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System Refresh
Training Program

July 2018

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Agenda

- **System Refresh Concept**
- **Pre-study of Source and Target System**
- **System Refresh Procedure**
- **Pre Task- Source System**
- **Pre Task- Target System**
- **Database Copy(Restore and Recovery)**
- **Post- Refresh Activity**
- **Questions**

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2

System Refresh Concept

What is System Refresh?

- **System Refresh** is a copying of data from source to target SAP System.

- This scenario is normally used to refresh Quality / Sandbox with Production Data to facilitate accurate UAT for all business scenarios.

- There are **two** ways to do system refresh

   1.Backup Restore

   It Requires minimum System downtime.

   SAP Best Practice

   2.Export - Import

   Increase in downtime during export of database on source system

Pre-study of Source and Target System.

Pre-study of Source and Target System.

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 Sandbox 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 additonal 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)
10. Make a note of any differences in the versions.

Pre-study of Source and Target System.

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).s

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.

System Refresh Procedure

Procedure

- System Refresh includes 3 steps:
    - Pre- Refresh activities
    - Database Copy(Restore and Recovery)
    - Post- Refresh activities

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Pre Task – Source System

Pre-Refresh Activities

1. Secure the required passwords of Application users; DDIC/000
2. Trigger a Production backup along with other Production systems
3. Try to make a FS backup; so that we don't have to restore it from TSM
4. Secure the required passwords of OS users; <sidadm>
     In this step we secure the password of all the system we have.
5. Take the trace of Control file for Database creation on Target side.
     For example : alter database control file to trace; --- if Database type is Oracle.

Pre Task – Target System

Pre-Refresh Activities

1. Copy/Move the backup from Source host to Target host

```
cx5adm@gotsap212:/software/CT5_DATABKP_060318> du -sh *
16 K     COMPLETE_DATA_BACKUP_databackup_0_1
257M     COMPLETE_DATA_BACKUP_databackup_1_1
379G     COMPLETE_DATA_BACKUP_databackup_2_1
81M      COMPLETE_DATA_BACKUP_databackup_3_1
```

Pre-Refresh Activities

2. Export User Master

Pre-Refresh Activities

3. Export RFC Destinations

```
gotsap305:      · 61> cat ·._RFC_export.ctl
export
client=all
file'/usr/sap/trans/ ''\_RFC.dat'
select * from RFCDES
select * from RFCDOC
select * from RFCSYSACL
select * from RFCATTRIB
select * from RFCCHECK
select * from RFCDESSECU
select * from RFCTRUST
select * from RFCCMC
select * from RFCGO
select * from PARAMVALUE
select * from RSECACHK
select * from RSECACTB where ident LIKE '___/RFC%'
gotsap305      · 62> pwd
/usr/sap/trans
gotsap305:      · 63> []
```

```
gotsap305:      '- 63> R3trans -w CX5_RFC_export.log CX5_RFC_export.ctl
This is R3trans version 6.26 (release 749 - 14.02.17 - 20:17:01).
unicode enabled version
R3trans finished (0000).
gotsap305:      ', 64> █
```

Pre-Refresh Activities

4. Export Printer Definitions

Pre-Refresh Activities

5. Export Logical System Name
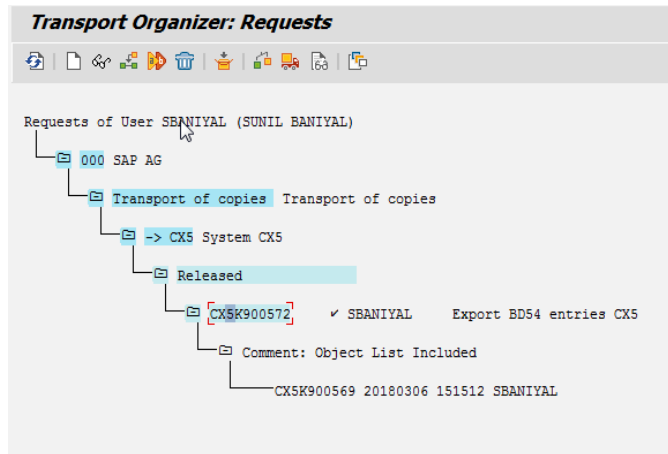
Pre-Refresh Activities

6. Export Partner Profiles

```
gotsap305:cx5adm 71> R3trans -w CX5_partnerprofexp.log CX5_partnerprofexp
This is R3trans version 6.26 (release 749 - 14.02.17 - 20:17:01).
unicode enabled version
R3trans finished (0000).
gotsap305:cx5adm 72> ls -ltr
```

```
-rw-r--r-- 1 cx5adm sapsys    682069 Mar  6 15:29 CX5_WE20_PARTNER_PROFILE_EXPORT.dat
-rw-r--r-- 1 cx5adm sapsys      5009 Mar  6 15:29 CX5_partnerprofexp.log
```

