Solution Manager System Copy ABAP+JAVA Windows



Applies to:

SAP Solution Manager SR3 ABAP+JAVA on Oracle Windows. For more information, visit the <u>Application Management homepage</u>.

Summary

This document describes Homogeneous system copy procedure that is based on database-specific methods. As of SAP NetWeaver 2004s you can copy ABAP systems, ABAP+JAVA systems and Java systems in one run using either database-specific methods or database independent methods

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Author Bio

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Method Followed

Database-specific method

Advantages

- You can use existing offline or online backups
- This method is faster than the R3load and Jload method

Documents Referred and Validity

- System Copy for SAP Systems Based on SAP NetWeaver 7.0 ABAP+JAVA.pdf
- Note 1120872 Hom./Het.System Copy SAP NetWeaver 7.0 SR3
- Note 831812 Config Tool shows incorrect parameters after System Copy

Caution

This document does not cover all the pre and post activities steps, please refer system copy guide

Software Requirements

DVD Material used

Serial Number	DVD/Material	CD Description
1	51032955	Solution Manager Installation Master SR3
2	51033032	NW700 UC Kernel
3	51032958	Solman JAVA Components
4	51033272	Oracle10G Client

Source system preparations

Creating Offline backup of source system preferably a backup on disk Edit the Configuration files of oracle

initSID.sap which is located at E:\oracle\SID\102\database



Change the parameter backup_dev_type to disk and backup_root dir to directory where you would like to

have your database backup and stage value as well.

```
# default: tape
backup_dev_type = disk
# backup_root directory [<path_name> | (<path_name_list>)]
# default: %SAPDATA_HOME%\saphackup
backup_root_dir = D:\N6Pbackup
# stage root directory [<path_name> | (<path_name_list>)]
# default: value of the backup_root_dir parameter
stage_root_dir = D:\N6Pbackup
# compression flag [no | yes | hardware | only]
# default: no
compress = no
```

Open a command and run the below command for offline backup brbackup -u / -c force -t force -m all

```
E:\>brbackup -u / -c force -t offline_force -m all

BR00511 BRBACKUP 7.09 (24)

BR00551 Start of database backup: bebpdffc.afd 2009-10-01 20.49.20

BR04841 BRBACKUP log file: E:\oracle\N6P\sapbackup\bebpdffc.afd

BR04771 Oracle pfile E:\oracle\N6P\102\database\initN6P.ora created from spfile

E:\oracle\N6P\102\database\spfileN6P.ora

BR02801 BRBACKUP time stamp: 2009-10-01 20.49.25

BR00571 Backup of database: N6P

BR00581 BRBACKUP action ID: bebpdffc

BR00591 BRBACKUP function ID: afd

BR01101 Backup mode: ALL

BR00771 Database files for backup:

E:\ORACLE\N6P\ORIGLOGA\LOG_G11M1.DBF

E:\ORACLE\N6P\ORIGLOGB\LOG_G12M1.DBF

E:\ORACLE\N6P\ORIGLOGB\LOG_G13M1.DBF

E:\ORACLE\N6P\ORIGLOGB\LOG_G13M1.DBF

E:\ORACLE\N6P\ORIGLOGB\LOG_G13M1.DBF

E:\Oracle\N6P\ORIGLOGB\LOG_G14M1.DBF

E:\Oracle\
```

Source system export

When performing the export you create a MIGRATION EXPORT CD image, which contains the data of the

