that uses a configuration file called AW_OBJ.INI located in the installed directory.

Upgrading a standalone installation does not require any special actions: Just choose 'Upgrade existing application' on the install-dialog.

A single PC may contain multiple SURE installations, each installed in a different directory.

Example Directory Standalone

Directory PATH listing for Volume Infra
Volume Serial Number is 0B59-16EE

```
C:..
+---SURE                                     % installation root-directory
|   +---<sub-directory>                     % installation sub-directory
|       AW_OBJ.INI                         % configuration data
|       AW_OBJ.CFG                         % configuration data
|       +---RIS                             % RIS environment
|           +---DATA                       % data repositories
|               | +---CONFIG               % configuration repository
|               | +---INFDB                % CP/NX Series connection repository
|               | +---DATA                 % repository used for logon purposes
|               +---BIN                    % executables
|           +---HELP                       % help files
|           +---SDK                        % software development kit
|           +---TOOL                       % tool repositories
|           +---BITMAP                     % bitmap files
```

9.1.5.2. (Installation) PC Server-Only Configuration

By default, the client configuration creates directories on the client computer that contain the data repositories and the configuration file. The files in this directory are updated by SURE. Creation of a server only configuration requires that the data repositories be set as read-only files on the server location. The only files at the client are partial configuration files with individual preferences and a shortcut.

Example Directory Server Only

Directory PATH listing for Volume Infra
Volume Serial Number is 0B59-16EE

```
C:..
+---SURE                                     % installed directory
|   +---<sub-directory>                     % installation sub-directory
|       +---RIS                             % RIS environment
|           +---DATA                       % data repositories
|               | +---CONFIG               % configuration repository
|               | +---INFDB                % CP/NX Series connection repository
|               | +---DATA                 % repository used for logon purposes
|               +---BIN                    % executables
|                   | AW_OBJ.INI           % common configuration data
|           +---HELP                       % help files
|           +---SDK                        % software development kit
|           +---TOOL                       % tool repositories
|           +---BITMAP                     % bitmap files
```

Example Directory (client in Server-Only configuration)

Directory PATH listing for Volume Infra
Volume Serial Number is 0B59-16EE

```
C:..
+---SURE                                     % installed directory
|   +---<sub-directory>                     % installation sub-directory
|       AW_OBJ.INI                         % configuration data
|       <shortcut to <server>:
|           C:\SURE\<sub-dir>\RIS\BIN\AW_OBJ.EXE  C:\SURE\<sub-dir>\AW_OBJ.INI
```

The benefit of a SUREforWindows Server-only installation is that it can be used for multiple simultaneous client sessions, where each client has a separate AW_OBJ.INI file.

Installing and upgrading a server-only installation requires some special actions. Please read the following text to understand the server-installation process. At the end the special upgrade actions are described.

Setting up a Server Only configuration requires the following steps:

THE SERVER

1. Installation of the software on the server:
 - Choose a path on the server (called <ServerPath>) where SURE is going to be installed, and create a network connection to that path. The clients will use this connection to the server path. A good way to do this is with UNC-names, because that makes the installation independent of drive-names on the clients.
 - Install SURE in the server path:
Run INSTALL.EXE and choose the <ServerPath>
 - Start SURE on the server
 - Logon (this will create <ServerPath>\RIS\DATA\INFDB*.*
 - Close SURE.
2. Allow the installed software to handle multiple simultaneous client sessions:
 - Make all files in directory <ServerPath>\RIS\DATA\INFDB*.* read-only
 - Make all files in directory <ServerPath>\RIS\DATA\DATA*.* read-only
3. Freeze some installation parameters, so that these are the same for all client sessions:
 - Create a file called <ServerPath>\RIS\BIN\AW_OBJ.INI with at minimum the following static entries:

```
[GLOBAL]
VERIFY=FALSE

[DATA]
READONLY=TRUE

[DIRECTORY]
TOOL=<ServerPath>
DATA=<ServerPath>
BITMAP=<ServerPath>
DLL=<ServerPath>\RIS\BIN\
SDK=<ServerPath>

[INFDB]
IDENTIFICATION=<IP Address/Port>
LFI=99
TERMINAL=0
SOURCE=04
WINDOW=4
WINDOWACK=2
MAXBLOCK=3600
```

```
[<IP Address/Port>]
BUFFER=14500
SYNCTIME=FALSE

[AR_SURE]
BITMAP=<ServerPath>\RIS\BITMAP
DLL=<ServerPath>\RIS\BIN\
TOOL=<ServerPath>\RIS\TOOL\AR_SURE
```

The original Aw_obj.ini file may be used as a template to create the shared configuration file <ServerPath>\RIS\BIN\Aw_obj.ini.

Note that file <ServerPath>\RIS\BIN\Aw_obj.ini contains entries that are fixed for an installation. The clients can't overrule these settings. A site is free to keep more settings in the file <ServerPath>\RIS\BIN\Aw_obj.ini than the above mentioned, but these settings should not hold screen positions, font settings or other options that should be free to be altered by the user.

Upgrading a Server-Only installation

Upgrading a server-only installation requires some special actions. The easiest way to upgrade a server-only installation is as follows:

- Disable the read-only attribute of all files in directory <ServerPath>\RIS\DATA\INFDB*.*
- Disable the read-only attribute of all files in directory <ServerPath>\RIS\DATA\DATA*.*
- Install the new Client software again on the server in the same <ServerPath>\
- Enable the read-only attribute of all files in directory <ServerPath>\RIS\DATA\INFDB*.*
- Enable the read-only attribute of all files in directory <ServerPath>\RIS\DATA\DATA*.*

THE CLIENT

The client that communicates with a Server Only configuration can run using the following files

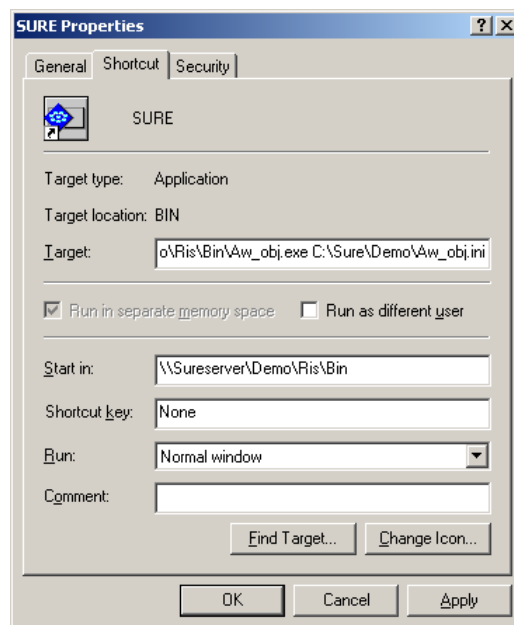
AW_OBJ.INI or an extract for his personal settings

Shortcut attributes:

Target = <ServerPath>\Ris\Bin\Aw_obj.exe <ClientPath>\Aw_obj.ini

Start In = <ServerPath>\Ris\Bin

Example shortcut:



Target = \\Sureserver\Demo\Ris\Bin\Aw_obj.exe C:\Sure\Demo\Aw_obj.ini

Start in = \\Sureserver\Demo\Ris\Bin

9.1.6. (Installation) Multiple Installations on One PC

The program definition links

- The SURE executable AW_OBJ.EXE
- A configuration file
- The working directory

The above-mentioned entities configure a complete SURE application on a PC. No other files in other directories (including Windows or shares registry entries) are used. For this reason multiple different releases or configurations of SURE can be run from a single computer.

The only requirement is:

- Each new installation requires a unique path (working directory).
- The TITLE attribute in the GLOBAL section of the configuration file is different for every different configuration. This title must be entered at installation time on one of the install dialogues.

When multiple SURE applications run simultaneously on the same PC and a compilation of a mainframe program is started from an editor, then this compilation can not determine to which SURE application it belongs (because it is started as an independent process).

Some extra requirements solve this problem:

A compilation is controlled by utility AS_COMP. This utility compiles against a specific configuration by using the SERVICENAME option in the GLOBAL section of configuration file AW_OBJ.INI. Setting this option requires the AS_COMP utility to start with the parameter /S<ServiceName>.

Example

Consider the case that SURE is installed 2 times on your PC: the first for a repository that contains application system SYS1, and the second for a repository with application system SYS2.

SYS1 requirements:

- SURE for SYS1 is installed on your PC in path C:\Sure\Sys1*.*
- Configuration file C:\Sure\Sys1\AW_OBJ.INI (for system SYS1) contains in section [GLOBAL] the following option: SERVICENAME=SYS1.

```
[GLOBAL]
SERVICENAME=SYS1
```
- Compilation utility AS_COMP started from a local editor requires now the extra parameter SSYS1.

SYS2 requirements:

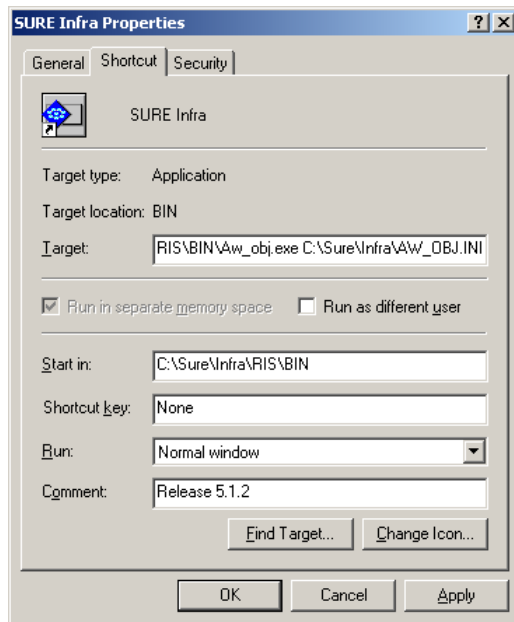
- SURE for SYS2 is installed on your PC in path C:\Sure\Sys2*.*
- Configuration file C:\Sure\Sys2\AW_OBJ.INI (for system SYS2) contains in section [GLOBAL] the following option: SERVICENAME=SYS2.

```
[GLOBAL]
SERVICENAME=SYS2
```
- Compilation utility AS_COMP started from a local editor requires now the extra parameter SSYS2.

