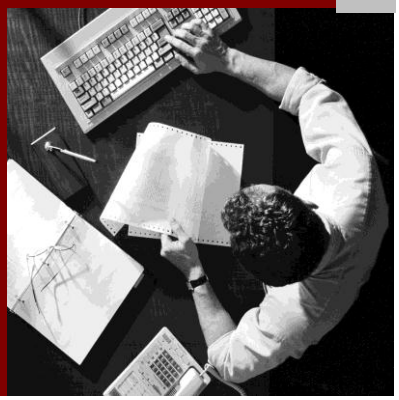
Upgrade Guide



Upgrade from SAP NetWeaver TREX 7.0 to TREX 7.1

Target Audience

- **System Administrators**
- **Technology Consultants**

Document Version 1.5 – October 31, 2013

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Icons in Body Text

Icon	Meaning
	Caution
	Example
	Note
	Recommendation
	Syntax

Additional icons are used in SAP Library documentation to help you identify different types of information at a glance. For more information, see *Help on Help → General Information Classes and Information Classes for Business Information Warehouse* on the first page of any version of *SAP Library*.

Typographic Conventions

Type Style	Description
Example text	Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options. Cross-references to other documentation.
Example text	Emphasized words or phrases in body text, graphic titles, and table titles.
EXAMPLE TEXT	Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE.
`Example text`	Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools.
Example text	Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.
<Example text>	Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.
`EXAMPLE TEXT`	Keys on the keyboard, for example, `F2` or `ENTER`.

Upgrade from SAP NetWeaver TREX 7.0 to TREX 7.1

Purpose

SAP NetWeaver TREX 7.1 supports the following operating systems:

- Microsoft Windows Server 2003/X64 64-bit
- Novell SLES9/ X86_64 64-bit
- Novell SLES10/ X86_64 64-bit
- Red Hat EL4/ X86_64 64-bit
- Red Hat EL5/ X86_64 64-bit

This is a change compared to previous releases, where TREX supported a broad range of Windows, UNIX, and Linux platforms. However, this consolidation of platforms is the best way to ensure the development and support of a TREX with optimum performance.

The TREX engine operates in client/server mode, with a TREX Java client or ABAP client calling the actual TREX server. The TREX server is not dependent on any database or other software other than the operating system and associated communication services (Web server, SAP Gateway). Therefore, the above platform strategy has no limiting impact on any other SAP solution.

For more information, see SAP Note 965097 TREX 7.1 platforms.

For more information about supported platforms for previous TREX releases, see SAP Service Marketplace at **`service.sap.com/pam`**.

Due to the difference in the supported operating systems between TREX 7.0 and TREX 7.1, an upgrade from TREX 7.0 to TREX 7.1 cannot be executed for all possible combinations of operating systems. For example, an upgrade from TREX 7.0 installed on a Solaris operating system to TREX 7.1 is not possible because TREX 7.1 no longer supports Solaris.

For an overview of the upgrading options see Planning the Upgrade [Page 12].

This guide describes how you upgrade a TREX single-host system and a distributed systems, from TREX 7.0 to TREX 7.1. It is aimed at technology consultants. In this document, we refer to TREX 7.0 as the old TREX system and TREX 7.1 as the new TREX system.

The guide is structured as follows:

- The Naming Conventions [Page 10] section contains information on special naming conventions for this guide.
- The Required Documentation [Page 11] section lists the documentation that you need for the upgrade.
- The Planning the Upgrade [Page 12] section the contains information that you need to plan the upgrade.
- The Upgrade of a Single Host System [Page 16] and Upgrade of a Distributed System [Page 30] sections describe the upgrade steps in detail.

- The Appendix [Page 37] contains information on how to start and stop TREX, how to start the TREX admin tool (stand-alone), and how to use the scripts for exporting and import of TREX indexes (*Data Backup (Online) and Restore*).

Constraints

- See Planning the Upgrade [Page 12] section for details and interdependencies between the old TREX 7.0 system and the new TREX 7.1 system to be upgraded to.
- You cannot switch to another operating system or to another host during the upgrade.
- This guide only describes the upgrade steps that affect TREX itself. There may also be steps necessary for the application that is using TREX. The relevant master guide provides an overview of the entire upgrade flow in the context of the application.

Naming Conventions

The following naming conventions are used in this documentation:

Terminology

Term	Meaning
Old TREX system	TREX 7.0 system
New TREX system	TREX 7.1 system
`<SAPSID>`	SAP system ID in uppercase letters
`<sapsid>`	SAP system ID in lowercase letters

Variables for the TREX System

The directory structure has not changed from TREX 7.0 to TREX 7.1. So the following variables for TREX user and directories apply both for the old TREX 7.0 system and the new TREX 7.1 system.

Variable	Meaning
User `<sapsid>adm`	Operating system user to administrate the new TREX system. With this user, you log on to start and stop TREX 7.0.
User `SAPService<SAPSID>`	Operating system user under which the TREX processes run. This user is created automatically during the installation.

`<TREX_DIR>`	Installation directory for the new system. The path to the directory is:
	• On Linux:
	`/usr/sap/<SAPSID>/TRX<instance_number>`
	• On Windows:
	`<disk_drive>:\usr\sap\<SAPSID>\TRX<instance_number>`

`<INDEX_DIR>`	Index directory for the new system. The path to the index directory is in the configuration file `<TREX_DIR>/sapprofile.ini`.

<TRACE_DIR>	Trace directory for the TREX system. This directory contains the trace files that the TREX components write. The directory is: • On Linux: /usr/sap/<SAPSID>/TRX<instance_number>/<TREX_host_name>/trace • On Windows: <disk_drive>:\usr\sap\<SAPSID>\TRX<instance_number>\<TREX_host_name>\trace
<SUPPORT_DIR>	Support directory for the new system. This directory contains the support files, such as Python scripts. The directory is: • On Linux: /usr/sap/<SAPSID>/TRX<instance_number>/exe/python_support • On Windows: <disk_drive>:\usr\sap\<SAPSID>\TRX<instance_number>\exe/python_support

Path Specifications

The forward slash (/) is used in path specifications such as <TREX_DIR_OLD>/sapprofile.ini. On Windows, you have to replace the forward slash with a backward slash (\) when you enter paths in command prompts.

Script Calls

Commands such as script calls are sometimes distributed over several lines in this documentation. When you execute them, enter them as one line.

Required Documentation

You require this guide and the following additional documentation for the upgrade:

- SAP Notes on the upgrade
- Master guide
- Master upgrade guide
- Installation guide for *SAP NetWeaver Search and Classification TREX 7.1 Single Host*
- If you are upgrading a distributed system, the installation guide *SAP NetWeaver Search and Classification TREX 7.1 Multiple Hosts.*

SAP Notes on the Upgrade

You must read the SAP Notes on installation before you begin the upgrade. The SAP Notes contain current upgrade information and corrections to the upgrade documentation.

Make sure that you use the current version of the SAP Notes. The SAP Notes can be found on *SAP Service Marketplace* at **`service.sap.com/notes`**.

Relevant SAP Notes

SAP Note Number	Title
1093900	Upgrade from TREX 7.0 to TREX 7.1
1021162	Update TREX 7.1: Central Note
1003900	TREX 7.1: Central note
965097	TREX 7.1 platforms

Master Guide

You also need the relevant master guide for the application that is using TREX. The master guide provides an overview of the entire upgrade process in the context of the application. The master guide also describes any additional steps that you need to carry out on the application side.

Installation Guides

- You need the installation guide *SAP NetWeaver Search and Classification TREX 7.1 Single Host* for installing a new TREX system. This guide is located in the *SAP Service Marketplace* at **`service.sap.com/instguides`** → *SAP NetWeaver* → *SAP NetWeaver 7.0 (2004s)* → *Installation* → *3 - Installation - Standalone Engines* → *SAP NetWeaver Search and Classification TREX* → *Installing and Updating TREX 7.1 Single Host.*
- If you upgrade a distributed system, you need the installation guide *SAP NetWeaver 2004s Search and Classification (TREX) Multiple Hosts*. This guide is located in the *SAP Service Marketplace* at **`service.sap.com/instguides`** → *SAP NetWeaver* → *SAP NetWeaver 7.0 (2004s)* → *Installation* → *3 - Installation - Standalone Engines* → *SAP NetWeaver Search and Classification TREX* → *Installing TREX 7.1 Multiple Hosts.*

Planning the Upgrade

Due to the differences in the supported operating systems between TREX 7.0 and TREX 7.1, an upgrade from TREX 7.0 to TREX 7.1 cannot be executed for all possible combinations of operating systems. Depending on the operating systems the old TREX 7.0 system has been installed on, one of the following scenarios applies:

Scenarios and Constraints for Upgrading TREX 7.0 to TREX 7.1

Scenario 1: Upgrade by Update (Windows only)

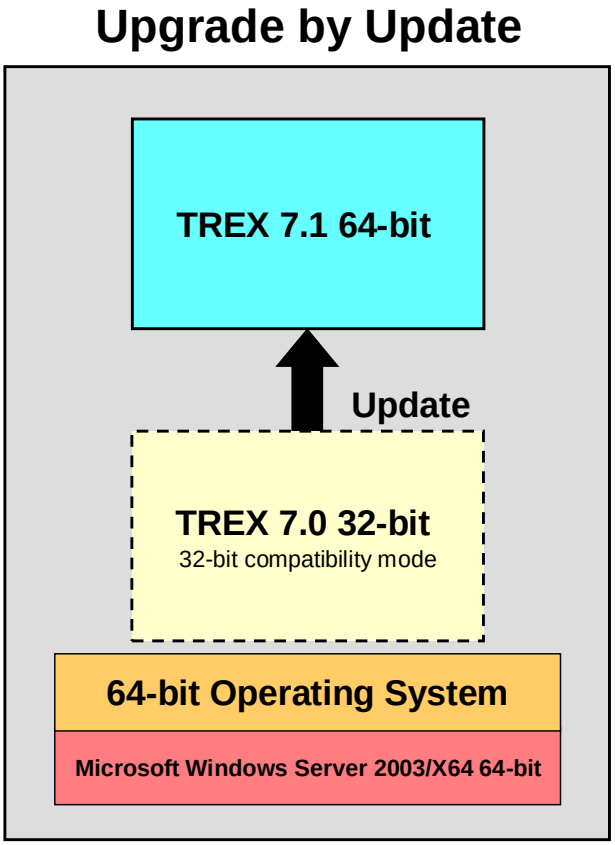
- You upgrade an existing TREX 7.0 32-bit system running in compatibility mode on a 64-bit operating system by updating the TREX 7.0 32-bit installation to a TREX 7.1 64-bit installation.
- You do this on the same host where the TREX 7.0 32-bit is installed.

  For more information, see Upgrade by Update (Single Host/Windows only) [Page 22].

Prerequisites

- You have installed TREX 7.0 32-bit on the following operating system:
  - Microsoft Windows Server 2003/X64 64-bit SP2
- TREX 7.0 32-bit running in compatibility mode is installed on a 64-bit operating system.

See the following graphic for an overview of the upgrade procedure and the prerequisites:



Scenario 2: Upgrade by Exporting and Importing TREX Indexes

You migrate the TREX indexes of the TREX 7.0 32-bit installation to a TREX 7.1 64-bit installation by exporting and importing the indexes using export/import scripts:

1. You install TREX 7.1 64-bit on a host that is different to the TREX 7.0 32-bit host and on one of the following operating systems:
   - Novell SLES9/ X86_64 64-bit
   - Novell SLES10/ X86_64 64-bit
   - Red Hat EL4/ X86_64 64-bit
   - Red Hat EL5/ X86_64 64-bit
   - Microsoft Windows Server 2003/X64 64-bit SP2
2. You export the indexes from the TREX 7.0 32-bit installation and import them to the TREX 7.1 64-bit system

   See Upgrade by Export and Import of Indexes (Single Host) [Page 26].

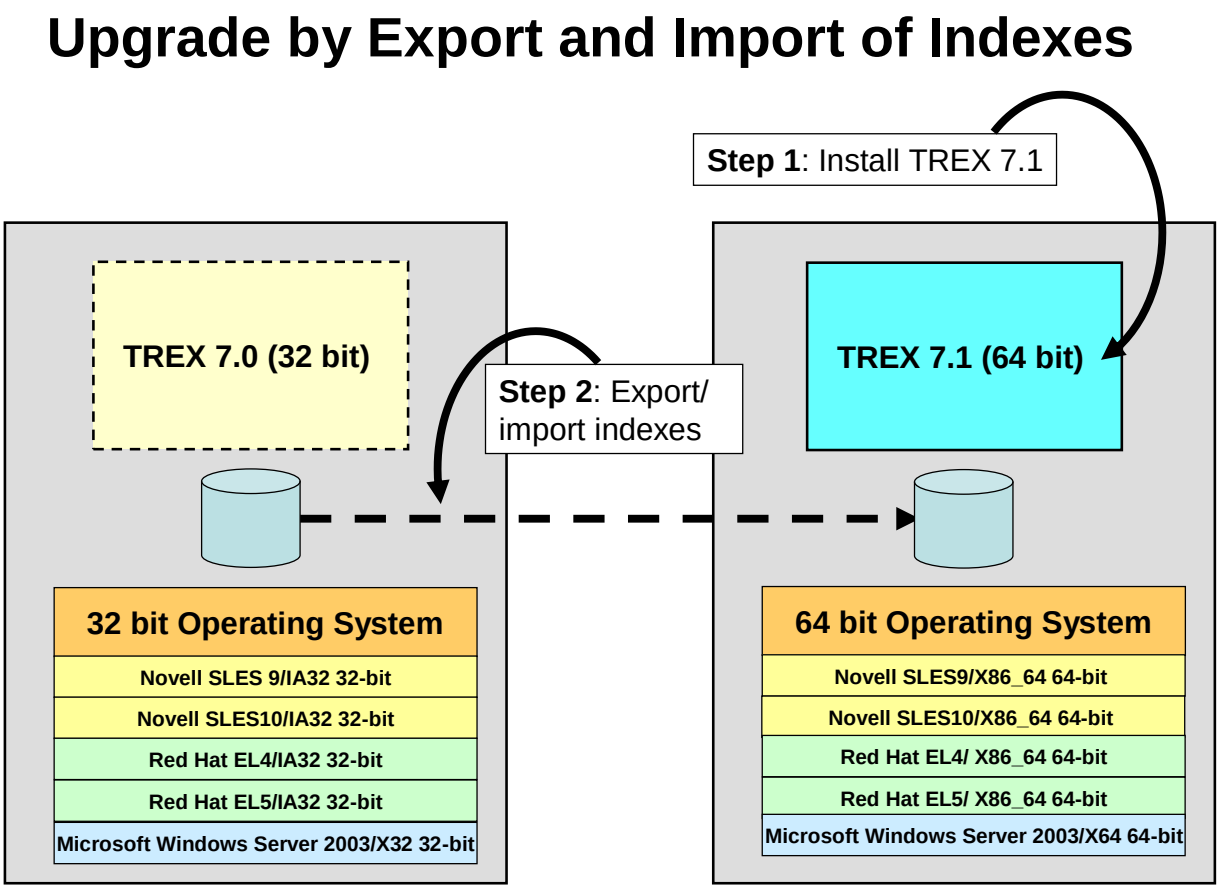
The upgrade procedure does not change the old TREX system. You install the new TREX system parallel to the old TREX system and transport the existing indexes and queues to the new system.

