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# BW-challenges explained for upgrading to BW/4HANA and S/4HANA

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March 2021

# Agenda

1. BW Must Do nr. 1 – Clean up
2. BW Must Do nr. 2 – ODP DataSources
3. BW-challenges for upgrading to BW/4HANA
   - How to… Readiness Check?
   - Conversion Tool
4. BW-challenges for upgrading your source system(s) from ECC to S/4HANA
   - Material Number extension
   - How to… check BW Extractors in SAP S/4HANA?
   - Functional migration impact
5. Conclusion

EXTRA: AMS (Support) by Tom Himpe, Remote Service Manager

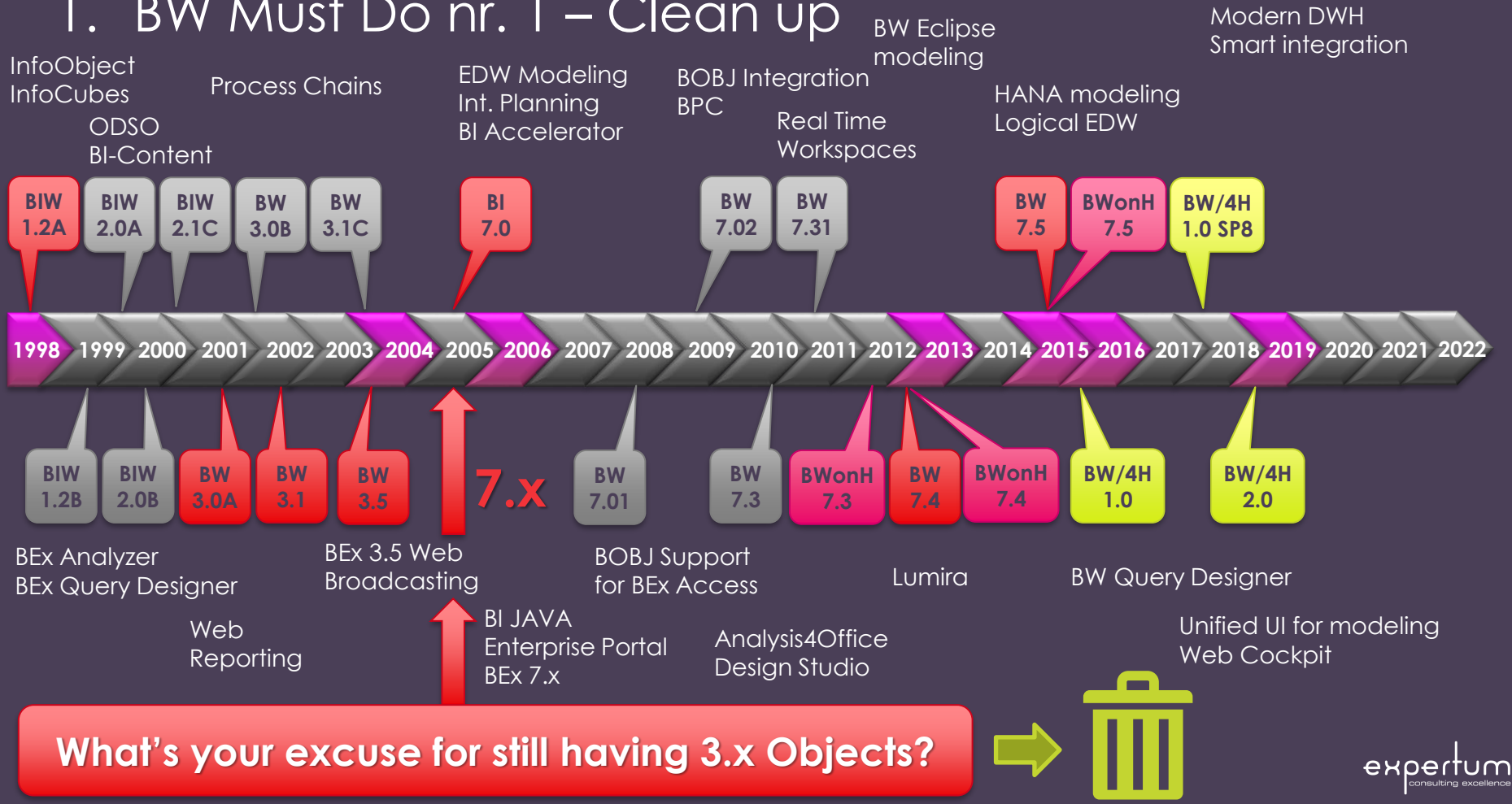
# 1. BW Must Do nr. 1 – Clean up

Q: What do these 3 have in common?

poke | facebook

A: These were all introduced in **2005**.

# 1. BW Must Do nr. 1 – Clean up

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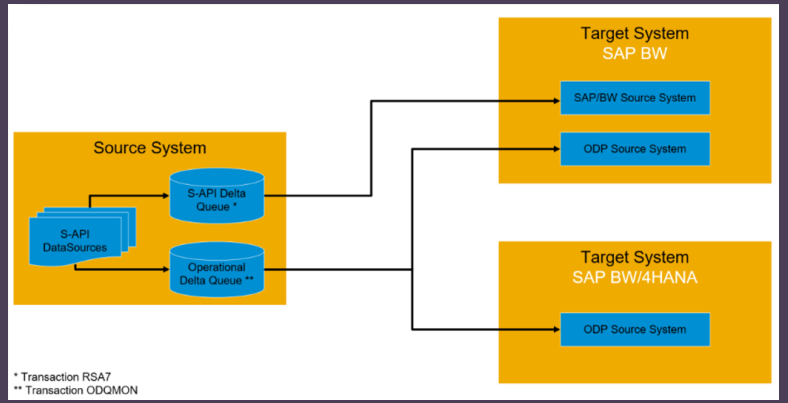
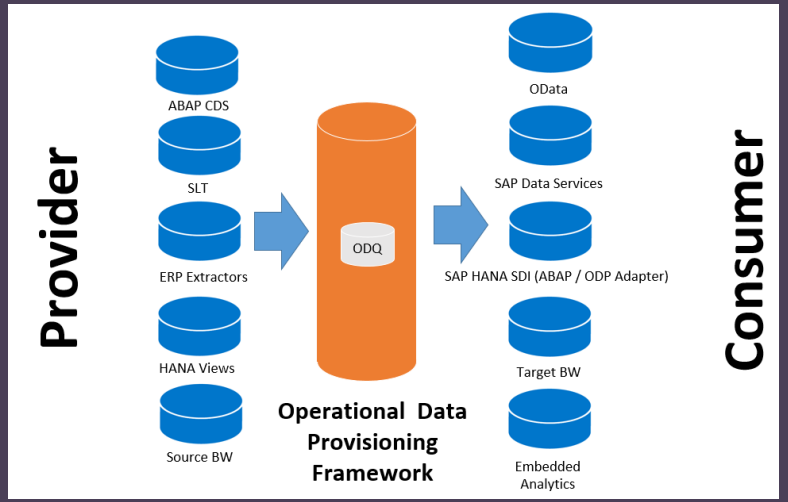
# 2. BW Must Do nr. 2 – ODP DataSources

- Operational Data Provisioning (ODP) has replaced SAPI-Extraction Framework in 7.x (best from SAP_BASIS ≥ 7.30 with ODP Replication API v. 2.0, in 2010).
- DTP direct in target InfoProvider, ~~InfoPackage, PSA~~.
- Faster & delta queue in source (compr. 90%).
- BW/4HANA no longer supports SAPI.
- S/4HANA new DataSources = only ODP.
- Extraction through ABAP CDSViews via ODP.
- ODP DataSource feeds multiple consumers.