Partner_Type LS	
COMCLNT002	C0M client 002
CA2_001	PI QA
CPAM	CPAM system
CS2CLNT001	VCC XI Sandbox
CSACLNT001	CX5 Client 900
CX5_900	- CT5_900 -
FIELDGLASS	Fieldglass
PREVENUE	Logical System for Prime Revenue
TRADESHIFT	Tradeshift VIM China
VISTADEV	Vista development

Pre-Refresh Activities

6. Export Partner Profiles (we21)

Ports in IDoc processing

Ports	Description
Ports	
Transactional RFC	
A000000015	My SAP BW System
A000000016	ECQ port to connect clien
A000000017	Port
A000000019	EQQRCV
A000000020	Source port ECQ tan
A000000021	SOURCE PORT FOR ECQ
A000000022	dev_ecq3
A000000026	Port to connect client B0(
A000000027	s4hkircon
A000000028	s41port
A000000029	RFC setup to client 200
A000000030	KIRS4H
A000000032	SAMPLE PORT
A000000035	to Port 200
A000000039	port 200
File	
FILE_PORT	port for transferring data
ABAP-PI	
XML File	
XML HTTP	

Port

Description: My SAP BW System

Version
- ○ IDoc rec.types SAP Release 3.0/3.1
- ● IDoc record types SAP Release 4.x

RFC destination

Processing Options
- ☐ Send Only Fields of Segment Version
- ☐ Use SAP Release of Receiving System in Control Record

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Pre-Refresh Activities

7. Save Logon Groups RZ12

```
-rw-r--r-- 1   sapsys    778 Mar  6 15:36 Logongroup.ctl
gotsap305.   77> pwd
/usr/sap/trans
gotsap305:    78>
```

```
gotsap305:    75> R3trans -w logon_groups_exp.log logon_groups_exp
This is R3trans version 6.26 (release 749 - 14.02x17 - 20:17:01).
unicode enabled version
R3trans finished (0000).
```

CCMS: RFC Server Group Maintenance

Delete Assignment   Delete Group   Remove instance

Logon Group	Instance	Status
390	gotsap305_CX5_02	
SLO	gotsap308_CQ5_00	

Change Assignment

Group assignment
| Server group | 390 |
| Instance | gotsap305_CX5_02 |

Instance-Dependent Properties
Resource Allocation
Activated (0 or 1)	1
Max. Requests in Queue (%)	5
Max. No. of Logons (%)	90
Maximum No. Separate Logons(%)	25
Max. Number of WPs Used (%)	75
Minimum Number of Free WPs	1
Max. No. of Comm. Entries (%)	90
Max. Wait Time	15

Copy

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Pre-Refresh Activities

8. RFC Groups SAP Basis Screenshots

CCMS: RFC Server Group Maintenance

🔍 🗋 🗑 Delete Assignment   🗑 Delete Group   🗑 Remove instance | 🖨 🗏 ℹ️

Logon Group	Instance	Status
390	gotsap305_CX5_02	🟩
SLO	gotsap308_CX5_00	

Pre-Refresh Activities

9. Clean up Job Log Directory

Pre-Refresh Activities

10. Operation Mode Configuration SAP Basis Screenshot

Productive operation modes (normal operation)		
Operation mode	Time	Text
CC merge		For merge of company codes
Day_new		New OP mode for C05 DAY operation
Daytime	05:00 - 18:00	Normal daytime operation with many dialog processes
Full night	18:00 - 05:00	Many batch processes
Switch_UPD_2_BG		Switch Update to BG work process
Upgrade		Operation mode for upgrade
all_dialog		all dialog

```
gotsap305:cx5adm 96> R3trans -w EXPORT_OP_MODES.log EXPORT_OP_MODES
This is R3trans version 6.26 (release 749 - 14.02.17 - 20:17:01).
unicode enabled version
R3trans finished (0000).
gotsap305:cx5adm 97> ls -ltr
```