Exported system, and which you use to install of the target system

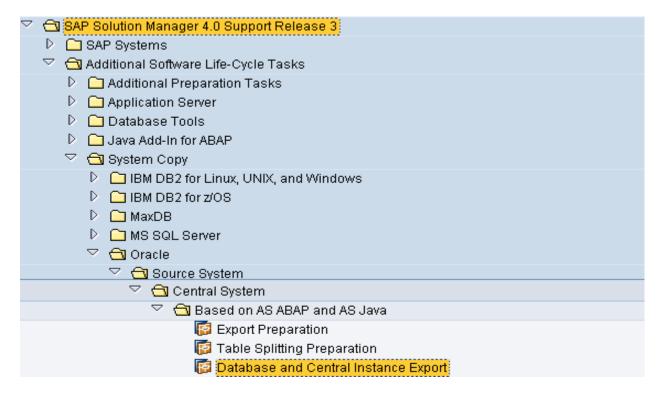
The following steps will be performed

- Creating the export directory structure with label files and source system information (if required)
- Creating database structure files (*.STR) for ABAP database objects
- Updating database statistics (depending on the database platform and the selected dialog option)
- Size calculation for the target database (*.EXT, DBSIZE.XML)
- Exporting the ABAP and / or Java database content
- Archiving the SDM
- Archiving application specific file system content

Start SAPinst choose the following path, Additional Software Life-Cycle Tasks->system copy Oracle>Source System->Central system->Based on AS ABAP and AS JAVA Database and central instance Export

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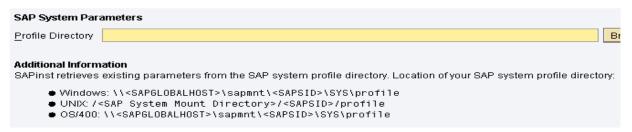
For parameter mode choose custom

Parameter Mode > Default Settings

Choose whether you want to run the SAPinst in a typical or a custom mode

Default Settings If you choose the typical setting, SAPinst runs mostly with automatic default settings. You only have to re number of prompts. However, you can still change any of the default settings on a parameter summary Parameter Mode ○ Typical ○ Custom ○ MaxDB ○ MS SQL Server ○ Gracle ○ Source System

Provide the path of Profile Directory (Source system)



Provide OS user Passwords

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SAP System > OS User Passwords

Enter the passwords of the operating system users



Check the box Use database specific tools

System Copy Method

Use database specific tools 🔽



Create a directory for the Database export (whatever you like) and provide the path of the directory at this stage SAP system will be stopped

Database Export D:\N6Pbackup\exportdirectory Export Location Stop running system 🔽

Chose start at the end to proceed the export

Parameter Summary

Choose 'Start' to start with the values shown or select the parameters you want to change and choose 'I

Export is in progress



All Phases have been completed

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You can see the Export has created the below file structure directory



Generating the Control File Structure

Purpose:

The OraBRCopy Java tool writes a file CONTROL.SQL to the current working directory this can be used

without further adaptations on target system

Recommendations

We recommend that you shut down the SAP system before you perform the following

Steps .The database must still be running

Where to find that

Copy the ORABRCOPY.SAR archive from the SAP Installation Master DVD to the installation directory and extract it using SAPCAR.

You can find the archive in the following directory on the Installation Master DVD DVD-DIR>:common\install\ora\ORABRCOPY.SAR



Uncar the file ORABRCOPY.SAR using sapcar command Sapcar -xvf ORABRCOPY.SAR

```
D:\N6Pbackup\Orabrcopy>sapcar -xvf ORABRCOPY.SAR
SAPCAR: processing archive ORABRCOPY.SAR (version 2.00)
x orabrcopy.jar
x ora_br_copy.sh
x ora_br_copy.bat
x OraBRCopy.pdf
SAPCAR: 4 file(s) extracted
```

When uncared you could see below files with OraBRcopy.pdf

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Content of the archive file:

- orabrcopy.jar
- ora_br_copy.sh
- ora_br_copy.bat
- OraBRCopy.pdf

PDF file OraBRCopy.pdf

OraBRCopy Java Tool Users' Guide

Starting the OraBRCopy Java Tool

OraBRCopy tool need to be executed as OS user with Oracle DBA privileges user

Ora<dbsid> or user <sapsid>adm

Switch the directory to where ORABRCOPY.SAR is uncared and execute the below command as mentioned in OraBRCopy user Guide

ora_br_copy.bat -generateFiles -forceLogSwitches -targetSid <Target_SID> - password <system_user_password> -listenerPort 1527

