Upgrade Guide

Upgrade from TREX 6.1 to SAP NetWeaver TREX 7.0

Target Audience

– **System administrators**
– **Technology consultants**

Document Version 1.5 – January 16, 2008

SAP®

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 TREX 6.1 to SAP NetWeaver 2004s TREX (TREX 7.0)

Purpose

The architecture, configuration files and index structure have changed considerably with SAP NetWeaver 2004s TREX.

This guide describes how you upgrade a TREX single host system and distributed systems, of version 6.1 to SAP NetWeaver 2004s TREX. It is aimed at technology consultants.

In this document we refer to TREX 6.1 as the old TREX system and SAP NetWeaver 2004s TREX as the new TREX system.

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, queues and configuration files to the new system.

The guide is structured as follows:

- The section Naming Conventions [Page 5] contains information on special naming conventions for this guide.

- The section Required Documentation [Page 10] lists the documentation that you need for the upgrade.

- The section Planning the Upgrade [Page 8] contains information that you need to plan the upgrade.

- The sections Upgrade of a Single Host System [Page 10] and Upgrade of a Distributed System [Page 23] describe the upgrade steps in detail.

- The appendix [Page 27] contains information on how to start and stop the TREX daemon in the new system and how to start the Python administration tool

Constraints

- You currently have TREX version 6.1 SR1 (SP9) or a higher TREX 6.1 version.

- 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 valid for this documentation:

Terminology

Term	Meaning
Old TREX system	TREX 6.1 system.
New TREX system	SAP NetWeaver 2004s TREX 7.0 system.
`<SAPSID>`	SAP System ID in uppercase letters
`<sapsid>`	SAP System ID in lowercase letters

Variables for old system

Variable	Meaning
User `<trex_instance_number_old>`	Operating system user that you have on the old TREX system. If you follow the recommendations of the installation guide, the user name is `trex_<instance_number>`

`<TREX_DIR_OLD>`	Installation directory for the old system. The path to the directory is:
	
	• On UNIX:
	
	  `/usr/sap/trex_<instance_number>`
	
	• On Windows:
	
	  `<disk_drive>:\usr\sap\trex_<instance_number>`

`<INDEX_DIR_OLD>`	Index directory for the old system. The path to the index directory is in the configuration file `<TREX_DIR_OLD>/sapprofile.ini`.

`<TRACE_DIR_OLD>`	Trace directory for the old system. This directory contains the trace files that the TREX components write.
	
	The directory is normally:
	
	• On UNIX:
	
	  `/usr/sap/trex_<instance_number>/trace`
	
	• On Windows:
	
	  `<disk_drive>:\usr\sap\trex_<instance_number>\trace`

`<HOME_TREXUSR_OLD>`	Home directory of the user `<trex_instance_number>`.

Variables for new system

Variable	Meaning
User `<sapsid>adm`	Operating system user to administrate the new TREX system. With this user you log in 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 UNIX:
	 `/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 new system. This directory contains the trace files that the TREX components write.
	 The directory is normally:
	
	 • On UNIX:
	 `/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, like Python scripts.
	 The directory is normally:
	
	 • On UNIX:
	 `/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 usually 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.

Planning the Upgrade

Purpose

Note the following information on planning the upgrade:

Hosts

The new TREX system must be installed on a host identical to the old host and must have the same operating system. The following table shows which operating systems can be upgraded and which can not be upgraded:

TREX SP6.1 SP15 or higher	TREX 7.0 SP10/SR2 or higher
Microsoft Windows 2000 Microsoft Windows 2000 Advanced Server	N/A
Microsoft Windows Server 2003 32 bit (US English version)	Microsoft Windows Server 2003 32 bit (US English version)
N/A	Microsoft Windows Server 2003 64 bit (US English version)
AIX 5.2 and 5.3 64 bit	AIX 5.2 and 5.3 64 bit
HP-UX 11.10 64 bit with patches: PHCO_27740 PHNE_28089 PHSS_26560 PHSS_26946	N/A
HP-UX 11i (11.11) 64 bit with patches: PHCO_27740 PHNE_28089 PHSS_26560 PHSS_26946	HP-UX 11.i (11.11) 64 bit with patch PHSS_32573
HP-UX 11.23 for PA-RISC	HP-UX 11.23 for PA-RISC with patch PHSS_31855
Red Hat AS 2.1 32 bit	N/A
Red Hat EL 3 and 4 32 bit	N/A
Red Hat EL 4 64 bit	Red Hat EL 4 64 bit
SUSE Linux SLES-8 32 bit	SUSE Linux SLES-8 32 bit
SUSE Linux SLES 9 32 bit	N/A
SUSE Linux SLES 9 64 bit	SUSE Linux SLES 9 64 bit
Sun Solaris 8 64 bit	N/A
Sun Solaris 9 64 bit	Sun Solaris 9 64 bit
Sun Solaris 10 64 bit	Sun Solaris 10 64 bit

