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GUIDE TO PERFORM EFFICIENT SYSTEM COPY FOR SAP BW SYSTEMS

Helps you to plan and execute BW System Copy

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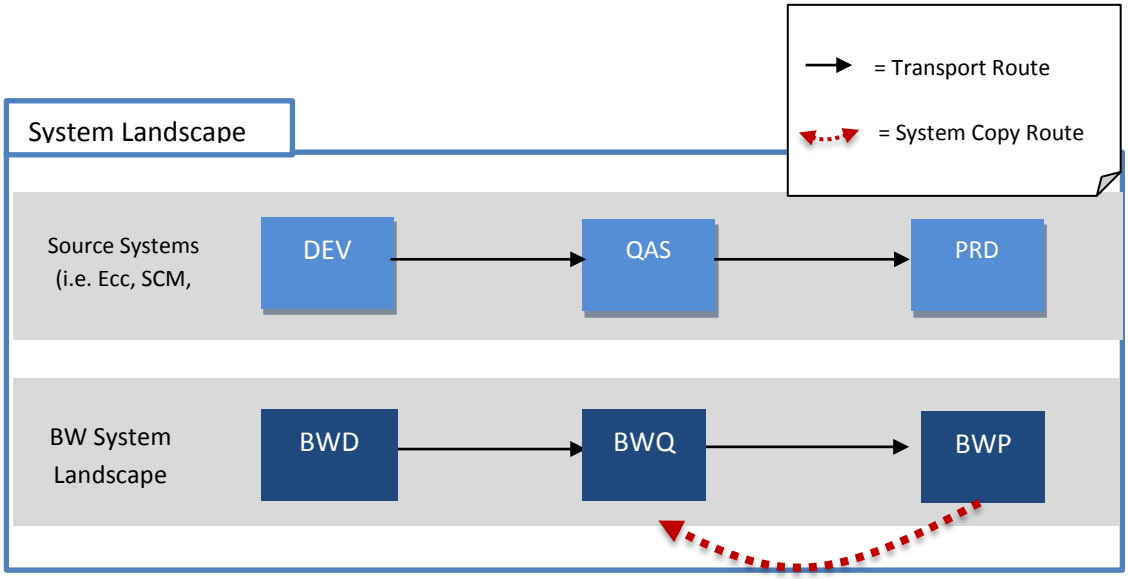
1. Introduction

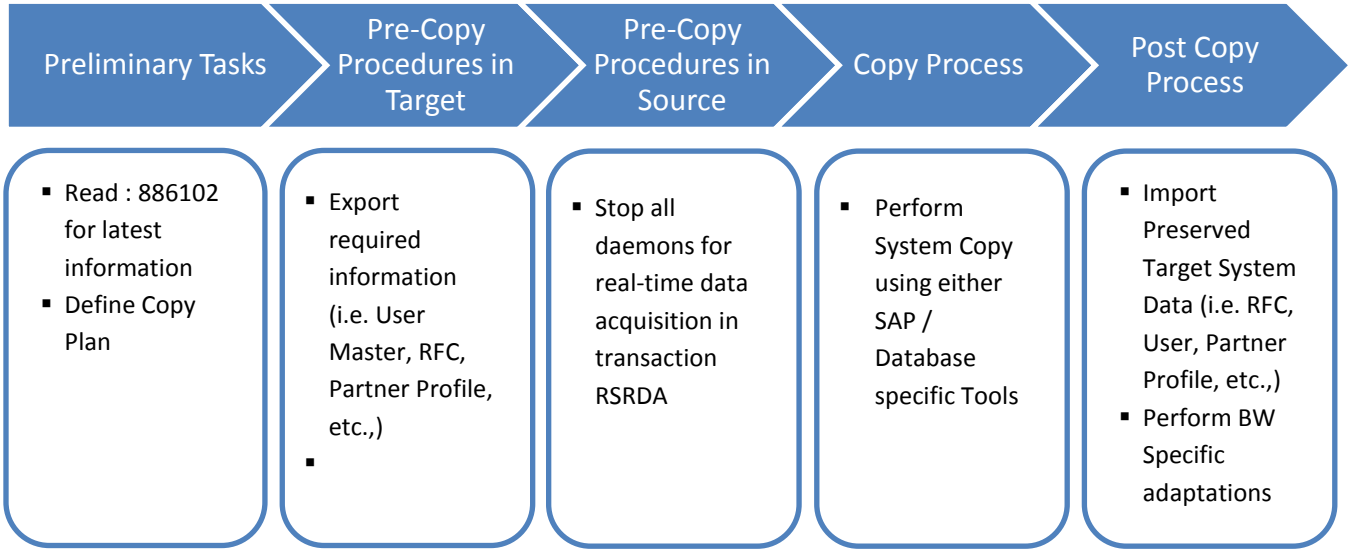
This article is about “How to perform an efficient system copy of an SAP BW system”. Though SAP has given clearly defined procedures, it still seems to be a pain when it comes to the execution specific to SAP BW. Hence this article focuses on very important BW Specific System Copy procedures those are to be considered while performing an SAP BW system copy.

