WDEBU7 Workshop
Chapter 04

SAP NetWeaver 7.0 BI
Upgrade Specifics

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Contents:

- Overview of the SAP technical upgrade functions
- Milestones of the technical upgrade
- Technical preparation of the SAP system
- Preparation for the SAP application
- Possible solutions for upgrade errors
- Tuning tips to improve runtime
- Technical post activities for SAP BI
- Post activities for the SAP application
- Background information, tips and tricks
After completing this unit, you will be able to:

- Understand the SAP Upgrade Process for the BI NetWeaver Component
- Know how to prepare the SAP system for the technical Upgrade
- Know how to check the SAP Application for the technical Upgrade
- Know how to handle errors during the Upgrade
- Know how to tune the Upgrade Process
- Know how to apply post activities before the productive usage of the SAP system starts
This overview gives you a path how to structure the major steps in the upgrade to ensure that you are include all steps and to define separate actions plans.

- New Analysis Authorizations for BI Reporting: [http://help.sap.com/saphelp_nw04s/helpdata/en/80/d71042f664e22ce10000000a1550b0/content.htm](http://help.sap.com/saphelp_nw04s/helpdata/en/80/d71042f664e22ce10000000a1550b0/content.htm)
- **Note 851449**: Changeability of BW objects during the upgrade

**Notes for accessing the System via OSS:**

- **Note 125971**: Service connection Upgrade Assistant in OSS - R/3 frontend
- **Note 510185**: Installing the HTTP Connect service
- **Note 605795**: Windows Terminal Server connection in remote support
- **Note 692114**: WTS with STFK - tscstart.exe is missing
- **Note 494980**: Remote Support for an Enterprise Portal
- **Note 814206**: PC anywhere connection in remote support
Functional Enhancements in NetWeaver 7.0 (see additional Presentation)

- New Abap Password Rules, see Notes 862989 and 1023437
  - Set the parameter login/password_downwards_compatibility >= 3
- New Abap OO Programming Guidelines in NW 7.0 necessary for enhancing new DTP and transfer rules
- New RFC behavior in SM59
  - Classical qRFC Version or qRFC NetWeaver
- New BI lock server, see Note 928044
  - abap/shared_objects_size_MB >= 128 and enqueue/table_size = 25000
- New Administrator Workbench RSA1 (use RSA1OLD and lock RSA1)
  - InfoPackage Groups are still available with RSA1OLD
- New BI Authorizations set in SPRO (maintenance in RSECADMIN)
  - During technical upgrade, and if you used an authorization concept in BW3.x switch back to “obsolete Concept with RSR Authorization Objects)”
  - Important: After technical upgrade switch back to the new Concept and see note 820183 and 923176

- New Frontend Components (BEx Suite with NetWeaver 7.0)
  - Block new Frontend Components in Transaction RS_FRONTEND_INIT in the field QD_EXCLUSIVE_USER, see Note 962530.
  - Note 970002 - Which BEx Analyzer version is called by RRMX?

Additional Notes/Changes with NetWeaver 7.0 BI (relevant for the BI Application!):

- Note 379832 - Calculating w/ variables w/ subst. from attrib. w/o char.
- Note 899038 - New Open Hub Destination BI 7.0 (SP 06) NetWeaver Stack 06
- Note 902533 - TREV 7.0:HowToGuide Connecting/Operating BI Accelerator Box
- Note 917803 - Estimating the memory consumption of a BIA index (BW3.x)
- Note 920416 - Checking compounding consistency in MultiProviders
- Note 922727 - Content BI: Calculated key figures with "Before Aggregation"
- Note 923176 - Support situation authorization management BI70/NW7.0
- Note 924316 - Variable screen in the 3.x BEx Analyzer
- Note 955990 - BI in SAP NetWeaver 7.0: Incompatibilities with SAP BW 3.x
- Note 973977 - Hierarchy node F4 does not restrict for MultiProviders
- Note 984229 - F4 modes for input help as of BI 7.0
- Note 981693 - BW Workbooks MSA: NW7.0 upgrade looses old variants
- Note 993288 - Composite note: Formula vars. w/ replacement path BI7.0 SP09
- Note 1005772 - Formula variables with replacement from key
- Note 1016067 - Improving performance for MDX and DataStore object
- Note 1017248 - Property "Process Variables on Refresh" does not work in BEx
“technical” and “functional” Upgrade to NW 7.0 - 2

- In BW 3.x this formula variable is replaced before the aggregation and in BI 7.0 afterwards. This causes changes in queries, see Note 1005772.
- Note 101607 - Improving performance for MDX and DataStore object
- New Handling of Dialog and Batch Processes with RSBATCH
  - Change Run always in Batch Mode now (can be switched)
  - All other Jobs only available in Batch Mode, beside ODSACTIVAT, ODSSID und ODSREQUDEL
  - New DTP Processes only in Batch Mode
- Convert the DataSources and the PSA to the new DTP Process (906789):
  - run the RSSM_CREATE_REQDONE_FROM_SEL report
  - run the RSSM_HASH_ENTRIES_CREATE report for all requests
  - run the RSSTATMAN_CHECK_CONVERT_DTA report
  - run the RSSTATMAN_CHECK_CONVERT_PSA report
- Redefine BI Statistics new with nw7.0, see Notes 934848 and 964418
- Implement AS-Java for nw7.0
  - Apply usage types EP, BI-Java, (DI) for the following software components: Integrated Planning, EP with BI-Java, Visual Composer (xApps Analytics)
- Implement the BI Accelerator (separate Hardware, only Abap needed), Note 883726

Release- and Upgrade management (“Migration”):

**Enterprise Data Warehousing**
- [http://help.sap.com/saphelp_nw04s/helpdata/de/43/f9d041d6392ae3e100000000a422035/frameset.htm](http://help.sap.com/saphelp_nw04s/helpdata/de/43/f9d041d6392ae3e100000000a422035/frameset.htm)

**Enterprise Reporting, Query, and Analysis**
- [http://help.sap.com/saphelp_nw04s/helpdata/de/43/fc24848ce37061e100000000a1553f6/frameset.htm](http://help.sap.com/saphelp_nw04s/helpdata/de/43/fc24848ce37061e100000000a1553f6/frameset.htm)

**BW-PBS versus BI-IP**
- [http://help.sap.com/saphelp_nw04s/helpdata/de/44/05829c6ef7025be100000000a1553f7/frameset.htm](http://help.sap.com/saphelp_nw04s/helpdata/de/44/05829c6ef7025be100000000a1553f7/frameset.htm)

**New Areas:**

**New Authorizations**

**Analysis Authorizations**
- [http://help.sap.com/saphelp_nw04s/helpdata/en/66/019441b8972e7be100000000a1550b0/frameset.htm](http://help.sap.com/saphelp_nw04s/helpdata/en/66/019441b8972e7be100000000a1550b0/frameset.htm)

**BI Background Management (RSBATCH)**
- [http://help.sap.com/saphelp_nw04s/helpdata/en/38/4f6e420c48c353e100000000a1550b0/frameset.htm](http://help.sap.com/saphelp_nw04s/helpdata/en/38/4f6e420c48c353e100000000a1550b0/frameset.htm)

**Personalization**
- [http://help.sap.com/saphelp_nw04s/helpdata/en/01/42c73c13b0ce5be100000000a114084/frameset.htm](http://help.sap.com/saphelp_nw04s/helpdata/en/01/42c73c13b0ce5be100000000a114084/frameset.htm)
Complete Upgrade Scenario Netweaver 7.0

- Based on the RKT Material RTNBI1 (class WDEBU7)
- If needed: Upgrade Oracle 9i for Unicode, Note 669902
  - Note this is NOT an Unicode Migration, only DB Setting.
- Upgrade Oracle 10g Version 10.2
  - Upgrade to Version 10.2 from 9i or from 10g Version 10.1 including all Bug Fixes
- Upgrade to Netweaver 7.0 ABAP
- Installation AS-Java Instance Usage Types BI-Java, EP
- Activation BEx Web (Notes 917950, 872043, 815904)
- Activating the Monitoring for NetWeaver 7.0 SR2
  http://service.sap.com/operations2004s

Additional Notes/Documentation for Oracle:
- Note 833766: Oracle Database 10g: Software installation problems
- Note 819829: Oracle Database 10g: Instant Client 10.x on Unix
- Note 839574: Oracle Database 10g: Stopping Oracle CSS Service ocssd.bin
- Note 820062: Oracle Database 10g: Patchsets/Patches for 10.1.0.x
- Note 871096: Oracle Database 10g: Patchsets/Patches for 10.2.0.x
- Note 527843: Oracle RAC support in the SAP environment
- Note 828268: Oracle Database 10g: New Functions
- Note 1021844: Extension of Oracle 9.2 maintenance until July 31, 2008

Other Database requirements for nw7.0 (SR2):
- Oracle 10g, migrate before PREPARE, see SAP note 819655
- MaxDB 7.6.0, migrate before PREPARE, see SAP note 817463
- DB2 UDB 8.2.2 for Unix and Windows, migrate before PREPARE, see SAP note 819876
- MS SQL Server 2000 SP3, migrate before PREPARE, see SAP note 825146
- DB2 UDB for z/OS 8.1.5 (New function mode), migrate before PREPARE, see SAP note 815202
Upgrading Netweaver 7.0 - Important Notes SAP NW 7.0

You find detailed Information and Guides at:
http://service.sap.com/instguides2004s

- Note 818322: Add. info.: Upgrade to SAP NW 7.0 ABAP
- Note 905029: Add. info.: Upgrade to SAP NW 7.0 SR1 ABAP
- Note 960783: Add. info.: Upgrade to SAP NW 7.0 Support Rel. 2 ABAP
- Note 819655: Add. info.: Upgrade to SAP NW 7.0 ABAP ORACLE

- Note 822379: OCS: Known problems with Sup. Pack. in Basis Rel. 7.00
- Note 1013369 - NW 7.0 BI - In between - Support Packages
- Note 1055581 - Recommendations for Support Package Stacks for BI 7.0
- Note 1013807 - Problems after upgrade to NW7.0 - ins. table texts
  ♦ Please don't use BI Patch 11 as the latest Support Package during Upgrade
  this is also valid for BI Patch 12 and 13. the Problem is fixed with BI Patch 14.
  ♦ BI Patch 14 will be available after SPS12 is released. See also Note 1013369.