C:\WINDOW5\system32\cmd.exe

D:\N6Pbackup\Orabrcopy>ora_br_copy.bat -generateFiles -forceLogSwitches
id PRD -password intelli1 -listenerPort 1527

After the execution of the command, the tool created the below files

- CONTROL.SQL
- CONTROL.TRC
- init<TARGET DBSID>.ora
- ora_br_copy.log
- OraBRCopy.console.log

Note if error occurs check the log file <INSTDIR>/ora.brcopy.log

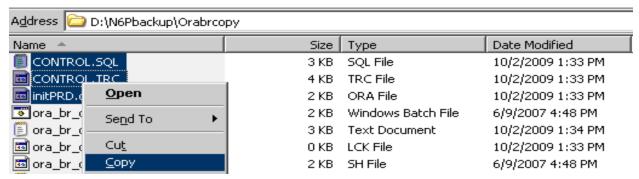
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Preparing the Target System

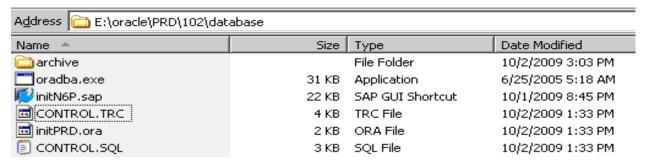
This section describes the actions which have to be taken on the Target System If necessary, make a copy of your profiles, a copy of the environment settings

- If necessary, make a copy of your profiles, a copy of the environment settings of your sidadm and oracle user and your ORA sqlnet files.
- Take the backup of config tool so that you can get back the old parameter values later
- Make sure to copy the backup dump of the source system to target system and can be accessible
- If an SAP instance is currently installed on the target server then first remove it
- Clean your target system. Delete your oracle datafiles
- You must use the same Oracle release and patch level for your database in the source and target
- Make sure that JDK version same as source system.
- The JAVA HOME environment variable must point the JRE directory
- The source and target systems must run on different hosts for security reasons.
- The source and target systems must be binary compatible
- Install the target SAP system using SAPInst
- Install same JDK version as source
- Install same Oracle version and path set as source system

Copy Contro.sql, control.trc, initSID.ora file and

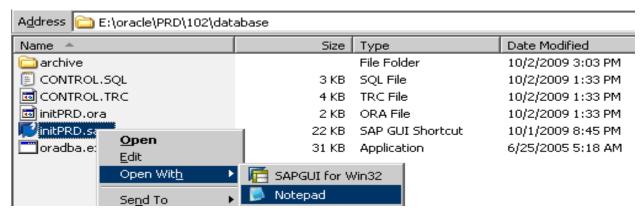


Paste it at target system oracle home directory Drive:\oracle\SID\102\database

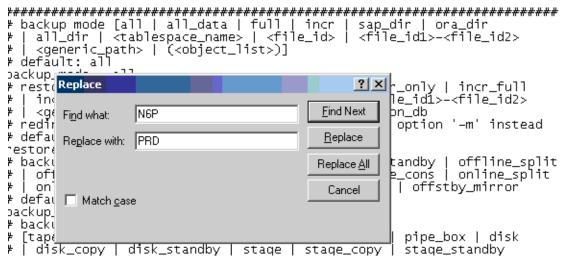


Copy initSID.sap file from source system backup file to ORACLE HOME directory and edit the file to target system SID

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Replace source system SID to Target system SID



See that backup_dev_type should be disk if not change to disk

Backup_root_dir and stage_root_dir should point towards your source system backup directory

