

SEALService

System Description

Version 2.0.0

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SEAL Systems

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System Description

1 Introduction

With SEALService from SEAL Systems, you start processes and process chains (for example, CAD applications or databases) at a specific time or event (for example, when booting the server) and in the background without interactive user logon.	functionality
SEALService is a Windows service that is running under the local system account and that is started automatically.	Windows service
In the configuration interface, you specify the commands and command chains, for example, the user under which the command will be started or the environ- ment required by the command.	command
This documentation describes the installation, configuration, and usage of SEALService.	purpose
This documentation is intended for use by administrators who want to install and use SEALService.	target group
This chapter deals with the following topics:	in this chapter

Торіс	Page
Conventions in this Documentation	2
Overview of Contents	3

.....

1

Conventions in this Documentation

path specifica-
tionThe path information given in this documentation is relative to the installation
directory of SEALService.

.....

typography

The following table lists the typographical conventions employed in this documentation for file names, paths, variables, etc.

Typographical Convention	Meaning
Courier	File names, paths, commands, menu items, keywords, special values, short scripts and examples
Courier italic	Parameters; variables that must be replaced by current values
Courier small	More extensive scripts and examples

Overview of Contents

This documentation has two parts: a description and a reference. The first part structure describes the functionality and the installation of using figures, step-by-step-procedures and explanatory texts. The second part serves as a detailed reference work containing configuration settings, keywords etc.

The description deals with the following topics:

description

Chapter 2, *Requirements*, page 7, lists the requirements for the installation and the usage of SEALService.

Chapter 3, *Installation, Migration and Uninstallation*, page 14, describes how to install and uninstall SEALService and how to migrate from an already existing installation to an new version.

Chapter 4, *Configuration*, page 25, explains the basic configuration possibilities of SEALService and how to work with the configuration interface.

Chapter 5, *Extended Configuration*, page 49, describes the advanced configuration possibilities.

Chapter 6, *Information Sources and Tips*, page 54, describes where to find information about the processing in SEALService and provides solutions to some error situations.

Chapter 7, *Background Knowledge*, page 69, explains some basic processes in SEALService.

.....

The reference contains the following chapter:

reference

• Chapter 8, *sealexecute.exe* - *Reference*, page 79, with a description of sealexecute.exe and its parameters.

At the end of the documentation, a terminology list, abbreviation list and index lists are included.



2 Requirements

This chapter deals with the following topics:

in this chapter

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10
11
12
13

.....

supported platforms SEALService is supported on the following platforms: • Windows systems as of Windows XP/Windows Server 2003

Hardware Requirements

The current minimal requirements concerning the hardware are described on the following website of SEAL Systems: hardware requirements

http://www.sealsystems.com/service/hard-software

.....

installation	For the installation, migration and the uninstallation of SEALService, a local user with administrator privileges is required.
configuration	The users specified in the configuration of SEALService, must be configured as interactive users in the Windows system because they cannot start processes otherwise. The users must be valid and active.
command	If additional privileges are required by the command started via SEALService, the user specified for this command must have these privileges.
🖉 hint - name	The user name and the server name must be different.

User

User Group SEAL Systems User

The user group SEAL Systems User is created by SEALService at the installation.	user group
When installing SEALService, the user executing the installation and the user specified as default user during the installation are entered into the user group SEAL Systems User.	user
The user group SEAL Systems User must be configured on the local server.	🖉 hint - local
Only members of the user group SEAL Systems User are allowed to configure SEALService and to start processes via SEALService.	<u>/</u> hint - privi- leges

	Network Drives
available	For the network drives to be available in SEALService, the following conditions apply:
	• The user can use the network drives which were mounted via the Windows explorer persistently, that means the network drives which are saved in the Registry.
	• The network drives which were mounted via netuse can be used when using single sign-on. For multiple sign on, it depends on if the user token which were generated at the first logon and then reused (still) knows the network drives.
	• The persistent mounted Windows network drives under another user account must once be mounted manually in the Windows explorer in order that the password is saved to the password safe of Windows. netuse does not write the password to the password safe.
	 Other network drives than Windows, for example, Novell network drives, cannot be mounted.

Step

1

2

3

Action

🔄 Programs

Control Panel Home

System and Security

Network and Internet

Clock, Language, and Region

Click Turn Windows features on or off.

Hardware

Programs

User Accounts

Ease of Access

Add Features Wizard

Appearance

.NET Framework 3.5.1 (SP1)

For SEALService, .NET Framework 3.5.1 (SP1) must be installed. As of Windows Vista/Windows Server 2008, you only have to activate the Windows feature for this.

.....

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.NET Framework 3.5.1 (SP1)

This is how you activate .NET Framework 3.5.1 (SP1) as Windows feature:

In the Control Panel, open Program and Features.

👻 🌆 Search Control Panel

💮 Turn Windows features on or off

Run programs made for previous versions of Windo

Change default settings for media or devices Make a file type always open in a specific program

Description

٠

Description: Microsoft. NET Framework 3.5.1 combines the power of the .NET Framework 2.0 APIs with new technologies for building applications that offer appealing user interfaces, protect your customer's personal identity information, enable seamless and service computing the applications

and secure communication, and provide the ability to model a ra

Programs and Features

Uninstall a program

View installed updates

How to install a program

Set your default programs

Default Programs

) - 🔄 🔹 Contr... 🔹 Programs 🔹

Windows feature

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X

Q



3 Installation, Migration and Uninstallation

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in this chapter This chapter deals with the following topics:

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Install Without User Interaction (Silent)	
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Install SEALService

 \rightarrow Supported Platforms, page 8

 \rightarrow Hardware Requirements, page 9

- \rightarrow User, page 10
- \rightarrow .NET Framework 3.5.1 (SP1), page 13

This is how you install SEALService on your system:

instructions

requirement

Step	Action		
1	Double-click the following file in order to start the installation wizard:		
	On a 32 bit system: install\sealservice\sealserviceinstall_x86.msi		
	On a 64 bit system: install\sealservice\sealserviceinstall_x64.msi		
2	SEALService (64 bit) Setup Welcome to the SEALService (64 bit) version 2.0.0.0 Setup Wizard The Setup Wizard will install SEALService (64 bit) version 2.0.0.0 myour computer. Click Next to continue or Cancel to exit the Setup Wizard.		

.....