Some more additional useful notes:
- Note 2467: Password rules & preventing unauthorized logons (together with Note 862989)
- Note 862989: New password rules as of WAS 7.0/NetWeaver 7.0
- Note 807895: Incorrect logon data after remote login with SM59
- Note 857904: Upgrade from Release 6.40 to 7.0: Customer Programs
- Note 928044: BI lock server
- Note 720886: Oracle Database 10g: Integration into the SAP environment
- Note 354080: Note collection for Oracle performance problems
- Note 925871: HotNews: Termination of ‘Customer Care Support’ for Oracle 9.2
- Note 1021844: Extension of Oracle 9.2 maintenance until July 31, 2008
- Note 696026: RSUPGDEC: Table ... illegally extended: Error "...
- Note 855498: Installation Prerequisite Checker
- Note 776471: Release Restriction Plug-In Basis 2005.1
- Note 834280: Installing technical BI Content after upgrade
- Note 916834: BI_CONT 7.03: Installation and Upgrade Information
- Note 852448: SEM-BW 600 and FINBASIS 600: Upgr. to NetWeaver 7.0
- Note 821875: Security settings in the message server (Basis 7.00)
- Note 823941: SAP Start Service on Unix
Upgrading the NW 7.0 Server - Check Free Space (Oracle)

- PSAPBTABD/I 2500/2000 sapdata3/sapdata6
- PSAPCLUD/I 1500/200 sapdata5/sapdata3
- PSAPDDICD/I 1500/1000 sapdata4/sapdata5
- PSAPPOOLD/I 2000/1200 sapdata6/sapdata4
- PSAPPROTD/I 200/200 sapdata4/sapdata6
- PSAPSOURCED/I 1000/1000 sapdata6/sapdata3
- PSAPSTABD/I 1600/1000 sapdata6/sapdata5
- PSAPES46DD/I 600/200 sapdata2/sapdata6
- PSAPEL46DD/I 500/200 sapdata5/sapdata5
- create PSAPES700D 6000 sapdataX
- create PSAPES700I 6000 sapdataY
- create PSAPEL700D 5000 sapdataX
- create PSAPEL700I 5000 sapdataY

Sizes are in MB

- When you come from a 6.20 Basis Instance you may only to create one additional Tablespace called PSAP<SID>700 and extend the Tablespace PSAP<SID>
- If you encounter problems with SPACECHK phases during PREPARE please refer to: Note 716377 - Problem analysis in the upgrade: SPACECHK phases
- For Oracle 10g please make sure, that you followed all steps from the migration guide and Note 819830, e.g. UTF-8 codepage, unset ORA_NLS33, ORANLS10, etc.
- Roughly estimates for the Upgrade to nw7.0 SPS7, BC 7.03 Patch 1 and SEM 6.0 Patch 4:
  - PSAP<SID> ~ 26 GB
  - PSAP700 ~ 22 GB
- Note that when you upgrade from a system which was upgraded from BI 3.0B to BI 3.1 before the name of the tablespaces PSAPES620D/I and PSAPEL620D/I are extended by „X“. See the list below. Example:
  - BI 3.0B
  - PSAPES620D PSAPES620DX
  - PSAPES620I PSAPE620IX
  - PSAPEL620D PSAPEL620DX
  - PSAPEL620I PSAPEL620IX
SAP BI Plug-In for SAP R/3 and for BASIS_700

SAP R/3 Plug-In Releases

Detailed information is available on the following SAP R/3 Plug-In releases:

- SAP R/3 Plug-In 2003.1
- SAP R/3 Plug-In 2002.2
- SAP R/3 Plug-In 2002.1
- SAP R/3 Plug-In 2002.0
- SAP R/3 Plug-In 2001.4
- SAP R/3 Plug-In 2001.2
- SAP R/3 Plug-In 2001.1
- SAP R/3 Plug-In 2000.2
- SAP R/3 Plug-In 2000.1
- SAP R/3 Plug-In 99

Single Plug-Ins: MDI-CIF, CRM-PI, BW-PF, BW-BC, SEM

Highest SAP component releases supported by SAP R/3 #Plug-In releases

Information at: http://service.sap.com/r3-plug-in

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<th>SAP R/3 4.0B</th>
<th>SAP R/3 4.5B</th>
<th>SAP R/3 4.6B</th>
<th>SAP R/3 4.6C</th>
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* these releases are technical compatible to BI_CONT 702 but they do not include some necessary extractors.

Recommendation: Use the latest Plug-In!

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Upgrading to SAP NW 7.0 – Technically Related Checks

- **Check and Import the latest SPAM Update (currently 6xx/0023)** BEFORE you upgrade to Oracle 10g due changes in the Oracle client, see Note 886784 for Details.

- **Cleaning up table TBATG (SE14), e.g. match codes or conversion entries (tp getprots <SAPSID>)**

- **Clean up as many updates and RFC calls as possible.** You can do this with the following tasks:
  - Call transaction SM13 and select all the update requests by removing the defaults.
  - Call transaction SMQ1 and check that the list of outbound queue RFC calls is empty.

- **Check unused Job logs with Report RSBTCDEL2 and clean out if possible (intensive read on table TBTCO and TBTCB during PREPARE), especially logs from Job BI_WRITE_PROT_TO_APPLOG**

- **You may use the Report ANALYZE_RSZ_TABLES (Note 792779) to check possible inconsistencies with RSZ* Tables first.**

- **Run Report RSSM_SHIPDVERS_CLEANUP to clean up InfoPackage shadow creation, see Note 885918 for more details**

## Frontend requirements

- **Same PC memory, CPU, Operating system, and network requirements as the BI 3.0B/3.1 Frontend**

- **Check SAP notes 26417, 147519, 161993 and 66971 for latest information**

- **NW 7.0 Frontend, latest NW 7.0 Frontend Patch, and the latest 7.10 or 6.40 SAPGUI patches are required for SAP NW 7.0 Ramp-up.**
  See SAP note 675266 for details on patches for the frontend to NW 7.0
  - 6.40 Final Compilation 5 CD
  - 7.10 Final Compilation 1 CD

- **note:** In some cases there is a dependency between the backend support package level and the Frontend patch level.
  - **See SAPBINEWS for NW 7.0 support packages**

- **Tip:** If you use other NW ’04 components, please check their requirements too!

- **The NW 7.0 Frontend and FEPs are downward-compatible with BI 3.1/3.0B/2.0B/2.1C.** Thus, it can also be used against BI 2.0B/2.1C/3.x backend systems.

## Frontend Compatibility

- **Supported OS for SAPGUI 7.10 for Windows: Windows 2000, and Windows XP.**

- **SAPGUI 7.10 does not support Win 98/95**

- **BEx in SAP NetWeaver BI 7.0 supports Excel 2002 SP2, Office XP (2003) SP2 and higher.** There is no support for MS Office 97 or MS Office 2000.
Upgrade SAP NW 7.0 – Technically Related Checks

- Check with the Program RSCPINST the right Codepage Settings.
- Run report RUTMSJOB to ensure DDIC database consistency. You may also use RSDDCHECK (Note 837077).
- If you encounter problems during the PREPARE phase SPACECHK_INI, please check if the Oracle client library for SAP kernel 7.00 (101_nn) is correctly installed. Refer to notes 406140 and 180430.
- If there are inconsistencies during the PREPARE phase CVN_LIST, please run the scripts catalog.sql and catproc.sql to synchronize the DB with the SAP DDIC. See also note 608510.
- Also check all login/* parameters in the Default and Instance Profile. Disable all login/* parameters except login/system_client while upgrading to prevent password changes for the user DDIC. You may also change the type of the user DDIC from dialog to service (no password changes any more).
- If you have inconsistent InfoObjects in the PREPARE phase JOB_RSUPGRCHECK_PRE you can also use the program RSDG_IOBJ_ACTIVATE to activate a single Info Object.

Additional Tasks (continued)

- Check in Advance in the SPDD/SPAU for old entries which were not processed after older Upgrade's. These Objects will show up in future Upgrade like Upgrade to nw7.0 in the Phase ACT_700 as inactive Objects (Error 8). See Notes 510138 and 676395 for more details. You may also want to clean out old unused entries from the NAMETAB.

- Check for inactive Update and Transfer Rules
  - All update rules and transfer rules should be active or deleted
  - Inactive rules will be show up in PREPARE

- Check inactive InfoCubes
  - All InfoCubes (inc. Aggregates) should be activated or deleted.
  - Inactive InfoCubes will be show up in PREPARE

- If 'Downtime Minimized' upgrade strategy is selected.
  - In phase 'LOCKEU_PRE' you should lock the BI Admin Workbench via SE01. Queries are still possible!
  - It is not possible to use the BI Admin Workbench after phase REPACHK2
  - Also transports cannot be imported after phase REPACHK2

- Background jobs scheduling
  - Ensure that all InfoPackages and Event or Process chains are not scheduled.
  - Ensure that all externally scheduled processes are rescheduled
    - Backups, DB statistics, monitoring processes, etc
Upgrading NW 7.0 – Technically Related Checks

- Please make sure that you implement the Automatic undo Management (AUM). See Note 600141 for Details.

- Also note that you provide enough space in the file system if you have not already created a locally managed temporary table space (PSAPTEMP). When the table space is created, Oracle is not allocating the space on the file system directly. It will be used dynamically due the fact of the table space type. See Notes 359835, 416772 and 387946 for more details. (Example)

```
CREATE TEMPORARY TABLESPACE PSAPTEMP
    TEMPFILE '/oracle/<SID>/sapdataX/temp_1/temp.data1' size 10000M
    EXTENT MANAGEMENT LOCAL UNIFORM SIZE 2M;
alter user sap<SID> or sapr3 temporary tablespace psaptemp;
alter user sys temporary tablespace psaptemp;

ALTER DATABASE DEFAULT TEMPORARY TABLESPACE "PSAPTEMP";
```

Switch off/on the archive mode on Oracle with brtools:
- log on as user ora<sapsid>
- brspace -f dbalter -a noarchlog
- brspace -f dbalter -a archlog
Some Remarks Regarding „Copied Systems“ (Oracle)

If you created a system for testing the SAP BI upgrade based on a system copy, make sure you have checked the following before starting the upgrade:

◆ After creating the copy, run the scripts catalog and catproc as sysadmin for the consistency of the Oracle database and the sapdba_role script as well.

◆ If your start release of SAP BI is version 2.x AND you are already using the temporary, locally managed PSAPTEM2, the data file(s) will not be recognized by the new database any more. You have to create a new temporary data file; otherwise you will get an error messages such as: „ORA-25153 Temporary table space is Empty?“. Make sure, you have enough space left.

You can also check the existence of the data file with ST04 ➔ Detail Analysis Menu ➔ V$tables ➔ V$TEMPFILES.

Solution

◆ If you are using the above-mentioned error for a PSAPTEMP tablespace with temporary data files and local extent management, after a recovery check whether the data files belonging to the table space are still displayed in the DBA_TEMP_FILES view. If this is not the case, you must specify these again.

◆ If you have implemented a recovery, and you were still able to use the current control files of the database, and the temporary files still also exist in the file system, then you can simply "reattach" the data files using 'reuse'.

◆ Use the following command in sqlplus for this:
  
  connect / as sysdba
  
  alter tablespace PSAPTEMP add tempfile '<filename>' reuse;

With <filename> use the fully qualified file name with a path specification. If you have specified several temporary files for the table space, you can execute this for all temp files. If you carried out the recovery with an "old" control file, then you may also need to specify the file size for the "attachment". Therefore:
  
  connect / as sysdba
  
  alter table space PSAPTEMP add tempfile '<filename>' size XXXX reuse;

For XXXX here also specify the size of the data file, for example, 2000 M.

You should then find the temporary files again in the DBA_TEMP_FILES and V$TEMPFILE views.

