Classical Migration Process of SAP Systems to SAP HANA

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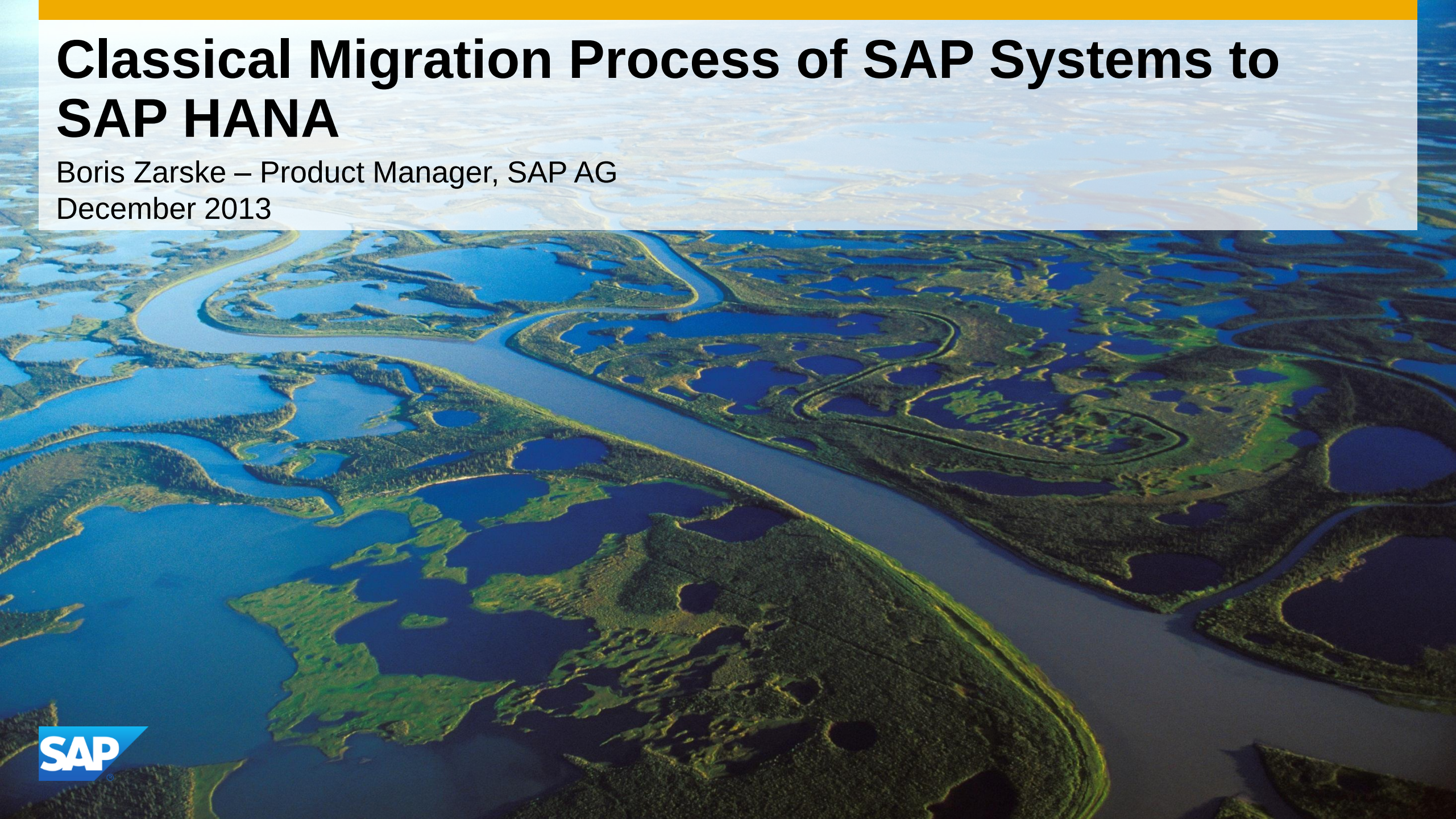

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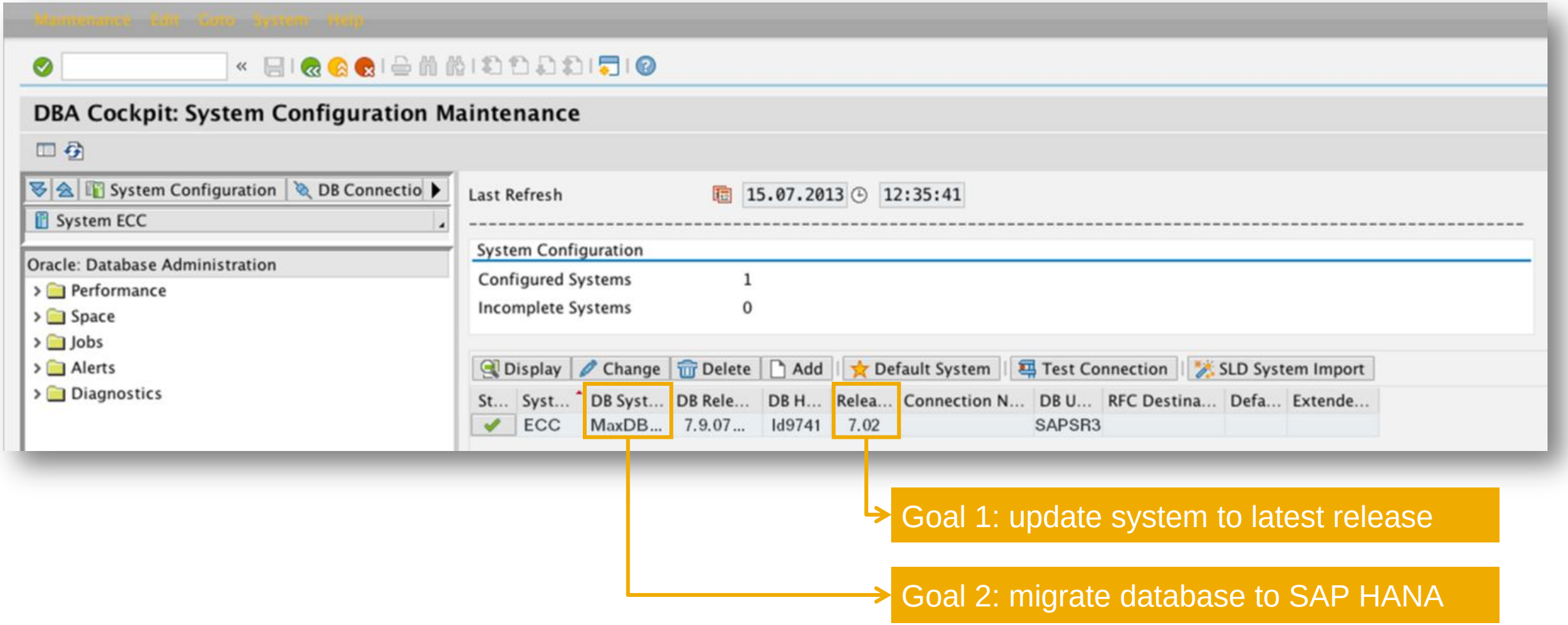
Overview of migration path options to SAP HANA