Note that only the TREX data, indexes, and queues are migrated from the old TREX 7.0 system to the new TREX 7.1 system, but not the overall configuration of the old TREX system.

Prerequisites

TREX 7.0 32-Bit	TREX 7.1 64-Bit
TREX 7.0 32-bit installed on a 32-bit OS	TREX 7.1 64-bit installed on a 64-bit OS
Novell SLES9/IA32 32-bit Novell SLES10/IA32 32-bit	Novell SLES9/ X86_64 64-bit Novell SLES10/ X86_64 64-bit
Red Hat EL4/ IA32 32-bit Red Hat EL5/ IA32 32-bit	Red Hat EL4/ X86_64 64-bit Red Hat EL5/ X86_64 64-bit
Microsoft Windows Server 2003/X32 32-bit	Microsoft Windows Server 2003/X64 64-bit SP2

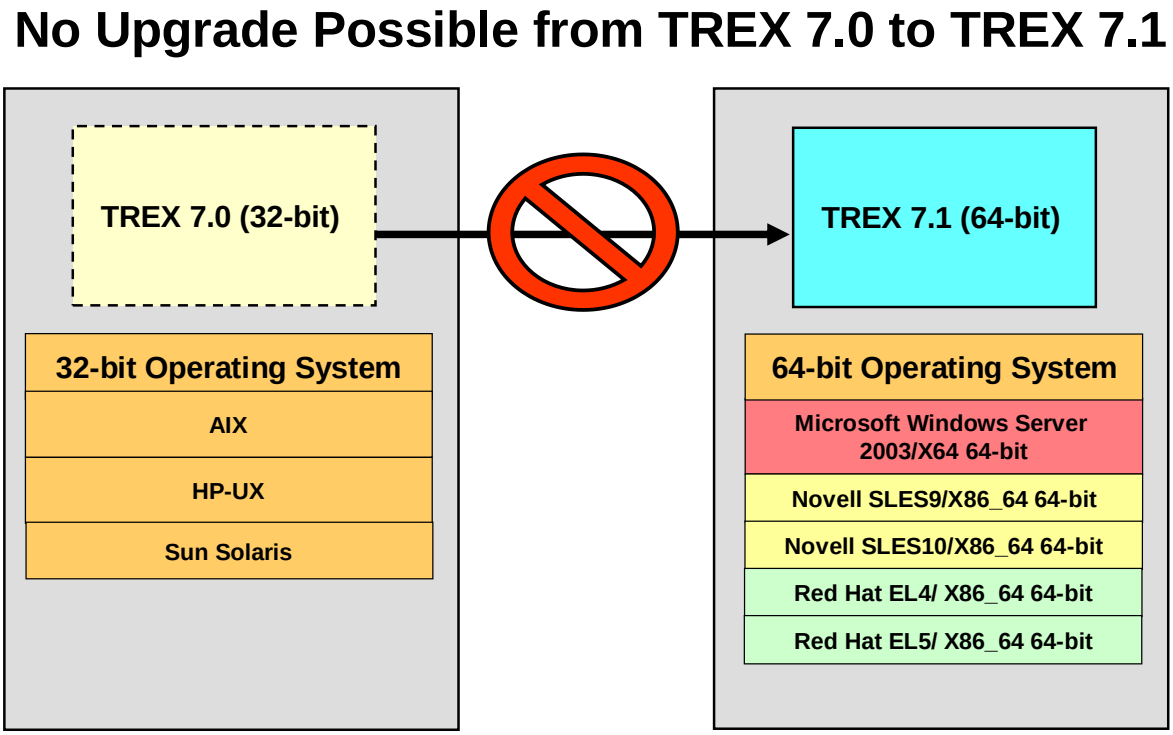
See the following graphic for an overview of upgrade procedure and prerequisites:



Constraints: No Upgrade Possible Because the Operating Systems Are No Longer Supported

For the following operating systems neither an upgrade by update nor an upgrade by export and import of indexes is possible since those operating systems supported by TREX 7.0 are no longer supported by TREX 7.1:

- AIX
- HP-UX
- Sun Solaris



Distributed System

A distributed system is upgraded similar to a single-host system.

For details, see Upgrade of a Distributed System [Page 30].

Limitations

Following limitations apply to the upgrade:

The Python extension directory (`<TREX_DIR>/exe/extensions/xtm`) is not exported from the old TREX system. If you use the topic maps in this directory, you have to enable and adjust the topic maps on the new TREX system manually. Refer to SAP Note 866498 for more information about *TREX 6.1/7.0: enable semantic/synonym search (topic maps)*.

Disk Space

You need the following for the transit time:

- Disk space for existing indexes and queues
- Disk space for exported indexes and queues

You determine the exact amount of disk space required when you install the new TREX system and check the upgrade prerequisites. For more information about disk space requirements for the new TREX system, see the installation guide *SAP NetWeaver Search and Classification TREX 7.1 Single Host*.

Time Schedule and Downtime

We recommend that you create a time schedule for the upgrade. You can use the checklists in this documentation as the basis for this. The checklists contain all upgrade steps and specify when the system is not available for production operations or is available with restrictions. You can use this information to choose a suitable time for the individual upgrade steps.

The duration of the upgrade depends on the size and number of indexes.

Upgrade of a Single-Host System

Checklist for the Upgrade (Single-Host)

Purpose

The upgrade consists of the following phases:

- Preparation
- Upgrade
- Activities after the upgrade

Use the tables below as checklists for the upgrade. The tables provide an overview of the steps included in each phase and the order in which you carry them out. It also shows when the old and new TREX systems are available for production operations.

Process Flow

Scenario 1: Upgrade by Update

You upgrade an existing TREX 7.0 system by updating it to a TREX 7.1 installation. You do this on the same host on which TREX 7.0 is installed.

Preparations for Upgrade

✔	Action
	Download software provisioning manager from SAP Service Marketplace. See Downloading Software Provisioning Manager [Page 18]
	Download TREX 7.1 from SAP Service Marketplace. See Downloading TREX [Page 19]

Upgrade

✔	Action
	Switching the Old TREX System to Read Access Only [Page 20]
	Upgrade by Update [Page 22]

Activities after the Upgrade

If you use the old TREX system for production operations after the upgrade and therefore allow write access, the data of the new TREX system is no longer consistent with the old TREX system and you have to repeat the upgrade.

✔	Action
	Check the status of the alert server for the new TREX system. The indicators must all show green.
	Taking an Old TREX System out of Operation [Page 29]
	Connecting an Application to the New TREX System [Page 36]

Scenario 2: Upgrade by Export and Import of Indexes

You migrate the TREX indexes by exporting and importing them by means of export/import scripts from the old TREX 7.0 system to the new TREX 7.1 system.

Preparations for Upgrade

✔	Action
	Download software provisioning manager from SAP Service Marketplace. See Downloading Software Provisioning Manager [Page 18]
	Download TREX 7.1 from the SAP Service Market Place. See Downloading TREX [Page 19]
	Install *TREX* 7.1 on a new host with an SAP system ID `<SAPSID>` that is different to the existing system. See Installing TREX 7.1 [Page 20]

Upgrade

✔	Action
	Switch the Old TREX System to Read Access Only [Page 20]
	Upgrade by Export and Import of Indexes [Page 26]

Activities after the Upgrade

If you use the old TREX system for productive operation after the upgrade and therefore allow write access, the data of the new TREX system is no longer consistent with the old TREX system and you have to repeat the upgrade.

✔	Action
	Check the export and import log files for error messages.
	Check the status of the alert server of the new TREX system. The indicators must all be green.
	Take the Old TREX System out of Operation [Page 29]
	Connect an Application to the New TREX System [Page 36]

	Leave the old TREX system installed until you are sure that the new TREX system is running properly and you no longer require the old TREX system. For more information about uninstalling a system, see the *Installation Guide for TREX 7.0.*

Preparations for the Upgrade

Purpose

The following sections describe the steps you have to carry out before you execute the upgrade.

Downloading Software Provisioning Manager

Use

This section describes how you make software provisioning manager 1.0 (“the installer” for short) available on the installation host.

Prerequisites

Make sure the latest version of the SAPCAR archiving tool is available on each installation host.

You require the SAPCAR archiving tool to be able to unpack software component archives (*.SAR files) which is the format of software life-cycle media and tools that you can download from the SAP software distribution center.

If required, you can download the latest version of SAPCAR from: http://service.sap.com/swdc → Support Packages and Patches → A – Z Index → S → SAPCAR.

For more information about SAPCAR, see SAP Note 212876

Procedure

1. Download the latest version of the software provisioning manager 1.0 archive `SWPM10SP<support package number>_<version number>.SAR` from: http://service.sap.com/swdc → *Support Packages and Patches* → *A – Z Index* → *SSL Toolset* → *SL Toolset <release>* → *Entry by Component* → *Software Provisioning Manager* → *Software Provisioning Manager 1.0<Operating System>*
2. Unpack the software provisioning manager archive to a local directory using the following command:
   `SAPCAR –xvf <download directory>/<path>/<Archive>.SAR -R <unpack directory>`

   Make sure that all users have read permissions for the directory where you want to unpack the installer.

Downloading the TREX Binaries

Use

You download the most current TREX version from SAP Service Marketplace.

You use SAPCAR to extract the downloaded TREX software archives.

Download TREX Software Package

1. Access the SAP Software Distribution Center on SAP Service Marketplace at http://service.sap.com/swdc
2. Navigate to *SAP Software Download Center → Download → Support Packages and Patches → Browse our Download Catalog → SAP NetWeaver and complementary products → SAP NetWeaver → SAP NetWeaver <Release> → Entry by Component → Search and Classif. (TREX) → TREX 7.10 → <operating_system> (Linux_on_X86_64_64bit/Windows Server_on_x64_64bit) → TREX71_<Revision>.SAR*
3. Download the TREX software package from the specified folder on SMP into a temporary folder on your host.

Unpack TREX Software Packages Using SAPCAR

1. Create a directory **<TREX_DOWNLOAD>** for the TREX software package.
2. Use SAPCAR to extract the downloaded TREX software archive `TREX71_<REVISION>.SAR`.

   SAPCAR is installed with each SAP Web AS in the kernel directory. If you do not have access to the currently installed SAPCAR tool, you can download the unpackaged version of the SAPCAR tool at http://service.sap.com/patches → *Entry by Application Group → Additional Components → SAPCAR*.

1. Go to the directory in which you have downloaded or copied the archive files:
   - Linux: **cd /<TREX_DOWNLOAD>**
   - Windows: **cd \<TREX_DOWNLOAD>**
2. Start SAPCAR to extract the archive to the current directory:
   - Linux: **<path to SAPCAR>/sapcar –xvf <file_name>.SAR**
   - Windows: **<path to SAPCAR.EXE>\sapcar.exe –xvf <file_name>.SAR**

     You can use the option `-R` to specify a specific target directory, for instance, `sapcar -xvf <SAR_file> -R <target_dir>`. Directories in the archive are created as subdirectories of the target directory to retain the directory structure of the archive.

Installing TREX 7.1

Procedure

Proceed as described in the installation guide *for SAP NetWeaver Search and Classification TREX 7.1 Single Host.* This guide is located on *SAP Service Marketplace* at **`service.sap.com/instguides`** → *SAP NetWeaver* → *SAP NetWeaver <Release>* → *Installation* → *3 - Installation - Standalone Engines* → *SAP NetWeaver Search and Classification TREX* → *Installing and Updating TREX 7.1 Single Host.*

Note that you only need to install TREX 7.1 for the scenario Upgrade by Export and Import of Indexes [Page 26]. You do not need to install TREX 7.1 for the scenario Upgrade by Update (Single Host/Windows Only) [Page 22].

Upgrade

Purpose

The sections below describe the steps you have to take to complete the upgrade.

Switching the Old TREX System to Read Access Only

Use

We strongly recommend that you switch the old TREX system to read access only before you start the upgrade. This prevents data inconsistencies. Read access only means that the old TREX system can only be used for searching but there is no write access, such as creating a new index.

You must prevent write access. Otherwise, data inconsistencies can occur and the upgrade might fail.

General Measures

The following actions are not permitted:

- Creating, deleting, and clearing indexes
- Synchronous changing of attributes
- Indexing
- Changing taxonomies

You cannot automatically prevent these operations on the TREX side, therefore you must prevent these operations on the application side.

The following actions are permitted:

- Searching
- Classification
- Searching for similar documents
- Searching for related terms
- Displaying keywords and content snippets
- Displaying HTML versions

Additional Measures on TREX Side

You use the TREX admin tool to carry out the steps described.

1. Start the TREX Admin Tool (see Starting the TREX Admin Tool [Page 45]).
2. Navigate to the *Queue* area → *Landscape* → Tab *Queue Info* and check the document status of the queue server entries. You have to wait until all documents have the status *Optimized.*
3. When all documents have been optimized, flush all queues (allow some time for this):

   Navigate to the *Queue* area → *Landscape,* select one or more queues to be flushed, open the context menu, and select *Flush Queue*.