◆ If the temporary tablespace no longer exists at all in V$TABLESPACE after a recovery, then you can create the tablespace fully again using the following, for example:
Check with RSCPINST the right Codepage Settings

- **Checking the NLS settings in the system**
  If you only want to check the current setting, then
  - Use Transaction SE16 to determine the current content of table TCP0D
  - Call RSCPINST as described above and enter the value from TCP0D in the language field on the right part of the window "Step 2: Select a country"
  - Select the output format (below)
  - Then press "Simulate"

- You then get a description of the way the status should be which you can then compare with the first status of your system. We recommend the use of the button "activate" which makes the required changes in the table.
- For more information see Note 42305
Check for your latest SPAM update on source release

Upgrade Assistant

ERROR: The SPAM version 1.9 in your system is too low!
To proceed with the PREPARE it is necessary
to apply the latest SPAM patch available

Continue
Cancel

Connected to SAPgui. Waiting for input since May 9, 2008 7:29:54 PM
Check with SE14 for invalid (Temp) Tables

Check also carefully the Notes section for additional cleanup

More Additional Checks:

- Run the Program SAP_DROP_TMPTABLES, and check regularly the latest Notes for this Program, like Note 883843 and 974639
- Check also for Table DBDIFF the Function Module RSDDTMPTAB_CLEANUP with I_NAMETYPE='01' to '06' (Temp Präfixes) ONLY for cleanup old temporary table entries. In conjunction you can also use the Program SAP_UPDATE_DBDIFF to clean the table DBDIFF. You may run /$sync before. See also Note 1035373.
- Check the Table RSDD_TMPNM_ADM (see Note 811354 for details)
  - `select count(*) from <schema-id>. RSDD_TMPNM_ADM where nametype = '06';`
  - `delete from <schema-id>. RSDD_TMPNM_ADM where nametype = '06' and free = 'X';`
  - `select count(*) from <schema-id>. RSDD_TMPNM_ADM where nametype = '01'`
  - `delete from <schema-id>. RSDD_TMPNM_ADM where nametype = '01' and free = 'X'`
- Use the Program RSRA_CLUSTER_TABLE_REORG to clean entries in Table RSIXWWW. See Note 589899 for more details.
- Details from Note 883843 and 974639 to clean Nametab entries (the latest Version for SAP_DROP_TMPTABLES may also clean this Nametab entries):
  - `select count(*) from <schema-id>.ddntt where tabname like '/BI0/030%';`
  - `DELETE FROM <schema-id>.DDNTT WHERE TABNAME LIKE '/BI0/03%';`
  - `select count(*) from <schema-id>.ddntf where tabname like '/BI0/03%';`
  - `DELETE FROM <schema-id>.DDNTF WHERE TABNAME LIKE '/BI0/03%';`
- Alternatively, you may use report RS_NAMT_CLEAR described in note 152420 (Note 1051132!)
- In Advance you may also truncate tables DDLOG and DBTABLOG before upgrade.
To prevent possible data loss due to extractor changes during the upgrade, the following information must be adhered to:

**PI_BASIS**
- The upgrade includes the BW Service API (SAPI) contained in the PI_BASIS software component.
- The PI_BASIS add-on used by BW for its own internal data loading is modified during upgrade.
- Before the upgrade, refer to the information described in note 506694 (reactivation of source system connections)
  - Summary: The delta queues within the BW System should be empty before the upgrade.
  - Step must be executed after the upgrade is complete too!
- Remember PI_BASIS support packages can be bound in the upgrade.

**Data extractions**
- All extractions and loads should be completed.
- If possible ensure that the Data queues are empty in the source systems
  - Recommendation to Temporarily stop all V3 collection processes.
Remark:

- The number of jobs performs a particular role, but you can only determine if the execution of an SQL statement is not running optimally if all factors simultaneously apply. The above SQL statement is a statement that does not use any key fields in the selection. The Full Table Scan is therefore used and this of course carries out a search on the entire table. You can dramatically improve performance using an index for the fields used in the selection.

- In this special case, you already have an index (see transaction SE11, button 'Indexes ... ', index 9), which was created for optimization purposes. However, due to the particular features of the two fields EVENTID and EVENTPARAM, the database optimizer cannot use the index because, for example, dynamic evaluation of the access times returns worse results.

- To force the database to use an index, you can enhance the above statement as described in note 129385 with a 'Hint' (%_HINTS <DB-Name> ...).

- Note that this concept is database-dependent.
Upgrading SAP NW 7.0 - Repair Info Objects

To avoid a loss in data, upgrade shutdown and long runtimes check the status of your information objects before the upgrade please. To do this, proceed as follows: transaction rsd1 - All InfoObjects - Update. Activate all information objects that are not assigned a green light. Then choose Extras → Reorganize info object tables to reorganize the info object tables. Details can be found in note 458363. Note 1060394!

Note 996602 - Modificat. for time characteristics disappear after upgrade

Reason and Prerequisites

During the upgrade from Release 2.0B or 2.1C to Release 3.0, the consistency of the DDIC objects of InfoCubes, InfoObjects and transfer structures is checked in the prepare phase. If these objects are inconsistent, there is a risk that you may not be able to carry out the upgrade.

Solution

Correct the inconsistent objects.

InfoObjects:

- Transaction RSD1 -> Extras -> Repair InfoObjects (F8).
- Select 'Execute repair' as a processing option
- Select 'Expert mode -> Object selection'
- On the window that follows, also activate the checkboxes: 'Check generated objects', 'Activate inconsistent InfoObjects' and 'Deletion of DDIC/DB objects'.
- Finally, execute the program.

InfoCubes:

- Activate the InfoCubes alternatively in transaction RSA1 or RSDCUBE.
- Alternatively, you can perform the activation using the RSDG_CUBE_ACTIVATE program.

Transfer structures/transfer rules

- Activate the transfer rules in the AWB.
- You can then continue with the upgrade.
This Check can also be executed before you repair the Master data with the previous Program RSDMD_CHECKPRG_ALL. In most cases the Master data didn't have any Inconsistencies. However a Support Package Level from at least 19 BW 2.1C) is necessary. If you are higher then SP24 this is even better.

If you plan a direct Upgrade from BW 2.1 please make sure that you have at least the following Patch Levels:
- Start release 20B is 37
- Start release 21C is 30

Note 555717: system checks before upgrading to SAP BI 3.0B/3.1
- Transaction RSMDCNVEXIT (from Release BW 2.x)
- Transaction RSRV : Analysis of BW objects
  - DB statistics of an InfoCubes and its aggregates
  - indexes of an InfoCubes and its aggregates
- Report RSUPGRCHECK
- Report RSAODSACTIVATE (or empty the entries from the M tables)

Note 861890: ODS tables disappear during the upgrade
- Report RSDG_ODSO_ACTIVATE

Note 898003 - Problems when you upgrade to NW 7.0 with RSDDSTAT* indexes
NOTE: You might want to run the Report only for selected Objects due to the long runtime for all the active InfoObjects.

This Program is also called when you start Transaction RSRV and you encounter errors or Inconsistencies. When you press the Button „Repair“ this is the Program.

transaction RSRV : Analysis of BI objects
- transaction RSRV is used to perform consistency checks on the data stored in BI.
- Call transaction RSRV for this purpose and execute the points listed in the "database" tab:
  - DB statistics of an InfoCubes and its aggregates
  - indexes of an InfoCubes and its aggregates
  - for analysis and repair your InfoCube, if necessary.

Report RSUPGRCHECK
- Report RSUPGRCHECK checks the consistency of generated DDIC objects for BI metadata as InfoObjects, InfoCubes and transfer rules. It determines whether the DDIC tables required for an BI meta object are active.
- While the report itself does not eliminate any inconsistencies, it does enter the incorrect objects in a log.
- The inconsistent BI objects must be reactivated.

Report RSAODSACTIVATE
- Report RSAODSACTIVATE checks whether your ODS objects are actively present. Before you can perform the upgrade, all requests must be activated in all ODS objects or deleted from the M table.
Report ANALYZE_RSZ_TABLE to find double entries

ANALYZE_RSZ_TABLES

Information:
The program performs the consistency checks for 5 main RSZ* tables and
also table RSRREPOIR, containing the parts of the definitions of
queries and other query components.

Select DB table:
- RSRREPOIR
- RSZCOMPIC
- RSZCOMPDIR
- RSZELENREF
- RSZLOGBY
- RSZELETDIR

Select object version:
Object Version:

Background mode:
- All results in a list

Additional Notes and Corrections:
- Note 792779 - Report ANALYZE_RSZ_TABLES
- Note 966080 - Dump in ANALYZE_RSZ_TABLES
- Note 1020826 - Hot fixes for check report ANALYZE_RSZ_TABLES
Check that M Tables are Empty (ODS Tables)

In comparison to the Preparation of the Alpha Conversion the third Row „Update“ does not have a green Status at all. If you plan the Alpha Conversion directly before the PREPARE/UPGRADE you are even better prepared.

ATTENTION: You may also check with Note 861890 - ODS tables disappear during the upgrade and activate all ODS Objects before the Upgrade and run the Program RSDG_ODSO_ACTIVATE.

Note also that with Stack 14 an extended Version of this Program is available together with the Program RSUPGRCHECK. If errors occur consult also Note 518426 and run Transaction RSSGPCLA for the regeneration of the RSDRO_* Objects.

Note 1051664 - Check and repair program BW7.x for Note 849857
SAP 7.00 Basis Programs:
- location: http://service.sap.com/patches and in the subdirectory for your database.
- at least tp, R3trans, R3load, R3ldctl, R3szchk, lib_dbsl DBATL700O10 (brconnect tools), dw (Kernel), sapexe-, sapexedb-Qx (quarterly Release for SP-stack)

Patches for the 7.00 Frontend:
- http://service.sap.com/patches ➔ Download Kernel/Frontend
  Patches is also a source for Download
- Support Packages for the GUI, BI Add-On AND the SAP Setup

7.00 Basis Support Packages from the Service Marketplace
- http://service.sap.com/patches
- SAP 7.00 Basis Support Packages and App. Layer
- SAP NW 7.0 Support Packages
- PL_BASIS_700 Support Packages
- PI 2005.1 Add-On Support Packages

To unpack all CAR files use: find ./<DIR> -print –exec SAPCAR –xvf {} ;
To unpack CAR/SAR files on UNIX also this works:
  • sh
  • for file in /path/*.car
  • do
  • SAPCAR –xvf $file
  • Done

For Windows based systems you can create a list with:
  • Dir /b > patches.cmd (This creates a list of a directory only with the Names which is stored in the File patches.cmd)
  • Enhance the File patches.cmd with SAPCAR.exe -xvf <dir>/FILE.SAR
  • Execute the command File patches.cmd
Unlike previous BI releases, SAP NW 7.0 utilizes the Web AS JAVA engine.

- Required for UDI and BI SDK functionality (build in in the JAVA core)
- BI-Java utilize the JAVA functionality
- Depending on your source BI release for the NW 7.0 upgrade, you may already have the JAVA 6.30 engine installed.
- Installation of BI release 7.00 automatically installs the JAVA 6.30 engine
- For upgrades up to release BI 3.0B/3.1 it was not required to install a JAVA engine.

Two options exist:

1. No JAVA engine installed
   - After upgrading to SAP NW 7.0, you should install the JAVA 7.00 engine.

2. JAVA 6.30 engine installed already
   - New with this Upgrade is the Synchronization of ABAP and Java Upgrade.
   - To minimize the overall downtime, the upgrade of the SAP NW AS Java is synchronized with the upgrade of the SAP NW AS ABAP system. During PREPARE, the upgrade program detects whether SAP NW AS 6.40 is running and asks you to check the relevant documentation.