The reporting facility requires OLE automation services. Every specific installation should use a unique OLE service identifier. This OLE identifier can be defined in the GLOBAL section of the configuration INI file using OLESERVER=<1::9> where 1 is the default.

9.1.7. (Installation) The AW_OBJ.INI file

The SURE Explorer uses a configuration or INI file to store configuration variables. This configuration file is provided as the parameter in the program or shortcut definition. The configuration file is usually defined including a full path name. If this file is not defined, a default name is used called AW_OBJ.INI which must be located in the windows directory.



The configuration file contains many chapters, each providing different variables. Some of these variables must be defined manually; others are set automatically by the software (these are system variables).

This documentation describes the variables used by the SURE Explorer. Variables that are not mentioned in this document are system variables, and should not be changed manually (unless explicitly described in the documentation).

The default values of boolean variables are in bold

[GLOBAL]

Servicename = <id>

This is only relevant if SURE is installed multiple times on the same PC. The servicename is used as a key for the compilation utility. See also paragraph ‘Multiple installations on one PC’

Sccprovider = <**false**,true>

If Sccprovider is true, then SURE will add an Sccprovider-key in the registry. This enables the SCC interface of SURE. If Sccprovider is false, then the registry-key is removed.

Trace = <tracefile>

The trace file can be used for debugging purposes. The tracefile is refreshed each morning.

[DATA]

Readonly = <**no**,yes>

The READONLY attribute defines the local data repository as read-only. This is required if the local data repository is located on a shared network drive and multiple users accesses this repository as their configuration data. In this case, each user has the same configuration (defined visible objects).

[EXE] WINZIP = <name>	The location of Winzip
[INFDB] Identification = <host/port>	The hostname (or the IP address of the host) followed by the port number. This identification points to another chapter in this ini file with details about the id. For example. If the identification = HOSTA/1234 then there must be chapter in the ini-file called [HOSTA/1234] with details about that connection.
[host/port] Buffer=14500 Synctime=false Mode=unattended	This chapter creates a connection-id for <host/port>. If the identification in chapter [INFDB] routes to this connection-id, then this port is opened.
[SUREHELP] <helpfile> = <id>	This chapter can be used to customize the Help menu in the SURE Explorer. This example puts <id> as an extra entry in the Help menu. A click on <id> opens the corresponding <helpfile>
[STATUS] Maxaa=<nr>, default 30 Maxw=<nr>, default 30 Maxs=<nr>, default 30 Maxc=<nr>, default 5 Maxmsg=<nr>, default 10	This chapter can be used to customize the output of the status of the mix for a specific usercode. (Tools → CP/NX environment → Status). MAXAA = the max. number of active entries (AA USER ..) MAXW = the max. number of waiting entries (W USER ...) Etcetera.
[SURE] Copy-prefix = <prefix>	Files that are copied from SURE to disk via the COPY function in the explorer, will get the <prefix>
Attachment = unzipped	Attachments for files and tasks are not zipped before they are stored in the repository. This option is required if you install a site-specific email library.
Verifylogoff = <true,false>	If verifylogoff is true, then an extra verification message is given when you close the SURE explorer.
[POWERBUILDER] Silent = *.PBG:<default project>:<default filetype>	This enforces that all PowerBuilder-PBG-files are loaded and maintained automatically, and that they all get the given project and filetype. If no <default project> is defined, then the project of the current task is used. If no <default filetype> is defined, then the file-extension is used. It is possible to extend the SILENT option for other file extensions.
[CUSTOMLOGON] Hidepassword = <false,true> Hideaccesscode = <false,true> Hideaccesscodepwd=<false,true>	These variables make it possible to hide the fields Password, Accesscode, Accesscode-pwd and/or Chargecode on the

Hidechargecode=< false ,true>	logon screen.
Var1 = <name>	Override the default name of the first logon field.
Var2=<name>[,true]	Override the default names of the other four fields in custom logon. If a key is not used then the corresponding field is hidden. Option "TRUE" indicates that the field is a password. If one of these options is used, then VAR1 must be defined too.
Var3=<name>[,true]	
Var4=<name>[,true]	
Var5=<name>[,true]	
Saveallowed=< true ,false>	Do not allow saving the logon credentials.

9.1.8. Create an example REG file for an automatic SfW installation

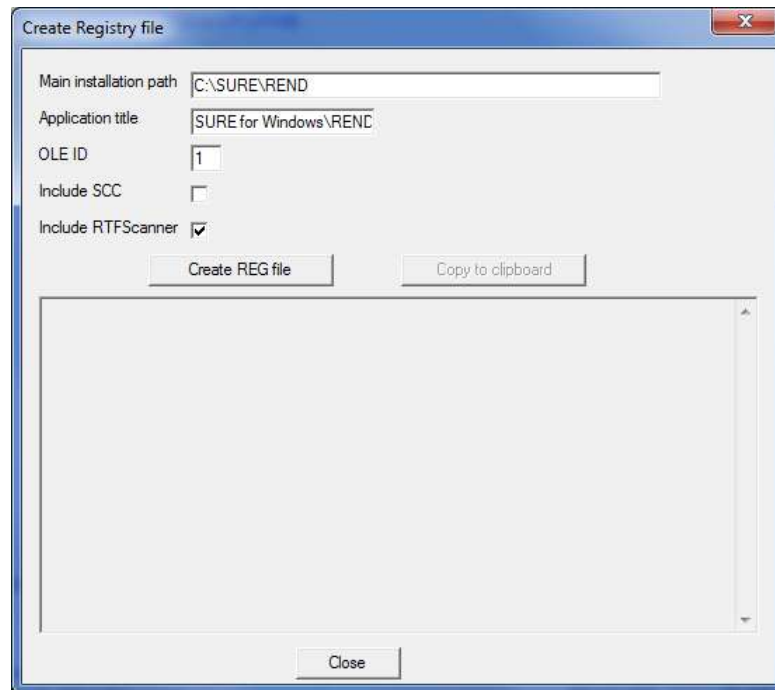
SUREforWindows require a setting in the Windows registry for the following cases:

- When the SURE task reports (in folder Toolbar → Reports) are used
- When SfW is installed multiple times on the same workstation
- When SfW is used as SCC-provider in Visual Studio

Changes in the Windows registry can only be applied by a (local) administrator, so if SfW is installed by a user who does not have (local) administrator rights, then the Windows registry settings are not applied, which limits the functionality of SfW.

It is now possible to generate an example REG file which contains all the registry settings that SfW needs. This example REG file can be input for an installation script that is used to install SfW automatically. The procedure is as follows:

- Install SUREforWindows for the first time by an administrator. This will already add some registry settings.
- Go to Options → SURE options → Local options
 - o Define option OLE Server Id
 - o Define option Use as SCC provider (only if necessary)
- If the options are defined, click on Toolbar → Options → Required Registry entries:



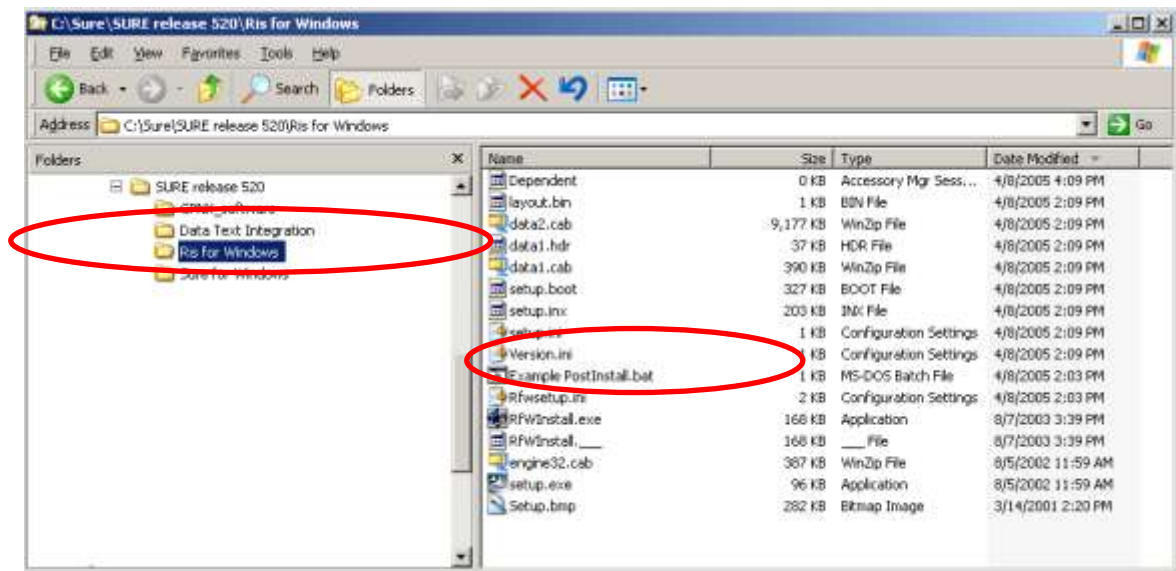
- Option 'Main installation path' defines the directory where SfW is going to be installed on the target workstation. This path must also be available on the workstation where this example REG-file is created.
 - If SfW is installed multiple times on a workstation then each installation must have a unique 'Main installation path', 'Application title' and 'OLE id'.
 - Option 'Include SCC' is only required for the SCC provider (default no).
 - Option 'Include RTF scanner' is required for the task reports (default yes).
 - Option 'OLE id' is required for the task reports, for the SCC-provider and when SfW is installed multiple times. The value is from 1 to 99 (default 1).
- Button [Create REG file] creates the example registry settings.
 - Button [Copy to clipboard] must be used to copy the example settings and to paste them into the REG-file that is input for the automatic installer.

9.1.9. Customized post installation actions

It is possible to define custom post installation actions.