Additional Measures on Knowledge Management Side

If you are using TREX with Knowledge Management, you have to carry out the following tasks:

1. Check that no crawler processes are running. You do this using the crawler monitor in KM.

   For more information about the crawler monitor, see:

   - SAP NetWeaver 7.0-based systems: **`help.sap.com/netweaver`** → *<Release>* → *Application Help* → *Function-Oriented View* → SAP *NetWeaver by Key Capability* → *Information Integration by Key Capability* → *Knowledge Management* → *Administration Guide* → *System Administration* → *Monitoring, Logging, and Tracing* → Crawler Monitor
   - SAP NetWeaver 7.3 and higher-based systems: **`help.sap.com/netweaver`** → *<Release>* → *Application Help* → *Function-Oriented View* → *SAP NetWeaver : Function Oriented View* → *Enterprise Portal* → *Knowledge Management* → *Administering the Knowledge Management System* → *System Administration* → *Monitoring, Logging, and Tracing* → Crawler Monitor

2. Shut down the *SAP NetWeaver Enterprise Portal* on which KM is running.

Upgrade by Update (Single Host/Windows Only)

Use

- You upgrade an existing TREX 7.0 32-bit system running in compatibility mode on a 64-bit operating system by updating the TREX 7.0 32-bit installation to a TREX 7.1 64-bit installation.
- You do this on the same host on which the TREX 7.0 32-bit is installed.

Prerequisites

- TREX 7.0 32-bit running in compatibility mode is installed on a 64-bit operating system.
- You have installed TREX 7.0 32-bit on the following operating system:
  - Microsoft Windows Server 2003/X64 64-bit SP2
- If you want to use software provisioning manager (“the installer” for short) instead of using the shell script, you have downloaded software provisioning manager [Page 18]
- You have downloaded a TREX 7.1 revision from SAP Service Marketplace at **`service.sap.com/swdc`** as described in Downloading the TREX Binaries [Page 19].

  The update software package of TREX is named TREX revision. The TREX revision numbers no longer follow the SP stacks.
- The password for the `<SAPSID>adm` user and for the `SAPService<SAPSID>` user must be the same for this upgrade procedure. You have to change the password of the `<SAPSID>adm` to the password of the `SAPService<SAPSID>` user before starting the upgrade. After finishing the upgrade you can change the password of the `<SAPSID>adm` user back.

Processing

You can now start the upgrade. You have the following options to perform the upgrade:

- Update using Software Provisioning Manager [Page 22]
- Update using the Shell Scripts [Page 25]

Update using Software Provisioning Manager

Useful Information about the Installer (on Windows)

- The installer creates the installation directory `sapinst_instdir`, where it keeps its log files.

- **On Windows,** it is created directly in the `%ProgramFiles%` directory. If the installer is not able to create `sapinst_instdir` there, it tries to create `sapinst_instdir` in the directory defined by the environment variable `TEMP`.

- The installer creates a subdirectory for each installation option.
  - **On Windows**, it is called `<sapinst_instdir>\<installation_option_directory>` and is located in `%ProgramFiles%`.

- The installer extracts itself to the temporary directory. These executables are deleted again after the installer has stopped running.

  Directories called `sapinst_exe.xxxxxx.xxxx` sometimes remain in the temporary directory. You can safely delete them.

  The temporary directory also contains the log file `dev_selfex.out` from the extraction process, which might be useful if an error occurs.

  If the installer cannot find a temporary directory, the installation terminates with the error `FCO-00058`.

- During the installation, the default port `21212` is used for communication between the installer GUI server and the installer GUI client. If this port is already in use, you see an error message.

  In this case or if you want the installer to use a specific port, open a command prompt and change to the required directory to which you unpacked the `SWPM10SP<support package number>_<version number>.SAR` file.

  Execute the sapinst executable with the following command line parameter:

  `GUISERVER_DIALOG_PORT=<port_number_gui_server_to_gui_client>`

- Proceed as follows to see a list of all available installer properties:
  - **Windows:** Go to the directory `%TEMP%\sapinst_exe.xxxxxx.xxxx` after you have started the installer, and enter the following command:

    ```
    sapinst.exe -p
    ```

- If you need to run the installer in accessibility mode, proceed as described in Running the Installer in Accessibility Mode [Page 41].

- If required, you can stop the installer by choosing *SAPinst* → *Cancel* in the installer GUI menu.

- If you need to terminate the installer, you can do this as follows:
  - **Windows:** By choosing *File* → *Exit* in the menu of the Program Starter window.

- If you want to install an SAP system in unattended mode, see SAP Note 950619.

Procedure

1. Log on to the host on which you want to apply the TREX update package as user `<SAPSID>adm`.

   Do not use the `<SAPSID>adm` user of another SAP system to update a TREX system.

Before starting the update, you have to close the TREX admin tool.

2. Start the installer by double-clicking `sapinst.exe` from the directory to which you unpacked the `SWPM10SP<support package number>_<version number>.SAR` file.

If you need to perform the installation in accessibility mode, open a command prompt, change to the directory to which you unpacked the `SWPM10SP<support package number>_<version number>.SAR` file, and execute `sapinst.exe -accessible`.

For more information, see Running the Installer in Accessibility Mode [Page 41]

The installer GUI normally starts automatically by displaying the *Welcome* screen.

When the installer starts, the *Welcome* screen appears:

Screen	Input
Welcome	In the folder hierarchy, choose *SAP NetWeaver <Release>* → *<Datase>* → *SAP Systems* → *Standalone Engines* → *Search and Classification (TREX)* → *Update - TREX system*
Media Browser	Provide the path to the TREX 7.1 binary files (the folder `tx_trex_content` from the downloaded TREX software package) (see also Downloading the TREX Binaries [Page 19])  During the TREX update, which you perform as the `root` user (UNIX) or as a user with administration rights (Windows), the operating system user `<SAPSID>adm` is created. For all operating systems, make sure that the user `<SAPSID>adm` has at least read-access to the folder with the TREX binary files. Otherwise, a Python error message can occur during installation. If the `<SAPSID>adm` user does not have at least read-access for the folder containing the TREX installation files, you can copy the files to your local hard-drive. To do this, specify in `CopyPackageTo` the path to the directory to which you want to copy the files from the TREX binary folder.
Update TREX System	*Update Parameter* • *System to update:* In the input field, the TREX systems you can choose for update are displayed. Choose the TREX system you intend to update. • *Restart TREX landscape after update:* You must activate this checkbox, so that the TREX system is restarted after completion of the update process. • *Password of SAP System Administrator:* Since the checkbox for restarting the TREX system is selected, you have to specify the password of the SAPService<SAPSID> user to perform the TREX restart operation. 

	Note that the password for the `SAPService<SAPSID>` user and for the `<SAPSID>adm` user must be the same.
	After the update finishes successfully, you can restart TREX using of the TREX admin tool if you have not chosen the option *Restart the TREX landscape after update*.  When you restart TREX, all TREX instances of a distributed TREX system landscape are updated automatically by replication of the updated binaries.

Update using the Shell Scripts

Procedure

1. Log on to your remote host as a user that is a member of the local `administrators` group.
2. Open a command prompt.

   You must run the command prompt as an administrator.
3. Navigate to the directory `<drive>:\<path to unpack directory>\tx_trex_content\TX_WINDOWS_X86_64`.

   This directory was created by unpacking the TREX software package using SAPCAR.
4. Call the `install.cmd` installation script (depending on your shell) as follows:

   `install.cmd --action=update --sid=<SAPSID> --password=<password for adm/service user> --type=DEFAULT`

   The installation procedure will take less than 15 minutes. You can find more information about using the installation script executing it with the **`--help`** parameter: **`install.cmd --help`**
5. After the installation has finished you need to start TREX:

   Open a command prompt and log on as `<sapsid>adm` user.

   - To start TREX, enter **`TREX start`**.
   - To stop TREX (if necessary), enter **`TREX stop`**.

Post installation steps (Windows only)

- In order that a TREX 7.0 32-bit system could use a MS Internet Information Server (IIS), the IIS must have been previously set to 32-bit mode (see SAP note 1008299 Configuring IIS on Windows 2003 64-Bit). You have to set the IIS back to 64-bit mode so the TREX 7.1 64-bit system can use it:

  a. Open a command prompt and navigate to the

     `%systemdrive%\InetPub\AdminScripts directory`

  b. Execute the following command:

```
cscript.exe adsutil.vbs set W3SVC/AppPools/Enable32BitAppOnWin64
False
```

c. Do an `iisreset`.

An Internet Information Server (IIS) can not be used both by a TREX 7.0 32-bit and a TREX 7.1 64-bit system since the IIS can not run in 32-bit and 64-bit mode at the same time. Hence TREX 7.0 and 7.1 can not concurrently be accessed by HTTP.

- In some cases, you may have to restart the Application Pool of the MS Internet Information Server. For Windows Server 2003, choose *Start* → *Administrative Tools* → *Internet Information Services (IIS) Manager* → *Application Pools* *AppPool_TREX_<number>* and restart the service.

Result

Your TREX 7.0 installation has been successfully updated and upgraded to a TREX 7.1 installation.

Upgrade by Export and Import of Indexes

Use

You migrate the TREX indexes of the TREX 7.0 32-bit installation to a TREX 7.1 64-bit installation by exporting and importing the TREX indexes using export/import scripts. You download and install a TREX 7.1 64-bit on a host that is different to the TREX 7.0 32-bit host. Then you export the indexes from the TREX 7.0 32-bit installation and import them to the TREX 7.1 64-bit installation.

Prerequisites

You have installed TREX 7.1 64-bit on a host that is different from the TREX 7.0 32-bit host and on one of the following operating systems:

- Novell SLES9/ X86_64 64-bit
- Novell SLES10/ X86_64 64-bit
- Red Hat EL4/ X86_64 64-bit
- Red Hat EL5/ X86_64 64-bit
- Microsoft Windows Server 2003/X64 64-bit SP2

For more information, see Preparations for the Upgrade [Page 18] → Downloading TREX [Page 19] and Installing TREX 7.1 [Page 20].

1. Export of Indexes from the old TREX 7.0 System

You export the indexes from the old TREX 7.0 system to a backup directory.

✔	Action
	Log on to the old TREX 7.0 system with user `<sapsid>adm`.
	Set the correct environment variables required by TREX and the Python scripts. • Windows

	Execute the following script: **`c: usr\sap\<SAPSID>\TRX<instance_number>\TREXSettings.bat`** or Ppen a test console by choosing Start → *Programs or All Programs* → *SAP TREX* → *Instance<Instance_number>* → *Test* → *TREX<instance_number> Console*  You have to use the test console when executing Python scripts to have the correct environment variables. • Linux Execute the following scripts. Bourne shell sh, Bourne-again shell bash, Korn shell ksh: **`. /usr/sap/<SAPSID>/TRX<instance_number>/TREXSettings.sh`** C shell csh: **`source usr/sap/<SAPSID>/TRX<instance_number>/TREXSettings.csh`**
	Establish a share from the newly installed TREX 7.1 system to the old TREX 7.0 system.
	You can find the scripts for exporting and importing TREX indexes in the following directory `/usr/sap/<SAPSID>/TRX<instance_number>/exe/python_support` of your TREX 7.0 installation.
	Start the export of the indexes on the old TREX 7.0 system as follows: **`python exportManager.py --indexId=<my_index_id> --exportPath=<path_to_backup_directory>`** You can specify that one or more indexes are to be backed up. As `<my_index_Id>`, you must specify the index name, for example, `first_index_name`. To specify two or more indexes to be saved, use the following syntax: `--indexId=index_1 --indexId=index_2` (and so on). If you want to back up all indexes, use the following syntax: `--indexId=*`  You can use the **`python exportManager.py --help`** command to display more information about the script. For more information about the export scripts for TREX, see Backing Up the Data (Online) [Page 47].
	The specified index, `<my_index_Id>`, was backed up in the directory that you specified in `--exportPath=<path_to_backup_directory>`. If you did not specify a value for the backup directory, the TREX indexes were backed up in the default backup directory, `/usr/sap/<SAPSID>/TRX<instance_number>/backup/index`.
	Check the log file in directory `<TRACE_DIR>`.  Only continue when the log file lists no errors. If there are errors, see the Troubleshooting [Page 30] section.

2. Import of Exported Indexes Into the Newly-Installed TREX 7.1 System

You import the exported indexes from the old TREX 7.0 system from the backup directory into the index directory of the newly-installed TREX 7.1 system.

	Log on to the newly-installed TREX 7.1 system with user `<sapsid>adm`.
	Check that the new TREX 7.1 host is running.
	Set the correct environment variables required by TREX and the Python scripts. • Windows Execute the following script: **`c: usr\sap\<SAPSID>\TRX<instance_number>\TREXSettings.bat`** or Open a test console by choosing Start → *Programs or All Programs* → *SAP TREX* → *Instance<Instance_number>* → *Test* → *TREX<instance_number> Console*  You have to use the test console when executing Python scripts to have the correct environment variables. • Linux Execute the following scripts. Bourne shell sh, Bourne-again shell bash, Korn shell ksh: **`. /usr/sap/<SAPSID>/TRX<instance_number>/TREXSettings.sh`** C shell csh: **`source usr/sap/<SAPSID>/TRX<instance_number>/TREXSettings.csh`**
	You can find the scripts for exporting and importing TREX indexes in the following directory `/usr/sap/<SAPSID>/TRX<instance_number>/exe/python_`support of your TREX 7.1 installation.
	Start the import of the indexes to the newly-installed TREX 7.1 system as follows: **`python importManager.py --indexId=<my_index_id> --importPath=<path_to_backup_directory>`** You can specify that one or more indexes are to be restored. As `<my_index_Id>`, you must specify the index name, for example, `first_index_name`. To specify two or more indexes to be restored, use the following syntax: `--indexId=index_1 --indexId=index_2` (and so on). If you want to restore all indexes, use the following syntax: `--indexId=*`  You can use the **`python importManager.py --help`** command to display more information about the script. For more information about the import scripts for TREX, see Restoring the Data [Page 49].
	Check the log file in directory `<TRACE_DIR>`. If there are errors, see the Troubleshooting [Page 30] section.