JAVA 7.00 Engine has a number of installation options*. The central installation of the ABAP and JAVA engine has specific requirements for some databases due to the unicode compliant JAVA

- More specific information outlined in NW 7.0 Installation section

Oracle:
- The database National Character Set must be set to UTF8.
  - This is not the default National Character Set for newly Oracle databases installed or databases upgraded from Oracle 8i
  - It is a simple process to alter the National Character Set
  - Simple scripts and important checks are available in OSS note 669902

Informix:
- As unicode is not supported on Informix, a central installation of both ABAP and JAVA is not available.
  - JAVA must be installed on a separate unicode supporting database (e.g. MaxDB)

DB2 390: Not available for NetWeaver '04
- check alias PAM for availability

More Notes to see:
- Note 927255: SAP NetWeaver 7.0 SR1: Additional Usage Type Enabling
- Note 853572: Release Restr.: Usage Type AS-Java of SAP NetWeaver 7.0
Checking the Executables before Upgrading

- Use the latest version of tp, R3trans, R3load and SPAM/SAINT on the Start (4.x, 6.x) and Target Release (7.00).
  - For the Start Release in /sapmnt/<SID>/exe
  - For the Target Release in /usr/sap/put/exe ➔ Upgrade
  - For the Target Release in /usr/sap/put/exenew ➔ Final

- Check the latest SAPup in the directory /usr/sap/put/bin (UNIX) and /usr/sap/put/exe (W2K)

- Check the tools tp, R3trans, dboraslib in the Directory /usr/sap/put/tools
  - If the Start Release is 2.x, use the latest 4.6D tools
  - If the Start Release is 3.x, use the latest 6.40 tools

Setting Additional Environment Variables for <sapsid>adm:

- With Oracle 10g a new client is used. It is called “Instant Client”
- It consist on a smaller set of files:
  - Client shared library libclntsh.<ext>
  - OCI data shared library liboci.ei.<ext>
  - OCI JDBC Library libocijdbc10.<ext>
  - Security library libnnz10.<ext>
  - OCCI Library libocci.<ext>
  - JDBC files (classes12.jar, ojdbc14.jar ... )
- Environment variables ORA_NLS33, ORA_NLS32, and ORA_NLS are ignored in the Instant Client mode. This is valid for the <SID>adm user.
  - ORA_NLS10 does NOT have to be set for the <SID>adm user. Add the Path to the Oracle 10g Instance Client to the library path instead. See Note 819829 fro details.
  - As long as the library patch (<LIBRARYPATH>) contains the path to the location of these files then this will not create any problems, we can also be sure that the Instant Client will always be used.
  - It is extracted to /oracle/client/10x_<oclbits>/instantclient_release
  - A soft link is created from /oracle/client/10x_<oclbits>/instantclient to the location of the client
Checking the File System and r-w Permission

- Check the write permission for the files in /usr/sap/<SID>/SYS/exe/run br*, ora*, sapdba, saposcol (no error in PREPARE Phase).
- You can create a file called protect.lst in the directory /sapmnt/<SID>/exe to save files or links from removing.
Prepare for the new file system in NetWeaver 7.0

- **DIR_CT_RUN**
  
  `/usr/sap/<SID>/SYS/exe/uc/<OS>
  `/usr/sap/<SID>/SYS/exe/run`  
  - Windows
  - Unix

- **DIR_EXECUTABLE**
  
  `/usr/sap/<SID>/DVEBMGS<No>/exe`

---

**Additional Notes:**

- Note 919046 - Upgrade to the New Instance-Specific Directory Structure
Checking the Upgrade tools for Basis 7.00

- R3up is replaced by SAPup from NetWeaver 7.0 onwards
- You can find these tools directly under the link: http://service.sap.com/patches ➔ Downloads ➔ SAP Support Packages ➔ Entry by Components ➔ Additional Components ➔ Upgrade Tools

- Note 813658: Repairs for upgrades to products based on SAP NW 7.0
- Note 821032: Corrections for SAPup release 7.00

- Check also your profiles for correct settings prior to the upgrade:
  - SAP default and Instance Profile
    - On Unix check the values for memory segments 10 and 40 with the following command: log on as <sid>adm ➔ cdpro ➔ sappfpar check pf=<instance profile>
    - em/initial_size_MB => 1024
  - Oracle Profiles
    - shared_pool_size, db_cache_size, pga_aggregate_target

Comments:

- For the products for which there is no fix archive yet, continue the phase TOOLFIX_CHK with "ignore".
- Some products are known under different names and can be used differently. For example, WEB-AS 7.00 which is part of Netweaver 04 is the successor product to WEB-AS as well as to the BI product family. However, there is only one fix archive regardless on how you use the system.
- Similarly, other products are based on Netweaver 04, but there are separate fix archives for each of them. In essence, only one archive must be used.

Integration into the upgrade

- During the TOOLFIX_CHK prepare phase (the "Import" or "Extension" module), SAPup searches the upgrade directory for the correct correction package. If SAPup is successful, the package is automatically integrated into the upgrade. If SAPup does not find a valid package, the system displays a user dialog requesting that you place the correction package in the upgrade directory.
- Do not unpack the archive manually.
- You can use "Retry" to repeat the search or "Ignore" to continue with the upgrade without integrating the correction package. The ignore option may only be used, if there is no fix archive for the product according to the above table.
- The archive contains data files and cofiles for the transport requests, buffers and control files of the upgrade. The corrections to the ABAP tools of the source release are imported in the TOOLIMPI4_FIX, TOOLIMPI6_FIX phases ("Extension" PREPARE module) (provided these exist), while the corrections for the shadow system are imported in the SHD_FIX_IMP phase (upgrade). The transport requests are imported automatically. You must never manually import requests into the system.
Downtime minimized/Resource minimized – A BW perspective

- The System switch feature and 6.x0 Upgrade strategies provide options for the continued productive use of BW.

- Productive use:
  - From a BW perspective this refers to the ability to execute queries against the BW system
  - If “Downtime minimized” is selected users can expect ~2-4 hours of upgrade processing related downtime for executions of queries.

- Other BW operations:
  - **Note**: Operations such as Data loading, Data and BW Object administration, and BW query element building should cease at the start of R3up.
    - These BW operations create objects in the Data Dictionary and Database.
  - Plan accordingly to cease admin operations!
    - no automated BW locking process
    - System objects like DDIC will be locked automatically from the systems side

- Tip: ‘resource minimized’ has the fastest overall runtime
  - entries limiting number of R3trans & Background processes are ignored
Start the UaServer on Windows (Example)

```
D:\upgrade4\ua\java\java -cp ua.jar UaServer
UaServer> Stable storage file 'D:\upgrade4\ua\UaState' not found
UaServer> Creating stable storage file 'D:\upgrade4\ua\UaState'
Please enter administrator password
Enter password:********
Confirm password:********
*Password must at least have 6 characters.
Enter password:********
*Confirm password:********
```

```
D:\upgrade4\ua\java\java -version
java version "1.5.0_04"
Java(TM) 2 Runtime Environment, Standard Edition (build 1.5.0_04-b05)
D:\upgrade4\ua\java\java -cp ua.jar UaServer
UaServer> Stable storage file 'D:\upgrade4\ua\UaState' read
UaServer> Property file 'D:\upgrade4\ua\UaServer.properties' read
UaServer> Property file 'D:\upgrade4\ua\UaServer\Windows2000.properties' read
UaServer> Configuring HTTP server
UaServer> Using HTTP index file name: index.html
UaServer> Signing JAR file uagui.jar
UaServer> Creating JNDI file uagui.jndi
UaServer> Starting HTTP server
UaServer> HTTP server started
UaServer> Ready
```

Additional DB2 commands during PREPARE:
- db2 connect to <SID>
- db2 update dbm cfg using DIR_CACHE NO
- db2 update db cfg for <SID> using APP_CTL_HEAP_SZ 1600
  (this command must run when stopsap r3 is done before)
- db2 update db cfg for <SID> using STAT_HEAP_SZ 15000
- db2 update db cfg for <SID> using AUTO_MAINT ON immediate
- db2 update db cfg for <SID> using AUTO_TBL_MAINT ON immediate
- db2 update db cfg for <SID> using AUTO_RUNSTATS ON immediate
- db2 update db cfg for <SID> using DLCHKTIME 10000 immediate
- db2 terminate

Then you need to stop and start the DB2 with the commands db2start & db2stop as user db2<sid>
To create new Tablespaces go Transaction DB02 and create the needed Tablespaces.

Details from Note 689538, Unicode enabling on UDB/DB2
- db2 update db cfg for TW3 using ALT_COLLATE IDENTITY_16BIT
- db2set DB2_IMPLICIT_UNICODE=YES
- db6util -dg ALT_COLLATE
Additional Notes during PREPARE:

- Note 762426: PREPARE phase TABSPC_PREP: very long runtime
  Run the action in this Note before PREPARE starts until the Problem is solved by Oracle. This will save a lot of time during PREPARE. The temporary created tables should not interfere with other action on the DB.

- Note 96317: Host names for the R/3 upgrade, hints & tricks

- Note 816211: prepare script on Windows systems

- Please make sure that you have 8-10 GB space left in the directory /usr/sap/put
  In some Phases of the UPGRADE like TAPIMP_UPG an intensive amount of logfiles will be written very fast. So it can happen that a temporary file is written into the directory /usr/sap/put/tmp which prevents the SAPup to continue. You must remove this file first before you can continue the upgrade.
New Directory Structure for /usr/sap/put

**<DIR_PUT>/bin**
- This directory contains configuration and script files. The files in this directory are delivered by SAP and extracted from archives during PREPARE or generated during operation of SAPup.
- UNIX: The executable SAPup also resides in this directory.

**<DIR_PUT>/exe**
- This directory contains the kernel of the destination release. The files in this directory are delivered by SAP and extracted from archives during PREPARE.
- The executables in this directory are of destination release. If you need to exchange tools or the kernel in this directory, you need to get executables of the release you are upgrading to.

**<DIR_PUT>/htdocs**
- This directory contains html files (such as this one) with information about the upgrade directory structure, an Upgrade FAQ and the html phase list.

**<DIR_PUT>/tools**
- This directory contains tools used by SAPup during the upgrade process. The files in this directory are delivered by SAP and extracted from archives during PREPARE.
- The executables in this directory are of kernel Release 46D: tp and R3trans. If you need to exchange tools or the db library in this directory, you need to get executables of Release 46D.
New Directory Structure for htdoc (Evaluation)

This directory contains log files of SAPup or tools called by SAPup. These files are generated during operation of SAPup.

PREPARE: The progress of PREPARE is logged in file SAPupchk.log. The results of a run of PREPARE are collected in file CHECKS.LOG. Here you can find the actions and checks you need to perform manually.

UPGRADE: The progress of the Upgrade is logged in file SAPup.log. During the upgrade (and PREPARE as well) several log files are written. To determine the files relevant for the current phase, sort the files according to the modification date. (On UNIX call: Is -l)

For most phases, the error messages and return codes of the log files written during the phase are collected in files <NAME>.<ELG>.

tp: During phases where tp is called, messages to three log files are appended: ALOG*, SLOG* and ULOG*. Here you can find information about the tp steps and the return codes for the steps.