For a distributed system the number of master name servers with master index server role, must be identical too. Shares have to be established to get from the old TREX system to the new TREX system.

Distributed System

A distributed system is upgraded similar to a single host system. Every master name server with a master index server role has to be upgraded separately.

⚠

Never upgrade a master name server with a slave index role!

Once the master name servers with master and backup index servers are upgraded, you have to define the roles of the different servers and start the replication to the slave servers.

To make sure that the structure is maintained after the upgrade, the configuration of the landscape must be done after the upgrade.

Limitations

Following limitations apply to the upgrade:

- The content of the queues will not be exported from the old TREX system. Before starting the upgrade you have to empty the queue content by flushing the queues to make consistent export of the queues possible.

- The Python extension directory (`<TREX_DIR_OLD>/extensions/xtm`) will not be 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. Please refer to SAP Note 866498 for details about *TREX 6.1/7.0: enable semantic/synonym search (topic maps)*.

- The configuration of the proxy settings and the language settings of the old TREX system are exported to the new TREX system.

  ⚠

  Proxy and language settings which you had defined during the installation of the new TREX system will be overwritten.

Disk Space

You need the following for the transit time:

- Disk space for existing indexes and queues

- Disk space for exported indexes and queues

  Because the internal structure of the text-mining index has changed, the upgraded indexes actually require more disk space. A upgraded text-mining index requires 1.5 times as much disk space as it did previously.

  You determine the exact amount of disk space required when you install the new TREX system and check the upgrade prerequisites.

For more information on disk space requirements for the new TREX system, see the installation guide *SAP NetWeaver 2004s Search and Classification (TREX) 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 productive operation 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 the indexes.

Required Documentation

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

- SAP Notes on the upagrade

- Master guide

- Installation guide for *SAP NetWeaver 2004s Search and Classification (TREX) Single Host*

- If you are upgrading a distributed system, the installation guide *SAP NetWeaver 2004s Search and Classification (TREX) 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 in the *SAP Service Marketplace* at **service.sap.com/notes**.

Relevant SAP Notes

SAP Note Number	Title
865265	Upgrade from TREX 6.1 to TREX 7.0
843360	Installing TREX 7.0

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 2004s Search and Classification (TREX) Single Host* for installing the new TREX system. This guide is located in the *SAP Service Marketplace* at **service.sap.com/instguidesNW04s** → *Installation*.

- 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/instguidesNW04s** → *Installation*.

Upgrade of a Single Host System

The upgrade procedure ensures a short downtime of the old TREX system. The upgrade procedure does not change the old TREX system so you can continue to use the old TREX system if problems occur during the upgrade.

> ⚠️
>
> It is strongly recommended to install the new TREX system on a new host which is comparable to the old TREX system and has the same operating system. However, if you decide to install the new TREX system on the same host as the old TREX system it has to meet the following requirements:

- 3.5 times of the currently used disk space has to be available as free disk space.

- When you install the new TREX system you have to use a different `<sapsid>` as the old TREX system.

See Planning the Upgrade [Page 8] for details about the supported operating systems.

Checklist for the Upgrade

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 which steps are 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 productive operation.

Process Flow

New TREX System Installed on Separate System (Recommended)

Preparations for Upgrade

✔	Action	Available for Productive Operation	
		Old TREX System	**New TREX System**
	Install *SAP NetWeaver 2004s TREX* on the new system	✔	-
	Make sure that the new TREX system has been started at least once with all servers before it is reconfigured in the next phase.	✔	-
	Refer to General Information on the Upgrade Script [Page 14]s for details about the upgrade script.	✔	-

Upgrade

✔	Action	Available for Productive Operation	
		Old TREX System	**New TREX System**
	Switching the old TREX system to read access only [Page 15].	(✔)*	-
	Executing the Upgrade [Page 16].	(✔)*	-

(✔)* The old TREX system is available for searching if you set it to read access only.