	Stop the new TREX system. See Starting and stopping TREX [Page 53].
	Start the new TREX system. See Starting and stopping TREX [Page 53]
	Perform the Activities After the Upgrade [Page 29].

In the case of a distributed TREX landscape, the script `importManager.py` runs the replication of the indexes automatically on all hosts in a TREX landscape.

Activities After the Upgrade

Purpose

The sections below describe the steps you have to take to complete the upgrade.

Taking an Old TREX System out of Operation

Procedure

1. When you have switched the old system over to read access, stop it.

   Certain processing steps, for example, writing an index, cannot be interrupted. These steps are completed before TREX is stopped. This process can take a while to complete. With large indexes, it can take up to a few hours to stop the TREX service if lots of documents are currently being indexed.

   To stop TREX, see Starting and stopping TREX [Page 53]

2. Make sure that the old TREX system does not start when the host is restarted:

Operating system	Procedure
Windows	Open the Windows *Services* window. Change the startup type of the service `SAP<SAPSID>_<trex_instance_number>`, for example `SAPB4X_34`, so that it is disabled.
Linux	Log on as root. Carry out the following steps: Remove the links to the TREX script. **`rm /etc/init.d/TREX_<trex_instance_number>`** **`rm /etc/rc.d/rc3.d/S90TREX_<trex_instance_number>`** **`rm /etc/rc.d/rc0.d/K10TREX_<trex_instance_number>`**  If the TREX script is started or stopped in a different run level or sequence, you have to modify the `rm` command accordingly.

Connecting an Application to the New TREX System

Use

You have to connect the application in question to the new TREX 7.1 system so that they can communicate with one another.

- In the case of an ABAP application, you have to change the RFC destination of the old system so that it now references the new system.
- In the case of a Java application, that communicates with TREX via HTTP, you have to specify the name server of the new TREX 7.1 system.

Procedure for ABAP Applications

To configure the RFC connection for the ABAP application using TREX, you have to do the following:

- Creating an SAP system user for the TREX admin tool (stand-alone) [Page 62]
- Determining the SAP system connection information [Page 63]
- Configuring the RFC connection in the TREX admin tool [Page 64]

Procedure for Java Applications

To configure the connection for the Java application using TREX, you have to do the following:

- Specifying the address of the TREX name server [Page 66]

Troubleshooting

Purpose

This section contains information on troubleshooting.

Log file of export script indicates “not enough disk space”

Exporting the indexes uses a lot of disk space. Clean up the disk or specify another target disk with enough disk space when starting the export script.

Other problems

If you cannot remove the errors, or if other errors occur, contact SAP Support. If an error occurred when you executed the export or import script, send the log file to SAP Support. The log file is located in directory `<TRACE_DIR>`.

Upgrade of a Distributed System

Purpose

A distributed system is upgraded in a similar way to a single-host system. As for the single host system there are two scenarios for upgrading a distributed TREX system:

- Upgrade by Update (Multiple Hosts/Windows only) [Page 31]

- Upgrade by Export and Import of Indexes (Multiple Hosts) [Page 35]

Upgrade by Update (Multiple Hosts/Windows Only)

Purpose

- You upgrade an existing TREX 7.0 32-bit system running in compatibility mode on a 64-bit operating system by updating the TREX 7.0 32-bit installation to a TREX 7.1 64-bit installation.
- You do this on the same hosts where the TREX 7.0 32-bit is installed.
- You first upgrade the TREX 7.0 central instance and secondly upgrade each TREX dialog instance of your distributed landscape.

Prerequisites

- TREX 7.0 32-bit running in compatibility mode is installed on a 64-bit operating system.
- You have installed TREX 7.0 32-bit on the following operating system:

  Microsoft Windows Server 2003/X64 64-bit SP2
- If you want to use software provisioning manager (“the installer” for short) instead of using the shell script, you have downloaded software provisioning manager [Page 18]
- You have downloaded a TREX 7.1 revision from SAP Service Marketplace at `service.sap.com/swdc` as described in Downloading TREX [Page 19].
- The password for the `<SAPSID>adm` user and for the `SAPService<SAPSID>` user must be the same for this upgrade procedure. You have to change the password of the `<SAPSID>adm` to the password of the `SAPService<SAPSID>` user before starting the upgrade. After finishing the upgrade you can change the password of the `<SAPSID>adm` user back.

Process Flow

1. Upgrade of TREX 7.0 Central Instance [Page 32]

   You have to execute the following steps to upgrade the TREX 7.0 central instance:

   a. Delete the TREX Web site.

   b. Set the Internet Information Server (IIS) to 64-bit mode.

   c. Execute the update of TREX central instance by the installer.

   d. Newly create the TREX Web site on the TREX central instance.
2. Upgrade of TREX 7.0 Dialog Instances [Page 34]

   You upgrade each TREX dialog instance of your distributed landscape. You do this by executing the following steps on each host on which a TREX dialog instance is installed:

   a. Delete the TREX Web sites on each TREX dialog instance.

   b. Set the Internet Information Server (IIS) to 64-bit mode.

   c. Execute the update of each TREX dialog instance by script.

d. Newly create TREX Web site on each dialog instance.

Upgrade of TREX 7.0 Central Instance

Use

You upgrade a distributed TREX system by upgrading the TREX 7.0 central instance first.

Procedure

1. Delete the TREX Web site and the related Application Pool.
   a. Log on as `<sapsid>adm` to the TREX host, on which the TREX central instance has been installed.
   b. Open the *Internet Information Services (IIS) Manager*.

      (Control Panel → *Administrativ Tools* → Internet Information Services (IIS) Manager)
   c. Navigate to the TREX Web Site: *<trex_host_name>* → *Web Sites* → *SAP_TREX <instance_number>*
   d. Delete the TREX Web Site by opening the secondary mouse button (right click) and choose *Delete*.
   e. Navigate to <trex_host_name> → Application Pools → *AppPool_SAP_TREX <instance_number>*
   f. Delete the Application Pool by opening the secondary mouse button (right click) and choose *Delete*.
2. Set Internet Information Server (IIS) to 64-bit mode

   In order that a TREX 7.0 32-bit system could use a MS Internet Information Server (IIS), the IIS must have been previously set to 32-bit mode (see SAP note 1008299 Configuring IIS on Windows 2003 64-Bit). You have to set the IIS back to 64-bit mode so the TREX 7.1 64-bit system can use it::
   a. Open a command prompt and navigate to the

      `%systemdrive%\InetPub\AdminScripts directory`
   b. Execute the following command:

      `cscript.exe adsutil.vbs set W3SVC/AppPools/Enable32BitAppOnWin64 False`
   c. Do an `iisreset`.

   An Internet Information Server (IIS) cannot be used both by a TREX 7.0 32-bit and a TREX 7.1 64-bit system since the IIS cannot run in 32-bit and 64-bit mode at the same time. Hence TREX 7.0 and 7.1 cannot concurrently be accessed by HTTP.

   In some cases, you may have to restart the Application Pool of the MS Internet Information Server. For Windows Server 2003, choose *Start* → *Administrative Tools* → *Internet Information Services (IIS) Manager* → *Application Pools AppPool_TREX_<number>* and restart the service.
3. Execute the update of the TREX central instances in one of the following ways:

Update using Software Provisioning Manager

Procedure

Proceed as described in Update using Software Provisioning Manager [Page 22] in Upgrade by Update (Single Host/Windows Only) [Page 25]

Update using the Shell Script

Procedure

1. Log on to your remote host as a user that is a member of the local `administrators` group.
2. Open a command prompt.

   You must run the command prompt as an administrator.
3. Navigate to the directory `<drive>:\<path to unpack directory>\tx_trex_content\TX_WINDOWS_X86_64`.

   This directory was created by unpacking the TREX software package using SAPCAR.
4. Call the `install.cmd` installation script (depending on your shell) as follows:

   `install.cmd --action=update --sid=<SAPSID> --password=<password for adm/service user> --type=DEFAULT`

   The installation procedure will take less than 15 minutes. You can find more information about using the installation script executing it with the **`--help`** parameter: **`install.cmd --help`**
5. After the installation has finished you need to start TREX:

   Open a command prompt and log on as `<sapsid>adm` user.

   - To start TREX, enter **`TREX start`**.
   - To stop TREX (if necessary), enter **`TREX stop`**.
6. Newly create the TREX Web site on the TREX central instance

   You create the TREX Web Site by means of the TREX admin tool (stand-alone)

   a. Start the TREX admin tool by double-clicking **`<TREX_DIR>\TREXAdmin.bat`** in a Windows Explorer.

   b. In the TREX admin tool (stand-alone) navigate to Landscape: Connectivity → *Http tab*

   c. Choose the button *Repair All* to create the TREX Web site and the related Application Pool newly.
7. Delete the old profiles in the SAP system directory `usr/sap/<SAPSID>/SYS/profile32_bak`. This directory has been created during the upgrade procedure for the TREX central instance.

Upgrade of TREX 7.0 Dialog Instances

Use

After upgrading the TREX central instance (see Upgrade of TREX 7.0 Central Instance [Page 32]), you upgrade the TREX 7.0 dialog instances of each host of your distributed landscape.

Procedure

1. Delete the TREX Web site and the related Application Pool on each host, on which a TREX dialog instance is installed.
   a. Log on as `<sapsid>adm` to the TREX host, on which the TREX dialog instance has been installed.
   b. Open the *Internet Information Services (IIS) Manager*.
      (Control Panel → *Administrativ Tools* → Internet Information Services (IIS) Manager)
   c. Navigate to the TREX Web Site: *<trex_host_name>* → *Web Sites* → *SAP_TREX <instance_number>*
   d. Delete the TREX Web Site by opening the secondary mouse button (right click) and choose *Delete*.
   e. Navigate to <trex_host_name> → Application Pools → *AppPool_SAP_TREX <instance_number>*
   f. Delete the Application Pool by opening the secondary mouse button (right click) and choose *Delete*.
2. Set Internet Information Server (IIS) to 64-bit mode.
   In order that a TREX 7.0 32-bit system could use a MS Internet Information Server (IIS), the IIS must have been previously set to 32-bit mode (see SAP note 1008299 Configuring IIS on Windows 2003 64-Bit). You have to set the IIS back to 64-bit mode so the TREX 7.1 64-bit system can use it::
   a. Open a command prompt and navigate to the
      `%systemdrive%\InetPub\AdminScripts directory`
   b. Execute the following command:
      `cscript.exe adsutil.vbs set W3SVC/AppPools/Enable32BitAppOnWin64 False`
   c. Do an `iisreset`.
   An Internet Information Server (IIS) cannot be used both by a TREX 7.0 32-bit and a TREX 7.1 64-bit system since the IIS cannot run in 32-bit and 64-bit mode at the same time. Hence TREX 7.0 and 7.1 cannot concurrently be accessed by HTTP.
   In some cases, you may have to restart the Application Pool of the MS Internet Information Server. For Windows Server 2003, choose *Start* → *Administrative Tools* → *Internet Information Services (IIS) Manager* → *Application Pools* *AppPool_TREX_<number>* and restart the service.
3. Execute the update of the TREX dialog instances by script.
   a. Log on to the host on which you want to update the TREX dialog instance as user `<SAPSID>adm`.
      
      Do not use the `<SAPSID>adm` user of another SAP system to update a TREX system.

b. Change to the directory **usr/sap/SYS/<SAPSID>/global/trex/install**

c. Execute the following command in a command prompt:

upgradeDi.cmd –password=<password_SAPService<SAPSID>_user>

Note that the password for the SAPService<SAPSID> user and for the <SAPSID>adm user must be the same.

4. Newly create the TREX Web site on the TREX central instance.

   You create the TREX Web Site by means of the TREX admin tool (stand-alone)

   a. Start the TREX admin tool by double-clicking **<TREX_DIR>\TREXAdmin.bat** in a Windows Explorer.

   b. In the TREX admin tool (stand-alone) navigate to Landscape: Connectivity → *Http tab*

   c. Choose the button *Repair All* to create the TREX Web site and the related Application Pool newly.

5. Delete the old profiles in the SAP system directory usr/sap/<SAPSID>/SYS/profile32_bak. This directory has been created during the upgrade procedure of the TREX dialog instance.

Upgrade by Export and Import of Indexes (Multiple Hosts)

Use

You can also use the scripts for export and import of indexes in a distributed TREX landscape.

Prerequisites

You have installed TREX 7.1 64-bit on a host that is different from the TREX 7.0 32-bit host and on one of the following operating systems:

- Novell SLES9/ X86_64 64-bit
- Novell SLES10/ X86_64 64-bit
- Red Hat EL4/ X86_64 64-bit
- Red Hat EL5/ X86_64 64-bit
- Microsoft Windows Server 2003/X64 64-bit SP2

For more information about TREX installation, see Installing TREX 7.1 [Page 20].

Process Flow

1. You back up the index on the TREX master index server.

   For details how to use the TREX export and import scripts, see Upgrade by Export and Import of Indexes [Page 26]

2. Following the import, you use the index replication to distribute the indexes backed up on the master index server to the slave index server.

For details, see Triggering the Index Replication [Page 36]

We recommend starting the backup on the host that the TREX master index server runs on. In this way, you can avoid overloading the network.

Triggering the Index Replication

Use

On the new TREX 7.1 system, you have to trigger the first index replication manually.

In the case of a distributed TREX landscape, the script `importManager.py` runs the replication of the indexes automatically on all hosts in a TREX landscape.

Procedure

1. Navigate to the area Index → Landscape in the TREX admin tool.
2. Carry out one of the following steps:
   - To replicate all indexes, open the context menu and choose *Replication → Replicate All Indexes.*
   - To replicate a single index, select the index in question and choose *Replicate selected Index* from the context menu.

Result

When the first replication takes place the system transmits the entire index to the slave servers. The duration of this process depends on the size and number of the indexes. You can configure the system to that it triggers index replication regularly. For more information, see the installation guide *SAP NetWeaver Search and Classification TREX 7.1 Multiple Hosts.* The guide is located on the SAP Service Marketplace at **`service.sap.com/instguides.`**

Connecting an Application to the New TREX System

Use

You have to connect the application in question to the new TREX 7.1 system so that they can communicate with one another.