# 3. BW-challenges for upgrading to BW/4HANA

Well, we all know that…

- …BW/4HANA no longer supports 3.x Objects.
- …BW/4HANA only supports ODP DataSources.
- …BW/4HANA does not support APDs.
- …BW/4HANA does not support CMOD RSR00001 (Variable Exit), see SAPNote 2458521.

# 3. BW-challenges for upgrading to BW/4HANA

- Does our system have some leftover BW 3.x-Objects which we are not aware of?
- How should the BW/4HANA be sized?
- Are my Data Flows and everything else we've set up in BW still compatible with BW/4HANA?

# 3. BW-challenges for upgrading to BW/4HANA

**Step 1 – Preparation A:**

Implement SAPNotes

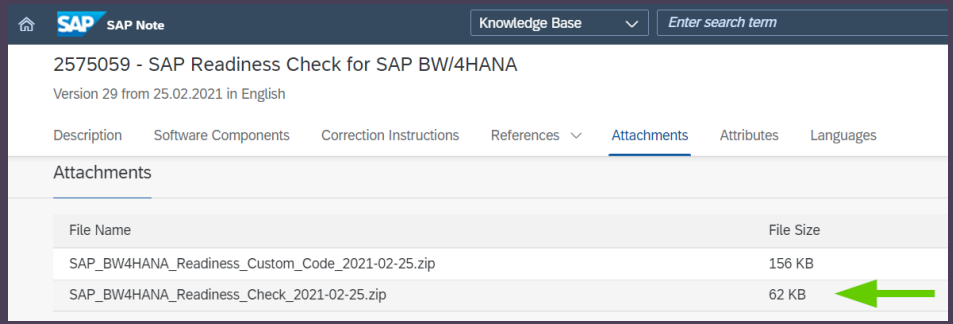
- 2591784 "SAP Readiness Check for SAP BW/4HANA – Preparation".
- 2567324 "SAP Readiness Check for SAP BW/4HANA - Object Compatibility".
- 2673085 "SAP Readiness Check for SAP BW/4HANA - Object Compatibility (2)".
- 2643853 "BW to SAP BW4/HANA migration: Adapter for SEM-BCS objects". (= when SEM-BCS)

(…or install the relevant Support Package)

**Step 2 – Preparation B:**

After implementation of the above SAPNotes, create the Program **Z_SAP_BW_NOTE_ANALYZER "SAP BW Note Analyzer"**.

The ABAP-coding is delivered in SAPNote 2575059 "SAP Readiness Check for SAP BW/4HANA":



# 3. BW-challenges for upgrading to BW/4HANA

**Step 3 – Preparation C:**

Execute Program **Z_SAP_BW_NOTE_ANALYZER "SAP BW Note Analyzer"**, importing the XML-file provided in the same zip-file.

Always use the latest version of both the program coding as well as the XML-file!

Result = **actions** on SAPNotes to install or re-implement.

**Repeat this step** until (preferably) all lights are green.

***SAP BW and SAP BW/4HANA Note Analyzer Results***

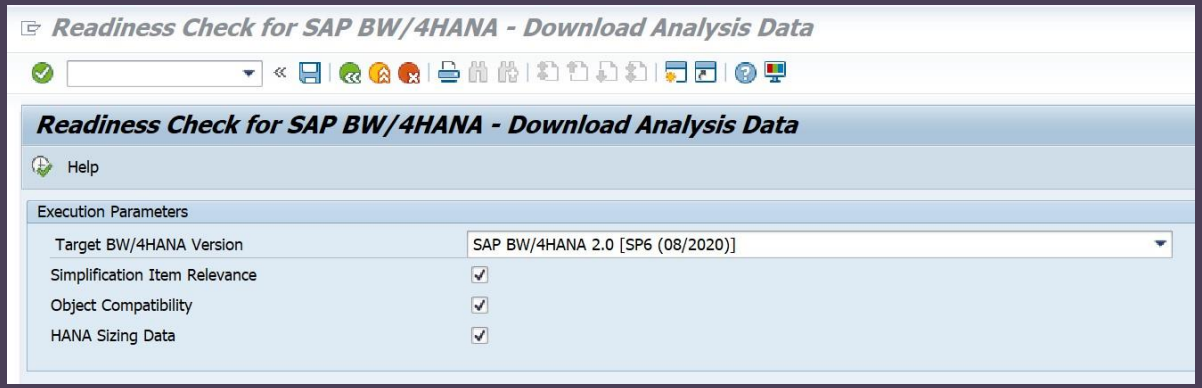
| Scope ID | Check | Status | Action | Message | More | SW Compone | Release | SP Level |
|---|---|---|---|---|---|---|---|---|
| NOTE_ANA | 2535651 | | | SAP Note implemented in this system: 2535651 (26) "SPDD: Adjustment of objects with potential data loss" | | SAP_BASIS | 750 | 99 |
| | 2536585 | | | SAP Note not relevant for this system: 2536585 (3) "Upgrade: Missing SAP Notes in SPDD and SPAU" | | | | |
| | 2606986 | | | SAP Note implemented in this system: 2606986 (4) "Upgrade: You cannot reset obsolete SAP Notes in transaction SPAU" | | SAP_BASIS | 750 | 18 |
| BW4_READINESS | 1609940 | | | SAP Note not relevant for this system: 1609940 (6) "Large number of dialog boxes for transport" | | | | |
| | 1842889 | | | SAP Note not relevant for this system: 1842889 (7) "Cleanup of function group SIFP" | | | | |
| | | | | SAP Note Checking Phase | | | | |
| | | | | Patch up to the following support packages or implement the SAP Notes with status RED | | | | |
| | | | | Component ST-PI; release 740; support package level 15 | | | | |
| | | | | Component SAP_BW; release 750; support package level 21 | | | | |
| BW4_READINESS | 2591784 | | | SAP Note not relevant for this system: 2591784 (3) "SAP Readiness Check for SAP BW/4HANA - Preparation" | | | | |
| | 2296290 | | | SAP Note implemented in version 64 instead of 72: 2296290 (72) "New Sizing Report for SAP BW/4HANA" | | ST-PI | 740 | 15 |
| | 2399707 | | | SAP Note implemented in version 136 instead of 140: 2399707 (140) "Simplification Item Check" | | ST-PI | 740 | 15 |
| | 2567324 | | | SAP Note not relevant for this system: 2567324 (9) "SAP Readiness Check for SAP BW/4HANA - Object Compatibility" | | | | |
| | 2673085 | | | Data for SAP Note 2673085 incomplete | | | | |
| | | | | Unable to find SAP Note 2673085 in language DE | | | | |
| | | | | SAP Note is inconsistent and needs to be downloaded again: 2673085 (10) "SAP Readiness Check for SAP BW/4HANA - Object Compatibi | | SAP_BW | 750 | 99 |
| | 2575059 | | | SAP Note implemented in version 27 instead of 28: 2575059 (28) "SAP Readiness Check for SAP BW/4HANA" | | SAP_BASIS | 750 | 99 |
| | 2659524 | | | SAP Note not relevant for this system: 2659524 (4) "Namespace for InfoObject is not maintained" | | | | |
| | 2643853 | | | SAP Note not relevant for this system: 2643853 (11) "BW to SAP BW4/HANA migration: Adapter for SEM-BCS objects" | | | | |
| | 2777672 | | | Data for SAP Note 2777672 incomplete | | | | |
| | | | | Unable to find SAP Note 2777672 in language DE | | | | |
| | | | | SAP Note is inconsistent and needs to be downloaded again: 2777672 (40) "Revision 11: new check tool (7.3 - 7.5)" | | SAP_BW | 750 | 18 |
| | 2893629 | | | SAP Note needs to be downloaded and implemented: 2893629 (2) "P40; ODSO: Check of CL for existence and uniqueness" | | SAP_BW | 750 | 18 |
| | 2876006 | | | SAP Note needs to be downloaded and implemented: 2876006 (26) "Revision 12 - PRECHECK" | | SAP_BW | 750 | 20 |
| | 3001909 | | | SAP Note needs to be downloaded and implemented: 3001909 (14) "Revision 16 - PRECHECK (please note: There are no Revisions 13, 1 | | SAP_BW | 750 | 21 |
| | | | | Installation incomplete. Check the yellow and red lights above | | | | |
| | | | | Number of SAP Notes to be downloaded: 8 | | | | |

