



# **SAP BW/4HANA, Business Consolidation Add-On ( “BCS/4HANA“ )**

Radim Benek ( Development Expert )  
Dr. Joachim Stelzer ( Chief Development Architect )  
SAP Application Innovation Services, Financials  
PUBLIC

February 2019

# Legal Disclaimer

The information in this presentation is confidential and proprietary to SAP and may not be disclosed without the permission of SAP. This presentation is not subject to your license agreement or any other service or subscription agreement with SAP. SAP has no obligation to pursue any course of business outlined in this document or any related presentation, or to develop or release any functionality mentioned therein. This document, or any related presentation and SAP's strategy and possible future developments, products and or platforms directions and functionality are all subject to change and may be changed by SAP at any time for any reason without notice. The information on this document is not a commitment, promise or legal obligation to deliver any material, code or functionality. This document is provided without a warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement. This document is for informational purposes and may not be incorporated into a contract. SAP assumes no responsibility for errors or omissions in this document, except if such damages were caused by SAP intentionally or grossly negligent.

All forward-looking statements are subject to various risks and uncertainties that could cause actual results to differ materially from expectations. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of their dates, and they should not be relied upon in making purchasing decisions.

# Agenda

## BCS/4HANA

- Add-On to SAP BW/4HANA
- Important SAP Notes on BCS/4HANA
- Functional scope beyond SEM-BCS EHP8
- Simplification items
- Conversion from SEM-BW to BCS/4HANA

# SAP BW/4HANA – Innovation Platform for Data Warehouse Solution

SAP BW/4HANA is SAP's strategic solution for Data Warehouse

- *Not* a legal successor of “traditional” BW
- Can only be run with HANA as underlying database
- Heavily optimized on HANA
  - Removal of legacy functionality ( e.g., InfoCubes, DSO )
  - New objects which are HANA-optimized ( e.g., aDSO = advanced DSO )
  - List of “simplification items” ( => see SAP Note 2421930 )
- No SAP NetWeaver stack – only HANA DB and ABAP application server
- Software component DW4CORE
- Limited support of Add-On ( => see SAP Note 2189708 )
- Uninstalling of some Add-On possible ( => see SAP Note 2011192 )

# BCS/4HANA – Add-On to SAP BW/4HANA

BCS/4HANA is an Add-On to SAP BW/4HANA ( “Business Consolidation Add-On” )

- *Not* a legal successor of “traditional” SEM-BW Add-On
- Software component BCS4HANA contains:
  - only BCS part of SEM-BW ( e.g., SEM-BPS, SEM-SRM, etc. are *not* included )
  - only MDF ( = master data framework ) part of FINBASIS
  - that part of BI\_CONT ( = BW Content ) which is related to BCS functionality
- Technology adoption of BCS on SAP BW/4HANA
  - Storage of transaction data in “DataStore Object (advanced)” (aDSO)
  - Support of navigational attributes by usage of “HANA CompositeProvider” (HCPR)
  - Reporting on “BAdI Provider” ( = replacement of “virtual provider” )
- Functional scope of BCS/4HANA
  - Functional scope of *all* SEM-BCS EHP
  - Enhanced functionality beyond SEM-BCS EHP8
  - Simplification items
- Conversion from SEM-BW to BCS/4HANA
  - In-place conversion is supported
  - Remote conversion is currently *not* supported

# BCS/4HANA – Important SAP Notes

- 1330000 ( release note for BCS/4HANA )
- 2684537 ( technical installation and upgrade to BCS/4HANA )
- 2651241 ( conversion from SEM-BCS (SEM-BW) to BCS/4HANA )

# BCS/4HANA – Setup of DSO (Advanced) for Totals Records

**General: Z\_BWL\_JS**

**DataStore Object (advanced)**

Technical Name: Z\_BWL\_JS

Description: aDSO JoachimS

☐ External SAP HANA View

**Modeling Properties**

**Activation:**

☒ Activate Data

☒ Write Change Log

☐ Keep Inbound Data, Extract from Inbound Table

☐ Unique Data Records

☐ Snapshot Support

**Special Types:**

☐ Direct Update

☒ All Characteristics are Key, Reporting on Union of Inbound and Active Table

☐ Planning Mode [Characteristic Relations](#) [Data Slices](#)

☐ Inventory

**Data Tiering Properties**

**Temperature Schema / Tiers**

☒ Hot (SAP HANA Standard Nodes)

☐ Warm (SAP HANA Extension Nodes)

☐ Cold (External Cold Store)

**Temperature Maintenance**

☒ On Object Level

☐ On Partition Level



**Details: Z\_BWL\_JS**

Fields

Name	Key	Remodeling	Type	Length/ ...	Aggregation	Criteria	InfoObject
[CHAR] Characteristics							
[OSX_PLPE] SophEx - Planning Period			NUMC	3			OSX_PLPE
[OSX_PLVR] SophEx - Plan Year			NUMC	4			OSX_PLVR
[OSX_VDIM] SophEx - Version - Dimension			CHAR	3			OSX_VDIM
[OSX_VNR] SophEx - Version Number			CHAR	3			OSX_VNR
[OSX_DCAT] SophEx - Data Category			CHAR	2			OSX_DCAT
[OSX_CSLC] SophEx - Data Slice			CHAR	2			OSX_CSLC
[OSX_ACCS] SophEx - Accounting Principles			CHAR	2			OSX_ACCS
[OSX_FS] SophEx - Item			CHAR	10			OSX_FS
[OSX_FSC] SophEx - Consolidation Chart of Accounts			CHAR	2			OSX_FSC
[OSX_PCG] SophEx - Profit Center Group			CHAR	6			OSX_PCG
[OSX_CVG] SophEx - Consolidation Group			CHAR	10			OSX_CVG
[OSX_PCV] SophEx - Partner Company			CHAR	10			OSX_PCV
[OSX_PPC] SophEx - Partner Profit Center			CHAR	6			OSX_PPC
[OSX_IPC] SophEx - Investee Profit Center			CHAR	6			OSX_IPC
[OSX_ICV] SophEx - Investee Company			CHAR	10			OSX_ICV
[OSX_ICY] SophEx - Investor (Company)			CHAR	10			OSX_ICY
[OSX_IPC] SophEx - Investor (Profit Center)			CHAR	6			OSX_IPC
[OSX_ACV] SophEx - Allocation Company			CHAR	10			OSX_ACV
[OSX_APC] SophEx - Allocation Profit Center			CHAR	6			OSX_APC
[OSX_AQP] SophEx - Period of First Acquisition			NUMC	3			OSX_AQP
[OSX_AQY] SophEx - Fiscal Year of First Acquisition			NUMC	4			OSX_AQY
[OSX_FA] SophEx - Functional Area			CHAR	10			OSX_FA
[OSX_MT] SophEx - Transaction Type			CHAR	3			OSX_MT
[OSX_REG] SophEx - Region			CHAR	3			OSX_REG
[OSX_CTRY] SophEx - Country Key			CHAR	3			OSX_CTRY
[OSX_SI] SophEx - Subitem			CHAR	10			OSX_SI
[OSX_SIC] SophEx - Subitem Category			CHAR	3			OSX_SIC
[OSX_LOB] SophEx - Line of Business			CHAR	3			OSX_LOB
[OSX_MAT] SophEx - Maturity			CHAR	3			OSX_MAT
[OSX_RESP] SophEx - Result Responsibility			CHAR	3			OSX_RESP
[OSX_RISK] SophEx - Risk			CHAR	3			OSX_RISK
[OBES_PRGRP] Product Group			CHAR	18			OBES_PRGRP
[OSX_LI2] SophEx - Details 2			CHAR	6			OSX_LI2
[OSX_PC] SophEx - Profit Center			CHAR	6			OSX_PC
[OSX_CV] SophEx - Company			CHAR	10			OSX_CV
[OSX_LI3] SophEx - Details 3			CHAR	6			OSX_LI3
[OSX_LI4] SophEx - Details 4			CHAR	6			OSX_LI4
[OSX_LI5] SophEx - Details 5			CHAR	6			OSX_LI5
[OSX_LI6] SophEx - Details 6			CHAR	6			OSX_LI6
[OSX_LI9] SophEx - Details 9			CHAR	6			OSX_LI9
[OSX_LI7] SophEx - Details 7			CHAR	6			OSX_LI7
[OSX_LI8] SophEx - Details 8			CHAR	6			OSX_LI8
[OSX_PDL] SophEx - Product Level			NUMC	2			OSX_PDL
[OSX_LI1] SophEx - Details 1			CHAR	6			OSX_LI1
[OSX_SCU] SophEx - Subassignment Unit			CHAR	14			OSX_SCU
[OSX_ACTRY] SophEx - Allocation Country			CHAR	3			OSX_ACTRY
[OSX_DT] SophEx - Document Type			CHAR	6			OSX_DT
[OSX_DIM] SophEx - Dimension			CHAR	2			OSX_DIM
[OSX_PLEVEL] Posting Level			CHAR	2			OSX_PLEVEL
[OBES_DIDEL] Direction Indicator for Elimination of Investment Income			NUMC	1			OBES_DIDEL
[OBES_CTELG] Currency Translation Indicator			NUMC	1			OBES_CTELG
[OSX_RSTM] Restatement			NUMC	9			OSX_RSTM
[OFISCPER3] Posting period			NUMC	3			OFISCPER3

