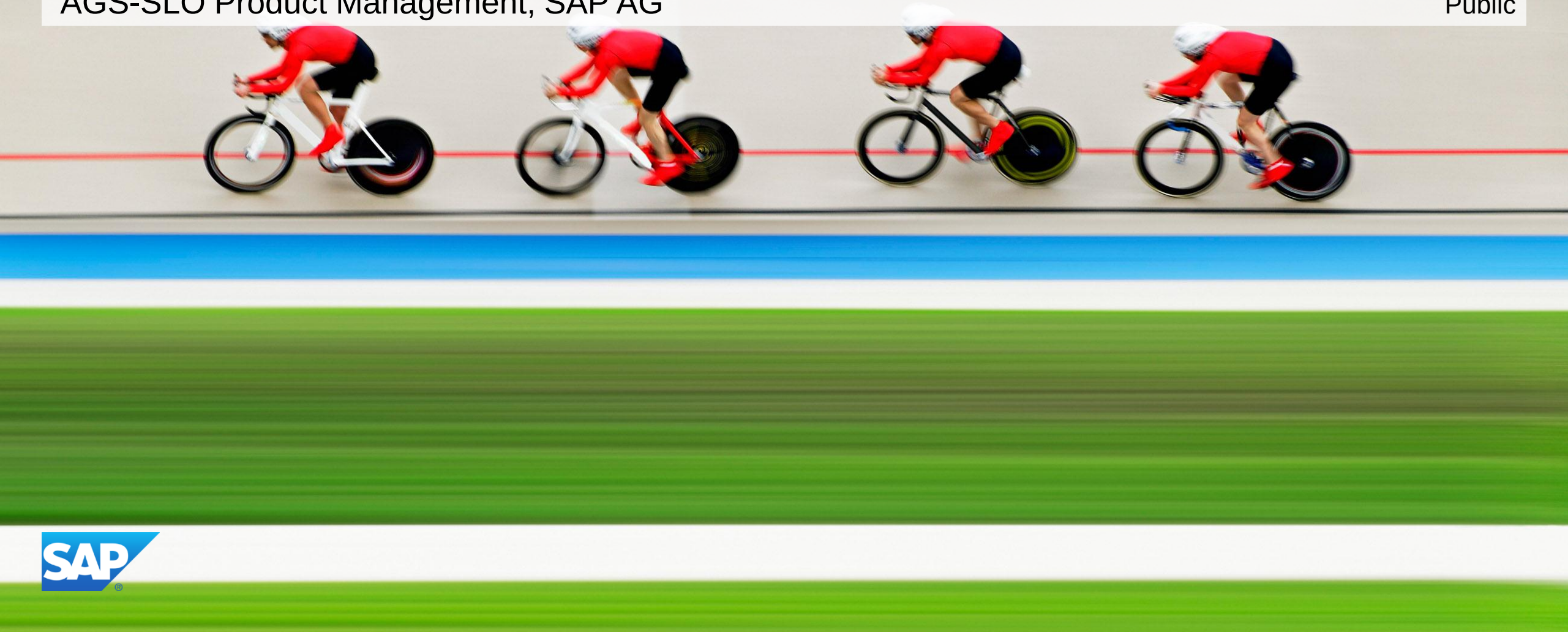
SAP Landscape Transformation Replication Server

Overview Presentation

AGS-SLO Product Management, SAP AG

Public



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Agenda

Overview

Basic Concept, Architecture & Main Features

Technical Prerequisites & Sizing

Summary & Outlook

Overview

Product Name and Positioning within RTDP

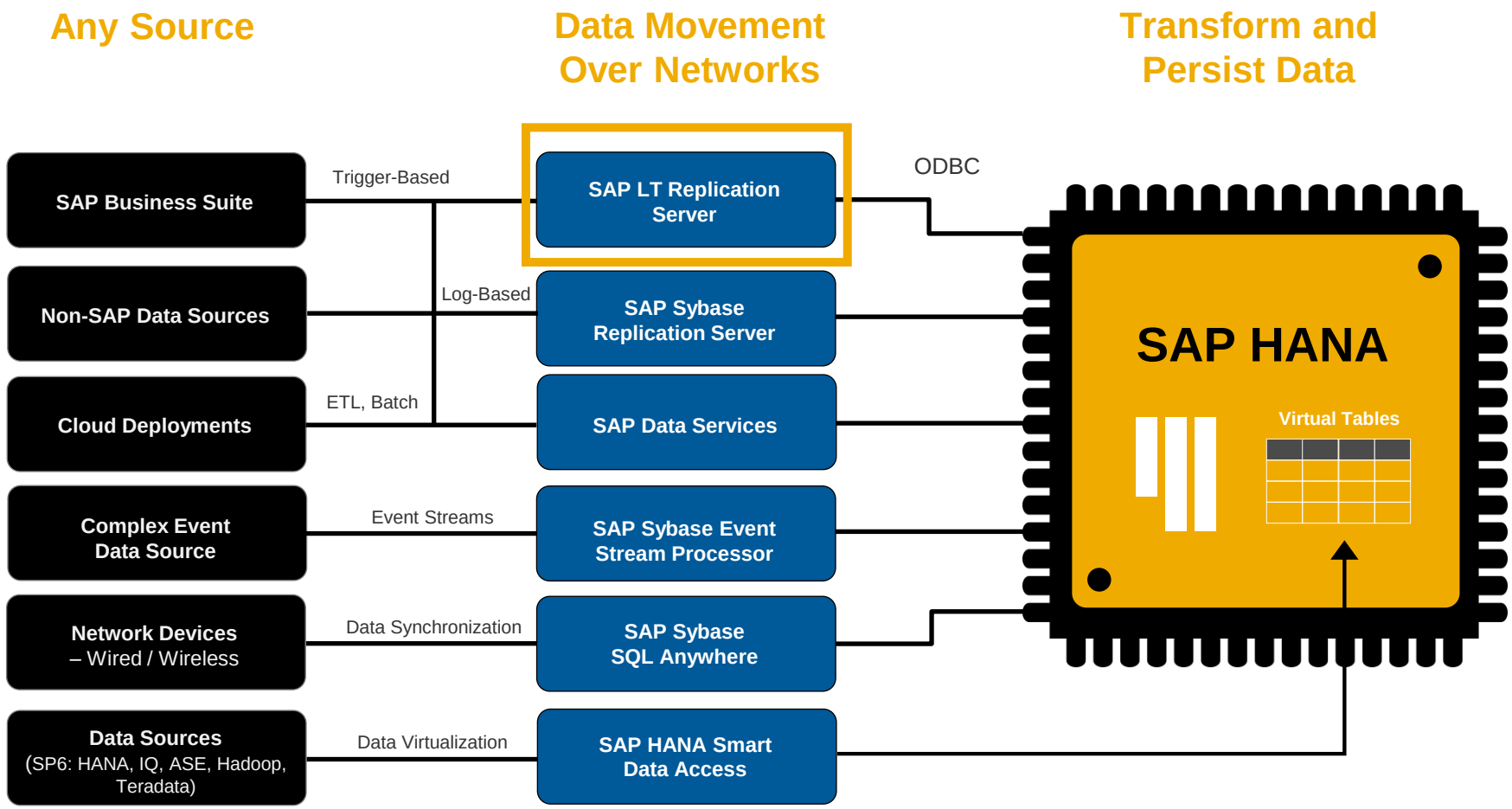
SAP Landscape Transformation Replication Server

SAP LT Replication Server (SLT) is positioned for real time (*trigger-based*) data replication from SAP and non-SAP sources (SAP supported databases only).

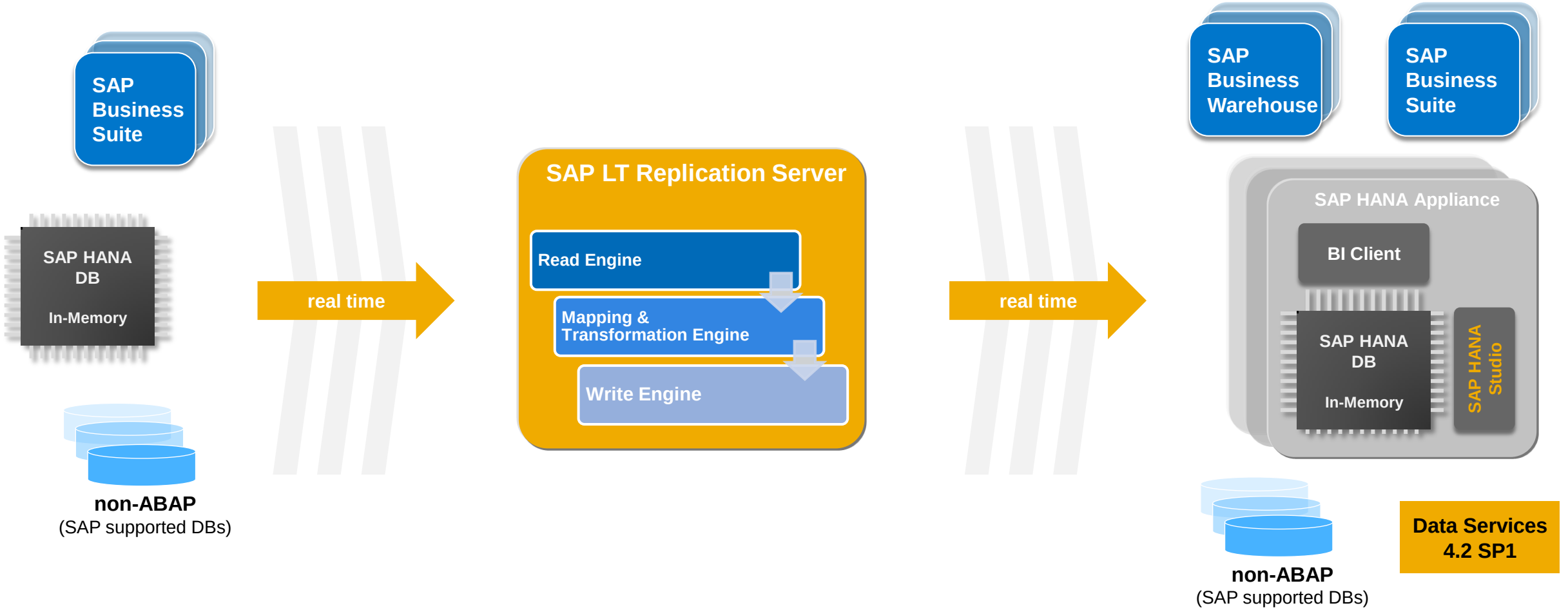
→ Mainly Recommended for real-time data replication business scenarios

Comprehensive Data Provisioning

Real-time high volume data integration from any source



Enable Real-time Replication within your Entire Landscape

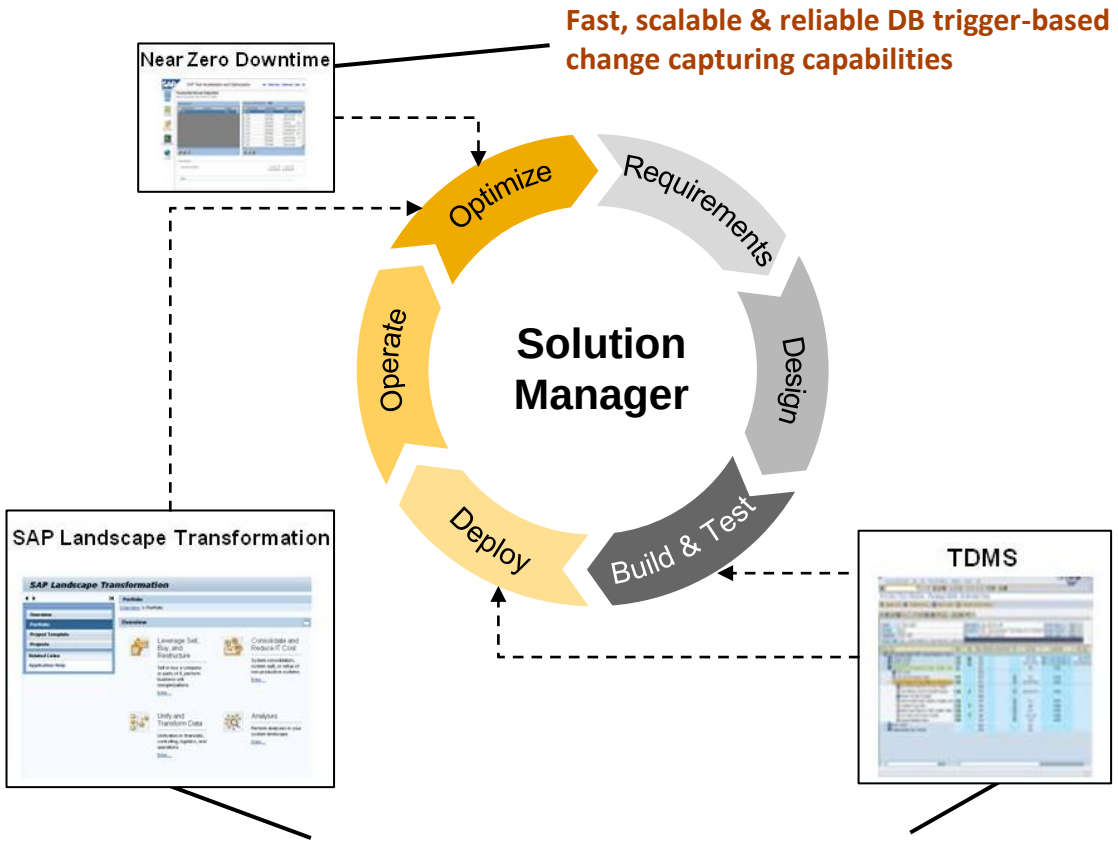


SAP Landscape Transformation Replication Server

Leverages proven AGS SLO*) Technologies

- Status 31.7.2013: 261 customers use SAP LT Replication Server
- SLO* technologies have been used since more than 10 years in hundred of projects per year
- Key offerings foster SAP's Application Lifecycle Management concept
- SAP LT Replication Server leverages several SLO technologies

SAP Application Lifecycle Management (ALM)



* System Landscape Optimization, SAP Active Global Support

Technical Enabler for Multiple Data Provisioning Use Cases

SAP LT Replication Server for SAP HANA

Integrated into SAP HANA Studio (also used by SAP HANA RDS Solutions)

Key Achievements

- Majority of all productive HANA customers use SLT real-time replication
- Customer quotes and success stories available
- SLT is default replication engine for all HANA live (side-car) applications

Replication Engine for SAP HANA Application Accelerators

Key Achievements

- HANA RDS solutions for data mart scenarios include SLT content
- New HANA application accelerators leverage SLT
- Switch-Kernel based and HANA optimized functions use SLT

SAP LT Replication Server for SAP BW

Real-time Data Acquisition for SAP BW

Key Achievements

- First customer is live using SLT for non-SAP replication into SAP BW
- Customers consider SLT as key asset for their SAP BW on HANA strategy
- Several functional enhancements included with DMIS_2011 SP05

Additional Scenarios

(some on project basis available only)

Key Achievements

- ODQ introduced as generic data storage
- SLT replication used for migration to PMR 8.0
- High demand for SAP to SAP (but also non-SAP) replication
- SLT ready as heterogeneous fallback solution

Licensing Aspects

Replication Target is SAP HANA

SAP Landscape Transformation Replication Server is part of the software license model:

- HANA Enterprise edition
- HANA Insight, enterprise edition
- HANA real-time data edition
- HANA EDGE edition
- HANA Limited Runtime edition for Applications (LREA)
- HANA Limited Runtime edition for Applications and SAP BW (LREAB)

Replication Target is <u>not</u> SAP HANA

If the replication target system is not covered by a HANA-based license (i.e. in case of a SAP NetWeaver Business Warehouse system), the following license for using
SAP Landscape Transformation Replication Server is required:

- SAP LT Basis (Material Number 7010685)
- SAP LT IT Consolidation (Material Number 7010688)
- SAP LT Value chain harmonization (Material Number 7010687)

Customer Statements

The most fascinating factor to adopt HANA was the functionality of HANA and SLT which enables real time collaboration.