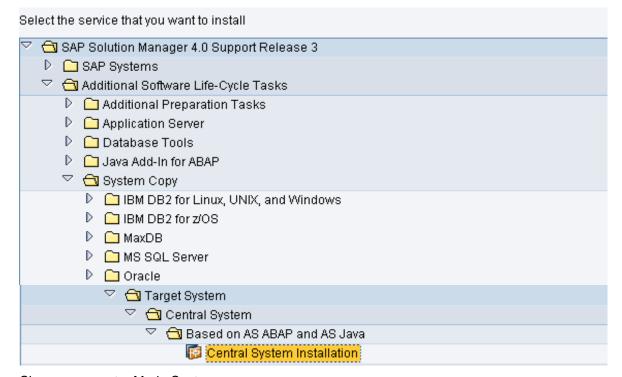
```
# default: tape
packup_dev_type = disk
# backup root directory [<path_name> | (<path_name_list>)]
# default: %SAPDATA_HOME%\sapbackup
packup_root_dir = D:\N6Pbackup)
# stage root directory [<path_name> | (<path_name_list>)]
# default: value of the backup_root_dir parameter
stage_root_dir = D:\N6Pbackup
# compression flag [no | yes | hardware | only]
# default: no
compress = no
```

Save the changes at the end

Target system Installation

Start SAPinst Choose the following path:

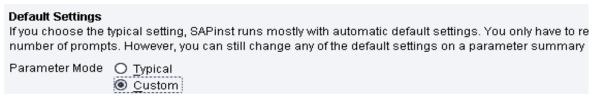
Additional Software Life-Cycle Tasks->system copy Oracle->Target System->Central System>Based on AS ABAP and AS JAVA->Central system installation



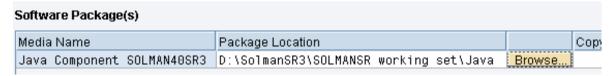
Choose parameter Mode Custom

Parameter Mode > Default Settings

Choose whether you want to run the SAPinst in a typical or a custom mode



Provide the path for the java component



Provide the path for the JDK installed directory

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Java Development Kit SAPinst has found a valid JDK directory. The installed JDK has version 1.4.2_17. Confirm that you want to use this JDK directory. JDK Directory C:\j2sdk1.4.2_17-x64 Provide the target system SID and installation Drive **SAP System Parameters** SAP System ID (SAPSID) PRD Installation Drive Unicode System (recommended) 🗹 Select Local installation SAP System User Domain Domain Model Local installation Use domain of current user Use different domain Windows Domain Select installation method as Homogeneous system copy (Backup/Restore) **Database Installation** Installation Method Standard System Copy / Migration (load-based) Momogeneous System Copy (Backup/Restore) Start Migration Monitor manually 🔲 Select the database SID of Target system Database Parameters Database ID (DBSID) PRD Database Host intel Additional Information If you want to use an existing database with a valid database release for this installation, enter the databa databaca

Error occurred

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```
FSL-02077 File system export (share) saploc does not exist.

ERROR 2009-10-02 15:32:38.609

FJS-00003 ReferenceError: row is not defined (in script

NW_Doublestack_OneHost|ind|ind|ind, line 95571: 2??)

ERROR 2009-10-02 15:32:38.671

FC0-00011 The step checkForLoadType with step key

|NW_Doublestack_OneHost|ind|ind|ind|ind|0|0|NW_Onehost_System|ind|ind|ind|ind|1|0|NW_CreateDBandLoad|ind|ind|ind|ind|10|0|NW_CreateDB|ind|ind|ind|0|0|NW_OnebckForLoadType

was executed with status ERROR .
```

As per the note: Note 1120872

Error during system copy with Oracle-specific procedure

During a system copy with the Oracle-specific procedure, the following error may occur:

ERROR 2007-01-04 21:48:25 [iaxxejsbas.cpp:178] EJS_ErrorReporter

FJS-00003 Reference Error: row is not defined (in script NW_Java_DB|ind|ind|ind|ind, line 90323: ???)

ERROR 2007-01-04 21:48:25

FCO-00011 The step checkForLoadType with step key

Solution:

Edit the control.xml in the installation directory, Search for "update ORACHECK_PAR" and delete the row "row.createDb = false;" underneath

Check the installation directory sapinst_instdir for control.xml file and open the file with WordPad



Search for "update ORACHECK PAR"



Remove the entry oracom.setCreatedb) false) and save the file at the end and retried the installation at every thing went fine

```
gui.update("Oracle Backup Restore...");