# BCS/4HANA – Assignment of DSO (Advanced) to Data Basis

Data Basis JS Databasis JoachimS

Field Catalog Data Model Data Streams Data Stream Fields Attributes Mapping Authorization/Validity Check Column Headings

RFC Destination

InfoProvider for Totals Records Z\_BWL\_JS aDSO JoachimS

InfoArea for Characteristics 0BCS\_ASSETS Assets/Liabilities

InfoArea for Key Figures

Source Data Basis Assignments

Source DB Name Dest.


# BCS/4HANA – Current Functional Scope

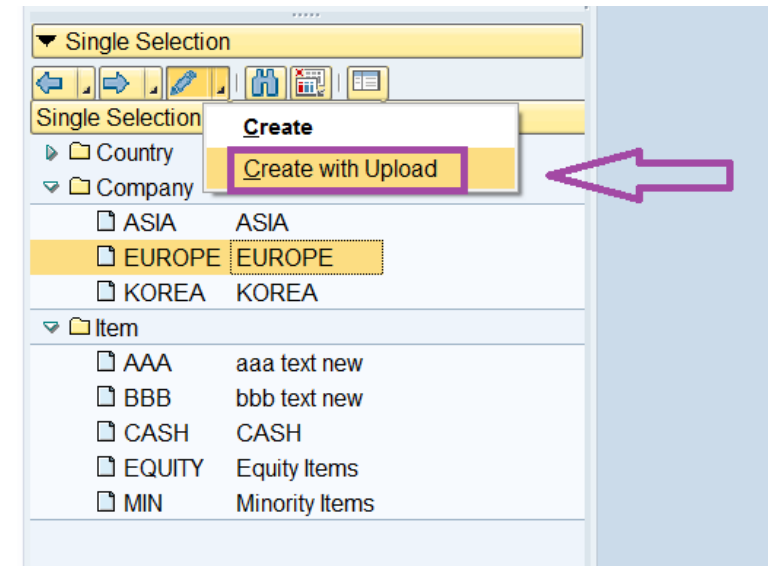
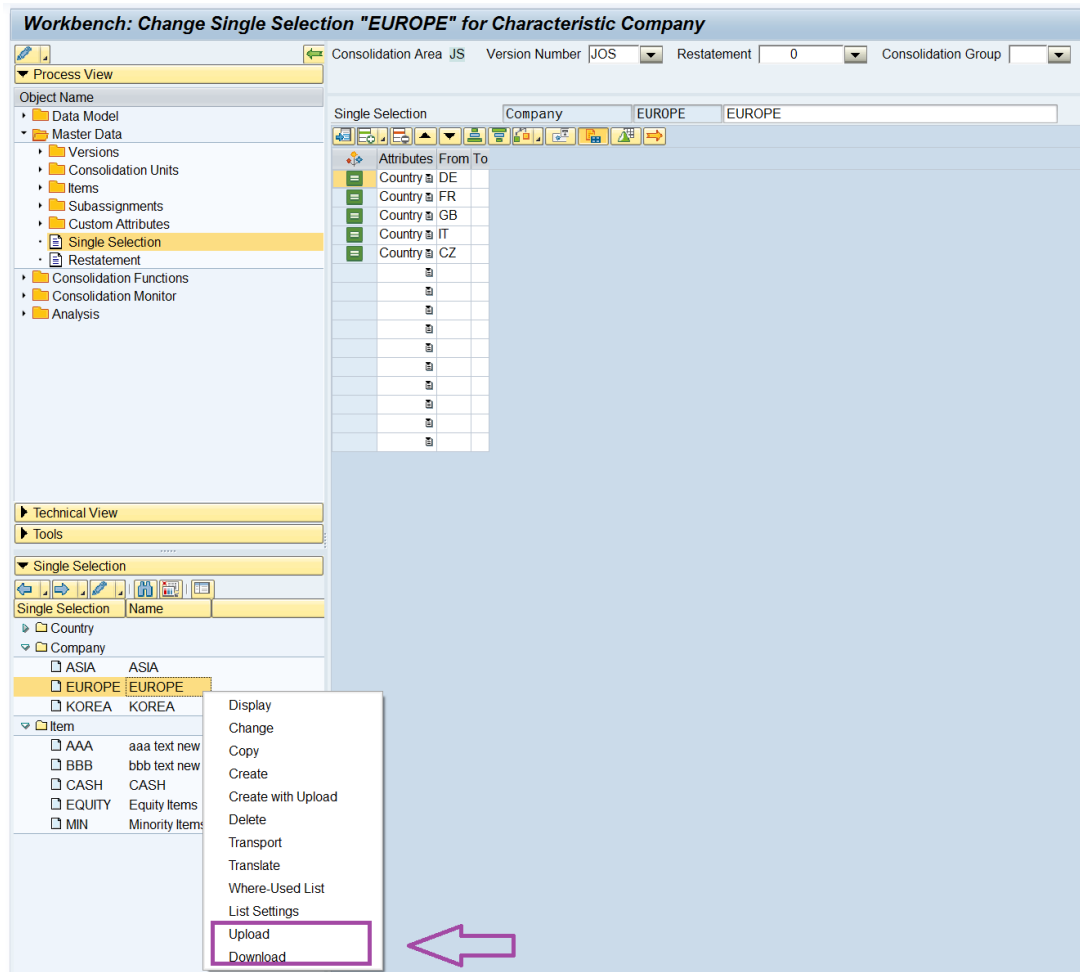
## Functional scope of BCS/4HANA

- Functionality of EHP1 – EHP8 of SEM-BCS
  - Business Functions do *not* exist in BCS/4HANA
  - BCS/4HANA corresponds to SEM-BCS in ERP with *all* Business Functions switched on
- Enhanced functionality beyond SEM-BCS EHP8 ( => see subsequent pages for details )
  - Upload and download of single selections
  - Direct read of reported financial data from data stream ( InfoProvider ) without replication
  - Copy of “Documents (Direct)”
  - Method assignment dependent on attributes of consolidation units
  - Usability improvements in manual posting
  - Consistency check during reversal and inversion of documents
  - Multiple selection of consolidation groups in list of journal entries
  - Preceding task relationships across periods
  - Version dependency of assignment of breakdown categories to FS items
  - Version dependency of check for blocked accounts on FS items and transaction types
  - Version dependency of adjustment of deferred taxes at changes of tax rates
  - Assignment of special hierarchy version to restatement value per fieldname of characteristic
  - Rolling forecast and suppression of instantaneous automatic inversion of documents in restatement
  - Indicator for “Adjustment of First Consolidation” in consolidation unit hierarchy
  - Cleanup of task status and change of period status with selection screen
- Simplification items ( topics in SEM-BCS with limited or no support in BCS/4HANA )