The SUREforWindows client installation process searches for a file called 'PostInstall.bat' in the installation sub-directory 'Ris for Windows'. If the post-installation bat file is found it will be started after the regular installation is done.

Example



The following example post installation bat file is already placed in the 'RIS for Windows' sub-directory:

..\SURE release 520\Ris for Windows\Example PostInstall.bat

```
rem Example custom post installation batch.
rem Rename this file to "PostInstall.bat" and keep it situated
rem in the main installation directory.
rem
rem This batch file is called with the following argument:
rem %1 = target directory of the installation (the folder where
rem      RfW has been installed)
rem
rem Copy redistributable DLLs from RIS\BIN to Windows\System
rem directory, to accommodate SCC interface.
if not exist %WINDIR%\System32\Mfc71.dll copy %1\Ris\Bin\Mfc71.dll %WINDIR%\System32
if not exist %WINDIR%\System32\Msvcp71.dll copy %1\Ris\Bin\Msvcp71.dll
%WINDIR%\System32
if not exist %WINDIR%\System32\Msvcr71.dll copy %1\Ris\Bin\Msvcr71.dll
%WINDIR%\System32
rem
rem Run client application that modifies the INI file
C:\MyTools\UpdIni.exe %1\AW_OBJ.INI
```

You can change the contents of this example file to your own needs.

Change the name of this example file to 'PostInstall.bat' to enable it.

The bat file will be started with the 'target installation directory' as argument %1.

The example bat file shows the following examples:

- How to use argument %1 (target installation directory) in the bat file.
- How to copy the required redistributable DLLs from RIS\BIN to Windows\System directory, to accommodate SCC interface.
- How to run a client application that modifies the INI file.

9.1.10. SURE triggers new installation according to versions

Updating the SURE client software may require much effort when having a large network. For this reason, SURE supports different styles of installation:

- a) Local client installation on each applicable workstation
- b) Server based installation with personalized options
- c) Full server installation.

Server installations (options b and c)

In the case of a server installation, the SURE PC-software is placed on a central server that is accessed by the workstations of the developers. Because of this central installation, a software update is reasonable easy to install for the first time. Upgrading a server installation to a newer SURE release is cumbersome.

The trade off for a server installation is that the network throughput must be sufficient (100KBS). It does not support wide area networks with a low bandwidth.

Local client installations (option a)

In the case of a local client installation, the SURE-PC-software is placed on the workstation of a developer. Installing the SURE PC-software as a local client is very easy for initial and upgrade installations.

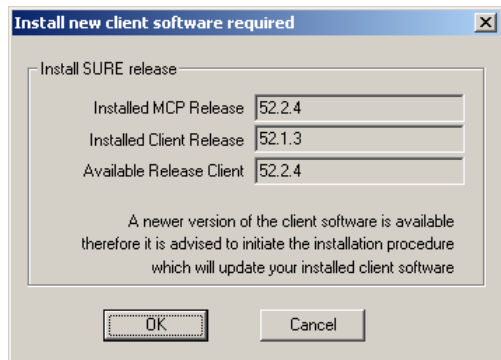
The trade off is that it is difficult to synchronize the upgrade to a newer SURE release when the SURE-PC-software is installed locally at many workstations.

Solution

SURE can (optionally) check the version of the PC-software at logon time and may initiate a local client installation if that is required. This combines the benefits of an easy local client installation with the benefits of a synchronized server installation.

Example

The following dialog is shown after logon when the versions of the installed client release and the available release for the client do not match.



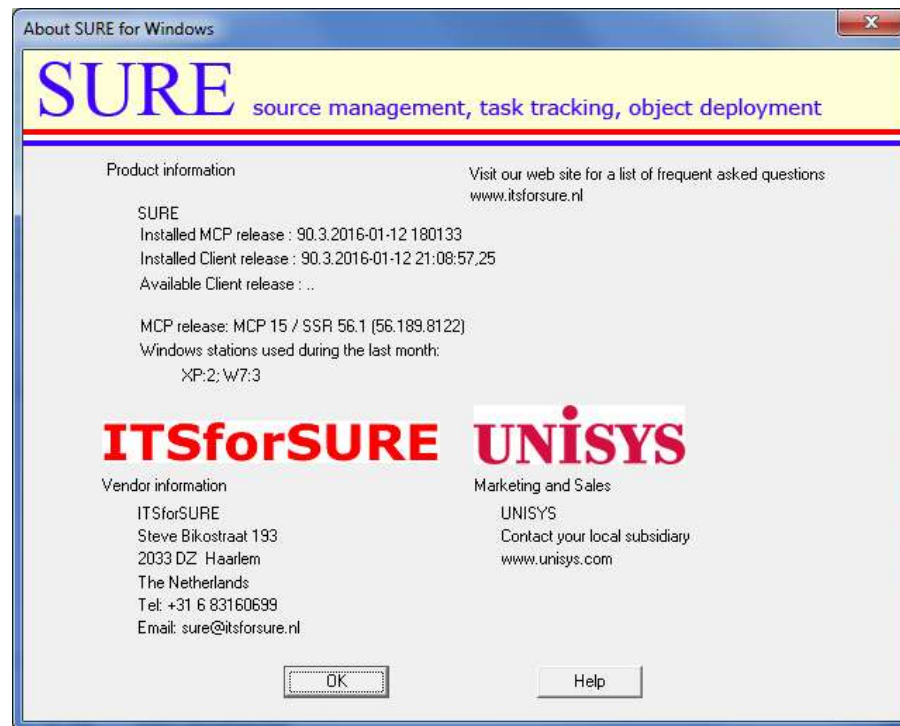
- In this case, the version number of the SURE software on the MCP is 52.2.4.
- The version number of the ‘available’ SURE PC-software is also 52.2.4.
- The version number of the client software that is now installed on this workstation is 52.1.3.

Obviously, a new version of the mainframe software was installed and the corresponding new version of the client software was ‘made available’. Notice that the version of the mainframe software is not relevant to display the above screen.

Click OK to start the installation, which will install the available client software.

Click ‘Cancel’ to skip the installation, however the same message will then be issued after the next logon. A possible reason to skip the automatic installation is for example when the developer works at home via a slow connection, and he does not want to install the SURE PC-software via that slow connection. A solution is to install the PC-software later from a release CD-rom. It is possible to work with a SURE-client that has another software version number then the CP/NX software, but some actions may issue an error message.

The about dialog now contains the various versions according to the next example:



The above example screen shows two release numbers:

- The release number of the MCP software (90.3 compiled at 12-jan-2016 at 18h01)
- The release number of the client software (90.3 built at 12-jan-2016 at 21h08)

Both release numbers (MCP and client) consist of three parts:

- The major release number (in this case 90).
 - o We do not do any database reorganizations or data conversions inside the repository as long as the major release number is the same.
 - o There can be a database reorganization or data conversion between two major releases.
- The minor release number (in this case .3)
 - o The minor release number guards the compatibility between the client and server within a major release.
 - Sometimes we must make a modification on the client side and on the server side to solve an issue, and then we upgrade the minor release number.
 - In other cases, we only have to modify something on the client side or on the mainframe side, and then the minor release number is not raised.
- The build timestamp.
 - o The timestamps are the moments of the build of the mainframe software and the client software.
- The client software is compatible with the MCP software if the major and minor release numbers are equal.

The About screen shows also:

- The current MCP release. In this example: MCP 15 / SSR 56.1
- The Windows-releases of the workstations where the SUREforWindows GUI was used during the last month. In this example: 2 XP or Server-2003 workstations and 3 Windows-7 or Server-2008 workstations.

Technical details and considerations

The following procedure is required to trigger the automatic client installation.

The delivered SURE software package contains the SURE CP/NX modules and the SURE client modules. The two modules are compatible and have the same version number.

The entire installation consists of three steps:

- a. Copy the new version of the SURE CP/NX software to the correct location on the mainframe.
- b. Define the location of the available client software in SURE:

Global Options → field 'installation location'

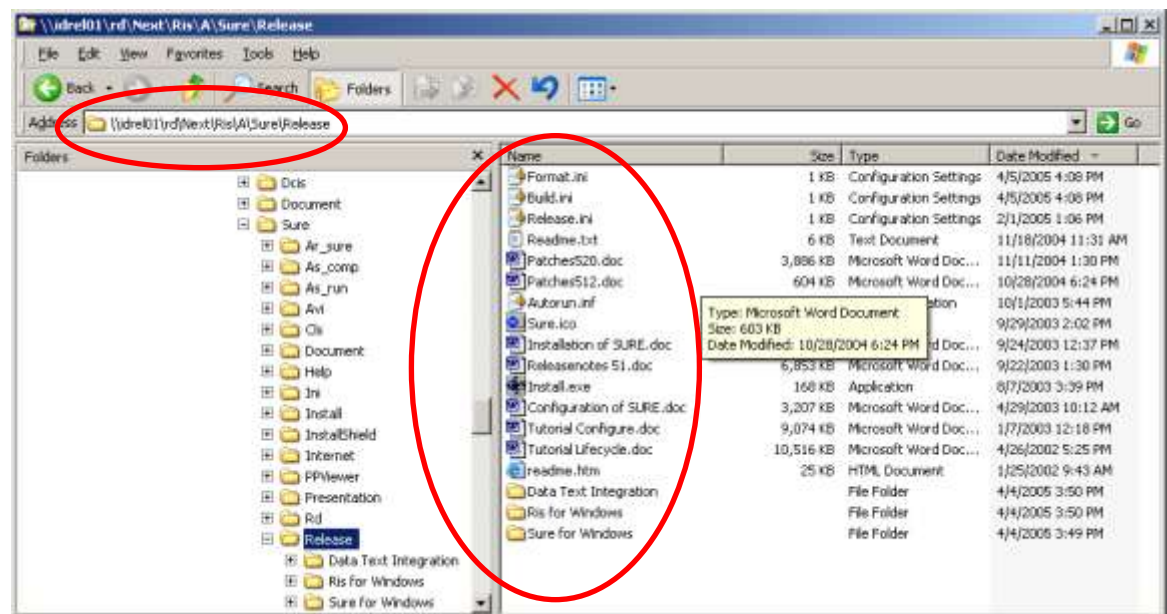
The screenshot shows the 'Task / Global' dialog box with the following fields and options:

- Task / Global | sure | security | history | sure compilers | Development | Language | sure cleaner
- Name standard for newly entered tasks: <PARAMETER>'<PROJECT>'PROBLEM'.4}
- Define tasks per task-group: ☐
- Name standard for newly entered tasks per task-group: <UNTIL(/)>'<UNTIL(/)>.4}
- Validate newly entered tasks: ☒
- Task verification at each update: ☐
- Allow to assign a task to multiple individual users: ☒
- Timestamp layout is YYYYMMDD HH:MM:SS instead of YY-MM-DD HH:MM:SS: ☒
- eMail server definition
 - eMail server IP address: 100.0.3.53
 - Port: 1098
- SURE installation
 - Functions valid in test period: ☐
 - Installation location: \\idrel01\Rd\Next\Ris\A\Sure\Release (highlighted with a red oval)

Buttons at the bottom: Apply, Delete Line, Insert Line, Print, Close

The location of the available client software is here: '\\idrel01\Rd\Next\Ris\A\Sure\Release'

c. Copy the new version of the SURE-PC-software (a copy of the CD-ROM image) to that location:



The SURE client software is available in directory ‘\\idre01\rd\Next\Ris\A\Sure\Release’

This directory contains three files that control the version number of the release:

- Release.ini
- Format.ini
- Build.ini

The number in file Release.ini defines the first part of the software version number (80 in the first example).

The number in file Format.ini defines the middle part of the software version number (2 in the first example). This number is raised by one if the layout of the interface between PC and mainframe is changed.

The number in file Build.ini defines the last part of the software version number. It is the timestamp when the PC-software was built. This timestamp does not play a role in the version-check of the automatic installation.

If any of the three files (step c) is missing, or if the installed location (step b) is not defined, then the automatic installation dialog is skipped.

RFW.INI

It is possible to install multiple instances of SUREforWindows on one PC. Information about each SUREforWindows installation is kept in file RFW.INI in the Windows directory. The following

example RFW.INI file contains information about two installations: an installation for the 'Infra' repository and an installation for a 'Demo' repository.

```
[GLOBAL]
APPLICATION1=SURE for Windows\Infra
APPLICATION2=SURE for Windows\Demo
[SURE for Windows\Infra]
INSTALLED1=RIS for Windows,6.3.0
INSTALLED2=Data Text Integration,1.1.1
SETUP=SURE for Windows
DIRECTORY=C:\Sure\Infra
INSTALLED3=SURE for Windows,5.2.0
[SURE for Windows\Demo]
INSTALLED1=RIS for Windows,6.3.0
INSTALLED2=Data Text Integration,1.1.1
SETUP=SURE for Windows
DIRECTORY=C:\Sure\Demo
INSTALLED3=SURE for Windows,5.2.0
```

When a SUREforWindows client is installed for the first time on a PC, the installation process asks for a program folder name. This program folder name is used for three purposes:

- Create a program folder in the Windows startup menu
- This name becomes the title of the SUREforWindows client (in the title bar)
- This name is placed in the AW_OBJ.INI file ([global]title)
- This name is used as a key for the RFW.INI file

The automatic installation searches for an application with the program folder name in the RFW.INI file. If the program folder name is not found in the RFW.INI file, then the automatic installation will be aborted with an error message. If the program folder name is found, then the software will be installed in the directory that is defined for the program folder name.

Example

A user starts 'SURE for Windows\Demo' and logs on. An automatic installation is required and the user clicks on the OK button to start it. The automatic installation is started with parameter 'SURE for Windows\Demo'. The automatic installation process opens the RFW.INI file and searches for application 'SURE for Windows\Demo'. If that application is found then the software is installed in the directory that is defined in paragraph [SURE for Windows\Demo]. This is directory C:\Sure\Demo

9.2. Installation on the Mainframe

Installation of the SURE software is supported by an online program that allows defining the installation parameters. This program generates an installation job that will do the actual work.

In theory, the installation procedure automates the complete process. In standard UNISYS CP/NX Series installations this is true, however there may be circumstances where deviated compiler names or special security settings jeopardize an automatic installation.

This chapter contains valuable information about the structure of the SURE mainframe software. We strongly advise this chapter to be read by the technical support staff, especially the database administrator. If you have questions about this chapter, then please do not hesitate to contact ITSforSURE.

The actual installation procedure is described in the paragraph 'Mainframe install procedure', further on in this chapter.

9.2.1. (Installation) Mainframe Application Structure

The SURE software consists of the following components:

- | | | |
|----|---|--------------------------------------|
| 1. | A DMSII database: | INFDB |
| 2. | An initialization file: | RESPECT/TITLES |
| 3. | End user interface programs for SURE on the PC's (the SURE Explorer interface): | OBJECT/RIS/API/= |
| 4. | An end user interface program for ET type of terminals: | OBJECT/RIS/MENU. |
| 5. | A library: | OBJECT/RESPECT/LIBRARY. |
| 6. | Approximately 100 other supporting objects: | OBJECT/RESPECT/= and
OBJECT/RIS/= |
| 7. | A CD-ROM containing the SURE PC software. | |

9.2.2. (Installation) Repository INFDB

INFDB is a DMSII database and contains 11 datasets. Database INFDB is also called the 'repository' or the 'SURE repository'. Sources and program attributes are loaded in this repository.

The database is initialized when the software is installed for the first time.

It is possible to create multiple INFDB repositories on your system. In that case, the installation procedure 'create a new repository' must be executed multiple times.

If multiple repositories are present, then each of them must be installed under a separate usercode. The user is free to choose the directory where database INFDB is installed. We advise to install

the database under a usercode and not in the global directory '*'. This makes it easier to install an extra INFDB database later on.

All SURE programs are designed in such a way that they can work for multiple repositories at the same time. This is only possible if the SURE software is compatible with all those databases. Therefore, the database-timestamp and description-update-level of each repository must be equal to those values stored in the SURE objects (otherwise the SURE object will fail with a DMOPEN error).

The installation procedure ensures that each newly created INFDB contains the correct database-timestamp and description-update-level.

The database will go out of the mix when it is not in use by any SURE program.

The following steps are required to close the database (see the next paragraph 'object files'):

1. Disable the SURE Explorer interface in Coms
2. THAW the permanently frozen libraries RESPECT/LIBRARY and RESPECT/LIBRARY/SURE

9.2.3. (Installation) SURE Objects and Database Compatibility

The Unisys DMSII software has a strong relationship with the objects that use a DMSII database. At compilation time, the update timestamps of database structures are compiled into the object. This mechanism is very secure, but rather static when such object files need to be delivered to a customer.

The SURE objects work with a DMSII database (INFDB).

If a customer installs new SURE objects, then these new objects must be capable to communicate with any existing INFDB of the customer. The objects may not get a DMOpen error. The SURE sources are NOT delivered to the customer, so it is NOT possible to recompile the SURE objects at the customer's site.

A SURE object is compiled at a central place, and then delivered to many customers.

The object must be capable to communicate with all INFDB's, installed at any customer.

This is only possible if all these INFDBs are 'direct children' of the original INFDB, and if the SURE objects are compiled against the description file of the original INFDB.

We call this original INFDB 'the mother of all INFDBs', and its description file 'the mother of all description files'.

The first mother description file was created during DMSII release 39. Since then, we always saved this mother description file carefully and upgraded it for each DMSII release. We did not make any other database change since then.

The result is that we have a mother description file for each DMSII release, and we add all these mother description files to the release zip-file. These description files are called: DESCRIPTION/INFDB/INFRA/DMSxx where xx is the DMSII release.

Although the layout of the INFDB never changes, a customer may still have to upgrade his INFDB for one of the following reasons:

- He upgraded to a newer version of the DMSII software.
- He got limit errors in the INFDB and had to define bigger populations or areasizes in his DASDL/INFDB source.
- He moved the INFDB to another location (usercode/pack).

All these actions are possible without recompiling the user software.

If a customer receives a new SURE release, then the new SURE objects may not be compatible with his existing INFDB.

Example

Consider the following situation:

The customer has installed an INFDB that is a child of mother description file 461.

The SURE objects that he runs are compiled with mother description file 461.

The customer INFDB is upgraded to DMSII release 471 shortly after the installation.

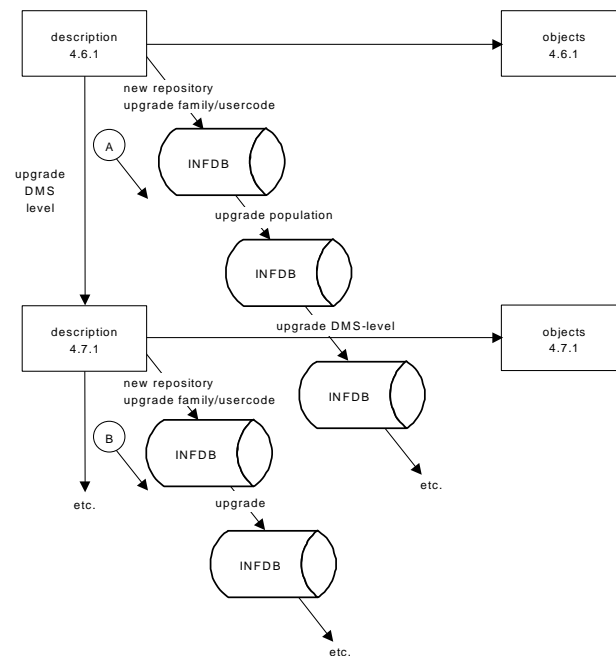
At this moment the SURE software will still run, because the objects are compiled against mother description file 461 and the customer database is a (grand)child of that mother description file.