Install SEALService, Continuation

instructions, cont'd

SEAL Systems

Install SEALService, Continuation

		instructio
ер	Action	cont d
	🐺 SEALService (64 bit) Setup	
	User Specify the Windows user who will be used in SEALService by default	
	User Name: ga_localadmin	
	Domain: SEALSYSTEMS	
	Specify User Later	
	<u>B</u> ack <u>N</u> ext Cancel	
	Specify the user who is to be used when starting the processes in SEALService unless another user is specified. Then click Next.	
	🖉 hint - later:	
	You can also specify the user later on before specifying and starting	

cont'd		
	Step	Action
	5	
		🕼 SEALService (64 bit) Setup
		Destination Folder
		Click Next to install to the default folder or click Change to choose another.
		· · · · · · · · · · · · · · · · · · ·
		Install SEALService (64 bit) to:
		C:\Program Files\SEAL Systems\
		Change
		Back Next Cancel
		Specify the installation directory for SEALService. Then click Next.
	6	
		🖓 SEALService (64 bit) Setup
		Ready to install SEALService (64 bit)
		Click Install to begin the installation. Click Back to review or change any of your
		installation settings. Click Cancel to exit the wizard.
		Back Install Cancel
		Click Install in order to start the installation.
	<u>L</u>	

Install SEALService, Continuation

.....

instructions,

Install SEALService, Continuation

		instructions, cont'd
Step	Action	
7		
	🐺 SEALService (64 bit) Setup	
	Completed the SEALService (64 bit) Setup Wizard Click the Finish button to exit the Setup Wizard.	
	SEALSYSTEMS THE DIGITAL PAPER FACTORY	
	Back Cancel	
	Click Finish in order to terminate the installation wizard.	
	·	
the s ۱angin	ervice manager, the installation program removes the privilege for g the user account, the starting mode and other settings of the s service SEALService. This ensures that SEALService is running under	🖉 hint - chan

The installation program generates the user group SEAL Systems User and

🖉 hint - user

enters the user who is executing the installation and the user who has been specified as default user during the installation into the user group.

installation pro- gram	If the installation program of SEALService 2.0.0 finds an installation of SEALService 1.x.x on the server, it uninstalls SEALService 1.x.x and migrates the commands and user profiles into SEALService 2.0.0.
A Caution - ad- ministrator	Start the installation program of SEALService 2.0.0 as user with administrator privileges due to the uninstallation of SEALService 1.x.x does not work otherwise.
user profile	In the case of a migration, you have to specify a user profile during the installa- tion because the commands must always be assigned to a user profile.
Caution - do not uninstall manually	If you want to migrate from SEALService 1.x.x, you must not uninstall SEALService 1.x.x manually due to, otherwise, the installation program of SEALService 2.0.0 assumes an initial installation and does not migrate the commands and user profiles.

Migrate From SEALService 1.x.x

Preset Settings For the Installation

You can preset the settings of the default user which SEALService requests user during the installation.

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For this, when calling the msi file, specify properties as follows:

msiexec.exe <path>\sealserviceinstall_xnn.msi <prop>=<value>

The following properties are available:

PropertyIn User DialogDOMAINField DomainPASSWORDField Password
Here, the clear text is specifiedPASSWORD_CONFIRMField Confirm Password
Here, the clear text is specifiedPASSWORD_CRYPTField Password
Item encrypted with sealcryptUSERNAMEField User Name

.....

The value of the INSTALLDIR environment variable is used as installation directory.

installation directory

properties

call

	Install Without User Interaction (Silent)
silent	SEALService can be installed without user interaction (silent installation).
	<pre>For this, execute the msi file as follows: msiexec.exe <path>\sealserviceinstall_xnn.msi /s <prop>=<value></value></prop></path></pre>
properties	For the properties available for presetting the dialog, refer to \rightarrow <i>Preset Settings For the Installation</i> , page 21
A Caution - silent migration	If no user was specified in SEALService 1.x.x when migrating without user inter- action, the installation aborts without error message.

Tray Icon for Switching to SEAL Desktop

..... For switching to the SEAL desktop, the installation program generates a tray tray icon icon. hidden

After the installation, the tray icon is displayed hidden:



This is ho	ow you uninstall SEALService from your system:
Step	Action
1	Select the following item in the start menu of the Windows system:
	Start→SEAL Systems→SEALService→Uninstall SEALServi ce
2	Follow the instructions of the uninstallation wizard.
The unir however	nstallation program uninstalls SEALService. The Registry items remain
You also Window	o can remove SEALService via the software management of the system.
	This is here the second

.....

Uninstall SEALService

requirement

> User nage 10

SEALService

System Description

4 Configuration

This chapter deals with the following topics:

in this chapter

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Preliminary Considerations About the Command	30
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.....

4.1 General Operations in the Configuration Interface

in this chapter

This chapter deals with the following topics:

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Open the Configuration Interface	27
Save the Configuration	28
Export the Configuration to an XML File	29

Open the Configuration Interface

 \rightarrow User Group SEAL Systems User, page 11

This is how you open the configuration interface:

Step	Action
1	Select the following item in the start menu of the Windows system:
	Start→SEAL Systems→SEALService→SEALService Configu- ration
	hint - not member of user group:
	If you are not yet member of the user group SEAL Systems User, you receive a message providing a link to the user management.

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The configuration interface is opened.

If no user profile has yet been specified, the $\tt users$ tab is opened after opening the configuration interface.



result

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	Save the Configuration
requirement	\rightarrow Open the Configuration Interface, page 27
instructions	This is how you save the configuration:
	Step Action
	1 Click or select File \rightarrow Save.
result	The user profiles, the commands and other configuration settings are stored in the Registry.
<section-header> hint - Ioad Registry</section-header>	In order to load a stored configuration from the Registry and to overwrite the current setting in the configuration interface, click $\stackrel{\frown}{=}$ or select File \rightarrow Reload From Registry.

.....

Export the Configuration to an XML File

 \rightarrow Open the Configuration Interface, page 27

This is how you export the configuration of SEALService to an XML file:

Step	Action
1	Click or select File→Export To File. The file selection dialog is opened.
2	Specify the XML file to which the configuration is to be exported and click Save.

The previous REG.BIN files are no longer supported due to, in these, the access control list was exported beside the Registry items which then led to problems when importing on other systems.

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29

instructions

requirement

.....

🚄 hint -

REG.BIN

4.2 Preliminary Considerations About the Command

decisions

Before adding a command, you have to think about some properties of the command:

.....

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Which User is to Start the Command?	32
Where and How is the Command to be Displayed?	33
Which Environment is Required by the Command?	
Is the Logon Required at Every Start?	35

.....

30

When is the Command to be Started?