# 3. BW-challenges for upgrading to BW/4HANA

**Step 4 – Download Readiness Check Analysis Data**

**SAPNote 2575059 "SAP Readiness Check for SAP BW/4HANA"**

- On the BW Productive System.
- Sizing data *can* be included (/SDF/HANA_BW_SIZING), flagging "Target Release BW/4HANA".
  - See SAPNotes 2296290 & 2610534 for all details & help on the HANA BW Sizing Report.
- Execute report TMW_BW_RC_DOWNLOAD_ANALYS_DATA in foreground **to download ZIP-file**:
  - Choose the target SAP BW/4HANA release.
  - Uncheck "HANA Sizing Data" if you didn't run the sizing program.



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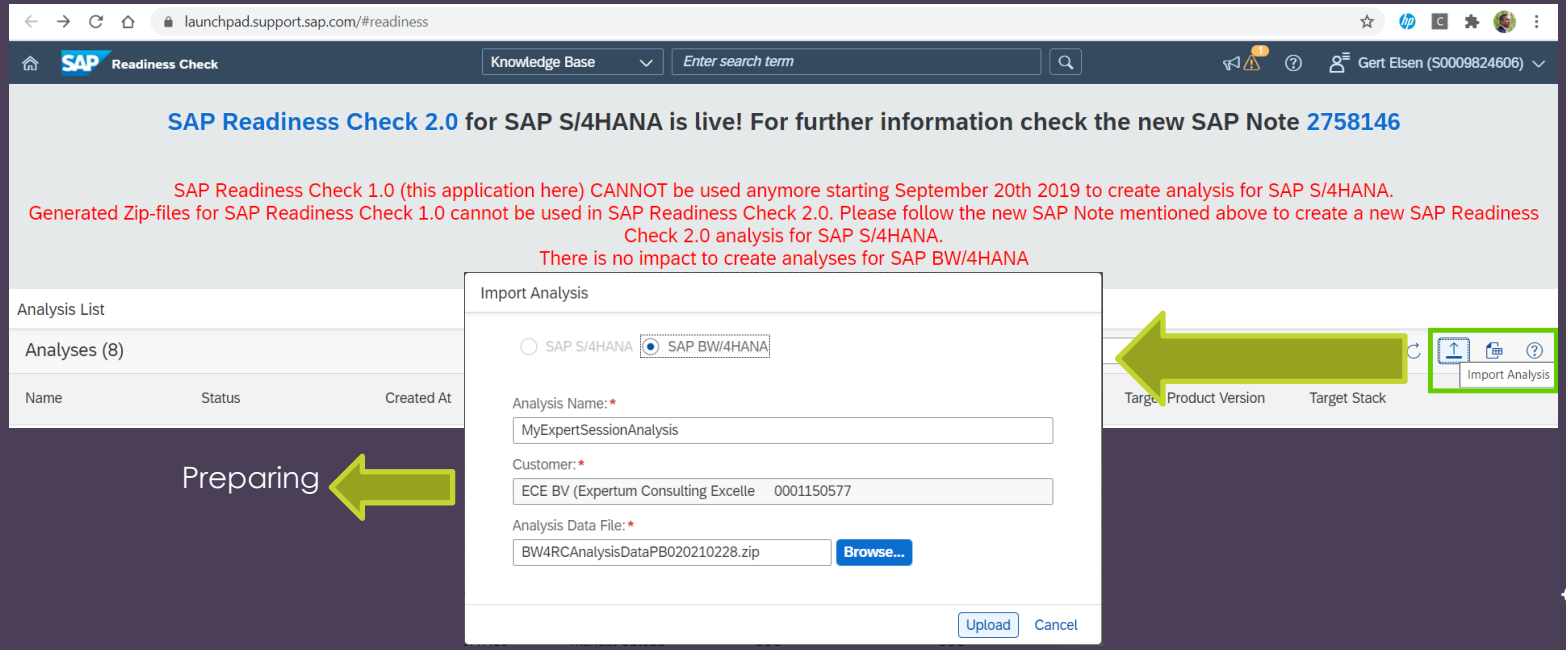
# 3. BW-challenges for upgrading to BW/4HANA

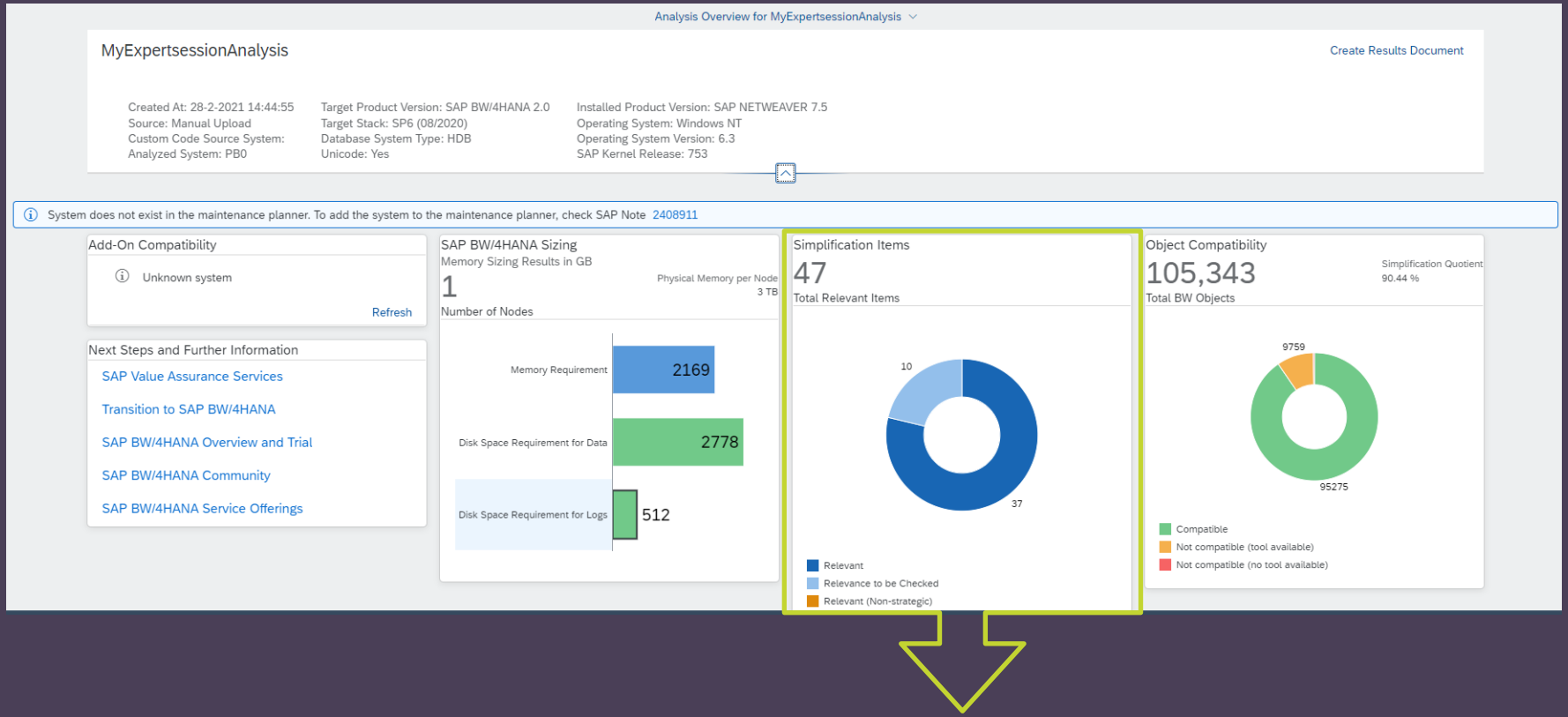
## Step 5 – Upload the Readiness Check Analysis Data