(Mother-description 461 was delivered to the customer, upgraded at the first installation with pack names, and later on upgraded to 471: user software still compatible).

The customer receives a new SURE release and the SURE objects in this new SURE release are now compiled with mother description file 471.

These new SURE objects are not compatible because the customer description file 471 is not a (grand)child of mother description file 461 (used for the compilation of the new SURE objects), but of mother description file 461.

The following picture illustrates the compatibility between the SURE objects and the INFDB



Sure objects 4.6.1 are compatible with INFDB's of streams A and B.

Sure objects 4.7.1 are compatible with INFDB's of stream B but not with INFDB's of stream A.

9.2.3.1. (Installation) Compatibility at a NEW Installation

During a NEW installation of the SURE software the following actions are done:

1. Check the release level of the DMSII software that the customer is currently running.
2. The mother description file of that release level is placed on disk.
3. A customer-dasdl is generated and this customer-dasdl is exactly the same as the mother-dasdl, except for the packnames and usercodes. Option UPDATE is set in the customer-dasdl.
4. The customer-dasdl is compiled against the mother description file.

The result of this dasdl compilation is a customer description file that is a 'child' of the mother description file.

The only differences in the two dasdls are usercode/family specifications. This results in an UPDATE dasdl compilation. It does not require any reorganization. A control file specification is used in the dasdl. All this makes it not necessary to recompile the SURE objects.

(Notice that a SURE object can always find the location of the INFDB control file, because that location is mentioned in file RESPECT/TITLES. Each SURE object reads the INFDB location from respect/titles and file-equates the database with that database location).

(The usercode/family specifications in the dasdl are necessary for the situation that the database is not active. In that case, the first run of a program will also start the database, but this first program can be started from any usercode. If the first program is started from a usercode NOT equal to the usercode where the tailored database software is placed, and the tailored software is declared in the dasdl WITHOUT a usercode/pack then that program will get a DMOpen error.)

At the end of a NEW installation, we have an INFDB that is a child of the mother INFDB, and a description file that is a child of the mother description file. The delivered SURE objects will run smoothly without DMOpen errors.

9.2.3.2. (Installation) Compatibility at an UPGRADE Installation

During an UPGRADE installation, we check if the new SURE objects are compatible with the INFDB of the customer.

If the new SURE objects are not compatible with the INFDB then the following actions are done:

1. Check the release level of the DMSII software that the customer is currently running.
2. The mother description file of that release level is placed on disk.
3. Verify that the correct DASDL/INFDB of the customer is on disk.
4. Compile the customer DASDL/INFDB against the mother DESCRIPTION/INFDB.

The compilation can have two results:

- No reorganization of INFDB necessary (if the customer dasdl is still equal to the mother dasdl, except for usercodes and pack names).
- Reorganization of INFDB necessary (if the customer also changed areasizes or blocksizes).

This reorganization must be skipped, because the INFDB was already reorganized.

The final result of the dasdl compilation is a description file that is again a child of the mother description file (that was used to compile the objects). The new description file also contains the usercodes, pack names and other physical attributes of the customer (mentioned in the customers DASDL/INFDB).

5. Create a new control file from the newly created customer description file:

```
RUN SYSTEM/DMCONTROL("DB=(uscd)INFDB ON pack RECOVER INITIALIZE")
```

From now on, the new SURE objects are compatible with the existing INFDB of the customer.

9.2.3.3. (Installation) Compatibility Direction

SURE objects can only work at the customer's site if the current DMSII software version of the customer is equal or higher than the DMSII-version of the mother description file that was used to compile the SURE objects.

Example

The SURE objects are compiled against mother description file 471.

Customers who work with DMSII-software version 46.x or lower cannot use these objects.

Customers who work with DMSII-software version 471 or higher can use the objects.

The SURE 5.1.2 objects are compiled with a mother description file of DMSII version 47.1.

9.2.4. (Installation) RESPECT/TITLES

File RESPECT/TITLES is the repository-config-file. Each SURE program has the same initialization routine: when a SURE program is started, the first action is to search for file RESPECT/TITLES and to read this file.

File RESPECT/TITLES is a sequence data file created by the installation program. This file may be modified manually and distributed over various packs according to the requirements.

Each record in the file contains a variable used by the SURE software.

Example

Example of file RESPECT/TITLES (SEQDATA)

```
00000100  INFDB-LOCATION   = (SCRATCH) INFDB ON IDRD1
00000200  OBJECT-LOCATION  = *OBJECT/  ON IDRD
```

Key INFDB-LOCATION defines the location of INFDB/CONTROL , the database control file

Key OBJECT-LOCATION defines the location of the SURE software

In this example, the INFDB repository is located in directory (SCRATCH) on IDRD1.

The software OBJECT/= is located in directory * on IDRD

It is possible to install multiple SURE-repositories and/or multiple sets of SURE-objects on a single mainframe. For example: when each department has a separate repository. The purpose of RESPECT/TITLES is to determine the location of a specific repository and its corresponding SURE objects.

Each SURE program has the same initialization routine.

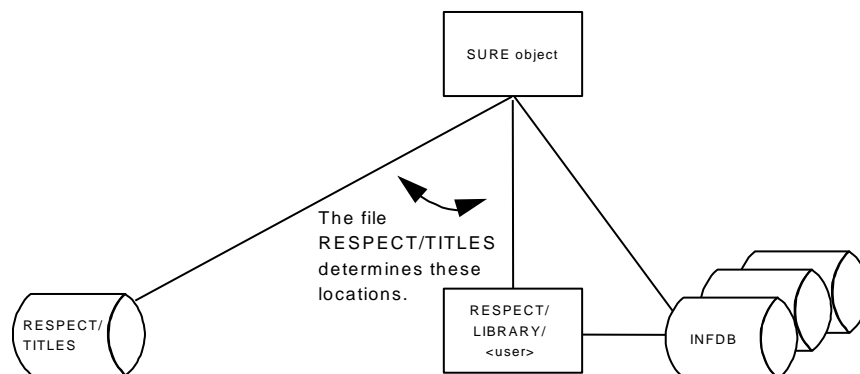
When a SURE program is started, the first action is to search for file RESPECT/TITLES and to read this file.

The following initialization keys can be used in RESPECT/TITLES

Initialization key	Mandatory/Optional	Explanation
INFDB-LOCATION=(<uscd>)INFDB ON <pack>	Ma	The place of the INFDB control file
OBJECT-LOCATION= <directory> ON <pack>	Op	Default value = "OBJECT/". The directory where the RESPECT and RIS objects are placed on disk.
WFL-LOCATION= <directory> ON <pack>	Op	Default value = <empty>. SURE batch jobs can be generated with a prefix. For example "REL51".
SCREEN-TIMELIMIT= <nr of seconds>	Op	Each RIS/MENU screen has its own timeout value. RIS/MENU goes to end of task if no input was done on a screen for that amount of seconds. This option overrules the default timeout value of all the screens in RIS/MENU.
SITE-FUNCTION = OBJECTNAMES	Op	This option improves the initialization procedure of the SURE-software if site function 'Objectnames' is used.
SITE-FUNCTION = OBJECTNAMES-ALWAYS	Op	This option improves the initialization procedure of the SURE-software if site function 'Objectnames-always' is used.
SITE-FUNCTION = PHYSICAL ATTRIBUTES	Op	This option improves the initialization procedure of the SURE-software if site function 'Physical attributes' is used.
SITE-FUNCTION = SECURITY	Op	This option improves the initialization procedure of the SURE-software if site function 'Security' is used.
SITE-FUNCTION = EVENT	Op	This option improves the initialization procedure of the SURE-software if site function 'Event' is used.
SITE-FUNCTION = EMAIL	Op	This option improves the initialization procedure of the SURE-software if site function 'Email' is used.

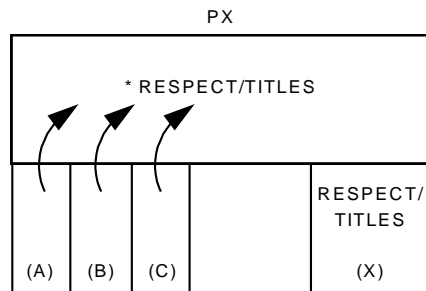
The record in RESPECT/TITLES that starts with key INFDB-LOCATION contains the location of the INFDB repository. The program will open that database.

The record in RESPECT/TITLES that starts with key OBJECT-LOCATION contains the location of the SURE objects. If the program has to access a SURE library or if the program has to start another SURE program, then this object-location is used to start/access the correct SURE object.



The visibility of the file RESPECT/TITLES together with the CP/NX Series file location mechanism is used to connect groups of users to the same repository. Installation of RESPECT/TITLES on pack PX will set the repository for all the users that will have PX as their primary family. If a user has a RESPECT/TITLES under his user code, then the location in that repository-config-file will be used.

Example



All users on pack PX are routed to the same repository except for user (X). He has an own file RESPECT/TITLES.

A SURE program starts another SURE program with the same RESPECT/TITLES. This ensures that the started SURE program will access the same repository as the calling SURE program.

SITE-FUNCTIONS

If a SURE site library is defined (on global options dialog → tab 'Sure' → field 'Site library') then SURE checks and activates the defined functions in that site library at start-up time. This is done by RESPECT/LIBRARY. RESPECT/LIBRARY starts the site library for each possible entry point to check if that entry point is defined. This may give some overhead.

This default check for ALL entry points is skipped if the applicable site functions are defined in the RESPECT/TITLES file via the SITE-FUNCTION method. If one or more site-functions are declared in RESPECT/TITLES then only those site-functions are checked and activated by RESPECT/LIBRARY. Please notice that this declaration in RESPECT/TITLES is optional.

9.2.5. (Installation) Object Files

Each SURE program has the same initialization routine.

When a SURE program is started, the first action is to search for file RESPECT/TITLES and to read this file.

The record in RESPECT/TITLES that starts with key INFDB-LOCATION contains the location of the INFDB repository. The program will open that database.