You can choose between the following specific times and events:

.....

selection

Category	Time or Event
Boot	The boot commands are started when SEALService is started when booting the server.
	🖉 hint - delay:
	For the boot commands, you can specify a general delay.
	ightarrow Specify A Delay For Starting Boot Commands, page 50
Timer	The timer commands are started to a time specified with the command.
Logon	The logon commands are started when any user logs on to the Windows system.
Logoff	The logoff commands are started when any user logs off from the Windows system.
Suspend	The suspend commands are started when the server switches to the stand-by-mode.
	A Caution - order and resources:
	Here, the order of the command starts is arbitrary. Therefore, commands cannot longer access the resources under circumstances.
Resume Suspend	The resume suspend commands are started when the server comes back from the stand-by-mode.
	A Caution - order and resources:
	Here, the order of the command starts is arbitrary. Therefore, commands cannot longer access the resources under circumstances.
Manually Start	The manually start commands are interactively started by the user.

selection	You can choose between the fix configured user profiles and default.
	\rightarrow Add a User Profile, page 45
default	default is the user profile which has been set as default in the configuration. \rightarrow Specify a User Profile as Default, page 48
<pre>// hint - se- alexecute</pre>	The correspondent parameter of sealexecute.exe is -userprofile.

.....

Which User is to Start the Command?
www.sealsystems.com

	SEAL Desktop	The correspondent parameter of ${\tt sealexecute.exe}$ is – v.
visible on default desktop	Start: Visible Desktop: Default Desktop	<pre>for troubleshooting</pre>
invisible on SEAL desktop	Start: Hidden Desktop: SEAL Desktop	for the batch processing hint - sealexecute: For sealexecute.exe, this is default.
invisible on default desktop	Start: Hidden Desktop: Default Desktop	<pre>with this, no windows are visible and the processes must be terminated by the Windows Task Manager.</pre>
start non-interac- tively without desktop	Start: Non Interactive Desktop: n/a	for starting Postgres, Apache and Tomcat for example hint - sealexecute: The correspondent parameter of sealexecute.exe is - noninteractive.

The following combinations are possible:

Setting

Start: Visible

Desktop:

You can choose if the command is displayed visible or invisible on the SEAL desktop or the default desktop or if it runs under the local system account like a Windows service without user interaction.

.....

Where and How is the Command to be Displayed?

selection

.....

🚄 hint - faster, Without interactive desktop, the processes are executed faster and more more stable stable. But no GDI resources are available to the processes.

for most commands in normal mode; default

Recommended

int - sealexecute:

Display

desktop

visible on SEAL

combinations

	Which Environment is Required by the Command?
selection	You can choose if the process is started via a ghost process.
🖉 hint - usage	The ghost process is required if the current directory of the command (CurrentDir) is located in the network or if the process is to be started using ShellExecute instead of CreateProcess.
settings	Activate Start Without Ghost if the process is not to be started using a ghost process.
default	By default, the command is started using a ghost process.
// hint - se- alexecute	The correspondent parameter of sealexecute.exe is -noghost.

Is the Logon Required at Every Start?

You can choose if the logon is processed whenever the process is started.	selection
For the single sign-on, the logon is processed whenever the process is started.	single sign-on
For the multiple sign-on, the logon is processed when starting the command for the first time. The user token and the logon SID is then reused for the following starts.	multiple sign-on
If the logon is processed (single sign-on), you can choose if the network drives of the user are connected.	network drive
The logon takes a long time. Therefore, single sign-on makes only sense and is required if, for example, the processes and subprocesses are to run under the same logon SID in order that they can be aborted together.	🖉 hint - usage

Is the Logon Required at Every Start?, Continuation

.....

combinations

The following combinations are possible:

Environment	Setting	Recommended
User environment with network	Force Login	for most processes in normal mode; default
drives; user token and logon SID are		hint - sealexecute:
reused (multiple sign-on).		For sealexecute.exe, this is default.
User environment with network	Force Login	for processes that require the same logon SID
drives; user token and logon SID are	Establish Network Connection	🖉 hint - sealexecute:
generated (single sign-on).		The correspondent parameter of sealexecute.exe is - forcelogin.
User environment without network	Force Login	for testing processes when no network drives are required
drives; user token and logon SID are	Establish Network Connection	hint - sealexecute:
generated.		The correspondent parameters
		of sealexecute.exe are -

.....

4.3 **Operations With the Commands**

This chapter deals with the following topics:

in this chapter

.....

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Rename a Command	42
Add a Subordinate Command	43

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Add a Command

requirement

ightarrow Open the Configuration Interface, page 27

instructions

This is how you add a command:

Step	Action
1	Select the Commands tab.
2	In the tree structure of the commands, select the time or the event when the command is to be started.
3	→ When is the Command to be Stated?, page 31 Open the context menu and select Add. The command appears in the tree structure of the commands with a default name. On the right side, the settings of the commands are displayed. StatService configuration Version 2.0.00 StatService configuration Version 2.0.00 Stat Vision 3.0.00 Stat Vision 3.0.00 Stat Vision 4.0.00 Stat Vision 4.0.0.00 Stat Vision 4.0.0.00 Stat Vision 4.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0
4	In Name on the right side, specify the name of the command.
5	In Application on the right side, specify the command or select the command using the link.

.....

Add a Command, Continuation

instructions, cont'd

Step	Action
7	In Execute As on the right side, select the user profile under which the command is to be started.
	ightarrow Which User is to Start the Command?, page 32
8	In Start and Desktop on the right side, select how the command is to be displayed.
	ightarrow Where and How is the Command to be Displayed?, page 33
9	On the right side, specify in which environment the command is to be started.
	ightarrow Is the Logon Required at Every Start?, page 35
10	For timer command, specify the weekdays and the time when the command is to be started. If the command is to be started regularly, specify the repeating interval and the end time.
	🖉 hint - midnight:
	Timer commands do not run over midnight. If required, configure a second timer command for the following day.
11	Save the configuration.
	ightarrow Save the Configuration, page 28
	\rightarrow Save the Configuration, page 28

.....

The command appears in the tree structure of the commands with the specified result name and will be started if the starting time is reached for the next time.

.....

Test a Command

requirement

 \rightarrow Add a Command, page 38

instructions

This is how you test a command:

Step	Action
1	In the tree structure of the commands, select the command want to test.
2	Click Test Command on the right side. The dialog for starting command is opened.

.....

.....

result

🖉 hint - details

Click \checkmark on the left side of the summary message in order to display details about the command execution.