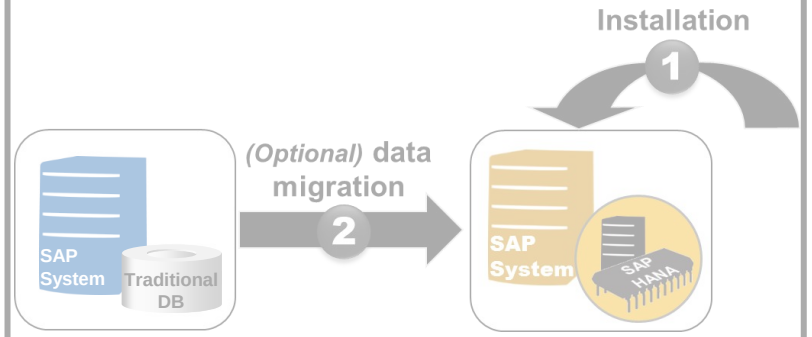
Example scenario: system before upgrade / migration



Overview of migration path options to SAP HANA

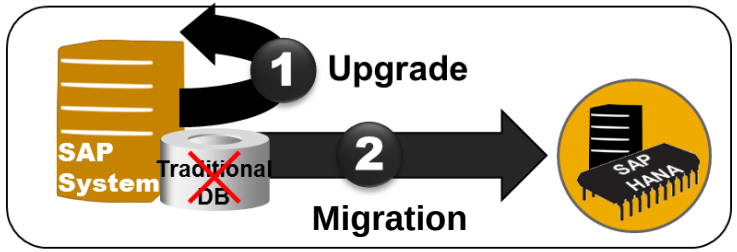
Option 2: classical migration

Option 1
New installation



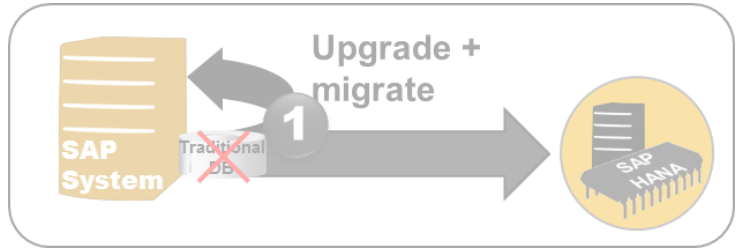
- You install new system on SAP HANA
- Either without changing existing solutions (greenfield)
- Or for **transforming** existing solution to SAP HANA by performing (selective) data migration

Option 2
Classical migration



- To bring original system on release supported by SAP HANA, you perform update/upgrade (if required)
- Then, you classically migrate your traditional database to SAP HANA

Option 3
One-step upgrade and migration with DMO of SUM



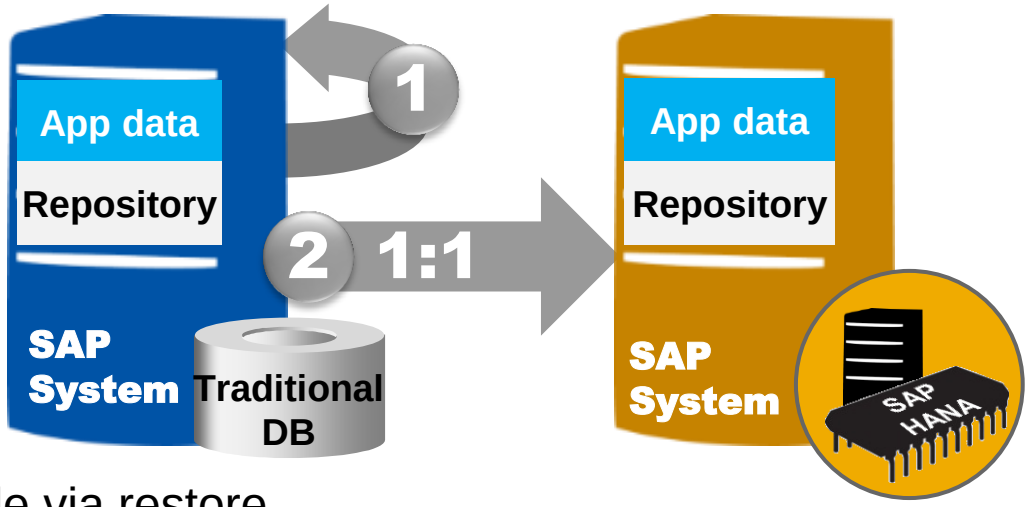
- You use database migration option (DMO) of SUM that combines upgrade and database migration in one step
- One process, one tool, one documentation, one downtime