The record in RESPECT/TITLES that starts with key OBJECT-LOCATION contains the location of the SURE objects. If the program has to access a SURE library or if the program has to start another SURE program, then this object-location is used to start/access the correct SURE object.

A SURE program starts another SURE program with the same RESPECT/TITLES. This ensures that the started SURE program will access the same repository as the calling SURE program.

9.2.5.1. (Installation) SURE Explorer Interface

The programs in directory OBJECT/RIS/API/= form together the SURE Explorer interface on the mainframe.

It is possible to install multiple SURE repositories on a single mainframe, each with its own SURE Explorer interface. Each SURE Explorer interface for any INFDB repository requires a separate set of RIS/API/= objects in a separate usercode directory. We call this directory the SURE-Explorer-datacom-directory.

Usually there is only one SURE Explorer interface per repository.

Each SURE Explorer interface must be connected to a unique TCP/IP port number. This TCP/IP port is used for the communication with the PC-environment.

Each SURE-Explorer-datacom-environment requires the following:

1. A set with objects OBJECT/RIS/API/=
2. A file RESPECT/TITLES
3. A file RISAPPLICATION/TITLES/WINDOWS
4. A 'SURE Explorer interface' program-definition in COMS/UTILITY

File RESPECT/TITLES is used to link the SURE Explorer interface to the correct repository, and to locate the other SURE objects.

File RISAPPLICATION/TITLES/WINDOWS is used to determine the TCP/IP port number and the work-pack. This file is created automatically during the installation procedure (install a new repository).

The content of this file is as follows:

```
00000001WINDOWS@
00000002OBJECT/RIS/API/LIB@
00000003OBJECT/STATISTICS/TIMING@
00000004OBJECT/RIS/API/TPP@
00000005OBJECT/RIS/API/FTP@
00000006@
00000007@
00000008@
00000009@
00000010@
00000011@
00000012@
00000013<debugfile pack>@
00000014<work pack>@
00000015@
```

```
00000016<filetransfer-pack>@
00000017<tcpip port-nr>@
```

- The values on lines 1 through 12 and 15 are fixed.
- The pack names on lines 13, 14 and 16 are optional. When they are not entered, then the default family of the SURE-Explorer-datacom-directory is used instead.
- The <TCP/IP port-nr> on line 17 is mandatory, and the default value is 1025.

The SURE Explorer interface must be defined as a Coms-program in COMS via Coms/Utility.

The SURE Explorer interface can only be started by 'enable <Coms-program>' and the only way to terminate the SURE Explorer interface is by 'disable <Coms-program>':

```
<mixnr Coms>SM ENABLE PROGRAM <SURE-Explorer-interface>
```

```
<mixnr Coms>SM DISABLE PROGRAM <SURE-Explorer-interface>
```

9.2.5.2. (Installation) Terminal Emulation Interface

Program RIS/MENU handles the terminal emulation interface for SURE. This program should be placed on disk in a directory that is visible for all programmers.

OBJECT/RIS/MENU is designed in such a way that it can work with multiple repositories at the same time. It is not necessary to install this program again for each repository.

The program can be started from Cande:

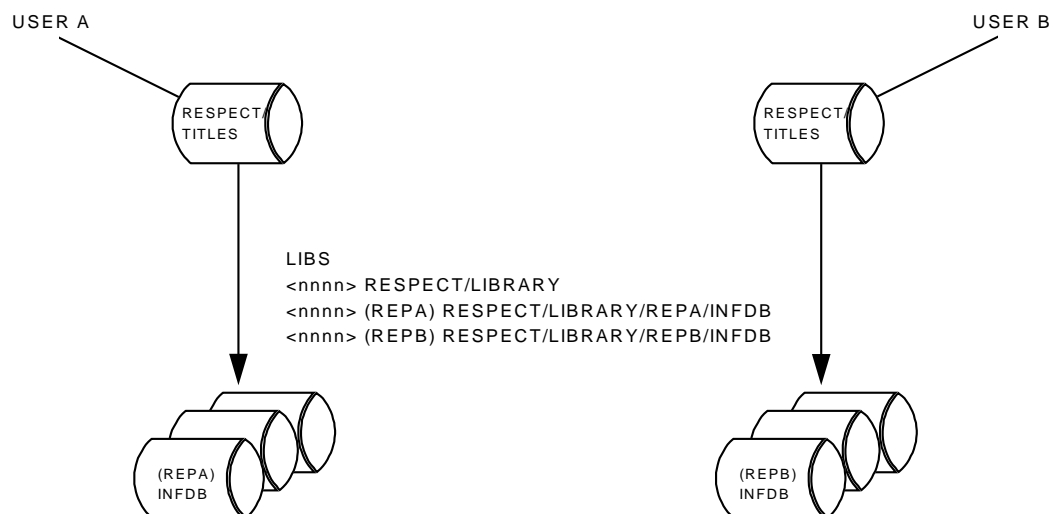
```
RUN RIS/MENU
```

or via Coms (if a Coms-program and a corresponding Coms-window (remote-file) are defined):

```
? ON <SURE window>
```

9.2.5.3. (Installation) RESPECT/LIBRARY

Libraries RESPECT/LIBRARY and RESPECT/LIBRARY/SURE are shared libraries using a dynamic selection procedure. This construct will create one additional library instance per repository. Therefore the LIBS entries will show one library RESPECT/LIBRARY and one additional for every repository called (<usercode>)RESPECT/LIBRARY/<usercode>/ INFDB. These libraries are frozen permanent, for this reason they need to be thawed if the database needs to be terminated.



This example shows two users, each using another INFDB repository. The RESPECT/TITLES of user A links that user to repository (REPA)INFDB, and the RESPECT/TITLES of user B links that user to repository (REPB)INFDB

RESPECT/LIBRARY can be installed in the same directory as the SURE batch programs.

Each program does a call on RESPECT/LIBRARY. Since this is a permanent frozen library, it has to be thawed manually to terminate it.

9.2.5.4. (Installation) Batch Programs

The SURE software can address multiple repositories on the same machine simultaneously. Except for the SURE Explorer interface, it is not necessary to install the SURE software multiple times: one set with SURE objects can be used to address multiple repositories.

The programmers do not require any direct access to the RESPECT batch programs. Some batch programs can be started via online functions, and these online functions know where the corresponding batch program is installed. Other batch programs are only necessary in the daily evening batch. The change control staff has to add the correct run-usercodes and run-families in the jobs that belong to the daily evening batch of the RESPECT package.

The installation procedure will place all objects in one directory, and the user can choose that directory at installation time. The user is free to choose any directory for the object files. It is not mandatory to install the objects global under a '*' directory. If the objects are not installed under a '*' directory then each time a program is started the correct usercode has to be placed in front of the object name.

If a batch program is started via an online function, then file RESPECT/TITLES is used to obtain the correct directory where the batch program is placed.

9.2.6. (Installation) Mainframe Install Procedure

The SURE mainframe software can be delivered as follows:

- via a wrapped + zipped container file on a CD-rom, by email or from the internet.

Before the installation is started one has to decide where the software has to be installed.

The following locations need to be addressed:

- The location of the INFDB repository (database)
- The location of the SURE objects
- The location of the SURE Explorer interface
- The location of the 'repository location file': RESPECT/TITLES.

SURE can be installed in any directory on your system. You can choose your own usercode and family where SURE must be installed.

The user must be logged-on via Cande with the usercode/family where you want to start the installation.

Your CANDE-usercode and CANDE-family must meet the following conditions:

- Your usercode must be equal to the usercode where the INFDB repository must be installed.
- Your family or your alternate family must be equal to the family where you want to install file RESPECT/TITLES
- RESPECT/TITLES must be installed under your usercode or under global directory *.

Example

If you are logged on with usercode SUREDEMO and your current family specs are FAMILY DISK = DEMOPK OTHERWISE DISK then the following configuration methods are possible:

INFDB location	SUREDEMO ON any-family	or	* ON any-family
RESPECT/TITLES	(SUREDEMO) ON DEMOPK	or	* ON DEMOPK
	or		
	(SUREDEMO) ON DISK	or	* ON DISK

The installation usercode must be a PRIVILEGE usercode (PU), otherwise the installation will fail.

The SURE mainframe software is delivered in a wrapped/zipped container file via e-Mail or can be downloaded from the ITSforSURE web-site.

Copy the software from a wrapped/zipped container file to a diskpack and install from that pack:

- C-1 The name of the containerfile is SUREyyMCPxxx.CON or SUREyyMCPxxx.ZIP or just SUREyyMCPxxx (where yy is the SURE release number and xxx is the MCP release number).The container file can be attached to an email, it can be placed on a CD-rom, or it can be downloaded from our web-site. This container file contains the CP/NX object files and description files plus some extra files that are required during installation. It is possible that the container file is zipped.

Copy the container file from your PC to the mainframe (via ftp) as follows:

- If the container file has extension 'ZIP' then it is zipped. Please unzip the container file.
- If the container file has extension 'CON' then rename it without an extension.
- Open program 'MS-Dos prompt' on your PC.
- Go to the directory on the PC where the container file placed.
- Enter command (in lowercase): ftp <your CP/NX hostname>.
- Log on (in lowercase): first your usercode and then your password.
- Enter command (in lowercase): type binary.
- Enter command (in lowercase): put <container file name>.

It will take some time to copy the container file to the mainframe. The file is copied to the usercode that you entered during your ftp session, on the default primary family of that usercode.