R3load: R3load writes log files EX000<nr>.DPR and EX000<nr>.DST. You can monitor the import progress with files EX000<nr>.DST.

Reports: The log files of reports are usually called <report-name>.<sid>, they are created in the directory <DIR_PUT>/tmp and moved to <DIR_PUT>/log after the report is finished.
Select PI in Phase IS_SELECT

system Add-ons: Passive deletion or upgrade Add-on?

- Passive deletion:
  - The following add-ons can be passively deleted during the 7.00 upgrade.
  - Y2K check utility!!
  - notes assistant Add-on
    - Available as an add-on in BI release 2.x and 3.x

- Add-on Upgrade
  - All other Add-ons must be upgraded during BI upgrade (mandatory!)
  - EP 6.0/Workplace Plug-in (release 6.00)
    - No delta-upgrade CD required for 7.00, post-upgrade plug-in installation required
    - See OSS notes 304666(ver 2.10 or 2.11) and 440447 for more information
    - After 7.00 upgrade (with EP/Workplace plug-in) do not set the ‘Unicode flag’
  - SEM-BI Add-on
    - Must be upgraded to SEM 3.1B. Add-on upgrade CD required.
    - R/3 Based SEM-BCS does not require upgrading.

See notes 539977 and 557584 for the ST-PI and 69455 for ST-A/PI
SEM note 632429
The general note is 86985
Upgrading SAP BI NW 7.0 – Passwords for Upgrade

- Note the upgrade keyword for Basis 7.00: 20746614
- Note the upgrade keyword for Basis 7.00 SR1: 24623123
- Note the upgrade keyword for Basis 7.00 SR2: 30546999
- Note the upgrade keyword for the BC Add-On 7.02: 4075693
- Note the upgrade keyword for the BC Add-On 7.03: 3740746
- Note the SEM/Finbasis – SAP BI upgrade keyword: 4735387
- Note the WP-PI 211 Keyword (Active Save):
- Note the ST-A/PI 01J_BCO700 Keyword (Note 597673):

- How To get the Solution Manager Key (Note 811923):
  Transaction SMSY ➔ create new System additional Objects ➔ create Key

Additional Notes:
- Note 653814: BI Content add-on dependencies for NetWeaver/SAP_BW
- Note 847019: BI_CONT 7.02: Installation and Upgrade Information
- Note 920323: Installation BI_CONT 702 terminates during XPRA phase
- Note 929197: Release Restrictions for SAP NW7.0, BI Content Add-On 3
- Note 916834: BI_CONT 7.03: Installation and Upgrade Information
- Note 925752: Termination after import of text parts (LANG)
- Note 929197: Release Restrictions for SAP NW7.0, BI Content Add-On 3
Some Additional Tasks during PREPARE

- Run additional scripts located in /usr/sap/put/bin. Copy the *sql scripts located in /usr/sap/put/bin to $ORACLE_HOME/dbs
  - sqlplus /NOLOG @del_priv_ind.sql according to note 410963
  - sqlplus as / sysdba @dba_ind_columns.sql acc. to note 558197
  - check for the extracted SQL scripts in /usr/sap/put/bin and run them accordantly (crshdusr.sql, oramaext.sql, psaptemp.sql)
  - Note 898003 - Problems when you upgrade to NW 7.0 with RSDDSTAT*

- Define the entries for the Shadow Instance in /etc/services (necessary if you have no rights to modify /etc/services)
  - sapmsSHD<SID> 36xx
  - sapdpxx 32xx where xx is the instance number
  - sapgwxx 33xx for the shadow instance

- Implement the correction out of Note 712297 before you start the Phase SAVE_VAR_CHK due to errors in the save programs.

- If you are using InfoPackage Group Scheduler please migrate this function to Process Chains, due to the fact that this Feature is not supported anymore with nw7.0

These Scripts are available in the Directory /usr/sap/put/bin as soon you start the PREPARE Program from CD/DVD the first time. You can run these scripts at any time before the PREPARE start to improve the runtime of the PREPARE (no error in the Log file checks.log).

Additional Notes during PREPARE:

- Note 762426: PREPARE phase TABSPC_PREP: very long runtime
- Note 871455: Performance when accessing DBA_SEGMENTS
- Note 558197: upgrade hangs in PARCONV_UPG, XPRAS_UPG, SHADOW_IMPORT_UPG2
- Note 830965 - VBDATA, DDLOG: size and increase in size
Errors Occurring while Upgrading to SAP NW 7.0

Expect errors during the following phases:

- **START_SHDI_FIRST** (check the instance profile of the shadow instance, for long pathnames and profile names (cluster configurations) use `sappfpar` check pf=profile to check the shadow instance profile, see note 525677).

  When you encounter problems with shared memory segments, use `cleanipc <Nr.>` remove and check with `showipc <Nr.>` before you restart the shadow instance.

  Make sure, that you restart the UA Server when changing the profile in order to release the old Files.

- **PARDIST_SHD** replaces phase **PCON_UPG** (losing customer fields → repeat without check, see note 510835)

- **RUN_RSCPFROM** (ORA-1555, snapshot to old or DB Statistics → See note 491598 and 3807 and run add. Script `script_e071.sql` or with `brconnect 7.00 run:

  `brconnect -u / -c -f stats -t missing`)

Also have a look at the UA server: `http://<server>:4239/htdocs/faq/index.htm`

You should adjust the profiles in an upgrade as follows:

1) The profiles for the central instance are adjusted in all three MODPROF phases. The three phases are:

   - **MODPROF_TRANS**
     During this phase, the instance profile is adjusted for the downtime with file **ALPXPOOL.LST**. The default profile is adjusted with file **ALPXDEF.LST**. At the same time, the original profiles are saved to the `<DIR_PUT>/sapnames` directory.

   - **MODPROF_BAS** The profiles are modified so that they can be used on the new system, whereby the instance profile is modified with file **ALPX.LST** and the default profile with file **ALPXDP.LST**.

   - **MODPROFP_UPG**
     In this phase, the downtime ends, the original profiles are copied back again from the `<DIR_PUT>/sapnames` directory and, in addition, they are adjusted with file **ALPXXP.LST** (for the instance profile) and file **ALPXDEFP.LST** (for the default profile).

2) The profiles for the shadow instance are generated as follows: In the Installation module, the profiles for the shadow instance are placed in `<DIR_PUT>/SID/SYS/profile` as follows: -UNIX, the default profile, instance profile and start profile of the central instance are placed in this path, in addition to the delivered "SHDPF" template which is copied from `<DIR_PUT>/bin`. Then, the profiles are adjusted, whereby the modified instance profile of the central instance is used for the "Ressource-minimized" strategy and the modified template for the "Downtime-minimized" strategy.

   - Windows, the adjusted template NTDEF.PFL is used as default profile and NTINST.PFL is used as instance profile, in addition to the start profile of the central instance.
Additional Commands for the Shadow Instance

To start/stop the Shadow Instance:
- /usr/sap/put/bin/SAPup startshd or SAPup stopshd
- /usr/sap/put/<SID>/homeshd/<SID>./stopsap r3 or ./startsap r3

To lock/unlock the Shadow Instance:
- /usr/sap/put/bin/SAPup lockshd <SID> or unlockshd <SID>

To inform SAPup of a changed password for DDIC:
- /usr/sap/put/bin/SAPup set ddicpwd (Instance)
- /usr/sap/put/bin/SAPup set shddicpwd (Shadow Instance)

To create the current and the revised (incl. Times) SAPup phase list:
- ../bin/SAPup htmlphl or ..\exe\SAPup.exe htmlphl
- ../bin/SAPup printrevision or ..\exe\SAPup.exe printrevision
  - The revised phase list includes the exact times instead of the estimates in your documentation and you can also add your own comments, hyperlinks, etc. to the Phase List

To release the MSCA use:
- showipc <systemNr>
- cleanipc <systemNr> remove
- sapmscsa pf= ... -r

See also Note 17108: Shared memory still present, startup fails

also for checking the Profiles and the Memory use:
- ipclimits
- sappfpar check pf=...
New Features with Basis 7.00 during Upgrade

You can use parameter ms/monitor to restrict the access of the external monitoring program msmon. The parameter can have the following values:

- 0: Only application servers may change the internal memory of the message server and execute monitor functions (default setting).
- 1: External (monitoring) programs may also make changes.

You can use parameter ms/admin_port = (default 0) to open and close TCP ports of the message server for administration. An external client can use the port to connect to the message server to administrate it. The administration of external programs is deactivated by default. To activate it for specific programs, you can open a special port for administration. Clients that use this port to log on to the message server can execute all administration tasks. Possible values: You can dynamically change the parameter; a value of 0 or lower closes the administration port again. A value greater than 0 specifies the port number. You can use Transaction SMMS to open and close the administration port (SMMS -> Go to -> Security Settings).

Separating internal and external communication
You can use parameter rdisp/msserv_internal = (default = 0) to prevent unwanted clients appearing on the message server as the application server. A data channel other than the data channel used for external communication - with which the external clients only have read-only access to the information - is then used for internal communication. In addition to port sapms<SID> (rdisp/msserv), the message server opens another port, which is only used for the internal communication with the application servers. The Default is 39<nr>, where <nr> is the Instance Number. The Parameter is maintained in the DEFAULT.PFL for Abap Systems.
Source Release Tools

<table>
<thead>
<tr>
<th>Kernel</th>
<th>Source</th>
<th>Export</th>
<th>Destination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep. 2005 03:22:54</td>
<td>disp=work</td>
<td>R3trans</td>
<td>6.13, RL 640, 06.07.05</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>Export</th>
<th>Destination</th>
</tr>
</thead>
<tbody>
<tr>
<td>dp</td>
<td>R3trans</td>
<td>6.13, RL 640, 06.07.05</td>
</tr>
</tbody>
</table>

Destination Release Tools

<table>
<thead>
<tr>
<th>Kernel</th>
<th>Source</th>
<th>Export</th>
<th>Destination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug 9 2005 22:34:40</td>
<td>disp=work</td>
<td>R3load</td>
<td>1.4 [UNICODE], RL 7.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>Export</th>
<th>Destination</th>
</tr>
</thead>
<tbody>
<tr>
<td>dp</td>
<td>R3load</td>
<td>1.4 [UNICODE], RL 7.00</td>
</tr>
</tbody>
</table>

Output from „SAPup printrevision“

Source: is the starting Release of the SAP system

Export: is the base of the export which is delivered with the export CD/DVD

Destination: is the target release including the support Packages

Some more errors in the Phase START_SHDI_FIRST can occur:

- Shadow instance can not be started a check hostname in profiles in /usr/sap/put/<SID>/SYS/profiles/DEFAULT.PFL:
  - SAPLOCALHOST=marge-g0
  - SAPLOCALHOSTFULL=marge ➜ change!