This article focuses on the scenario B3 which is mentioned in OSS Note 886102 (Copy BW Production System to **existing** BW Quality Environment; the connected source systems **are not** copied), below diagram depicts the same.



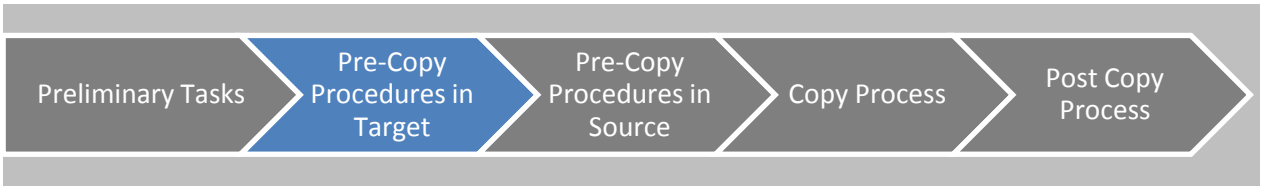
2. Phases of an SAP System Copy

In general, there are five different phases involved in any SAP System Copy procedures; BW system copy is no different from this approach. But in this article, the focus will be more on pre and post-copy phases as the other areas are common for any system refresh activities.



Please note that this article does not contain "How To" procedures, rather helps you to prepare a system copy plan to make the BW System Copy successful.

3. Pre-Copy Procedures in Target System (Phase 2)

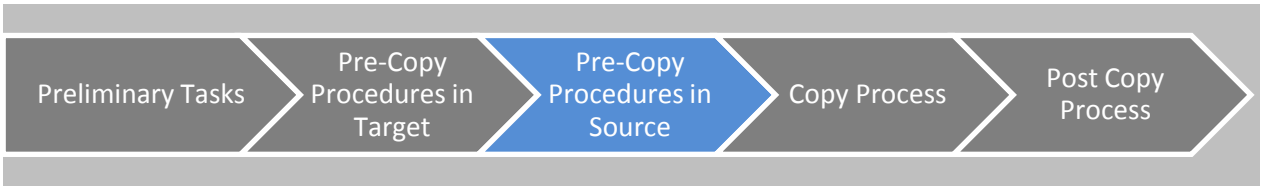


As the target system is expected to be overwritten by the system copy process, it is generally recommended to preserve the target specific contents in the form of plain text, excel, transport request, screenshots, etc., The procedures differ between customer to customer/system to system, hence I have listed down a broad range of activities that are typically performed as part of pre-system copy phase, you may pick-up the ones that are relevant to your environment. Items marked in green are specific to SAP BW.

Since the system copy wipes out the target system completely, this step is very crucial to ensure that the items those are needed after the system copy are preserved and kept intact. My recommendation to you is that, once the pre-copy procedures are done, have one of your colleague to review the screenshots and the transport requests generated.