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 will no longer be consistent with the old TREX system and you have to repeat the upgrade.

✔	Action	Available for Productive Operation	
		Old TREX System	New TREX System
	Check the import log file for error messages.	(✔)*	-
	Check the status of the alert server of the new TREX system. The indicators must all show green.	(✔)*	-
	Taking an old TREX system out of operation [Page 20].	-	-
	Connecting an application to the new TREX system [Page 21].	-	✔
	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 information on uninstalling a system, see the *Installation Guide for TREX 6.1*.	-	✔

(✔)* The old TREX system is available for searching if you set it to read access only.

New TREX System Installed on Existing System

Preparations for Upgrade

✔	Action	Available for Productive Operation	
		Old TREX System	New TREX System
	Install, but do **not** start, *SAP NetWeaver 2004s TREX* on the system with `<sapsid>` different than existing system.	✔	-
	Refer to General Information on the Upgrade Script [Page 14]s for details about the upgrade script.	✔	-

Upgrade

✔	Action	Available for Productive Operation	
		Old TREX System	New TREX System
	Switching the old TREX system to read access only [Page 15].	(✔)*	-
	Executing the Upgrade [Page 16].	(✔)*	-

(✔)* The old TREX system is available for searching if you set it to read access only.

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 will no longer be consistent with the old TREX system and you have to repeat the upgrade.

✔	Action	Available for Productive Operation	
		Old TREX System	New TREX System
	Check the import log file for error messages.	(✔)*	-
	Check the status of the alert server of the new TREX system. The indicators must all show green.	(✔)*	-
	Connecting an application to the new TREX system [Page 21].	-	✔
	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 information on uninstalling a system, see the *Installation Guide for TREX 6.1*.	-	✔
	Prevent old TREX system from restart. See Taking an old TREX system out of operation [Page 20] – Paragraph Procedure – # 2.	-	✔

(✔)* The old TREX system is available for searching if you set it to read access only.

Preparations for the Upgrade

Purpose

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

Installing TREX 7.0

Use

Note the following when installing the new TREX system:

- Only relevant for an installation with an RFC connection:

  Do not change the existing RFC destinations. Create new RFC destinations for the new system. You can use the new RFC destinations for testing the upgrade. When the upgrade is complete you can change the existing RFC destinations so that they point to the new system.

Procedure

Proceed as described in the installation guide for *SAP NetWeaver 2004s Search and Classification (TREX) Single Host*.

Result

When the new system has been installed, the scripts that you need for the upgrade are available.

General Information on the Upgrade Scripts

The upgrade scripts are Python scripts and are in the `<SUPPORT_DIR>` of the TREX 7.0 system. For the upgrade you need the following scripts:

- `exportHost_61_70.py <param1> <param2>`

  This script is executed on the old system. It exports the data into a specified ZIP file. If the amount of data exceeds the limits of a ZIP file, additional ZIP files are created (multi volume ZIP). In this case the file name is extended by `_<n>` - where `<n>` is a consecutive number, starting at 1.

  The script generates a log file in the same directory as the ZIP file.

  ⚠️

  You have to copy this script manually from the new system to your old system before you execute it.

- `importHost_61_70.py <param1> <param2>`

  This script is executed on the new system. It imports the data from the specified ZIP file.

  The script generates a log file in the same directory as the ZIP file.

Call parameters – all parameters are mandatory

Parameter	Description
`<param1>`	Full qualified file name of ZIP file. For example: `/export/server1.zip`
`<param2>`	Working directory for the script. If the directory does not exist, it will be created by the script. For example: `/temp`

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 precludes data inconsistencies. Read access only means that the old TREX system can only being used for searching but no write access, like creating a new index, is possible.

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

General Measures

The following actions are not permitted:

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

You cannot automatically prevent these operations on TREX side 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 When the Queue Server is Used

Use the TREX administration tool to carry out the steps described. You find documentation about the TREX administration tool at:

help.sap.com/nw04 → *English* → *SAP NetWeaver* → *Information Integration* → *Knowledge Management* → *Administration Guide* → *Technical Operations in Detail* → *TREX Admin Tools* → *TREX Admin Tool (Standalone)* → *Queue Area*

Then choose the path given below.

