How to create a solution for Change Request Management in SAP Solution Manager 7.2

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**Purpose**

With the following steps you will be able to create a Solution to practice with Change Request Management in SAP Solution Manager 7.2 SP03. Also I will try to give some tips and tricks for the creation of a good solution from Change Request Management point of view.

I will work in this example with this real TMS landscape:

![Diagram of single system configuration with transport paths](image)

Legend:
- EYE:001 is where Change Request Management is configured with Solman_Setup
- EYE:100 represents the development system in the maintenance landscape, n landscape
- EYE:200 represents the quality system in the maintenance landscape, n landscape
- EYE:300 represents the production system in the maintenance landscape, n landscape
- EYE:101 represents the development system in the implementation landscape, n+1 landscape
- EYE:102 represents the quality system in the maintenance landscape, n+1 landscape

Changes from the n+1 landscape should finally reach production system EYE:300 following this transport track:


Note: You could have a minimum of two systems, source and production systems, for a ChaRM scenario.
ChaRM expects to see consolidation routes from source to target systems, delivery routes between target systems and from the last target system to production system.
So in the case that you have a landscape of two systems you need to create the consolidation routes and also a delivery route from source to production system.
With this test managed system landscape this would be the solution- logical component to create to represented it:
See all definitions for Solution, Branches, Logical Components Groups LCG, System Roles, Change Control Landscape and Sites in SAP Solution Manager 7.2 - Change Request Management: Usual questions and known errors. Please also check SAP Solution Manager 7.2 - Solution Landscape Design.

Create the Solution

In /nslan you can create your solution.

Remember that the solution, branches, logical component groups, system roles ... will represent the TMS REAL LANDSCAPE, TMS IS THE MASTER OF THIS DATA AS ALWAYS!!!!
Note: A development branch can be created if required. This development/innovation branch will be required for situations where there is a two-tier landscape, n+1 landscapes. The second dev system is maintaining the same objects that are maintained in the first dev system plus additional functionality, like for retrofit systems. We will see how to create this Development branch later.

**Create Logical Component Groups LCG**

Then create Logical Component Groups LCG, click on Maintenance Logical Component Groups link:
Please notice that the LCG name cannot be changed after the creation, so I would enter as naming convention for example the Software product of the landscape like ERP for example. The logical component group name should be unique.

Logical component groups are uniquely defined for each solution. The unique identifier for a logical component group is the logical component group name.

The name is unique for the whole system. This name cannot be changed after the creation of a logical component group.

See also:

Process Management - Logical Components and Logical Component Group at: https://help.sap.com/viewer/60943adf3ff44893b62c568bb8a87d17/7.2.05/en-US/d8a85557e03f9067e10000000a4450e5.html.
Then click on Assign Technical System link:

Ensure that you select the branch and the Technical System Type for your logical component group for a better system:client selection afterwards.

For the Maintenance Branch we have added EYE:100 as development system and EYE:200 as quality system. See in System role section how to determine which type of role is linked to this "column" name descriptions.
For the Production Branch we have added EYE:300 as production system.

Note: all the systems of one transport track have to be in the same logical component group, see SAP Note 2461467 - ChaRM&QGM: One transport track should not contain systems crossing logical component groups.

If you get errors like AGS_TD125  Transport track of source system &1 does not include a production system, check that the above condition is fulfilled.

Create a development branch

A development/innovation branch will be required for situations where there is a two-tier landscape, n+1 landscapes like in our example TMS landscape where you can see EYE:101 as development system of the implementation landscape or n+1 landscape or simply retrofit system.

In the Branches tab click on Create link:
Now assign the correct technical systems to the Development branch:
When you are creating the change cycle for the Development branch with this transport track:
Note: When you are creating a change cycle you will need to select in the Landscape field one solution or one change control landscape, and then the branch.

Only branches with contents a source system will be available for selection.

Then when the change cycle document moves from Created status to Scope the task list will be created if there are not task list.

The transport tracks shown like in the picture above will start in the source systems of the branch selected but it will contain all systems included in the solution/change control landscape selected.

In the information button of the above screenshot you can read this information:

You can also add a virtual system VI1 as production system in the solution.
Create Change Control Landscape

You could create Change Control landscapes in Change Control Landscapes tab.

Use right click on the white area and New to create them.
You can select which logical component groups of the solution are included in them.

Note: For using Release Management cycles SMRE you need to create a Change Control Landscape.

**System roles**

When you were assigning the technical systems to a branch you saw that you need to fill a system:client under a column with a name.

Each column name is linked to a type of system role such as source system, target system, production system, etc..

There is no change in the concept of system roles from SAP Solution Manager 7.1 to 7.2, but the maximum number of custom roles has been increased from 10 to 52.

Note: You can use all lower and upper-case letters except A, B, C, D, E, F, P, S, T, V, as well as numbers. This is necessary to assign systems of multiple sites to the same logical component (countries, plants). Use system roles for this purpose, do not create site logical components.

In sm30: smsy_roles you can create new roles, however what it is really important is not the description name of the role, it is the **Type of Role** linked to it, assign it in transaction /nmaint_roles:
**Solution Documentation integration**

If ChaRM needs to be integrated with Solution Documentation select Maintenance Branch and go to Properties and then enable Change Control.