Pre-Refresh Activities

11. Export Web Service Configuration

12. Export tRFC and Outbound qRFC Configuration

qRFC Monitor (QIN Scheduler)

🗑 🔁 ⚠ 📑 📑 Registration Register without activation Deregistration qRFC Monitor

```
                 Scheduler Information
Scheduler Status                  :   Inactv.
Last Update (Every 2 Minutes)  :   05.04.2014 19:22:04
Name of AS Group (DEFAULT = All):   DEFAULT
Number of Entries Displayed          0
Host ID                           :
Number of Active Connections         0
Scheduler Monitoring          :     Default(   1.800  )seconds
```

Nothing selected

Pre-Refresh Activities

12. Export tRFC and Outbound qRFC Configuration

Pre-Refresh Activities

13. Export SCOT Configuration

Pre-Refresh Activities

14. Export SICF Configuration
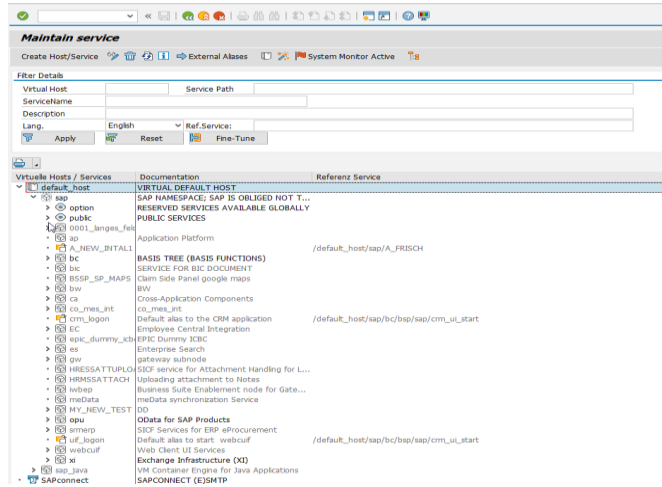
Pre-Refresh Activities

15. Export SLDAPICUST Configuration

Pre-Refresh Activities

16. Export STRUST Configuration

```
gotsap305:cx5adm 101> R3trans -w CX5_STRUST_EXPORT.log CX5_STRUST_EXPORT
This is R3trans version 6.26 (release 749 - 14.02.17 - 20:17:01).
unicode enabled version
R3trans finished (0000).
```

```
gotsap305:cx5adm 110> ls -lrt | grep -i strust
-rw-r--r--  1 cx5adm sapsys      183 Mar  6 17:31 CX5_STRUST_EXPORT
-rw-r--r--  1 cx5adm sapsys    14009 Mar  6 17:31 strust_CX5.dat
-rw-r--r--  1 cx5adm sapsys     2701 Mar  6 17:31 CX5_STRUST_EXPORT.log
gotsap305:cx5adm 111>
```

17. Export Cross-Client FileName/Path Configurations

```
gotsap305:cx5adm 112> R3trans -w EXPORT_ALL_CX5.log EXPORT_ALL_CX5
This is R3trans version 6.26 (release 749 - 14.02.17 - 20:17:01).
unicode enabled version
R3trans finished (0000).
gotsap305:cx5adm 113>
```

```
gotsap305:cx5adm 115> ls -ltr |grep -i CX5_AL11
-rw-r--r--  1 cx5adm sapsys     1136 Mar  6 17:37 CX5_AL11 data
gotsap305:cx5adm 116>
```

Pre-Refresh Activities

18. Export DBACOCKPIT Configurations

Pre-Refresh Activities

19. Export Batch Job Variants

20. Export Batch Job Server Configurations
21. Export OS Commands

Pre-Refresh Activities

22. Check SMICM

Pre-Refresh Activities

23. Secure the required passwords of OS users ; <sidadm>
24. Secure the required passwords of Application Users ; DDIC/000
25. Secure the required passwords of DB users; SYSTEM; SCHEMA users
26. Download required license for Target and have it stored on OS Level
27. Take a screenshot of Database - just to have it handy to retain incase of issues
28. Send out a communication to all required stakeholders about the downtime
29. Set a system message sm02 with the timelines & unavailability
30. Secure a database backup of the system before starting the activity
31. Disconnect the system from CUA