Fujimoto, Sub-Director Information System Department (Press article „Nikkei Joho Strategy" Oct 5, 2013)

AsahiKASEI

We use data transformation services and SLT. And I think at this point, we've moved everything to SLT.
SLT is driving all of the real-time [transfer of data] right into HANA.
Quite frankly we didn't think we were able to do this and you guys really did a great job with the SLT product, because when I talk with my architect folks, they were thrilled with not only how it runs day by day, but also if something goes wrong, the recovery capabilities of SLT.

Paul Fipps, CIO and Vice President, Business Services, The Charmer Sunbelt Group (Customer Insights, Walldorf 2012)

THE CHARMER SUNBELT GROUP

The shift to SLT really drove efficiencies in building up the data set by leveraging HANA to overcome some of the challenges of the ECC environment. We didn't have to spend the time it would typically take on architecting what that data model would look like. It's also enabled us to really free up and improve the cycle time of data availability for the business teams. So where in the past you might say that I need to take a segment of [tables] and I am pulling particular fields out of the database for performance reasons, we are now simply taking the entire table.

Justin Replogle, Dir. Business Intelligence, Honeywell (SAPPHIREnow, Orlando 2012)

Honeywell

"To deal with the difficulties associated with transmitting data from older systems, we installed SAP LT Replication Server, which worked out well and solved our problems."

"With the SLT tool, we can take any table to SAP HANA and write a report. It will be quick and efficient. From what we've observed in the proof of concept thus far, these changes are real. If you estimate how much we have invested in SAP HANA or in old technology, there will be an undoubted advantage for SAP HANA. These investments will come back very quickly."

Rinat Gimranov, CIO of Surgutneftegas (insider PROFILES 7/2012)

SURGUTNEFTEGAS
OPEN JOINT STOCK COMPANY

Customer Success Summaries (extract)

Re-allocation & scheduling of available Inventory in real-time

0.5% Monthly revenue increase
Per a 1% increase in the fill rate

Drive profitable decision with real-time analysis for demand planning (sourcing) and sales negotiations (commercial margin)

- €500k Capital working capital reduction within a week

Use real-time information to operate its call centers with greater productivity, a higher first-call resolution rate, and a lower cost per transaction.

5% Cost Reduction
In total overall cost

Real-time decisions regarding the company's long-term development, improving efficiency and lowering costs

- **35% Decrease**
  in Transportation Costs

Real-time decision-making and greater control of the supply chain for better inventory management

- **50% Decrease in inventory**

Reduced IT team engagement time from one day to mere seconds, in financial closing

~$645k in annual
labor cost savings

Snapshots of business profitability available in real time, and enhanced customer service and support

- **25% Monthly revenue increase**
  (estimated increase)

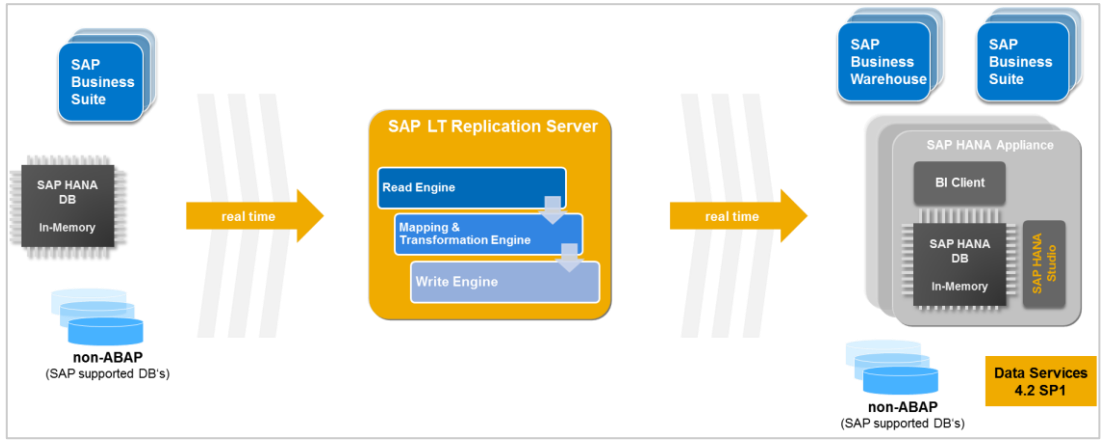
Help Brands Harness the Power of Word-Of-Mouth from social media

+ $17M Revenue
Estimated increase revenue with new customers

SAP Landscape Transformation Replication Server

Positioning and Benefits

SAP Landscape Transformation Replication Server (aka "SLT") is the best choice for all SAP HANA customers who need real-time or scheduled data replication from SAP and NON-SAP sources with the option to accomplish even complex data transformations on the fly.

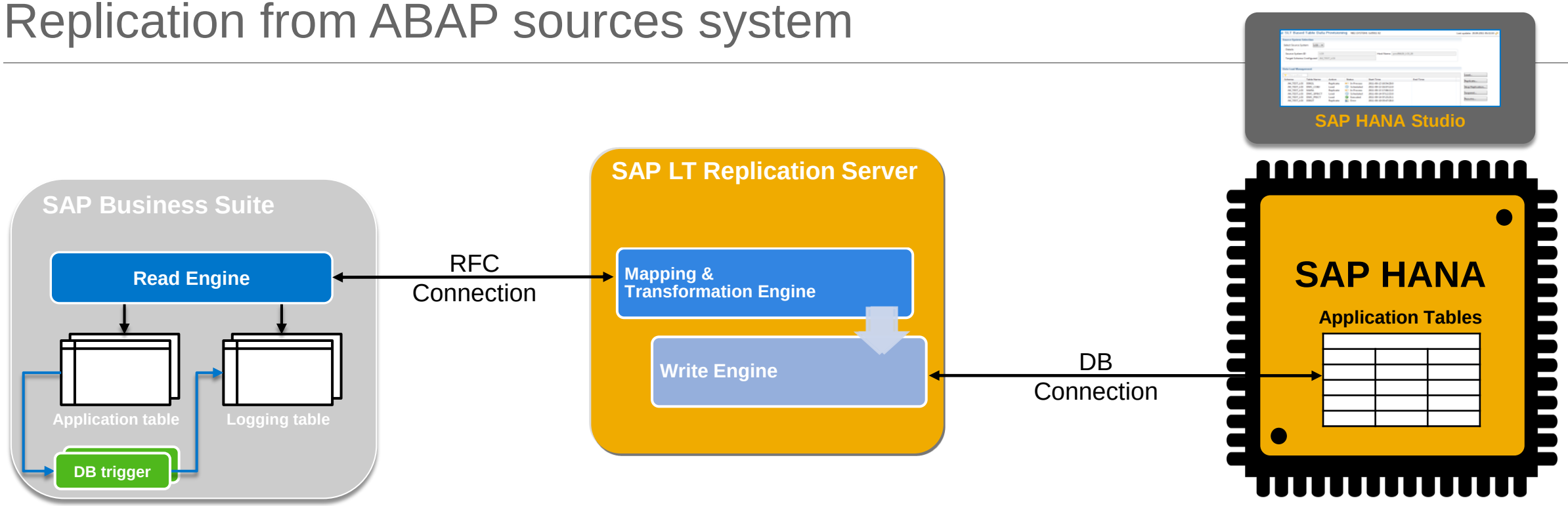


- Allows real-time (and scheduled) data replication
- Ability to migrate data into HANA format while replicating data in real-time
- „Unlimited" release coverage (from SAP R/3 4.6C onwards) sourcing data from ABAP based SAP applications
- Handling of cluster and pool tables
- Automatically non-Unicode to Unicode conversion during load/replication
- Table settings and transformation capabilities (e.g. data filtering, enrich table structure, anonymize data, etc.)
- Fully integrated with SAP HANA Studio (Data Provisioning and Data Modeler UI)
- Enhanced monitoring capabilities via SAP Solution Manager 7.1 SP5 onwards & mobile app SAP Replication Manager

Basic Concept , Architecture & Main Features

Architectural Concept 1/2

Replication from ABAP sources system



ABAP Source System

Efficient implementation of data replication via DB trigger based on change capturing concept

SAP LT Replication Server

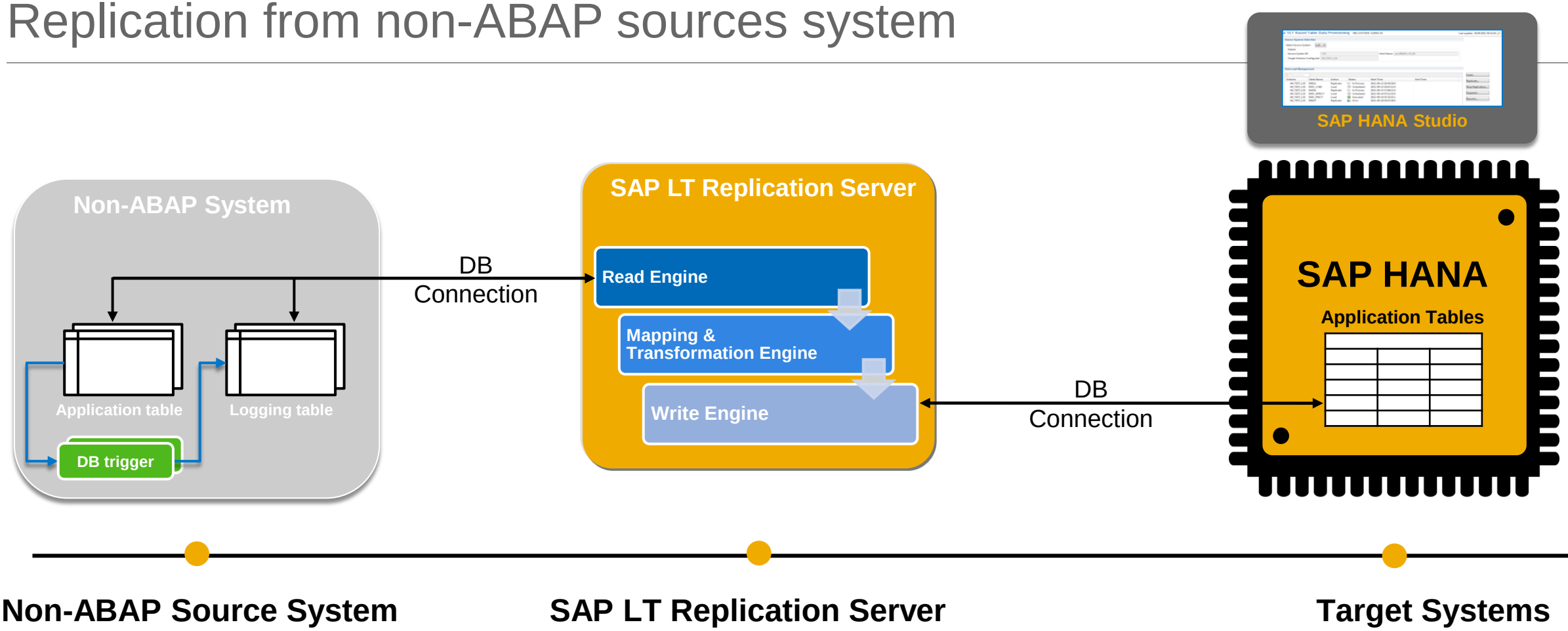
Highly scalable and reliable replication process, including comprehensive data transformation capabilities on the fly

Target Systems

Fast data replication via DB connection, integration into SAP HANA Studio

Architectural Concept 2/2

Replication from non-ABAP sources system



SAP LT Replication Server transfers all metadata table definitions from the non-ABAP source system to the HANA system. From the HANA Studio perspective, non-SAP source replication works the same as for SAP sources. When a table replication is started, SAP LT Replication Server creates logging tables in the source system. The read engine is created in the SAP LT Replication Server. The connection the non-SAP source system is established as a database connection.

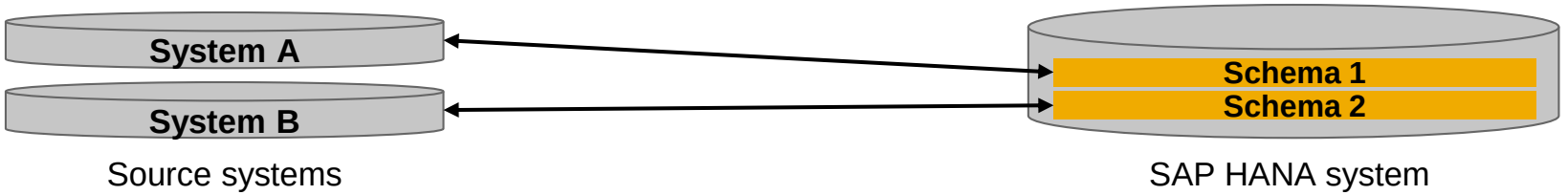
DB Supportability Matrix for Replication to SAP HANA

	Technical availability	
Database	**SAP Sources**	**Non SAP Sources (*)**
MSFT SQL Server Enterprise Edition	**OK**	**OK**
Oracle Enterprise Edition	**OK**	**OK**
IBM DB2 LUW/ UDB (DB6)	**OK**	**OK**
IBM DB/2 zSeries	**OK**	**OK**
IBM DB2 iSeries (former AS/400)	**OK**	**Ok – for simple table structures**
IBM Informix	**OK**	**OK**
SAP MaxDB	**OK**	**OK**
Sybase ASE	**OK** (with DB-Version 15.7.0.11)	**OK** (with DB-Version 15.7.0.11)
SAP HANA	**OK**	**OK**

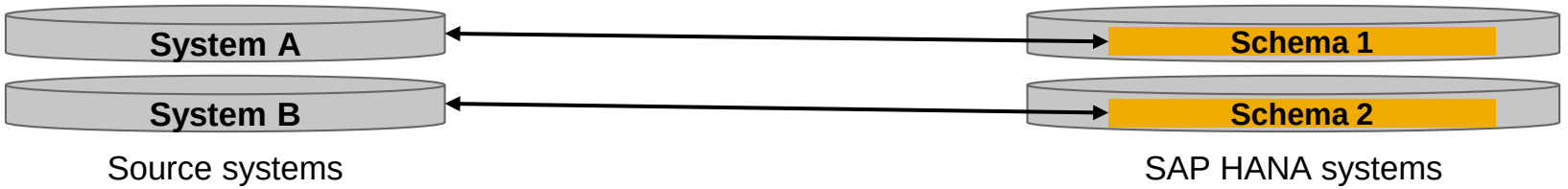
For non-SAP source systems, the customer database license needs to cover a permanent database connection with 3rd party products like SAP LT Replication Server.