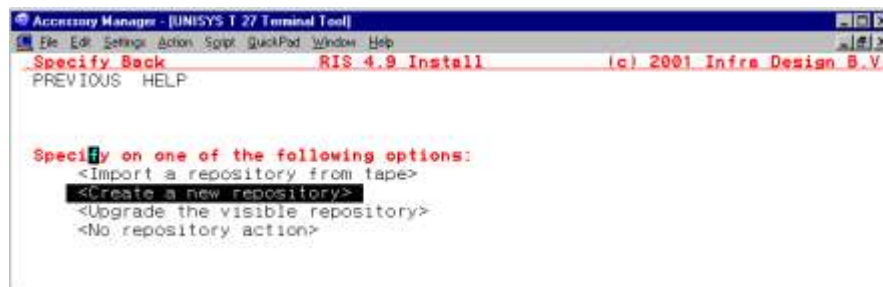
- C-2 Arrived on the mainframe, the container file must be unwrapped as follows:
- Log on to Cande with the usercode where the file is placed.
 - WFL UNWRAP *= OUTOF <container name> TO <your-pack>(PACK, RESTRICTED=FALSE)
- C-3 The software is available without restrictions under usercode (INFRA) on <pack-name>. Process the installation DO-file:
- DO (INFRA)RESPECT/SETUP("<pack-name>(PACK)")

Additional files are copied to the installation location and installation program RIS/INSTALL is started. This program presents the installation screen.

9.2.7. (Installation) Mainframe Install Program

9.2.7.1. The 1st Installation Screen

Define the installation action: new, upgrade, import:



- <Import a repository from tape>

This option will install a repository from tape INFDBTAPE-yyymm.

It is not possible to choose this option if repository-config-file RESPECT/TITLES is resident under your usercode.

- <Create a new repository>

This option creates a new empty repository.

It is not possible to choose this option if repository-config-file RESPECT/TITLES is resident under your usercode.

- <Upgrade the visible repository>

This option will load screens and messages in the visible repository and run optional conversion programs between SURE releases.

This option is only possible if repository-config-file RESPECT/TITLES is visible from your current usercode: The repository that is mentioned in RESPECT/TITLES will be upgraded.

This option also checks whether the SURE objects can run against the repository. If this is not the case, the installation job will start DASDL compilations to update the repository. These DASDL updates will synchronize the database timestamps with the timestamps present in the SURE object files. This option will cause the job to OVERRIDE the database timestamp in order to synchronize with the description file used for the SURE compilations. An off-line dump is required before this procedure is executed.

- <No repository action>

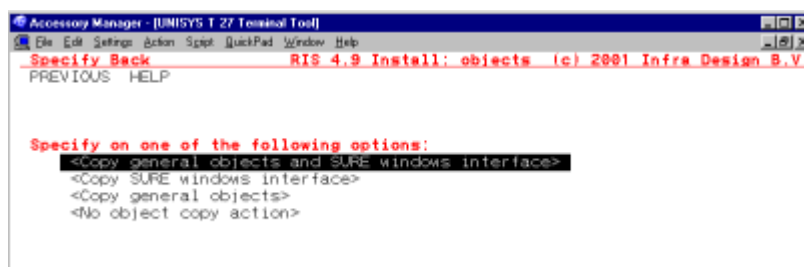
Setting this option is used to copy the SURE software. For existing installations, this may be used to reload files.

Please notice that a SURE release consists of objects and screens. These screens are loaded in the repository. For this reason, using this option is not sufficient to re-install a release.

Please choose 'Create a new repository' if SURE was not installed earlier on your host.

9.2.7.2. The 2nd Installation Screen

Define the software that must be installed:



The SURE mainframe objects can be sub-divided into two groups:

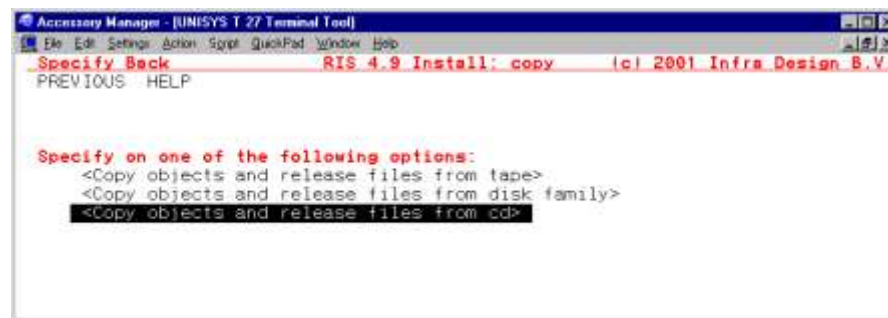
- Objects in directory OBJECT/RIS/API/= form together the SURE Explorer interface on the mainframe. Each different repository requires a separate SURE Explorer interface.

- Objects in directories OBJECT/RIS/= and OBJECT/RESPECT/= (but not in OBJECT/RIS/API/=) form together the group of general objects on the mainframe. Multiple repositories can work with the same set of general objects.

Please choose 'copy general objects + SURE Explorer interface' if SURE was not installed earlier on your mainframe.

9.2.7.3. The 3rd Installation Screen

Define the medium from where you want to install:

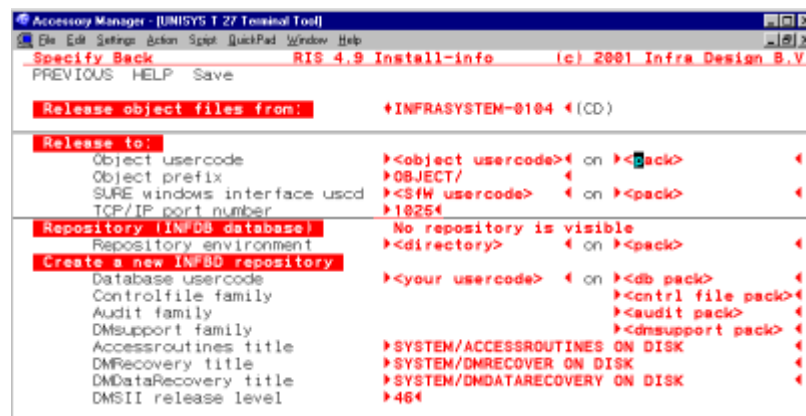


Objects files are copied if option 'No object files are copied' is NOT chosen.

Release files are copied if option 'No repository action' is NOT chosen.

9.2.7.4. The 4th and Last Installation Screen

Define the usercodes and families where you want to place the software:



- Object usercode/pack

This is the location of the general SURE object files. This object-location will be stored in repository-config-file RESPECT/TITLES.

If you choose object-usercode = '*', then the SURE objects will be copied to directory '*' and they will be visible for all usercodes who are working on this family via the normal MCP visibility rules.

If you choose a specific object-usercode, for example usercode SURE, then the SURE objects will be copied to that directory. If a SURE program has to be started from another usercode, then the name of the object has to be prefixed manually with usercode SURE (e.g. RUN (SURE)RIS/MENU).

- Object-prefix

This is the object-prefix of the general SURE objects. By default, each general SURE object has prefix 'OBJECT/'. This default prefix can be replaced by a user-defined prefix such as 'SURE/501/'.

- SURE Explorer interface usercode/pack

This is the location of the 'SURE Explorer interface' object files (OBJECT/RIS/API=).

It is not necessary to install these objects in a global directory, because these objects are always started via a Coms program definition.

- TCP/IP port number

If a new repository is installed, then a TCP/IP port number must be entered to identify a port for the SURE Explorer interface. The port may not be in use by any other application. The default value is 1025. You are free to choose any other port number if you don't agree with the default value. Please notice that the port number also has to be defined at the SURE installation on the PC.

This port number is also used during the PC installation procedure. Please make sure that the same port number is used for the mainframe-installation and the PC-installation.

- Repository environment usercode/pack

This defines the location of repository-config-file RESPECT/TITLES. The installation job will create a file RESPECT/TITLES in this environment. All usercodes that have visibility to this file will route to the defined repository.

The repository environment is defined as 'all usercodes that have access to repository-config-file RESPECT/TITLES via the normal MCP visibility rules'.

Notice that file RESPECT/TITLES must be visible for all usercodes that are going to access SURE. If only one usercode is going to access SURE, then this specific usercode can be entered in field 'repository environment usercode', otherwise an '*' must be entered which refers to the global directory '*'.

- Database INFDB usercode/pack

This is the location of database INFDB data files. If database INFDB is installed multiple times on the same host, then each INFDB must have a unique usercode. Therefore it is advised to put the database files under a usercode and not in the global directory '*'.

The usercodes of the INFDB control file, the audit-files and the dmsupport library are all equal to this database usercode.

- Controlfile family

This is the location of the INFDB-control file. (The controlfile usercode is equal to the database usercode.)

- DMSupport family
This is the location of the INFDB dmsupport lib. (The dmsupport usercode equals the database usercode.)
- Audit family
This is the location of the INFDB audit files. (The auditfile usercode equals the database usercode.)
- Accessroutines title
The default title is SYSTEM/ACCESSROUTINES ON DISK. You can override this with your own title for accessroutines.
- DMRecovery title
The default title is SYSTEM/DMRECOVERY ON DISK. You can override this with your own title for dmrecovery.
- DMDataRecovery title
The default title is SYSTEM/DMDATARECOVERY ON DISK. You can override this with your own title for dmdatarecovery.
- DMSII release level
This is the current release level of the DMSII software on the machine. Note that this may differ from the MCP release level.
- SAVE
Specify on button 'SAVE' (on the second line of the screen) if you are satisfied about the entered options. The final installation job, called WFL/RIS/INSTALL, will now be generated. In special circumstances, this job may be modified with site-specific procedures.

Specify on button 'SAVE' (on the second line of the screen) if you are satisfied about the entered options.

The final installation job, called WFL/RIS/INSTALL, will now be generated.

Start the installation job: START WFL/RIS/INSTALL

This job will take about 10 minutes to complete (depending on the power of your mainframe).

The installation job performs the following actions:

- Copy all objects and database files from the tape to the correct locations.
- Compile and install database INFDB.
- Authorize the installation usercode for all SURE commands and functions.
- Give a message when the installation is completed

Job WFL/RIS/INSTALL performs all the actions to install the software on the mainframe, except for the last step: the Coms definitions of the SURE interface.