Database Copy(Restore and Recovery)
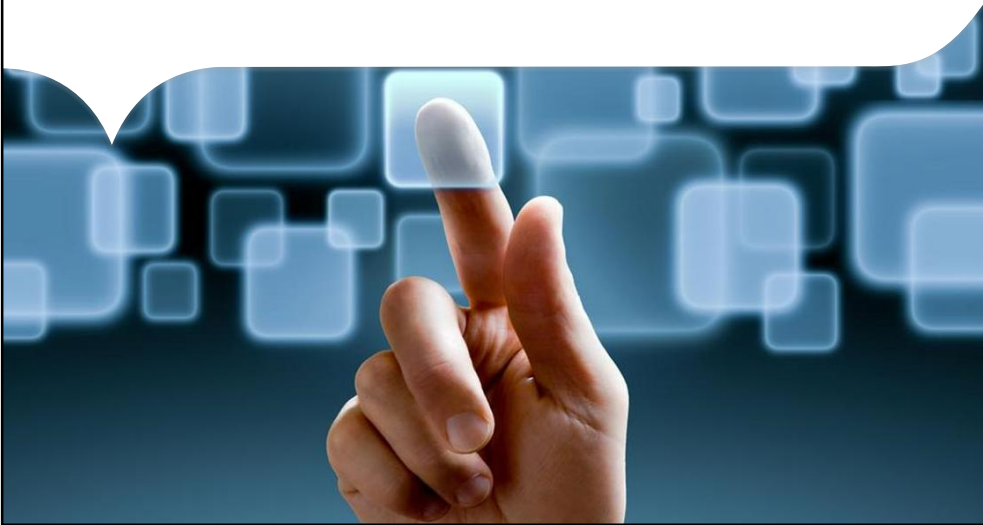
DB Restore

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

Post- Refresh Activity

1. Disable RFCs
2. Disable Edi Ports
3. Truncate TRFC and QRFC tables
4. Truncate profile tables
5. Truncate BG RFC tables
7. Apply SAP licenses
8. Initial Consistency Check

SAP Initial Consistency Check

SAP System Check

no errors reported
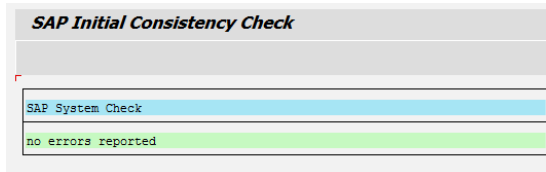
Post- Refresh Activity

9. Logical System Conversion – BDLS

Tool: Conversion of Logical System Names

Converting logical system names

Old Logical System Name	CTS_900
New Logical System Name	CX5_900

◉ Conversion of Client-Dependent and Client-Independent Tables
(e.g. Renaming Original System or Following Database Copy)
○ Conversion of Client-Dependent Tables
(e.g. Following a Client Copy)

☐ Test run   ☐ Check Existence of New Names in Tables
Number of Entries per Commit

Tables to be Converted _____ to _____

Options

☐ Determine Relevant Tables Again
☑ Start Conversion of Tables with Special Handling

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Post- Refresh Activity

10. Check and import RFC destinations
11. Import user master

Post- Refresh Activity

6. Add System back to CUA
7. Reconfigure spool

Delete Old Spool Requests

Without Output Request
- [ ] Without Output Request
- older than ... days   0
- ( ) and
- (•) Or
- [✓] Obsolete

In processing
- [ ] In Processing
- older than ... days   0
- ( ) and
- (•) Or
- [ ] Obsolete

Completed
- [ ] Completed
- older than ... days   0
- ( ) and
- (•) Or
- [✓] Obsolete

Incorrect
- [ ] Incorrect

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Post- Refresh Activity

12. Clean CCMS data

13. Change logon groups

```
gotsap305:cx5adm 55> R3trans -w logongroup_imp.log logongroup_imp
This is R3trans version 6.26 (release 749 - 14.02.17 - 20:17:01).
unicode enabled version
R3trans finished (0004).
gotsap305:cx5adm 56>
```

Post- Refresh Activity

14. Change RFC server groups
15. TemSe Consistency Check

Spool Data Consistency Check in Background

Release locks after .. minutes   10080
☑ Delete old write locks
☑ Only list inconsistencies
Delete After ..... Runs   00