- Change profile names (copy profile)
  - cp START_DVEBMGS48_marge-g0 START_DVEBMGS48_marge
  - cp X47_DVEBMGS48_marge-g0 X47_DVEBMGS48_marge

- Check the following parameters in the shadow instance profile to prevent errors in the Phase ALTNTAB_FILL
  - em/initial_size_MB = 512 (or higher)
  - ztta/roll_area = 6500352
During this phase, access to some tables is performed in the rule-based mode of Oracle. This is not very powerful and results in an extremely long runtime. If you already applied some Oracle scripts and performance is still very slow, you can do the following:

- Delete all statistics (sapdba, brcconnect, dbms_stats) for the tables DD02L, DD03L, DD04L and DD40L and their shadow tables (put ~ to the table name). See also note 556764.
- Stop SAP up in phase JOB_MOD2_UPG (phase before ACT_700).
- Stop the shadow instance with
  \[ /usr/sap/put/<SID>/homeshd/<SID>stopsap r3 DVEBMGS<Nr> \]
- Stop the Oracle database and check shared_pool_size (note 556764), optimizer_max_permutations = 1500 or less and change the optimizer_mode parameter from choose to rule. Restart the database.
- Start the shadow instance again with
  \[ /usr/sap/put/<SID>/homeshd/<SID>startsap r3 DVEBMGS<Nr> \]
- Restart SAP up and continue with phase ACT_700.
- Change optimizer_mode after the phase back to the original value.

The ACT phase comprises several internal phases. In one of these phases, the interdependencies of the objects to be activated are checked. The number of objects to be activated may be very large, in particular if many Support Packages were included. In addition, the interdependencies can only be checked in sequence. Furthermore, no log entries are written to upgrade log files during the entire phase. The runtime of this sub phase is largely determined by accesses to DD03L, DD04L and DD40L and may take several hours. A problem is only likely with runtimes that are considerably longer than three hours.

Both of the problems mentioned above can be minimized by setting the R/3 rsdb/max_in_blocking_factor and rsdb/max_blocking_factor parameters in the shadow instance to useful values. We recommend that you set these to 200 for these upgrade phases. If you set the value too low, this results in an unnecessary overhead on the DBI side because many statements must be executed with small IN lists. If you set the value too high, the statements require an unnecessary amount of space in the shared pool and, in a worst-case scenario, are displaced.

To actually create the parameters, you must import a current kernel patch (including dboraslib) (see note 19466).

To determine where the database time currently disappears, it is useful to analyze the time consumption of the relevant Oracle session according to the snapshot method described in note 619188. If most of the time is used by queues on "SQL*Net message from client" and the R/3 work process shows a relatively high CPU consumption, a further increase of rsdb/max_in_blocking_factor (for example, to 500) enhances the performance.

ACT_620 (error activating Objects \rightarrow repeat without check) and refer to note 510835.

- Activate “table type” “UC0_TA_FIELD” in transaction SE11
Errors Occurring while Upgrading to SAP NW 7.0

Expect errors during the following phases:

- If problems in phase TABIM_UPG occur, refer to note 575170.
- If runtimes are extremely long in phase PARCONV_UPG, refer to note 558197
  - For the table UMG_TEST_P, see note 694062 for the repair and later note 603575 for the activation of the table.
- If you encounter short dumps in the Shadow Instance in phase PARCONV_UPG and errors in UA: ORA-14400: inserted row key does not map to any partition: "[RSQL/ISR/OR/MS/S/C/0002]", check the following:
  - Go ST22 (dumps) and check for dumps DBIF_RSQL_SQL_ERROR.
  - The tables /QCM8/BIC/B0000* represent PSA tables which cannot be used on this site as they have already been deleted.
  - Go to SE14 and look for table /QCM/BIC/B0000* (remove the 8!).
  - Delete and recreate the affected tables.
  - Restart phase PARCONV_UPG.
  - Also see note 339126 for other possible reasons (report RADUTMST).
- XPRAS_UPG proceed with (ignore → repair severe errors)

Also have a look at the UA server: http://server:4239/htdocs/faq/index.htm
Error in Phase XPRAS_UPG

- The upgrade is hanging within one of the following phases (prior to NetWeaver 7.0):
  - PARCONV_UPG,
  - SHADOW_IMPORT_UPG2
  - XPRAS_UPG
  - JOB_RSINDCHK

- The Problem described in this note is unique to systems running on an oracle database.

- The activity in this note can be applied prior to the upgrade in order to prevent the situation from happening, or while the upgrade is running if the problem occurs.

- You can see on OS level that an oracle shadow process is consuming a lot of CPU. (On Windows platforms the oracle.exe process).

- Please perform the following check:
  1. logon to R3 and goto transaction sm50 (on the server you are running the upgrade on)
  2. Find out what process ID the upgrade process is running on
  3. goto st04 -> detail analysis menu -> oracle sessions
  4. search for the process id of the upgrade process
  5. If you see this session having the status 'ACTIVE' and the select statement being a select on VIEW 'user_ind_columns' or 'dba_ind_columns' please implement the solution mentioned below
  6. The problem in most of the cases seen was a result of having statistics on the oracle data dictionary (note 558746 was implemented).

- Logon to the 3rdparty maintenance softwarecenter in sapnet http://service.sap.com/swcenter-3pmain, and download the file dba_ind_columns_sap.zip. Execute the sql script.
Overview of the Upgrade to SAP NetWeaver 7.0

Expect long runtimes here (also depends on the customer Objects and the amount of included support packages):

- CNV_LIST
- DYNSPCADD
- RUN_REDIT006_PRE ➔ due to Performance Problems follow Note 762426
- DIFFEXPCUST
- DIFFEXPDOCU
- ACT_700 (User input needed !)
- PARDIST_SHD
- SHADOW_IMPORT_ALL
- SHADOW_IMPORT_TRIG
- TABIM_UPG
- ADOIM_UPG
- XPRAS_UPG

Additional notes for different errors during the Upgrade

- 12746 WARN is already in use (), I'm waiting 5 sec
- 197886 Upgrade: messages in CHK_POSTUP: BDL*, STSL*, BAM*, SQLR*
- 417670 Information on resetting the upgrade (6.20)
- 145577 Termination in Phase DIFFEXP … with sap_dext
- 578789 Upgrade 6.* ➔ 7.00: Problems in SHADOW_IMPORT_ALL
- 556764 Upgrade hangs in ACT_620/ACT_610/ACT_46C phase
- 558197 upgrade hangs in PARCONV_UPG,XPRAS_UPG or SHADOW_IMPORT_UPG2
- 545852 Upgrade to Basis Release 7.00 SHADOW_IMPORT_*
- 673735 Problem analysis in the upgrade: MVNTAB phases
- 593582 sapdba, BR tools 7.00: libclntsh is not found
- 538849 UNIX: DLENOACCESS when loading dboraslib and libclntsh
- 662493 TR_SORT_OBJECT_LIST (BI 3.0B ➔ 3.1)
- 674001 Problem analysis in the upgrade: Job and run phases
- 674070 tables in the substitution container after an upgrade (BI 3.1)
- 563359 PERFORMANCE OPTIMIZATION ON TABLES WITH LOB COLUMNS
- 541542 Upgrade phase INIT_CNTRANS: Container inconsistency
Our aim is to provide you with a fast and efficient upgrade procedure. In phase EXIT, SAPup extracts statistical data and evaluates the upgrade, for example, calculates the runtimes of the individual phases. Evaluating this information helps us to improve both the current upgrade procedure and new upgrades. We would also appreciate feedback on your experience with the SAP upgrade. Therefore, we have designed the **SAP system Upgrade Evaluation**. It contains the following:

- **Upgrade Evaluation Form**
  This form consists of a simple questionnaire on your experiences with the upgrade and an upgrade log file generated by SAPup.

- **Upgrade Information**
  Using the corresponding link in the text, you can open the file upana.htm. It is designed to help you evaluate your upgrade and to better plan follow-up upgrades. It contains detailed information on the system, the overall upgrade and the individual phases. You can add your own comments to this file.

- If you are using the Upgrade Assistant, the **SAP system Upgrade Evaluation** is displayed automatically in a browser window.

- Wait until phase EXIT has finished.
  - If the Upgrade Assistant is running, a browser window appears displaying the **SAP system Upgrade Evaluation**.
  - If the Upgrade Assistant is not running, you are prompted to open the following address:  
    `http://<host name>:4239/htdocs/eval/index.htm`
  - If you are using scroll mode, open file `index.htm` in the following folder: `<upgrade directory>/htdocs/eval`
ABAP Workbench ➔ Report ➔ rsupgsum

Solution

- Report RSUPGSUM accesses file SAPup.RTS in the upgrade log directory to evaluate an upgrade. There the target release is called 'DESTVERS'. If Support Packages have been included, then they are behind the expression COP_<Component>_DESTVERS. The fact that the string 'DESTVERS' exists more than once causes the target release (in the source code of RSUPGSUM = ENDREL) to receive an incorrect value. The result of receiving this incorrect value is that the name is not correctly constructed in the log table DDPRS in the field PROTNAME. 'UPGRADE_<ENDREL>_<SID>' should normally be there (for example, UPGRADE_46B_XY1). To be able to execute RSUPGSUD, you have to find the entries 'UPGRADE_*_<SID>' (for example, UPGRADE_*_XY1) in the field PROTNAME. If you enter value found for * for the selection 'Target release =' on the first page of the report RSUPGSUD, RSUPGSUD should then be able to output the upgrade analysis.

- This Report can be still called with the following workaround:
  - cd /usr/sap/put/log
  - /usr/sap/put/bin/SAPup getstat > SAPup.RTS

  With this action the Report RSUPGSUM finds again the Input-File and can be filled as usual.
Upgrade to SAP NW 7.0 - Running Transaction SGEN

- Generate All Objects of Selected Software Components
- Regenerate After an SAP System Upgrade
- Regenerate the objects of the last run
- Regenerate Existing Loads
- Generate the objects of a transport request
- Generation of BRF Applications

Software Component
- FI_BASIS
- SAP_ADI
- SAP_BASIS
- SAP_Bw
- ST-A/PI
- ST-PI
New Security option with W2K and Win2003
Post Activities Following the Technical Upgrade - 1

Please follow the upgrade manual instructions in the guide.