.....

Deactivate a Command

ightarrow Open the Configuration Interface, page 27

This is how you deactivate a command:

Step	Action
1	Select the Commands tab.
2	In the tree structure of the commands, select the command you want to deactivate.
3	Deactivate the Enabled checkbox on the right side.
4	Save the configuration.
	ightarrow Save the Configuration, page 28

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.....

The command will no longer be started but still remains visible in the configuresult ration so that you easily can reactivate it.

.....

instructions

requirement

instruction

Rename a Command

requirement

ightarrow Open the Configuration Interface, page 27

instructions

This is how you rename a command:

Action
Select the Commands tab.
In the tree structure of the commands, select the command you want to rename.
In Name on the right side, specify the new name of the command.
Save the configuration.
ightarrow Save the Configuration, page 28

.....

.....

result

The command appears in the tree structure of the commands with the new name.

.....

Add a Subordinate Command

Subordinate commands make sense for example in connection with CAD and usage SAP applications. The license server must be ready before the logons to the server and the conversions can be executed.

.....

 \rightarrow Add a Command, page 38

requirement

instructions

This is how you subordinate a command to a existent command:

Step	Action
1	In the tree structure of the commands, select the superordinate command.
2	Open the context menu and select Add. The subordinate command appears intended in the tree structure of the commands with a default name.
3	Specify the properties of the subordinate command analog to a "normal" command. \rightarrow Add a Command, page 38
4	If a certain time should be wait between starting the super- and the subordinate command, you specify the waiting time as hours, minutes and seconds in Start Subitem After at the superordinate command.
5	Save the configuration. \rightarrow Save the Configuration, page 28

The subordinate command appears in the tree structure of the commands with rethe specified name and will be started after the superordinate command. Thereby, the specified waiting time is taken into account.

result

You can specify any number of subordinate commands. But notice that complex command chains complicate troubleshooting.

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SEALService does not check if the superordinate command has been started successfully, that means the subordinated command will be started even if starting the superordinate command failed.





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4.4 **Operations With User Profiles**

in this chapter

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This chapter deals with the following topics:

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Rename a User Profile	
Specify a User Profile as Default	



From the configuration interface of SEALService, you quickly get to the user management of the Windows system via File→Open System Local User and Group Management.

Add a User Profile

ightarrow Open the Configuration Interface, page 27

This is how you add a user profile:

1 Select the Users tab. 2 Open the context menu in the list of the user profiles on the left side and select Add. The user profile appears in the list of the user profiles with a default name. On the right side, the settings of the user profile are displayed. Image: SetAl Server configuration Version 2000 Image: SetAl Server configuration Version 2000 Image: SetAl Server configuration Version 2000 Image: SetAl Server configuration Version 2000 Image: SetAl Server configuration Version 2000 Image: SetAl Server configuration Version 2000 Image: SetAl Server configuration Version 2000 Image: SetAl Server configuration Version 2000 Image: SetAl Server configuration Version 2000 Image: SetAl Server configuration Version 2000 Image: SetAl Server configuration Version 2000 Image: SetAl Server configuration Version 2000 Image: SetAl Server configuration Version 2000 Image: SetAl Server configuration Version 2000 Image: SetAl Server configuration. → Save the Configuration. Image: SetAl Server Configuration. Image: SetAl Server Configuration. Image: SetAl Server Configuration. Image: SetAl Server Configuration.	Step	Action	
 2 Open the context menu in the list of the user profiles on the left side and select Add. The user profile appears in the list of the user profiles with a default name. On the right side, the settings of the user profile are displayed. 3 In Profile Name on the right side, specify the name of the user profile. 4 In User Name on the right side, specify the user name or select a user using the link. ✓ hint - domain user: You can specify domain users in all usual notations, for example, domain \user Of user@domain. 5 In Password on the right side, specify the password of the user. 6 Save the configuration. → Save the Configuration, page 28 	1	Select the Users tab.	
3 In Profile Name on the right side, specify the name of the user profile. 4 In User Name on the right side, specify the user name or select a user using the link. ✓ hint - domain user: You can specify domain users in all usual notations, for example, domain\user Or user@domain. 5 In Password on the right side, specify the password of the user. 6 Save the configuration. → Save the Configuration, page 28	2	Open the context menu in the list of the user profiles on the left side and select Add. The user profile appears in the list of the user profiles with a default name. On the right side, the settings of the user profile are displayed.	
 In Profile Name on the right side, specify the name of the user profile. In User Name on the right side, specify the user name or select a user using the link. ✓ hint - domain user: You can specify domain users in all usual notations, for example, domain\user Or user@domain. In Password on the right side, specify the password of the user. Save the configuration. → Save the Configuration, page 28 			
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 In User Name on the right side, specify the user name or select a user using the link. ✓ hint - domain user: You can specify domain users in all usual notations, for example, domain\user Or user@domain. In Password on the right side, specify the password of the user. Save the configuration. → Save the Configuration, page 28 	3	In Profile Name on the right side, specify the name of the user profile.	
 You can specify domain users in all usual notations, for example, domain\user Or user@domain. In Password on the right side, specify the password of the user. Save the configuration. → Save the Configuration, page 28 	4	In User Name on the right side, specify the user name or select a user using the link.	
 5 In Password on the right side, specify the password of the user. 6 Save the configuration. → Save the Configuration, page 28 		You can specify domain users in all usual notations, for example, domain\user Or user@domain.	
6 Save the configuration. \rightarrow Save the Configuration, page 28	5	In Password on the right side, specify the password of the user.	
\rightarrow Save the Configuration, page 28	6	Save the configuration.	
		\rightarrow Save the Configuration, page 28	

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.....

instructions

requirement

Add a User Profile, Continuation

result

The user profile appears in the list of the user profiles with the specified name.

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....



and in the Group column of the list of the user profiles whether the user is member of the user group SEAL Systems User or not.

If possible, you should configure in the user management of the Windows system that the password never expands for the users specified in SEALService. Otherwise, you must keep in mind to change the configuration in SEALService whenever the password will be changed.

.....

SEALService System Description Rename a User Profile

ightarrow Open the Configuration Interface, page 27

This is how you rename a user profile:

Step	Action
1	Select the Users tab.
2	In the list of the user profiles, select the one you want to rename.
3	In Profile Name on the right side, specify the new name of the user profile.
4	Save the configuration.
	ightarrow Save the Configuration, page 28

.....

.....

The user profile appears in the list of the user profiles with the new name.

