



# data tiering in BW/4HANA and SAP BW on HANA

## Update 2017

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June 2017

CUSTOMER



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# SAP-NLS Community

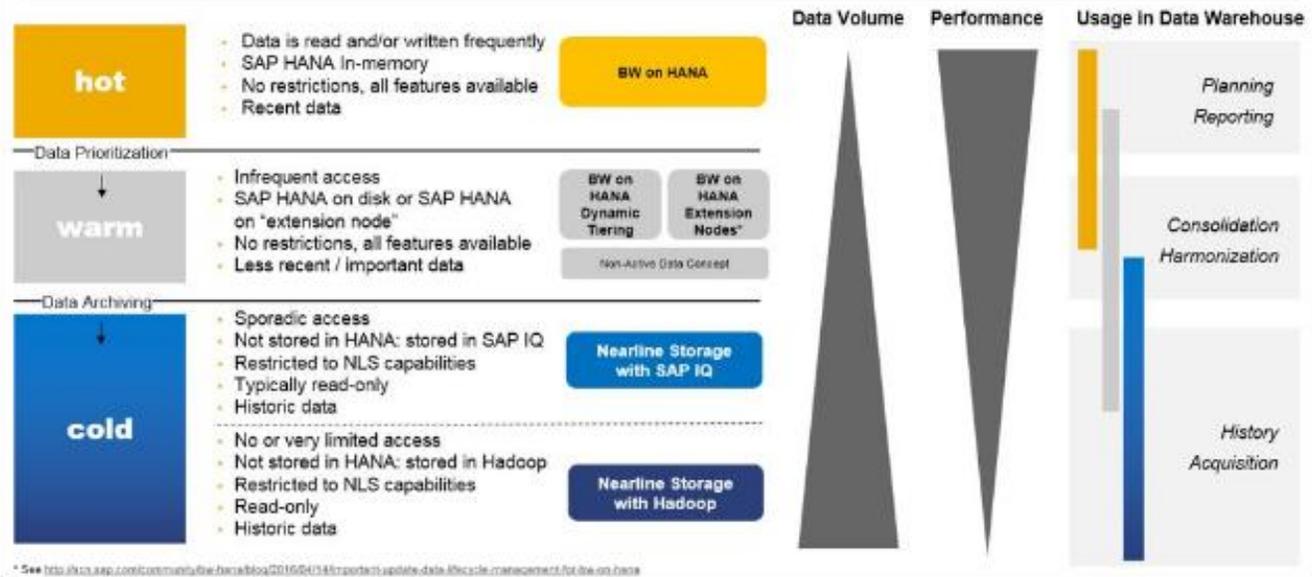
<https://blogs.sap.com/2016/10/12/sap-nls-solution-sap-bw/>



## Table of Content

<a href="#">Introduction</a>	<a href="#">Overview/Roadmap</a>	<a href="#">SAP Notes</a>	<a href="#">Implementation</a>
<a href="#">NLS Performance</a>	<a href="#">NLS Partnersolutions</a>	<a href="#">Additional Blogs</a>	

## Data Lifecycle Management in SAP BW 7.50 Overview



# Agenda

## SAP data tiering Overview

- data tiering Optimization

## SAP NLS straggler support

- Details of the Pilot Solution

## SAP IQ Updates

- SAP IQ 16.1 Released
- SAP IQ easy DB installation
- Unicode Conversion with the PBS RIQ Interface