# BCS/4HANA – Upload and Download of Single Selections

Integration into workbench (UCWB)

- Upload / download of existing single selections
- Creation of new single selections by upload



# BCS/4HANA – Structure of MS Excel File for Single Selections

## Sheets in MS Excel file for single selections

- Parameters
- Legend
- Single Selection

Field Name	Description	Value
AREA	Cons Area	JS
LANGU	Language	EN
FIELDNAME	Field Name	/1FB/SX_CY
SISEL	Single_Selection	EUROPE
DATE	Date	12.11.2018
TIME	Time	10:43:04
SYSID	System ID	BWL
CLIENT	Client	333

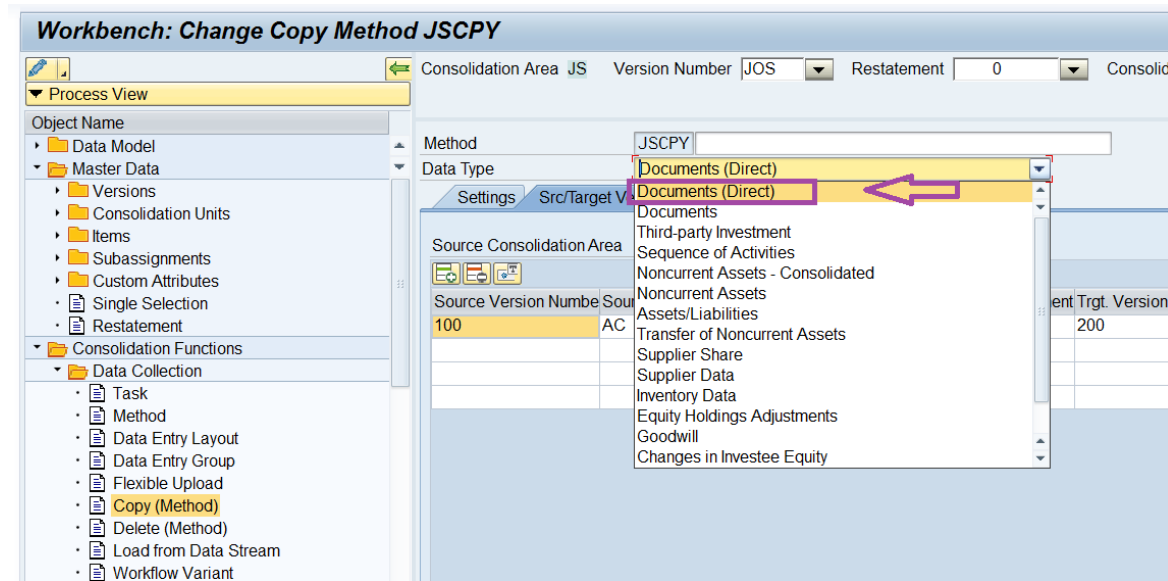
Row Type	Single_Selection	Description	Characteristic	Language				
SELTXT	EUROPE	EUROPE	/1FB/SX_CY	EN				
Row Type	Single_Selection		Characteristic	Selection Options	Attributes	Hierarchy Node	From	To
SEL	EUROPE		/1FB/SX_CY	I_EQ	/1FB/SX_CTRY		DE	
SEL	EUROPE		/1FB/SX_CY	I_EQ	/1FB/SX_CTRY		FR	
SEL	EUROPE		/1FB/SX_CY	I_EQ	/1FB/SX_CTRY		GB	
SEL	EUROPE		/1FB/SX_CY	I_EQ	/1FB/SX_CTRY		IT	
SEL	EUROPE		/1FB/SX_CY	I_EQ	/1FB/SX_CTRY		CZ	

Row Type	Description
SELTXT	Row type for selection name
SEL	Row type for selection line
Selection Options	Description
I_EQ	Equal to
I_NE	Select - Not Equal to
I_GT	Select - Greater than
I_LT	Select - Less than
I_GE	Select - Greater than/Equal to
I_LE	Select - Less than/Equal to
I_BT	Select - Range Inclusive
I_NB	Select - Range Exclusive
I_CP	Select - Pattern Inclusive
I_NP	Select - Pattern Exclusive
E_EQ	Do Not Select - Equal to
E_NE	Do Not Select - Not Equal to
E_GT	Do Not Select - Greater than
E_LT	Do Not Select - Less than
E_GE	Do Not Select - Greater than/Equal to
E_LE	Do Not Select - Less than/Equal to
E_BT	Do Not Select - Range Inclusive
E_NB	Do Not Select - Range Exclusive
E_CP	Do Not Select - Pattern Inclusive
E_NP	Do Not Select - Pattern Exclusive
CROSS_EQ	Cross-Characteristic - Equal to
CROSS_NE	Cross-Characteristic - Not Equal to
CROSS_GT	Cross-Characteristic - Greater than
CROSS_LT	Cross-Characteristic - Less than
CROSS_GE	Cross-Characteristic - Greater than/Equal to
CROSS_LE	Cross-Characteristic - Less than/Equal to
I_HRY_EQ	Nodes - Select
E_HRY_EQ	Nodes - Do Not Select
Field Name	Description
/1FB/AC_DOCLN	Document Line
/1FB/AC_DOCNR	Document Number (EACC; SEM-BCS)
/1FB/AC_DOCTEXT	Document Text
/1FB/AC_IVDOCNR	Number of Inversion Document
/1FB/AC_IVPER	Period of Inversion Document
/1FB/AC_IYYEAR	Fiscal Year of Inversion Document
/1FB/AC_OIDOCNR	Number of Inverted Document
/1FB/AC_OIPEP	Period of Inverted Document
/1FB/AC_OIYEAR	Fiscal Year of Inverted Document
/1FB/AC_ORDOCNR	Document Number of Source Document
/1FB/AC_ORPER	Period of Source Document
/1FB/AC_ORYEAR	Fiscal Year of Source Document
/1FB/AC_RVDOCNR	Reversal Document Number
/1FB/AC_RVPER	Period of Reversal Document
/1FB/AC_RVYEAR	Fiscal Year of Reversal Document
/1FB/BCS_AGENTA	Workflow: Approval Agent

## BCS/4HANA – Copy of “Documents (Direct)”

## New data type “Documents (Direct)” in copy method

- Read only documents from source => significant performance improvement
- Process requirements for task execution in target
  - BCF ( = balance carryforward ) with embedded copy ( => see next page )
  - C/T ( = currency translation )



# BCS/4HANA – Direct Read from Data Stream – Activation in Cons. Area

The screenshot shows the SAP Consolidation Monitor settings for 'Cons Area V2' with the target 'Target for read from data stream'. A purple arrow points from the 'Direct Read of Reported Data' checkbox in the 'Consolidation Functions Used' section to the 'Performance Assistant' window.

**Consolidation Monitor Settings:**

- Consolidation Monitor:**
  - ☐ Status Management Activated
  - ☐ Hierarchy-dependent Status Management
  - ☐ Open Periods Explicitly
  - ☐ Multiperiod Consolidation
  - ☐ Conditional Status Update
  - ☐ Archiving of Monitor Status
  - ☐ Check Digits for Transaction Data
- Parameters:**
  - ☒ Display Cons Area as Parameter
- Breakdown Categories:**
  - ☐ Use Maximum Selections
  - ☐ Version-Dependent Assignment
- Consolidation Functions Used:**
  - ☐ Elim. of IU Profit/Loss in Inventory
  - ☐ Elim. of IU Profit/Loss in Assets
  - ☐ Assets Held for Sale
  - ☐ Consolidation of Investments
  - ☐ Organizational Changes
  - ☐ Goodwill in Local Currency
  - ☐ Separation of Goodwill from Investment
  - ☐ Full Goodwill
  - ☐ Change of Control
  - ☐ Deviating Shares
  - ☐ Restatement of ConsGrp-Dependent Postings
  - ☐ Workflow for Approving Documents
  - ☐ Workflow for Status Changes
  - ☐ Adjustment of Deferred Taxes
  - ☐ Executability of Custom Tasks
  - ☐ Method Assignment of Reclassification Tasks
  - ☐ Assignment of Rounding Methods
  - ☒ Direct Read of Reported Data
- Technical Settings:**
  - Consistency Check During Doc. Rev.
  - Length of Value Fields

**Performance Assistant: Direct Read of Reported Data from BW InfoProvider**

This setting enables direct access to BW InfoProvider to read reported financial data without replication into BCS totals data base.