◆ Actions to be taken before start working with the system again:
  1. Check the LONGPOST.LOG file for conversion errors, Note 197886
  2. Run the BTCTRNS2 program with User DDIC in Client 000 to restart jobs
  3. SGEND create ABAP loads (report generation)
  4. Run ./saproot.sh <SID> with user root
  5. Run sapdba_role and the sapconn script (on Oracle)
  6. Check the database mode (archive/noarchive mode)
  7. Create database statistics (brconnect)
  8. Distribute the new kernel (unless done already)
  9. Check for the latest version of SAPCryptoLib at http://service.sap.com/tcs ➔ Download ➔ SAP Cryptographic Software
  10. Run Transaction SMLT and check the correct processing
  11. Set the SAP BI Menu with transaction SSM2 (Note 725184)
    12. RS00 for SAP BI
    13. UG00 for SEM

◆ Actions during the go-live stage of the system
  1. Apply the latest SPAM/SAINT Update (if a newer version is available)

◆ Actions during the productive use of the system

Some more Post Activity Steps:

- Address any issues listed in longpost.log from SAPup, see Note 197886 for details in longpost.log.
- Execute transaction SICK to check installation consistency
- Check system and dispatcher logs
  - make sure no serious errors exist after startup
- Reschedule Basis background jobs and database jobs (backup and statistics)
- Check if RDDIMPDP is scheduled correctly
- Note 1015628 contains a fix for the time zone problem within transaction SCOT
- Run program SWNC_CONFIG_TIMEPROFILE and select the ‘Calculate all hours separately’.
- Execute report RTCCTOOL in client 000 and adjust the settings
- Install Online Documentation with SR13 (see upgrade guide for information)
- Perform a full database backup (including File system)

BI Specific (may need BI Administrator knowledge)

- Re-execute RSRV to check BI Object consistency
- Install (or migrate) the IGS (required for 2.x -> 3.x web template conversion)
- If your system is a Unicode system, you must run report RUTTYPACT after the upgrade. To run the report, proceed as described in note 544623
Additional Scripts/Tasks for the Oracle 10g Database

- With Oracle 10g the usage of rule based mode is not supported anymore. Therefore also the table spaces SYSTEM and SYSAUX will get regularly DB statistics, see Note 838725.
  - oracle DDIC: `brconnect -u / -c -f stats -t oradict_stats`
  - oracle SYSAUX: `brconnect -u / -c -f stats -t system_stats`
  - Execute latest sapdba_role and sapconn_role scripts
    you will find the latest versions in the directory `/sapmnt/<SID>/exe`
  - Note 963760 - 'ORA-20000: Insufficient privileges' for creating statistics
  - Note 1013912 - FAQ: Oracle BW Performance

- Refer to the new Procedures/Scripts together with Oracle 10g, see the Oracle Upgrade Manuals for Details. Especially after the Installation of Oracle Patches, these Tasks must run for Performance reasons.

- Additional scripts can be found under
  [http://service.sap.com/swcenter-3pmain](http://service.sap.com/swcenter-3pmain) ➔ oracle ➔ other ➔ scripts
  and in the mentioned Notes.

Job SLCA_LCK_SYNCHOWNERS fails:
This standard job is only necessary for SCM and for the liveCache lock server. For SCM, the function of the program is already integrated into another standard job and is therefore no longer necessary. If you do not use the liveCache lock server, simply deallocate the SLCA_LCK_SYNCHOWNERS standard job again. In future, it will no longer be delivered as a standard job.

Old scripts with Oracle 9i:
- 519407 - Performance problems in deactivating aggregates
  @fixfor_bug2270056.sql
- Note 558746 - Better Oracle data dictionary BI performance
  @558764_DDIC.sql
- Note 762962 - Performance on DBA_SEGMENTS with Oracle 9i
  @762962_DBA_SEGMENTS.sql
Post Activities Following the Technical Upgrade – 2

- Check the additional notes for Correction for your Support Package level of SAP NW 7.0 (Abap and Java). Use transaction SNOTE to implement the correction (example with SAP NW 7.0 patches).
- Important notes for the latest correction for Transaction SNOTE Note 875986 - Note Assistant: Important notes
- For general Remarks about BI Support Packages please check: Note 829692 - SAP NW 7.0 information for BI Support Package
- Note 1013369: NW 7.0 BI - In between - Support Packages
- For generic Problems with Support Stacks consult Note 822379 - Known problems with Support Packages in SAP NW 7.0
- The current configuration (sp-stack) at: http://service.sap.com/sp-stacks
- Note 914304 - SAPBInews NW7.0 BI Support Package 10 (SPS 10)
- Note 914305 - SAPBInews NW7.0 BI Support Package 11
- Note 914306 - SAPBInews NW7.0 BI Support Package 12 (SPS 11)
- Note 991093 - SAPBInews NW7.0 BI Support Package 13 (SPS 12)
- Note 991094 - SAPBInews NW7.0 BI Support Package 14

Apply the SNOTE correction:
- Apply the Notes 992831, 918766 and 974597 before you apply the main correction note for SNOTE 875986

Use
- With SAP NetWeaver 7.0, the following terminology changes have been made in the area of Warehouse Management:
- The Administrator Workbench is now called Data Warehousing Workbench.
- The ODS object is now called DataStore object.
- The transactional ODS object is now called DataStore object for direct update.
- The transactional InfoCube is now called real-time InfoCube.
- The RemoteCube, SAP RemoteCube and virtual InfoCube with services are now referred to as Virtual Providers.
- The monitor is now called the extraction monitor, to distinguish it from the other monitors.
- OLAP statistics are now called BI Runtime Statistics.
- The reporting authorizations are now called analysis authorizations. We use the term standard authorizations to distinguish authorizations from the standard authorization concept for SAP NetWeaver from the analysis authorizations in BI.
- Note: You may still come across instances of the old terminology in the documentation.
Post Activities Following the Technical Upgrade - 3

- Run the Report RSUPGRCHECK again and make sure the correction from Note 1032367 is applied.
- Check note 563201 in advance and use SAP_FACTVIEWS_RECREATE to create dropped fact views again.
- Activate the source systems again (see note 538052 for details). Choose RSA1 \( \rightarrow \) source systems \( \rightarrow \) right mouse click on the source system \( \rightarrow \) activate.
- If needed: Run RSD1 \( \rightarrow \) repair Info Objects.
- Run SE38 \( \rightarrow \) RS_TRANSTRU_ACTIVATE_ALL to activate all transfer structures again. See also Note 1027827. As an Alternative you can also use the Report RSDS_DATASOURCE_ACTIVATE_ALL described in Note 1056060 - DataSource: Reactivation in the production system
- Run SE38 \( \rightarrow \) RSAU_UPDR_REACTIVATE_ALL to reactivate all active update rules. See Note 631601 for details.
- If needed: run report RSDG_MPRO_ACTIVATE for the activation of MultiProvider. See Note 897735 for details.
- Activate the BEx history with transaction RS_PERS_ACTIVATE.

Report SAP_FACTVIEWS_RECREATE

- When you upgrade BI 3.0B systems, problems may occur in connection with the /BIC/V<Infocube>F factviews (missing TADIR entries for the factview). Execute the SAP_FACTVIEWS_RECREATE report to eliminate the problem, as described in note 563201.
- If the SQL statement contains the fact view (name: /.../V<Infocube>F), deactivate the fact view temporarily, as described as in note 561961 (set the RSADMIN parameter to the value "NEVER"). You can create the SQL statement for DataMart accesses, as described in note 613332. If the correct data is then displayed, run the SAP_FACTVIEWS_RECREATE report described in note 499820. Reset the RSADMIN parameter. If the result is incorrect again, but was correct after you deactivated the view usage, this is a database error. Reset the RSADMIN parameter again. If the result is incorrect again even through it was correct after you deactivated the view usage, this is a database error.

Prior to SPS10:

- Fill the repository cache for delivered Objects, Transaction RSORBCT \( \rightarrow \) Extras \( \rightarrow \) Repository Cache (DB) \( \rightarrow \) Fill (delivery Objects).
  or Program RSO_REPOSITORY_CACHE_UPDATE
  Before you start the Job, please check Notes 951215 and 952853.
  This Step is obsolete from SPS10 onwards.
### Post Activities Following the Technical Upgrade - 4

- Run the Report RRINCLTAB_REBUILD according Note 922467. Please make sure that you also have the corrections applied before starting the Report.
- Urgently check Note 906789: Upgrade to 7.X BW - NetWeaver 7.0 and follow the described Procedure. See also Note 1020303!
  - run RSSM_CREATE_REQDONE_FROM_SEL
  - run the RSSM_HASH_ENTRIES_CREATE report for all requests
  - run the report RSSTATMAN_CHECK_CONVERT_DTA
  - run the report RSSTATMAN_CHECK_CONVERT_PSA
- Run the Report COM_PRODUCT_UPGRADE (from SPS10 no errors)
- Run Report RSR_VARIANT_XPRA for the Query Variants (Note 953346) and check also with Report ANALYZE_MISSING_ELEMENTS.
- Run Report RSR_MIGRATE_VARIANTS for variants created in BW 3.x See Note 1003481 for Details.
- Note 996602 - Modificat. for time characteristics disappear after upgrade
- In case of errors with technical characteristics run Report RSDG_XPRA_IOBJ_TO_NW05, see Note 939484 for Details.

### Activating BEx Broadcaster:
- activate standard templates 0adhoc*, activate 0BROADCASTING_TEMPLATE, 0analyzer* templates, 3.x template 0DOC_TEMPLATE2 activate template 0QUERY_TEMPLATE_BROADCASTING and 0QUERY_TEMPLATE_BROADCAST_PDF
- Check the SAP Note search for Keywords like web, performance, BexAnalyzer, monitoring, DTP, PSA, ODS, RSA1, OLAP, RSEC_MIGRATION, RSECADMIN, RSDDSTAT, RSPREADMIN, SHMM, RSBATCH, RSBICA, RSPLAN or similar Words to find the latest Corrections/ Information for these Topics.
- Note 792779 - Report ANALYZE_RSZ_TABLES
  You may use the Report ANALYZE_RSZ_TABLES (Note 792779) to check possible inconsistencies with RSZ* Tables first and use the Report ANALYZE_MISSING_ELEMENTS to repair the errors.
- Note 966080 - Dump in ANALYZE_RSZ_TABLES
- Note 907025 - Duplicated technical names (COMPID) for query components
- Note 823804 - Table RSZELTXREF - reasons of slow performance
- Note 922727 - Content BI: Calculated key figures with "Before Aggregation"
- Note 973675 - After Import for Object WEBI not working during upgrade
- Note 999596 - 70SP12:DTP impact when changes made to source DSO, Cube etc.
Post Activities prior to NetWeaver 7.0, e.g. nw04

These Steps where mandatory prior to the upgrade to BW 3.x
However you may also check these Actions in Advance with NW 7.0

- Run report RSAPO_CLOSE_TRANS_REQUEST_ALL3. This closes all open transactional requests in all cubes, including old 2.0/2.1 requests. See note 568441 for more details (SEM related).

- Check if you have problems when changing key figures on fixed currency/unit using report RSDG_CUBE_TABLES_CONVERT. You can use transaction RSD2 to repair the inconsistency which only occurs at DDIC Level. In any case, refer to note 616361 which describes the problem in more detail.

- Check note 585606 and use the Report RSDMPROTADIR to create missing TADIR Entries for multi providers created in release 2.x.

- Run report RS_DME_PGM_TADIR_CREATE_ENTRY if you have not run it prior to starting PREPARE.

- Please check note 642989 with BC_320 or higher. If you want to turn on Drag&Drop again, change the setting using the maintenance view RSADMINSV by removing the checkmark from the Drag&Drop field.
Web-Specific Post Activities after tech. Upgrade

- Check the WDEBU7 unit “NetWeaver 7.0 WAS Settings for BI“
- If you still use a 2.x system, firstly you must carry out the migration steps from 2.x to 3.x. You must consider all information and the enhancements or restrictions that are mentioned there. Due to the large conceptional differences between 2.x and 7.0 systems, you must decide if it is effective to migrate by the different releases that occur between these two releases - in most cases it is advisable to create new corresponding elements with 7.0 tools.
- Run report RSWZ_CHART_MIGRATION_35 to convert first from 3.0B/3.1 BW system to convert the Objects to BW 3.5. You must install a Windows based IGS 6.40 which held's the chart migrator in it. See Note 818240 for more details. See also Note 959358 for new IGS settings after IGS >= 5.
- After you migrated the Objects to BW 3.5, you must run report RSWZ_ITEM_MIGRATION_3X_TO_70 to convert the Objects into BW 7.0 representation in your system. See Note 832712 (library items) and 832713 (web templates) for more Details. This step is mandatory to use the existing Objects with the new frontend tools. The complete BI-Java customizing must be in place, like EP and BI-Java.