## Current data tiering and NLS Roadmap

- Details

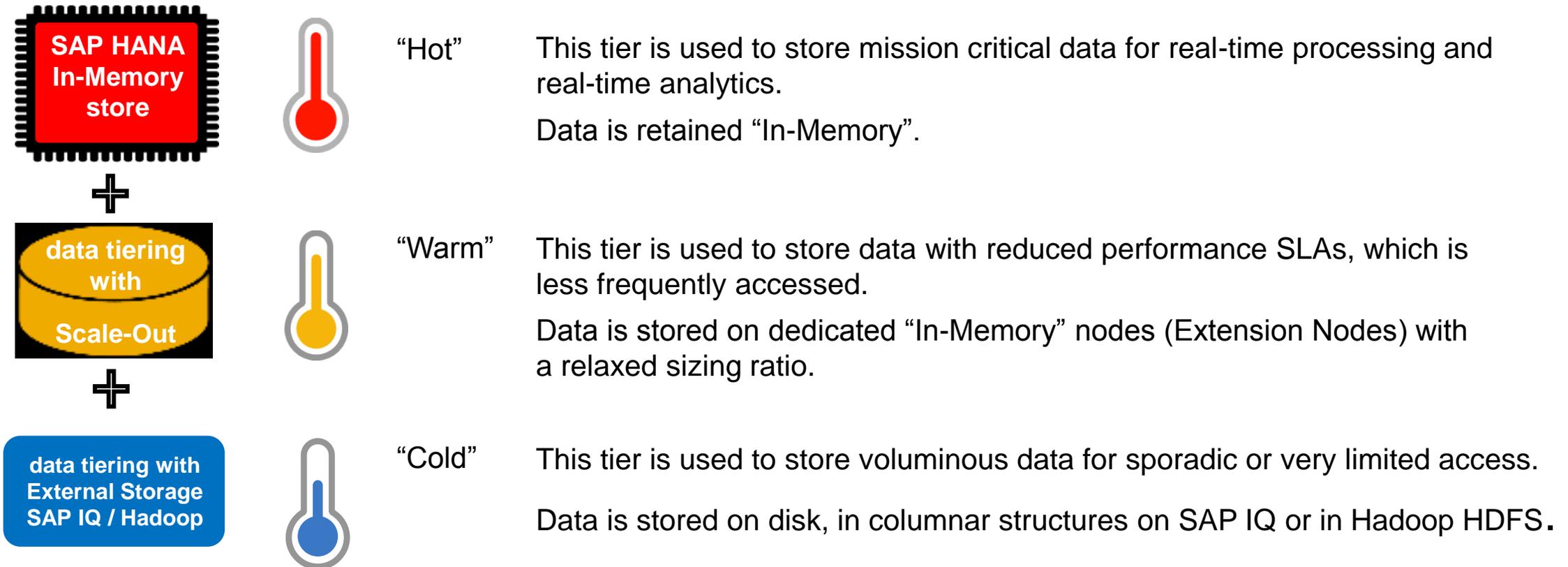
# SAP data tiering **Overview**



# SAP HANA data tiering Technology

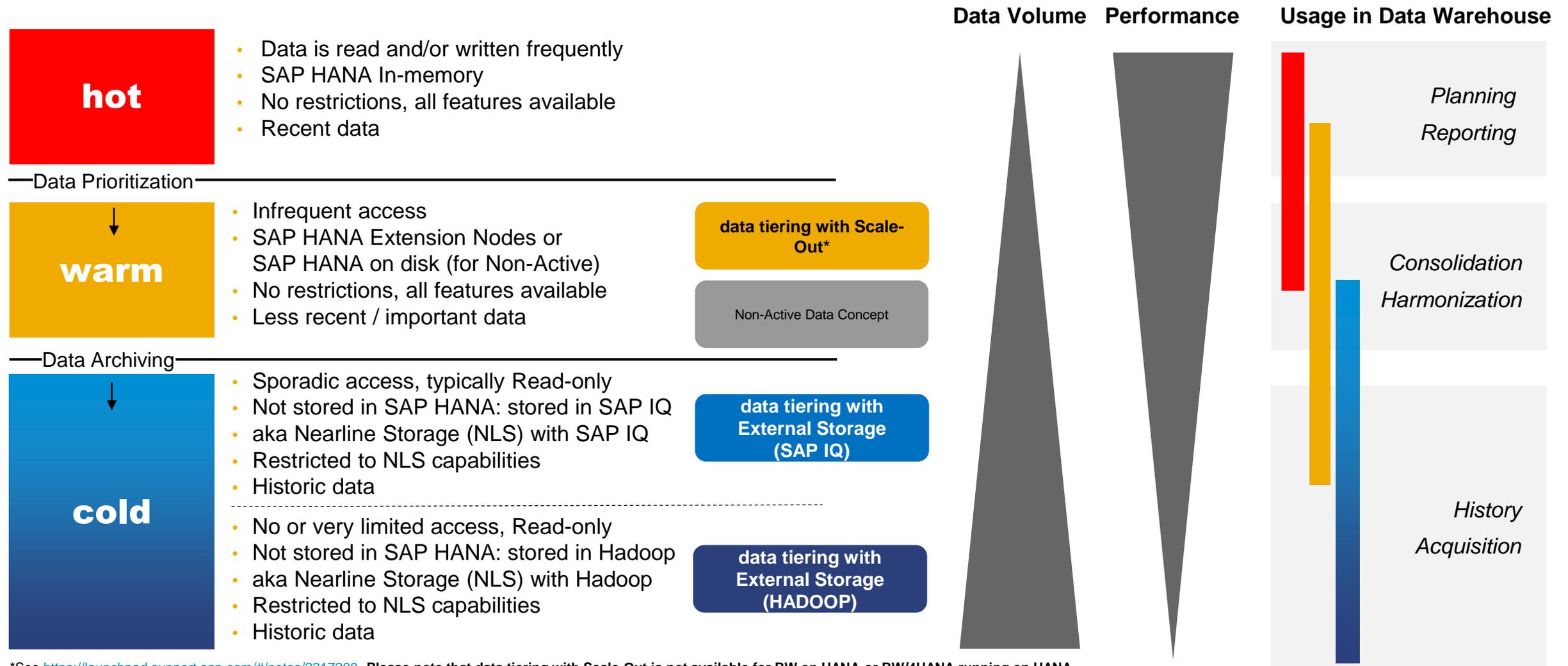
## Overview

Data Tiering is the assignment of data to various tiers/storage media based upon data type, operational usefulness, performance requirements, frequency of access and security requirements of the data.



# data tiering in BW/4HANA and SAP BW on HANA

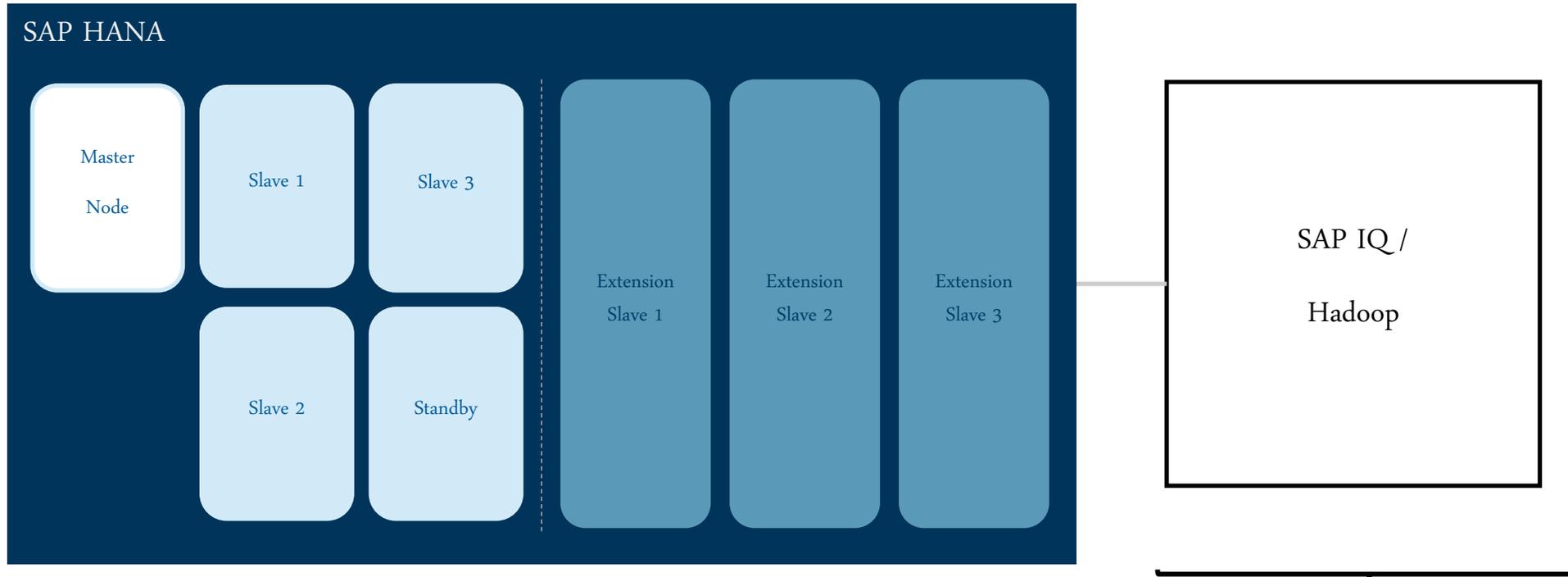
## Overview



\*See <https://launchpad.support.sap.com/#/notes/2317200>. Please note that data tiering with Scale-Out is not available for BW on HANA or BW/4HANA running on HANA single host systems (Minimum system requirement: 1 master node (hot) and 1 extension node).

