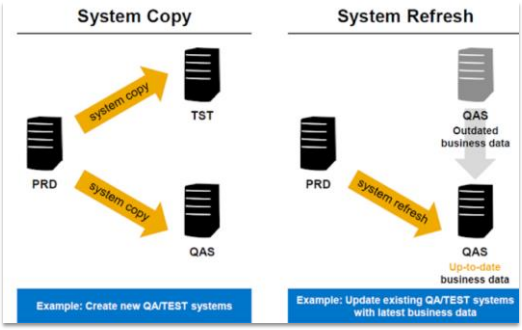
Overview of System refresh

What is system refresh/copy?

- System refresh is nothing but moving the source system data to target system. Generally system refresh performed on quality/sandbox system using the data to refresh from the production system for testing purpose.
- If the SAP System already exists it is known as System Refresh.
- if the System doesn't exists and you are building a new system using the source system it is known as a system copy.



Need for System Refresh

- Since the production system is live system hence it consist live and up-to-date data of the business
- When anything new need to be tested that should be performed in quality system and to test the scenario's with the latest data quality system should be in sync with production system. As per SAP standards system refresh need to be done after 3 months

Types of System Refresh

- **Homogeneous system refresh**

  Operating system and Database system are same on the both source and target systems

- **Heterogeneous System Refresh**

  Operating system or Database system of the target system is different from the source system. This is also called as OS/DB migration. To perform this activity we need to have ***migration key*** that is provided by SAP.

Methods of System Refresh

- Backup and Restore Method

  First we have to take the backup of the source DB and then we can restore the same backup file over the source system using control files.

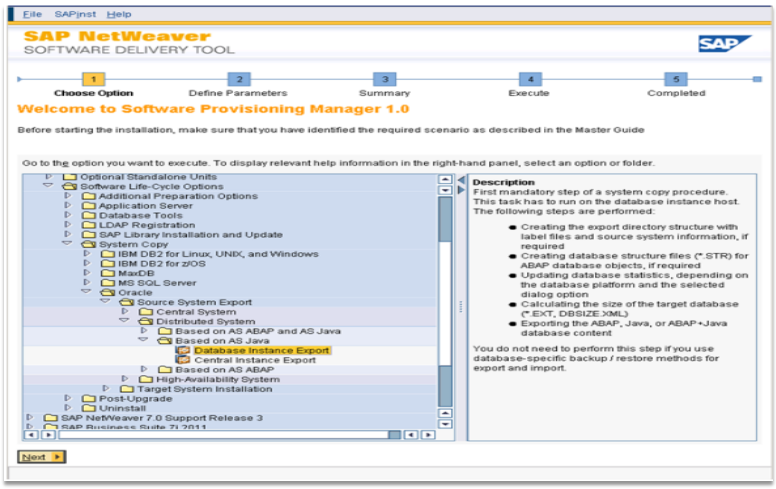
- Export / Import Method

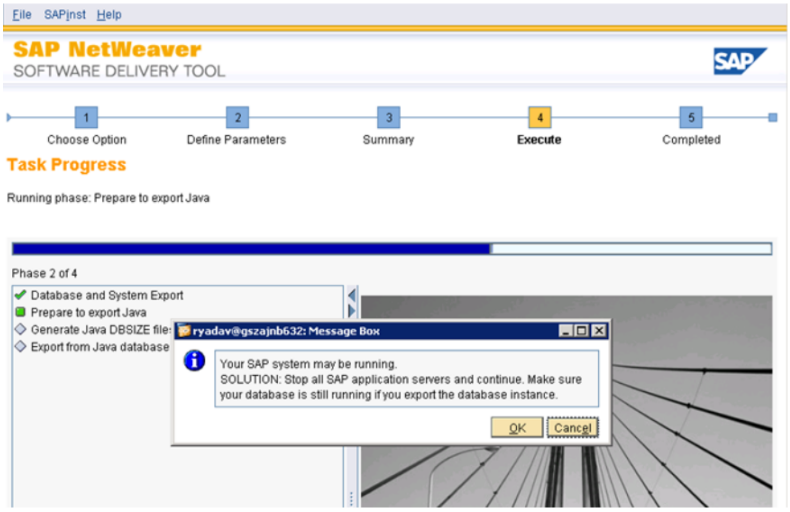
  In this method using SWPM first we have to take Export of source database system. Once export is completed then using same export we have to import the database over target system.