The following files are installed:

```
(<repository-environment-usercode>)RESPECT/TITLES on <your family>
(<object-usercode>)OBJECT/RIS/= on <your family>
(<object-usercode>)OBJECT/RESPECT/= on <your family>
(<infdb-usercode>)DASDL/INFDB
(<infdb-usercode>)INFDB/=
(<infdb-usercode>)DMSUPPORT/INFDB
(<infdb-usercode>)DESCRIPTION/INFDB
(<infdb-usercode>)RECONSTRUCT/INFDB
(<SURE-Explorer-interface-usercode>)OBJECT/RIS/API/=
(<SURE-Explorer-interface-usercode>)RISAPPLICATION/TITLES/WINDOWS
```

Please notice again the importance of repository-config-file RESPECT/TITLES:

RESPECT/TITLES is a seqdata file and you can modify or list the file via Cande. The record in RESPECT/TITLES that starts with key INFDB-LOCATION gives the location of the database control file. The record in RESPECT/TITLES that starts with key OBJECT-LOCATION gives the location of the SURE-objects. When a program is started, the first thing it does is opening the visible respect/titles file to obtain the SURE-database location, and to obtain the SURE-object-location. The second step is to link to library RESPECT/LIBRARY in the SURE-object-location. The third step is to open the SURE-database. The SURE-object-location is also used when a SURE-object starts another SURE-object. This procedure makes it possible that SURE can be installed in a very flexible way in whatever any database-location and SURE object-location.

Please wait until the installation job WFL/RIS/INSTALL is finished before the SURE Explorer interface can be defined in Coms.

Refer to the next chapters for the correct Coms definition.

9.2.7.5. Installation of a First Time User

The options required for a first-time installation are:

- <Create a new repository>
- <Copy general objects and SURE Explorer interface>

9.2.7.6. Upgrade Repository and Install All Objects

This option is used to install a new SURE release and to update one repository with correct screen messages and optional conversions. If multiple repositories are running, each of these repositories must be updated through 'Upgrade a repository and install a SURE Explorer interface' (next paragraph).

The options required for this installation:

- <Upgrade the visible repository>
- <Copy general objects and SURE Explorer interface>

9.2.7.7. Upgrade Repository and Install SURE Explorer Interface

If multiple repositories are present, the first repository may have been upgraded when all objects were installed. For the upgrades of the other repositories, it is only necessary to install the SURE Explorer interface.

The options required for this installation:

- <Upgrade the visible repository>
- <Copy SURE Explorer interface>

A separate SURE Explorer interface is required for each repository. It is not necessary to re-install the general objects, because these objects can address multiple repositories on the same machine simultaneously.

9.2.7.8. Installation of the SURE Objects

This option is used to load the SURE object files without any repository update action.

The options required for this installation:

- <No repository action>
- <Copy general objects> OR <Copy general objects and SURE Explorer interface>

If the SURE Explorer interface is also installed then file RISAPPLICATION/TITLES/WINDOWS is created too.

9.2.7.9. Installation of the SURE Explorer Interface

This option is used to install the SURE Explorer interface without any further repository update actions.

The options required for this installation:

- <No repository action>
- <Copy SURE Explorer interface> OR <Copy general and SURE Explorer interface>

File RISAPPLICATION/TITLES/WINDOWS is also created.

9.2.7.10. Creation of an Extra Repository

This option can be used when SURE is already active on the mainframe, but for some reason an extra repository has to be created:

The options required for this installation:

- <Create a new repository>
- <Copy SURE Explorer interface>

File RISAPPLICATION/TITLES/WINDOWS is also created.

An extra SURE Explorer interface is required for this new repository. It is not necessary to re-install the general objects, because these objects can address multiple repositories on the same machine simultaneously.

9.2.7.11. Creation of a New Repository From Tape

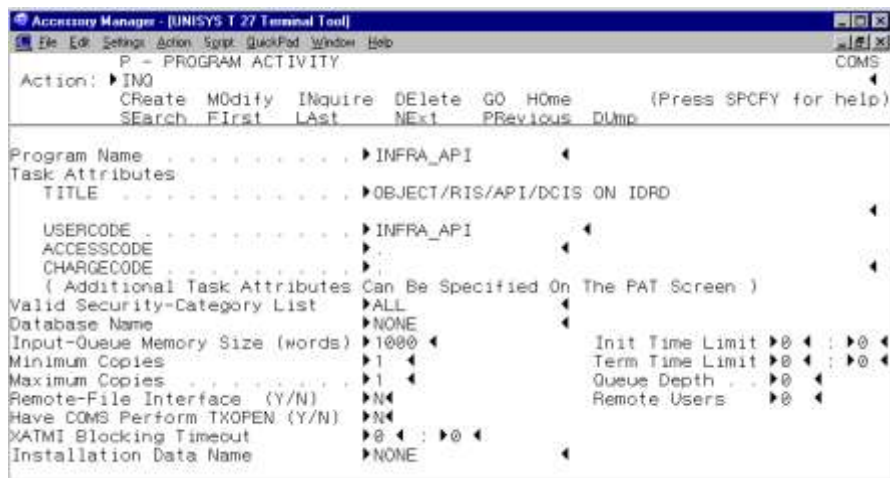
This option is used to install a repository from tape INFDBTAPE-yymm. This option requires that the SURE software is already installed.

The options required for this installation:

- <Import a repository from tape>
- <No objects files are copied>

9.2.8. Definition of the SURE Explorer Interface in COMS

The following COMS program definition is required.



All programs that deal with the SURE explorer interface start with prefix OBJECT/RIS/API=.

It is important that all these programs are installed in the same directory.

Task attribute TITLE must be equal to the FULL name of program RIS/API/DCIS.

Please notice that the program name in the TITLE contains a usercode and a family, both equal to the usercode and family of the SURE Explorer interface on the SURE-installation screen. If no usercode is specified, then the usercode in field 'USERCODE' or the global usercode is used (according to the file visibility rules on the mainframe).

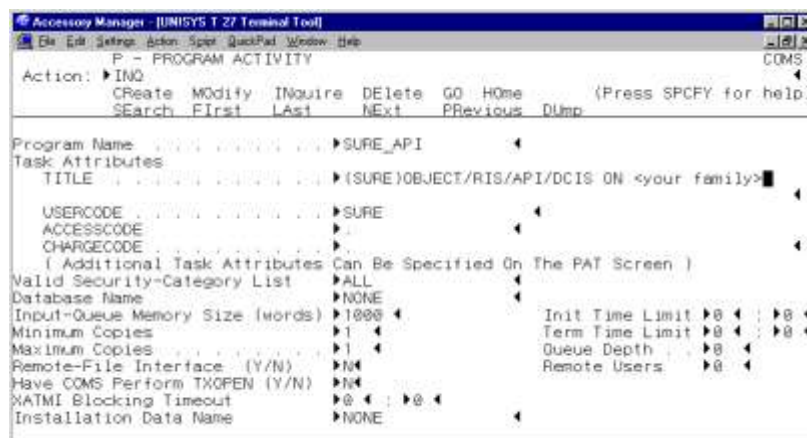
The example screen specifies a program title OBJECT/RIS/API/DCIS ON IDRD. The program will always run under usercode INFRA_API because that usercode is entered. In this case, there are two possible directories where the SURE Explorer interface can be installed:

- (INFRA_API)OBJECT/RIS/API/= ON IDRD
- *OBJECT/RIS/API/= ON IDRD.

The usercode defined for the Coms program (INFRA_API in the example screen) should contain two files that are required to locate the repository and the TCP/IP port number.

- RESPECT/TITLES
- RISAPPLICATION/TITLES/WINDOWS

Second example:



In this second example there is only one possible directory where the OBJECT/RIS/API/= software can be installed:

(SURE)OBJECT/RIS/API/= ON <family>

End of examples

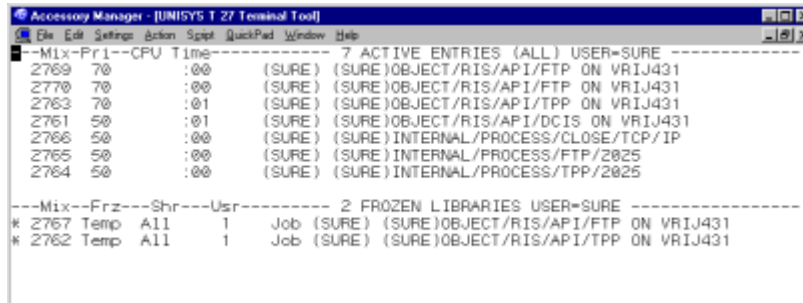
The SURE Explorer interface must be started via a Coms-enable:

<mixnr Coms>SM ENABLE PROGRAM SURE_API

The SURE Explorer interface can only be closed by a Coms-disable:

```
<mixnr Coms>SM DISABLE PROGRAM SURE_API
```

After you enabled the COMS program then at least the following objects must be active in the mix:



```
Accessory Manager - [UNISYS T 27 Terminal Tool]
File Edit Settings Action Script QuickPad Window Help
---Mix-Pri---CPU Time----- 7 ACTIVE ENTRIES (ALL) USER=SURE -----
2769 70 :00 (SURE) (SURE)OBJECT/RIS/API/FTP ON VRIJ431
2770 70 :00 (SURE) (SURE)OBJECT/RIS/API/FTP ON VRIJ431
2763 70 :01 (SURE) (SURE)OBJECT/RIS/API/TPP ON VRIJ431
2761 50 :01 (SURE) (SURE)OBJECT/RIS/API/DCIS ON VRIJ431
2768 50 :00 (SURE) (SURE)INTERNAL/PROCESS/CLOSE/TCP/IP
2765 50 :00 (SURE) (SURE)INTERNAL/PROCESS/FTP/2025
2764 50 :00 (SURE) (SURE)INTERNAL/PROCESS/TPP/2025
---Mix--Frz---Shr---Usr----- 2 FROZEN LIBRARIES USER=SURE -----
* 2767 Temp All 1 Job (SURE) (SURE)OBJECT/RIS/API/FTP ON VRIJ431
* 2762 Temp All 1 Job (SURE) (SURE)OBJECT/RIS/API/TPP ON VRIJ431
```

The installation of the mainframe software is now complete.