Classical migration

Overview

Overview

- You perform an **upgrade** (if required) + a **heterogeneous system copy** with classical migration tools
- Either in-place (DB migration) or combined with change of platform/hardware replacement (OS/DB migration)
- Procedure **constantly improved** especially for migration to SAP HANA



Benefits

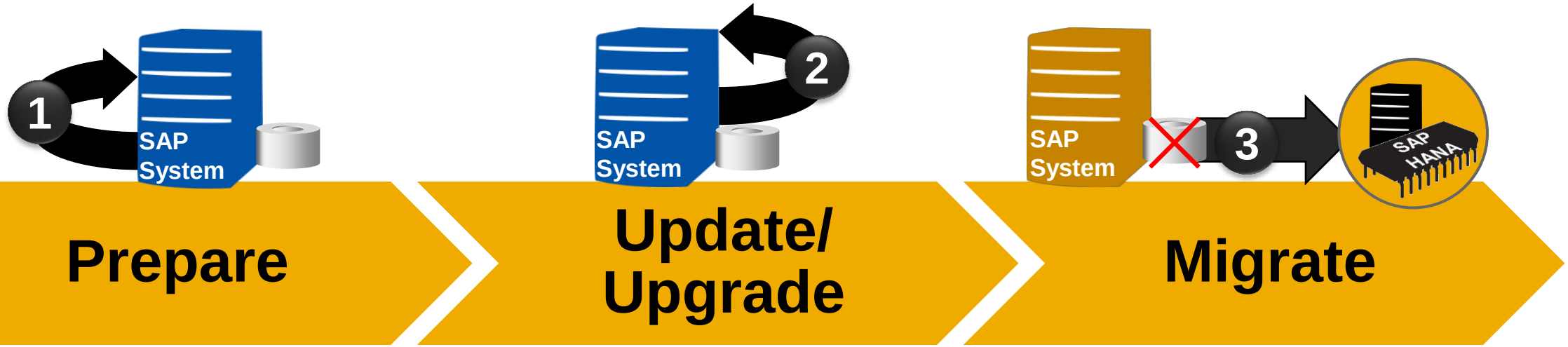
- Results in nearly identical system
- Minimal impact on functional teams
- Separation of concerns

Challenges

- With inclusion of upgrade, fallback to original state only possible via restore
- Typically requires extended downtime and several downtime windows – depending on size of database and required scope (Unicode conversion, SAP system upgrade, DB update, migration)

Classical migration

Phases



Prepare

- Split dual-stack
- Convert to Unicode

Update/ Upgrade

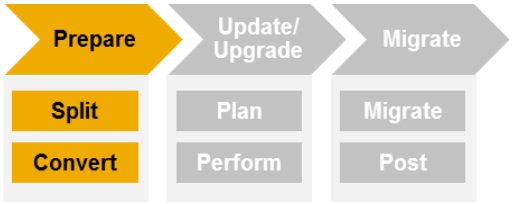
- Plan maintenance
- Perform maintenance

Migrate

- Migrate to SAP HANA
- Post-activities

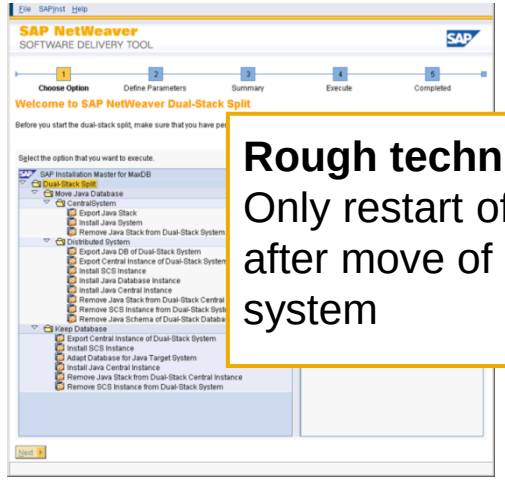
Classical migration

Prepare – single-stack + Unicode required



Perform dual-stack split, if required:

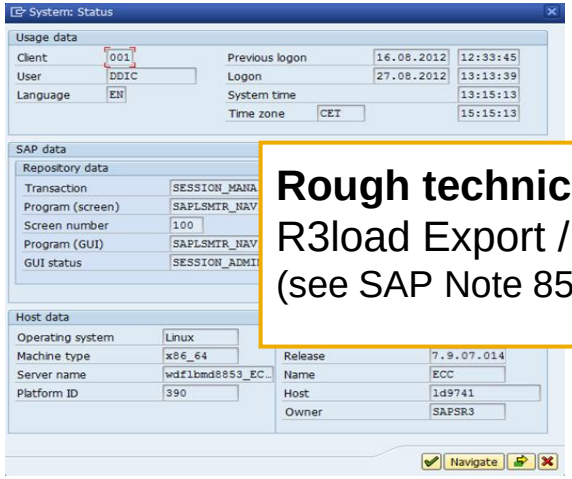
- SAP removed optional dual stacks as useful deployment option
- Dual stacks are not supported on SAP HANA
- Procedure to split dual-stack systems into separated stacks offered by software provisioning manager



Rough technical downtime:
Only restart of ABAP server after move of Java system

Perform Unicode conversion, if required:

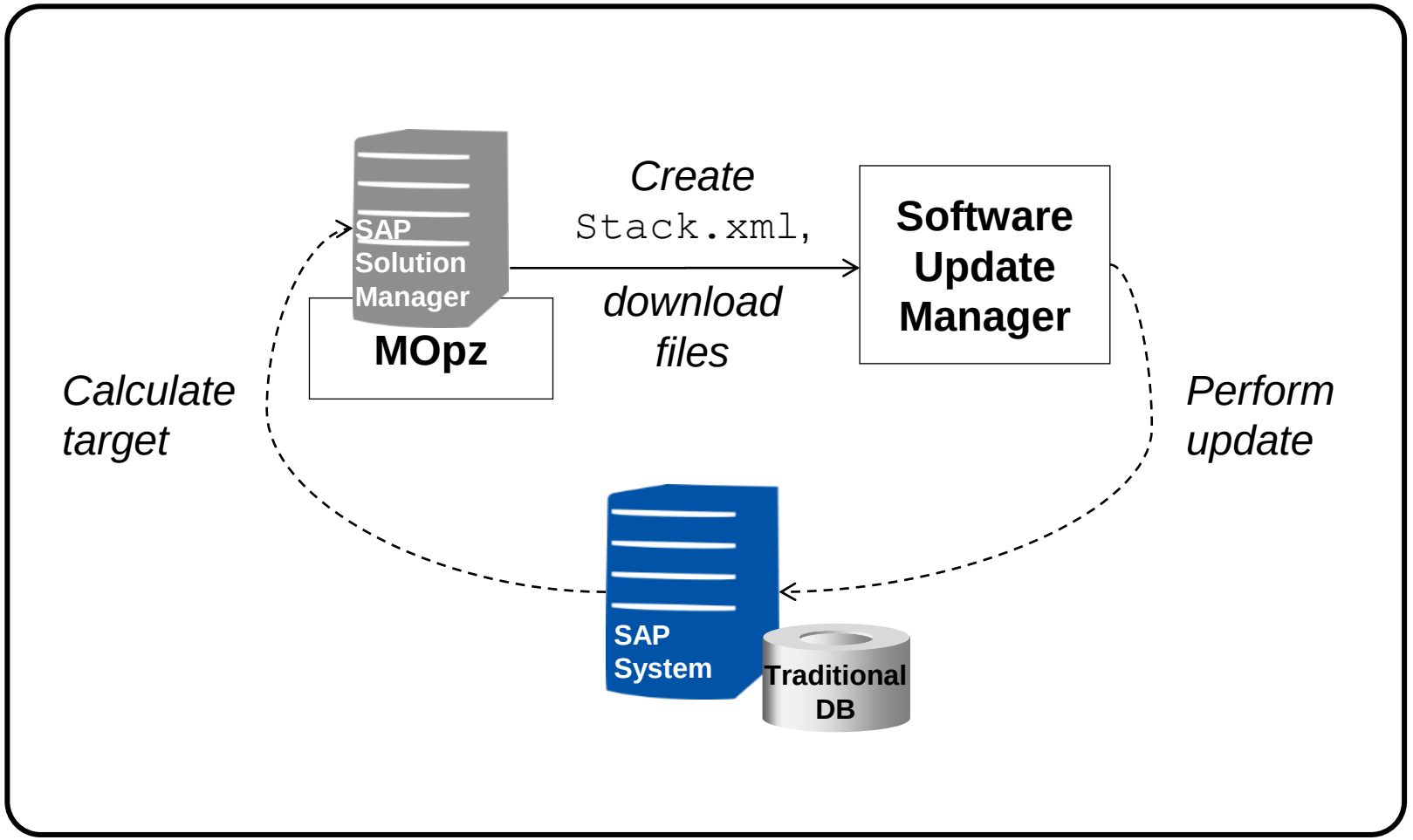
- Only Unicode systems supported on SAP HANA
- Unicode conversion procedure similar to system copy offered by software provisioning manager
- Can optionally be combined with database migration, but requires preparatory steps



Rough technical downtime:
R3load Export / Import
(see SAP Note 857081)

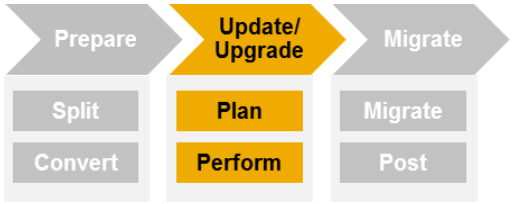
Classical migration

Maintain – process illustration



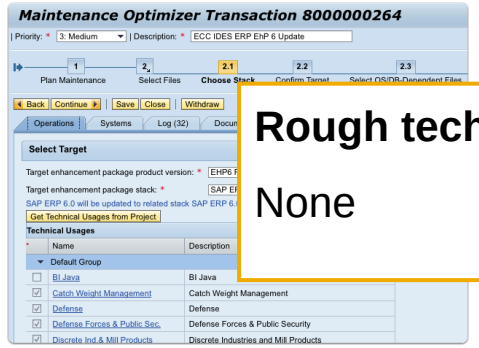
Classical migration

Maintain – plan + perform



Plan in Maintenance Optimizer:

- Create new maintenance transaction in SAP Solution Manager
- Choose automatic calculation of required enhancement package
- Calculation of `Stack.xml` containing relevant maintenance entries
- Download of relevant files with SAP Download Manager to SUM host