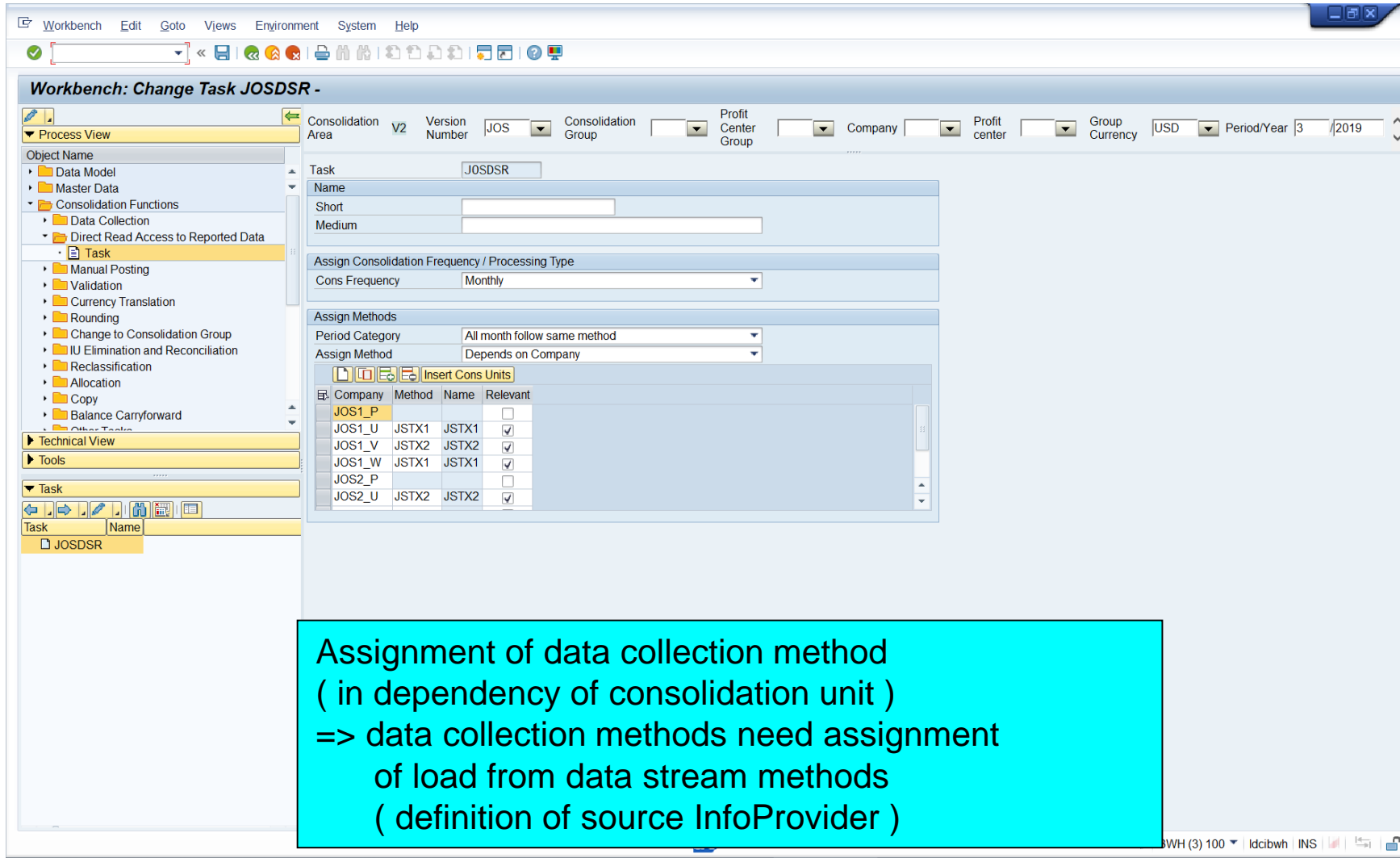
**Use**

After you have activated this setting, you can set up the system for direct read access for reported financial data as follows:

- In the *Process View* of consolidation workbench, there is a new entry *Consolidation Functions -> Direct Read Access to Reported Data*. Here you define the source InfoProviders by referring to the setup for load from data stream:
  - Create one task of new task category *Direct Read of Reported Data*.
  - Assign data collection methods (possibly dependent on consolidation units) to the task for direct read of reported data.
  - The data collection methods which you assign to the task for direct read of reported data must have one or more methods for load from data stream assigned.
  - In the methods for load from data stream, you define the source InfoProvider (and RFC connection) according to the Standard functionality for load from data stream.
- Include **one** task for direct read of reported data into the task hierarchy of the consolidation monitor, next to the data collection task in task sequence.
- The reported financial data which are read from a source InfoProvider without replication into BCS totals data base are on initial posting level which is named *Reported Data: Direct Read*. This posting level is relevant for both reporting and task processing:
  - For any selection which either explicitly contains the initial posting level or does not restrict the posting level, the system evaluates the settings in the task for direct read of reported data, to determine the load from data stream methods for the consolidation units to be selected.
  - The system then executes the "reading part" of the load from data stream, including mapping functionality.
  - The data read from data stream are **not** stored into BCS totals data base. Instead, they are displayed in the report or processed by the task which is executed (e.g., reclassification).

SP1

# BCS/4HANA – Task for Direct Read from Data Stream



The screenshot shows the SAP Workbench interface for changing the task JOSDSR. The left sidebar displays a tree view with 'Task' selected under 'Direct Read Access to Reported Data'. The main area shows the task configuration for 'JOSDSR'. The 'Assign Consolidation Frequency / Processing Type' section shows 'Cons Frequency' set to 'Monthly'. The 'Assign Methods' section shows 'Period Category' set to 'All month follow same method' and 'Assign Method' set to 'Depends on Company'. Below this is a table for 'Insert Cons Units'.

Company	Method	Name	Relevant
JOS1_P			<input type="checkbox"/>
JOS1_U	JSTX1	JSTX1	<input checked="" type="checkbox"/>
JOS1_V	JSTX2	JSTX2	<input checked="" type="checkbox"/>
JOS1_W	JSTX1	JSTX1	<input checked="" type="checkbox"/>
JOS2_P			<input type="checkbox"/>
JOS2_U	JSTX2	JSTX2	<input checked="" type="checkbox"/>

Assignment of data collection method  
( in dependency of consolidation unit )  
=> data collection methods need assignment  
of load from data stream methods  
( definition of source InfoProvider )

SP1

# BCS/4HANA – Balance Carry Forward with Embedded Copy

Settings for BCF with embedded copy

- Assignment of copy method to BCF task
  - Definition of “starting year for plan version” in version combination
- => Execution of BCF with embedded copy also in single-period cons.

**Workbench: Change Version Combinations**

Consolidation Area JS Version Number JOS Restatement 0 Consolidation

Process View

Object Name

- Data Model
- Master Data
  - Versions
    - SophEx - Version Number
    - SophEx - Data Category
    - **Version Combinations**
    - Special Versions
    - Check Settings
    - List Settings
  - Consolidation Units
  - Items
  - Subassignments
  - Custom Attributes
  - Single Selection
  - Restatement

Version Number	Data Category	Consolidation Frequency	Starting Year	Starting Year for Plan Version	Repetition of Task Run
100 - Version 100	AC - Actuals	5 - Monthly			
200 - Version 200	AC - Actuals	5 - Monthly		2002	Delete Old Documents
JOS - Version JoachimS	AC - Actuals	5 - Monthly		3000	Delete Old Documents

**Performance Assistant**

**Text**

Starting Year of Plan Version

**Definition**

Specifies the earliest fiscal year in which it is possible to post in the current version combination.