No	Task	Responsible Team	Table
1	Export License / Get License File	SAP Basis	Text File / Screenshot
2	Export User Master	SAP Security	Transport Request
3	Preserve Modifiable Transport Requests	Respective TR Owners	Release / Delete
4	Make a note of last change request number	SAP Basis	Screenshot
5	Export RFC Destinations	SAP Basis	Transport Request
6	Export Printer Definitions	SAP Basis	Transport Request
7	Export Logical System Name Entries	SAP Basis	Transport Request
8	Export Partner Profiles	SAP Basis	Transport Request
9	Save Logon Groups	SAP Basis	Screenshot
10	Export STMS_QA List	SAP Basis	Spreadsheet
11	Transport Buffer	SAP Basis	Spreadsheet
12	Export STMS_QA Worklist Tables	SAP Basis	Transport Request
13	RFC Groups	SAP Basis	Screenshots
14	Clean up Job Log Directory	SAP Basis	Directory
15	Operation Mode Configuration	SAP Basis	Screenshot
16	Export Web Service Configuration	SAP Basis	Transport Request
17	Export tRFC and Outbound qRFC Configuration	SAP Basis	Transport Request
18	Export SCOT Configuration	SAP Basis	Transport Request
19	Export SICF Configuration	SAP Basis	Transport Request
20	Export SLDAPICUST Configuration	SAP Basis	Transport Request
21	Export STRUST Configuration	SAP Basis	Transport Request
22	Export Cross-Client FileName/Path Configurations	SAP Basis	Transport Request
23	Export DBACOCKPIT Configurations	SAP Basis	Transport Request
24	Export Batch Job Variants	SAP Basis	Transport Request
25	Export Batch Job Server Configurations	SAP Basis	Transport Request
26	Export OS Commands	SAP Basis	Transport Request
27	Export Version	SAP Basis	Transport Request
28	Export Developer Access Key	SAP Basis	Transport Request
27	Export ZTABLES, if any	SAP Basis / Respective Owners	Transport Request
28	Export Source System Dependent Objects (Transfer Structures, Infopackages, etc.,)	SAP BW Support Team	Transport Request

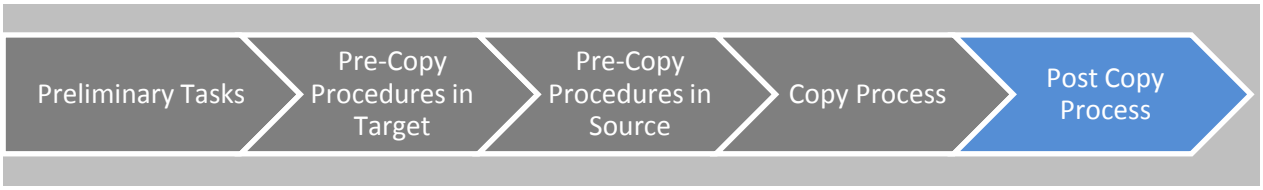
4. Pre-Copy Procedures in Source (Phase 4)



There are not too many activities to be done on the source system, however below are few SAP BW specific actions those are needed to be performed in the source system before the system copy.

No	Task	TCODE/Command	Type
1	Stop All Daemons for real-time data acquisition	RSRDA	
2	Stop All the Background Jobs	SE38 - BTCTRNS1	

5. Post Copy Process (Phase 5)



Below list contains the complete set of activities to be performed for any SAP System Copy, items marked in green are very important steps related to SAP BW.

Sl. No	Task Description	Responsible Team
1	Suspend the Background Jobs	SAP Basis
2	Disable RFC Destinations	SAP Basis
3	Perform Consistency Check	SAP Basis
4	Clean up Batch Jobs	SAP Basis
5	Cleanup Update Terminations	SAP Basis
6	Cleanup Inbound Queue	SAP Basis
7	Cleanup Outbound Queue	SAP Basis
8	Cleanup Spool Requests	SAP Basis
9	Cleanup System Profiles	SAP Basis
10	Cleanup STRUST	SAP Basis
11	Initialize STMS	SAP Basis
12	Perform STMS Configuration	SAP Basis
13	Schedule RDDNEWPP	SAP Basis
14	Import System Profiles	SAP Basis
15	Import RFC Connections	SAP Basis
16	Import Inbound qRFC Configuration	SAP Basis
17	Import tRFC and Outbound qRFC Configuration	SAP Basis