Rough technical downtime:
None

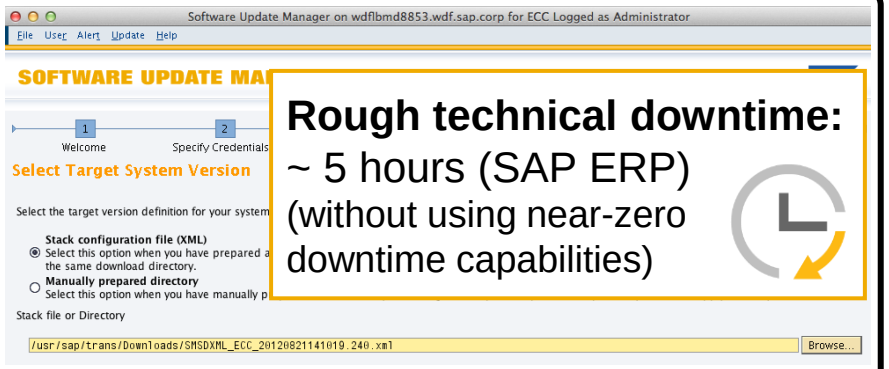
If required, update OS and database versions

- SAP HANA support might require product upgrade
- Higher product release could imply need for higher OS/DB versions

Rough technical downtime:
Depends on platform, but can be significant

Perform system update/upgrade in Software Update Manager (SUM):

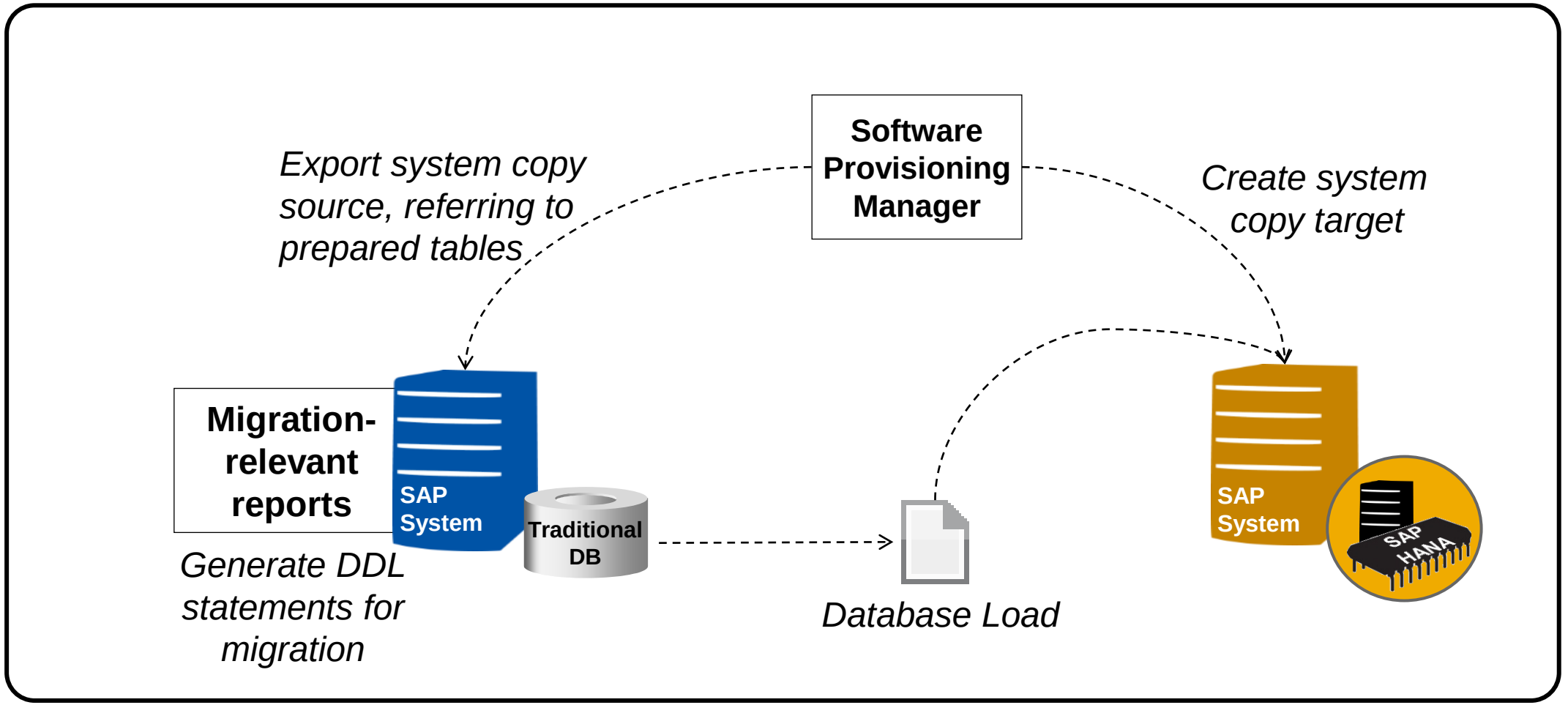
- SUM executes update process based on information in `Stack.xml`



Rough technical downtime:
~ 5 hours (SAP ERP)
(without using near-zero downtime capabilities)