You have to carry out the following tasks:

- Check status of queue server entries. See → *Monitoring Queues* for details.

  You have to wait until all entries have the status *synchronized.*

- When all entries have status *synchronized*, flush all queues (allow some time for this operation).

  See → *Triggering the Processing of a Queue* for details.

Additional Measures on Content-Management Side

Then choose the path given below.

If you are using TREX with Content Management (CM) you have to carry out the following tasks:

- Check that no crawler process is running. You find documentation about the crawler monitor at:

  help.sap.com/nw04 → *English* → *SAP NetWeaver* → *Information Integration* → *Knowledge Management* → *Administration Guide* → *System Administration* → *Monitoring, Logging and Tracing* → *TREX Monitor* → *Crawler Monitor*

- Shut down the *SAP NetWeaver 2004s Enterprise Portal* on which CM is running.

Executing the Upgrade

Use

You execute the script `exportHost_61_70.py` on the old TREX system with the parameters `<zip_file>` and `<temp_dir>` to carry out the first upgrade step. When the script is finished you execute the script `importHost_61_70.py` on the new TREX system with the parameters `<zip_file>` and `<temp_dir>` to import the host data into the new TREX system.

Procedure

New TREX System Installed on Separate System

✔	Action
	Logon to the new TREX system with user `<sapsid>adm`.
	Logon to the old TREX system with user `<trex_instance_number_old>`.
	Windows only: 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.
	Establish a share from the new TREX system to the old TREX system.
	Copy the file `exportHost_61_70.py` from the `<SUPPORT_DIR>` directory on the new TREX system to the old TREX system.

	Start the export of all indexes on the old TREX system as follows:
	
	UNIX:
	
	    python exportHost_61_70.py <zip_file_name_with_path> <work_directory>
	
	        ⚙️
	
	        python exportHost_61_70.py /upgrade/server1.zip /upg_temp
	
	Windows:
	
	    exportHost_61_70.py <zip_file_name_with_path>.zip <work_directory>
	
	        ⚙️
	
	        exportHost_61_70.py \upgrade\server1.zip \upg_temp
	
	        💡
	
	        The script can be found on the new system in the <SUPPORT_DIR> and has to be copied onto the old TREX system.

	Check the log file **exportHost_61_70.log** in directory `<TRACE_DIR_OLD>`.
	
	    ⚠️
	
	    Only continue, when the log file lists no errors. If there are errors please refer to the Troubleshooting [Page 23] section.

	Check that the new TREX host is up and running.

To import the created ZIP files you can either copy the ZIP files to the new TREX system or access the files over the share. We describe the way accessing the files over the share. Start the import of all indexes on the new TREX system as follows:

UNIX:

Change into the `<SUPPORT_DIR>` directory

```
python importHost_61_70.py <share_drive>/<zip_file_name_with_path>
<work_directory>
```

python importHost_61_70.py <share_drive>/upgrade/server1.zip
/upg_temp

Windows:

```
python importHost_61_70.py
<share_drive>:<zip_file_name_with_path>.zip <work_directory>
```

Windows– commands entered in TREX text console in the new TREX system:

python importHost_61_70.py <share_drive>:\upgrade\server1.zip
\upg_temp

	Check the log file `importHost_61_70.log` in directory `<TRACE_DIR_NEW>`. If there are errors please refer to the section.
	Stop the new TREX system. See .
	Start the new TREX system. See .
	Perform the .

New TREX System Installed on Existing System

✔	Action
	Logon to the old TREX system with user `<trex_instance_number_old>`.
	Windows only: 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.
	Copy the file `exportHost_61_70.py` from the `<SUPPORT_DIR>` directory on the new TREX system to the old TREX system.

<table>
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Start the export of all indexes on the old TREX system as follows:

UNIX:

```
python exportHost_61_70.py <zip_file_name_with_path>
<work_directory>
```



```
python exportHost_61_70.py /upgrade/server1.zip /upg_temp
```

Windows:

```
exportHost_61_70.py <zip_file_name_with_path>.zip <work_directory>
```



```
exportHost_61_70.py \upgrade\server1.zip \upg_temp
```


The script can be found on the new system in the `<SUPPORT_DIR>` and has to be copied onto the old TREX system.