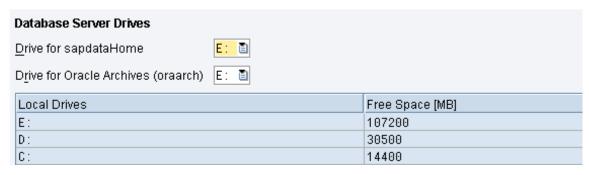
// update ORACHECK_PAR
  row.createDb = false;
  context.set("createDb",false)
  oracom.setCreateDb(false);
}
```

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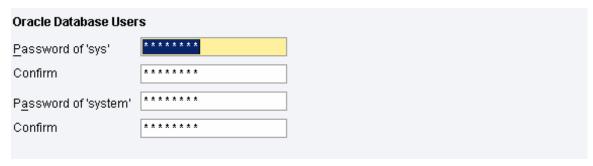
Enter the ABAP Schema id by default it will be SAPSR3 and for Java Schema SAPSR3DB for all latest releases

Database Instance Parameters		
<u>D</u> B Home	E:\oracle\PRD\102 🖺	
DB <u>S</u> erver Version	102 🖺	
Instance Memory		
Instance RAM [MB] 2042	<u>T</u> otal RAM [MB] 4885	
Database Schema Parameters The new default for ABAP Schema is SAPSR3 and the new default for Java Schema is SAPSR3DB.		
ABAP Schema	SAPSR3	
Password of ABAP Schema	*****	
Confirm	*****	
<u>J</u> ava Schema	SAPSR3DB	
Pass <u>w</u> ord of Java Schema	*****	

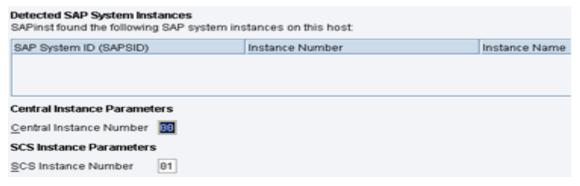
Provide the installation drive for SAPDATA



Provide the required passwords



Provide the required instance numbers



Leave it default

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3688
3988
intel
3901

Enter the Migration Export of the Java source system

Software Package(s)

Media Name	Package Location	
Migration Export	D:\N6Pbackup\exportdirectory\JAVA\LABEL.ASC	Browse

Enter the J2ee admin user name and password

Existing J2EE Engine

Enter name and password of the J2EE Engine administrator user of the source system **N6P**. This accousystem copy. You can change the values after the system copy.

<u>A</u> dministrator User	j2ee_admin	
Password of Administrator User	****	
Confirm	*****	

Enter SDM password

SDM Server Connection

Password for SDM *********

Confirm ********

Additional Information

The password of SDM that is entered here is needed to connect the SDM GUI to the SDM server.

Enter DDIC password

DDIC Users in SAP System Clients

Account: DDIC, client 000

Password of 'DDIC' in client 000 in the source system ********

Additional Information

SAPinst needs to create an RFC connection to the system that you are installing.

A SAP System Client is a self-contained unit in an SAP system with separate master records and its own data is SAP System Client-specific.

Provide the patch for software package kernel and Oracle client

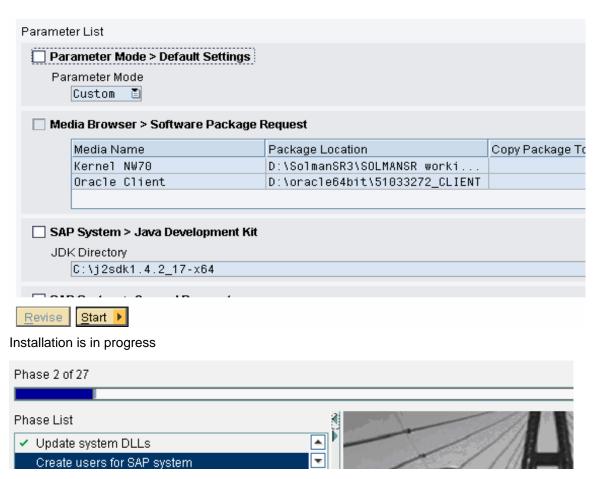
Software Package(s)

Media Name	Package Location
Kernel NW70	D:\SolmanSR3\SOLMANSR working set\kernel\KU_WINDOWS_X86
Oracle Client	D:\oracle64bit\51033272_CLIENT

Parameter summary proceed to start the installation

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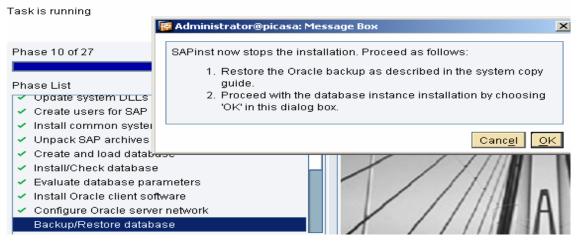
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At phase 10 Backup/Restore database installation stops and you need to restore your database from your offline backup of your source system now

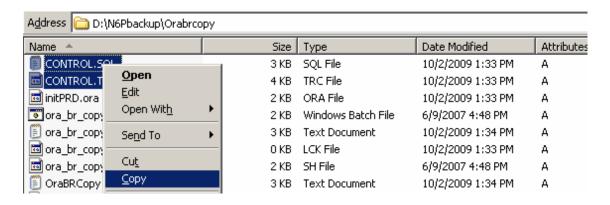
Note:

Don't close this window session



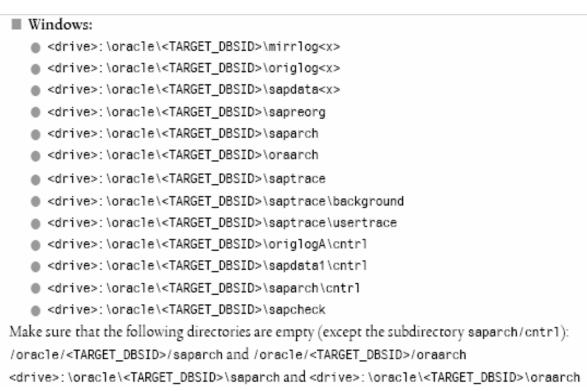
Now copy CONTROL.SQL file and paste it at Installation directory sapinst_instdir

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Note:

There is no change of source and target system file structure in my scenario if there is any changes in your scenario edit the files accordingly as per your file structure of sapdata/origlogs/mirrorlogs. If your Target system is new system build then create the following directories accordingly



Switch to directory Drive:\usr\sap\SID\SYS\exe\uc\NTAMD64 and execute the command brrestore -m full -b <Backupfile name>

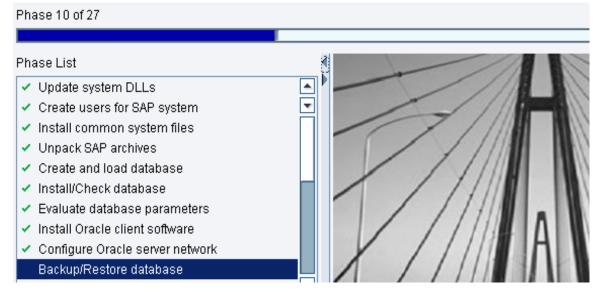
17