**Use**

A starting year should be specified only for those version combinations that you use in conjunction with a planning scenario.

If you specify a starting year for a version combination, you can execute the balance carryforward in this version combination in the starting year of this version combination with an integrated copy method also in the case of one-period consolidation (that is, non-multiperiod consolidation). The balance carryforward then works as follows:

- Read the cumulated values of the previous year of the starting year from the source environment of the copy method
- Summarize the values read into the zero period of the starting year
- Post the summarized values to the zero period of the starting year to the parameter environment of the current execution of the balance carryforward (if this matches the target environment of the copy method)

**Dependencies**

You can assign a starting year of the plan version to the version combination only if you have not assigned a consolidation cycle for multiperiod consolidation to the version combination.

If you have assigned the version combination a consolidation cycle, the starting year of the plan version and the zero delta year of the consolidation cycle are identical.

# BCS/4HANA – Method Assignment Dependent on Cons. Unit Attributes

Task: JOSRECLXY

Name: Short: JOSRECLXY Medium: JOSRECLXY

Assign Document Type: Cons Frequency: Monthly Document Type: RCL1 RCL1

Assign Methods: Period Category: Quarters Assign Method: **Depends on Company, Single Selections**

Medium Field Label	Does Not Depend on Company, Profit center	Depends on Company	Depends on Profit center	Depends on Company, Profit center	Depends on Company, Default with Exception	Depends on Company, Single Selections	Depends on Profit center, Default with Exception	Depends on Profit center, Single Selections	Depends on Company, Profit center, Default with Exception
Company									
Company									

JSRCX JSRCY

Assign Methods: Period Category: Quarters Assign Method: Depends on Company, Single Selections

Medium Field Label	Selection	Short Text	Method	Name
Company	ASIA	ASIA	JSRCX	JSRCX
Company	EUROPE	EUROPE	JSRCY	JSRCY

Performance Assistant

**Method Depends on**

**Definition**

**Use**

You can choose whether the method assignment is dependent on or independent of the characteristics with the role consolidation unit. In 2-dimensional data models, the method assignment can be dependent on either of the two consolidation unit characteristics or also on Consolidation Unit Combinations.

If you choose *Independent of <Characteristic(s) with the Role Consolidation Unit>*, the method applies to all consolidation units of the selected characteristic(s).

If you choose *Dependent on <Characteristic(s) with the Role Consolidation Unit>*, the system allows you to choose from 3 different technical ways of method assignment:

- Dependent on ... **[without default method]**: You specify in a flat list, which method should be used for the individual consolidation unit (combination) values. If the task is not relevant for certain units, this has to be specified explicitly. Otherwise, missing method assignments may lead to error messages at runtime [Task <T>: No method is assigned to consolidation unit <u>]. Hence, this kind of method assignment usually has to be updated when new consolidation unit (combinations) are added later.
- Dependent on ... **Default with exceptions**: You specify a default method, to be used for most consolidation unit (combinations) with the exception of a list of "exceptional" consolidation unit (combinations), for which you can explicitly specify a different behavior by assigning a different method or by marking the task as "not relevant". The system will automatically use the default method for consolidation unit (combinations), which are added later, unless you extend the list of exceptional method assignments as well.
- Dependent on ... **Single Selections**: The method assignment is based on reusable named single selections of consolidation units. To use this option, you have to define one or more non-overlapping named single selections for given consolidation unit characteristic beforehand. You can then assign methods to these reusable single selections rather than assigning methods to each unit individually. This option is especially useful if you need a specific method assignment for the same list(s) of units in multiple tasks. It is also useful if you need to assign methods depending on certain master data attribute values. So you can define named attribute selections (e.g. you can make the method assignment depending on single selection by attribute "Country" of your company characteristic). The system will automatically assign the correct method to newly added consolidation units, provided that relevant master data attributes are correctly maintained in the system.  
[Remark: In 2-dimensional data models, the method assignment by Single Selections is limited to the 2 single dimensions but it is not available on the granularity of consolidation unit combinations.]

**Dependencies**

**Example**

# BCS/4HANA – Usability Improvements in Manual Posting

The image displays two screenshots of the SAP manual posting interface. The top left screenshot shows a 'Replace' dialog box with the 'Fill' checkbox unchecked, 'Profit center' set to 'PC01', and 'With' set to 'PC02'. The top right screenshot shows the same dialog box with the 'Fill' checkbox checked and 'With' set to 'PC06'. Below these are two larger screenshots of the main manual posting screen. The bottom left screenshot shows the 'Replace' button in the toolbar, which is highlighted with a red box. The bottom right screenshot shows the 'Reverse Sign' button in the toolbar, also highlighted with a red box. Purple arrows indicate the flow from the 'Replace' button in the bottom left screenshot to the 'Replace' dialog boxes above, and from the 'Reverse Sign' button in the bottom right screenshot to the 'Reverse Sign' dialog box above.

New buttons for

- Replace / Fill
- Reverse Sign ( of key figures )

# BCS/4HANA – Consistency Check During Document Reversal

The screenshot shows the SAP Cons Area settings window on the left and the Performance Assistant dialog on the right. A purple arrow points from the 'Consistency Check During Doc. Rev.' dropdown in the settings to the 'Consistency Check During Document Reversal' section in the Performance Assistant.

**Cons Area** JS Cons Area JoachimS

**Fields** **Settings**

**Consolidation Monitor**

- ☒ Status Management Activated
- ☐ Hierarchy-dependent Status Management
- ☐ Open Periods Explicitly
- ☐ Multiperiod Consolidation
- ☐ Conditional Status Update
- ☐ Archiving of Monitor Status
- ☐ Check Digits for Transaction Data

**Parameters**

- ☒ Display Cons Area as Parameter

**Breakdown Categories**

- ☐ Use Maximum Selections
- ☒ Version-Dependent Assignment

**Consolidation Functions Used**

- ☒ Elim. of IU Profit/Loss in Inventory
- ☒ Elim. of IU Profit/Loss in Assets
- ☒ Assets Held for Sale
- ☒ Consolidation of Investments
- ☒ Organizational Changes
- ☒ Goodwill in Local Currency
- ☒ Separation of Goodwill from Investment
- ☒ Full Goodwill
- ☒ Change of Control
- ☒ Deviating Shares
- ☒ Restatement of ConsGrp-Dependent Postings
- ☒ Workflow for Approving Documents
- ☒ Workflow for Status Changes
- ☒ Adjustment of Deferred Taxes
- ☒ Executability of Custom Tasks
- ☒ Method Assignment of Reclassification Tasks
- ☒ Assignment of Rounding Methods

**Technical Settings**

Consistency Check During Doc. Rev. **Error**

Length of Value Fields

Number Range  01 **Number**

**Data Integration**

**Performance Assistant**

### Consistency Check During Document Reversal

You use this setting to control whether or how the system performs consistency checks when documents are reversed or inverted.

**Use**

If you activate the consistency checks (as an *Error* or *Warning*), the system performs the following checks when reversing or inverting documents:

- Validity of consolidation unit combinations
- Blocking of posting and data entry for financial statement items and transaction types
- Breakdowns of financial statement items
- For consolidation-group-dependent postings: Time (year, period) of task execution against consolidation interval (period between first and final consolidation) of the consolidation units

In the event of inconsistencies, the system reacts differently depending on the function or task currently being executed:

- Execution of automatic tasks that post using a document type with automatic document inversion: No consistency check
- Period initialization:
  - Automatic inversion of documents to automatic document types: No consistency check
  - Automatic inversion of documents to manual document types: Warning message if you have specified either *Error* or *Warning* for the setting discussed here in the consolidation area
- Mass reversal: Manual and automatic documents are checked by the system before the reversal or inversion.
  - If you have entered *Error* in the consolidation area, you **cannot** reverse or invert inconsistent documents.
  - If you have specified *Warning* in the consolidation area, during the execution of the mass reversal you can define interactively that inconsistent documents are also to be reversed or inverted.
- Manual posting: Manual documents are checked by the system before the reversal or inversion.
  - If you have entered *Error* in the consolidation area, you **cannot** reverse or invert inconsistent documents.
  - If you have specified *Warning* in the consolidation area, during the execution of the manual posting you can define interactively that inconsistent documents are also to be reversed or inverted.