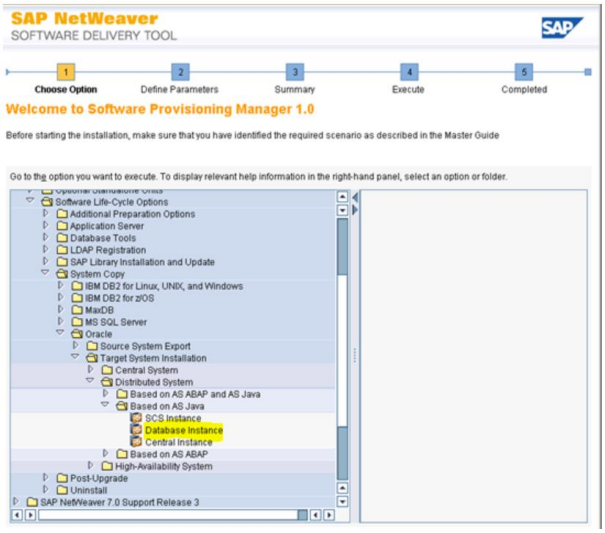
Backup and Restore Method

- Take a backup of Source system (PRD)
- Then Restore it on target system (QAS).
- oraqas>brrestore –m full –b <backup>.aft –c
- If backup is online (.ant)--> then restore & recover it.
- If Backup is offline (.aft)-->only Restore it. (here we are using offline backup)
- Once the restore is complete, After that create a trace file at source system (PRD). SQL>alter database backup controlfile to trace;
- Copy that trace file to target system QAS & edit it in target system.
- In trace file:Locate "STARTUP NOMOUNT" From current line till end delete everything.
- Then change SID PRD to QAS (:1,$S/PRD/QAS/g)
- Change Reuse to set
- Change Noresetlogs to resetlogs
- Change Archivelog to Noarchivelog
- Now save this file as <tracefilename>.sql at location /oracle/QAS/saptrace/usertrace
- Once you complete the above step, create controlfile using trace file in target system QAS.
- SQL>@<tracefilename>.sql
- SQL> alter database open resetlogs;

Export / Import Method







For Export and Import method follow the below links:

- https://blogs.sap.com/2013/12/18/enterprise-portal-system-refresh-document-part-1/
- https://blogs.sap.com/2013/12/16/enterprise-portal-system-refresh-document-part-2/

Phases of Refresh

- Below are the phases for the system refresh:

1. Pre-checks for the source and target system
2. Pre refresh activity
3. Database Restore and Recovery
4. Post refresh activity

Prerequisite for System Refresh

1. Study on the Current Utilization of resources on Target system and Source System.
2. Check the available CPU's & memory on the Target hardware and Source System.
3. Compare the database sizes of Target hardware and Source System.
4. Compare the existing FS & current utilization of the same on Target system and Source System.
5. Study the systems integrated to target system in **SM59**(Configuration of RFC connection). There are three ways to do it:
    1. Take Screenshots of the Configurations.
    2. By doing Table Export(using **R3Trans** Utility)
    3. By saving tables in TOC (transport of copies using **SE01**)
6. Some interfaces are connected to TARGET or other (mainly to PI) on a special requirement. Make a note of it.
7. Compare the software versions of SAP application on both the systems.
8. Make a note of any additional add-ons on the systems if any from the above step.
9. Compare the Oracle Database & client versions.(Note: It need to be done carefully if version doesn't match we can't proceed forward with it)

11.Check the existing SLD settings.(SLDAPICUST)

12.Check all the existing developments, open transports.

13. In this we need to check for 2 things:

1. Open Transport: Contact the Owner of TR and ask to take appropriate action or else administrator needs to delete it.
2. Transport in release state(Make a backup of in-flight transport list).

14.Number of Open Transports; Local Transports - Quick analysis on the transports.