If you are using ChaRM only for transport management then you only need to maintain the systems:clients inside the LCG, not Change Control.
enabling is required.

## Sites

To enable sites go to Properties tab and enable "Landscape with Sites": With this configuration the production branch is site enabled.

To define sites goto System Landscape -> Maintain Sites and create your sites.

Now the sites must be activated per Logical Component group, so goto Maintain Logical Component Groups select your LCG and set Sites On enable.

To enable site for Maintenance Branch and also for additional branches goto Branches tab where you want to use sites select the branch and in Properties link select Branch with Sites.

Now you are ready to create a change cycle by selecting a solution/change control landscape and a branch. Only the branches containing a logical component group with a system with role source are available for selection.

Note: if you are using the same system:client under different roles, for example as source system and also as target system, then you could try to separate them in two sites for the same logical component group to enter the different roles in the different sites.

*NEW SP05* Delete a Solution
Since SAP Solution Manager 7.2 SP05 it is possible to delete a solution. But for deleting a solution already used in a ChaRM cycle you need to get completed all cycles using the solution to delete.

In /nSLAN select the Solution to be deleted.

![Solution Administration](image)

Go to the Properties tab to see the Delete Solution option.

![Solution Administration](image)

You will get this information pop up:

![Solution Administration](image)

In the case that the solution is used as landscape in any ChaRM cycle you will get this error:
Then the only option is to complete the cycle, and for this you need to move all the relative request for change and change documents until a closed status until you get this pop up when closing the cycle:

Note: all the transport requests associated to this cycle cannot be in the production import buffer

With the cycle in status Completed

Call again inSLAN and go to Delete Solution again
Solution will be deleted.
The Logical component groups created in the solution will be deleted when the solution is deleted, as Logical component groups are uniquely defined for each solution.

Before SP05 the solution deletion is not possible.

Authorization object SM_CM_FUNC

SM_CM_FUNC is the authorization object to manage which solution/change control landscape (SUB_LAND) and branches (BRANCH_NM) a user can select when creating a change cycle.

See SAP Note 2457629 - Cycle Maintenance: Branch values are missing in the dropdown box

Ensure manual steps of SAP Note 2443290 - ChaRM&QGM: Authorization field “SUB_LAND” stores landscape ID instead of technical name are implemented to avoid issues when specifying particular values for solutions/change control landscapes in the SUB_LAND field.

Hints and tricks

Allow me to copy here some hints that I entered in KBA 2424198 - How to analyze errors "No consolidation system" and "No export system" - Solution Manager:

- Ensure that there are consolidation routes defined from the source system to the first target system and delivery routes created between target systems and from the last target system to production system. This will be check during the task list creation, if the systems entered in the logical component/logical component group are not consistent with the real TMS landscape transport routes the task list could not be created for the cycle and you will receive the errors shown about.
- ChaRM needs client specific transport routes and then the same development client can only have one transport layer. Check point 1 of the following scn blog: Change Request Management scenario: Usual questions and known errors 7.1 (Point 1 is also valid for release 7.2)

The same information can be found in SPRO activity Define Transport Routes for System Landscape "Notes:

- Transports are supported in the standard transport layer of each client. When you configure transport routes, only consolidation routes that are assigned to the standard transport layer of the relevant exporting client are taken into consideration. For each exporting client,
one target client and one target group are permitted. Assign one development system to a production system, and connect these two systems by one transport track.

If a development system and a production system are connected by more than one transport track, this may lead to transport distribution inconsistencies. This type of transport configuration cannot be supported by Change Request Management, and may cause inconsistencies in the tools involved.

• Since client transport control is active for the managed systems, all transport routes must be client-dependent. When building the consolidation route, choose a transport layer. If you have multiple target systems starting from one source system, you can use the transport target group, which is also supported by Change Request Management. SAP no longer supports the “SAP” transport layer. For more information, see SAP Note: 1401611 - Generating transport tracks with standard transport layer

• Check that all systems involved in the transport track are correctly shown in LMDB--> Transport Domains tab for the corresponding transport domain name. All systems need to have a technical system filled under Extended System ID in SAP Solution Manager column. Transaction LMDB --> tab Transport Domain

• Check in the logical component group that
  • the same system: client is not included in different branches of the same logical component group
  • the same system: client is not included in the same branch under different system roles
  • the same system: client is not included in different logical component groups, this is documented in KBA 2547415 - Transport Track error when creating task list in ChaRM or Scenario in QGM - Solution Manager. All the systems of one TMS transport track have to be in the same logical component group, see SAP Note 2461467 - ChaRM&QGM: One transport track should not contain systems crossing logical component groups
  • the system: client with type of role Productive system is included in the Production branch
  • in the case that you need to have a system: client acting as both development and target system at the same time. There are two ways to configure landscape for this:

    a) Configure the system twice in your landscape, one with development system role and another one with target system role. This is the clearest way for the configuration. And here you should make use of the site concept.

    b) Only configure the system one time as development system role. When ChaRM create the cycle, it can automatically calculate if a development system is also a transport target from another system. If yes, then ChaRM will make the system also a target system. But here the role is a problem. A kind of rule is needed here. The rule is: 1) If the system is at the end of the track, ChaRM says it is a production system; 2) if the system is in the middle of a track, ChaRM says it is a target system.