(*) Since a DB connection from LT replication server to a non-SAP system is required, the OS/DB restrictions of SAP NetWeaver 7.02 or higher apply (see at http://service.sap.com/pam)

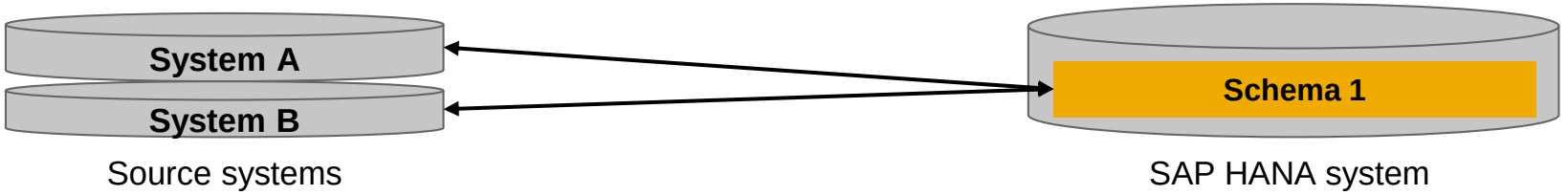
Multi System Support



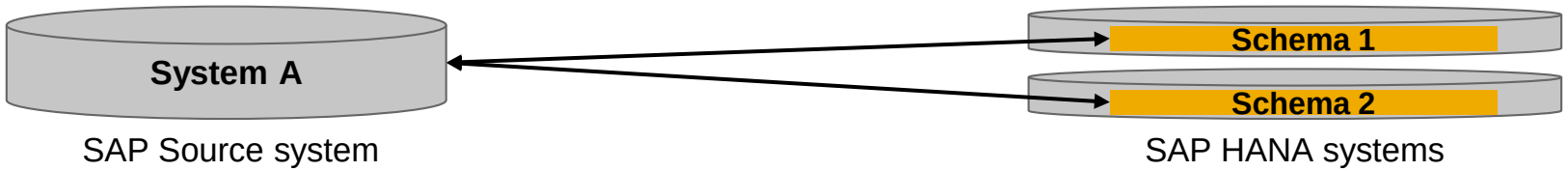
Source systems are connected to separate HANA schema on the same HANA system



Source systems are connected to separate HANA systems. Schema name can be equal or different



Source systems are connected to same HANA system and also the same schema



SAP source system is connected to separate HANA systems or to the same system with different schema name.

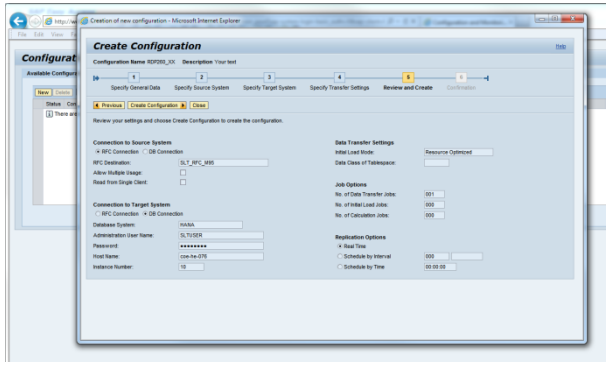
Setup, Execution & Monitoring of a Replication

SAP LT Replication Server

SAP HANA DB

In-Memory

SAP HANA Studio



New guided procedure to create a configuration between source and target system.

Start the replication for the relevant tables via SAP HANA Studio.

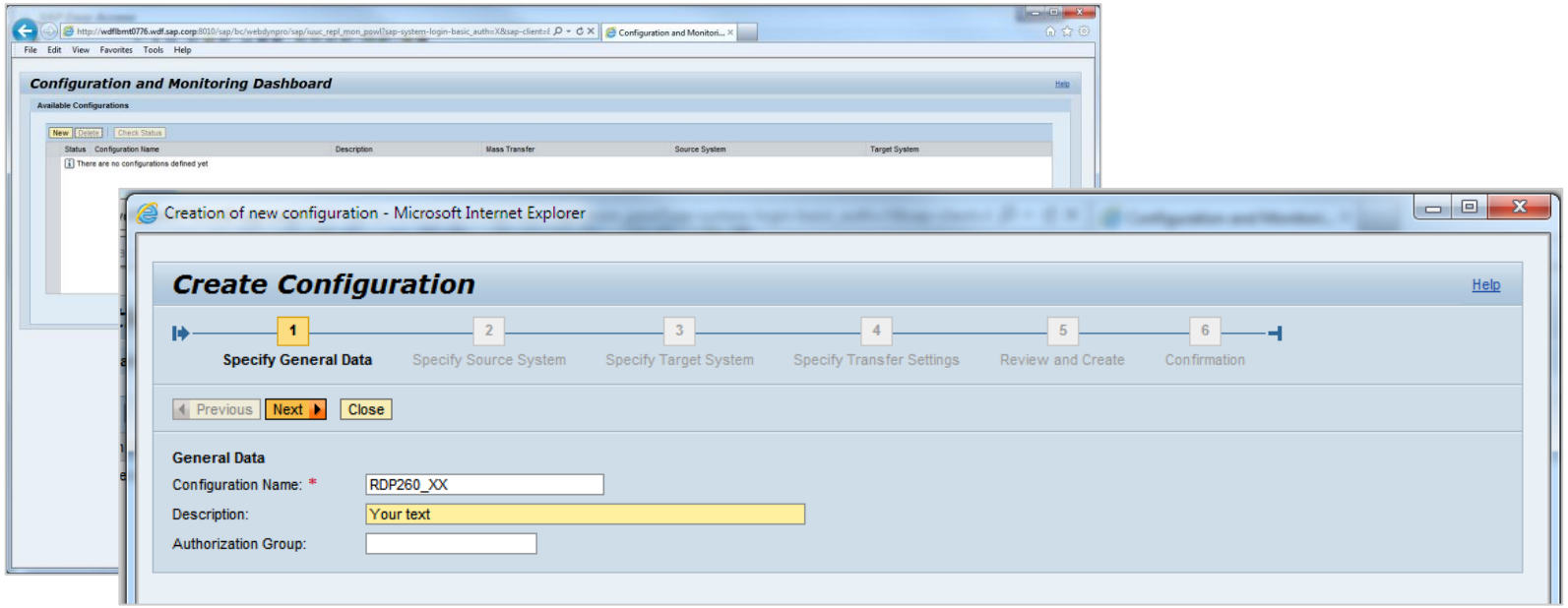
Setup Replication

Execution Replication

Monitor Replication

Setup Replication – Specify General Data

Execute transaction **LTR** in the SLT system to open the **Configuration and Monitoring Dashboard**



In the first step, you define the configuration name and a description. The configuration name will be also used as the new schema name that will be created in the HANA system.

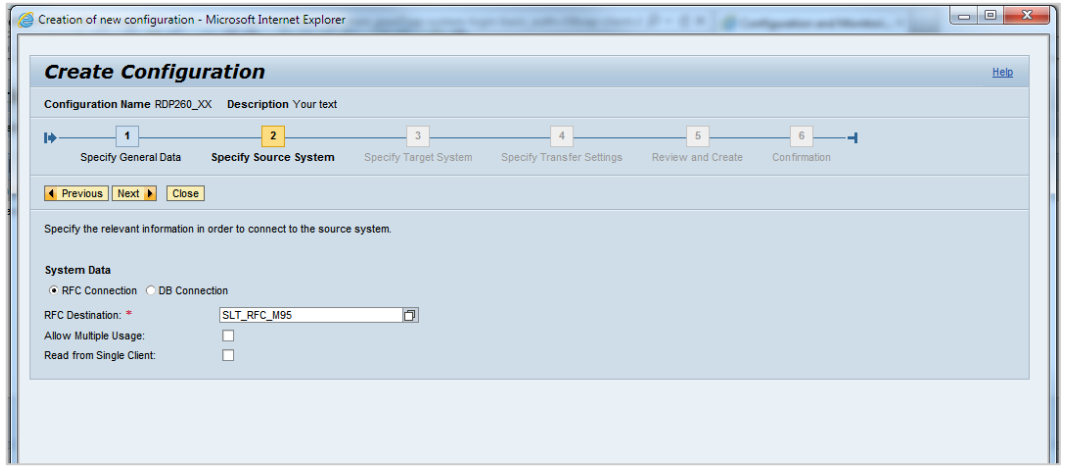
With DMIS 2011 SP5, a **guided procedure** helps to execute the creation process for a new configuration.

A configuration is required to setup a connection from a source to a target system.

Setup Replication | **Execute Replication** | **Monitor Replication**

Setup Replication – Specify Source / Target System

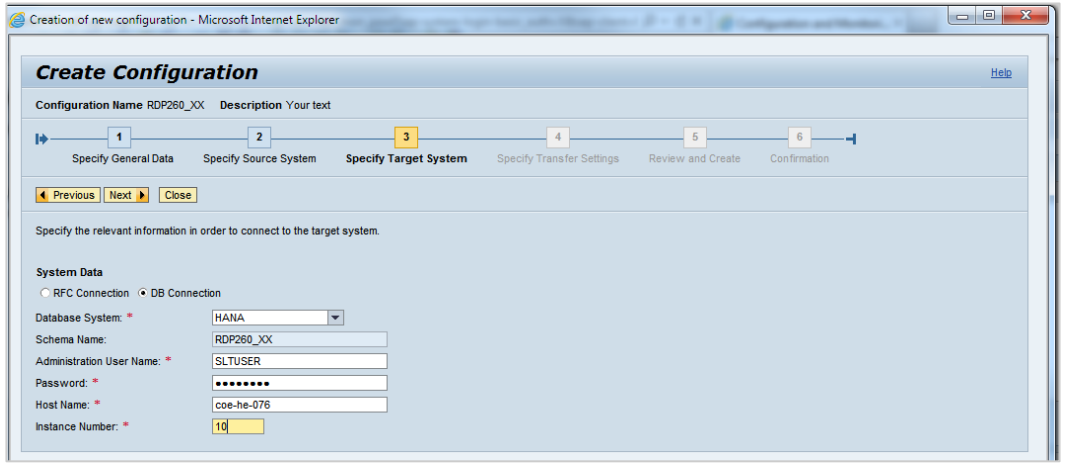
In the second step, you specify your source system. For an ABAP based system you connect via RFC connection, for a non-ABAP system you connection via a 2nd DB Connection (SLT supports only SAP supported DB‘s).



For a replication from an ABAP based system you can specify if you would like to enable 1:N replication (Allow Multiple Usage) and to replicate from a single client only.

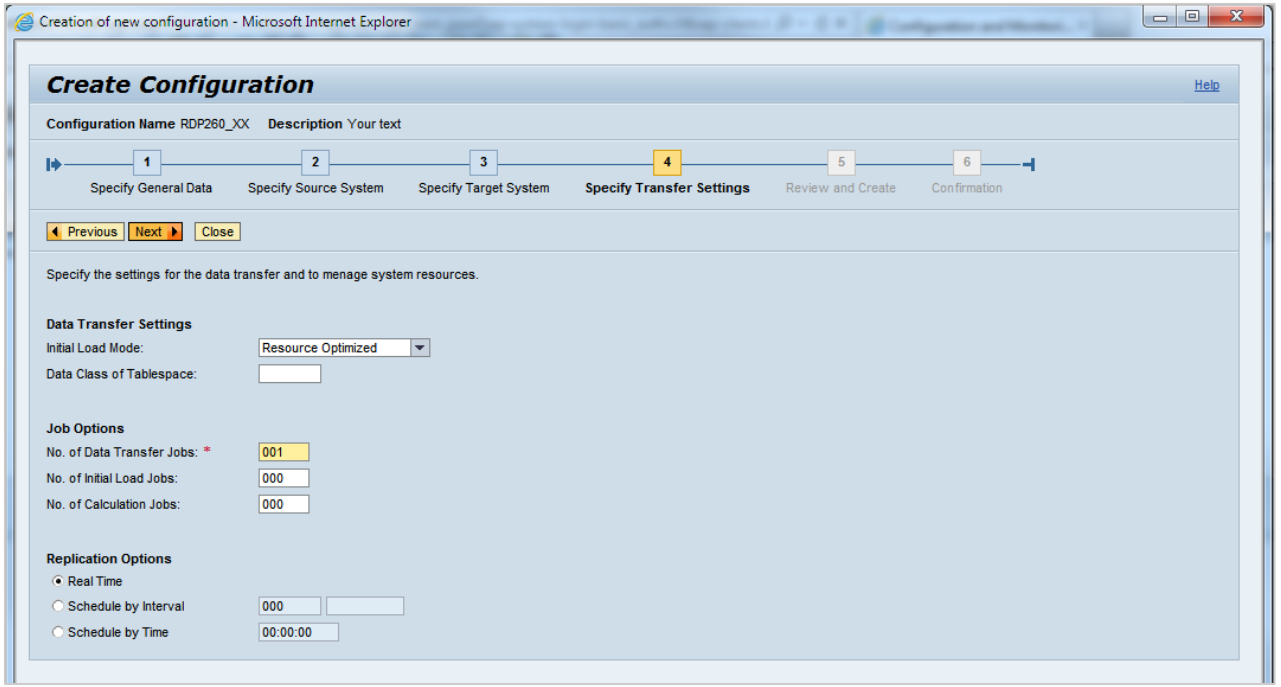
In the third step, you specify all relevant information about the target system.

With DMIS SP2011 SP5, SLT allows replication to SAP HANA and SAP BW. Replication to ABAP based targets and SAP-supported DB are available project based.



Setup Replication | **Execute Replication** | **Monitor Replication**

Setup Replication – Specify Transfer Settings



In the fourth step, you specify the transfer settings.

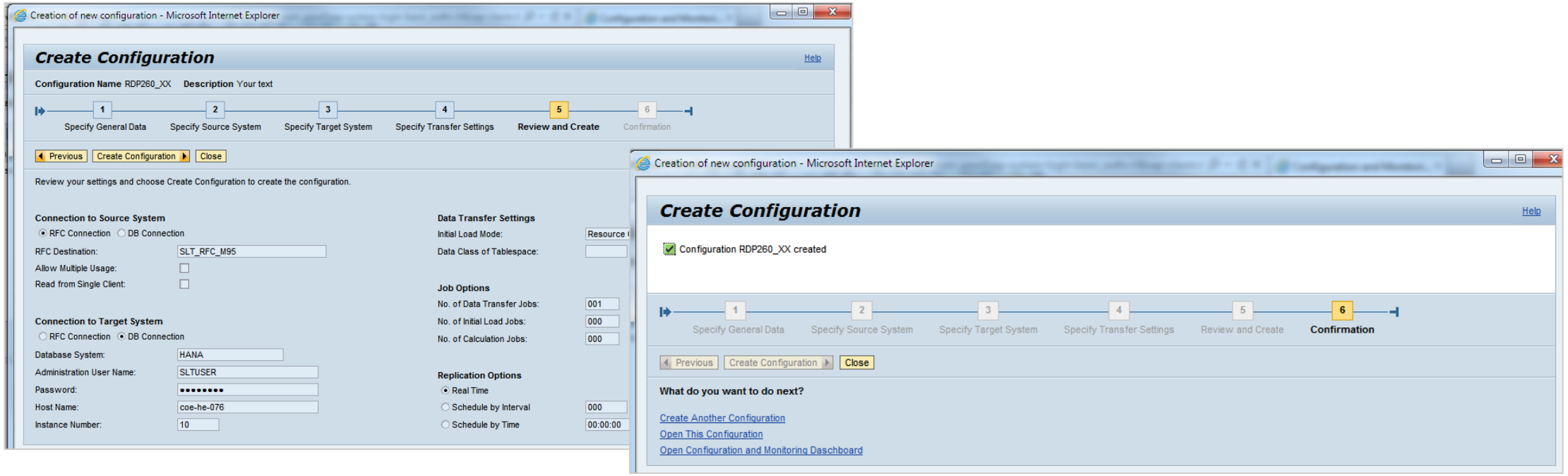
There are two options for the initial load process - resource optimized or performance optimized.