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Check the log file `exportHost_61_70.log` in directory `<TRACE_DIR_OLD>`.

Only continue, when the log file lists no errors. If there are errors please refer to the Troubleshooting [Page 23] section.

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Stop the old TREX system [Page 27].

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Start the new TREX system [Page 28].

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Check that the new TREX host is up and running.

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Logon to the new TREX system with user `<sapsid>adm`.

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To import the created ZIP files you can either copy the ZIP files to the new TREX system or access the files over the share. We describe the way accessing the files over the share. Start the import of all indexes on the new TREX system as follows:

UNIX:

Change into the `<SUPPORT_DIR>` directory

```
python importHost_61_70.py <share_drive>/<zip_file_name_with_path>
<work_directory>
```



```
python importHost_61_70.py <share_drive>/upgrade/server1.zip
/upg_temp
```

Windows:

```
python importHost_61_70.py
<share_drive>:<zip_file_name_with_path>.zip <work_directory>
```


Windows– commands entered in TREX text console in the new TREX system:

```
python importHost_61_70.py <share_drive>:\upgrade\server1.zip
\upg_temp
```

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</table>

	Check the log file **importHost_61_70.log** in directory <TRACE_DIR_NEW>. If there are errors please refer to the [Troubleshooting [Page 23]](#) section.
	Stop the new TREX system. See [Starting and Stopping TREX [Page 28]](#).
	Start the new TREX system. See [Starting and Stopping TREX [Page 28]](#).
	Perform the [Activities After the Upgrade [Page 20]](#).

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.

   UNIX:

   a. Log on with the user <trex_instance_number_old>.

   b. Execute the following commands:
      cd <path_to_old_system>
      TREX stop

   Windows:

   a. Log on with the user <trex_instance_number_old>.

   b. Choose *Start → Programs* or *All Programs → SAP TREX → TREX Service → Stop*.

2. Make sure that the old TREX system will not be started when the host is restarted:

Operating system	Procedure
Windows	Open the Windows *Services* window. Change the start type of the TREX Service so that it is deactivated.

UNIX	Log on as root. Carry out the following steps:
	AIX - remove the start and stop instructions for the TREX script from the files `/etc/inittab` and `/etc/rc.shutdown`.
	HP UX, Linux, or Sun Solaris – Remove the links to the TREX script.
	HP-UX:
	`rm /sbin/init.d/TREX_<trex_instance_number_old>`
	`rm /sbin/rc3.d/S900TREX_<trex_instance_number_old>`
	`rm /sbin/rc0.d/K100TREX_<trex_instance_number_old>`
	Linux:
	`rm /etc/init.d/TREX_<trex_instance_number_old>`
	`rm /etc/rc.d/rc3.d/S90TREX_<trex_instance_number_old>`
	`rm /etc/rc.d/rc0.d/K10TREX_<trex_instance_number_old>`
	Sun Solaris:
	`rm /etc/init.d/TREX_<trex_instance_number_old>`
	`rm /etc/rc3.d/S90TREX_<trex_instance_number_old>`
	`rm /etc/rc0.d/K10TREX_<trex_instance_number_old>`
	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 system so that they can communicate.

- In the case of an ABAP application, you have to change the RFC destinations of the old system so that they now reference the new system.

- In the case of a Java application, specify the name server of the new system.

Procedure for ABAP Applications

Please refer to Installation guide for *SAP NetWeaver 2004s Search and Classification (TREX) Single Host* and the following chapters:

- Configuration of the RFC Connection

- Define a SAP-System user

- Detect connection settings of a SAP-System

- Configure RFC connection with the TREX admin tool

Procedure for Java Applications

1. If you do not know the addresses of the master name servers, look them up in the Python administration tool by choosing *Landscape Tree → topology → globals → all_masters*.

2. Use the user `<j2eeadm>` to log onto the host on which the AS-Java is running.

3. Start the *SAP AS-Java Engine Visual Administrator Tool* and log on to the AS-Java.

   For information on using the tool, see the SAP Library at **help.sap.com/nw2004s** *→ SAP NetWeaver → Application Platform (SAP Web Application Server) → Java Technology in SAP Web Application Server → Administration Manual → Server Administration → SAP AS-Java Engine Administration Tools → Visual Administrator*.