- In the case of an ABAP application, you have to change the RFC destination of the old system so that it now references the new system.
- In the case of a Java application, that communicates with TREX via HTTP, you have to specify the name server of the new TREX 7.1 system.

Procedure for ABAP Applications

To configure the RFC connection for the ABAP application using TREX, you have to do the following:

- Creating an SAP system user for the TREX admin tool (stand-alone) [Page 62]
- Determining the SAP system connection information [Page 63]

- Configuring the RFC connection in the TREX admin tool [Page 64]

Procedure for Java Applications

To configure the connection for the Java application using TREX, you have to do the following:

- Specifying the address of the TREX name server [Page 66]

Additional Information

Additional Information on the Installer

Purpose

The following sections contain information on the installer:

- Starting the installer GUI separately
- Starting the installer on a remote host
- Interrupted installation
- Troubleshooting the installer
- Running the installer in accessibility mode

Performing a Remote Installation

Use

You use this procedure to install your SAP system on a remote host. In this case, the installer runs on the remote host, and the installer GUI runs on the local host. The local host is the host from which you control the installation with the installer GUI. The installer GUI connects using a secure SSL connection to the installer.

If your security policy requires that the person performing the installation by running the installer GUI on the local host is not allowed to know **`root`** credentials (UNIX) or **`administrator`** credentials (Windows) on the remote host, you can specify another operating system user for authentication purposes. You do this using the **`SAPINST_REMOTE_ACCESS_USER`** parameter when starting the sapinst executable from the command line. You have to confirm that the user is a trusted one. For more information, see SAP Note 1745524.

Alternatively you can use an X server for Microsoft Windows or other remote desktop tools for remote access to the installer GUI on Windows workstations. For more information, see SAP Note 1170809.

Prerequisites

- The remote host meets the prerequisites for starting the installer as described in Update using Software Provisioning Manager [Page 22]
- Both computers are in the same network and can “ping” each other.

To test this:

- Log on to your remote host and enter the command **`ping <local host>`**.
- Log on to the local host and enter the command **`ping <remote host>`**.

- Make sure that the sapinst executable on the remote host and the sapinstgui executable on the local host have exactly the same version. You can check this by using the option **`-sfxver`** as described in the procedure below and in the procedure in Starting the Installer GUI Separately [Page 39].
- If you need to specify another operating system user with the **`SAPINST_REMOTE_ACCESS_USER`** command line parameter, make sure that this user exists on the remote host.

Procedure on Windows

1. Log on to your remote host as a user that is a member of the local `administrators` group.
2. Check the version of the sapinst executable by opening a command prompt and executing the following command from the directory to which you unpacked the `SWPM10SP<support package number>_<version number>.SAR` file:
   `<drive>:\<path to unpack directory>\sapinst.exe -sfxver`
3. Start the installer by opening a command prompt and executing the following command from the directory to which you unpacked the `SWPM10SP<support package number>_<version number>.SAR` file:
   `<drive>:\<path to unpack directory>\sapinst.exe -nogui`

   The installer now starts and waits for the connection to the installer GUI. You see the following output at the command prompt:

   ```
   guiengine: no GUI connected; waiting for a connection on host
   <host_name>, port <port_number> to continue with the installation
   ```
4. Start the installer GUI on your local host, as described in Starting the Installer GUI Separately [Page 39].

Procedure on UNIX

1. Log on to your remote host as user `root`.

   Make sure that the root user has not set any environment variables for a different SAP system or database.
2. Check the version of the sapinst executable from the directory to which you unpacked the `SWPM10SP<support package number>_<version number>.SAR` file by executing the following command: **`/<path to unpack directory>/sapinst -sfxver`**
3. Start the installer from the directory to which you unpacked the `SWPM10SP<support package number>_<version number>.SAR` file by executing the following command: **`/<path to unpack directory>/sapinst -nogui`**

   The installer now starts and waits for the connection to the installer GUI. You see the following output at the command prompt:

   ```
   guiengine: no GUI connected; waiting for a connection on host
   <host_name>, port <port_number> to continue with the installation.
   ```
4. Start the installer GUI on your local host, as described in Starting the Installer GUI Separately [Page 39].

Starting the Installer GUI Separately

Use

You use this procedure to start the installer GUI separately. You need to start the installer GUI separately in the following cases:

- You closed the installer GUI using *File* → *Exit* from the installer menu while the installer is still running.
- You want to perform a remote installation, where the installer GUI runs on a different host from the installer. For more information, see Performing a Remote Installation [Page 37]
- You want to run the installer in accessibility mode. In this case, you have to start the installer GUI separately on a Windows host as described below with the additional command line parameter **`-accessible`**. For more information, see Running the Installer in Accessibility Mode [Page **Error! Bookmark not defined.**]

Prerequisites

- The host on which you want to start the installer GUI meets the prerequisites for starting the installer as described in Running the Installer [Page **Error! Bookmark not defined.**]
- Make sure that the sapinst executable on the remote host and the sapinstgui executable on the local host have exactly the same version. You can check this by using the option **`-sfxver`** as described in the procedure below and in the procedure in Performing a Remote Installation [Page 37]

Procedure

If you want to run the installer GUI on a remote host, it is mandatory to start the installer using the **`-nogui`** property. If you have already started the installer without the **`-nogui`** property and want to run the GUI on a different host, you have to exit the installation process by choosing *SAPinst* → *Cancel* and then follow the steps described in Interrupted Installation [Page 42]. Use the **`-nogui`** property to restart the installer and start the installer GUI on the intended host.

Starting the Installer GUI on Windows

1. Log on to your remote host as a user that is a member of the local `administrators` group.

   Do not use any `<sapsid>adm` user for installing TREX. This means, do not use the `<sapsid>adm` user of another SAP System and do not use the `<sapsid>adm` user of an already existing TREX installation for installing TREX.

2. Change to the directory to which you unpacked the `SWPM10SP<support package number>_<version number>.SAR` file.
3. Start the installer GUI by executing `<Drive>:\<path to unpack directory>\sapinstgui.exe` with the appropriate command line parameters:

If you want to start the installer GUI on a Windows operating system that is able to run 32-bit programs, you can use the **SWPM10SP<support package number>_<version number>.SAR** file for Windows I386.

- If you want to perform a remote installation, proceed as follows:
  1. Check the version of `sapinstgui.exe` by entering the following command:**sapinstgui.exe -sfxver**
  2. Start the installer GUI by entering the following command:**sapinstgui.exe -host <remote_host> -port <port_number_gui_server_to_gui_client>**

     – where **<remote_host>** is the name of the remote host, and **<port_number_gui_server_to_gui_client>** is the port the GUI server uses to communicate with the GUI client (21212 by default).
- If you closed the installer GUI using *File* → *Exit* and want to reconnect to the installer, proceed as follows:
  - If you are performing a local installation with the installer and the installer GUI running on the same host, execute the following command:**sapinstgui.exe -port <port_number_gui_server_to_gui_client>**

    – where **<port_number_gui_server_to_gui_client>** is the port the GUI server uses to communicate with the GUI client (21212 by default).
  - If you are performing a remote installation with the installer and the installer GUI running on different hosts, execute the following command:**sapinstgui.exe -host <remote_host> -port <port_number_gui_server_to_gui_client>**

    – where **<remote_host>** is the name of the remote host, and **<port_number_gui_server_to_gui_client>** is the port the GUI server uses to communicate with the GUI client (21212 by default).

The installer GUI starts and connects to the installer.

Starting the Installer GUI on UNIX

1. Log on as user `root`.

   Make sure that the root user has not set any environment variables for a different SAP system or database.
2. Start the installer by executing **/<path to unpack directory>/sapinstgui** with the appropriate command line parameters:

   If you want to start the installer GUI on a Linux 32-bit operating system, make the **SWPM10SP<support package number>_<version number>.SAR** file for Linux I386 available.

   - If you want to perform a remote installation, proceed as follows:
     1. Check the version of the sapinstgui executable by entering the following command:**./sapinstgui -sfxver**

        The version of the sapinstgui executable must be exactly the same as the version of the sapinst executable on the remote host (see also Performing a Remote Installation [Page 37]).

2. Start the installer GUI by entering the following command: `./sapinstgui -host <remote_host> -port <port_number_gui_server_to_gui_client>`

   – where **<remote_host>** is the name of the remote host, and **<port_number_gui_server_to_gui_client>** is the port the GUI server uses to communicate with the GUI client (21212 by default).

- If you closed the installer GUI using *File* → *Exit* and want to reconnect to the installer, proceed as follows:

  - If you are performing a local installation with the installer and the installer GUI running on the same host, execute the following command: `./sapinstgui -port <port_number_gui_server_to_gui_client>`

    – where **<port_number_gui_server_to_gui_client>** is the port the GUI server uses to communicate with the GUI client (21212 by default).

  - If you are performing a remote installation with the installer and the installer GUI running on different hosts, execute the following command: `./sapinstgui -host <remote_host> -port <port_number_gui_server_to_gui_client>`

    – where **<remote_host>** is the name of the remote host, and **<port_number_gui_server_to_gui_client>** is the port the GUI server uses to communicate with the GUI client (21212 by default).

The installer GUI starts and connects to the installer.

Running the Installer in Accessibility Mode

Use

You can also run the installer in accessibility mode. The following features are available:

- Keyboard access:

  This feature is generally available for all operating systems.

- High-contrast color:

  This feature is derived from the Windows display properties.
  Windows: You can use it either for a local installation or for a remote installation.
  UNIX: To enable this feature, perform a remote installation with the installer GUI running on a Windows host.

- Custom font setting:

  This feature is derived from the Windows display properties. You can use it either for a local installation or for a remote installation.

Procedure

Activating and Adjusting Accessibility Settings on Windows

You first have to activate and adjust the relevant settings for the font size and color schemes before you start the installer or the installer GUI.

The following procedure applies for Windows Server 2008 and might be different when using another Windows operating system.

1. Right click on your Windows desktop and choose Personalize.
2. Select Adjust font size (DPI) and choose Larger scale (120 DPI).
3. To define other font size schemes, choose Custom DPI.
4. In the right-hand pane, select Window Color and Appearance.
5. Select a color scheme from the Color scheme drop-down box.
6. To define your own color schemes, choose Advanced.

Running the Installer in Accessibility Mode on Windows

You can either perform a local installation, where the installer and the installer GUI are running on the same host, or a remote installation, where the installer and the installer GUI are running on different hosts

Local installation

Start the installer as described in Running the Installer on Windows [Page **Error! Bookmark not defined.**] by executing the following command:`sapinst.exe -accessible`

Remote installation:

1. Start the installer on the remote host by executing the following command from the command line as described in Starting the Installer on a Remote Host [Page 37].

   ```
   sapinst.exe -nogui
   ```

2. Start the installer GUI on the local host by executing the following command from the command line as described in Starting the Installer GUI Separately [Page 39].

   ```
   sapinstgui.exe -accessible -host <remote_host> -port
   <port_number_gui_server_to_gui_client>
   ```

Interrupted Installation

Use

The SAP system installation might be interrupted for one of the following reasons:

- An error occurred during the *Define Parameters* or *Execute* phase:

  The installer does not abort the installation in error situations. If an error occurs, the installation pauses and a dialog box appears. The dialog box contains a short description of the choices listed in the table below as well as a path to a log file that contains detailed information about the error.

- You interrupted the installation by choosing *Cancel* in the *SAPinst* menu.

  If you stop an option in the Execute phase, any system or component installed by this option is incomplete and not ready to be used. Any system or component uninstalled by this option is not completely uninstalled.

The following table describes the options in the dialog box:

Option	Meaning

Retry	The installer retries the installation from the point of failure without repeating any of the previous steps. This is possible because the installer records the installation progress in the `keydb.xml` file. We recommend that you view the entries in the log files, try to solve the problem, and then choose *Retry*. If the same or a different error occurs, the installer displays the same dialog box again.
Stop	The installer stops the installation, closing the dialog box, the installer GUI, and the installer GUI server. The installer records the installation progress in the `keydb.xml` file. Therefore, you can continue the installation from the point of failure without repeating any of the previous steps. See the procedure below.
Continue	The installer continues the installation from the current point.
View Log	Access installation log files.

UNIX only:

You can also terminate the installer by choosing Ctrl+C. However, we do not recommend this, because it kills the process immediately.

Procedure on Windows

1. Log on to your remote host as a user who is a member of the local `administrators` group.
2. Start the installer by double-clicking `sapinst.exe` from the directory to which you unpacked the `SWPM10SP<support package number>_<version number>.SAR` file
3. From the tree structure in the *Welcome* screen, select the installation service that you want to continue and choose *Next*.

   If there is only one component to install, the Welcome screen does not appear.

   The *What do you want to do?* screen appears.
4. In the *What do you want to do?* screen, decide between the following alternatives and choose *OK*.

Alternative	Behavior

Run a new option	The installer does not continue the interrupted installation option. Instead, it moves the content of the old installation directory and all installation-specific files to a backup directory. Afterwards, you can no longer continue the old installation option. For the backup directory, the following naming convention is used:`<log_day_month_year_hours_minutes_seconds>`.  `log_01_Oct_2008_13_47_56`  All actions taken by the installation before you stopped it (like creating directories, or users) will not be revoked.  The installer moves all the files and folders to a new log directory, even if these files and folders are owned by other users. If there are any processes currently running on these files and folders, they might no longer function properly.
Continue with the old option	The installer continues the interrupted installation from the point of failure.

Troubleshooting with the Installer

Use

This section tells you how to proceed when errors occur during the installation with the installer.

If an error occurs, the installer:

- Stops the installation.
- Displays a dialog informing you about the error.

Procedure

1. Check SAP Note 1548438 for known installer issues.
2. To view the log file, choose *View Logs*.
3. If an error occurs during the dialog or processing phase, do one of the following:
   - Try to solve the problem.
   - Stop the installation.

     For more information, see Interrupted Installation [Page 42].
   - Continue the installation by choosing *Retry*.
   - Check the log and trace files of the GUI server and the installer GUI in the directory **`%userprofile%\.sdtgui\`** (Windows) **`<user_home>/.sdtgui/`** (UNIX) for errors.