# BCS/4HANA – Preceding Task Relationships Across Periods

Preceding task relationships across periods

- Explicitly maintained by end user
- Dependency of task status on preceding / successor task in previous / next period

**Workbench: Change Task Sequence**

Consolidation Area JS Version Number JOS

Process View

Object Name

- Data Model
- Master Data
- Consolidation Functions
- Consolidation Monitor
  - Task Hierarchy
  - Task Group
  - **Preceding Task Relationships**
  - Check Preceding Task Relationships
  - Cutoff Task
  - Check Settings
  - List Settings
  - Delete Logs
- Analysis

Within Periods Across Periods

Tasks	Description
▾ JS	Cons Area JoachimS
• JOSVALXY	JOSVALXY
• JOSDTX	Data Collection JoachimS
• JOSDTX3	Data Collection JoachimS (3)
• JOSMAN10	Manual Posting PL 10
▾ JOSRECLXY	JOSRECLXY
• <b>JOSMAN10</b>	<b>Manual Posting PL 10</b>
• JOSCVX	JOSCVX
• JOSCTRX	JOSCTRX
• RAB12	
• JOSIPA	JOSIPA
• JOSCOI	Automatic C/I

# BCS/4HANA – Version Dependency of Breakdowns of FS Items

Assignment of breakdown categories to FS items

- SEM-BW => dependent on consolidation area
- BCS/4HANA => dependent on consolidation area and special version ( of type “account“ )

Automatic migration of existing assignment to *all* existing special versions ( of type “account“ ) is performed during regeneration of consolidation area.

The screenshot shows the SAP FS Item configuration interface. At the top, the 'Item' field is set to '28100000'. Below it, the 'Name' section has 'Short', 'Medium', and 'Long' descriptions, all containing the text 'Badwill'. The 'Item' tab is selected, and the 'Other Attributes' section is visible. In this section, the 'Entry' area includes a 'Dr./Cr. Sign' dropdown set to '-', a 'Block Posting and Data Entry' checkbox, and a 'Breakdown Category' field set to '6000'. The 'Item Type' dropdown is set to 'Balance Sheet'. A red box highlights the 'Breakdown Category' field, and a red arrow points upwards towards it.

# BCS/4HANA – Version Dependency of Check for Blocked Accounts

Check for blocked accounts ( FS items, transaction types )

SEM-BW => dependent on consolidation area

BCS/4HANA => dependent on consolidation area and special version ( of type “account“ )

Attention: No migration of existing settings for indicators for checks for blocked accounts !

=> These settings must be maintained anew ( by user ) after upgrade to BCS/4HANA !

Item: 25711000

Name

Short: [ ]

Medium: Thes. JÜ - Vorjahr

Long: Thes. JÜ - Vorjahre

Item Other Attributes

Item

Entry

Dr./Cr. Sign: -

☒ Block Posting and Data Entry

Item Type: Balance Sheet

Breakdown Category: 6000

Transaction Type: 100 Anfangsbestand AHK

Transaction Type Other Attributes

Transaction Type

Entry

Debit/Credit Sign: +

☒ Block Posting and Data Entry

Carryforward, Change to Cons Group

	Transaction Type	Description
Carryforward		
Addition		
Acquisition for Org. Change		
Divestiture		
Divestiture for Org. Change		
Merger		

# BCS/4HANA – Version Dependency of Adjustment of Deferred Taxes

Adjustment of deferred taxes at changes of tax rate

- SEM-BW => dependent on starting time ( year, period ) => setting in configuration menu UC00
- BCS/4HANA => dependent on starting year and version combination

Automatic migration of existing assignment from UC00 to *all* existing version combinations is performed during regeneration of consolidation area.

At runtime of period initialization, no tax adjustment is posted in fiscal years earlier than the starting year, for the current version combination.

The screenshot shows the SAP Workbench interface for 'Change Version Combinations' and a 'Performance Assistant' dialog box.

**Workbench: Change Version Combinations**

Consolidation Area: JS | Version Number: JOS | Restatement: 0 | Consolidation Group: [arrow pointing to Performance Assistant]

Version Number	Data Category	Consolidation Freque	Starting Y	Starting Y	Repetition of Task Run	Item	Co
100 - Version 100	AC - Actuals	5 - Monthly		2002	Delete Old Documents		
200 - Version 200	AC - Actuals	5 - Monthly		2002	Delete Old Documents		
JOS - Version JoachimS	AC - Actuals	5 - Monthly		3000	Delete Old Documents		

**Performance Assistant**

**DE UC\_DTAX\_YEAR\_START**

**Short Text**

Starting Year for Adjustment of Deferred Taxes

**Definition**

Earliest fiscal year in which the function *Adjustment of Deferred Taxes* is active in the current version combination. As of this starting year, if the tax rate of a certain document type or consolidation unit changes in the current consolidation period compared to the prior period, documents which adjust the cumulative values on the balance sheet items for deferred taxes to the new tax rate are posted in tasks of category *Period Initialization*.

**Dependencies**

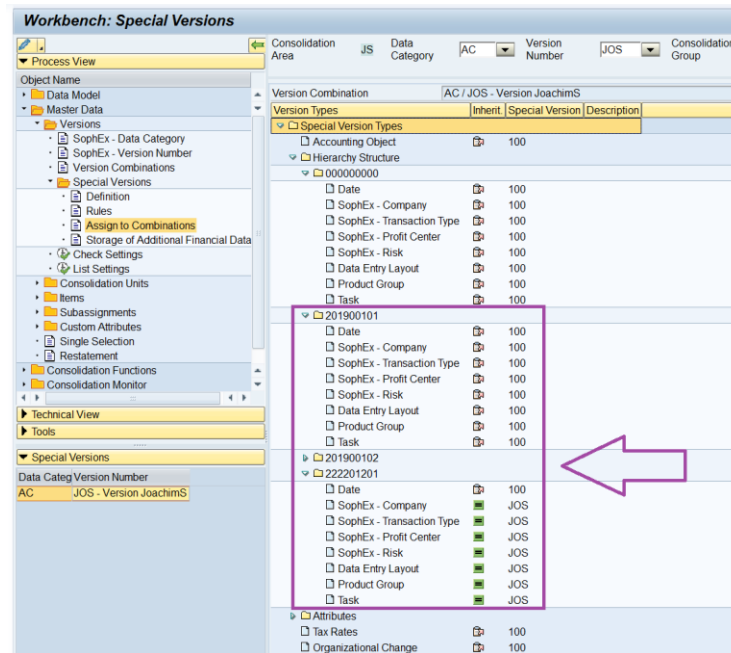
You can only set the starting year for adjustment of deferred taxes after you have switched on the function *Adjustment of Deferred Taxes* in the settings of the consolidation area.

# BCS/4HANA – Special Hierarchy Version in Restatement per Fieldname

Assignment of special hierarchy version to restatement values

- SEM-BW => independent of fieldname ( for non-initial restatement value )
- BCS/4HANA => separate assignment to restatement and fieldname of characteristics is possible

Automatic migration of existing assignment to restatement values is performed during regeneration of consolidation area, to cover *all* fieldnames of hierarchy-carrying characteristics.