# SAP BW/4HANA – Data Lifecycle Management

Scale SAP BW/4HANA using in-built data temperature management



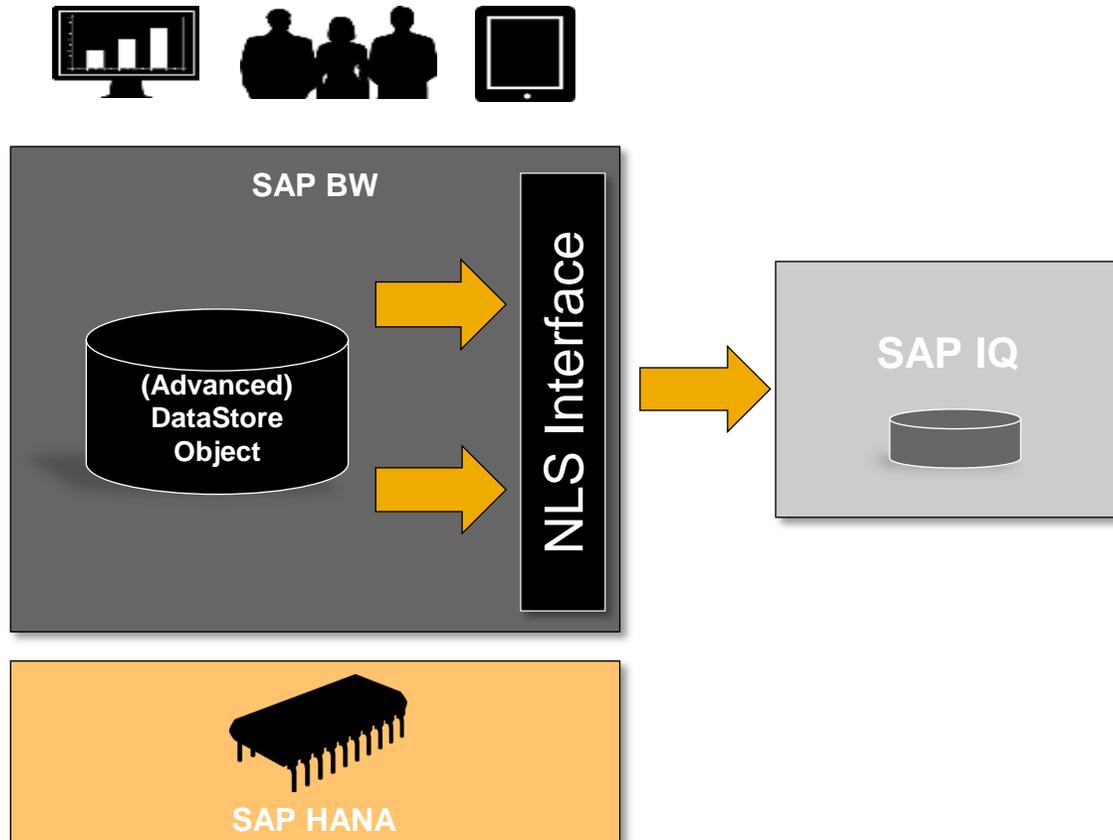
Hot →  
SAP HANA in-memory  
Default

Warm →  
SAP HANA Extension Node  
By aDSO or partition

Cold →  
Near-line Storage  
By data time slice

# Nearline Storage (NLS) with SAP IQ

Current status with SAP BW >= 7.50 SP4 on HANA and BW/4HANA >= SP00



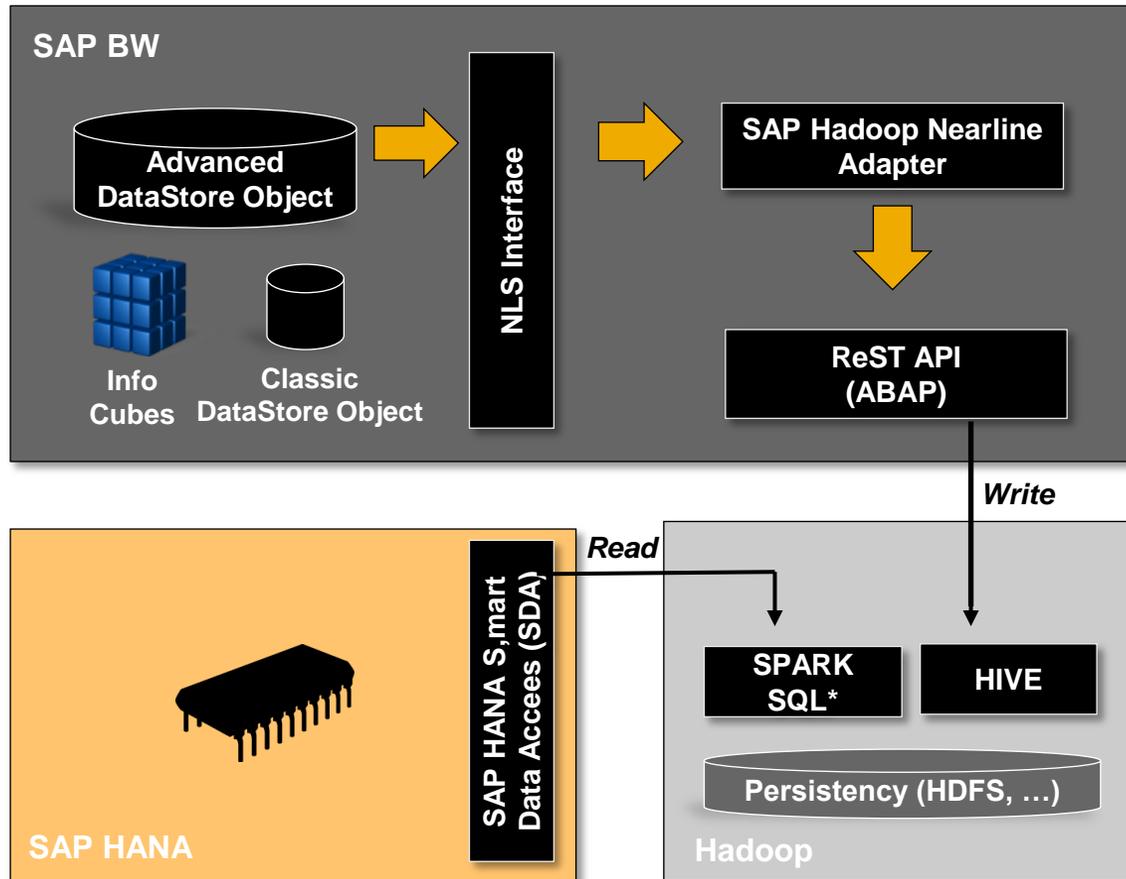
## Nearline Storage with SAP IQ

- NLS support for most Advanced DataStore Object types (see above next slide)\*
- Reporting value help (F4) can display posted values from near-line storage for Advanced DataStore Objects
- CompositeProvider can use Advanced DataStore Objects with NLS in specific join scenarios
- BW process type to create database statistics for NLS accesses (via Virtual Tables)
- Partner Interface for Nearline Storage on Advanced DataStore Object
- Mass Maintenance Support including Data Archiving Processes of Advanced DataStore Objects

\* < SAP BW 7.50 SP4: See [SAP Note 2215265](#)

# Nearline Storage (NLS) with Hadoop

Available since SAP BW 7.50 SP4 on HANA and BW/4HANA SP00



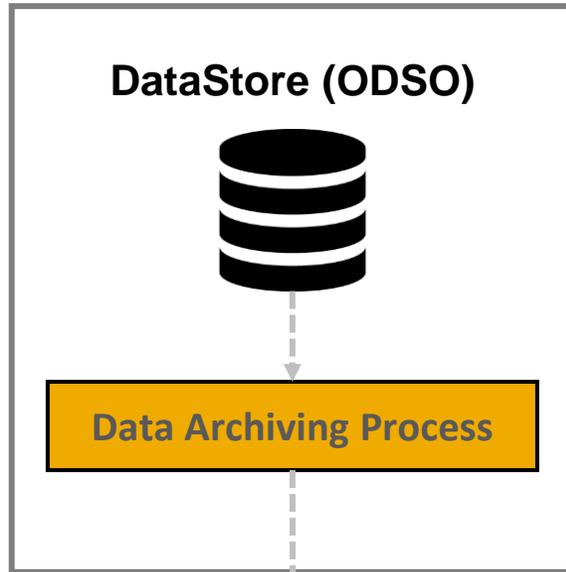
## Nearline Storage on Hadoop

- Available for all NLS supported BW Objects / Object Types (see next slide)
- Available for BW on HANA (query access via HANA SDA) and BW on RDBMS (no query access)
- BW only solution at this time
- **Creation** of Nearline Storage Table Definitions via HIVE
- **Archiving** of Data (file based, default format: ORC) directly to HDFS
- **Restoring** of Data via ReST API or HANA Smart Data Access (SDA)
- **Querying** via HANA Smart Data Access only

For more information see [SAP Note 2363218 - Hadoop NLS: Information, Recommendations and Limitations](#)

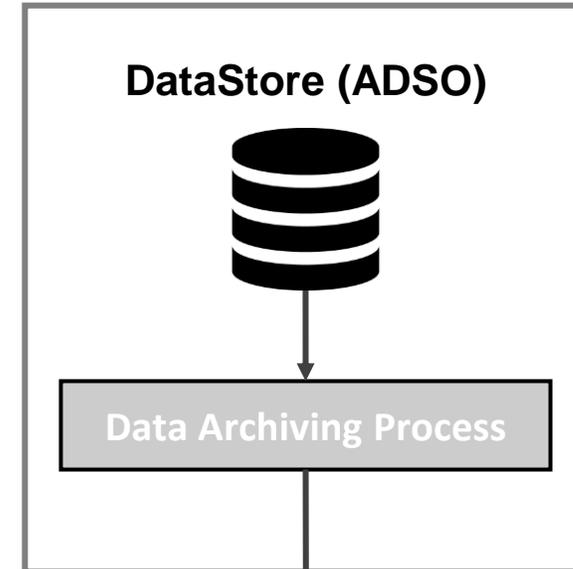


# Konvertierung der Nearline Storage (SAP IQ) Implementation



Nearline Storage  
SAP IQ

- 1 Switch NLS to read-only
- 2 Convert NLS Request Management
- 3 Delete DAP
- 4 Transfer ODSO to ADSO
- 5 Create new Data Archiving Process
- 6 Convert NLS Archive (SID -> TSN)



Nearline Storage  
SAP IQ

# data tiering Optimization (DTO) in BW/4HANA

## Overview

- **One concept for hot, warm and cold data based on HANA Technology**
  - data tiering based on Advanced DataStore Object Partitions
    - Same concept for “warm data” (extension nodes) and “cold data” (external storage in IQ or Hadoop)
  - Partition Temperature as local setting (no transport)
  - Using HANA Technology such as SDA, Scale Out and disk storage in SAP IQ
  
- **Easy and central definition and implementation**
  - Data Temperature defined in Advanced DataStore Object only
  - No additional configuration of Data Archiving Processes
  
- **Displacement of data as simple and periodic housekeeping activity**
  - Single data tiering optimization job that periodically moves data to defined storages
  - No complex process chain modeling for data archiving

# data tiering Optimization (DTO) in BW/4HANA

## Positioning

The new, strategic BW/4HANA data tiering Optimization (DTO) approach will offer

- One data tiering approach for hot data (HANA), warm data (data tiering with Extension Nodes) and cold data (External Storage in SAP IQ or Hadoop)
- Central definition of data temperature based on Advanced DataStore Object Partitions
- Displacement of data to defined storage as simple and periodic housekeeping activity (TCO reduction)
- Seamless conversion or co-existence with existing BW NLS IQ / Hadoop approach (because of sharing technical concepts for cold data storage such as locking of archived data ranges)
- **Publication of further technical details with the availability of BW/4HANA SP04 in Q2 2017**

Nearline Storage to SAP IQ and Hadoop are still supported in BW/4HANA and will offer

- Continuity for data archiving scenarios already implemented with BW NLS IQ / Hadoop (protection of past investments) before adopting the new BW/4HANA data tiering Optimization
- Support for advanced data archiving scenarios not in scope of BW/4HANA data tiering Optimization