```
E:\usr\sap\PRD\SYS\exe\uc\NTAMD64>brrestore -m full -b bebpdffc.afd
BR0401I BRRESTORE 7.00 (24)
BR0405I Start of file restore: rebphfjm.rsb 2009-10-02 16.22.58
BR0484I BRRESTORE log file: E:\oracle\PRD\sapbackup\rebphfjm.rsb
 BRØ454W Values of oracle_sid are different: current 'PRD', backup bebpdffc.afd 'N6P'
N6P'
BR0455W Value 'PRD' of oracle_sid will be used for restore
BR0454W Values of oracle_home are different: current 'E:\oracle\PRD\102', backup
bebpdffc.afd 'E:\oracle\N6P\102'
BR0455W Value 'E:\oracle\PRD\102' of oracle_home will be used for restore
BR0454W Values of sapdata_home are different: current 'E:\oracle\PRD', backup be
bpdffc.afd 'E:\oracle\N6P'
BR0455W Value 'E:\oracle\PRD' of sapdata_home will be used for restore
BR0456W Termination message not found in E:\oracle\PRD\sapbackup\bebpdffc.afd -
log file incomplete (this is OK if the log file was restored)
BR0280I BRRESTORE time stamp: 2009-10-02 16.22.58
BR0256I Enter 'c[ont]' to continue, 's[top]' to cancel BRRESTORE:
```

Once the restore is completed proceed with your sap installation by pressing OK