.....

result

instructions

requirement

	Speci	fy a User Profile as Default
requirement	→ Open	the Configuration Interface, page 27
instructions	This is h	ow you specify a user profile as default:
	Step	Action
	1	Select the Users tab.
	2	In the list of the user profiles, select the user profile you want to set as default. Open the context menu and select Set As Default User.
	3	Save the configuration. \rightarrow Save the Configuration, page 28
result	In the Da default u	efault column of the list of the user profiles, 🥝 is displayed at the user profile.
commands	All comr user pro	nand with default in Execute As, are started with the new default file as of now.

5 Extended Configuration

This chapter deals with the following topics:

in this chapter

Торіс	Page
Specify A Delay For Starting Boot Commands	50
Specify the Default Desktop as Default	51
Make Network Drives Visible in the Administrator Mode	52
Support Nested Groups	

.....

Specify A Delay For Starting Boot Commands

all boot com- mands	You can s boot com	specify a period which is used as delay before starting the configured imands when booting the server
🖉 hint - usage	For exan domain c	nple, the delay when starting boot commands makes sense if the ontroller is too slowly for the logon of the domain user.
instructions	This is ho	w you specify the delay for all boot commands:
	Step	Action
	1	Open the Registry and navigate to HKEY_LOCAL_MA-CHINE\SOFT-WARE\SEAL Systems\SEALService.

result When booting the server for the next time, the boot commands will be started with delay.

In the BootDelayTime item, enter the period in milliseconds.

2

Specify the Default Desktop as Default

The usage of the default desktop makes only sense for Windows XP/Windows Server 2003 because in newer Windows systems, with this, it is output to the default desktop of the terminal session 0 which is invisible to the user.

The usage of the default desktop might make sense when testing for making the output of the Perl debugger or interactive applications such as Word visible at once without switch.

By default, the SEAL desktop is used unless -desktop has been specified with default: SEAL sealexecute.exe. In the configuration interface, the menu item, Tools-Use SEAL Desktop for SEALExecute, is active.

This is how you specify the default desktop as default:

Step	Action
1	Open the Registry and navigate to HKEY_LOCAL_MA-CHINE\SOFT-WARE\SEAL Systems\SEALService\Display.
2	In the Desktop item, change the value from SEALOperationDesktop $to\; \mbox{default}.$

Unless -desktop has been specified with sealexecute.exe, the default desktop will be used. In the configuration interface, the menu item, Tools→Use SEAL Desktop for SEALExecute, is inactive.



desktop

instructions

result

51

Make Network Drives Visible in the Administrator Mode

change into the administrator mode You can specify that the user sees the connected network drives of the "simple" user when changing into the administrator mode.

instructions

This is how you specify that the network drives are visible:

Step	Action
1	Open the Registry and navigate to HKEY_LOCAL_MA-SCHINE/Soft- ware/Microsoft/CurrentVersion/Policies/System.
2	Insert the EnableLinkedConnections item of the DWORD type.
3	Enter 1 as values.
4	Restart the server.

result

The user in the administrator mode sees the network drives of the "simple" user.

🖉 hint - default

It The default of EnableLinkedConnections has been changed from 1 to 0 with Windows Vista/Windows Server 2008.

Support Nested Groups

SEALService supports nested groups in the domain environment.

This is how you specify that nested user groups are taken into account:

supported

instructions

Step	Action
1	Open the Registry and navigate to HKEY_LOCAL_MA-CHINE\SOFT-WARE\SEAL Systems\SEALService.
2	In the NestedGroups item, enter the number of levels which are to be taken into account when searching.

.....

Nested user groups are searched for up to the configured level.

.....

The search of nested user groups can degrade the performance of SEALService dramatically due to for each search a network request is executed.

pr each search a network request is executed.



result

6 Information Sources and Tips

in this chapter

This chapter deals with the following topics:

Торіс	Page
Information Sources	55
Tips for Developing Scripts	
Error Scenarios and Their Solutions	

.....

6.1 Information Sources

 You find information concerning SEALService in: Windows Task Manager Windows Event Log 	information
The Windows Task Manager displays the processes running on the current desktop.	Task Manager
With Process Explorer, procexp.exe, from Microsoft, you can display processes per desktop.	✓ hint - Process Explorer
If the program is not available on your Windows system, you can download it from the following Web site:	
→ http://www.sysinternals.com	
The Windows Event Log shows information about SEALService and the started processes.	Event Log
From the configuration interface of SEALService, you directly switch to the Windows Event Log via [™] or File→Open System Event Log.	🖉 hint - Start
\rightarrow Filter SEALService Items in the Event Log, page 56	filter items

Filter SEALService Items in the Event Log

.....

sources	In the Windows Event Log, the items of the SEALGhostApp, SEALMonikerApp and sealservicesvr are relevant.
user-specific view	In a custom view, you see all items of these sources at a glance. This function- ality is available as of Windows Vista/Windows Server 2008.

instructions This is how you specify a custom view:

Step	Action
1	Via the computer management, open the dialog for creating custom views:
	Image: Control of the second secon
2	Activate By source and select the SEALGhostApp, SEALMoni- kerApp and sealservicesvr sources in the selection list:

Filter SEALService Items in the Event Log, Continuation

.....



instructions, cont'd

The filter appears in the list of custom views. With one click, you see all items result concerning SEALService.

🛃 Event Viewer						
Eile Action View Help						
(= -) 2 🖬 🛛 🖬						
Event Viewer (Local)	SEALService Num	ber of events: 276				
Custom Views	V. Number of a surface 276					
Administrative Events	3 Number of ev	ents: 270		1		
SEALService	Level	Date and Time	Source	Event ID	Task Category	
🕀 📑 Windows Logs	Information	5/15/2013 3:34:40 PM	SEALMonikerApp	1282	Expand Service Log	
F Applications and Services Logs	Error	5/14/2013 11:00:42 PM	sealservicesvr	513	Expand Service Log	
Subscriptions	Error	5/14/2013 11:00:42 PM	sealservicesvr	784	Expand Service Log	
	 Information 	5/14/2013 11:00:42 PM	sealservicesvr	530	Expand Service Log	
	🕕 🕕 Error	5/13/2013 11:00:01 PM	sealservicesvr	513	Expand Service Log	
	🕕 🕕 Error	5/13/2013 11:00:01 PM	sealservicesvr	784	Expand Service Log	
	 Information 	5/13/2013 11:00:01 PM	sealservicesvr	530	Expand Service Log	
	🕕 🕕 Error	5/10/2013 11:00:14 PM	sealservicesvr	513	Expand Service Log	
	Error	5/10/2013 11:00:14 PM	sealservicesvr	784	Expand Service Log	
	 Information 	5/10/2013 11:00:14 PM	sealservicesvr	530	Expand Service Log	
	Error	5/9/2013 11:00:33 PM	sealservicesvr	513	Expand Service Log	
	Error	5/9/2013 11:00:33 PM	sealservicesvr	784	Expand Service Log	
	 Information 	5/9/2013 11:00:33 PM	sealservicesvr	530	Expand Service Log	
	Error	5/8/2013 11:00:34 PM	sealservicesvr	513	Expand Service Log	
	Error	5/8/2013 11:00:34 PM	cealcervice.cvr	784	Expand Service Log	
	Event 1282, SEALM	onikerApp				
	General Details	1				
	Session Monike Session Monike	r information: er started in session 4.				
	Log Na <u>m</u> e:	Application				
	Source:	SEALMonikerApp	Logged: 5/15/2013 3:34:44	0 PM		
	Event ID:	1282	Task Category: Exnand Service L	0.0		