https://launchpad.support.sap.com/#readiness



# 3. BW-challenges for upgrading to BW/4HANA

## Step 6 – Analyze the result of the Readiness Check



# 3. BW-challenges for upgrading to BW/4HANA

## Step 6 – Analyze Readiness Check – Simplification Items

MyExpertsessionAnalysis

Add-On Compatibility | SAP BW/4HANA Sizing | Simplification Items | Object Compatibility | Next Steps and Further Information

| | | | | |
|---|---|---|---|---|
| **BW4SL - Administration Cockpit and Technical Content** BW801: Technical Content | Relevant | SAP BW - Content | Functionality unavailable (alternative exists) | 2467074 |
| **BW4SL - BW Source Systems** BW157: BW Source Systems | Relevant | SAP BW - Data Staging | Functionality unavailable (alternative exists) | 2473145 |
| **BW4SL - Communication Structures** BW141: Communication Structures | Relevant | SAP BW - Data Staging | Functionality unavailable (alternative exists) | 2470352 |
| **BW4SL - DB Connect Source Systems** BW152: DB Connect Source Systems | Relevant | SAP BW - Data Staging | Functionality unavailable (alternative exists) | 2447932 |
| **BW4SL - Data Transfer Processes** BW130: Data Transfer Processes | Relevant | SAP BW - Data Staging | Change of existing functionality | 2464541 |
| **BW4SL - DataSources (3.x)** BW136: DataSources (3.x) | Relevant | SAP BW - Data Staging | Functionality unavailable (alternative exists) | 2470352 |
| **BW4SL - Generic and** | | | | |

2467074 - BW4SL - Administration Cockpit and Technical Content

Show Changes

Version 4 from 30.05.2017 in English

Description | Software Components | References | Attachments | Attributes | Languages

### Symptom

SAP BW Administration Cockpit and Technical Content (0BWTC*, 0RSTT*, 0TCT* name ranges) are not available in SAP BW/4HANA. Also, VirtualProviders for change log of Analysis Authorizations (0TCA* name range) are not available in SAP BW/4HANA.

Note: Central InfoObjects are still shipped with SAP BW/4HANA (see attachment for list as of release 1.0 SP 4).

### Other Terms

$TCT, 0TCT, $TCA, 0TCA

### Reason and Prerequisites

Run program RS_B4HANA_CONVERSION_CONTROL to determine which objects are available in or can be converted to SAP BW/4HANA.

See node: Manual Redesign (take the necessary action) --> BW Object Type --> TLOGO CUBE (InfoCube, but not VirtualProviders), TLOGO ODSO (DataStore Object), TLOGO MPRO (MultiProvider), TLOGO IOBJ (InfoObjects)

See node: Automated Clean-up --> Deletion of SAP Delivered Technical Content --> All other technical content objects

### Solution

Technical content objects can be deleted using program RS_DELETE_TECHNICAL_CONTENT. Executing that program with default parameters will not process objects related to persistency and reporting. This will allow customer to preserve the data models and statistical data by converting the models to SAP BW/4HANA compatible objects. If you do not need these objects, execute the report with option "Include ODSO/CUBE/MPRO".

In general, SAP BW Technical Content is being replaced by ABAP CDS views. For more details, see CDS Views for Data Warehouse Monitoring.

# 3. BW-challenges for upgrading to BW/4HANA

## Step 6 – Analyze Readiness Check – Simplification Items

MyExpertsessionAnalysis

Add-On Compatibility | SAP BW/4HANA Sizing | Simplification Items | Object Compatibility | Next Steps and Further Information

| | | | | |
|---|---|---|---|---|
| **BW4SL - Administration Cockpit and Technical Content**<br>BW801: Technical Content | Relevant | SAP BW - Content | Functionality unavailable (alternative exists) | 2467074 |
| **BW4SL - BW Source Systems**<br>BW157: BW Source Systems | Relevant | SAP BW - Data Staging | Functionality unavailable (alternative exists) | 2473145 |
| **BW4SL - Communication Structures**<br>BW141: Communication Structures | Relevant | SAP BW - Data Staging | Functionality unavailable (alternative exists) | 2470352 |
| **BW4SL - DB Connect Source Systems**<br>BW152: DB Connect Source Systems | Relevant | SAP BW - Data Staging | Functionality unavailable (alternative exists) | 2447932 |
| **BW4SL - Data Transfer Processes**<br>BW130: Data Transfer Processes | Relevant | SAP BW - Data Staging | Change of existing functionality | 2464541 |
| **BW4SL - DataSources (3.x)**<br>BW136: DataSources (3.x) | Relevant | SAP BW - Data Staging | Functionality unavailable (alternative exists) | 2470352 |
| **BW4SL - Generic and** | | | | |

2470352 - BW4SL - Data Flows (3.x)

Show Changes

Version 8 from 22.10.2018 in English

Description | Software Components | References | Attributes | Languages

### Symptom

The following object types related to 3.x data flows are not available in SAP BW/4HANA:

Objects to be replaced:

- Update Rules
- 3.x InfoSources
- Transfer Rules
- 3.x DataSources
- Transfer and Communication Structures

Objects to be adapted:

- InfoPackages
- Process Chains
- Process Chain Variants
- VirtualProviders based on 3.x InfoSource (Cube Type=V, Cube Sub-type=S)

The 3.x data flow migration tool (transaction RSMIGRATE) is therefore also not available in SAP BW/4HANA.

### Other Terms

UPDR, DUPD, ISCS, DSCS, ISTD, DSTD, ISTS, SHTR, ISMP, SHMP, ISFS, SHFS, ISIP, SHIP, RSPC, DSPC, RSPV, RSPV, CUBE, DCUB

### Reason and Prerequisites

Run program RS_B4HANA_CONVERSION_CONTROL to determine which objects are available or can be converted to SAP BW/4HANA.