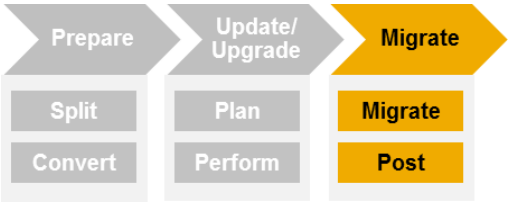
Classical migration

Migrate – process illustration



Classical migration

Migrate – prepare selected tables

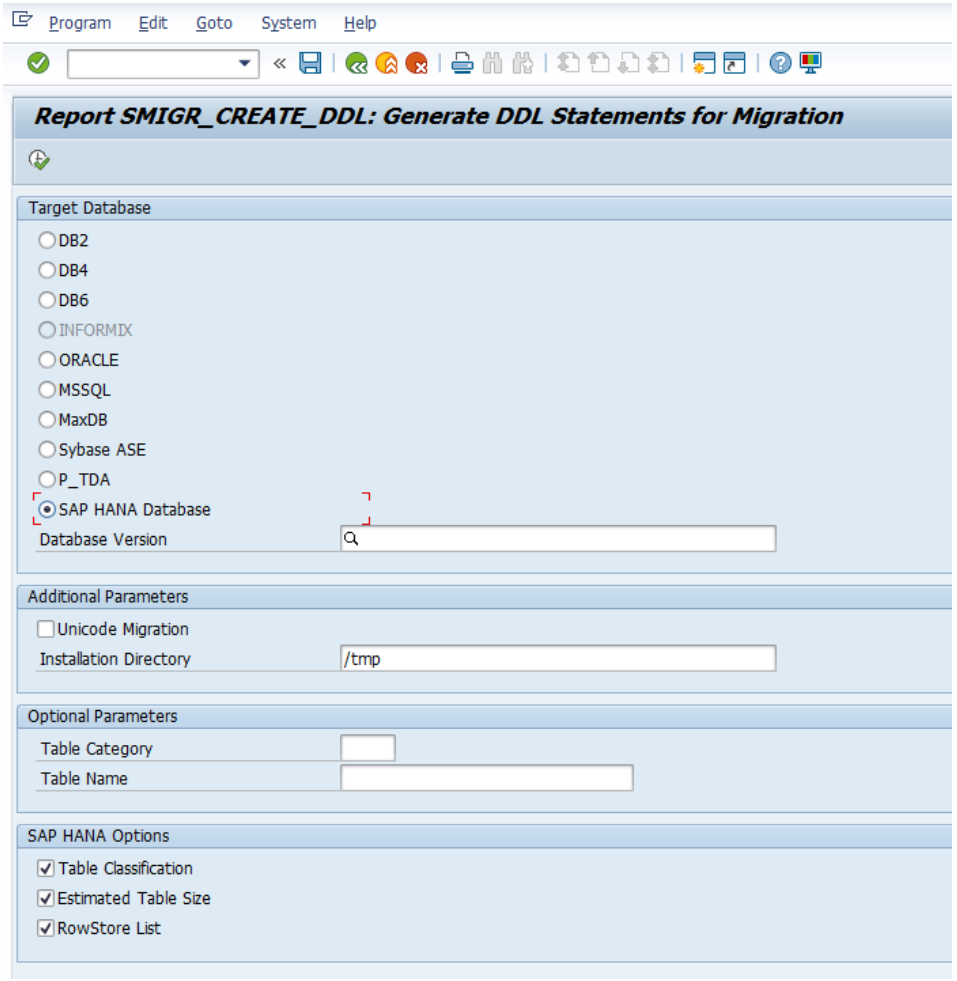


Prepare selected tables:

- For migration of ABAP systems, run ABAP report `SMIGR_CREATE_DDL` in order to prepare special tables for changing database
- To avoid inconsistencies, execute right before export of database
- Critical files will be marked and loaded to file system (then uploaded to software provisioning manager later on)

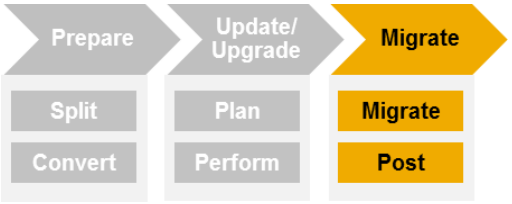
Rough technical downtime:

None



Classical migration

Migrate – perform

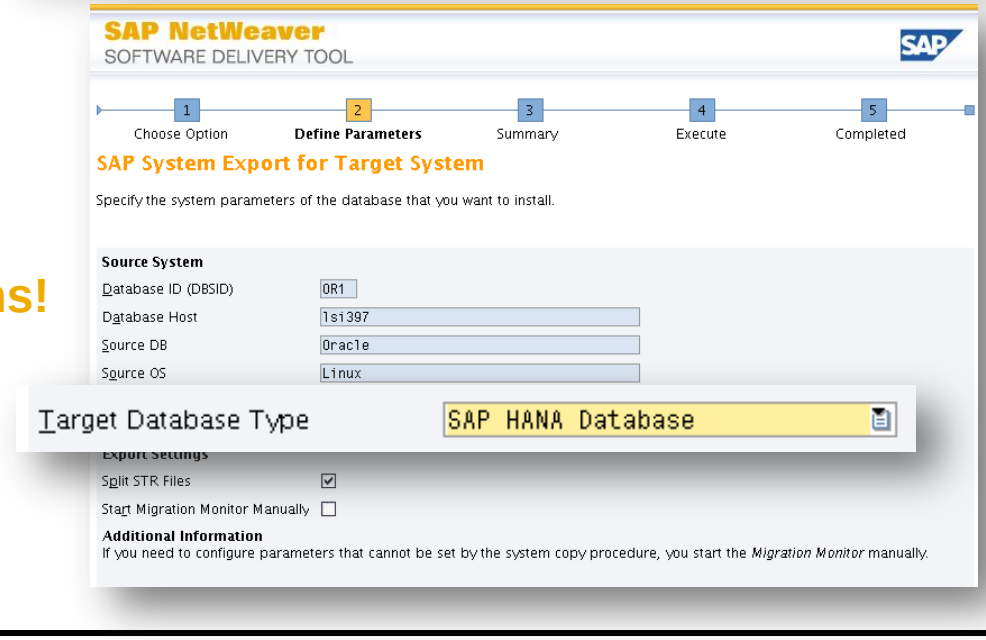


Perform heterogeneous system copy:

- Offered by software provisioning manager
- Procedure comprises:
  - Export into DB-independent load from source system
  - Import of exported data load including database-specific conversions – optionally with installation of new system
- Optionally combined with Unicode conversion (see above)
- Procedure **constantly improved** especially for migration to SAP HANA ➔ make sure to **always use latest tool versions!**