# data tiering Optimization in BW/4HANA

## Positioning with the SAP HANA Data Warehouse Foundation (DWF)

### SAP HANA Data Lifecycle Management (DLM)

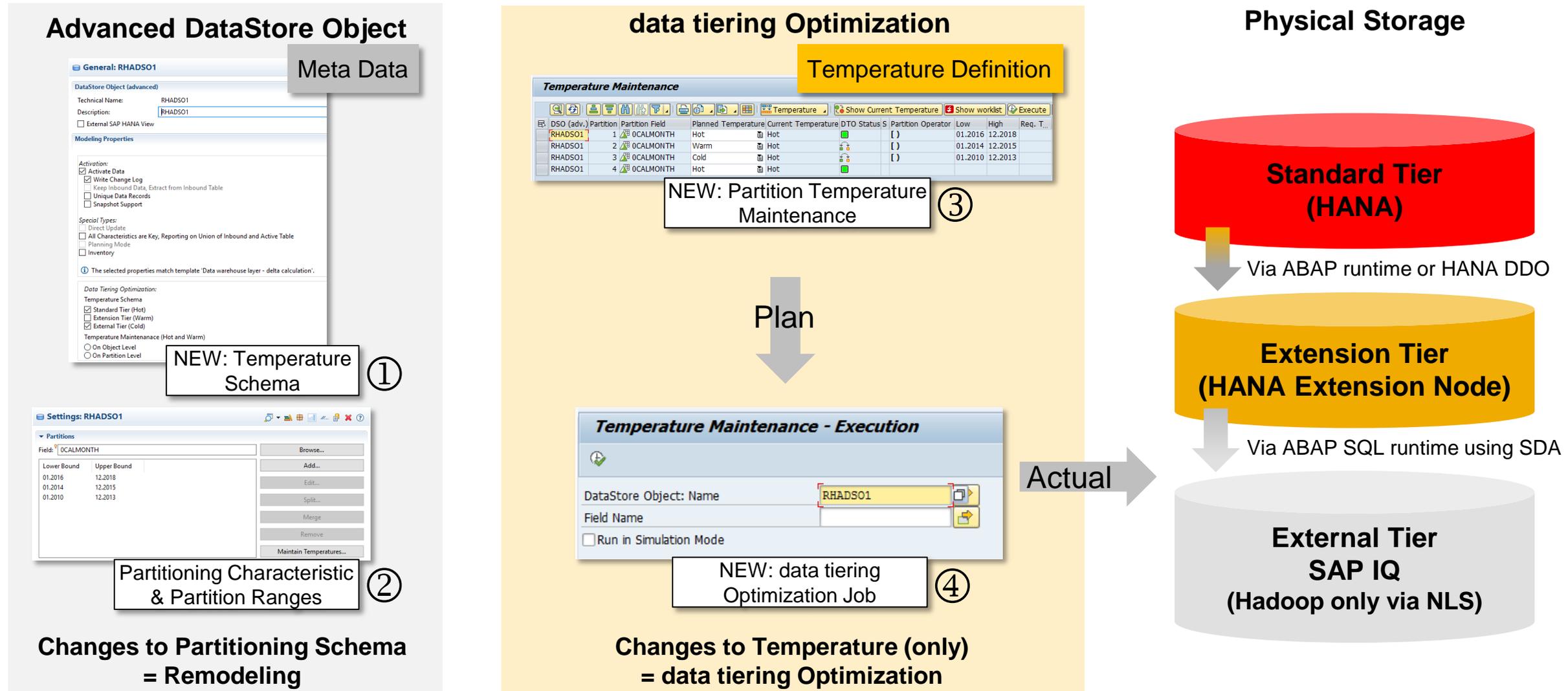
- ... can't be used for data tiering requirements in SAP BW on HANA or BW/4HANA
- With SAP BW/4HANA DTO our aim is to combine available HANA Technology that are also used by HANA DLM (such as HANA Smart Data Access or external disk storage in SAP IQ) with specific consistency and modeling complexity requirements from our BW customers (such as consistent reporting on released data load requests and specific Advanced DataStore Object semantics and settings). HANA DLM will for sure continue to play its role in the context of implementing data tiering requirements for native HANA Data Warehouse objects.

### SAP HANA Data Distribution Optimizer (DDO)

- ... can be used in SAP BW on HANA or SAP BW/4HANA also in coexistence with the new data tiering Optimization. Data Movement in SAP BW/4HANA to SAP HANA Extension Nodes (warm data) can happen both ways:
  - DDO for reorganization and optimization projects in HANA Scale Out system landscapes
  - DTO for regular data movements processes for warm data in SAP BW/4HANA

# data tiering Optimization (DTO) in BW/4HANA

## User Interface Perspective



# SAP NLS Straggler **Support**



# 1) Activating Exceptional Updates on object level in Data Archiving Process (DAP) of a Classic DataStore Object

The screenshot displays the SAP Data Archiving Process (DAP) configuration for a Classic DataStore Object. The object name is ZRHSD003. The 'Nearline Storage' tab is active, showing the 'Near-Line Object' as /BIC/ZRHSD003 and the 'Near-Line Connection' as SAPNLS. The 'Size of Data Package' section includes fields for 'Maximum Size in MB' and 'Maximum Number of Data Objects'. The 'Allow Processing of Stragglers' checkbox is checked and highlighted in yellow. The 'Use Query Optimization if Applicable' checkbox is also checked. The 'Version' is set to 'In Process' and the 'Active Version' is 'Executable'.

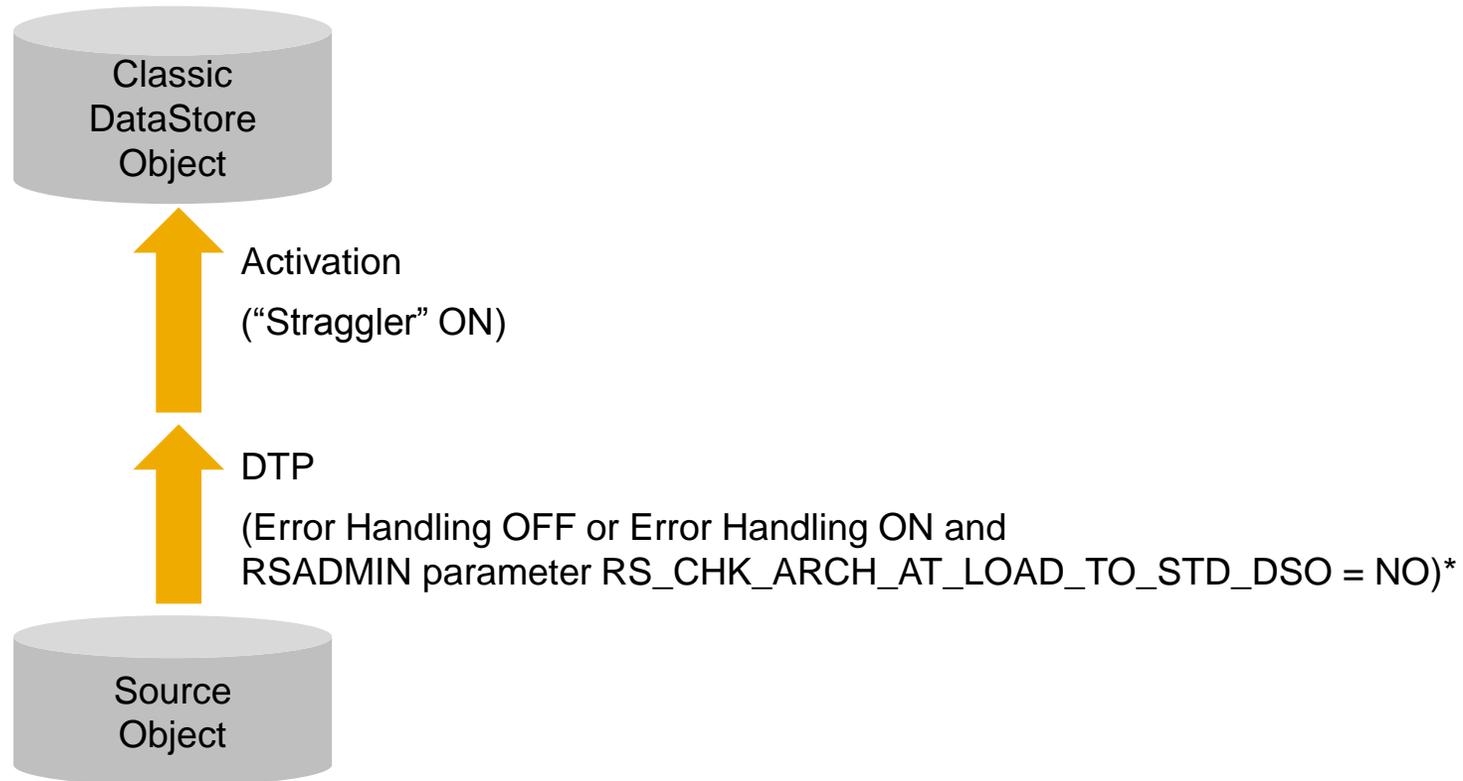
- After activation, the Data Archiving Process and the Activation Process of such Classic DataStore Object allow the processing of exceptional updates (stragglers) in principal.
- This means that the Activation Process can detect and handle exceptional updates (instead of the previous error situation at activation time in case data records violating already archived time slices).