Sl. No	Task Description	Responsible Team
18	Import ALE Configuration	SAP Basis
19	Import ALE Customizing	SAP Basis
20	Import Batch Jobs with Variants	SAP Basis
21	Import Batch Server Groups	SAP Basis
22	Import Customer defined Configuration Tables	SAP Basis
23	Import DBACOCKPIT Configuration	SAP Basis
24	Import OS Commands (SM69)	SAP Basis
25	Import Cross-Client File Names or Path	SAP Basis
26	Import License	SAP Basis
27	Import Logon Groups	SAP Basis
28	Import System Profiles	SAP Basis
29	Import Operation Modes	SAP Basis
30	Import Printer	SAP Basis
31	Import SLD Data Supplier Configuration (RZ70)	SAP Basis
32	Import SCOT Configuration	SAP Basis
33	Import SICF Configuration	SAP Basis
34	Import SLD Access Data Configuration (SLDAPICUST)	SAP Basis
35	Import Update Program Server Groups (SM14)	SAP Basis
36	Import STRUST Configuration	SAP Basis
37	Adjust Last Transport Request Number	SAP Basis
38	Import TMS QA Configuration	SAP Basis
39	Import Development Versions	SAP Basis
40	Import Web Service Configuration (SOAMANAGER)	SAP Basis
41	Adjust RZ12 Configuration	SAP Basis
42	Setup Standard Background Jobs	SAP Basis
43	Import Users	SAP Basis
44	Final Consistency Check (SICK)	SAP Basis
45	Delete Source System Connections	SAP Basis
46	Execute BDLS	SAP Basis
47	Create New Source System (Do Not Replicate)	SAP Basis
48	Map Source System Name RSLOGSYSMAP	SAP Basis
49	Import Source System Dependent Objects	SAP Basis
50	Perform Preliminary Checks on Source-System Dependent Objects	SAP BW Support Team
50	Delete Unused RFC Connections	SAP Basis
51	Adjust the SE06 / SCC4 Settings	SAP Basis
52	Fix Partner Profiles	SAP Basis
53	Set Batch Jobs to Released via BTCTRNS2	SAP Basis

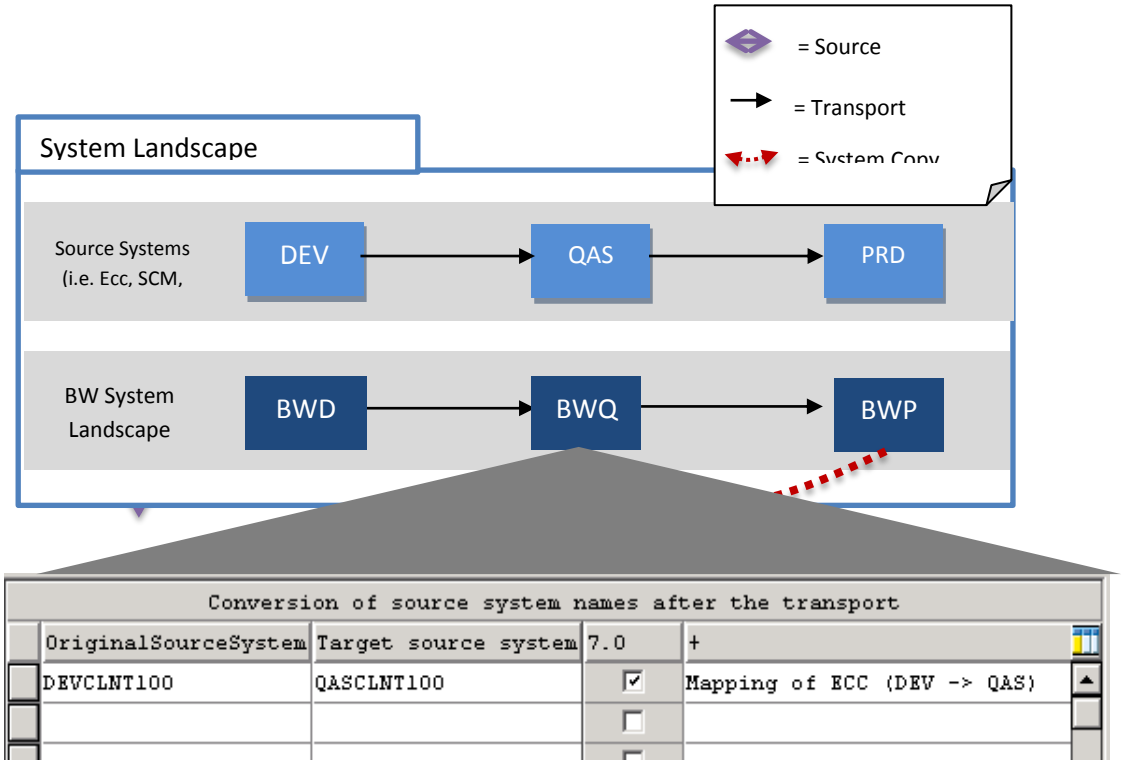
6. Important Pre and Post-Copy areas those are specific to SAP BW