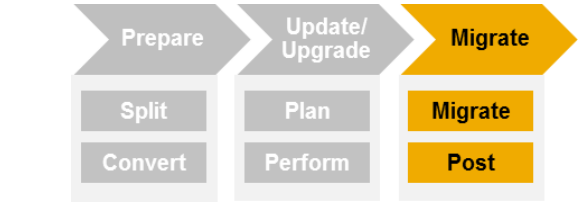
Rough technical downtime:

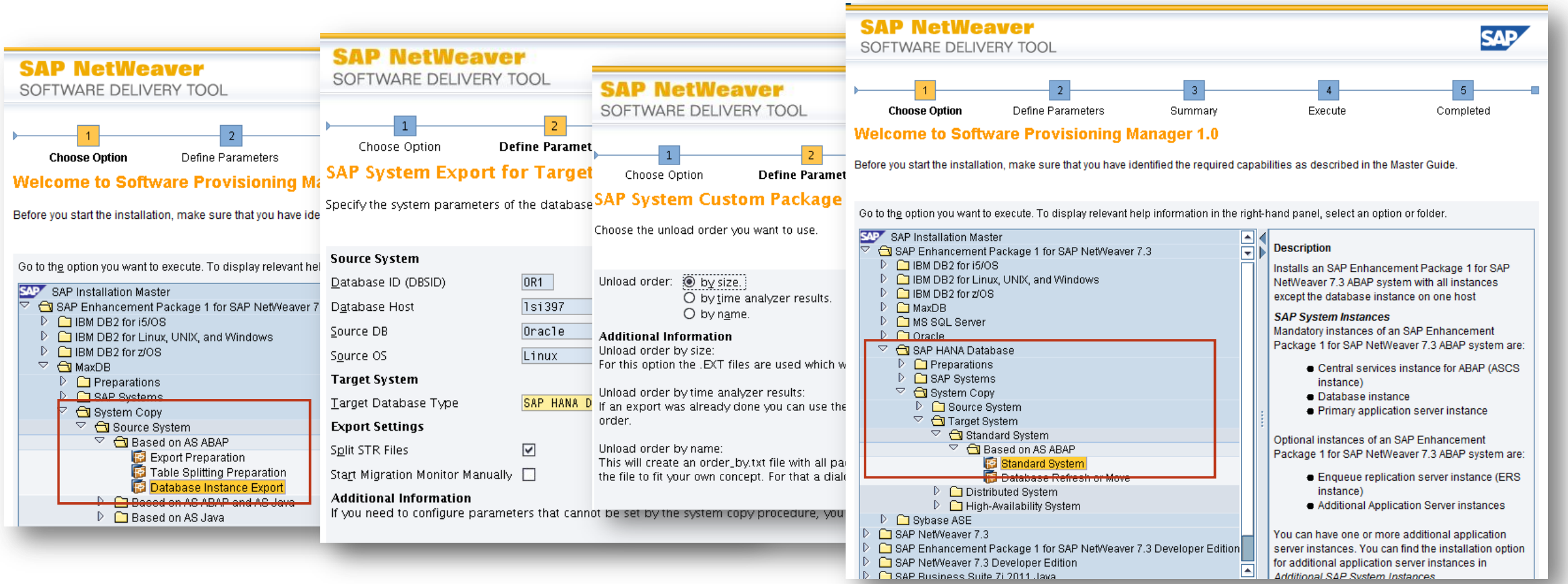
R3load export/import



Classical migration

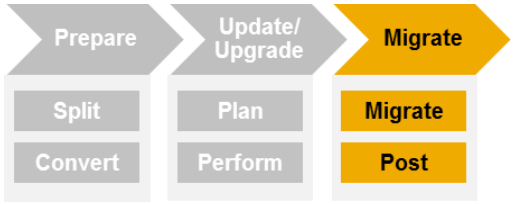
Migrate – process





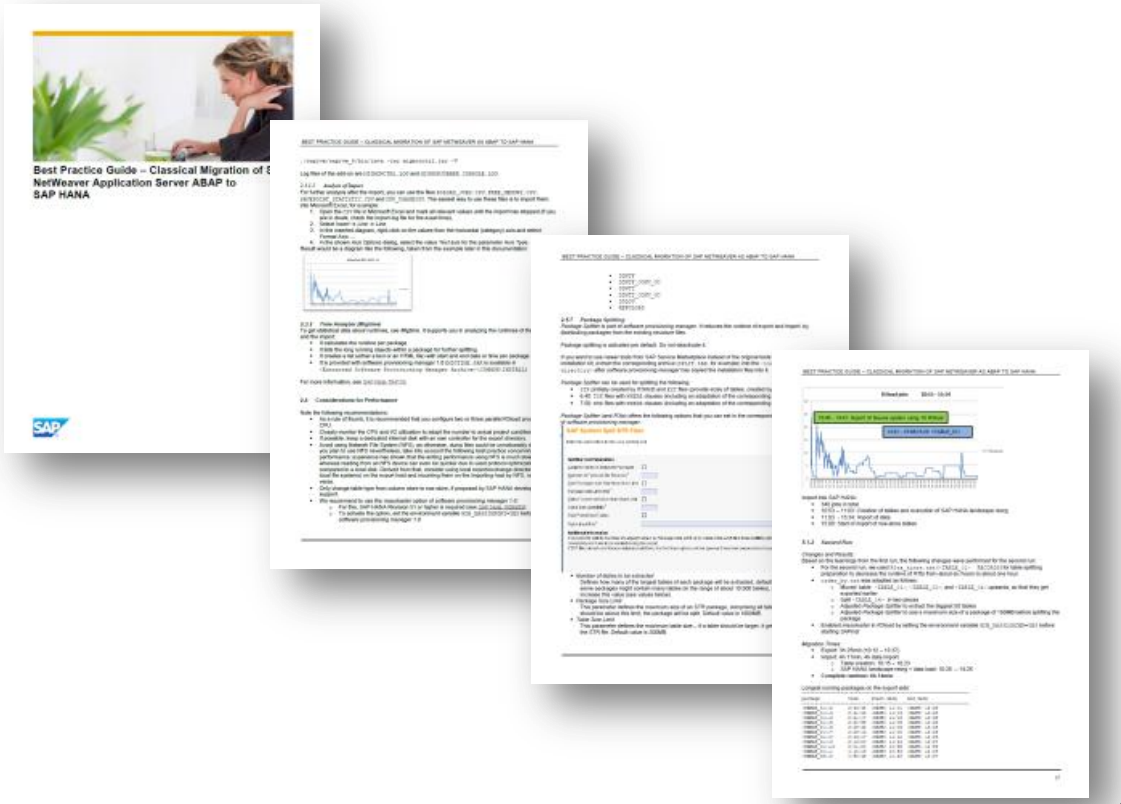
Classical migration

Migrate – best practices



Best practice guide especially for classical migration of AS ABAP to SAP HANA:

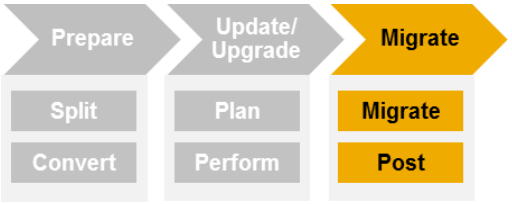
- Offers further information about involved migration tools
- Complements standard system copy guide
- Provides best practices about performance improving, table splitting, package splitting, …
- Including example for optimizing runtime
- Target group: migration experts



Available in SAP Community Network at:
http://scn.sap.com/docs/DOC-8324
(planned to be merged into system copy guide)

Classical migration

Migrate – post-activities



Perform post-migration activities:

Rough technical downtime:

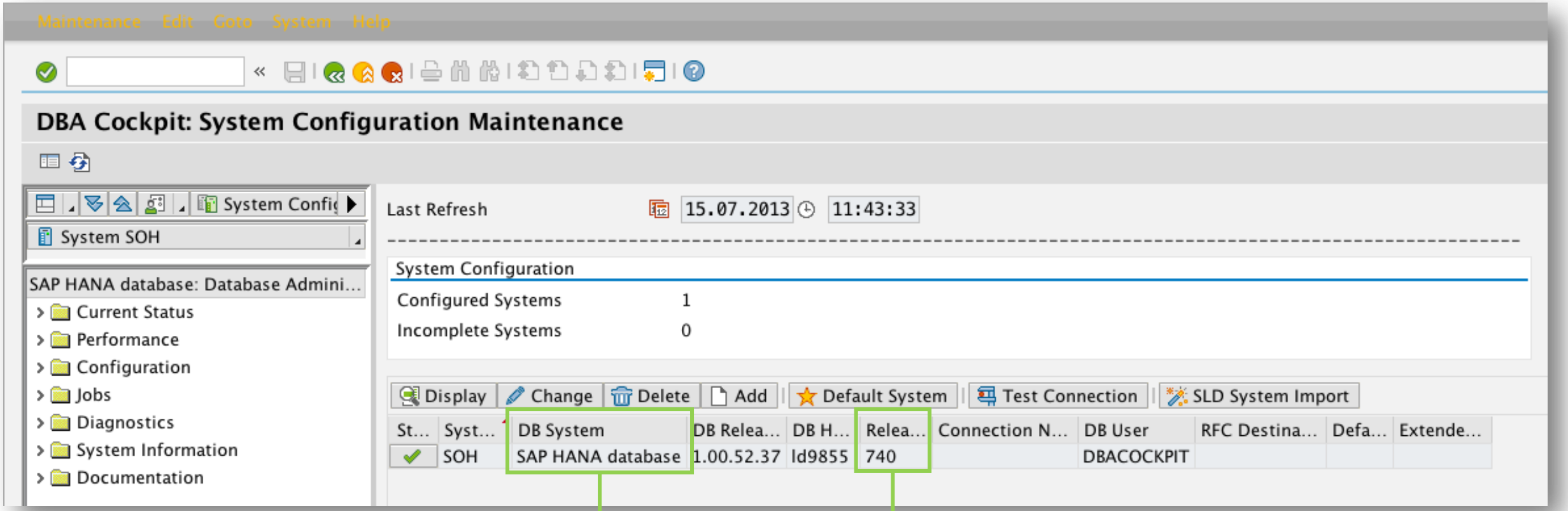
None

- As described in system copy guide (available in SAP Service Marketplace at http://service.sap.com/sltooset)

- SAP NetWeaver Landscape Virtualization Management contains post-copy automation features (in this context only relevant for OS/DB migration, stand-alone execution) – for more information, see SAP Community Network at: http://scn.sap.com/docs/DOC-43270

Classical migration

Result of example scenario



System updated to latest release

Database migrated to SAP HANA

Further Information

SAP Community Network (SCN):

- *Classical migration to SAP HANA* page, including links to best practice guide + expert blogs: http://scn.sap.com/docs/DOC-49744

- *SAP NetWeaver BW Application Lifecycle Management* page, including general information about migration, SAP NetWeaver BW powered by SAP HANA, housekeeping, and Post-Copy Automation Configuration Guide: http://scn.sap.com/docs/DOC-7856

SAP Service Marketplace:

- Software Logistics Toolset offers latest tool and guide versions: http://service.sap.com/sltoolset

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