# Exceptional Updates

## Processing Steps

Constant (seamless) processing of exceptional updates



\*See SAP Note 1931784 - Archive check during load to DSO

# Exceptional Updates

## Delta Requests

If an activation request for a Classic DataStore Object allows exceptional updates, then all records that violate the archiving condition of an existing archiving request, are written to a “Delta Request“ that is added to Nearline Store of the given object in SAP IQ. This “Delta Request” is created through an additional activation step comparing the changed records against existing records in the archive.

Change log entries are written in such a way that data targets, that receive data from the Classic DataStore Object can receive complete delta information..

The following support tools exist to administrate exceptional updates:

- Delta Request Monitor (program RSDA\_REQUEST\_MONITOR)
- Display of data in a SAP NLS IQ nearline table (program RSDA\_SYB\_SE16)

Once a Data Archiving Process allows exceptional updates, it is only possible to remove the exceptional update flag when no valid delta request for the data archiving process exists. However given archiving request and their corresponding delta request can be merged in the Delta Request Monitor. If this is done for all archiving requests of the Data Archiving Process that formerly contained delta requests, exceptional updates can be switched off again.

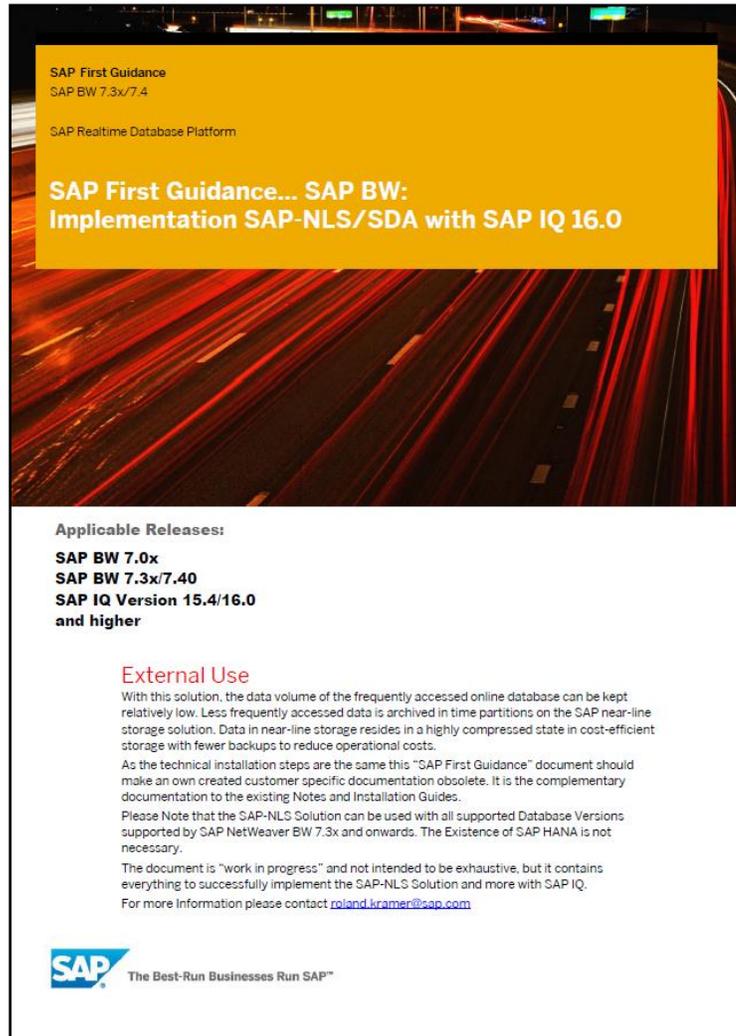
Note that straggler management might have an impact on SAP NLS IQ query performance with an increasing number of delta requests.

# SAP IQ 16.x Updates/Installation



# Nearline Storage (NLS) with SAP IQ

Everything you need to know about SAP IQ - [SAP First Guidance](#)



SAP First Guidance  
SAP BW 7.3x/7.4  
SAP Realtime Database Platform

**SAP First Guidance... SAP BW:  
Implementation SAP-NLS/SDA with SAP IQ 16.0**

**Applicable Releases:**  
**SAP BW 7.0x**  
**SAP BW 7.3x/7.40**  
**SAP IQ Version 15.4/16.0**  
**and higher**

**External Use**  
With this solution, the data volume of the frequently accessed online database can be kept relatively low. Less frequently accessed data is archived in time partitions on the SAP near-line storage solution. Data in near-line storage resides in a highly compressed state in cost-efficient storage with fewer backups to reduce operational costs.  
As the technical installation steps are the same this "SAP First Guidance" document should make an own created customer specific documentation obsolete. It is the complementary documentation to the existing Notes and Installation Guides.  
Please Note that the SAP-NLS Solution can be used with all supported Database Versions supported by SAP NetWeaver BW 7.3x and onwards. The Existence of SAP HANA is not necessary.  
The document is "work in progress" and not intended to be exhaustive, but it contains everything to successfully implement the SAP-NLS Solution and more with SAP IQ.  
For more Information please contact [roland.kramer@sap.com](mailto:roland.kramer@sap.com)

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1.85	Corrections/additions after SAP-NLS Workshop 09/2014
1.86	Corrections 01/2015, DBACOCKPIT corrections, DT section removed
1.87	Corrections 03/2015, adding load stripping, latest SP08.xx updates
1.88	SAP IQ SSL support, Example SAP IQ DB copy
1.90	IQ 16.0 SP10 updates, Corrections 07/2015
1.91	IQ 16.0 SP08, SP10 updates, Corrections 09/2015
1.92	Update SDA location for IQ, SP08/SP10 updates
1.93	Updates/Corrections 12/2015
1.94	Updates/Corrections 04/2016
1.95	Updates/Corrections 06/2016
1.96	Updates/Corrections 09/2016, Installation Section 15.4 removed
1.97	Updates/Corrections 12/2016
1.98	IQ 16.0 SP11 Updates, 02/2017
2.01	IQ 16.0 SP11, 04/2017
2.10	IQ 16.1 Client/Server Update, SDA corrections, Updates 05/2017

# SAP IQ 16.1 is released (Mainstream Support for 16.0 ends March 2018)

The screenshot shows the SAP Help Portal interface. At the top left, the SAP logo and 'SAP Help Portal' are visible, along with 'SAP IQ'. The main heading is 'What's New in SAP IQ 16.1'. Below this, there is a 'Table of Contents' sidebar with a blue header 'What's New in SAP IQ 16.1'. The sidebar lists several categories: 'Support Package 01' (with sub-items 'Installation and Update', 'System Administration', and 'Security'), 'Allow\_expired\_certs Encryption Option for TLS and HTTPS (New)', 'Database Servers Support Client-Side Certificates (New)', 'Default DBA User and Minimum Password Length (Changed)', 'HTTP/HTTPS Connection Queuing (New)', 'Operating System Certificate Store for Secure Connections (Changed)', 'Parameterization of Statements (Changed)', 'Securing Password Information in the Database (Changed)', and 'Stronger Encryption Using OpenSSL (Changed)'. The main content area features the title 'What's New in SAP IQ 16.1' and a sub-heading 'This guide describes new, changed, and deleted functionality in SAP IQ 16.1'. A 'Caution' box highlights a change in password requirements for the DBA user. A 'Note' box states that the following image contains links to more information. At the bottom, three green boxes with icons represent 'Installation and Update', 'System Administration', and 'Security', each with a brief description of the content.