4. Choose *Cluster → Services → TREX Service*.

5. Enter the name server in the parameter `nameserver.address`.

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

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

   or

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

   > `nameserver.address` **tcpip://mytrexserver:34801**

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

7. Repeat the last three steps for all other server processes of the cluster.

⚠️

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

Procedure for Content Management

If you are using TREX with Content Management (CM) you have to carry out the following tasks:

- Start the *SAP NetWeaver 2004s Enterprise Portal* on which CM is running.

- Restart crawler processes if necessary. You find documentation about the crawler monitor at:

  > `help.sap.com/nw04` → *English* → *SAP NetWeaver* → *Information Integration* → *Knowledge Management* → *Administration Guide* → *System Administration* → *Monitoring, Logging and Tracing* → *TREX Monitor* → *Crawler Monitor*

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 called `exportHost_61_70.log`, located in directory `<TRACE_DIR_OLD>` and `importHost_61_70.log` located in the directory and `<TRACE_DIR>`.

Upgrade of a Distributed System

Purpose

A distributed system is upgraded similar to a single host system. Every master name server with a master index server role has to be upgraded separately.

⚠️

> **Never** upgrade a master name server with a slave index role!

Once the master name servers with master and backup index servers are upgraded, you have to assign a role to the master name server and start the replication to the slave servers.

Process Flow

The upgrade of a distributed system consists of the following steps:

1. Upgrade of the master name server with a master index server role. These master name servers are upgrade like a single host system.

2. Setting up all hosts with slave index servers

    You set up the slave index servers hosts from scratch. The slave servers hosts do not obtain their slave indexes from the upgrade – they obtain them through index replication.

3. Landscape configuration

    You define the hosts as being part of a distributed landscape and you define the roles of the different servers.

4. Triggering index replication

The following contains a checklist with an overview of all necessary steps.

Checklist for the Upgrade

Purpose

Use the table below as a checklist for the upgrade of a distributed TREX system. The table provides an overview of which steps are 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 productive operation.

For details refer to the installation guide *SAP NetWeaver 2004s Search and Classification (TREX)*. The guide is located on the SAP Service Marketplace at `service.sap.com/installNW2004s`.

Process Flow

Upgrading a distributed system

		Available for Productive Operation	
✔	**Action**	**Old TREX System**	**New TREX System**
	Master server		
	Upgrade every master server with a master index server role as a single host system. Use the checklists for single host systems [Page 11] and carry out the steps for the planning, preparation and upgrade phases. ⚠ 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 will no longer be consistent with that of the old. You then have to repeat the upgrade.	(see checklist of single host system)	-

	If the new TREX system is not running, start it.	(✔)*	-
	Slave name server		
	Install *SAP NetWeaver 2004s TREX*	(✔)*	-
	If the new TREX system is not running, start it.	(✔)*	-
	Master name server		
	Configure the new landscape	(✔)*	-
	Trigger index replication	✔	-
	Master and slave servers		
	Remove the old TREX system from operation	-	-
	Leave the old TREX system installed for a while. Only uninstall it when you are sure that the new TREX system is running and you no longer require the old TREX system. For information on uninstalling a system, see the installation guide for TREX 6.1	-	✔
	Applications		
	Connect the application to the new TREX system	-	✔

(✔)* The old TREX system is available for searching if you set it to read access only.

Configuring the Landscape

Use

After the upgrade you configure the system. You define the hosts as being part of a distributed landscape and you define their roles.

Procedure

Please refer to the installation guide *SAPNetWeaver 2004s Search and Classification (TREX)*. The guide is located on the SAP Service Marketplace **service.sap.com/installNW2004s**.

Triggering the Index Replication

Use

You have to trigger the first index replication manually.

Procedure

1. Navigate to the area *Landscape Configuration* in the Python administration tool.

2. Carry out one of the following steps:

   - To replicate all indexes, choose *Replicate All.*

   - To replicate individual indexes, select the index you want to replicate and choose *Replicate 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 2004s Search and Classification (TREX) Multiple Hosts.* The guide is located on the SAP Service Marketplace **service.sap.com/installNW2004s**.