15.Consolidate all the list and send it across to the related projects (optional).

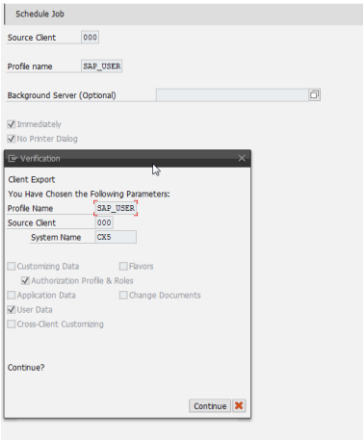
16.Prepare a list if anything has to be retained.

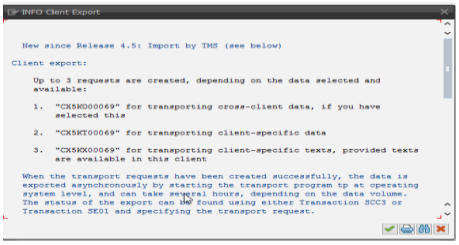
17.Check for a FS on the DB host OS level to store the backup of Production .

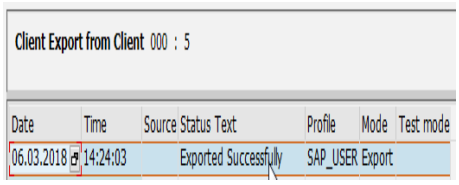
18.Check if the schema name is same on Source as well as Target.

Pre Refresh Activity

1) **Export of User Master**







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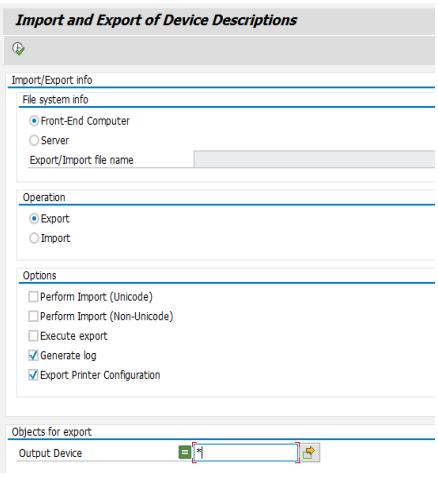
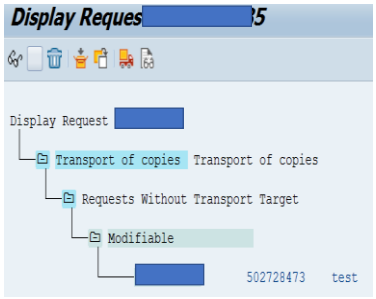
2) **Export Printer Definition**

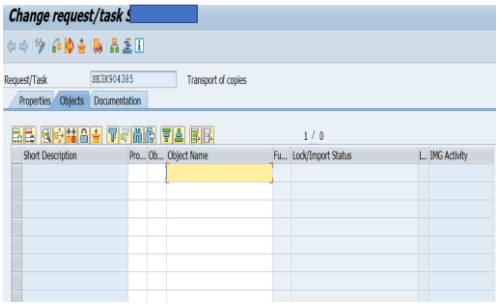


3) **Export RFCs/Partner Profiles/Logical Systems by creating TR**

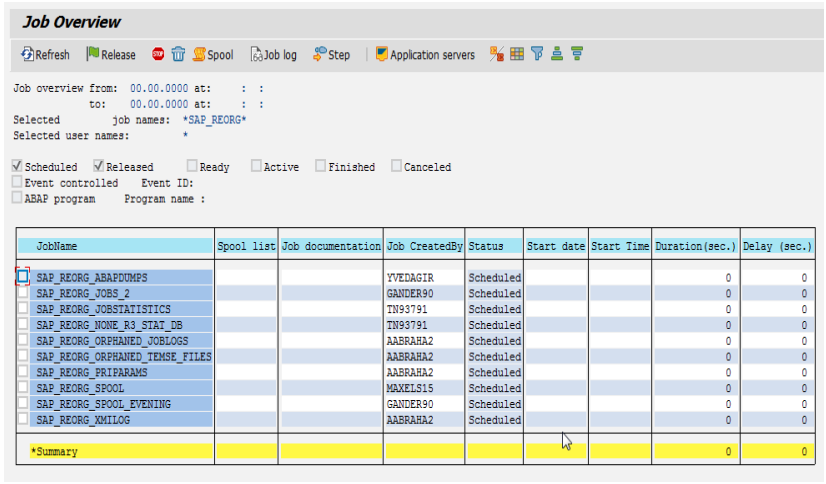
Below are the tables to export:

RFCDES, RFCDOC,RFCCHECK, EDIPORT, EDP12, EDP13, EDP21, EDPP1, TBD00, TBDLS, etc.





4) **Clean up Job Log Directory**



Job Overview

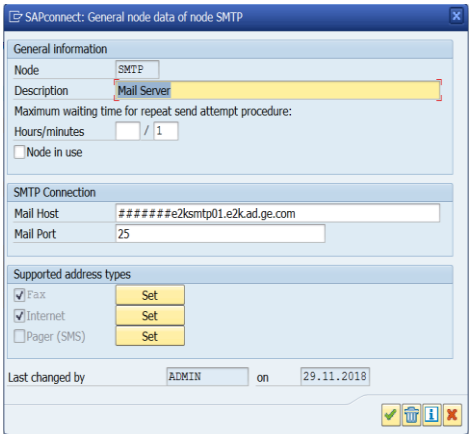
Refresh | Release | Spool | Job log | Step | Application servers

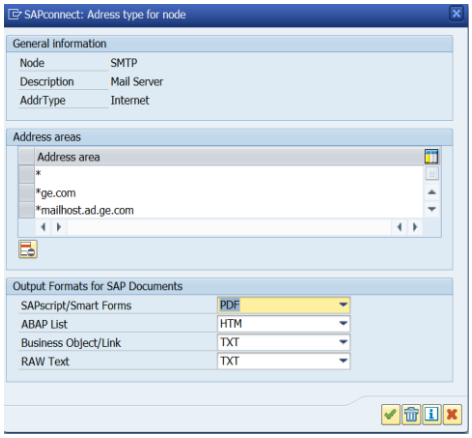
Job overview from: 00.00.0000 at: : :
to: 00.00.0000 at: : :
Selected job names: *SAP_REORG*
Selected user names: *

☑ Scheduled ☑ Released ☐ Ready ☐ Active ☐ Finished ☐ Canceled
☐ Event controlled Event ID:
☐ ABAP program Program name :

JobName	Spool list	Job documentation	Job CreatedBy	Status	Start date	Start Time	Duration(sec.)	Delay (sec.)
SAP_REORG_ABAPDUMPS			YVEDAGIR	Scheduled			0	0
SAP_REORG_JOBS_2			GANDER90	Scheduled			0	0
SAP_REORG_JOBSTATISTICS			TN93791	Scheduled			0	0
SAP_REORG_NONE_R3_STAT_DB			TN93791	Scheduled			0	0
SAP_REORG_ORPHANED_JOBLOGS			AABRAHA2	Scheduled			0	0
SAP_REORG_ORPHANED_TEMSE_FILES			AABRAHA2	Scheduled			0	0
SAP_REORG_PRIPARAMS			AABRAHA2	Scheduled			0	0
SAP_REORG_SPOOL			MAXELS15	Scheduled			0	0
SAP_REORG_SPOOL_EVENING			GANDER90	Scheduled			0	0
SAP_REORG_XMILOG			AABRAHA2	Scheduled			0	0
*Summary							0	0