- If GUI server or the installer GUI do not start, check the file **sdtstart.err** in the current **<user_home>** (UNIX) **userprofile%** (Windows) directory for errors.
- If the installer GUI aborts during the installation without an error message, restart the installer GUI as described in Starting the Installer GUI Separately [Page 39].
- **Windows:** If you experience network connection problems, check IPv4 Host name resolution as described in SAP Note 1365796.
- If you cannot resolve the problem, create a customer message using component BC-INS.
- For more information about using subcomponents of BC-INS, see SAP Note 1669327.

Starting the TREX Admin Tool

Prerequisites

On UNIX: Since the TREX admin tool has a graphical interface, you need an X server. You cannot use a terminal program that only supports text mode, such as `telnet`.

Procedure

1. Log on with the user `<sapsid>adm`.
2. Carry out one of the following steps:

Operating system	Procedure
UNIX	Enter the following: **cd <TREX_DIR>** **./TREXAdmin.sh**
Windows	Start the TREX admin tool by double-clicking **<TREX_DIR>\TREXAdmin.bat** in Windows Explorer.

Data Backup (Online) and Restore

Use

You back up TREX indexes and queues online using Python scripts without stopping TREX and while the TREX search continues to be available. You then restore the saved data offline. This is the usual way to back up TREX data. It is a good idea to back up the TREX indexes if the original index creation process took a long time and you want to avoid having to reindex if the full-text information is lost. We also recommend that you back up your data if a large number of documents have been added to an index since the original indexing process.

Backup and restore of TREX during live operation is only possible under certain circumstances. It is absolutely necessary to observe these prerequisites,

because otherwise inconsistencies and corrupt indexes or queues occur, with subsequent data loss.

Prerequisites

- You require a Python version that is delivered and installed with the TREX installation.
- You require the following Python scripts for the backup:
  - `importManager.py`
  - `exportManager.py`

  These scripts are located in the `/usr/sap/<SAPSID>/TRX<instance_number>/exe/python_support` directory.
- We recommend that you make sure that no write accesses of the following types take place during the backup procedure:
  - Creation, deletion, or resetting
  - Changing attributes
  - Indexing
  - Changing taxonomies

  You cannot automatically suppress all write access to TREX from within TREX. You can only take administrative action (manual monitoring) to check that no write access of these types takes place.

  The application using TREX (for example, Knowledge Management in the Enterprise Portal) should also not carry out any TREX-related write operations. For example, you must check that no crawler process is running and that the KM repositories are set to `read only`. This restriction is to prevent data inconsistencies and data loss between TREX and the application using the TREX data.

  Data backup can only be carried out with active write access. Each index is backed up consistently on its own. If, from an application perspective, multiple indexes constitute a logical index, it is possible that these indexes might be saved with statuses that do not match.

Features

- The TREX search is available during the data backup procedure.
- The TREX search is not available during the restoration of the TREX data.
- You can also back up TREX queues.
- Only TREX indexes and queues and their configuration are backed up. The configuration of the TREX landscape is not backed up.
- During the import procedure, the system attempts to restore index distribution as it was in the system from which you exported the indexes.
- You can import indexes even if you have not exported them previously.
- You can make the directory from which you import the data into the index directory.
- During the backup, the system takes into account all documents with the statuses `preprocessing`, `to be indexed`, `indexing`, `to be optimized`, `optimizing`, and `optimized`. The system does not take into account all documents with the statues `failed` and `to be preprocessed`.

- You can also use the scripts in distributed TREX landscapes.
- Following the import, you can use index replication to distribute the indexes on the slaves. In the case of a distributed installation, you only need to back up the index on the TREX master index server.

  We recommend starting the backup on the host that the TREX master index server runs on. In this way, you can avoid overloading the network.

Activities

Use the `importManager.py` and `exportManager.py` Python scripts to carry out the following activities:

Data backup (online) [Page 47]

Data restore [Page 49]

Backing Up the Data (Online)

Procedure

1. Execute the following scripts to set the environment variables required by TREX and the Python scripts:
   - UNIX:

     Bourne shell `sh`, Bourne-again shell `bash`, Korn shell `ksh`:

     `. /usr/sap/<SAPSID>/TRX<instance_number>/TREXSettings.sh`

     C shell `csh`:

     `source /usr/sap/<SAPSID>/TRX<instance_number>/TREXSettings.csh`
   - Windows: **`c:\usr\sap\<SAPSID>\TRX<instance_number>\TREXSettings.bat`**
2. Navigate to the TREX directory that the Python script for exporting indexes (`exportManager61.py`) is located in: /`usr/sap/<SAPSID>/TRX<instance_number>/exe/python_support`.
3. Execute the Python script for exporting indexes with the following parameters:

   `python exportManager.py`

   `--indexId=<my_index_id>` (**mandatory**)

   `--excludeIndexId=<my_index_id>` (optional)

   `--exportPath=<path_to_backup_directory>` (optional)

   `--useQueueServer=<0|1>` (optional)

   `--force=<0|1>` (optional)

   `--verbose=<0|1>` (optional)

   `--testOnly=<0|1>` (optional)

   `--schemaOnly=<0|1>` (optional; only BIA)

Note that the `--schemaOnly=<0|1>` parameter is only significant for using the `importManager.py` and `exportManager.py` Python scripts for the data backup and restore of OLAP and join indexes in the BI Accelerator (BIA

Explanations for the exportManager.py Python Script

Command	Explanation
`--indexId=<my_index_Id>` (**mandatory**)	You can specify that one or more indexes are to be backed up. As **`<my_index_Id>`**, you must specify the index name, for example, **`first_index_name`**. To specify two or more indexes to be saved, use the following syntax: **`--indexId=index_1 --indexId=index_2`** (and so on). If you want to back up all indexes, use the following syntax: **`--indexId=*`**
`--excludeIndexId=<my_index_Id>` (optional)	You can specify that certain indexes are not to be backed up. If you enter the following, all indexes are backed up apart from **`index_1`** and **`index_2`**. **`--indexId=* --excludeIndexId=index_1 --excludeIndexId=index_2`**
`--exportPath=<path_to_backup_directory>` (optional)	You can use the **`exportPath`** parameter to define the directory for the backup indexes. If you do not specify this value, the system places the index in the default backup directory `/usr/sap/<SAPSID>/TRX<instance_number>/backup/index`. Note that you enter the path to the directory for the indexes to be backed up (**`<path_to_backup_directory>`**) without entering the directory name `\index`, because the `exportManager.py` Python script creates the `\index` subdirectory manually. The `--exportPath` parameter can contain the following special characters: • %SID: Is replaced by the SID of the current instance • %Y: Is replaced by the current year • %m: Is replaced by the current month • %d: Is replaced by the current day • %a: Is replaced by the current day of the week This means that a valid export path looks like this: **`--exportPath=/usr/sap/%SID/TRX00/backup/%Y%m%d`** This is useful if you want to schedule the export using a CRON mechanism.
`--useQueueServer=<0|1>` (optional)	• `0`: The queue is not backed up. The content of the queue is lost. • `1` (default): The queue is backed up. Content such as

	queue status is retained. Queues are saved in the `\queue` subdirectory of the export path.
`--force=<0|1>` (optional)	• `0` (default): If an index backup already exists, the system does not overwrite it. • `1`: The system overwrites an existing index backup.
`--verbose=<0|1>` (optional)	• `0`: The system only displays error messages and does not display any other information. • `1` (default): The system displays error messages and information on running processes.
`--testOnly=<0|1>` (optional)	• `0` (default): The system carries out the export. • `1`: The system simulates the export. No data is written. However, errors are displayed. This can be useful if you want to see whether or not an export is viable or which errors would occur if you carried out an export.
`--schemaOnly=<0|1>` (optional; only BIA)	This parameter only affects logical indexes such as join indexes and OLAP indexes when using TREX as the *BI Accelerator (BIA)* in BI. • `0` (default): The system always copies the complete index. • `1`: The system only exports the metadata for an index
`-- help`	You can use the `python exportManager.py --help` command to display more information about the script.

Result

The specified index, `<my_index_Id>` was backed up in the directory that you specified in `--exportPath=<path_to_backup_directory>`. If you did not specify a value for the backup directory, the TREX indexes were backed up in the default backup directory, `/usr/sap/<SAPSID>/TRX<instance_number>/backup/index`.

Restoring the Data

Prerequisites

Make sure that no old TREX files exist in the directory into which you want to import the TREX installation. If necessary, delete old files. At file-system level, check the `usr/sap/<SAPSID>/TRX<instance_number>/`**`index`** and `usr/sap/<SAPSID>/TRX<instance_number>/`**`queue`** directories to make sure that all entries really were deleted.

Procedure

1. Execute the following scripts to set the environment variables required by TREX and the Python scripts:
   - UNIX:

Bourne shell `sh`, Bourne-again shell `bash`, Korn shell `ksh`:

. /usr/sap/<SAPSID>/TREX_<instance_number>/TREXSettings.sh

C shell `csh`:

source usr/sap/<SAPSID>/TRX<instance_number>/TREXSettings.csh

- Windows: **c:**
  usr\sap\<SAPSID>\TRX<instance_number>\TREXSettings.bat

2. Navigate to the TREX directory that the Python script for importing indexes (`imxportManager.py`) is located in:
   `usr/sap/<SAPSID>/TRX<instance_number>/exe/python_support`.
3. Restore the backed up indexes by executing the Python script for importing indexes using the following parameters:

   python importManager.py

   --indexId=<my_index_id> (**mandatory**)

   --excludeIndexId=<my_index_id> (optional)

   --importPath=<path_to_backup_directory> (optional)

   --force=<0|1> (optional)

   --useQueueServer=<0|1> (optional)

   --verbose=<0|1> (optional)

   --ignoreExportErrors=<0|1> (optional)

   --testOnly=<0|1> (optional)

   --updateExport=<0|1> (optional)

   --directUse=<0|1> (optional)

   --topologyPath=<path_to_the topology> (optional)

   --importParts=<0|1> (optional; only BIA)

   --importSharedParts=<0|1> (optional; only BIA)

   --schemaOnly=<0|1> (optional; only BIA)

   Note that the `--importParts=<0|1>`, `--importSharedParts=<0|1>`, `--schemaOnly=<0|1>` parameters are only significant for using the `importManager.py` Python script for the data backup and restore of OLAP and join indexes in the BI Accelerator (BIA).

Explanations for the importManager.py Python script

Command	Explanation
--indexId=<my_index_id> (mandatory)	You can specify that one or more indexes are to be restored. As **<my_index_Id>**, you must specify the index name, for example, **first_index_name**. To specify two or more indexes to be restored, use the following syntax: **--indexId=index_1 --indexId=index_2** (and so on). If you want to restore all indexes, use the following syntax: **--indexId=***
--excludeIndexId=	You can specify that certain indexes are not to be imported.

<my_index_id> (optional)	To import all indexes apart from **index_1** and **index_2**, enter the following: **--indexId=* --excludeIndexId=index_1 --excludeIndexId=index_2**
--exportPath=<path_to_backup_directory> (optional)	Use the **--importPath** parameter to define the directory from which the indexes are to be imported. If you do not specify this value, the system imports the index from default backup directory /usr/sap/<SAPSID>/TRX<instance_number>/backup/index. Note that you must specify only the path itself without the directory name \index that the backed up index is located in as the path to the backup indexes **(<path_to_backup_directory>)**. The --importPath parameter can contain the following special characters: • %Y: Is replaced by the current year • %m: Is replaced by the current month • %d: Is replaced by the current day • %a: Is replaced by the current day of the week This means that a valid import path looks like the following: **--importPath=/usr/sap/<SAPSID>/TRX00/backup/%Y%m%d**
--force=<0|1> (optional)	• 0 (default): If the index to be imported already exists, the system issues an error message and the index is not overwritten. • 1: Existing indexes are overwritten before the import. The index in question is then imported.
--useQueueServer=<0|1> (optional)	• 0: The queue is not restored. • 1 (default): If they exist, queues belonging to the indexes are also restored.
--verbose=<0|1> (optional)	• 0: The system only displays error messages and does not display any other information. • 1 (default): The system displays error messages and information on running processes.
--ignoreExportErrors=<0|1> (optional)	Errors that occur during the export are logged in the exportStatus.log file. • 0 (default): If the exportStatus.log log file specifies that the export for an index terminated in an error, the index in question is not imported. • 1: The exportStatus.log file is not analyzed, and the system attempts to import the index regardless of errors in the export.
--testOnly=<0|1> (optional)	• 0 (default): The index is imported. • 1: All data is initialized and the system simulates an

	import without actually carrying it out.
--updateExport=<0|1|2> (optional)	To import and index, the system requires the two files called `saved_configuration.cfg` and `SnapshotFiles.lst`. These files are both generated during a normal export. However, if you want to import indexes that were not exported, these files are missing, and the import cannot take place. Use the `--updateExport` parameter to generate the two missing files. If the files are already available, they are overwritten. • `0`: The missing export files are not generated. • `1` (default): The missing export files are generated and the index is then imported.
--directUse=<0|1> (optional)	The indexes loaded to TREX are normally located in a normal index directory (such as `/usr/sap/<SAPSID>/TRX<instance_number>/index`) that is created when the indexes are generated. However, the indexes to be imported are located in an export directory after the export. When an import takes place, the indexes are copied from the export directory into the actual index directory. Use the **`--directUse`** parameter to suppress this copying operation if required. • `0` (default): During the import the index is copied to the normal index directory (such as `/usr/sap/<SAPSID>/TRX<instance_number>/index`). This is the standard scenario. • `1`: The indexes are not copied to the normal index directory during the import operation. Following an import with the **`--directUse=1`** parameter value, the export directory for the imported indexes therefore has the function of the normal index directory.
--topologyPath=<path_to_the topology> (optional)	This parameter is only taken into account if the **`--updateExport=1`** parameter is also set. As described above, if --**`updateExport=1`**, the system attempts to restore the two missing files `saved_configuration.cfg` and `SnapshotFiles.lst`. The `topology.ini` files can be used to generate the data required to generate these two files. If the `topology.ini` file is not available or is incomplete, default values are used for the missing files.
--replicateIndexAfterImport=<0|1> (optional)	• `0` (default): No action is carried out. • `1`: The imported indexes are replicated on the slaves.
-- help	You can use the commend **`python --importManager.py --help`** to display more information on the script.