The data class of the tablespace defines where SLT creates the logging tables on the source system. Administrators can use this option for better monitoring.

In the section *Job Options*, you can define the jobs that are allocated for this configuration at SAP LT Replication Server.

Setup Replication – Review and Create / Confirmation

In the fifth step you review all your settings and start the creation process of the configuration.



The system displays a success message when the configuration has been created successfully.

Setup Replication | **Execute Replication** | **Monitor Replication**

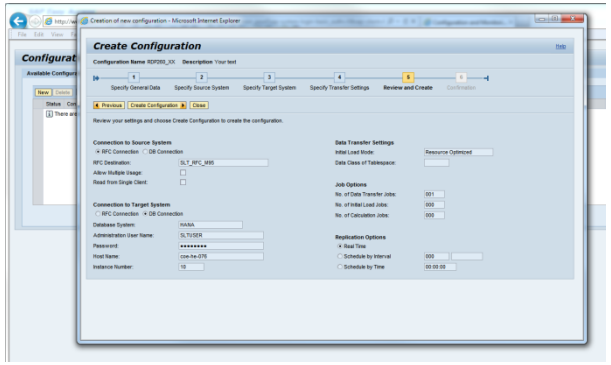
Setup, Execution, and Monitoring of a Replication

SAP LT Replication Server

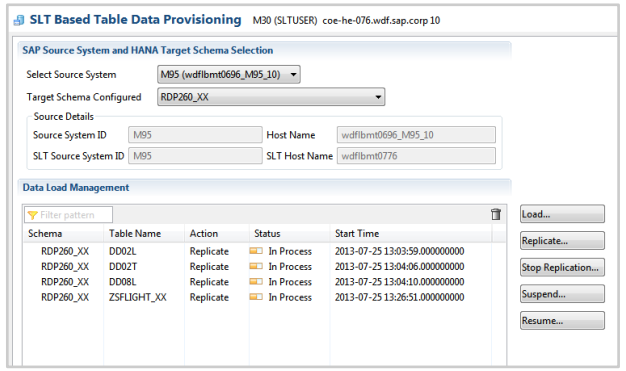
SAP HANA DB

In-Memory

SAP HANA Studio



New guided procedure to create a configuration between source and target system.

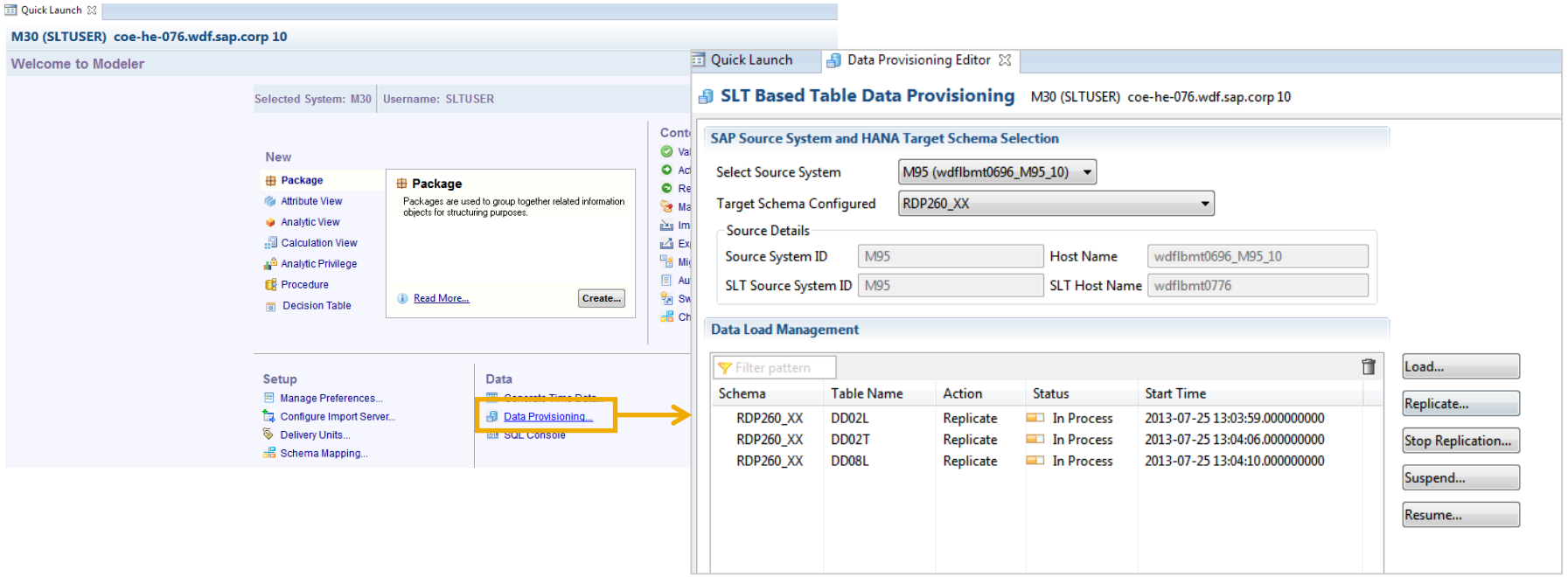


Start the replication for the relevant tables via SAP HANA Studio.

Setup Replication | **Execution Replication** | **Monitor Replication**

Execute Replication

SAP LT Replication Server is integrated into the HANA Modeler. Enter **Data Provisioning** to start the replication.

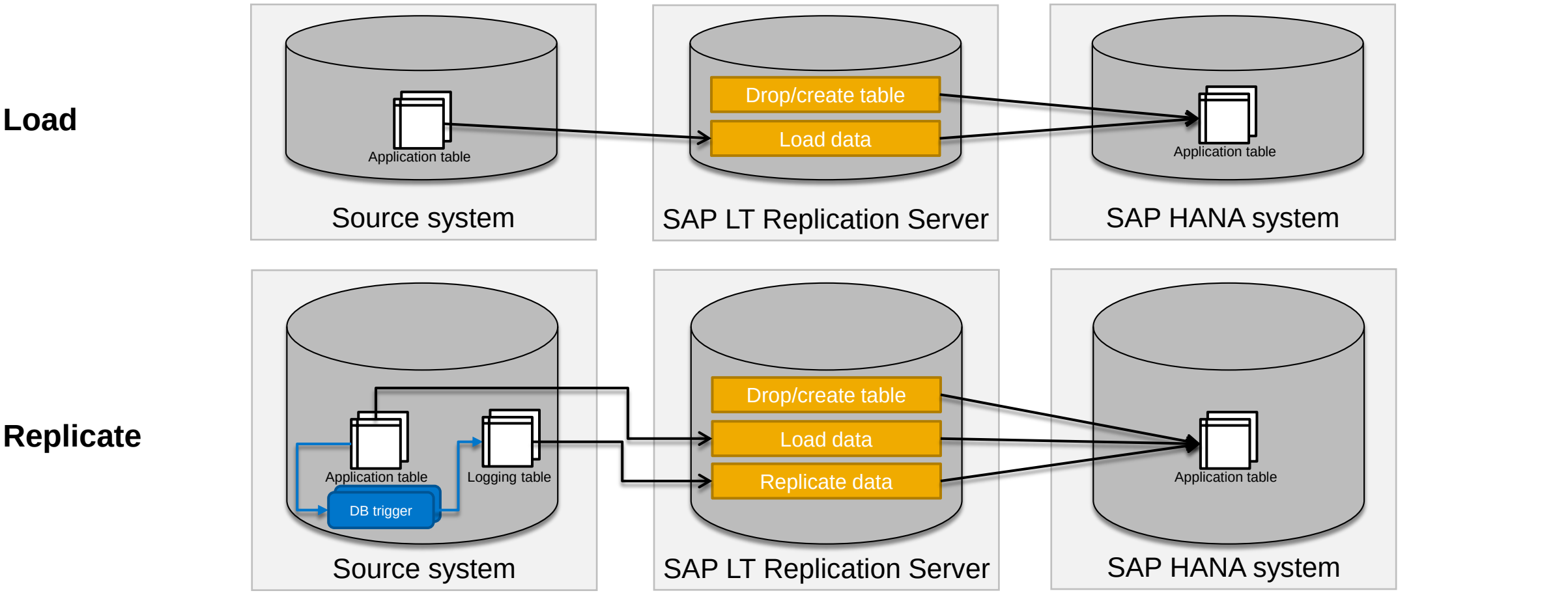


1. Select source system
2. Select the target schema (this is equal to your configuration name)
3. Use button *Load* and / or *Replicate* to set up the data replication
4. Use button *Stop Replication* to finish replication
5. Use button *Suspend* to pause replication
6. Use button *Resume* to continue replication

Wait until the table DD02L, DD02T are in action *Replicate* and status *In Process* before you start your replication.

Setup Replication | **Execute Replication** | **Monitor Replication**

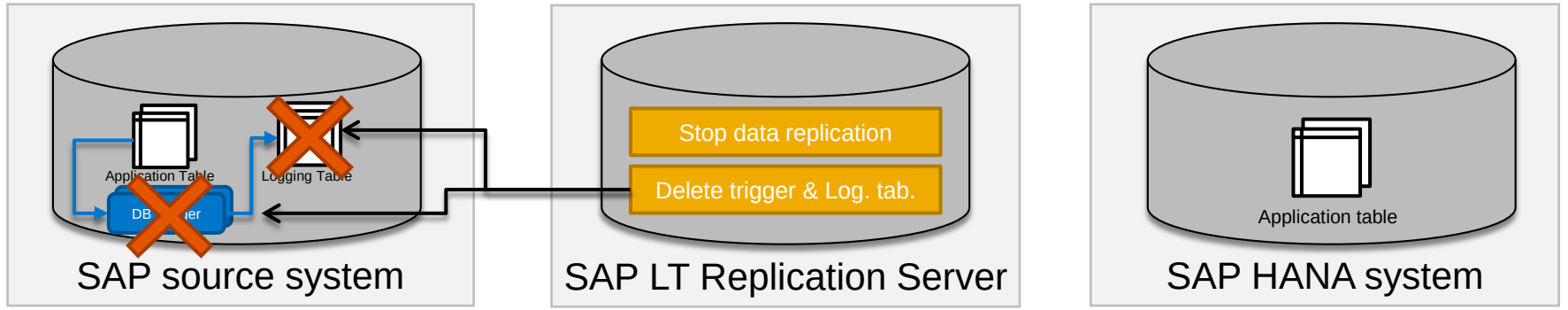
Execute Replication – Load / Replicate



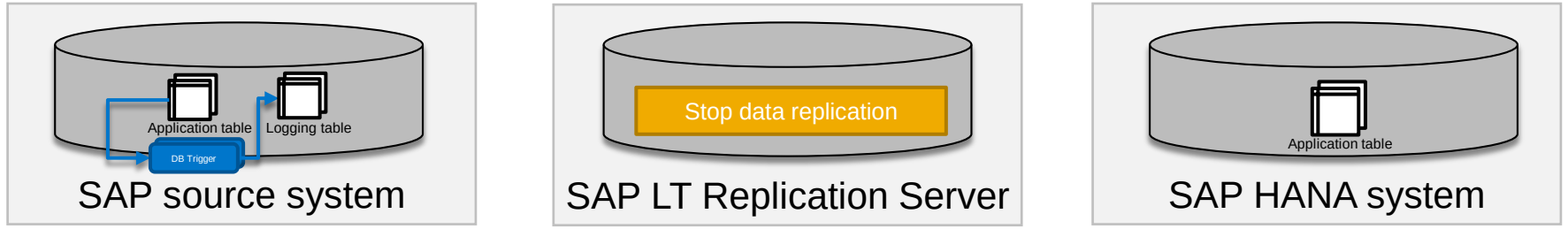
Setup Replication | **Execute Replication** | **Monitor Replication**

Execute Replication – Stop / Suspend / Resume

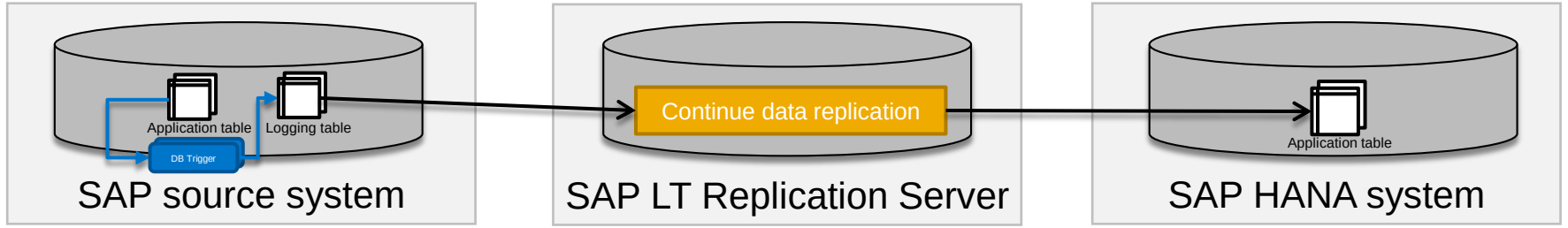
Stop



Suspend



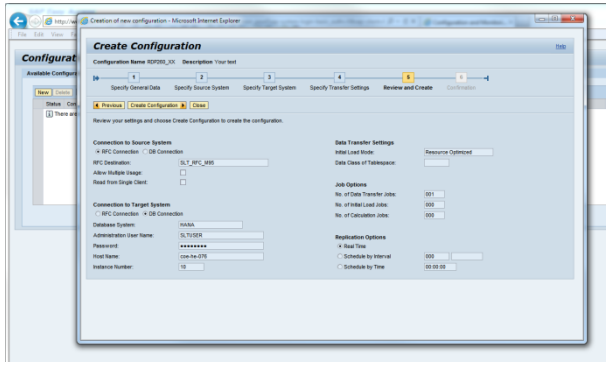
Resume



Setup Replication | **Execute Replication** | **Monitor Replication**

Setup, Execution & Monitoring of a Replication

SAP LT Replication Server



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SAP HANA DB

In-Memory

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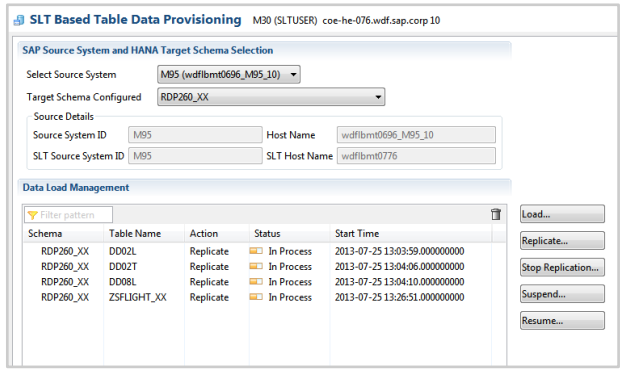