# BCS/4HANA – New Reference for “Rolling Forecast” in Restatement

**Workbench: Change Restatement 222201201 - 012/2222 1st RSTM**

Consolidation Area: JS Data Category: AC Version Number: JOS Consolidation Group: Profit Center Group: Company: Profit center:

Object Name

- Data Model
- Master Data
  - Versions
  - Consolidation Units
  - Items
  - Subassignments
  - Custom Attributes
  - Single Selection
  - Restatement**
- Consolidation Functions
- Consolidation Monitor
- Analysis

Restatement: 222201201 012/2222 1st RSTM

Restatement Other Attributes

Restatement

Restatement Period: 012.2222

Validity

Valid-From Period: 001.2222

Valid-To Period: 012.2222

Reference

- ☐ Difference to Original Data
- ☐ Difference to Reference Data
- Reference: 0
- ☐ No Reference (independent)
- ☒ Ref. to Original Data in prior periods

Attributes

☒ No Instant Document Inversion

Technical View

Tools

Restatement

Restatement	Name
<input type="checkbox"/> 201800101	001/2018 1st RSTM
<input type="checkbox"/> 201900101	001/2019 1st RSTM
<input type="checkbox"/> 201900102	003/2018 2nd RSTM
<input checked="" type="checkbox"/> 222201201	012/2222 1st RSTM

Use case for “rolling forecast”:  
Actual group close in current period  
shall **not** impact ( prospective ) forecast  
=> New value for reference in restatement

SP1

# BCS/4HANA – Option to Suppress Instantaneous Inversion in Restatement

**Workbench: Change Restatement 222201201 - 012/2222 1st RSTM**

Consolidation Area: JS Data Category: AC Version Number: JOS Consolidation Group: Profit Center Group: Company: Profit center:

Restatement: 222201201 012/2222 1st RSTM

Restatement Other Attributes

Restatement

Restatement Period: 012.2222

Validity

Valid-From Period: 001.2222

Valid-To Period: 012.2222

Reference

☐ Difference to Original Data

☐ Difference to Reference Data

Reference: 0

☐ No Reference (independent)

☒ Ref. to Original Data in prior periods

Attributes

☒ No Instant Document Inversion

**Performance Assistant**

**Restatement: Suppress Instant Inversion**

Restatement: Suppress Instant Posting of Inverting Documents

**Use**

If you do not activate this setting (default setting), when documents are posted in non-initial **restatement** data slices and the relevant setting is applied for the document type used (**Inversion** attribute), the system always executes the posting *immediately* (instantly) for the corresponding inverting documents in the following consolidation period.

The is normally an appropriate approach and allows a higher degree of automation. If this is **not** the desired approach, however, you can deactivate this function by **activating** this checkbox for all postings in this restatement slice.

**Dependencies**

If you deactivate instant inversion, you need to trigger the inversion of posted documents in this restatement by executing the *Period Initialization* task in the following consolidation period.

Option to suppress instantaneous automatic inversion of documents in restatement

SP1

# BCS/4HANA – Indicator for Adjustment of First Consolidation in Hierarchy

**Workbench: Change Consolidation Group JOS1 - JOS1**

Consolidation Area: JS Data Category: AC Version Number: JOS Consolidation Group: Profit Center Group: Company:

**Process View**

Object Name

- Data Model
- Master Data
  - Versions
  - Consolidation Units
    - SophEx - Company
    - SophEx - Profit Center
    - Combinations of Consolidation Units
    - Goodwill-Carrying Consolidation Units
    - Accounting Techniques
    - Organizational Change
    - Consolidation Groups
    - Download (Bundled)
  - Items
    - Subassignments
    - Custom Attributes
    - Single Selection
    - Restatement
  - Consolidation Functions
  - Consolidation Monitor
  - Analysis

**Technical View**

**Tools**

**Company**

Hierarchies

	Name
H1	test
JOS1	JOS1
JOS1	JOS1
JOS1_P	JOS1_P
JOS1_U	JOS1_U

Consolidation Group: JOS1

Name

Short: JOS1

Medium: JOS1

Assigned End Node

Company

Attributes

Cons Unit	Name	Yr First	Per. First	FCEP	FC IS	Yr of Div.	Per. Div.	DABP	DA IS	DA Due to Merger	Inact. C	Adj. FC
JOS1_P	JOS1_P	2018	3	<input type="checkbox"/>	<input type="checkbox"/>	9999	12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
JOS1_U	JOS1_U	2018	3	<input type="checkbox"/>	<input type="checkbox"/>	2018	6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Performance Assistant**

**Text**

Period of Adjustment of FC

**Definition**

Specifies that adjustment of first consolidation is allowed for a consolidation unit in a specific consolidation group.

**Use**

When the indicator is selected for a consolidation unit, the system will process any data that is reported for first consolidation in an actively *Adjustment of First Consolidation*.

**Dependencies**

The indicator may be selected in periods **after** the first consolidation only.

In a matrix scenario, the indicator is available only for the primary matrix dimension.

Indicator for "Adjustment of First Consolidation"

SP1

# BCS/4HANA – Period Status Changes with Selection Screen

In SEM-BW, changes to period status need to be performed manually one-by-one in monitor.

In BCS/4HANA, there is the option for period status changes with selection screen, in workbench.

**Workbench: Change of Period Status**

Consolidation Area JS Data Category AC Version Number JOS Consolidation Group Profit Center Group Company Profit center

Process View

Object Name

- Data Model
- Master Data
- Consolidation Functions
- Consolidation Monitor
  - Task Hierarchy
  - Task Group
  - Preceding Task Relationships
  - Check Preceding Task Relationships
  - Cutoff Task
  - Check Settings
  - List Settings
  - Delete Logs
  - Status Change
    - Change Period Status**
    - Cleanup Task Status
- Analysis

Organizational Group

SophEx - Consolidation Group		to		
SophEx - Profit Center Group		to		

Organizational Unit

SophEx - Company		to		
SophEx - Profit Center		to		

Version/Time/Currency

SophEx - Data Category	AC	to		
SophEx - Version Number	JOS	to		
Restatement		to		
Fiscal year	2019			
Posting period	3	to		
Currency Key for Group Currency	USD			

Changing Period Status

☒ Open Period  
☐ Open Cons Groups  
☐ Close Cons Units  
☐ Close Period

Multiperiod Consolidation

☒

Technical Settings

☒ Test Run

SP1

# BCS/4HANA – Cleanup of Task Status “Initial” and “Irrelevant”

Upon initial launching of consolidation monitor, task executability is checked and persisted in status tables

- Task is executable => Task status value 001 ( “initial (excutability checked)” ) is persisted
- Task is *not* executable => Task status value 090 ( “irrelevant” ) is persisted

Changes to customizing settings may result in changes to task executability.

( Example: Change to new local currency key of consolidation unit to be equal to group currency key results in irrelevance of C/T ( = currency translation task ). )

In SEM-BW it is necessary to explicitly reset the task status after such changes to customizing settings.

In BCS/4HANA, there is the option to cleanup task status values 001 and 090 in consolidation workbench.

**Workbench: Recalculate Status**

Consolidation Area: JS Data Category: AC Version Number: JOS Consolidation Group: Profit Center Group: Company: Profit center:

Process View

Object Name

- Data Model
- Master Data
- Consolidation Functions
- Consolidation Monitor
  - Task Hierarchy
  - Task Group
  - Preceding Task Relationships
  - Check Preceding Task Relationships
  - Cutoff Task
  - Check Settings
  - List Settings
  - Delete Logs
  - Status Change
    - Change Period Status
    - Cleanup Task Status**
- Analysis

Version

SophEx - Data Category	AC	to		
SophEx - Version Number	JOS	to		
Restatement		to		
Fiscal year	2019	to		
Posting period	3	to		
Currency Key for Group Currency	USD	to		

SP1

# BCS/4HANA – Simplification Items

## Definition of “simplification items”

- Functionality is supported in SEM-BW
- Functionality is supported in different / limited way or *not* supported at all, in BCS/4HANA

## List of “simplification items” (\*)

- XBRL support for BCS => See SAP Note [1278989](#) for SAP strategy for XBRL
- MDG-F ( = master data governance, financials ) in-bound services for BCS
- BW-IP data entry ( in SEM-BW: supported for selected pilot customers only )
- Complex queries ( e.g., multiple versions, cell definitions ) might need to be refactored ( by user )
- Appropriation after I/S ( in SEM-BW: setting in consolidation area )
- Accounting technique “Mutual Stock” ( in SEM-BW: setting in C/I system utilization )
- C/I activities “Write-up / Amortization of Investment”
- C/I postings stated in KBA [2056048](#) ( in SEM-BW: modifications => in BCS/4HANA: Standard )
- Several C/I settings ( in SEM-BW: switches of minor relevance => in BCS/4HANA: Standard, without switches )

(\*) This list might be incomplete and may be changed by SAP at any time without notice.