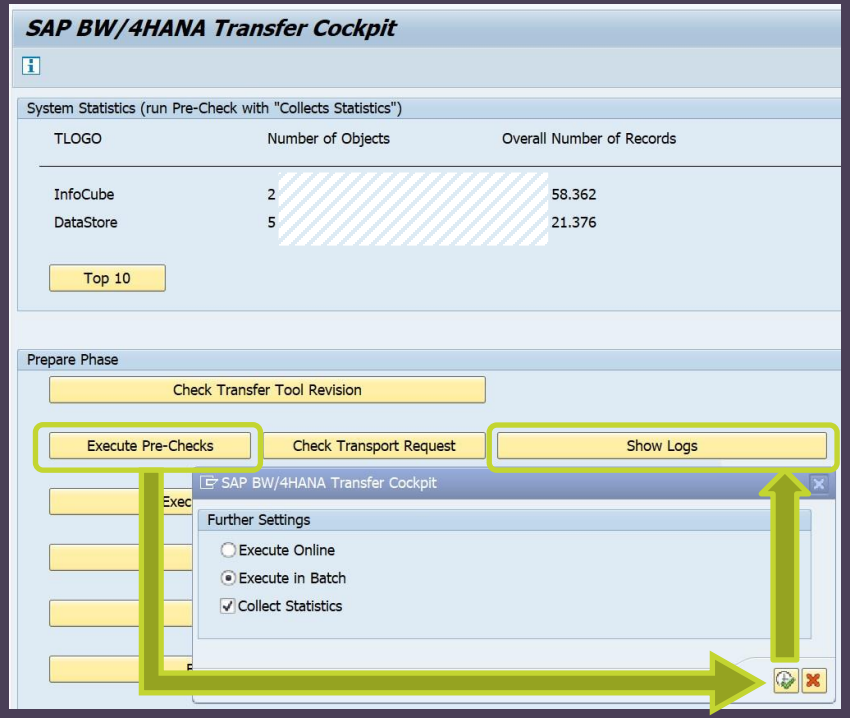
See node: Supported by Transfer Tool --> 3.x Migration

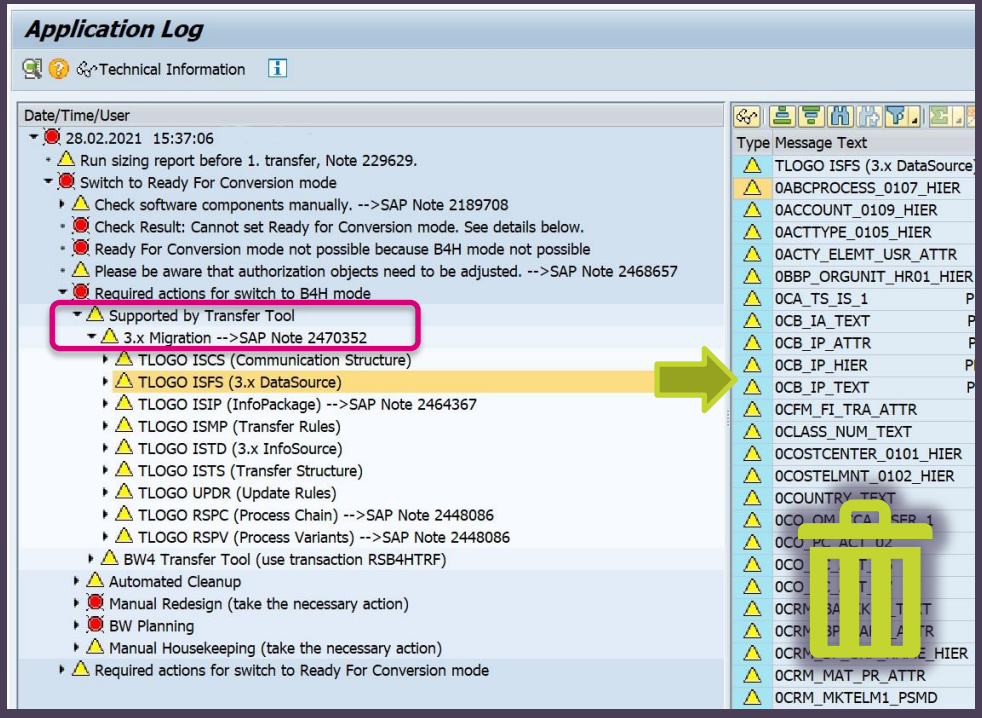
### Solution

In order to migrate the data flows to objects types compatible with SAP BW/4HANA, transaction RSMIGRATE can be called in order to create migration projects.

# 3. BW-challenges for upgrading to BW/4HANA

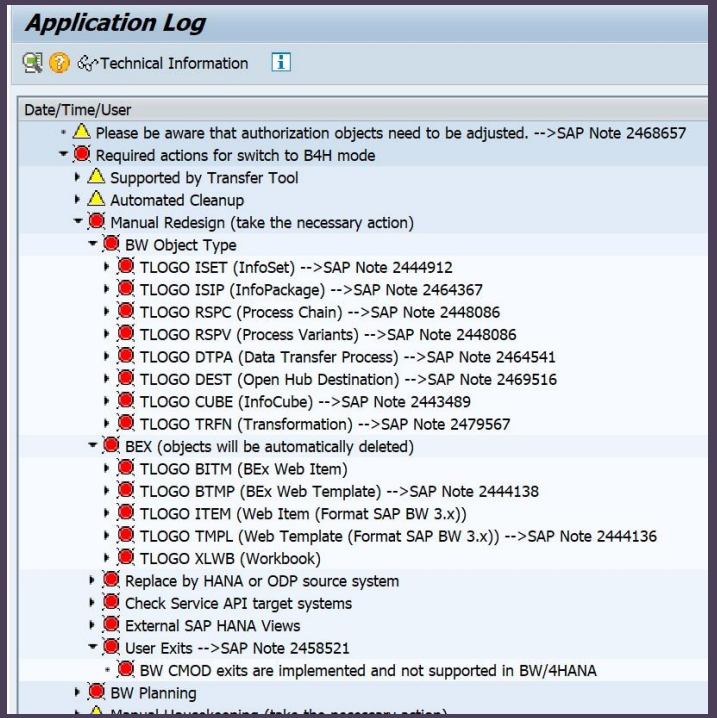
## Step 7 – Run program RS_B4HANA_CONVERSION_CONTROL



# 3. BW-challenges for upgrading to BW/4HANA

## Step 7 – Run program RS_B4HANA_CONVERSION_CONTROL (continued)




TLOGO BTMP (BEx Web Template) -->SAP Note 2444138
0ANALYSIS_PATTERN
0ANALYSIS_PATTERN_EXPORT

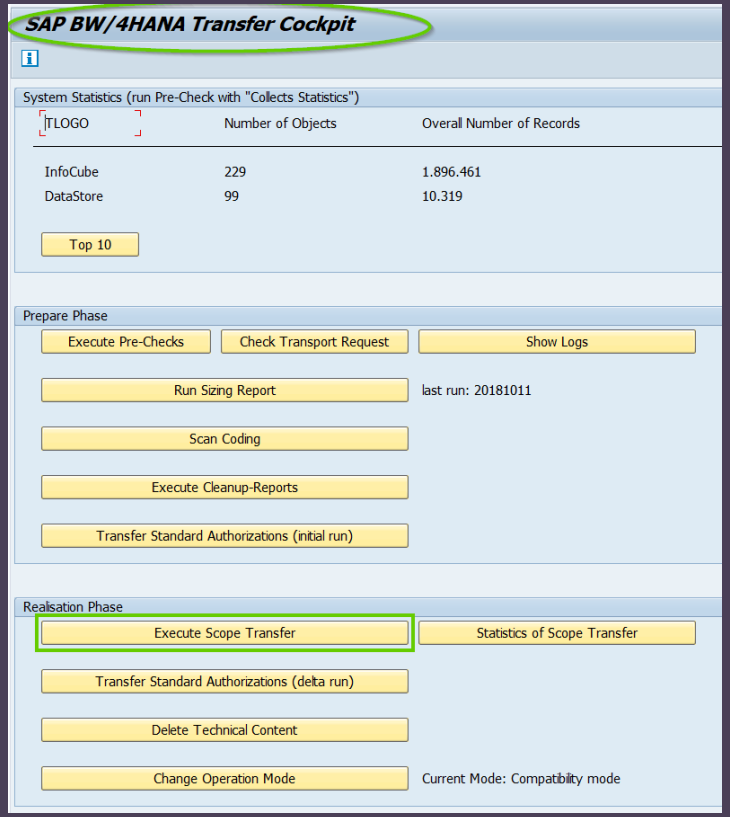
External HANA view setting "Calculation View Only" not active. -->SAP Note 2236064