Consistency check of table TSP01 / spool requests

System CX5   2018-03-09 16:22:12

Input value for RSPO1043   20180309 152212

Release write locks after ... minutes   10080
Delete old write locks   X (yes)
Only list inconsistencies   X (yes)
Delete Inconsistencies After ... Runs   00

No. spool requests   1,928
No. print requests   1,437

Post- Refresh Activity

12. Schedule Standard jobs
13. Connect to SLD

SLD DS Start Program

SLD DS Start Program

```
0: gotsap305_CX5_02                    : Execute program: _SLD_NWSYS
0: gotsap305_CX5_02                    : Execute program: _SLD_GWSRV
0: gotsap305_CX5_02                    : Execute program: _SLD_IPSERV
0: gotsap305_CX5_02                    : Execute program: _SLD_MSGSRV
0: gotsap305_CX5_02                    : Execute program: _SLD_HTTPSERV
0: gotsap305_CX5_02                    : Execute program: _SLD_COMPSYS
0: gotsap305_CX5_02                    : Execute program: _SLD_INSTSP
0: gotsap305_CX5_02                    : Execute program: _SLD_CLIENT
0: gotsap305_CX5_02                    : Execute program: _SLD_BCSYS
0: gotsap305_CX5_02                    : Execute program: _SLD_INSTSC
0: gotsap305_CX5_02                    : Execute program: _SLD_APPL_SERV
0: gotsap305_CX5_02                    : Execute program: _SLD_DBSYS
0: gotsap305_CX5_02                    : Execute program: _SLD_DBCON
0: gotsap305_CX5_02                    : Collection of SLD data finished
0: gotsap305_CX5_02                    : Data collected successfully
0: gotsap305_CX5_02                    : RFC data prepared
0: gotsap305_CX5_02                    : Used RFC destination: SLD_UC
0: gotsap305_CX5_02                    : RFC call successful
0: gotsap305_CX5_02                    : Existing periodic jobs removed.
0: gotsap305_CX5_02                    : Program scheduled: 20180310 051900
0: gotsap305_CX5_02                    : SLD job for system start: Program scheduled: SAP_SYSTEM_START
```

Post- Refresh Activity

14. Verify operation modes in RZ04
15. SSO Certificates

```
gotsap305:cx5adm 78> R3trans -w CX5_STRUST_IMPORT.log CX5_STRUST_IMPORT
This is R3trans version 6.26 (release 749 - 14.02.17 - 20:17:01).
unicode enabled version
R3trans finished (0004).
gotsap305:cx5adm 79>
```

16. Generate load SGEN
17. Check the DB planning calendar
18. Disable Email Functionality
19. Check the Integrations

Post- Refresh Activity

20. Retain the STMS configuration as before
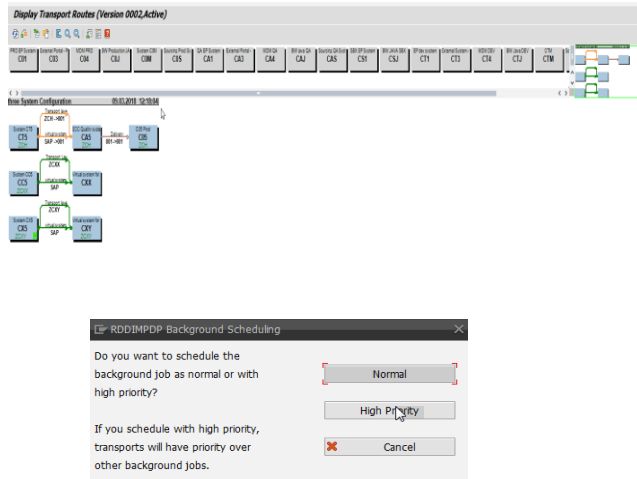
Post- Refresh Activity

21. Import any add-ons (if any)
22. Import any TR's (provided by Projects i.e. in-flight transports)
23. Check the Integrations - RFC's & PROXY to PI and any other 3rd party interface observed during prechecks.
24. Configure Database Backup
25. Release system to users

Questions

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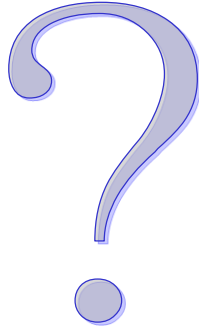
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