```
BR0351I Restoring E:\oracle\PRD\sapdata1\cntr1\cntr1N6P.dbf
BR0355I from E:\oracle\PRD\origlogA\cntrl\cntlrN6P.dbf ...
BR0406I End of file restore: rebphfjm.rsb 2009–10–02 16.49.53
BR0280I BRRESTORE time stamp: 2009–10–02 16.49.54
BR0403I BRRESTORE completed successfully with warnings
```

Proceed with sap installation by pressing OK button



Press OK to uninstall source system schema

Database Schemas Drop Schema OPS\$ILABS1\N6PADM OPS\$ILABS1\SAPSERVICESR3 V OPS\$ILABS1\SAPSERVICEN6P

Error occurred

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```
ERROR 2009-09-30 23:47:14.875

CJS-30023 Process call 'E:\usr\sap\PRD\SYS\exe\uc\NTAMD64\saplicens e.exe -R3Setup PRD XXXXXX TRACE=2' exits with error code -2. For details see log file(s) saplicense.log, dev_slic.

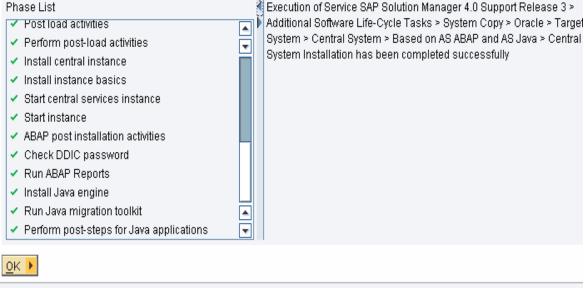
ERROR 2009-09-30 23:47:14.953

FCO-00011 The step createTempLicense with step key |NW_Doublestack_OneHost|ind|ind|ind|ind|0|0|NW_Onehost_System|ind|ind|ind|ind|1|0|NW_CreateDBandLoad|ind|ind|ind|ind|10|0|NW_Postload|ind|ind|ind|ind|10|0|NW_Postload|ind|ind|ind|ind|10|0|NW_Postload|ind|ind|ind|ind|10|0|NW_Fostload|Ind|Ind|Ind|Ind|10|0|CreateTempLicense was executed with status ERROR.
```

Upon checking the log s could find SAP is unable to connect to database so I have check the listener process and it was not started, I manually restarted the listener process

**************** ERROR Connect to database failed w TIME wed Sep 30 23:47:14 2009 RELEASE 700 COMPONENT SLIC VERSION 300 RCMODULE šlicdb.c 150 LINE DETAIL DbSlConnect failed with return code 99

Installation has been completed successfully



Execution of Service has been completed successfully

Post Activity steps

ABAP

Perform follow-up activities in the target system as you normally would do after a Homogeneous System Copy, Follow the system copy guide for post steps

JAVA

Follow Note 831812 - Config Tool shows incorrect parameters after System Copy, follow system copy guide for post steps

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Related Content

 $\underline{\text{http://www.sdn.sap.com/irj/sdn/systemcopy;jsessionid=(J2EE3414700)ID2076107050DB00255433238591147579End}$

http://help.sap.com/saphelp_nw70/helpdata/EN/4b/d8f23ea4b42e5ae100000000a114084/frameset.htm
https://websmp230.sap-ag.de/sap(bD1lbiZjPTAwMQ==)/bc/bsp/spn/sapnotes/index2.htm?numm=547314
For more information, visit the Application Management homepage.

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