6.1. Map Source System Name

In general, for any source system dependent objects to be transported into quality or production systems, it is necessary/pre-requisite to map the source systems in table RSLOGSYSMAP.

In the below given landscape scenario, objects developed in BWD are expected to get moved to BWQ. BWD has the source system DEV connected which has the logical system name as DEVCLNT041. If the source system mapping **is not done** properly in the BWQ system, then all the source-system dependent objects get transported to BWQ will continue to have the source system name as DEVCLNT041 which is **not the ideal situation**. Because BWQ is connected to QAS system and not DEV, that's the reason, SAP has given the option of mapping the source system name in RSLOGSYSMAP, transport import process will read the information from this table and convert the source system dependent objects to QASCLNT041 to reflect the actual source system that is connected to BWQ.

Please note that the mapping should be done in the system where the import is performed (i.e. BWQ / BWP) as depicted below. You can set it using RSA1 - > Tools -> Conversion of Logical System Name.



When it comes to system copy, this step should be performed prior to importing any source-system dependent objects in the target system. (i.e. BWQ)

6.2. Why do we need to export the source-system dependent objects prior to system copy

As I mentioned in the previous sections, the source system dependent objects in BW are tightly connected to the source system (OLTP/ECC) to which the objects are attributed to. In essence, when a system copy is made from BWP to BWQ, the source system connections will be referring to PRD which is connected to the BWP system. Whereas BWQ does not have any reference to PRD system, rather after the system copy, it has to be referred to QAS system which is the ECC / OLTP Quality Assurance System connected to BWQ.

If you do not preserve the source-system dependent objects (prior to system copy) in the form of transport requests, then there is a possibility that all these bjects will get deleted/wiped out after the system copy. That is the reason SAP recommends to follow the below steps while performing SAP BW system copy .

- Step 1 (Pre-Copy) : Save source-system dependent objects in the form of transport request (make sure to release it)
- Step 2 (Post-Copy) : Change the existing RFCs to non-existing hostnames (SM59 -> PRDCLNT100 -> change the hostname to non-existent one, so that no connections will be established to production source systems)
- Step 3 (Post-Copy) : Delete Source System Connections (except myself system)
- Step 4 (Post-Copy): Run BDLS to convert the logical system name from PRDCLNT100 to QASCLNT100
- Step 5 (Post-Copy): Perform BW Specific Adaptations (Reset generation flag for ODS activation programs – RSSGPCLA)
- Step 6 (Post-Copy): Adjust the source system mapping (refer previous section - RSLOGSYSMAP)
- Step 7 (Post-Copy): Import the source-system dependent transport (that was preserved in the target system prior to copy)

Quick Tip : If you have not preserved the source-system dependent objects prior to system copy, you can also create the transport request in BWP (source system dependent object from Production). However, it has its own limitation as given below:

- If the source system (OLTP/ECC QAS) of the target delivers additional data sources, the corresponding (additional data source specific) source-system dependent objects will be lost.
- If the source system (OLTP/ECC PRD) of the productive BW delivers additional data sources, then this would lead to import errors. (this is something to be worked out by BW support team, they will collect the additional data sources (from PRD) and import into QAS system)
- Mapping of source system definition in RSLOGSYSMAP must be done prior to import

6.3. Reference to Source System Dependent Objects

Below are the objects that are source-system dependent.