In the case of a distributed TREX landscape, the script runs the replication of the indexes automatically on all hosts in a TREX landscape.

Result

The backed up indexes were restored in the TREX index directory.

Starting and stopping TREX

You use the following methods to start and stop TREX:

Windows

- TREX admin tool (standalone)
- The executable files startsap.exe and stopsap.exe
- The SAP Management Console

As of TREX 7.10, the SAP Management Console is a snap-in in the Microsoft Management Console (MMC) and is no longer part of the TREX installation. To start TREX with the SAP Management Console, you must have installed the console in your TREX system first.

UNIX

- TREX admin tool (standalone)
- The shell scripts startsap and stopsap

Starting and Stopping the TREX Web Server and Individual TREX Servers

When administrating TREX, you may need to stop (and then restart) the TREX Web server (Windows: IIS/UNIX: Apache) and individual TREX servers. The procedures differ depending on whether you are using Windows or UNIX.

Starting and Stopping TREX on Windows

Purpose

The following sections explain how to start and stop TREX on Windows:

On Windows, you can use the following methods to start and stop TREX:

- TREX admin tool (standalone)
- The executable files startsap.exe and stopsap.exe
- The SAP Management Console

As of TREX 7.10, the SAP Management Console is a snap-in in the Microsoft Management Console (MMC) and is no longer part of the TREX installation. To start TREX with the SAP Management Console, you must have installed the console in your TREX system first.

The executable files startsap.exe and stopsap.exe

You use the executable files **`startsap.exe`** and **`stopsap.exe`** to start and stop TREX. Following the installation of the TREX instance, these files are located in the `<TREX_DIR>\exe` directory and are executed from that directory.

The SAP Management Console

You use the SAP Management console, a snap-in in the Microsoft Management Console (MMC), to start and stop SAP systems and TREX instances. The snap-in consists of a root node of the SAP system, below which the various SAP systems and their TREX instances appear as subnodes. The system displays detailed information about the processes, the current status, and open alerts for the instances.

A newly-installed MMC allows you only to start a locally-installed SAP instance on the host that you are logged on to. If the MMC is configured for central system administration, you can start and stop the entire SAP system from a single host.

For more information about the SAP Management console and the snap-in for the MMC, see the online application help and the SAP Library in the *SAP Help Portal* at **help.sap.com** → *SAP NetWeaver* → .*Solution Lifecycle Management* → *Solution Monitoring* → *Monitoring in CCMS* → *Microsoft Management Console*

As part of the installation of the global file system, the SAP service for the corresponding TREX instance (SAP<sapsid>_TRX<instance_number>) is registered as a Windows service. The service is configured so that it starts automatically when the host is started up, and stops automatically when the host is shut down. You can start and stop the service manually if necessary. You can also start the TREX servers individually for test purposes or troubleshooting.

Prerequisites

During the installation of the global file system, a SAP Management console has been installed on your host machine.

Starting TREX

Starting TREX with the TREX Admin Tool

1. Log on with the user <sapsid>adm.
2. Start the TREX admin tool by double-clicking **<TREX_DIR>\TREXAdmin.bat** in Windows Explorer.
3. In the TREX admin tool, navigate to the *Landscape Services* area and then go to the *MMC* tab.
4. You can start TREX by clicking the *SAP System: Start* button or by selecting the TREX host, opening its context menu with the secondary mouse button, and selecting the relevant option. You can start *Selected Hosts* or *All Hosts* for a landscape.

Starting TREX with startsap.exe

5. Log on with the user <sapsid>adm.
6. In Windows Explorer, double-click the **<TREX_DIR>/TREXSettings.bat** batch file to set the environment variables correctly.
7. Go to the **<TREX_DIR>/exe** directory and enter the following:

   startsap.exe name=<SAPSID> nr=TRX<instance_number> SAPDIAHOST =<host>

In the SAPDIAHOST parameter, you specify the host name on which the TREX instance should be started.

```
startsap.exe name=ABC nr=TRX77 SAPDIAHOST =p123456
```

Starting TREX with the SAP Management Console

1. Log on with the user <sapsid>adm.
2. Launch the SAP Management console by double-clicking the program icon on your desktop or by choosing *Start* → *Programs* → *SAP Management Console*.
3. In the tree structure, choose the node for the central SAP instance <*SAPSID*> and navigate to the subnode for the TREX instance <*host*>_<*instance_number*> *(*for example, *p123456_77)*.
4. Use the secondary mouse button to access the context menu.
5. Choose *Start*.

Stopping TREX

Stopping TREX with the TREX Admin Tool

1. Log on with the user <sapsid>adm.
2. Start the TREX admin tool by double-clicking **<TREX_DIR>\TREXAdmin.bat** in Windows Explorer.
3. In the TREX admin tool, navigate to the *Landscape Services* area and then go to the *MMC* tab.
4. You can stop TREX by clicking the *SAP System: Stop* button or by selecting the TREX host, opening its context menu with the secondary mouse button, and selecting the relevant option. You can stop *Selected Hosts* or *All Hosts* for a landscape.

Using stopsap.exe to Stop TREX

5. Log on with the user <sapsid>adm.
6. In Windows Explorer, double-click the <TREX_DIR>/**TREXSettings.bat** batch file to set the environment variables correctly.
7. Go to the **<TREX_DIR>/exe** directory and enter the following:

   ```
   stopsap.exe name=<SAPSID> nr=TRX<instance_number> SAPDIAHOST =<host>
   ```

   In the SAPDIAHOST parameter, you specify the host name on which the TREX instance is to be stopped.

   ```
   stopsap.exe name=ABC nr=TRX77 SAPDIAHOST =p123456
   ```

   Do not use the Task Manager to stop the SAP service or the individual TREX servers. Otherwise, data can be lost. Affected indexes can be irreparably damaged.

Certain processing steps, for example, writing an index, cannot be interrupted. Such steps are completed before TREX is stopped. This process can take a while to complete. With large indexes, it can take up to a few hours to stop the TREX servers if lots of documents are currently being indexed.

Using the SAP Management Console to Stop TREX

1. Log on with the user `<sapsid>adm`.
2. Launch the SAP Management console by double-clicking the program icon on your desktop or by choosing *Start* → *Programs* → *SAP Management Console*.
3. In the tree structure, choose the node for the central SAP instance <*SAPSID*> and navigate to the subnode for the TREX instance <*host*>_<*instance_number*> (for example, *p123456_77)*.
4. Use the secondary mouse button to access the context menu.
5. Choose *Shutdown*.

The *Shutdown* command only stops the TREX processes once any running processes have been completed. Do not use the *Stop* command, as this command terminates the TREX processes immediately, which means that there is a risk of data loss.

Starting and Stopping Individual TREX Servers

Use

You can start individual TREX servers for test purposes and for troubleshooting. You can then track the program output on the screen.

Starting the TREX Servers

1. Stop TREX (see Stopping TREX [Page 55]).
2. Open a separate prompt for each TREX server.
3. Go to the TREX directory and start the TREX server.

TREX Server	Command
Index server	**`TREXIndexServer.exe`**
Name server	**`TREXNameServer.exe`**
Preprocessor	**`TREXPreprocessor.exe`**
Queue server	**`TREXQueueServer.exe`**
Only relevant for an RFC connection: RFC server	**`TREXRfcServer.exe -r`**

In the properties of the prompt, deactivate the *QuickEdit Mode* option.

Leave the prompt open. If you want, you can minimize the window so that it is shown as a pushbutton in the Windows task bar.

Stopping the TREX Servers

1. Display the window in which you started the TREX server.
2. Use `CTRL + C` or close the window.

Certain processing steps, for example, writing an index, cannot be interrupted. Such steps are completed before the TREX servers are stopped. This process can take a while to complete.

With large indexes, it can take up to a few hours to stop the TREX servers if lots of documents are currently being indexed.

Do not use the Task Manager to stop the TREX servers. Otherwise, data can be lost. Affected indexes can be irreparably damaged.

Starting the Web Server

Procedure

1. For Windows Server 2003, choose *Start* → *Administrative Tools* → *Services*.
2. Select *IIS Admin Service* and choose *Start* from the context menu.

If the World Wide Web Publishing Service does not run even though you have started it, try to start it using a prompt:

1. Open a prompt.
2. Execute the following command:

```
net start w3svc
```

Stopping the Web Server

Procedure

3. For Windows Server 2003, choose *Start* → *Administrative Tools* → *Services*.
4. Select *IIS Admin Service* and choose *Stop* from the context menu.

Starting and Stopping TREX on UNIX

Purpose

The following sections explain how to start and stop TREX on UNIX.

On UNIX, you use the **`startsap`** and **`stopsap`** shell scripts or the TREX admin tool (standalone) to start and stop TREX.

Starting TREX

Starting TREX with the TREX Admin Tool

On UNIX: Since the TREX admin tool has a graphical interface, you need an X server. You cannot use a terminal program that only supports text mode, such as telnet.

1. Log on with the user `<sapsid>adm`.
2. Start the TREX admin tool by entering the following:

   ```
   cd <TREX_DIR>
   ./TREXAdmin.sh
   ```

3. In the TREX admin tool, navigate to the *Landscape Services* area and then go to the *MMC* tab.
4. You can start TREX by clicking the *SAP System: Start* button or by selecting the TREX host, opening its context menu with the secondary mouse button, and selecting the relevant option. You can start *Selected Hosts* or *All Hosts* for a landscape.

Starting TREX with the Shell Script

1. Log on locally to the host on which the TREX instance is installed with the user `<sapsid>adm`.
2. Execute the **`startsap`** script in any directory:
   a. To start a single TREX instance, enter the following:

      ```
      startsap TRX<instance_number>
      ```

      In the parameter `TRX<instance_number>`, you specify which TREX instance is to be started.

   b. To start all SAP instances – including all TREX instances – on a host, enter the following:

      ```
      startsap
      ```

Stopping TREX

Stopping TREX with the TREX Admin Tool

On UNIX: Since the TREX admin tool has a graphical interface, you need an X server. You cannot use a terminal program that only supports text mode, such as telnet.

1. Log on with the user `<sapsid>adm`.
2. Start the TREX admin tool by entering the following:

   ```
   cd <TREX_DIR>
   ./TREXAdmin.sh
   ```

3. In the TREX admin tool, navigate to the *Landscape Services* area and then go to the *MMC* tab.

4. You can stop TREX by clicking the *SAP System: Stop* button or by selecting the TREX host, opening its context menu with the secondary mouse button, and selecting the relevant option. You can stop *Selected Hosts* or *All Hosts* for a landscape.

Stopping TREX with the stopsap Shell Script

1. Log on locally to the host on which the TREX instance is installed with the user `<sapsid>adm`.
2. Execute the **`stopsap`** script in any directory:
   a. To start a single TREX instance, enter the following:

      `stopsap TRX<instance_number>`

      In the parameter `TRX<instance_number>`, you specify which TREX instance is to be stopped.

   b. To stop all SAP instances – including all TREX instances – on a host, enter the following:

      `stopsap`

Starting and Stopping Individual TREX Servers

Use

You can start individual TREX servers for test purposes and for troubleshooting. You can then track the program output on the screen.

Starting the TREX Servers

1. Log on with the user `<sapsid>adm`.
2. Stop TREX (see Stopping TREX [Page 58]).
3. Go to the TREX directory.
4. Start each TREX server in a separate shell.

TREX Server	Command
Index server	**`TREXIndexServer.x`**
Name server	**`TREXNameServer.x`**
Preprocessor	**`TREXPreprocessor.x`**
Queue server	**`TREXQueueServer.x`**
Only relevant for an RFC connection: RFC server	**`TREXRfcServer.x -r`**

Stopping the TREX Servers

1. Display the window in which you started the TREX server.
2. Use `CTRL + C` or close the window.

Certain processing steps, for example, writing an index, cannot be interrupted. Such steps are completed before the TREX servers are stopped. This process can take a while to complete.

With large indexes, it can take up to a few hours to stop the TREX servers if lots of documents are currently being indexed.

Do not stop the TREX server using `kill -9`, as this can lead to data loss. Affected indexes can be irreparably damaged.

Starting and Stopping the Web Server

Use

You can start and stop the Apache Web server manually if necessary.