Connecting an Application to the New TREX System

Use

You have to connect the application in question to the new system so that they can communicate.

- In the case of an ABAP application, you have to change the RFC destinations of the old system so that they now reference the new system.

- In the case of a Java application, specify the name server of the new system.

Procedure for ABAP Applications

Please refer to Installation guide for *SAP NetWeaver 2004s Search and Classification (TREX) Mulitple Host* and the following chapters:

- Configuration of the RFC Connection

- Define a SAP-System user

- Detect connection settings of a SAP-System

- Configure RFC connection with the TREX admin tool

Procedure for Java Applications

In order to connect the application to the new system you specify the address of the master name server on the Java client side.

> We recommend that you specify all master name servers. This increases the availability of the connection between the application and TREX. If the Java client cannot reach one master name server it can switch to another.

1. If you do not know the addresses of the master name servers, look them up in the Python administration tool by choosing *Landscape Tree → topology → globals → all_masters*.

2. Use the user `<j2eeadm>` to log onto the host on which the AS-Java is running.

3. Start the *SAP AS-Java Visual Administrator Tool* and log on to the AS-Java.

   For information on using the tool, see the SAP Library at **help.sap.com/nw04s** → *SAP NetWeaver → Application Platform (SAP Web Application Server) → Java*

Technology in SAP Web Application Server → Administration Manual → Server Administration → SAP AS-Java Engine Administration Tools → Visual Administrator.

4. Choose *Cluster → Services → TREX Service.*

5. Enter **one** master name server in the parameter `nameserver.address`. Enter the other master name servers (separated by spaces) in the parameter `nameserver.backupserverlist`.

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

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

   or

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

   `nameserver.address` **tcpip://mytrexmaster1:34801**

   `nameserver.backupserverlist` **tcpip://mytrexmaster2:34801**

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

7. Repeat the last three steps for all other server processes of the cluster.

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

Appendix

Stopping an Old TREX System

Procedure

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.

With UNIX

1. Log on with the user `<trex_instance_number_old>`.

2. Execute the following commands:

   cd <TREX_DIR_OLD>

   TREX stop

With Windows

Choose *Start → Programs* or *All Programs → SAP TREX → TREX Service → Stop.*

Starting and Stopping TREX

You use the following methods to start and stop TREX:

Windows

- SAP Management console

- Executable files **startsap.exe** and **stopsap.exe**

UNIX

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:

- SAP Management console

- Executable files **startsap.exe** and **stopsap.exe**

SAP Management Console

You use the SAP Management console, a snap-in in the Microsoft Management Console (MMC) [External], 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 on *SAP Help Portal* **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.

Executable Files startsap.exe and stopsap.exe

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

Starting TREX

Using the SAP Management Console to Start 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. Choose the right-hand mouse button to access the context menu.

5. Choose *Start*.

Using startsap.exe to Start TREX

6. Log on with the user `<sapsid>adm`.

7. Open a command prompt by choosing *Start → Programs → Instance_number → Tools → TREX_<instance_number>* so that the environment variables are set correctly.

8. Switch 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
   ```

Stopping TREX

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. Choose the right-hand mouse button to access the context menu.

5. Choose *Shutdown*.

    The *Shutdown* command only stops the TREX processes once current transactions have been completed. Do not use the *Stop* command because this terminates the TREX processes abruptly and there is a risk of data loss.

Using stopsap.exe to Stop TREX

6. Log on with the user `<sapsid>adm`.

7. Open a command prompt by choosing *Start → Programs → Instance_number → Tools → TREX_<instance_number>* so that the environment variables are set correctly.

8. Switch 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 should 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.

Starting and Stopping TREX on UNIX

Purpose

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

On UNIX, you use the shell scripts **startsap** and **stopsap** to start and stop TREX.

Starting TREX

1. Log on locally to the host on which the TREX instance is installed with the user `<sapsid>adm`.

2. Execute the script **startsap** 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

1. Log on locally to the host on which the TREX instance is installed with the user `<sapsid>adm`.

2. Execute the script **stopsap** in any directory:

    a. To stop 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 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	Choose *Start → Programs* or *All Programs → SAP TREX → Instance <instance_number> → Tools → TREX Administration* You can also start the TREX admin tool by double-clicking `<TREX_DIR>\TREXAdmin.bat` in Windows Explorer.