System Description

6.2 Tips for Developing Scripts

_INSIDE_SEAL_ SERVICE	When starting a process, SEALService sets the _INSIDE_SEAL_SERVICE environment variable that indicates how often the process is running in the SEALS-ervice environment. You can read this environment variable in order to avoid unnecessary process starts for example.
libprocess.pl	In customer-specific scripts, always call SEALService commands via <code>libpro-cess.pl</code> due to the correct SEALService version will be used automatically then.
command on SEAL desktop	In order to check for example which environment variables are set in the SEAL-Service environment, you can quickly start a command prompt, cmd.exe, in Run command in the dialog for switching to the SEAL desktop without having to switch the desktop.

6.3 Error Scenarios and Their Solutions

This chapter deals with the following topics:

in this chapter

Торіс	Page
SEALService Does Not Work	60
Switching to SEAL Desktop Via Tray Icon Does Not Work	61
Command Does Not Start	62
Command Start Takes a Long Time	63
Processes Do Not Run on SEAL Desktop	
SEAL Desktop Switches Back	65
Remote Desktop Connection Does Not Work	66
Network Drives Are Connected and Disconnected All the Time	
Network Drive Is Not Available	

.....



SEALService Does Not Work

error scenario SEALService does not work. The commands are not started.

registration

If the registration of SEALService was not executed as user with administrator privileges during the installation (that means if the request of the User Account Control (UAC) had not been confirmed under Windows 7/Windows Server 2008 R2), the registration applies only to the user executing the registration. Due to SEALService is running under the system account, SEALService does not work

Step	Action
1	Start the shell and change to the installation directory of SEALSer- vice.
2	Execute Unregister.bat.
3	Close the shell.
4	Open the command prompt as administrator, confirm the request of the User Account Control (UAC) and change into the installation directory of SEALService.
5	Execute Register.bat.

Switching to SEAL Desktop Via Tray Icon Does Not Work

Nothing happens when switching to the SEAL desktop via the tray icon.	error scenario
In order that you can switch to the SEAL desktop via the tray icon, the Windows service Interactive Service Detection (UIODetect) must be able to start.	background
 Check if the key NoInteractiveServices is set to 0 in HKEY_LOCAL_MA-CHINE\SYSTEM\CurrentControlSet\Control\Windows in the Registry. The default for Windows 8/Windows Server 2012 is 1 here. Check if the starting mode of the Windows service Interactive Service Detection (UIODetect) is not set to Disabled. 	check

error scenario	The command specified in SEALService does not start. On the SEAL desktop an error message appears, for example, Access denied Or File not found.
solution	• Check if the user who starts the command is member of the user group SEAL Systems User.
	• If the user changes within a command chain, check if this user is member of the user group SEAL Systems User.
	• Check if all configured network drives can be connected and if the user who starts the command has the privileges for this.
	• Check if the current directory of the command (CurrentDir) is set and if the user can access it.

Command Does Not Start

Command Start Takes a Long Time

Starting a command takes an unusual long time.	error scenario
If problems occur when connecting the network drives, due to an incorrect user specification or an incorrect password for example, the call of the command can take an unusual long time.	background
For a user who has never logged on to the system interactively, Windows gener- ates a temporary profile. This can last very long.	
 Log on interactively as user who is to start the command in order that a user profile is generated. 	solution
Check the connections to the network drives used by the command.	

	Processes Do Not Run on SEAL Desktop
error scenario	Processes are not running on the SEAL desktop or are simply terminated.
solution	 Check if the program to be started is an interactive program. Check the log files of the program. Check if Desktop is set to SEALOperationDesktop in the Registry key HKEY_LOCAL_MACHINE\SOFTWARE\SEAL Systems\SEALService\Display.

SEAL Desktop Switches Back

On the SEAL desktop, commands are started. After a few seconds, it is switched to the interactive user desktop.	error scenario
As of Windows Vista, Windows automatically switches back to the default desktop or disconnects the remote desktop connection if no user interaction takes place. In this case, you cannot do anything due to Windows logs off the terminal session.	no interaction
In Windows XP, the Acronis program installs a scheduler which is responsible for the switching. Stop the schedhlp.exe scheduler.	solution for Win- dows XP

	•
error scenario	Under Windows XP and a remote desktop connection, the interactive desktop cannot be accessed.
solution	Start the RDP client with the following parameters: mstsc.exe /admin -v servername
🖉 hint - old ver- sion	Before Windows XP (SP2), the option is called /console instead of /admin.

Remote Desktop Connection Does Not Work

Network Drives Are Connected and Disconnected All the Time

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This depends on if the command uses single or multiple sign-on and which s network drives are known by the user token. With multiple sign-on, the s network drives are connected only once. With single sign-on, SEALService behaves like the previous version 1.1.x

single/multiple sign-on

 \rightarrow Is the Logon Required at Every Start?, page 35

error situation	In the SEALService environment, a network drive is not available.
solution	• Check the messages in the Windows Event Log. Note that with multiple sign-on connecting the network drive is tried only once, that means that a possible error message is logged only once and not at every start of the command.
	 Check if the requirements for making a network drive available are fulfilled. → Network Drives, page 12

Network Drive Is Not Available

SEALService System Description
7 Background Knowledge

This chapter deals with the following topics:

in this chapter

Торіс	Page
SEALService Components	70
Terminal Session, Station, Desktop	71
User Account and Environment	73
Processes	74
Process and Environment Switch With SEALService	75

.....

sealservices vr.exe	sealservicesvr.exe is the central process for controlling the processes. sealservicesvr.exe is started by the Windows system automatically and runs as service under the local system account.
configuration in- terface	In the configuration interface of SEALService, you specify the commands to be started.
SEALMonikerApp	SEALSvrSessionMoniker.exe provides an interface for redirecting processes to the SEAL desktop.
SEALGhostApp	SEALGhostCmd.exe establish the environment of the user and is necessary, for example, if other resources are required.
sealexecute	sealexecute.exe is the interface for starting processes via SEALService.