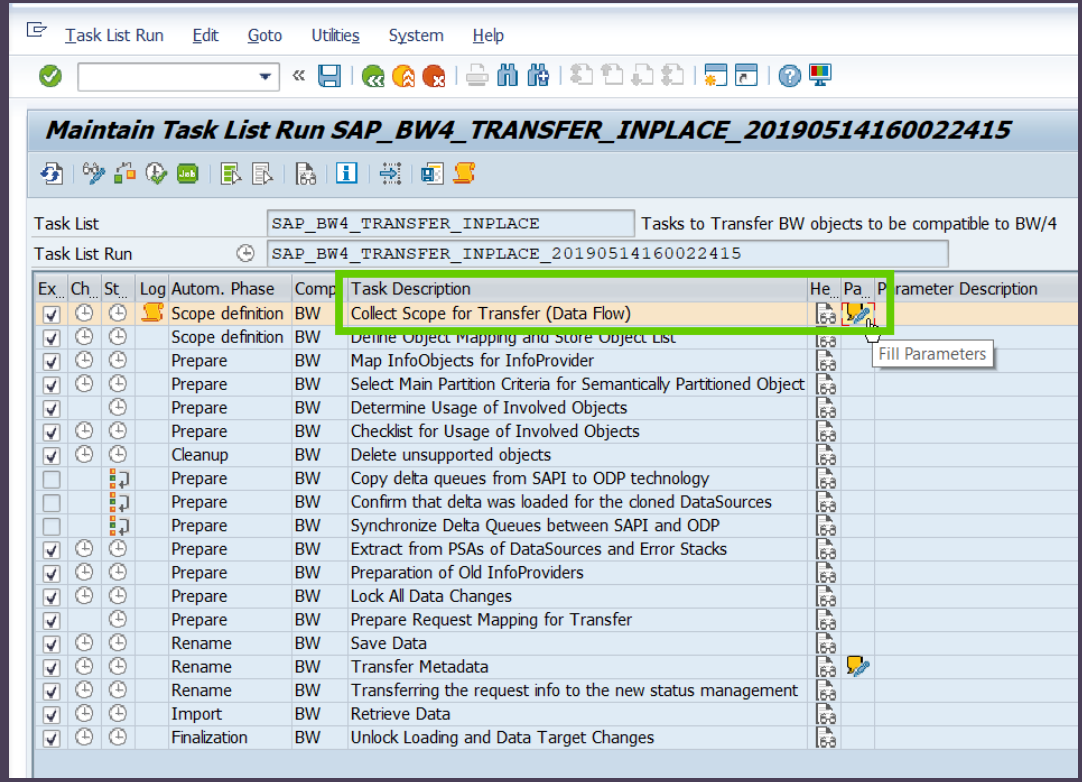
BW CMOD exits are implemented and not supported in BW/4HANA

**Repeat the Readiness Check (step 4 to 7) to get green lights.**

# 3. BW-challenges for upgrading to BW/4HANA

**/nRSB4HCONV to convert Data Flows and BW-Objects to BW/4HANA-Objects.**



# 3. BW-challenges for upgrading to BW/4HANA

**Do not underestimate the conversion work!**

**Converting an SAP BW system to SAP BW/4HANA is not a simple task.**

Before starting any conversions with the BW/4HANA Transfer Cockpit, make sure to:

- Clean up old flows – because they might get collected at conversion & cause you trouble.
- Run the Note Analyzer & take action.
- Deal with all things from the Readiness Check.

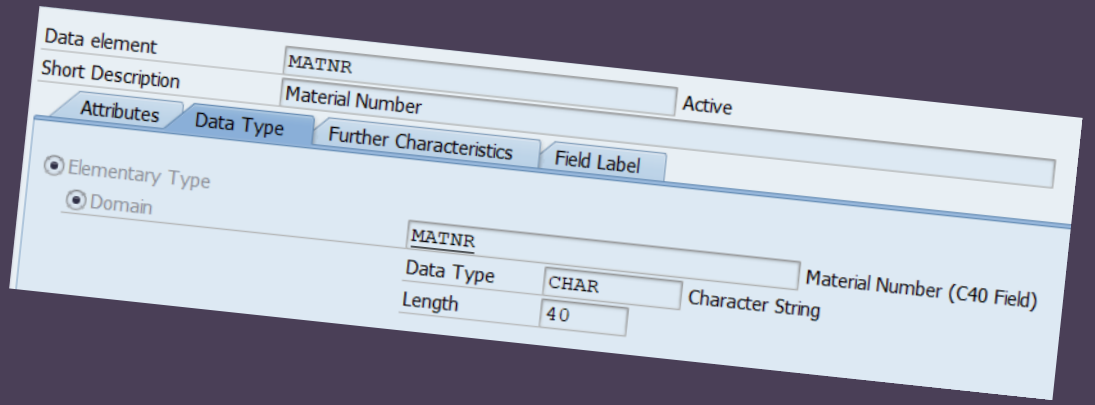
- Read SAPNote 2930058 - FAQ - SAP BW/4 Conversions
- Read SAPNote 2383530 - Conversion from SAP BW to SAP BW/4HANA
- Use/Read the Conversion Guide (link in the above SAPNotes)

# 4. BW-challenges for upgrading to S/4HANA

- I heard that SAP gets rid of some of the typical ECC-tables in S/4HANA, but then… do the extractors still work?
- ABAP code migration is part of the S/4HANA migration. What about the coding in custom Function Module extractors, or in the Customer-Exits for extractors?
- What if we go for the S/4HANA-option to extend the Material Number?

# 4. BW-challenges for upgrading to S/4HANA

**Material Number**




- In S/4HANA, it's possible to extend the Material Number from 18 to 40 characters: SAPNote 2267140 "S4TWL - Material Number Field Length Extension".
- Check your specific BW-situation & to-do-actions: SAPNote 2422224 "SAP S/4HANA Long Material number integration with SAP BW / SAP BW/4HANA".

# 4. BW-challenges for upgrading to S/4HANA

1. Extractors 0BWTC*, 0TCT*, 8* = S/4HANA Embedded BW.
2. Generated Extractors like 1_CO_PA_* (CO-PA) or 1CL_* (Classifications) remain working, but…
3. Generic Table/View/Domain Extractors remain working IF the Source Table/View/Domain still exists & is still used.
4. Generic Extractors based on Function Module.
5. CMOD RSAP0001 Customer-Exits to enhancement spots (BAdI RSU5_SAPI_BADI) or … the BAdI for ODP?
6. All other standard delivered DataSources…

→ **Customizing & to test!**

→ **To test!**

→ **Coding & to test!**

→ **Coding & SAPNote 2684463**

→ **SAPNote 2500202**

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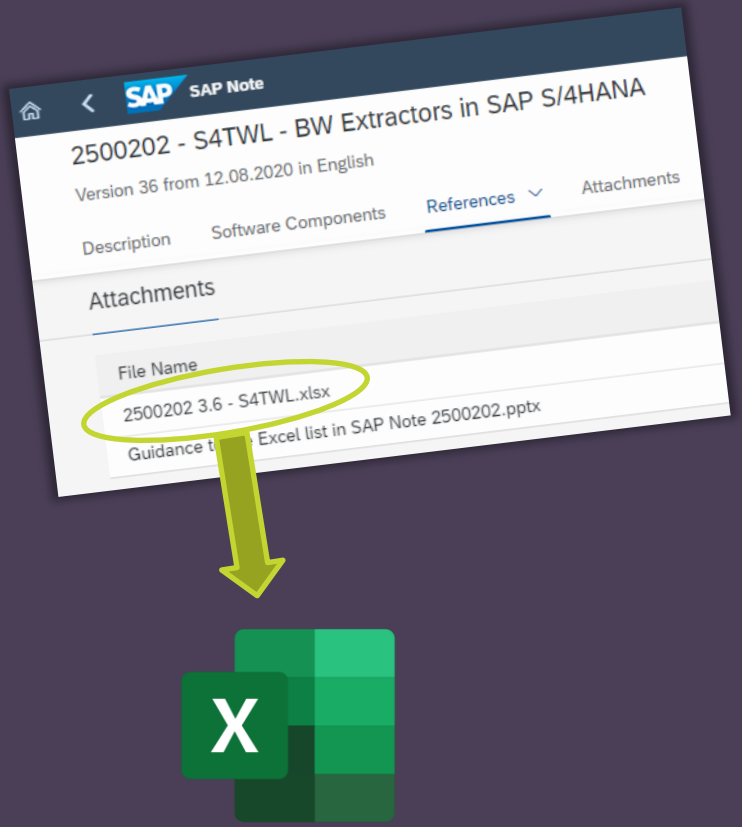
# 4. BW-challenges for upgrading to S/4HANA