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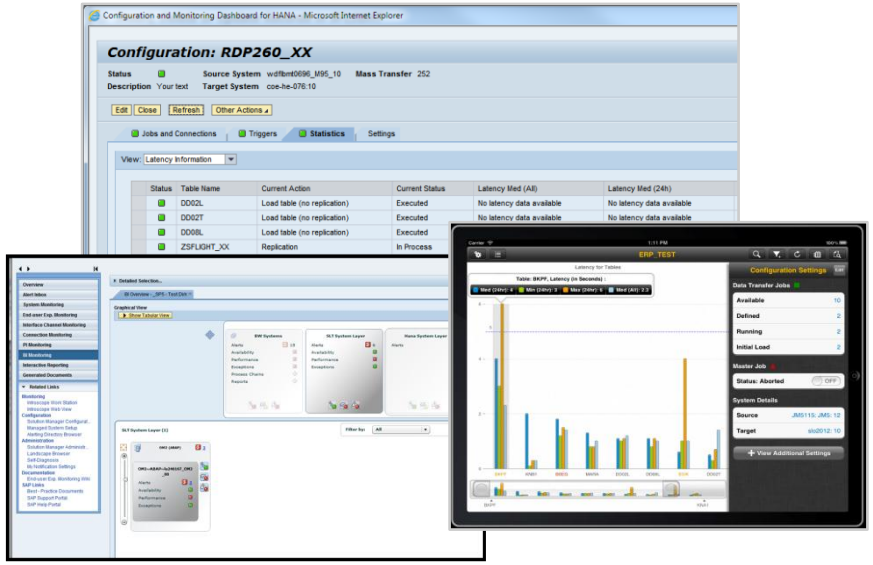


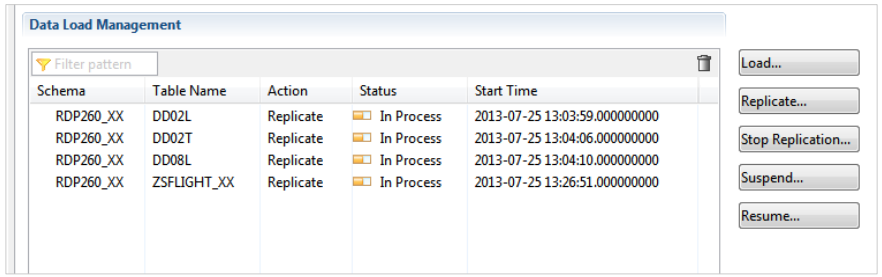
Setup Replication

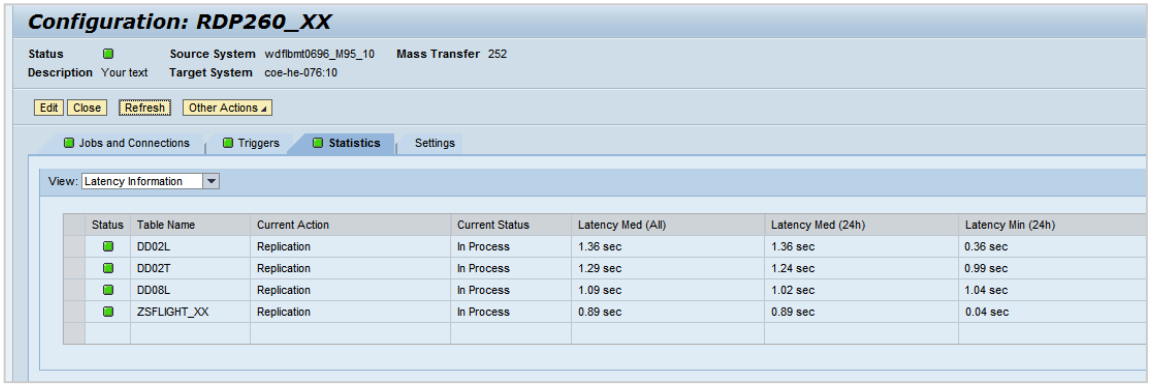
Execute Replication

Monitor Replication

Monitor Replication

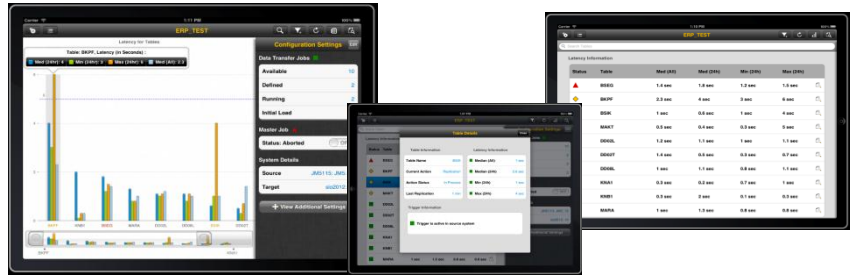
Get an overview within the **HANA Modeler**.

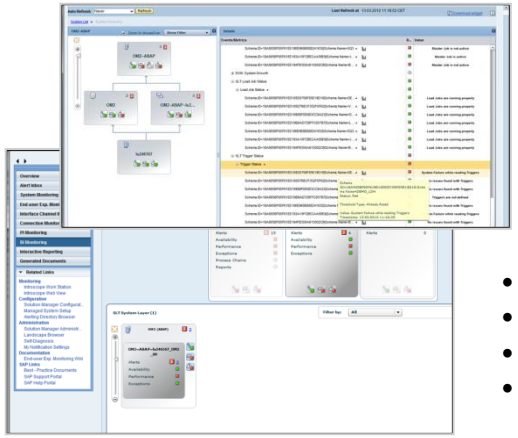




Latency, jobs, connection and triggers details are available at the **Configuration and Monitoring** Dashboard within SAP LT Replication Server.

SAP Replication Manager - Mobile Application for iPad/iPhone





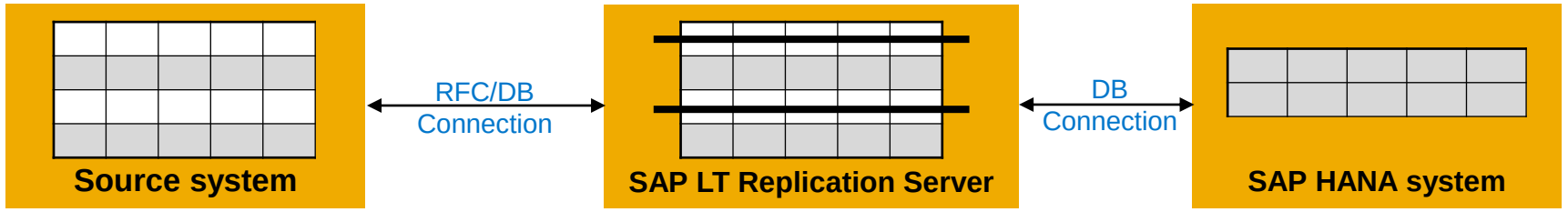
SAP Solution Manager 7.1 SP5

- Connectivity to source and target system
- Status of latency time last 24h replication
- Status of master and load jobs
- Trigger status

Setup Replication | **Execute Replication** | **Monitor Replication**

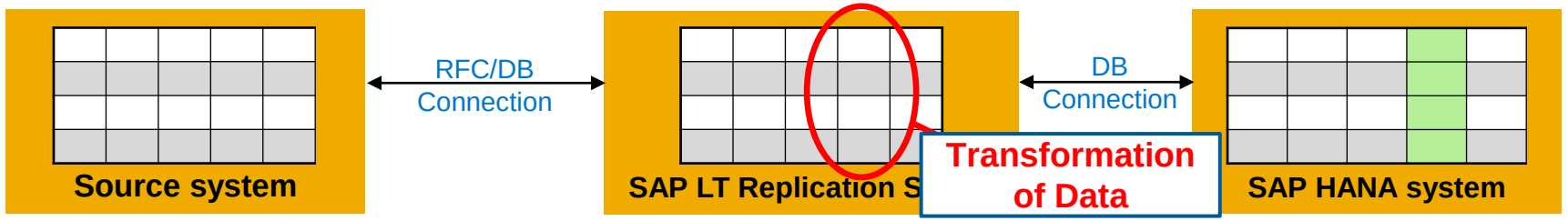
‘SLT’: Data and Structure Transformation Capabilities (1/3)

Reduce Number of Records by Filter



- i.e. Replicating certain data only ➔ Only data of specific years, departments, clients, etc. should be used in HANA.

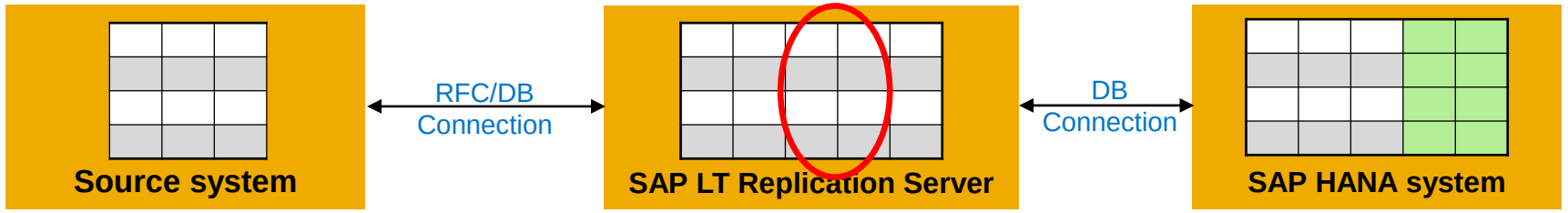
Conversion of Data



- i.e. To make certain fields anonymous ➔ i.e. HR reporting
- i.e. To fill initial fields
- i.e. To convert units or currency, and recalculate amounts and values using coded rules

Adjustment of Target Table Structures

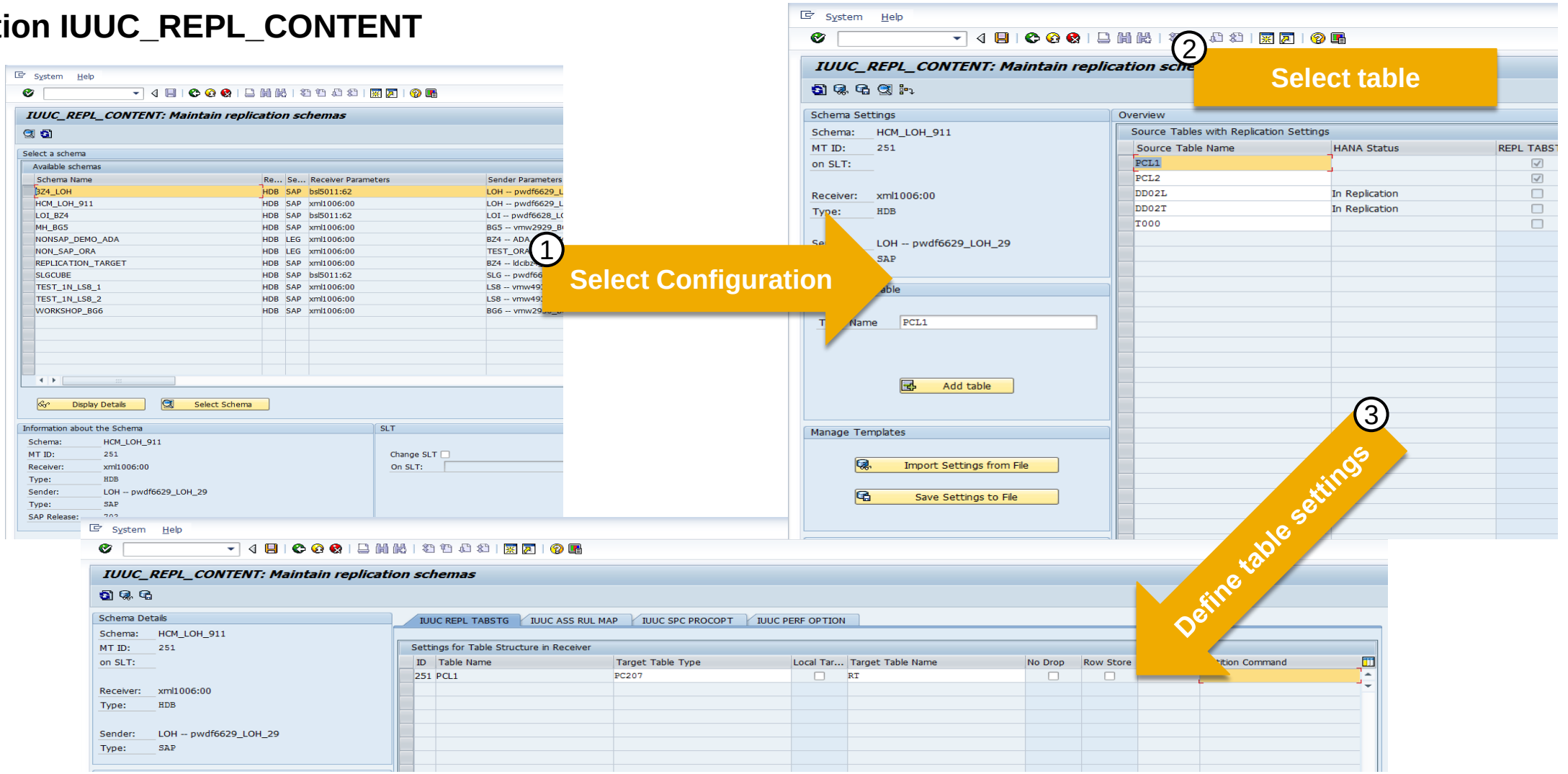
(i.e. extension/reduction/change of table structure and/or adjustment of technical table Setting



- i.e. Remove fields that are required in the HANA system
- i.e. additional fields are required (for example can be calculated/filled during load/replication)
- i.e. merging the same table (i.e. BSEG) from different systems (and create an additional field, for example a client field in order to avoid duplicate entries)