Object Type	Example
Source-system dependent object that carries the source system directly in its key.	DataSource
	Transfer Rule (SAP BW 3.x)
	RRI recipient for an InfoCube
	RRI recipient for a query
Source-system dependent object that carries the source system in its shortened key according to a hash algorithm.	Transformation
Source-system dependent object that carries the source system in its key in coded form.	Transfer Structure (SAP BW 3.x)
Source-system dependent object that carries a GUID (Globally Unique Identifier) in its key.	Data Transfer Process
	InfoPackage
Source-system independent object that refers to source-system dependent objects.	Process chain
	Process chain variant (PSA processes)
	See: Process Chains and Process Variants

6.4. Why should I perform BDLS during the system copy?

BDLS is performed to convert the logical system name of a system, for example, if a production system (BWPCLNT100) is copied to QAS (BWQCLNT100), after the system copy, all the tables (which contain details about logical system name) will have reference to PRDCLNT100, and this might create inconsistencies in terms of interfaces/connections to source systems. In order to ensure consistent data transfer between the systems, it is necessary to perform the logical system name conversion using BDLS.

Below are the two different BDLS runs to be performed for the sample landscape described in this article.

- BWPCLNT100 -> BWQCLNT100
- PRDCLNT100 -> QASCLNT100

In general, it is recommended to perform the logical system name conversion for all the source system connected to a BW system.

During the execution, as a first attempt, you may please try out the BDLS with the test run in dialog mode and once it is successful, you may schedule the actual conversion.

Important Points to Consider:

- When you run a BDLS, with the latest support packages, DTP objects are also converted to reflect the actual logical system name. If you have “Automatic Recording of Changes” set in SCC4, it will expect you to give the transport request number to record the changes during the BDLS conversion. For this reason, do not run the BDLS in the background, because the BDLS

conversion process will get into a loop and will run forever, the basic reason for the same is that it is waiting for a transport request to be given in the background, as a result runs forever without making any changes to the tables.

- In some cases, BDLS run will run only for few seconds, but will not convert any of the tables, rather it will complete gracefully without any kind of error messages in the job log. Described situation can be noticed when there is an inconsistency in the BDLS control tables. It is recommended to execute program RBDLSMAP_RESET (Refer OSS Note : 962674) to clean up the log tables, once the log tables are cleaned up, you must re-run the BDLS for all the necessary source-systems to be converted.

7. Points to take home

- Prepare a plan along with all the stake-holders involved, system copy is not just an activity to be performed by Basis Team.
- If you are planning to define a "How To" procedures, it is recommended to perform Proof of Concepts project (along with all the stakeholders) and define the How To Procedures.
- Prepare a sound strategy for Logical System Name and BDLS Conversion for each and every system involved in the landscape. Every landscape and systems are different; hence prepare an individual execution plan for every system (and make sure to Test it).
- For BW System Copy , read through OSS Note 886102 for the latest developments around SAP BW System Copy.
- Mapping of Source System (right after the system copy) is an important step before you import any BW specific objects.
- Make sure to preserve source-system dependent objects in Target System to avoid any situations such as transfer rule missing, etc.,
- This paper is not just for SAP BW, the same can be referred for SAP SCM systems as well.

8. Reference:

https://websmp130.sap-ag.de/sap(bD1lbiZjPTAwMQ==)/bc/bsp/spn/sapnotes/index2.htm?numm=0000886102&nlang=E

https://websmp230.sap-ag.de/sap(bD1lbiZjPTAwMQ==)/bc/bsp/spn/sapnotes/index2.htm?numm=962674