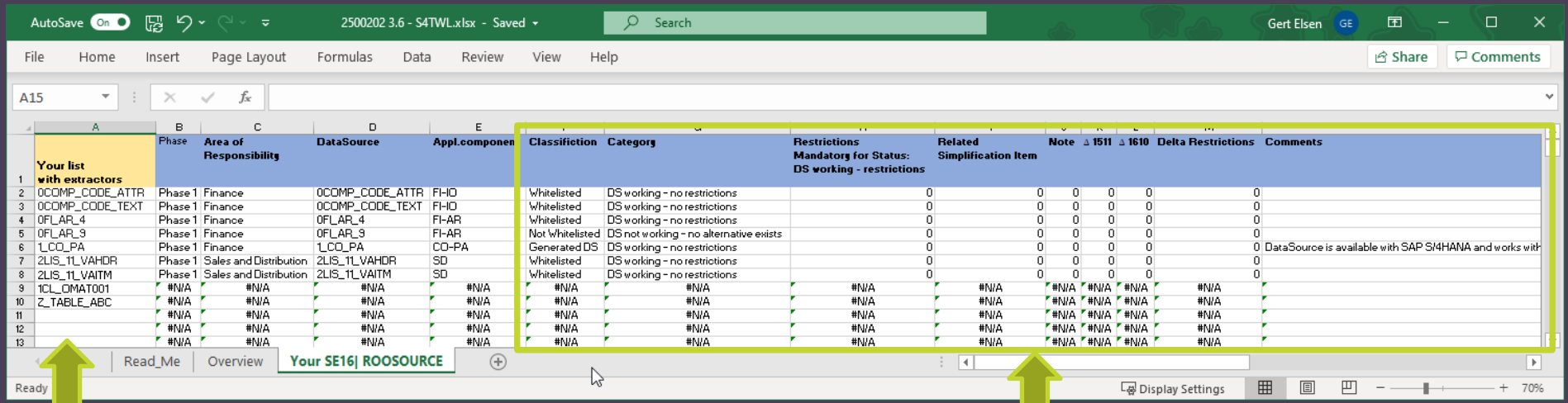



1. In ECC (Prod), extract column OLTPSOURCE from Table **ROOSOURCE** where OBJVERS = 'A'. = DataSources "transferred from Business Content" ~ active.
2. In BW (Prod), extract column DATASOURCE from Table **RSDS** where OBJVERS = 'A' and LOGSYS = <ECC Source System>.
   = DataSources actively used in your BW.

Note:

In BW (Prod), Table RSOLTPSOURCE where OBJVERS = 'A' should contain 0 entries… because these are the **3.x**-DataSources. Convert these to 7.x first (or delete, when not used).

# 4. BW-challenges for upgrading to S/4HANA



2500202 3.6 - S4TWL.xlsx - Saved

| Your list with extractors | Phase | Area of Responsibility | DataSource | Appl.componen | Classifiction | Categorg | Restrictions Mandatory for Status: DS working - restrictions | Related Simplification Item | Note | Δ 1511 | Δ 1610 | Delta Restrictions | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0COMP_CODE_ATTR | Phase 1 | Finance | 0COMP_CODE_ATTR | FI-IO | Whitelisted | DS working - no restrictions | 0 | 0 | 0 | 0 | 0 | 0 | |
| 0COMP_CODE_TEXT | Phase 1 | Finance | 0COMP_CODE_TEXT | FI-IO | Whitelisted | DS working - no restrictions | 0 | 0 | 0 | 0 | 0 | 0 | |
| 0FI_AR_4 | Phase 1 | Finance | 0FI_AR_4 | FI-AR | Whitelisted | DS working - no restrictions | 0 | 0 | 0 | 0 | 0 | 0 | |
| 0FI_AR_9 | Phase 1 | Finance | 0FI_AR_9 | FI-AR | Not Whitelisted | DS not working - no alternative exists | 0 | 0 | 0 | 0 | 0 | 0 | |
| 1_CO_PA | Phase 1 | Finance | 1_CO_PA | CO-PA | Generated DS | DS working - no restrictions | 0 | 0 | 0 | 0 | 0 | 0 | DataSource is available with SAP S/4HANA and works with |
| 2LIS_11_VAHDR | Phase 1 | Sales and Distribution | 2LIS_11_VAHDR | SD | Whitelisted | DS working - no restrictions | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2LIS_11_VAITM | Phase 1 | Sales and Distribution | 2LIS_11_VAITM | SD | Whitelisted | DS working - no restrictions | 0 | 0 | 0 | 0 | 0 | 0 | |
| 1CL_OMAT001 | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | |
| Z_TABLE_ABC | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | |
| | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | |
| | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | |
| | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | |

Paste your ROOSOURCE/RSDS

Not Whitelisted?

Restrictions?

SAPNotes?

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# 4. BW-challenges for upgrading to S/4HANA

**Functional S/4HANA migration decisions impact BW Data Flow!**

**Create awareness in the Functional migration team!**

Examples:

- Switch from Costing-Based CO-PA to Account-Based CO-PA fills other tables
  → other extractors & other way of reporting.
- Switch from Credit Management (FI-AR-CR) to FSCM Credit Management (FIN-FSCM-CR) no longer updates Table KNKK (+others).
  → 0FI_AR_9 "Credit Management: Control Area Data with Delta Extraction“ no longer gets data (from KNKK).

# 5. Conclusion

1. Get rid of 3.x Objects.
2. Convert to ODP DataSources. Now. Do not wait another 10 years.
3. Clean up your BW-system before migration to BW/4HANA.
4. Be aware that S/4HANA migration may lead to new BW-reporting.
5. Execute the checks, you will run into surprises.
6. Wave goodbye to the old BW-Objects, adopt to BW~HANA-Objects.
7. Expertum can help!

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# Expertum

## *+85 HANA References*

*HANA Roadmap studies and advise*

BWonHANA and/or BW/4HANA

POConHANA

CRMonHANA

SuiteonHANA

Non-SAP on HANA

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# Thank you for listening & viewing!

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# AMS in a nutshell: **What?**

## *Support Options*

**What?**

Expertum's Application Management Services manages, improves and maintains all technical environments and functional processes for all kinds of SAP versions using high-quality, best-practice driven and cost-effective services.