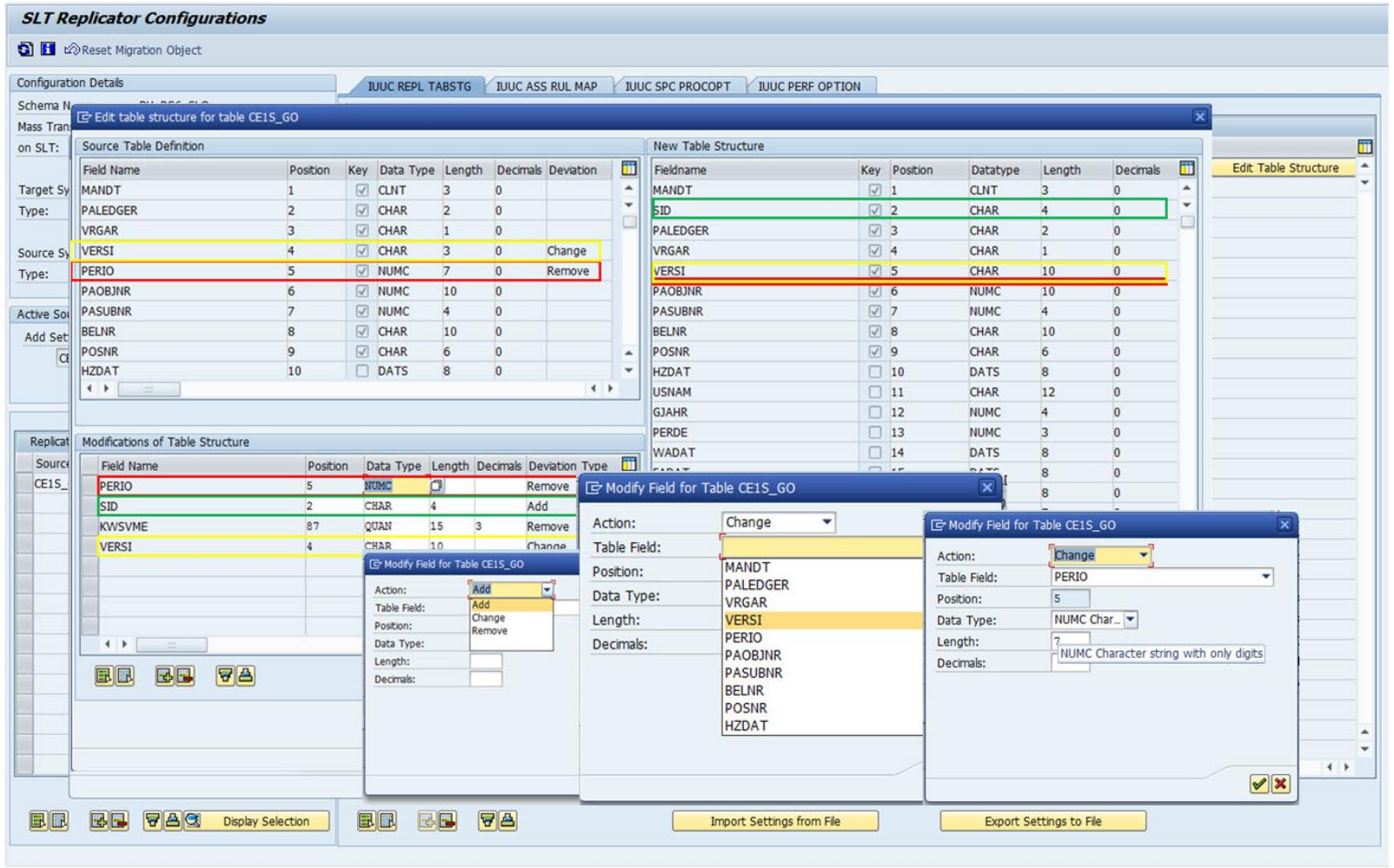
‘SLT’: Data and Structure Transformation Capabilities (2/3)

Transaction IUUC_REPL_CONTENT



‘SLT’: Data and Structure Transformation Capabilities (3/3)

UI to adjust target table structure and technical settings

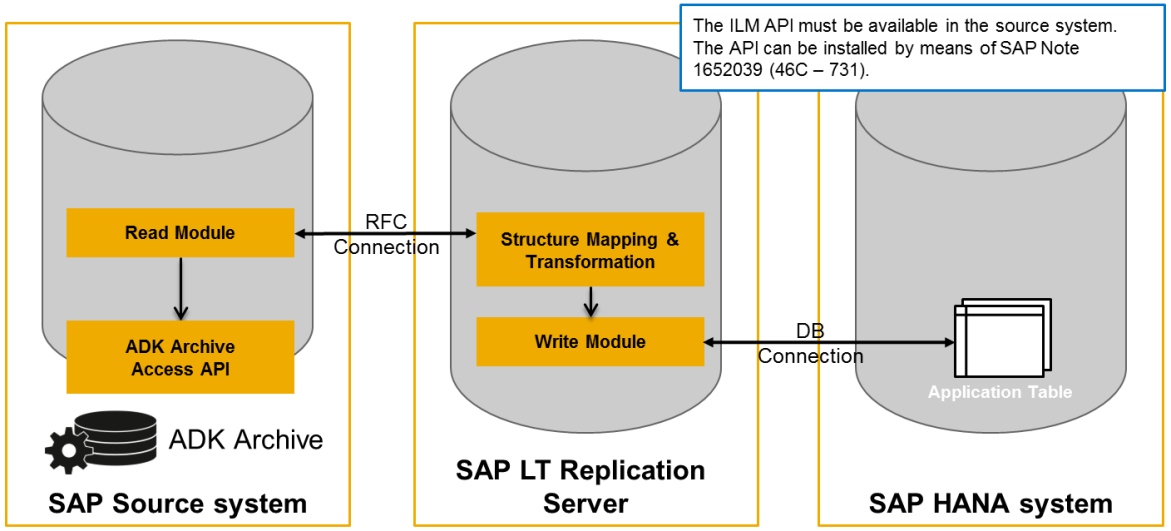


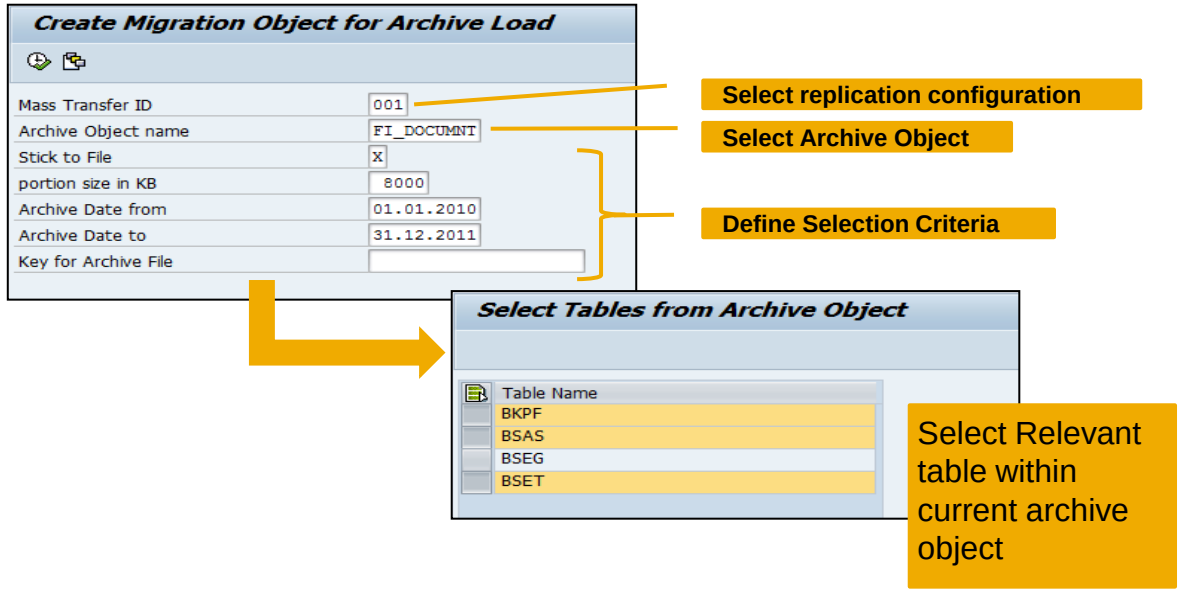
The transformation capabilities accessible by using transaction ***IUUC_REPL_CONTENT*** are described in the Guide ‘**Advanced Replication Settings**’ attached to **SAP Note** 1733714.

Load Data from SAP Archive

Architecture and Key Building Blocks

Archived data can be selected by the date of the archiving session.



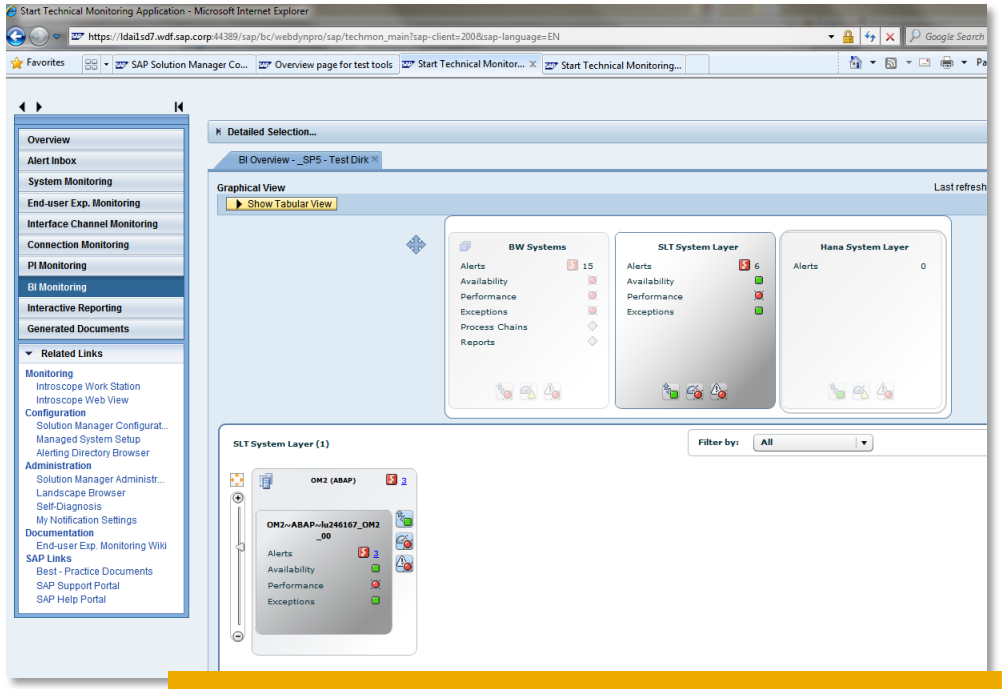


New with DMIS 2011 SP5: Exclude Archive Deletes from being replicated!

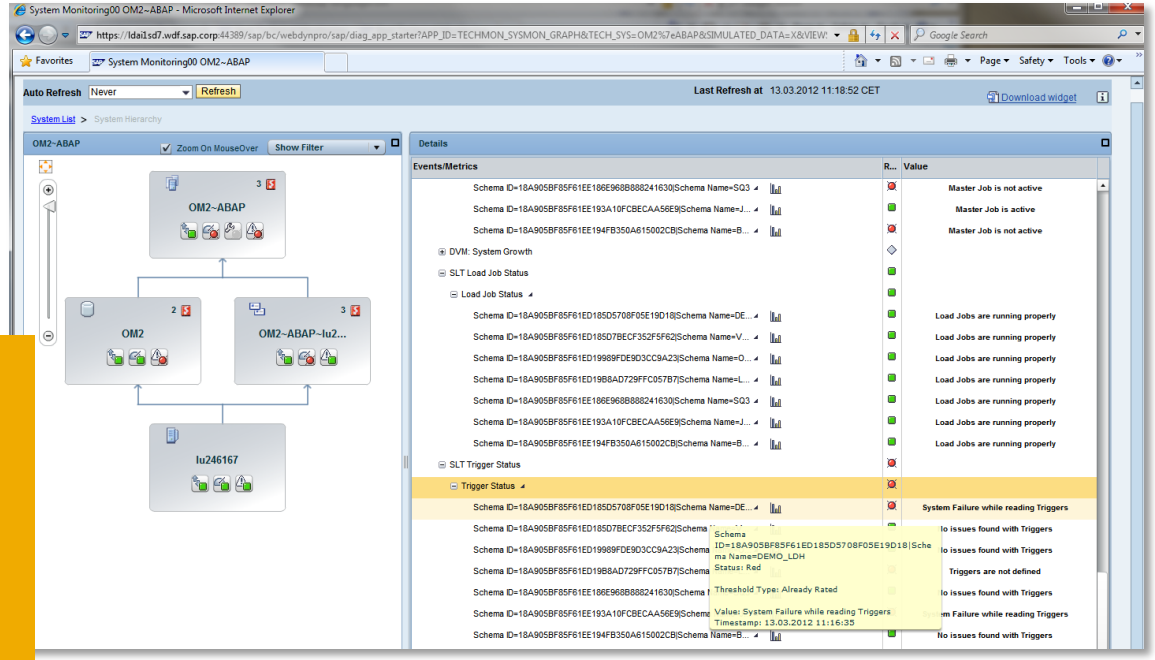
Deletions of a table record due to an archiving process can be excluded from being replicated by the SAP LT Replication Server to the connected target systems of a particular configuration.

- As a **prerequisite the archive process needs to run on a dedicated, separate application server in the source system**. No other data processing should take place on this server, then.
- To accomplish, that these archiving deletions are ignored by the data transfer process the ***flag IGNO_ARCHIVE_DEL*** in table ***IUUC_REPL_CONFIG*** has to be set before triggers are created.
- During the archive process the server on which the archiving is running has to be defined in table ***IUUC_RT_PARAMS: Field IU_PARAMETER = „ARCHSERVER“, Field IU_VALUE = Name of Application Server***.

Monitoring with SAP Solution Manager 7.1 SP5 onwards



SLT related messages and alerts are now visible in SAP Solution Manager 7.1 SP5 onwards



SLT monitoring summarizes the following information per configuration:

- Connectivity to source and target system
- Status of latency time last 24h replication
- Status of master and load jobs
- Trigger status

SAP Replication Manager – Mobile Application

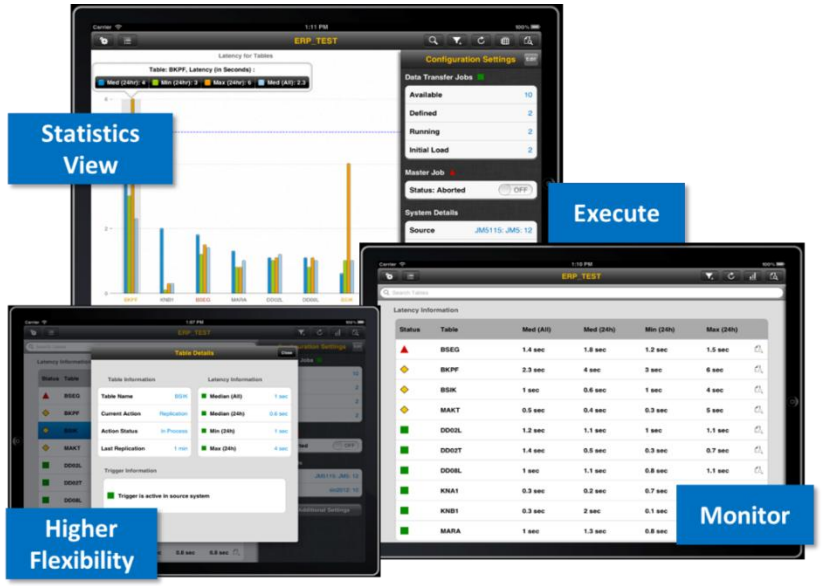
Benefits and Prerequisites

Monitor › Monitor the data replication process and system parameters.

Execution › Trigger execution of important data replication functions.

Higher Flexibility › Application can be run anytime and anywhere from a mobile device which is connected to the internet.