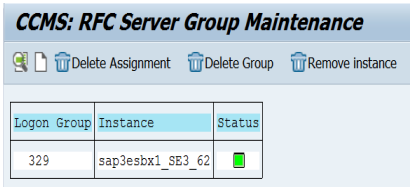
5) **Export SCOT Configuration**

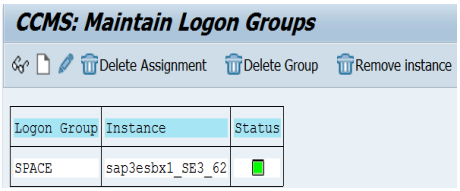




6) Export SLDAPICUST configuration

7) Logon Group Details





8) **Export Profile**

Go to profile path /usr/sap/<SID>/SYS and take copy of profile directory.

```
ustlslpwr530:clgadm 9> ls -ltr
total 0
drwxr-xr-x   3 clgadm     sapsys          96 Jul  1  2008 exe
drwxr-xr-x   4 clgadm     sapsys          96 Jul  1  2008 gen
drwxr-xr-x   2 clgadm     sapsys          96 Jul  1  2008 src
lrwxr-xr-x   1 clgadm     sapsys          18 Jul 18  2016 global -> /sapmnt/CLG/global
lrwxr-xr-x   1 clgadm     sapsys          19 Jul 18  2016 profile -> /sapmnt/CLG/profile
ustlslpwr530:clgadm 10> pwd
/usr/sap/CLG/SYS
ustlslpwr530:clgadm 11>
```

9) Take snaps of STMS configuration
10) Take snap of tRFC and Outbound qRFC Configuration from SMQS and SMQR
11) Take DB13 snap for backup strategy details
12) Take snap of batch job server configuration using SM61
13) Take snap of SMICM

14) Take STRUST snap
15) Take operation modes snap using SM63 and RZ03
16) Take snap of partner profiles(LS) using WE20
17) Take snap of IDOC ports using WE21
18) Secure the required passwords of OS users ; <sidadm>
19) Secure the required passwords of Application Users ; DDIC/000
20) Secure the required passwords of DB users; SYSTEM; SCHEMA users
21) Download required license for Target and have it stored on OS Level
22) Send out a communication to all required stakeholders about the downtime
23) Set a system message SM02 with the timelines & unavailability

Database Restore and Recovery

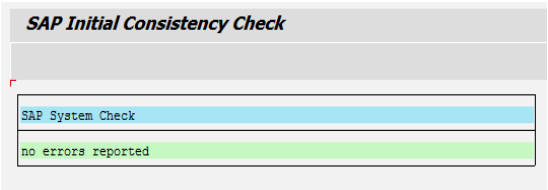
1. Stop SAP Application, Database and Listener.

   Stop the SAP application from OS level using Command **“stopsap R3”**

2. Delete the existing datafiles from Target database and rename current control files on target system
3. Restore backup
4. Recover the database
5. Create Control file.
6. Start SAP application
7. Lock all the production users
8. Set SAP background process to 0 and Suspend all the jobs.
9. Restart SAP application

Post Refresh Activity

1) Change parameters before start SAP SYSEM - rdisp/btctime = 0 and rdisp/wp_no_btc=0
2) Start the Sap application server
3) Apply SAP LICENSE
4) Execute the report BTCTRNS1 in SE38 to suspend the jobs in target system
5) Disable Fax and Email in SCOT and SM59 by disabling the node
6) Perform initial consistency check



7) Make the STMS configuration using SE06 and STMS(using the snaps taken in pre-refresh activity)

8) RDDNEWPP -- to schedule the job RDDIMPDP in system for transport. Run report in client 000

9) Using Tcode SPAD to Import printers in target system which we exported during pre-refresh

10) Import the TR of RFCs/Partner Profiles/Logical Systems which was created during the pre-refresh activity

11) Excute report BTCTRNS2 in se38 to release the suspended jobs

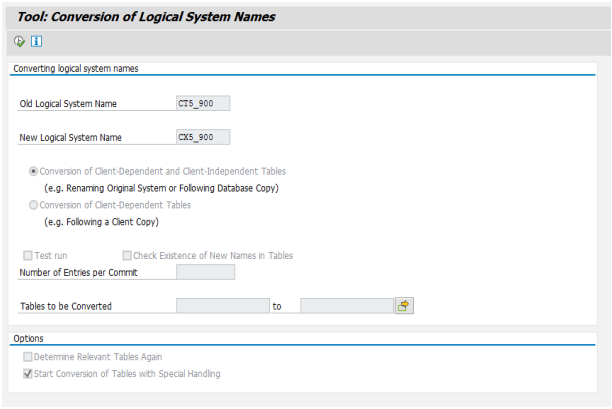
12) Revert the profile directory with the backup of it taken during the pre-refresh activity. (Path= usr/sap/<sid>/sys)

13) RZ10 – import profiles from active servers

14) Delete the operation mode of source system from RZ03 and make similar as snap taken of RZ03 during pre-refresh.