SEALService Components

Terminal Session, Station, Desktop

The location of a process is determined by the terminal session, the station and process the desktop:

terminal session 0 / system components	
- station winsta0 - desktop default - SEAL desktop	
terminal session 1 / user 1	
By default, the processes started by SEALService are running on the SEAL desktop of the station winsta0 in the terminal session 0.	SEALService
A terminal session in the Windows system contains processes, stations, desk- tops and other resources. A terminal session is specified by a session ID.	terminal session
In the terminal session 0, system components such as Windows services or drivers are running. The terminal session 0 is not interactive and exists while the server is running.	
Each user who logs on to the Windows system gets an extra terminal session. It runs while the user is logged on.	
The interactive desktop, that is the desktop where the user is working, is always in a terminal session different to 0.	
You see the currently active terminal session (normally 1) as tooltip at the tray icon of SEALService. The terminal session 0 will not be displayed.	display
You see the terminal session of a process in the Windows Task Manager (Session ID column) and in the Process Explorer (Session column).	

Terminal Session, Station, Desktop, Continuation

SEALService	SEALService starts the processes in the terminal session 0.
station	In a terminal session, multiple stations are running. Stations have resources, Access Control Lists (ACL) and desktops.
	The Windows systems provides the station 0 (winsta0). It exists in every terminal session. It looses its information when the user logs off. That means the desktops are still running and can be reached but all assignments to it are lost.
	Only the station 0 (winsta0) has enough GDI resources for Office for example.
SEAL desktop	The SEAL desktop only runs in the station 0 (winsta0).
display	You see the station of a process in the Process Explorer.
desktop	A desktop represents a graphic device interface (GDI) and provides GUI objects. Multiple desktops are running in a station.
	The desktop which are not interactive can not be displayed normally.
	With SEALService, processes can be started as follows:
	• Interactively with access to the desktop, that means on the default desktop of the terminal session 0.
	• Interactively without access to the desktop, that means on the SEAL desktop of the terminal session 0; this way, the process remains invisible. By a context switch, the SEAL desktop and the process become visible.
	 Non-interactively (as of SEALService 2.0.0); the non-interactively desktop survives the user's logon and logoff, but can only be used if the process does not require GDI resources.
display	You see the desktop of a process in the Process Explorer.
UIODetect	The standard Windows service Interactive Service Detection (UIODe- tect) recognizes events triggered on the default desktop of the station 0 (winsta0) of the terminal session 0. The switch to the SEAL desktop (SEAL Desktop change switch) is such an event.

User Account and Environment

SEALService is always running under the local system account. Primarily, only the environment variables and the network drives of the local system account are known. SEALService starts the commands under the configured user profiles.	environment
In the user token, the Windows system records the privileges of the process such as the user account and the network drives for example.	user token
With -forcelogin, a new user token is generated for the current start of the process (single sign-on).	
Without -forcelogin, a new user token is generated for the first start of the process. Then, the user token is reused for this user profile (multiple sign-on).	
During the logon, all user-specific files were processed, that means the complete user environment is available after the logon.	logon
When switching the context, only a user switch is processed. The logon, including netuse, is not processed. The processes are started with the privileges of the new user. The network drives which were mounted persistently, that means which are stored in the Registry, can be used.	context switch
The ghost process processes a complete logon when changing the user and, therefore, establishes the user environment. All environment variables of the user are known. The network drives which were mounted persistently by this user, that means which are stored in the Registry, can be used. The ghost process starts the actual command.	ghost process

create process	Processes can be generated using the ShellExecute and CreateProcess func- tions. As of Windows Vista, processes that require more privileges only can be generated using ShellExecute and no longer using CreateProcess.
verb	With ShellExecute, a verb is specified. The verbs correspond to the actions in the context menu, for example, edit, open, print or runas. The available values depend on the file type and can be found in the Registry for example.
runas	The runas verb, starts the process with User Account Control (UAC). This makes only sense if the process is started visible.

Processes

Process and Environment Switch With SEALService

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The following graphic shows the process and the switch of the environment overview when starting a process via SEALService:



^{.....}

steps

n	the s	teps	above,	tol	low	ing i	İS	execut	ted	:

Step	Process
1	In his environment, user1 requests SEALService as Windows service for starting a process.
	Service Control Manager (SCM) starts SEALService automatically on request. SEALService starts under the local system account, that means the environment of user1 is unknown.
2	SEALService evaluates the configuration of the command and executes the user switch.
	When switching to user2 before starting the process, only a context switch is performed but no complete logon procedure. The process is started as user2 and is running in the environment of the local system account, that means the environments of user1 and user2 are unknown.
3	If configured, it is tried to establish the environment of user2 before starting the actual process by means of the ghost process.



8 sealexecute.exe - Reference

sealexecute.exe is an interface for starting processes via SEALService. p				
The program is I	ocated in the following directory:	storage		
C:\Program Fi	les\SEAL Systems\SEALService2			
sealexecute.e Now, a dummy hint to the new	xe was located in the PLSTBIN directory up to the version 2.0.0. program with the same name is located there which outputs a location.	hint - move with 2.0.0		
sealexecute.e	$_{\mathrm{xe}}$ is called in scripts or from the command line.	call		
sealexecute.e	$\mathbf{x}\mathbf{e}$ provides the following command line options:	command line options		
Option	Description			
-currdir	Start directory of the process			
<air></air>	Default: Directory of sealexecute.exe			
-desktop	Desktop where the process will be started			
<desktop> (optional)</desktop>	Default: The desktop specified in the Registry; the SEAL desktop by default			
	A Caution - not together with:			
	-desktop cannot be specified together with -useinterac- tivesession Or -noninteractive.			
	hint - configuration interface:			
	The correspondent setting in the configuration interface is Desktop.			
-e <file></file>	writes the error messages into the <i><file></file></i> file.			