Statistics View › Provide an analytical perspective of real-time data replication in terms of latency.



Infrastructure Requirements

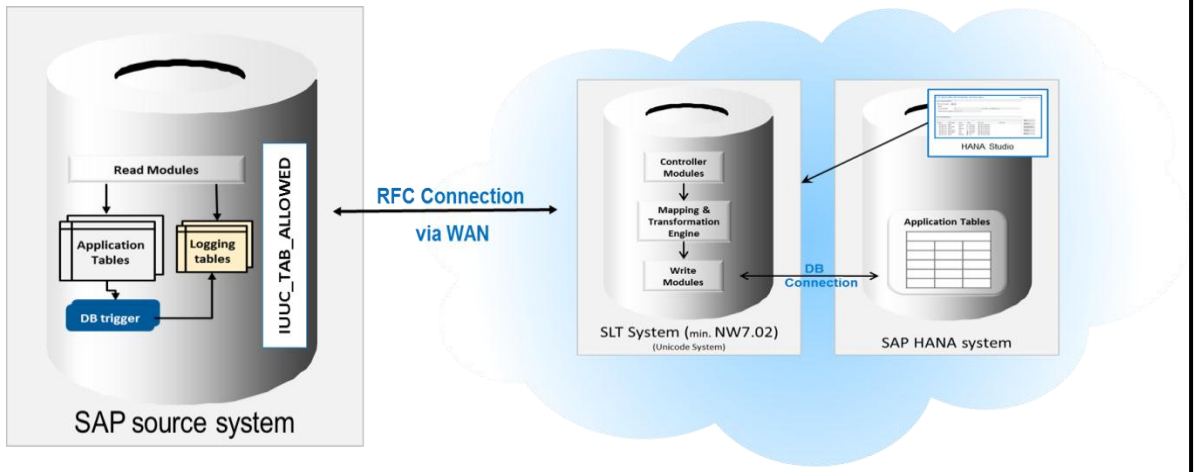
- SUP2.1
- Gateway (NW 7.02) (Minimal gateway)
- Backend
  - IW_BEP 200 (SP2.0)
  - DMIS_MOB SP01
  - DMIS_2010 SP07 / DMIS_2011 SP02
  - SAP LT Replication Server should be a NW 700 EHP2 or higher

SLT und SAP HANA ‘in the Cloud’

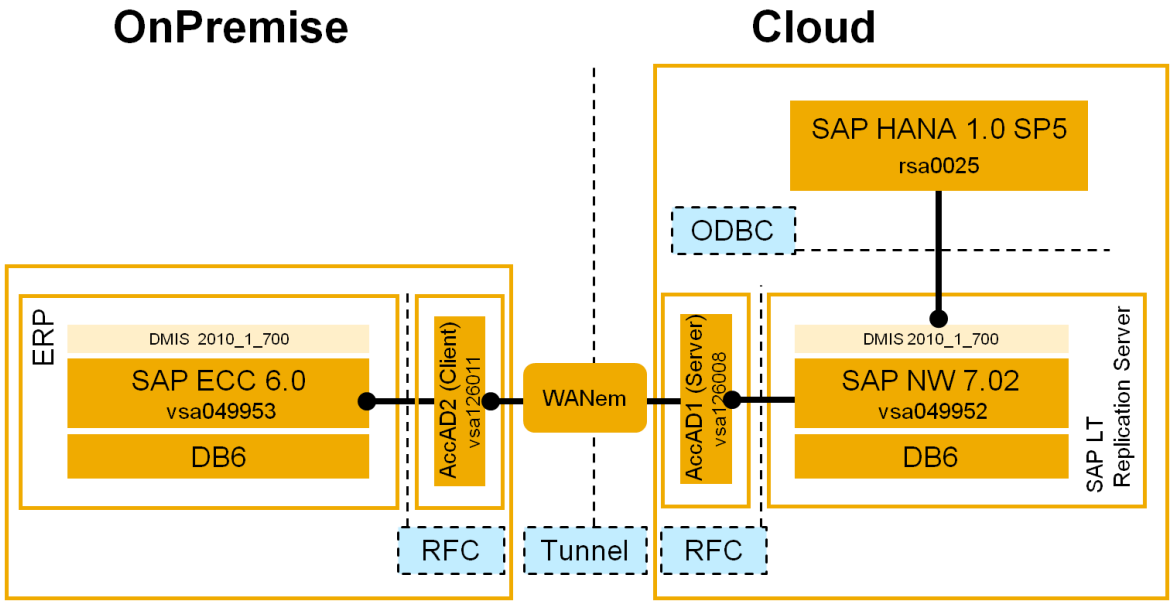
Architecture and Integration of SLT into the Cloud Infrastructure

2 possible HANA Inbound Scenarios

- **SLT located on the on-premise source site** (possible)
- **SLT located besides the SAP HANA system in the Cloud** (recommended)



Tested @ SAP and live at SAP IT



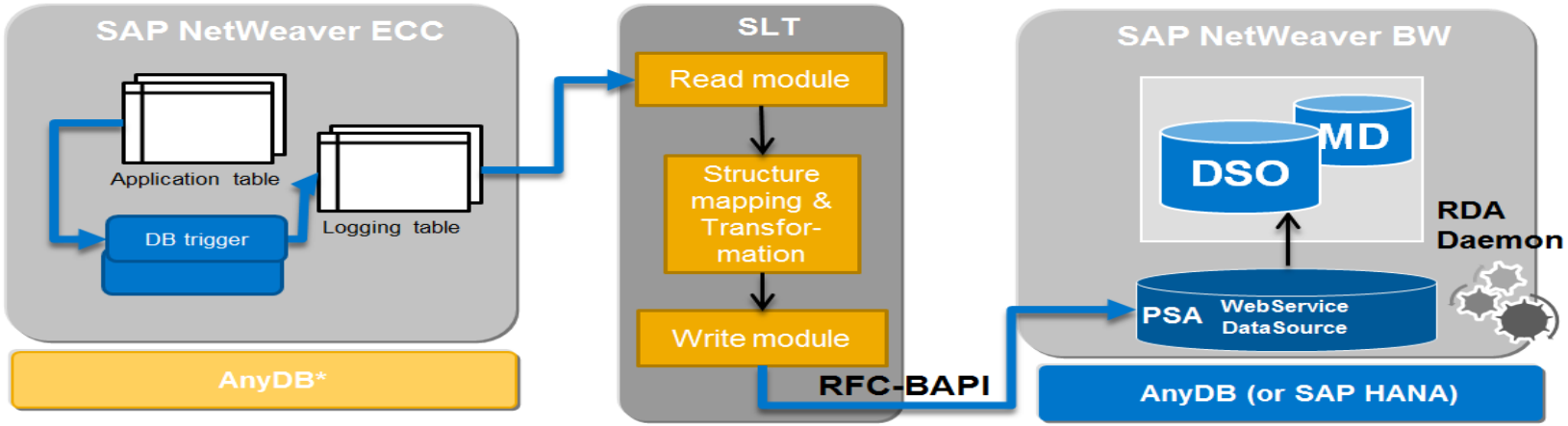
Managed Access Control:

Via entries in table **IUUC_TAB_ALLOWED** in the SAP-based source systems you can control the access to table data. Only permitted data selections can be loaded/replicated into a cloud based target system.

Real-time Data Replication into SAP BW (PSA)

with SAP Landscape Transformation Replication Server

SAP LT Replication Server offers real-time data replication from ABAP-based and non-ABAP-based systems into SAP NW BW (7.0 onwards). The data is transferred into Web Service DataSources in the Persistent Staging Area in SAP NW BW and can be processed via SAP BW Real-time Data Acquisition (RDA) Daemon into DataStore Objects (DSO) or master data tables (MD).



Value Proposition

SAP LT Replication Server transfers data in real-time into SAP NW BW, reducing the amount of overnight data uploads into your BW systems. With SAP LT Replication Server you can perform delta updates on BW DataSources without delta mechanisms, for ABAP-based systems as well as non-ABAP based systems on all SAP supported DB versions (according to PAM).

Scope

Recommended for simple tables (no join or transformation logic included) and data sources (extractors) without delta mechanism and complex business logic. With SP5 not usable for Pool/Cluster tables (planned for next SPs).

Real-time Data Replication into SAP BW (PSA)

Key Information Sources

Information Sources

SAP LT Replication Server: http://scn.sap.com/community/replication-server
Service.sap.com/instguides -> SAP Components -> SAP LT Replication Server

Important SAP Note

1826585 – SAP LT Replication Server for SAP BW (PSA) DMIS 2011 SP4
1908836 – SAP LT Replication Server for SAP BW (PSA) DMIS 2011 SP5

Software Requirements

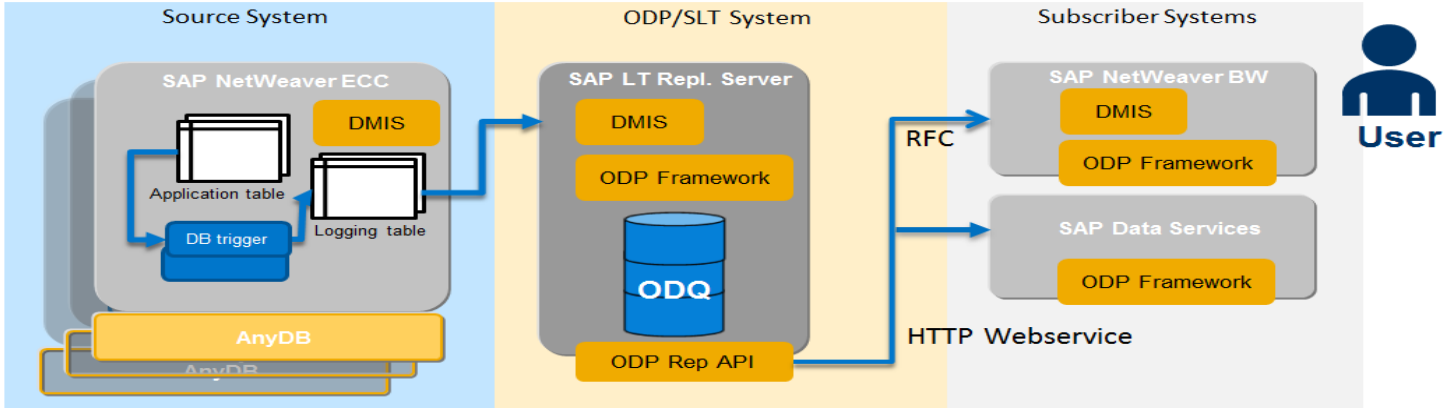
Source system	SLT System	SAP BW system
Installation (if SAP source system): Respective DMIS_2011 add-on or DMIS_2010 version* Minimum DMIS_2011 SP level: SP02 • SAP sources: SAP Basis 4.6C and higher • non-SAP: all SAP supported DB versions (with respective SAP Kernel installed on LT Replication Server)	**Installation:** • Add-on DMIS 2011_1_700 (or higher) • Minimum DMIS_2011 SP level: SP04 • **Apply SAP Note 1810627** • SAP Basis: SAP Netweaver 7.02 or higher	**Installation:** • Respective DMIS_2011 add-on version • Minimum DMIS_2011 SP level: SP02 • **Apply SAP Note 1808251 (BW specifics!)** • SAP BW 7.0: min. SP level SP17 • SAP BW 7.01 and 7.40 • SAP BW 7.02 – 7.31: min. SP level SP01

Contact: Astrid.Tschense-Oesterle@sap.com (PM)

Operational Data Provisioning in Real-Time

with SAP Landscape Transformation Replication Server

SAP LT Replication Server acts as a provider for the **Operational Data Provisioning** Framework (ODP), enhancing this central data storage with real-time capabilities. The ODP framework supports extraction and replication scenarios for various target SAP applications - as subscribers they retrieve the data from the delta queue and continue processing the data.



Value Proposition

With the ODP/SAP LT Replication Server scenario replicated data is available in real-time in a „central place“ and can be consumed by multiple subscribers over the ODP interface. The functionality is contained in the SAP Component **DMIS 2011 SP5,** available since 8/2013.

This is a strategic enhancement of the SAP LT Replication Server functionality to offer real-time data provisioning to all SAP solutions (currently used by SAP NW BW and SAP BO Data Services).

Scope

currently restricted to ABAP-based systems, only simple tables, and extractors without delta mechanism and complex business logic.

Operational Data Provisioning in Real-Time

Key Information Sources

Information Sources

SAP LT Replication Server: http://scn.sap.com/community/replication-server
Service.sap.com/instguides -> SAP Components -> SAP LT Replication Server

Important SAP Note

1914764 – Operational Data Provisioning with SAP LT Replication Server

Software Requirements

SAP Source system	ODP/SLT System	Subscriber system
Installation: DMIS 2011 SP5 or – DMIS 2011 SP3/SP4 + Note 1863476 – DMIS 2010 SP8/SP9 + Note 1863476 • All ABAP-based SAP Systems starting with R/3 4.6C, all supported OS/DB's platforms • OS/DB restrictions of related SAP NetWeaver stack apply (see at http://service.sap.com/pam)	**Installation:** • SAP_Basis: 730 SP10 or SP5 + Note 1817467 731 SP8 or SP3 + Note 1817467 740 SP4 or RTC + Note 1717467 • PI_Basis: 730 SP10 or SP8 + Note 1848320 731 SP9 or SP5 + Note 1848320 740 SP4 or SP2 + Note 1848320 • Add-on DMIS 2011 SP5	**Installation:** • PI_Basis: 730 SP10 or SP8 + Note 1848320 731 SP9 or SP5 + Note 1848320 740 SP4 or SP2 + Note 1848320 • Add-on DMIS 2011 SP5

Contact: Astrid.Tschense-Oesterle@sap.com (PM)

Technical Prerequisites & Sizing

SAP LT Replication Server – Software Release Strategy

With HANA SPS05 & SPS06, two versions of SAP LT Replication Server are released

- **SAP LT Replication Server 1.0** (based on Software Component Version DMIS 2010)
- **SAP LT Replication Server 2.0** (based on Software Component Version DMIS 2011)

Technically both DMIS versions include the same coding level (no need for an upgrade)

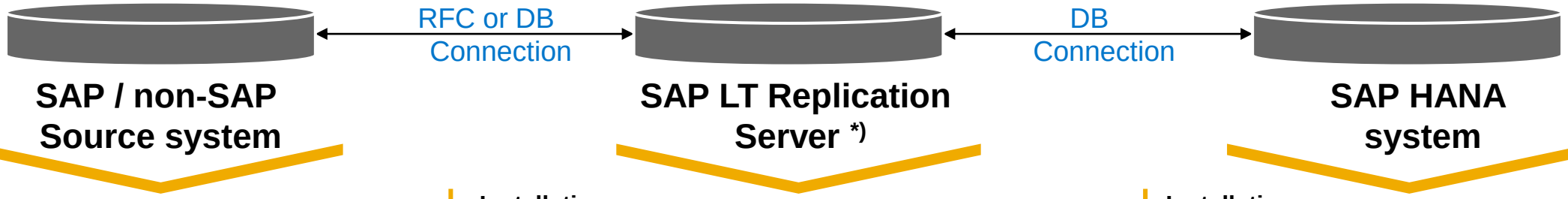
- DMIS_2011 SP02 and DMIS_2010 SP07 (see also SAP Note 1709225)
- DMIS_2011 SP03 and DMIS_2010 SP08 (see also SAP Note 1759156)
- DMIS_2011 SP04 and DMIS_2010 SP09 (see also SAP Note 1824710)
- DMIS_2011 SP5 (see also SAP Note 1882433): **No equivalent DMIS_2010 SP version in parallel!**