**What's New in SAP IQ 16.1**

This guide describes new, changed, and deleted functionality in SAP IQ 16.1.

**Caution**

If you are an experienced SAP IQ user, you may be used to a short three-character password for the DBA user. The default password length in SAP IQ 16.1 has increased to six characters, and a shorter password will now throw an error. See [Default DBA User and Minimum Password Length \(Changed\)](#).

**Note**

The following image contains links to more information.

**Installation and Update**  
What's new in installation and update in SAP IQ 16.1 SP 01.

**System Administration**  
What's New in system administration in SAP IQ 16.1 SP 01.

**Security**  
What's new in security in SAP IQ 16.1 SP 01.

<https://help.sap.com/iq16>

## What's New

[What's New in SAP IQ 16.1](#)

New, changed, and removed features.

[SAP IQ Release Bulletin](#)

Release bulletin containing the latest information about known issues in SAP IQ.

The screenshot shows a video player interface. At the top, there is a search bar with the text 'Search across All SAP Products'. Below the search bar, there are three video thumbnails: one showing a laptop, one showing a globe, and one showing a woman. A large play button is overlaid on the thumbnails. At the bottom of the player, there is a progress bar showing '0:00 / 2:11' and various control icons like volume, settings, and share.

Learn how to search the documentation, filter search results, and add topic feedback using the new SAP Help Portal. Click the expand icon to show this video in full screen mode.

# SAP IQ DB Installation using the SAP Host Agent

Complete automatic SAP IQ Database Installation - available on Request \*

← → ↻ 🏠 http://myhost:1128/NLSSetup/prepare

**SAP** The Best-Run Businesses Run SAP®

**PREPARE** STATUS ABOUT

**System ID:**

**Instance Number:**

**IQ Database Size in GByte:**

**DBA Password (min 8 char) :**

**Database user:**

**User Password:**

**SAR Package:**

 No file chosen

**IQ Installation Package:**

 No file chosen

## • Pre Requisites:

- Available on SUSE Linux X86 only (so far)
- Using the SAP Instance Builder for the IQ Database Layout
- Modified Version of SAPHostAgent 7.21
- All Versions of SAP IQ SP10/11 possible

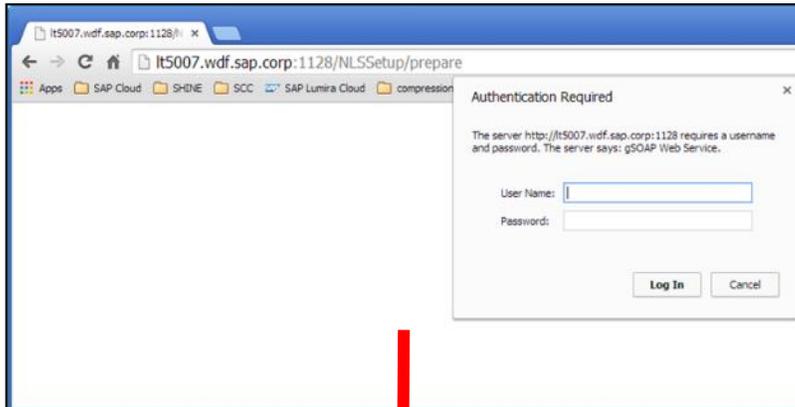
 IQSERV160011P\_4-20011180.TGZ

 NLSSETUP.SAR

\* For more Information please contact [roland.kramer@sap.com](mailto:roland.kramer@sap.com)

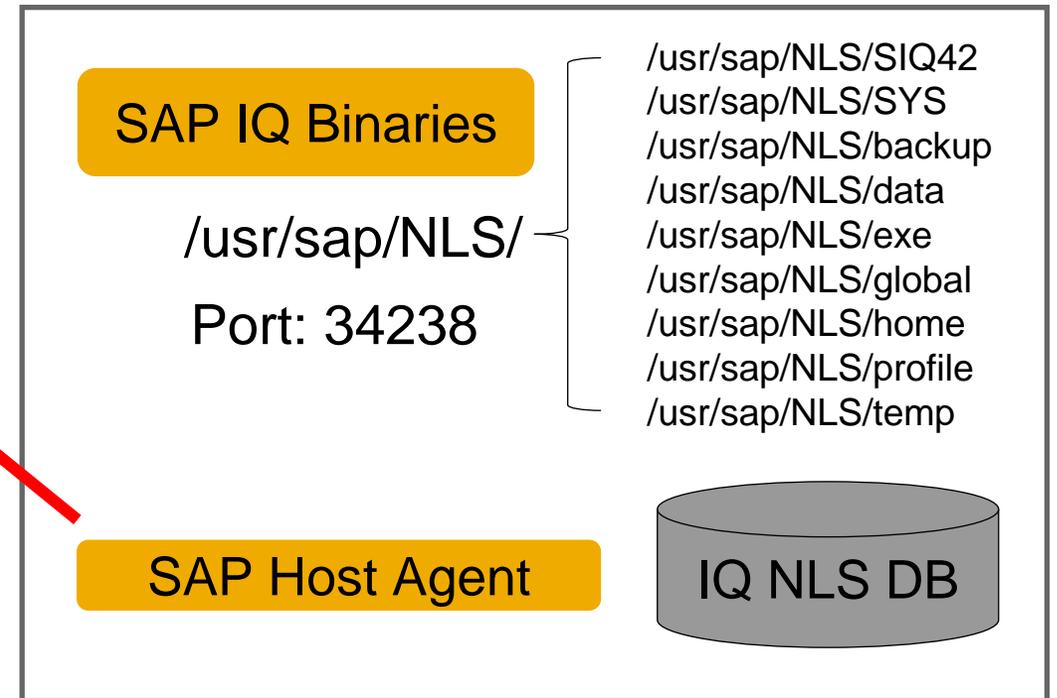
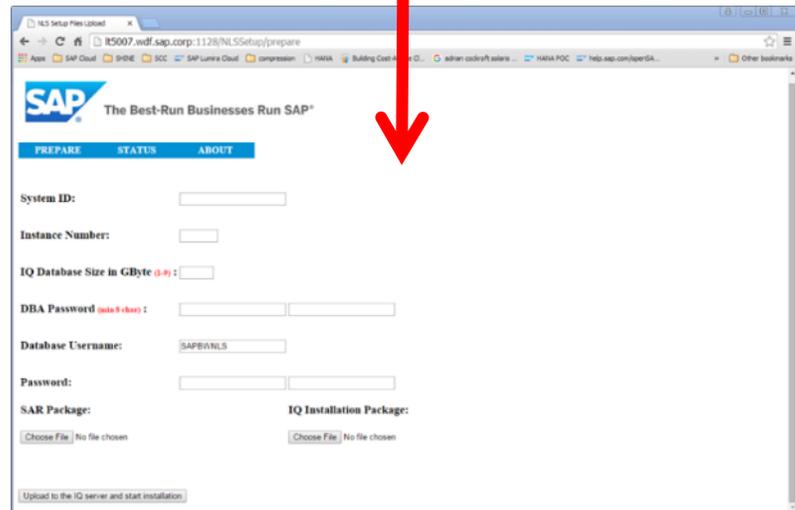
# SAP IQ DB Installation using the SAP Host Agent