15) Delete the instance of source system from the SMLG tcode.

16) Logical System Conversion – BDLS



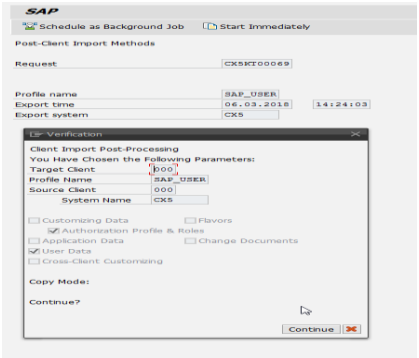
17) Run the report RSBCS_REORG to clear the send request from the SOST

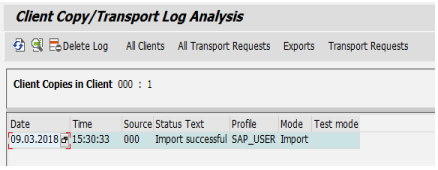
18) Run the report RSTRFCQD to clear the outbound queues

19) Run the report RSPO0041 to clear the spool entries.

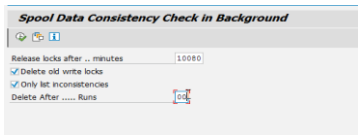
20) Run the tcode SGEN to the Generate load

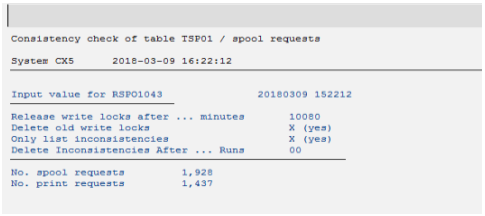
21) Import the User master TR created during pre-refresh and once import successful perform action on tcode SCC7.



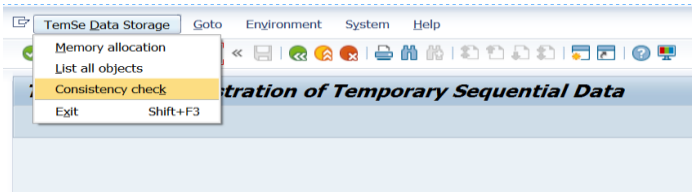


22) Spool consistency check



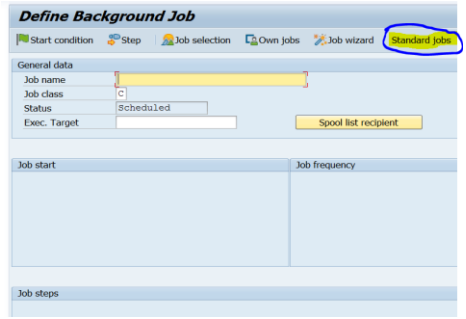


23) TemSe consistency check



24) Run the report RSBTCDEL to delete the finished and cancelled jobs

25) Schedule the SAP standard jobs from SM36



26) Import any add-ons (if any)

27) Import any TR's (provided by Projects i.e. in-flight transports)

28) Configure Database Backup

29) Update SAP system logon screen message

29) Release system to users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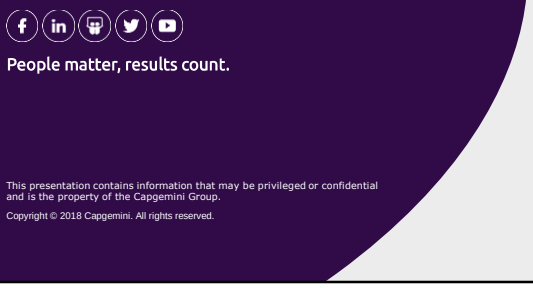
Q & A



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