(optional)

Default: same as $-\circ$

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command line options, cont'd

Option	Description
-forcelogin (optional)	When starting the process, the logon will be processed. A new logon SID and a new user token will be generated for the current command start.
	Default: The logon will not be processed.
	🖉 hint - usage:
	The logon takes a long time and makes only sense and is required if, for example, the processes and subprocesses are to run under the same logon SID in order that they can be aborted together.
	hint - configuration interface:
	The correspondent setting in the configuration interface is Force Login.
-h	The usage is output.
(optional)	
-noadmin (optional)	will start the process as administrator without administrator privileges this means the privileges are taken from the user account (restricted token).
	Default: The process will be started under the current user and its privileges.
	Let hint - downward compatibility:
	-noadmin is only supported for downward compatibility. The configuration interface does not provide an correspondent setting. Under Windows 7/Windows Server 2008 R2, SEALS-ervice does not start processes with administrator privileges for security reasons.
-noghost	The process will not be started as ghost process.
(optional)	Default: The process will be started as ghost process.
	hint - configuration interface:
	The correspondent setting in the configuration interface is Start Without Ghost.

.....

command line options, cont'd

Option	Description
-noninter- active (optional)	The process will be started by SEALService under the system account and will not be assigned to an interactive desktop. The process behaves like a service without user interaction. For example, this is recommended for starting Postgres, Apache and Tomcat.
	Default: The process will be assigned to the specified interac- tive desktop.
	int - faster and more stable:
	Without interactive desktop, the commands are executed faster and more stable.
	hint - configuration interface:
	The correspondent setting in the configuration interface is Start.
-o <file></file>	The messages will be written into the <file> log file.</file>
(optional)	Default: No log file will be written.
-ps (optional)	lists the processes started by SEALService.
-pwd <pass- word></pass- 	Password of the user specified with -user.
(optional)	A Caution - order:
	-pwd must be specified after -user.
	A Caution - priority:
	-userprofile takes higher priority over -user and -pwd.
- 9	suppresses the output of messages.
Ч	

.....

command line options, cont'd

Option	Description
-s	will start the process synchronously.
(optional)	Default: The process will be started asynchronously.
	A Caution - no timeout:
	With synchronous processes, the timeout for the process does not work.
-timeout <i><seconds></seconds></i>	Waiting time in seconds after that the process will be termi- nated.
(optional)	Default: no timeout
	A Caution - no timeout:
	With synchronous processes, the timeout for the process does not work.
-tracelevel	Level of the debug messages
(ontional)	Available values for <level> are:</level>
(opcional)	0 Error messages 1 Warnings
	2 Debug messages
	3 Info messages
	Default: 1
-user	User under which the process will be started.
<user></user>	Default: the user specified as default in the configuration
(optional)	interface
	A Caution - priority:
	-userprofile takes higher priority over -user and -pwd.
	hint - configuration interface:
	The correspondent setting in the configuration interface is Execute As.

82

.....

command line options, cont'd

Option	Description
-userpro-	User profile under which the process will be started.
<profile> (optional)</profile>	Default: The user profile specified in the configuration as default
	A Caution - priority:
	-userprofile takes higher priority over -user and -pwd.
-userinter- activeses- sion	The process uses the current interactive desktop. An new user token will be generated.
(optional)	A Caution - not together with:
	-useinteractivesession cannot be specified together with -desktop or -noninteractive.
-v	will start the process visible on the specified desktop.
(optional)	Default: The process will be started invisible on the specified desktop.
	hint - configuration interface:
	The correspondent setting in the configuration interface is Start Visible.
-verb <verb> (optional)</verb>	will start the process via ShellExecute and <verb> instead of CreateProcess; for example, -verb runas will start the process with the User Account Control (UAC).</verb>
	Available values for <verb> depend on the file type, for example: edit open print runas</verb>
	Default: The process will be started via CreateProcess.
	A Caution - not together with:
	With -verb, the options such as -desktop, -e, -noghost or -o do not work.



Terminology

The following section explains the most important terms that are used in this documentation. Terms marked by \rightarrow refer to other terms within this section.

Access Control List	Windows feature that limits the access to data and features. It specifies which user may use which services and files.
Context switch	At a context switch, only a user switch takes place, that means that the \rightarrow logon will not be processed. The processes are started with the privileges of the new user.

- Desktop A desktop represents a graphic device interface (GDI) and provides GUI objects. Multiple desktops are running in a \rightarrow station.
- Ghost processThe ghost process processes a complete \rightarrow logon when changing the user
and, therefore, establishes the complete user environment.
- Logon During the logon, all user-specific files were processed, that means that the complete user environment is available after the logon.
- Multiple sign-on For the multiple sign-on, the logon is processed when starting the command for the first time. The user token and the logon SID is then used for the following starts.
- SEAL desktop \rightarrow Desktop used by \rightarrow SEALService by default; the SEAL desktop is a nonvisible (hidden) desktop. The process is started on the SEAL desktop and, therefore, remains invisible. Via a \rightarrow context switch, the SEAL desktop and the process will be visible.
- sealexecute.exe Interface for starting processes via \rightarrow SEALService
- SEALService Windows service from SEAL Systems starting commands and command chains (for example, CAD applications or databases) at a specific time or event (for example, when booting the server) and in the background without interactive user \rightarrow logon.

SEALSvrSessionMoniker.exe

Provides an interface for redirecting interactive commands to the SEAL desktop.

Service control manager

Windows service for managing the starts and stops of Windows services.Single sign-onFor the single sign-on, the logon is processed whenever the process is
started.StationIn a →terminal session, multiple stations are running. Stations have
resources, →access control lists and →desktops. The Windows systems
provides the station 0 (winsta0). It exists in every terminal session.Terminal sessionA terminal session in the Windows system contains processes, stations,
desktops and other resources. A terminal session is specified by a session ID.User Access ControlWindows feature for preventing non-authoricated changes to the server; for
the changes, the user must be specify the password of the administrator.

Terminology, Continuation

User profile	A user profiles contains the environment of a user, user-specific settings and configuration. The changes made by the user on the desktop or in other settings remain invisible to the other users. A user profile is generated when the user \rightarrow logs on for the first time.
User token	In the user token, the Windows system records the privileges of the process such as the user account and the network drives for example.
Verb	Command that corresponds to an action in the context menu and that can be specified with ShellExecute, for example, runas. The available verbs depend on the file type.

Abbreviations

ACL	Access Control List
CAD	Computer-Aided Design
GDI	Graphic Device Interface
GUI	Graphical User Interface
RDP	Remote Desktop
SCM	Service Control Manager
SID	Security Identifier
UAC	User Account Control

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