<http://server.wdf.sap.corp:1128/NLSSetup/prepare>



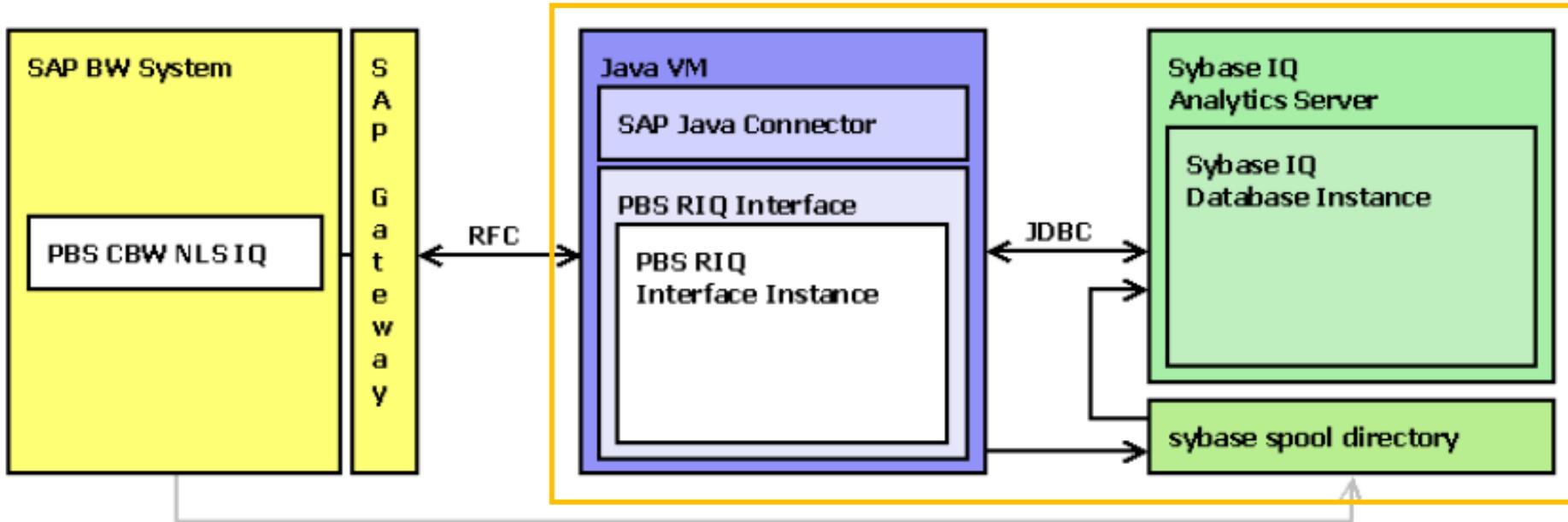
sapadm/admin

HTTP  
1128



# Setup of the PBS RIQ Interface

this allows a NLS connection from NUC SAP BW to CESU-8 based SAP IQ 16.0



- SAP BW 7.0x, 7.3x non-Unicode, non HANA database
- SAP JCo Driver (2.x)
- PBS RIQ Interface based on SAP JCo (1.1.1.)
- SAP IQ 16.0 SP11.0x

# Create the Filesystem and adapt the RIQ Connection Template

## Automatically created by the easy SAP IQ Installer

```
/usr/sap/NLS/NLS42  
/usr/sap/NLS/SYS  
/usr/sap/NLS/backup  
/usr/sap/NLS/data  
/usr/sap/NLS/exe  
/usr/sap/NLS/global  
/usr/sap/NLS/home  
/usr/sap/NLS/profile  
/usr/sap/NLS/temp
```

## Manually created Directory

```
/usr/sap/NLS/PBS  
/usr/sap/I42/PBS/1.1.1
```

```
# -----  
# Replace all occurrences of <...> with the values of your PBS RIQ Server Instance.  
# Must be in the format: -OneParameterPerLine=OneValuePerLine  
# -----  
#  
-SAPSYSTEM=BW  
-UNICODE=0  
-GWHOST=1t5006.wdf.sap.corp  
-GWSERV=sapgw03  
-PROGID=PBSRIQ  
-DBDIR=/usr/sap/NLS/data  
-DBSPOOLDIR=/usr/sap/NLS/spool_data  
-DBUSR=PBS<yourSapSystemID>  
-DBPWD=<DatabaseUserPassword>  
-DBURL0=jdbc:sybase:Tds:127.0.0.1:34238  
"instance.cfg" 75L, 4443C written
```

## Adapt the RIQ System Profiles

```
/usr/sap/I42/PBS/1.1.1/instance/RIQ/config/instance.cfg  
/usr/sap/I42/PBS/1.1.1/instance/RIQ/config/pbstracecfg.xml
```

# Start the RIQ Interface and create the RFC connection in SAP BW

```
niqadm@svsapiqi01:/usr/sap/NIQ/data/database> start_riq
Checking the PBS RIQ Interface environment ...
Checking customized PBS RIQ Interface instances ...

The following PBS RIQ Interface Instance(s) are available:
=====
instance      | status      | PID      | owner
=====
BNK           | not running | -        | -
=====

Enter the name of the instance to start or 'q' to quit the starti
BNK

Starting the PBS RIQ Interface Instance ...

niqadm@svsapiqi01:/usr/sap/NIQ/data/database> nohup: appending ou
niqadm@svsapiqi01:/usr/sap/NIQ/data/database> █
```

### RFC Destination PBS\_NIQ

Verbindungstest Unicode-Test

RFC-Destination

Verbindungstyp   Beschreibung

Beschreibung

Beschreibung 1	<input type="text" value="PBS RIQ Interface"/>
Beschreibung 2	<input type="text"/>
Beschreibung 3	<input type="text"/>

Verwaltungsinformationen Technische Einstellungen Anmeldung & Sicherheit Unicode Spezielle Optionen

Aktivierungsart

Anstarten auf Applikationsserver  Registriertes Serverprogramm

Anstarten auf explizitem Host

Anstarten auf Front End-Workstation

Registriertes Server-Programm

Programm ID

Anstartensart des externen Programms

Gateway Standardwert

Remote Exec

Remote Shell

Secure Shell

# Create the entry in table rsdanlcon (transaction RSDANLCON)

**Display View "BW Archiving: Connection to a Nearline Storage": Details**

63    

Near-Line Conn.

**BW Archiving: Connection to a Nearline Storage**

Name of Class  

Destination

Conn. Parameter

**Diagnosis**

Component	Status	Release	Level	Patch	Short Description of Component
<input type="checkbox"/> PBS_CBW_NLS_IQ		3.4			Nearline Service PBS CBW NLS IQ

.....

T...	Message Text	LTxt
<input checked="" type="checkbox"/>	Connection PBS_IQ opened successfully	

# Details of the connected SAP IQ database (tx. /pbs/nlsa\_monitor)

The screenshot displays the SAP IQ database monitoring interface. At the top, there are two status boxes: "NLS database info" with a green indicator and the text "NLS database is active", and "NLS Interface Info" with a green indicator and the text "NLS interface is active". Below these is the "Nearline connection" section with fields for Name (PBS\_IQ), Logical destination (PBS\_LIQ), and SAP NLS format (X).

The main interface has several tabs: "NLS Database", "NLS Interface", "DAP Nearline", "Snapshot ADK", "Snapshot master data", "Snapshot hierarchy", and "Snapshot InfoCube/DSO". Below the tabs are five buttons: "DB Connections", "DB Options", "DB Details", "DB IQMsgFiles", and "DB Backup History".

The "Database" section shows the following details:

- Database Engine: Sybase IQ
- Version: 16.0.110.2304/10339/P/sp11.04/Enterprise Linux64 - x86\_64 - 2.6.18-194.el5/64bit/2016-10-07 02
- Codepage: CESU-8, 8-bit multibyte encoding for Unicode, binary ordering
- Server Mode: IQ Server
- Minimize Storage:  On (Permanent)

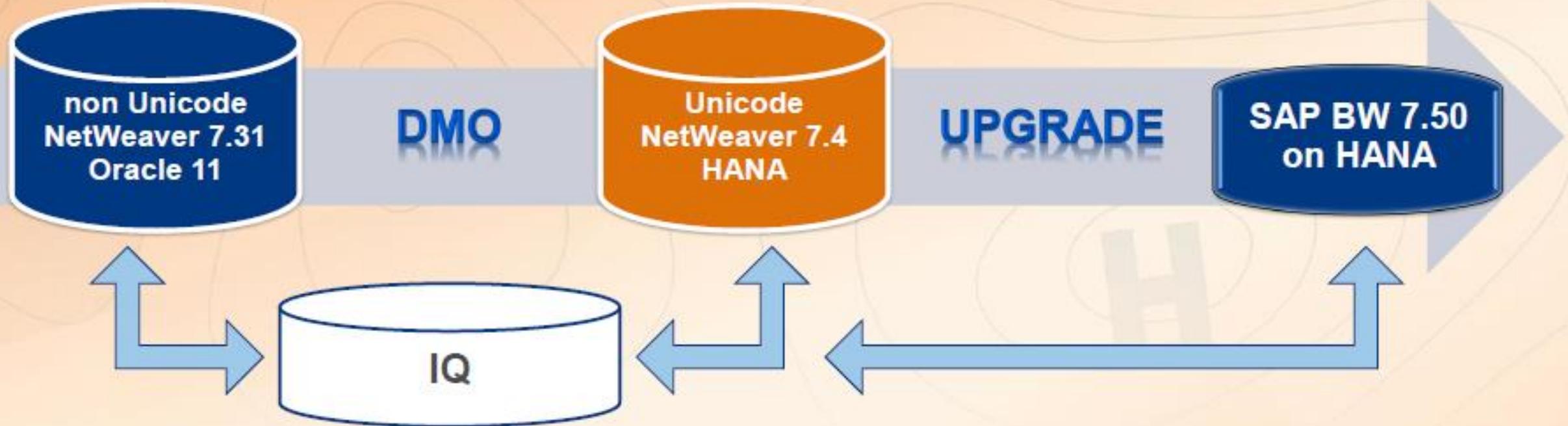
The "Database Size" section contains a table with the following data:

DB Space Name	Space Type	Writable	Online	Usage	Usage	Total Size	Reserve	Num Files	Num RW Files	Striping On	Stripe Size
IQ_SYSTEM_MAIN	MAIN	T	T	<input checked="" type="checkbox"/>	20%	8G	0B	8	8	T	1K
IQ_SYSTEM_TEMP	TEMPORARY	T	T	<input checked="" type="checkbox"/>	1%	25G	0B	8	8	T	1K
USER0001	MAIN	T	T	<input checked="" type="checkbox"/>	2%	50G	0B	8	8	T	128K

Activate the database option "Minimized Storage" for compability  
set option public.Minimize\_Storage='ON';

# SWM (Stadt Werke München – Reference Customer for the Solution)

DMO Migration und Upgrade



# SWM (Stadt Werke München – Reference Customer for the Solution)

## Easy Installer für SAP IQ

SAP Easy Installer

PREPARE STATUS ABOUT

System ID: N00

Instance Number: 03

IQ Database Size in GByte: 200

DBA Password (min 8 char): \*\*\*\*\*

Database Username: SAPWIKQ

Password: \*\*\*\*\*

SAR Package: MSSETUP.SAR

IQ Installation Package: IQSERV150011F\_4-20011180.TGZ

Upload to the IQ server and start installation

- IQ Installation sehr komfortabel in wenigen Schritten
- SAP Standards werden berücksichtigt
- Parameteranpassungen sind notwendig
- Gute Anleitung

# SWM (Stadt Werke München – Reference Customer for the Solution)

## RIQ Interface

### Transaktion:

- ✓ /n/PBS/NLSA\_MONITOR
- ✓ SM31 -> Table: RSDANLCON

```
svsapip01.sap.swm.de - PuTTY
svsapip01:~ # ps -ef | grep nlsadm
nlsadm 4707 1 0 2006 ? 10:28:53 java -Xms250M -Xmx1024M com.pbs.rfq.java2.server.PB
SRIQ -CONFIG=/sapmnt/NIQ/pbs/1,1,1/instance/bnr/conf/niq/instance.cfg
nlsadm 30009 1 0 Jan11 ? 01:11:04 /usr/sap/NIQ/SIQ03/IQ-16_0/bin64/iqsrv18 @/usr/sap/
NIQ/data/db/SAPSIQB8.cfg /usr/sap/NIQ/data/db/SAPSIQB8.db -gc 20 -gd all -gl all -cl 4400 -gn 69 -o /us
r/sap/NIQ/SIQ03/IQ-16_0/logfiles/svsapip01_niq_03.0019.srvlog -hn s
root 69441 69265 0 11:21 pts/0 00:00:00 grep --color=auto nlsadm
svsapip01:~ #
```

The screenshot displays the SAP NLS-Interface monitoring tool. At the top, it shows 'NLS-Datenbank-Info' with 'NLS-Datenbank 1st aktiv' and 'NLS-Interface-Info' with 'NLS-Interface 1st aktiv'. Below this is the 'Nearline-Connection' section with fields for 'Name' (PBS\_10), 'logische Destination' (PBS\_110), and 'SAP NLS-Format'. A navigation bar includes tabs for 'NLS-Datenbank', 'NLS-Interface', 'DAP Nearline', 'Snapshot ADK', 'Snapshot Stammdaten', 'Snapshot Hierarchie', and 'Snapshot InfoCube...'. A toolbar contains buttons for 'DB Connections', 'DB Options', 'DB Details', 'DB IQMsgFiles', and 'DB Backup History'. The main content area is divided into 'Database' and 'Database Size' sections. The 'Database' section shows details for 'Sybase IQ', including version, codepage, and server mode. The 'Database Size' section contains a table with columns: DB Space Name, Space Type, Writable, Online, Usage, Usage, Total Size, Reserve, Num Files, Num RW Files, Striping On, and Stripe Size.

DB Space Name	Space Type	Writable	Online	Usage	Usage	Total Size	Reserve	Num Files	Num RW Files	Striping On	Stripe Size
IQ_SYSTEM_MAIN	MAIN	T	T	20%	60	0B	0	0	T	1K	
IQ_SYSTEM_TEMP	TEMPORARY	T	T	1%	50G	0B	0	0	T	1K	
USER0001	MAIN	T	T	77%	132G	0B	9	9	T	128K	

Below the table, there are two rows of backup information:

17982, 90000b	Used: 17982, Locked: 0
17982, 90000b	Used: 1037, Locked: 1

At the bottom, there are two rows of backup details:

15642877	Last Backup ID	16232050
2017-01-15 20:29:35	Last Backup Time	2017-01-18 09:59:15

# SAP NLS Roadmap



# data tiering in SAP BW/4HANA and SAP BW

## Roadmap for Nearline Storage and SAP BW/4HANA data tiering Optimization (DTO)

### Today

BW 7.50 SP04 / SAP BW/4HANA 1.0 SP01

#### Nearline Storage

- Further Enhancements in NLS Support for Advanced DataStore Objects
- Nearline Storage on Hadoop
- Partner Interface for Nearline Storage on Advanced DataStore Object (only BW 7.50 SP04 – no NLS partner support in BW/4HANA)
- DB Space oriented partitioning mode for SAP NLS IQ
- Nearline Storage Data Volume Statistics (incl. ABAP CDS View based reporting)

### Mid Term - Planned for Q2 2017

SAP BW/4HANA 1.0 SP04

#### data tiering Optimization

- Central Partitioning and Temperature Definition for Advanced DataStore Objects
- Support for SAP HANA Extension Nodes (warm storage) and SAP IQ (cold storage)
- Central data tiering Optimization Job for all data movements between Data Tiers
- New SQL based implementation for data movements to external storage
- Integration with ADSO Remodeling

### Future Direction\*

#### Conversion Support

- Transfer of Classic DataStore Objects / InfoCubes to Advanced DataStore Object incl. Nearline Store (Q3 2017)
- Support for conversion of Data Archiving Processes (NLS) to BW/4HANA data tiering Optimization

#### data tiering Optimization

- Archiving of Inventory ADSOs with BW/4 DTO or Nearline Storage
- SAP HANA Vora integration for external storage in Hadoop
- Automation and User Interface Improvements
- Supporting data movement scenarios for cold data (updates to cold data)

\*This is the current state of planning and may be changed by SAP at any time

# data tiering in SAP BW/4HANA

## Roadmap for SAP BW/4HANA data tiering Optimization (DTO)

### Today – Q2 2017

#### SAP BW/4HANA 1.0 FP04

- Central Partitioning and Temperature Definition for Advanced DataStore Objects (data temperature as system local setting)
- Support for SAP HANA Extension Nodes (warm storage) and SAP IQ (cold storage) in DTO
- Central data tiering Optimization Job for all data movements between Data Tiers
- New SQL based implementation for data movements to external storage
- SAP Nearline Storage with SAP IQ / Hadoop still supported.
- Support for external storage in Hadoop via SAP Nearline Storage only

### Mid Term - Planned for Q4 2017

#### SAP BW/4HANA 1.0 FP07

- Support for external storage in SAP HANA Vora / Hadoop via DTO
- Implementation and Administration Improvements (e.g. Process Chain Integration, Mass Partition Creation)
- Further Performance Optimizations
- Archiving of Inventory ADSOs with BW/4 DTO or Nearline Storage

#### Conversion Support

- Transfer of Classic DataStore Objects / InfoCubes to Advanced DataStore Object incl. Nearline Store (Q3 2017)
- Support for conversion of Data Archiving Processes (NLS) to BW/4HANA data tiering Optimization

### Future Direction\* - 2018

- data tiering Optimization Cockpit as Web User Interface
- Advanced Data Movement Automation (rule based, statistics based)
- Supporting updates to cold data (external storage)
- Supporting cold data (external storage) only for Advanced DataStore Objects
- Enhanced SAP HANA Vora Integration
- Support for several external storage destinations

\*This is the current state of planning and may be changed by SAP at any time

# Thank you.

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