# BW/4HANA – Conversion Scenarios

SAP BW/4HANA conceives 2 conversion scenarios from SAP BW to SAP BW/4HANA  
( => see SAP Note [2383530](#) for details )

- In-place conversion
  - System ( including ID ) is preserved, i.e., conversion takes place on the existing system
  - Transfer Toolbox converts BW objects from “old” to “new” ones ( e.g., InfoCubes and DSO to aDSO )
  - Existing data in BW objects is migrated into “new” InfoProviders
  - => Technical prerequisite for in-place conversion is source system on SAP BW 7.50 SP5 on HANA DB  
( from perspective of SEM-BCS this corresponds to SEM-BW 7.48 (EHP8) )
- Remote conversion
  - Separate (new) installation of SAP BW/4HANA
  - Transport of selected data models and remote data transfer

BCS/4HANA currently only supports in-place conversion  
( => see SAP Note [2651241](#) for details )

# BCS/4HANA – Technical Steps for In-Place Conversion

## Preparation

- Database migration of SAP BW / SEM-BW system to SAP HANA ( if *not* yet done )
- Upgrade of SAP BW / SEM-BW system to SAP BW 7.50 / SEM-BW 7.48 (EHP8)
- Installation of newest version of software upgrade tool SAINT for Add-Ons
- Copy of BW query definition from virtual info-provider and multi-provider to temporary (empty) aDSO

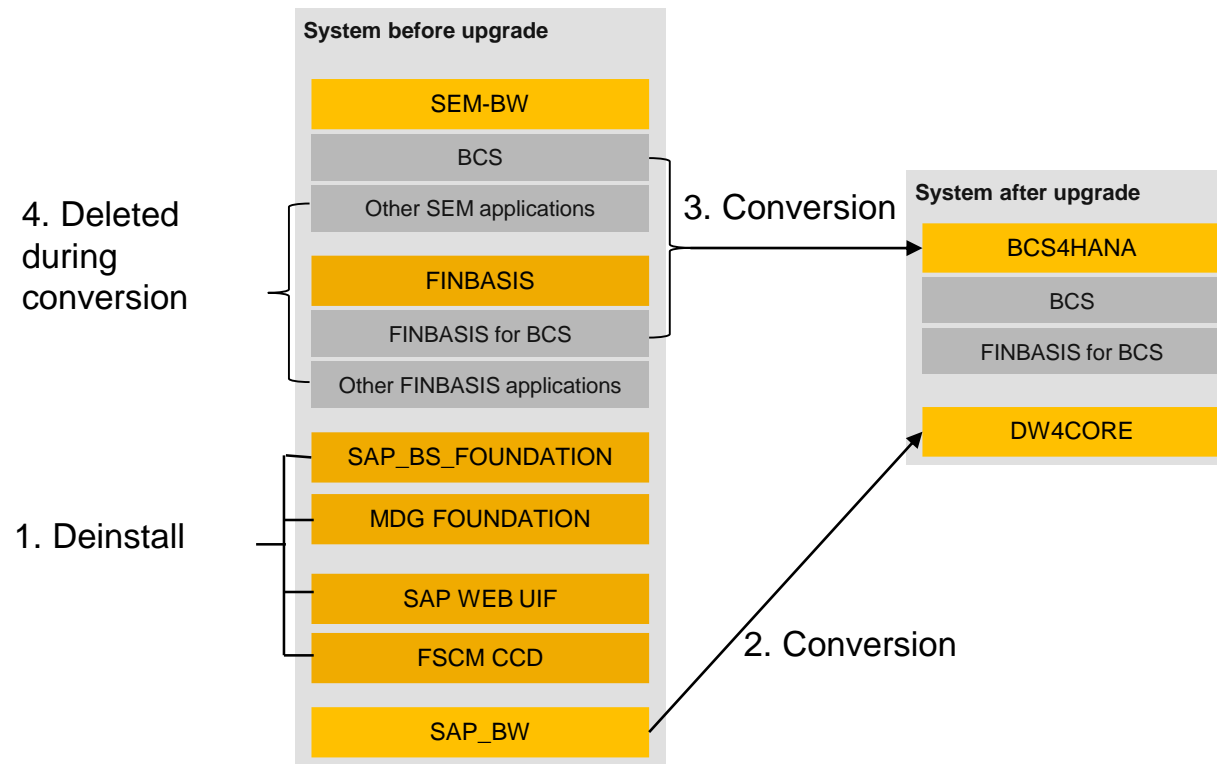
## Execution

- BW/4HANA compatibility mode is *not* supported for BCS => System downtime is necessary
- Conversion of BW objects for BCS to BW/4HANA objects ( “ready for conversion” phase )
- Upgrade ( SEM-BCS + MDF => BCS/4HANA ) and deinstallation ( SEM-BPS etc. ) of Add-On components

## Post-Processing

- Restart of consolidation workbench => Execution of data model synchronization ( “change management” )
- Save and regenerate *all* BCS data bases and consolidation areas => BAdI providers are generated
- Copy of BW query definition from temporary (empty) aDSO to BAdI provider
- Maintain the settings for indicators for check for blocked accounts ( FS items, transaction types ) anew

# BCS/4HANA – InPlace Conversion ( from SEM-BW + FINBASIS )



During the conversion of the SEM-BW system to BCS4HANA:

1. Some software components (e.g. SAP WEB UIF) are de-installed.
2. Software component SAP\_BW is converted to DW4CORE
3. The applications BCS (part of SEM-BW) and MDF (part of FINBASIS) are converted to software component BCS4HANA
4. Other applications within SEM-BW (e.g. BPS, CPM) and FINBASIS are deleted.

# Thank you.

Contact information:

**Dr. Joachim Stelzer**

Chief Development Architect

SAP Application Innovation Services, Financials

E-Mail: [joachim.stelzer@sap.com](mailto:joachim.stelzer@sap.com)

Follow us



[www.sap.com/contactsap](http://www.sap.com/contactsap)

© 2019 SAP SE or an SAP affiliate company. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP SE or an SAP affiliate company.

The information contained herein may be changed without prior notice. Some software products marketed by SAP SE and its distributors contain proprietary software components of other software vendors. National product specifications may vary.

These materials are provided by SAP SE or an SAP affiliate company for informational purposes only, without representation or warranty of any kind, and SAP or its affiliated companies shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP or SAP affiliate company products and services are those that are set forth in the express warranty statements accompanying such products and services, if any. Nothing herein should be construed as constituting an additional warranty.

In particular, SAP SE or its affiliated companies have no obligation to pursue any course of business outlined in this document or any related presentation, or to develop or release any functionality mentioned therein. This document, or any related presentation, and SAP SE's or its affiliated companies' strategy and possible future developments, products, and/or platforms, directions, and functionality are all subject to change and may be changed by SAP SE or its affiliated companies at any time for any reason without notice. The information in this document is not a commitment, promise, or legal obligation to deliver any material, code, or functionality. All forward-looking statements are subject to various risks and uncertainties that could cause actual results to differ materially from expectations. Readers are cautioned not to place undue reliance on these forward-looking statements, and they should not be relied upon in making purchasing decisions.

SAP and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP SE (or an SAP affiliate company) in Germany and other countries. All other product and service names mentioned are the trademarks of their respective companies.

See [www.sap.com/copyright](http://www.sap.com/copyright) for additional trademark information and notices.