Prerequisites

The `apachectl` file has been replaced by the `apachectl-dist` file. You can use the `apachectl-dist` file to start and stop the Apache Web server. There are changes in the structure of the Apache Web server and as a result of these you must make the following changes to the `apachectl-dist` file:

```
#SERVERROOT=@@SERVERROOT
SERVERROOT=<TREX Path>
#PIDFILE=${SERVERROOT}/logs/httpd.pid
PIDFILE=${SERVERROOT}/<trex_hostname>/Apache/logs/httpd.pid
#
# the path to your httpd binary, including options if necessary
#HTTPD="${SERVERROOT}/bin/httpd -d ${SERVERROOT} -R ${SERVERROOT}/libexe
HTTPD="${SERVERROOT}/exe/Apache/bin/httpd -d ${SERVERROOT}/<hostname>/
Apache -R ${SERVERROOT}/<trex_hostname>/Apache/libexec"
```

```
#SERVERROOT=@@SERVERROOT

SERVERROOT=/usr/sap/TRX/TRX00

#PIDFILE=${SERVERROOT}/logs/httpd.pid

PIDFILE=${SERVERROOT}/mytrex/Apache/logs/httpd.pid

#

# the path to your httpd binary, including options if necessary

#HTTPD="${SERVERROOT}/bin/httpd -d ${SERVERROOT} -R
${SERVERROOT}/libexe

HTTPD="${SERVERROOT}/exe/Apache/bin/httpd -d
${SERVERROOT}/mytrex/

Apache -R ${SERVERROOT}/mytrex/Apache/libexec"
```

Starting the Web Server

1. Log on with `<SAPSID>adm`.
2. Execute the following commands:

   ```
   cd <TREX_DIR>/Apache

   apachectl-dist start
   ```

Stopping the Web Server

1. Log on with `<SAPSID>adm`.
2. Execute the following commands:

```
cd <TREX_DIR>/Apache
apachectl-dist stop
```

Connecting TREX with an Application

Procedure

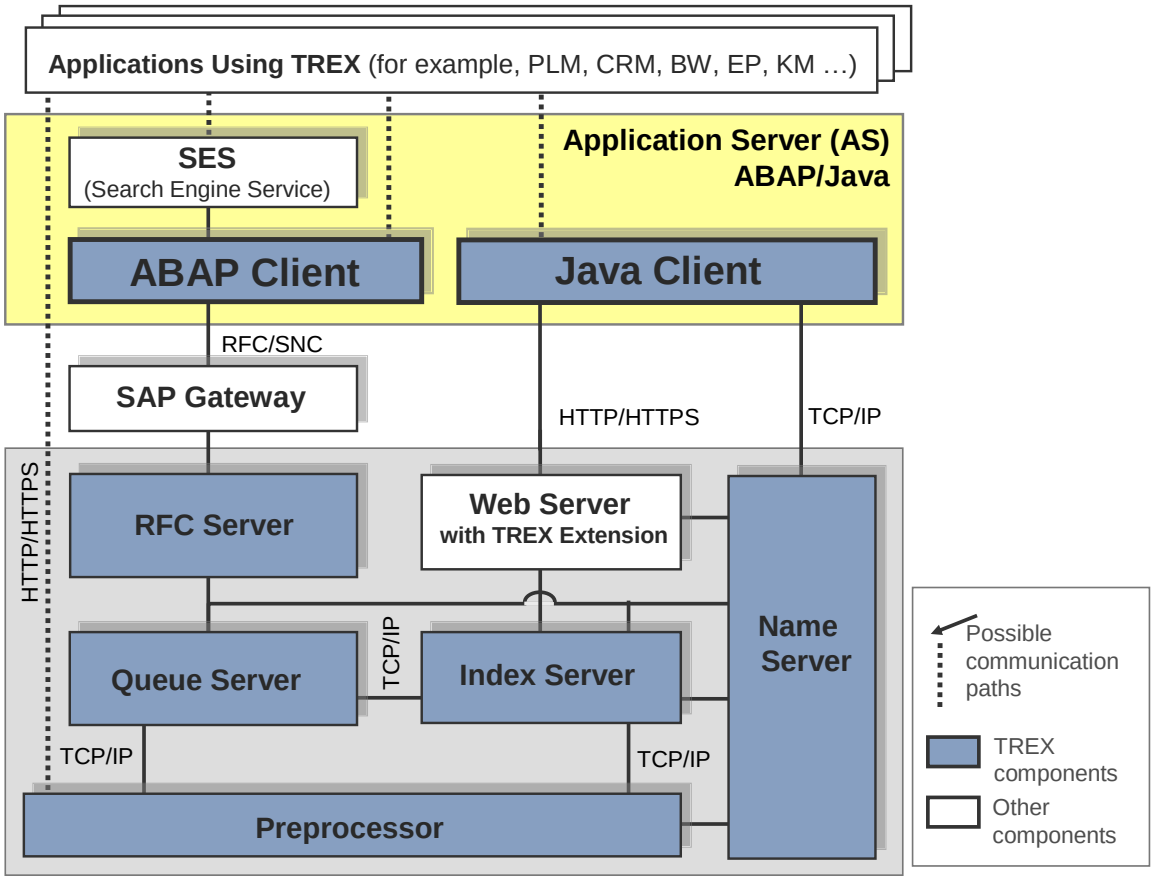
TREX can communicate with the application using it by means of an HTTP connection or an RFC connection:

- An ABAP application accesses TREX by means of an ABAP client (RFC connection)

  As a rule, ABAP applications communicate with the TREX servers by means of the TREX ABAP client using the RFC/SNC protocol. Communication takes place using an instance of the SAP Gateway and an RFC server.

- A Java application accesses TREX by means of a Java client (HTTP connection)

  As a rule, Java applications communicate with the TREX servers by means of the TREX Java client using the HTTP or HTTPS protocol. This communication takes place using a Web server that is enhanced with TREX-specific functions.



There are therefore two procedures for connecting TREX with the application using it:

Connecting TREX with an ABAP Application (RFC Connection)

As a rule, ABAP applications communicate with the TREX servers by means of the TREX ABAP client using the RFC/SNC protocol. Communication takes place using an instance of the SAP Gateway and an RFC server. You configure the RFC connection using the TREX admin tool (stand-alone).

Creating a SAP System User for the TREX Admin Tool (Stand-Alone)

Use

You must create an SAP user that the TREX admin tool (stand-alone) can use to log on to the SAP system. In addition, the SAP user is required so that the TREX alert server has permission to regularly test and check the RFC configuration. When doing this, the user can have been created in the default client or in another client. In this case, make sure that you enter the associated client for the user during the configuration of the RFC connection in the TREX admin tool [Page 64].

The TREX admin tool (stand-alone) is used to configure and monitor TREX. You also use this admin tool to configure the RFC connection between TREX and the ABAP application that is using TREX. To use the TREX admin tool (stand-alone) to create the RFC destination, the admin tool requires an SAP system user that you create based on the predefined role `SAP_BC_TREX_ADMIN`. This user then has the authorization required to configure the RFC connection.

For more information about the `SAP_BC_TREX_ADMIN` role, see SAP Note 766516.

Overview of the Permissions Assigned by the `SAP_BC_TREX_ADMIN` Role

Type and Scope of the Permission	Activity	Explanation
Permission check for RFC access	Execute	Name of the RFC object to be protected: `SYST`, `TREX_ARW_ADMINISTRATION`
Administration for the RFC destination	Add or generate, change, display, delete, extended maintenance	Type of entry in `RFCDES`: Start of an external program using TCP/IP
Check on the transaction code at transaction launch		Transaction code: `SM59`, `TREXADMIN`, `TREXADMIN_AUTH`
Administrating TREX	Change, display, execute	
ABAP: Program run checks	Schedule programs for background processing, execute ABAP program,	

	maintain variants for and execute ABAP program	
ALV standard layout	Maintain	
Application log	Display, delete	

More Information

Configuring the RFC Connection in the TREX Admin Tool [Page 64]

Procedure

Create an SAP system user for the TREX admin tool (stand-alone) and assign the `SAP_BC_TREX_ADMIN` role to this user.

3. Launch transaction `SU01` (user maintenance) or choose *Administration* → *System Administration* → *User Maintenance* → *User* in the SAP menu. The *User Maintenance: Initial Screen* appears.
4. Enter a new user name and choose *Create*.
5. On the *Address* tab page, enter the personal data for the user.
6. On the *Roles* tab page, assign the `SAP_BC_TREX_ADMIN` role and thus the permission to access the SAP system to the SAP system user for the TREX admin tool (stand-alone).

Result

This user for the TREX admin tool (stand-alone) now has the authorization required to configure the RFC connection.

Determining the SAP System Connection Information

Use

The TREX admin tool (stand-alone) can connect to an SAP system in two ways.

- Through a specific application server of the SAP system (variant A)
- Through the message server of the SAP system (variant B)

  This variant uses the load-balancing function for the SAP system. The message server assigns the request from the TREX admin tool to any application server.

Depending on the variant used, the TREX admin tool requires different connection information for the SAP system. You must determine the connection information and specify it later in the TREX admin tool.

SAP recommends using variant B. Variant A has the disadvantage that the connection does not work if the application server is not available.

Procedure

1. Open the SAP Logon.

   SAP Logon is the program that you use to log on to an SAP system.

2. Note the following connection information:

Connection Setup Type	Required Connection Information
Through an application server (variant A)	• SAP system ID (SID) • System number • Application server host name
Through the message server (variant B)	• SAP system ID (SID) • Logon group, such as `PUBLIC` • Message server host name

Configuring the RFC Connection in the TREX Admin Tool

Use

You work through the steps below using the TREX admin tool (stand-alone).

Configuration of the RFC connection with the TREX admin tool (stand-alone) is only available as of SAP Basis Component SAP_BASIS 6.20 SP58, 6.40 SP16, and 7.0 SP6. If you are using TREX with an SAP system based on an earlier support package, you have to configure the RFC connection manually as described in the SAP NetWeaver 04 Installation Guide for Search and Classification (TREX) 6.1. You can find this guide on the SAP Service Marketplace at **`service.sap.com/instguides`** → *SAP NetWeaver* → *Released 04* → *Installation* → *Cross-NW* → *Installation Guide Search and Classification TREX 6.1.*

Creating a Connection

1. On the *RFC: Current* tab page in the *Landscape: Connectivity* window, choose the *Create Connection* function.
2. Choose connection type A or B. Specify the connection data for the SAP system (see Determining the SAP System Connection Information [Page 63]).
3. Specify the SAP system user, the associated password, and the client that the TREX admin tool is to use to log on (see Creating a SAP System User for the TREX Admin Tool (Stand-Alone) [Page 62]).

If the SAP system user in question exists in the default client, you do not need to specify the client.

Creating an RFC Destination

1. To do this, use the *Create: RFC Destination (SM59)* function on the *RFC: Current* tab page in the *Landscape: Connectivity* window.

2. Enter the following parameters:

Field	Entry
SAP System	SAP system that you want to set up the connection to. The list contains all SAP systems that you have registered using *Create Connection*.
RFC Destination	Name of the RFC destination.
Description	Meaningful description of the purpose

The program ID determines under which name the TREX RFC server registers with the SAP gateway. The program ID must be unique for each SAP gateway. The TREX admin tool ensures this by generating the program ID.

3. Decide which SAP gateway you want to use. You have the following options:

Option	Comment
Gateway local (Default setting)	Use local SAP gateways for the application servers.
Gateway central	Use the central SAP gateway.  We advise against using a central SAP gateway for distributed TREX systems. The central SAP gateway is a “single point of failure.” If you choose this option, enter the following additional parameters: • Host name (with domain name if necessary) or the IP address of the host on which the gateway is installed. • Name of the SAP gateway in the form **`sapgw<instance_number>`**

We advise against creating the RFC destination directly in the SAP system. The name of the RFC destination and the program ID must satisfy certain naming conventions. The TREX admin tool ensures that these are fulfilled.

If you nevertheless create the RFC destination directly in the SAP system, note the following:

- We recommend starting the name of the RFC destination with **`TREX_`**.
- Choose the activation type *Registered Server Program*.
- Choose a program ID that is unique for the SAP gateway used.
- Use the *RFC Destinations* function to register the RFC destination in the TREX admin tool.

Completing the RFC Configuration

1. On the *RFC: Current* tab page in the *Landscape: Connectivity* window, choose the *Connect Admin Tool* function.

   The TREX admin tool creates the connection to all SAP systems that are known to it. Because the RFC configuration is still incomplete, the configuration status is yellow or red.

2. Choose *Repair All*.

   The TREX admin tool completes the RFC configuration and starts the TREX RFC server.

   This can take several minutes. During this time, the configuration status remains yellow or red. After completion of the configuration process, the status changes to green.

   Do not choose *Repair All* several times in quick succession. This would trigger the configuration process more than once and delay it.

3. Check the progress by choosing *Refresh* to update the display.

Connecting TREX with a Java Application (HTTP Connection)

As a rule, Java applications communicate with the TREX servers by means of the TREX Java client using the HTTP or HTTPS protocol. This communication takes place using a Web server that is enhanced with TREX-specific functions. The TREX Java client needs to know the address of the TREX name server in order to communicate with the TREX servers. You specify the address of the TREX name server, and, in the case of a distributed TREX installation, of the TREX backup name server, in the SAP NetWeaver Administrator.

Specifying the Address of the TREX Name Server

Use

TREX provides APIs (Application Programming Interfaces) for the languages Java and ABAP, which allow access to all TREX functions. The Java interface (TREX Java client) is part of the SAP Web AS Java as *TREX service*. The TREX Java client needs to know the address of the TREX name server in order to communicate with the TREX servers.

The following procedure describes how you determine the TREX name server address and how you specify it in the *SAP NetWeaver Administrator*.

The TREX Java client communicates with the TREX server by HTTP and TCP/IP. Make sure that the TCP port that the name server uses is open.

Procedure

You have to specify the address of the TREX name server in the *SAP NetWeaver Administrator* by naming the following values
`<host_name_of_trex_host>:<name_server_port>`:

- `<host_name_of_trex_host>:` name of the host on which TREX is installed and where the TREX name server runs.
- `<name_server_port>:` port of the TREX name server

1. You can determine the TREX name server address in two ways:
   a. Start the TREX admin tool (see Starting the TREX Admin Tool [Page 45]) and determine the address of the name server using *Landscape* → *Tree* → *topology* → *globals* → *all_masters*.

      For example: `mytrexhost:34801`
   b. Determine the port of the TREX name server by means of the following rule:
      `<name_server_port>: 3<instance_number>01`

      The value `<instance_number>` signifies the TREX instance number which had been specified during the TREX installation:

      Installation directory for TREX

      - On UNIX `/usr/sap/<sapsid>/trx<instance_number>`
      - On Windows
        `<disk_drive>:\usr\sap\<SAPSID>\TRX<instance_number>`

      The value for `<host_name_of_trex_host>` you know from the host where TREX is installed (`mytrexhost`).
2. Use the user `<j2eeadm>` to log onto the host on which the Application Server Java is running.
3. Start the *SAP NetWeaver Administrator* and log on to the AS Java .
4. Navigate to *Configuration Management* → *Infrastructure Management* → *Java System Properties.*
5. In the new screen go to the tabulator *Services* in the screen area *Details* and type in **`trex.service`** to filter the available services.
6. In the *Extended Details* area under the tabulator *Properties* enter the address of the TREX name server into the parameter `nameserver.address`:

   `tcpip://<host_name_of_trex_host>:<name_server_port>`

   You enter only the host name or the host name and the domain depending on your network environment.

   `tcpip://mytrexhost:34801` or `tcpip://mytrexhost.mydomain:34801`

   The address of the TREX name server must be configured for all server processes of the cluster. Otherwise the connection between the AS Java and TREX cannot be established.

7. In case of a multiple host scenario for a distributed TREX landscape you enter the addresses of the TREX backup name servers in the parameter `nameserver.backuplist`. Specify the address of the TREX backup name servers, separated by comma in the format:
`tcpip://<host1>:<port1>,tcpip://<host1>:<port1>,` …

   For a TREX single-host installation you do not need to specify backup name servers.

8. Save your changes and confirm the restart of the service.