**Conclusion:** SAP every day where platform all-included, one contract!

**Advantages:**

- One team (technical & functional)
- Extensive functional and technical experience on all SAP systems
- Automated Monitoring and Service Desk
- Budget controlled SAP Consultancy

# AMS in a nutshell: **Why?**

## *Value proposition*

**Optimize the way of running your Business**

**One Team**

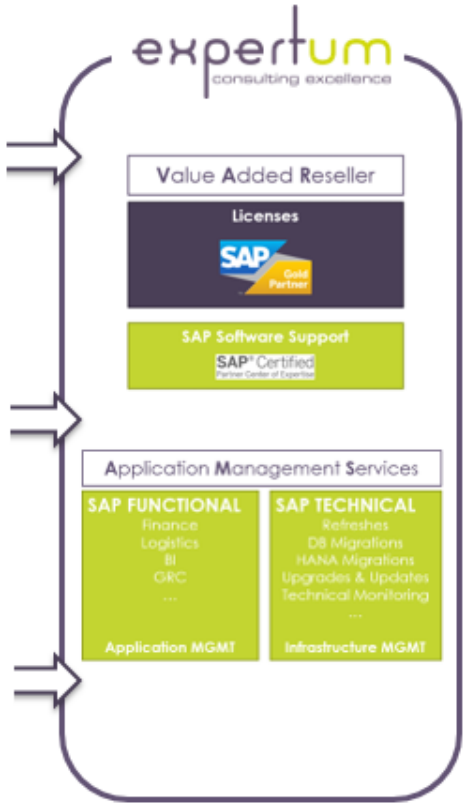
- Belgian based Experts on the right time and the right place
- Single Point of Contact
- PCOE certified

**Continuous improvement**

- Professionalize your SAP support organisation depending on your needs
- Efficient ticket handling procedures and documentation
- Service level driven

**Keep the lights on**

- Proactive 24/7 technical monitoring & support
- Pay what you use: flexible, transparent & unique pricing model
- Comprising whole IT-landscape



# AMS in a nutshell: **How?**

## *Support Options*

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**Value Added Reseller**

**Licenses**

SAP Gold Partner

**SAP Software Support**

SAP® Certified
Partner Center of Expertise

**Application Management Services**

**SAP FUNCTIONAL**

Finance
Logistics
BI
GRC
…

**Application MGMT**

**SAP TECHNICAL**

Refreshes
DB Migrations
HANA Migrations
Upgrades & Updates
Technical Monitoring
…

**Infrastructure MGMT**

# AMS in a nutshell: **Cost Model**

## *CAIRO Approach*

### RUN

**Keep the lights on**

**System Monitoring & Service Desk Administration**

Fixed price

### POOL

**Call the fire brigade!**

**Incident Management**

**Functional**
Support hours

**Technical**
Support hours

According to Customer needs

### Service Request

**SAP a la carte**

**Pre-approved change request**

- System copies
- Language installations
- Kernel upgrades
- Yearly DRP exercise
- Mass upload

Fixed price

### Change Request

**SAP a la carte**

**Needs work order**

- Upgrades
- Migrations
- New installations
- Development
- ..

Fixed price or T&M

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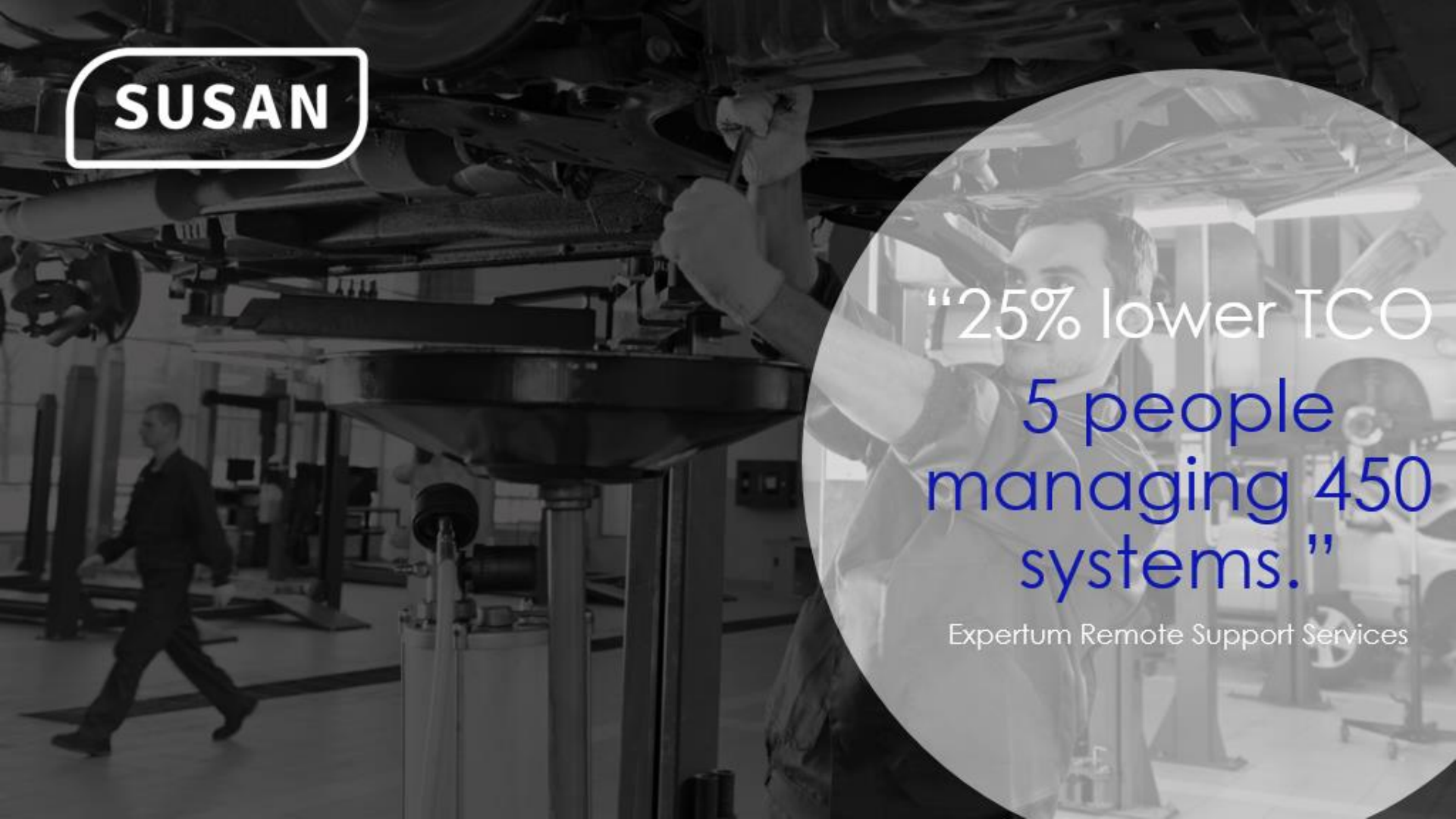
YOUR SAP
CONSULTANT
24x7

SUSAN

SUSAN IS ALWAYS THERE,
KEEPING AN EYE ON
EVERYTHING


SUSAN
“25% lower TCO
5 people managing 450 systems.”
Expertum Remote Support Services

# SUSAN Features

**Technical Monitoring**

- SAP Availability, Instance Monitoring and Performance
- Work Processes
- ABAP dumps and escalated dumps
- Background Jobs
- Inbound & Outbound Queues
- Output Management & Spools
- Enqueue, Locking and Updates
- Transport Management
- Monitoring and availability of SLD, ADS, IGS & Content Server
- Connections to SAP and non-SAP systems
- And much more ...

**Business Applications**

- Follow-up of Business-Critical jobs
- In- and outbound IDOC monitoring
- Number ranges validity and percentage free
- Certificates validity and expiry dates
- Availability and accessibility of SAP Portals and Fiori apps
- Business Intelligence (BI), Process Chains
- Business Objects (BO), Availability and Web Services
- Process Infrastructure (PO), Channels, Queues and Messages
- And much more ...

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# Thank you for listening & viewing!

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