Current status

- Since HANA SPS05, **DMIS_2011 is released and recommended for all new installations** (SAP LT Replication Server and SAP source systems).
- SAP customers who run other DMIS-based applications (that require DMIS_2010 in the SAP source system) can use DMIS_2010 in the source and/or SLT system. See also SAP Note 1691975.
- For HANA customers using SLT with DMIS_2010 the switch ("technically" an upgrade) to DMIS_2011 will be a non-disruptive event.
- **The future SP release cycles of DMIS 2011 and DMIS_2010 will be different!**
  - DMIS_2011 SP5: No equivalent DMIS 2010 SP version in parallel !
  - Next DMIS 2010 SP10 planned to come in parallel to DMIS 2011 SP6 in Q1/2014
  - No further code-equal DMIS2010 after that … only bug fixing

Technical Prerequisites and System Set-Up Information

for SAP LT Replication Server (with SAP HANA 1.0 SPS05 or higher)



Installation

- **SAP:** Respective DMIS 2010/2011 version (**DMIS 2011 SP2-5 or equiv.**) ***)
- **SAP:** Minimum support pack level: SP07 **)
- **non-SAP**: no software installation required

Basic Configuration

- Optional: define separate table space for logging tables
- **SAP:** Define RFC user with appropriate authorization
- **Non-SAP:** Create DB user for Secondary DB connection

System Requirements

- **SAP:** All ABAP-based SAP Systems starting with R/3 4.6C, all supported OS/DB's platforms
- **SAP & Non-SAP:** OS/DB restrictions of related SAP NetWeaver stack apply (see at http://service.sap.com/pam)

Installation

- Add-on **DMIS 2011** ***)
  (Latest support pack level: **SP5**)

Basic Configuration

- **SAP:** Define RFC connection to source system
- **Non-SAP:** Define DB connection to source system
- Define DB connection to HANA system
- Define max. number of jobs to be used for data replication

System Requirements

- According to Quick Sizing
- Ensure sufficient number of available background jobs!

Installation

- HANA **SPS03-07:** includes LT replication functionality fully integrated into the UI of the HANA modeler

Basic Configuration

- Create a DB user (if required)

Always apply all related SAP Notes mentioned in Installation Guide, SLT General Note 1605140 and SAP Note 1882433 – *Installation/Upgrade SLT – DMIS 2011 SP5.*

*) SAP LT Replication Server can run on any SAP system with SAP NetWeaver 7.02 ABAP stack or higher, for example on Solution Manager 7.1 or the source system – it does not have to be a separate SAP system!

**) A few new SLT features available since HANA SPS05 may require DMIS_2010 SP09 / DMIS_2011 SP04

***) SAP customers who run other DMIS-based applications can apply DMIS_2010 in the source and SLT system.

SLT and HANA Compatibility Information

Source System	SLT	HANA DB/Studio
DMIS 2010 SP3/4	DMIS 2010 SP4	HANA 1.0 SPS2
DMIS 2010 SP3-9	DMIS 2010 SP5-9	HANA 1.0 SPS3-7
DMIS 2011 SP2-5	DMIS 2011 SP2-5	HANA 1.0 SPS3-7

SAP Note 1882433

Upgrade from DMIS 2010 to DMIS 2011

If you upgrade the SAP Replication Server system from DMIS 2010 to DMIS 2011, ensure that DMIS 2011 and all relevant support packages are installed in one installation queue. This is important as some additional table fields (e.g. partitioning command) were introduced on a certain DMIS 2010 SP level and will get lost if DMIS 2011 basis package and support packages are installed sequentially.

If you upgrade from DMIS 2010 to DMIS 2011 you have to upgrade to at least the corresponding support package level. The corresponding level for DMIS 2010 SP9 is DMIS 2011 SP4

	Technical availability	
Database	SAP Sources	Non SAP Sources (*)
MSFT SQL Server Enterprise Edition	OK	OK
Oracle Enterprise Edition	OK	OK
IBM DB2 LUW/ UDB (DB6)	OK	OK
IBM DB/2 zSeries	OK	OK
IBM DB2 iSeries (former AS/400)	OK	Project Solution on Request
IBM Informix	OK	OK
SAP MaxDB	OK	OK
Sybase ASE	OK (with DB-Version 15.7.0.11)	OK (with DB-Version 15.7.0.11)
SAP HANA	OK	OK

For non-SAP source systems, the customer database license needs to cover a permanent database connection with 3rd party products like SAP LT Replication Server.

(*) Since a DB connection from LT replication server to a non-SAP system is required, the OS/DB restrictions of SAP NetWeaver 7.02 or higher apply (see at http://service.sap.com/pam)

Quick Sizing with SAP SLT Sizing Guide

required Information / Input Parameters

- Numbers of configurations
- Numbers of tables per configuration
- Details about each table:
  - Table type [transparent/cluster]
  - Number of records [rowcount]
  - Size of single record (<>1500 bytes/record)
  - Numbers of columns (S: < 150, M: 151...250, L: > 250)
  - Expected change rate [changes per hour]
  - Complex data transformations required [y/n?]
- Max. tolerable initial load time [hours]
- Max tolerable replication latency [sec]

You can find more details about sizing for SLT in the official Sizing Guide

		MEDIUM	LARGE
		A moderate mid-range scenario with	**A upper mid-range scenario with**
		• Approx ~ 3 different Source Systems (equivalent to 3 LTR Configurations), • and/or up to 200 tables in total; • weighted table size category M-L • an overall expected throughput of less than 10.000.000 records/hour	• Up to 10 different Source Systems (equivalent to 10 LTR Configurations), • and/or up to 500 tables (in total); • weighted table size category M-XL • an overall expected throughput of up to 50.000.000 records/hour
SLT Server	• 1 LTR configuration with 2 Data Transfer Jobs • Hardware: 2-4 CPU Cores, 8-10 GB Main Memory	• 10 Data Transfer Jobs in total (sum of all configurations) • Hardware: 4-6 CPU Cores, 10-16 GB Main Memory	• 25 Data Transfer Jobs in total (sum of all configurations) • Hardware: 8-10 CPU Cores, 16-32 GB Main Memory
Source System(s)	• 1:1 relation to data transfer jobs per source • Reserve 2 BTC work processes for ACL (Access plan calculation), ensure 2 free Dialog work processes for data load/replication • Additional Hardware required: ~ 1 CPU Core (0.5 CPU per data transfer job, APPL & DB)	• 1:1 relation to data transfer jobs per source • sum over all source systems: • Reserve 2-4 BTC work processes for ACL (Access plan calculation), • ensure 10 free Dialog work processes for data load/replication • Additional Hardware required: ~ 5 CPU Core in total (0.5 CPU per data transfer job, APPL & DB)	• 1:1 relation to data transfer jobs per source • sum over all source systems: • Reserve 4-8 BTC work processes for ACL (Access plan calculation), • ensure in sum 25 free Dialog work processes for data load/replication • Additional Hardware required: ~ 12 CPU Core in total (0.5 CPU per data transfer job, APPL & DB)
SAP HANA System	~ 1 additional CPU core	~ 3-4 additional CPU cores	~ 8 additional CPU cores

With these input parameters you can estimated the system requirements.
You find all details in the official Sizing Guide.

Summary and Outlook

SAP Landscape Transformation Replication Server - Benefits

- Allows real-time (and scheduled) data replication
- Ability to automatically migrate data into HANA format while replicating data in real-time
- „Unlimited“ release coverage (from SAP R/3 4.6C onwards) sourcing data from ABAP based SAP applications
- Handling of all SAP Data Structures (i.e. cluster and pool and HR tables)
- Automatically non-Unicode to Unicode conversion during load/replication
- Data and structure transformation capabilities (e.g. data filtering, enrich/reduce target table structure, anonymize data, adjust technical table parameters, etc.)
- Fully integrated with SAP HANA Studio (Data Provisioning and Data Modeler UI)
- Enhanced monitoring capabilities via SAP Solution Manager 7.1 SP5 onwards & mobile app SAP Replication Manager

SAP Landscape Transformation Replication Server (aka **“SLT**”) is the best choice for all SAP HANA customers who need real-time or scheduled data replication from SAP and NON-SAP sources with the option to accomplish even complex data transformations on the fly.

Summary: SAP LT Replication Server 2.0 SP5

- SAP LT Replication Server 2.0 (DMIS 2011) is the recommended Product Version!
- New, additional Scenario ‘SAP LT Replication Server for Real-time Replication via Operational Data Provisioning’ to connect SAP BW and Data Services Consumers
- Extensive UI Improvements for simplified Administration and Monitoring
  - in SAP LT Replication Server Cockpit (LTRC)
  - in ‘Configuration & Monitoring Dashboard’ (LTR)
- Essential new Functions:
  - Simplification of administrative tasks, HA Setup support, use of SLT within test landscapes, managing of SAP Data archiving during replication, etc.
- Integration into SAP HANA Studio’s Data Modeller (SLT Configuration as Data Source)
- Extended Monitoring Functions via SAP Solution Manager 7.1 SP9 Integration

SAP LT Replication Server – Development Roadmap

2013 and beyond

Key Goals and Objectives

- Evolve core features – namely for operations and non-SAP aspects
- Serve new scenarios using trigger-based changed data capturing capabilities
- Contribute to strategic SAP initiatives like RTDP, Suite on HANA or HANA Enterprise Cloud

Product Development

08/2013 – DMIS2011SP05

Core Features & Improvements

- **HCM specific table and data formats** (HR cluster tables) covered
- **LTR UI redesigned: guided procedure** with build-in check for each step
- Feature enhancements for SAP BW
- **Revised job handling** optimizing HW consumption / load balancing and enabling automated restart of replication after restart of SLT system
- **Major LTRC UI improvements**: expert and trouble shooting functions
- Advanced **handling of archive activities**
- Extended **authorization concept on configuration level**

New Business Scenarios

- SLT technically enabled for **ODP (Operational Delta Provider) scenarios** using SAP sources

xx/2013 – HANA SPS07

Core Features & Improvements

- Redesigned **non-SAP source handling** enabling for example **1:N data distribution**
- **Flexible back-up and recovery concept**
- Enhanced user experiences and monitoring capabilities
- SLT4BW: **Expand SLT coverage** for selected, **simple structured hierarchical extractors**

New Business Scenarios / Strategic Investments

- SLT fully released as **ODP (Operational Delta Provider) for SAP BW 7.3 (onwards) and Data Service 4.2**
- **Heterogeneous fall back and data synchronization solution for Suite on HANA**
- Evolve and integrate SLT as part of SAP's RTDP strategy

Q1/2014 – DMIS2011SP06 / DMIS2010 SP10

Core Features & Improvements

- **Transactional consistency**
- **Automated parallelization of replication** process per table
- **Templates** to manage and reuse replication settings across tables and configurations

New Business Scenarios / Strategic Investments

- Supporting replication into selected other target DBs (today already possible as project solution)
- SAP to SAP replication

xx/2014 – HANA SPS08

xx/2014 – DMIS2011SP07 or later

SCN Community for SAP LT Replication Server

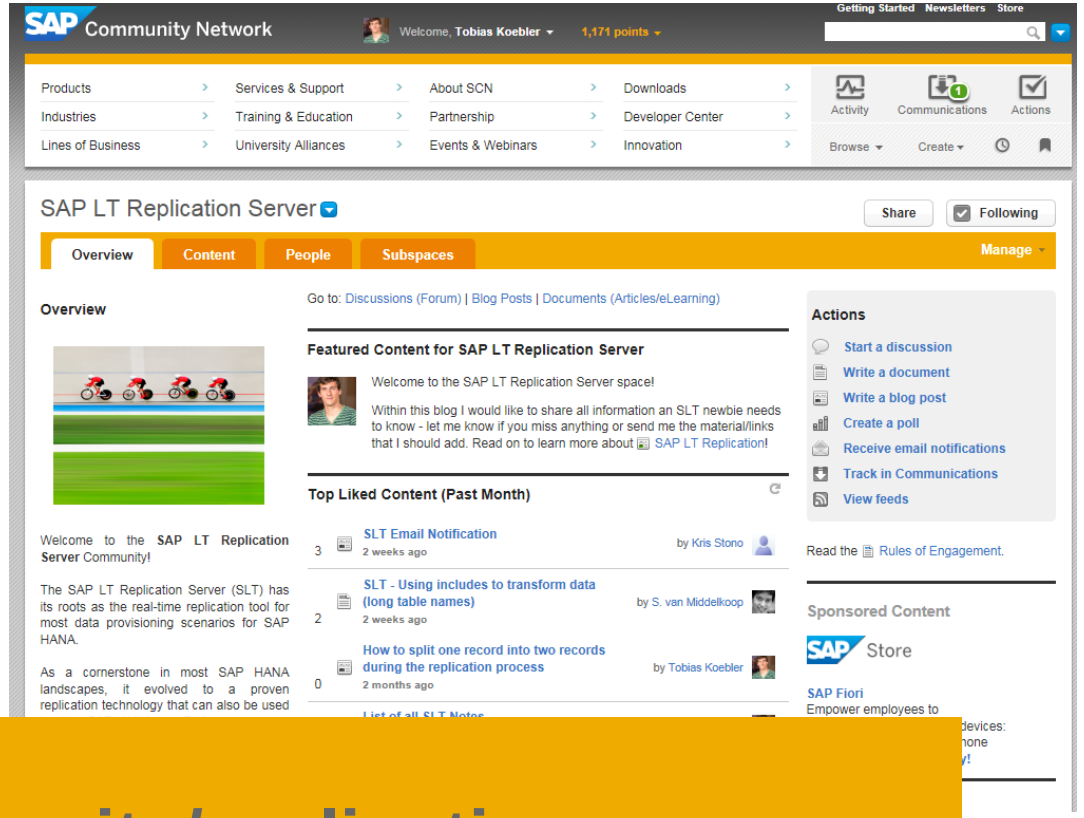
News

Presentations

Videos

How-To Documents

Discussion Forum



http://scn.sap.com/community/replication-server

Information Sources

For Customers and Partners

Web Sites

- SLT @ SAP Service Marketplace: http://service.sap.com/hana
- SLT @ SAP Help Portal: http://help.sap.com/hana
- SLT @ SCN: http://scn.sap.com/community/replication-server
- Some assets linked @ HANA Experience Page

SAP LT – important Documents and Links

- Neu SLT – Introduction Video
- SLT – Overview Presentation
- Installation Guide **(new URL!)**
- Security Guide **(new URL!)**
- Operations Guide **(new URL!)**
- How-To Guide „Advanced Replication Settings“ (see SAP Note 1733714)
- HANA & SLT Sizing; SLT Sizing Guide
- Important SLT Notes: see in SLT General Note 1605140

Training

- HA350: SAP HANA – Data Provisioning **(New – available in Q3/2013!)**
- HA200 SAP HANA - Installation & Administration
- HA300 SAP HANA Implementation and Modeling
- Specific customized training on SLT available on demand

Thank You!

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