Cause and prerequisites

- The first step of the conversion (Conversion of the workbooks into the new folder) could not be performed correctly.
- There are two possible error causes:
  1. You have not yet created a standard request for the Business Explorer objects. In order to check this, start Transaction RSOR (Administrator Workbench - Business Content) and select the “BEx” button with the transport icon in the function bar. You will then be able to see whether a request already exists. Use the corresponding help function to display more information.
  2. Inconsistent Web templates, Web items of the view query that did not work correctly with BI 2.x either cannot be deleted, although you chose this function (You choose the corresponding workbooks. However, the incorrect objects are not deleted.) This can be solved by running the Reports mentioned on the previous Page
- Note 970757 - Migrating BI Web templates to NW7.0 BI which contain chart
- Note 931395 - BEx Web Design API for Tables (Table Interface) in NW7.0
Reactivating the SAP BI System after Upgrading

Solution

- If an R/3 type destination has entered neither a host nor a system number, a logon is executed within the current system for the RFC system. A real logon is not executed if neither a client nor a user is specified. These are the default settings for this destination.

- You can change these settings as follows:
  - Entering host and system number:
    - Advantages: This ensures that a special server is being used
    - Disadvantages: When you copy or relocate the BI system, you must also adjust the destination (otherwise, errors occur during extraction or activation of ODS objects because the corresponding functions are carried out on the old server. For more information, see note 524554.
  - Error RG102, in particular, may occur if you use an incorrect destination when you activate DataMart export DataSources.

- Entering the client:
  - This is absolutely necessary if you are entering a user (see below) because, otherwise, errors occur during the import post processing.
  - This is necessary if you want to connect a client other than the BI standard client to the same BI system as a source system, as of NW 7.0. For more information, see notes 609167 and 522569.
  - If you only enter the client but not the user or the server, error RSBM 035 may occur during the transport if export DataSources are generated here.
Solution (continued)

- Entering a user:
  - Advantages: The remote functions are carried out by your selected user (BI background user, for example). Since the current user is not used, it does not have to have the S_BI-WX_RFC and S_BI-WHM_RFC profiles.
  - Disadvantages: The entered user must have the S_BI-WX_RFC and S_BI-WHM_RFC profiles because the destination is used to call both the source system and BI.
- It must also be a dialog user, otherwise, remote interactive functions cannot be performed (such as displaying logs and so on). For more information, see note 161570.
- In addition, you must also maintain the client because a user always only exists in connection with a client.
Checking Expert Settings in RSD1

- Deletion of InfoObjects without Basic Character
  - Deletion of InfoObjects with basic char.
- Deletion of non-referenced, local InfoObject properties
  - Deletion of local properties
- Creation of local properties missing from InfoObjects
  - Creating Local Properties
- Check consistency of the InfoObject tables and
  - Check Consistency
- Add missing entries to the InfoObject tables
  - Add Missing Entries
- Fill table with InfoObject maintenance fields
  - Fill Table with Fields

- Enter conversion exit for time characteristics
  - Time Char. Conversion Exit

- Check generated objects
  - Check Generated Objects
    - InfoObjects
    - Check DDIC Objects
  - Activate Incomm. InfoObjects

- Generate Local TADIR Entries
- Check Number Range
- Deletion of DDIC InfoObjects
- Delete Unused Object too
Symptom

During the upgrade of a BI 3.0A or BI 3.0B system on BI 3.10 or higher, problems may occur with /BIC/V<InfoCube>F fact views.

Reason and Prerequisites

- TADIR entries for the fact view are missing.

Solution

- Procedure:
  
  Upgrade a BI 3.0A system: execute the SAP_FACTVIEWS_RECREATE report **after** the upgrade.

  Upgrade a BI 3.0B system, version Support Package 6 or lower: execute the SAP_FACTVIEWS_RECREATE report **after** the upgrade.

  Upgrade a BI 3.0B system, Support Package 7 version or higher: execute the SAP_FACTVIEWS_RECREATE report preferably **before** the upgrade but at the latest **after it**.
Activating the BEx History (RS_PERS_ACTIVATE)

Activating Personalization in BEx (inactive are highlighted)

- Activate BEx History
- Variables Personalization
- Web Report Person
- InfoObject Values Conversion
Checking the Correct Patches of the BI Frontend

To enable the usage of the Process Chain function, it is mandatory that the SAP BW 3.5 AddOn Patch for has been successfully installed with the SAP GUI 6.40. The BI 7.0 AddOn is a separate Package to Download.

- **bw350_11-10001615.exe**
  - SAP BW 3.5 AddOn Patch
  - 1.1
  - 7489
  - 07.11.2006

- **Bw7005P10_1100-10001615.exe**
  - SAP Netweaver 2004s BI AddOn Patch
  - 904
  - 170623
  - 10.11.2000

- **Bw7005P11_1100-10001615.exe**
  - SAP Netweaver 2004s BI AddOn Patch
  - 1000
  - 17749
  - 28.11.2000

- **gu640_22-10001615.exe**
  - SAP GUI for Windows 6.40 Patch
  - 22
  - 72065
  - 16.11.2006

- **gu640_23-10001615.exe**
  - SAP GUI for Windows 6.40 Patch
  - 23
  - 72065
  - 05.01.2007

- **setup640_23-10001615.exe**
  - SAPSetup for SAP GUI 6.40
  - 23
  - 1581
  - 24.03.2000

**Maintenance periods for specific SAP GUI for Windows releases:**

- **7.10**  
  - Shipped on 5th of February 2007. Supported until **March 31st, 2011**

- **6.40**  
  - Supported until **October 14th, 2008** After that date, please use SAP GUI for Windows 7.10.

- **6.20**  
  - Long term support planned. Restricted support applies since 30th of September 2005. For more information have a look at SAP note 929300.

**SAP GUI for Windows maintenance on specific platforms**

- De-support of operating system  
  - Windows 95  
  - Dec. 31st, 2002

- De-support of operating system  
  - Windows NT 4.0  
  - June 30th, 2003

- De-support of operating system  
  - Windows 98  
  - January 15th, 2004

- End of 'Post Mortem QA' (platform still covered by QA tests)  
  - Windows NT 4.0  
  - June 30, 2004

- End of 'Post Mortem QA' (platform still covered by QA tests)  
  - Windows 98  
  - December 31, 2004

- Limited support during "Extended phase"  
  - Windows 2000  
  - June 30, 2005

- Limited support during "Extended phase"  
  - Windows XP  
  - June 30, 2008
Check the Document Attributes in RSA1

Check note 602820: Transporting characteristics that are document for more detail
Check Standard IMG with SPRO → Select F5

Changed Entries in the IMG:

Changed Entries in the IMG for the Integrated Panning:
Global Settings in SAP NW 7.0 (RSODSO_SETTINGS)

- Transaction "RSCUSTA2" is obsolete; Use "RSODSO_SETTINGS"

- RSCUSTA2 (note 629987 and 554521)

<table>
<thead>
<tr>
<th>DataStore Object</th>
<th>DEFAULT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parameter for Activation</td>
<td></td>
</tr>
<tr>
<td>Maximum Package Size</td>
<td>26.000</td>
</tr>
<tr>
<td>Maximum Wait Time for Process</td>
<td>560</td>
</tr>
</tbody>
</table>

| Parameter for SID Gen. |
| Maximum Package Size | 26.000 |
| Maximum Wait Time for Process | 560 |

| Parameter for Rollback |
| Maximum Wait Time for Process | 560 |

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**Basic Customizing Settings – Details 1**

- **RSRCACHE**
  (Note 791065)
- **RSCUSTV8**
  (Note 647002 and 653469)
- **RSCUSTV14**
  (Note 683194)
Some of these settings where introduced in Netweaver04 as advanced settings in Table RSADMIN.

New IMG Entries:
- Note 895530 - Maximum number of parallel processes for each query
- Note 912367 - Composite Note: RSADMIN Parameter
## New Authorization Concept with NetWeaver 7.0

### Comparison Analysis Authorizations <= NetWeaver ‘04 vs. NetWeaver 7.0

- **Most important differences**

<table>
<thead>
<tr>
<th></th>
<th>&lt;=SAP NetWeaver 2004</th>
<th>SAP NetWeaver 7.0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technical Foundation</strong></td>
<td>Authorization Objects</td>
<td>Analysis Authorization</td>
</tr>
<tr>
<td><strong>Maintenance</strong></td>
<td>Not Changeable</td>
<td>Changeable</td>
</tr>
<tr>
<td></td>
<td>Afterwards</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 objects</td>
<td></td>
</tr>
<tr>
<td><strong>Number of objects</strong></td>
<td>Only on global basis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Via GUID and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0TCTAUTHH</td>
<td></td>
</tr>
<tr>
<td><strong>Navigational Attributes</strong></td>
<td>Intersection of business objects</td>
<td>Individually</td>
</tr>
<tr>
<td></td>
<td>Per InfoObject AND</td>
<td></td>
</tr>
<tr>
<td></td>
<td>InfoCube</td>
<td></td>
</tr>
<tr>
<td><strong>Hierarchy Authorizations</strong></td>
<td>Only InfoObject setting</td>
<td>Equivalent to value authorizations</td>
</tr>
<tr>
<td></td>
<td>(also Cube is InfoObject)</td>
<td>Union (‘as expected‘)</td>
</tr>
<tr>
<td><strong>Composition of authorizations</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Authorization Relevance</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### New Analysis Authorizations for BI Reporting:

- [http://help.sap.com/saphelp_nw04s/helpdata/en/80/d71042f664e22ce10000000a1550b0/content.htm](http://help.sap.com/saphelp_nw04s/helpdata/en/80/d71042f664e22ce10000000a1550b0/content.htm)
- Switch on/off obsolete Authorization concept /nRSCUSTV23
- Note 727354 - Colon authorization during query execution
- Note 820183 - New authorization concept in BI
- Note 923176 - Support situation authorization management BI70/NW7.0
- Note 958665 - Migration IV
- Note 964905 - New concepts and generation of analysis authorizations
- Hinweis 1024554 - Performanceverbesserungen in Queries in SAPLRSEC_CHECKS
Migration Support

- For security and clarity reasons make a „clean“ new setup „from the scratch“ (much easier, less complex than in 3.x)

Otherwise:
- ABAP program RSEC_MIGRATION (use transaction SA38)
- No complete, automatic migration, but support
  - The more complex the existing authorization concept, the more manual migration work might be necessary
  - Customer exits variables on nodes are migrated
  - Customer-exit variables for 0TCTAUTHH cannot be migrated; the respective hierarchy nodes must be assigned manually
  - Intensive tests are highly recommended
  - Runtime (10000 users roughly 1h)
- Singular event, not for scheduling
- During migration to the new authorization concept, the existing concept won't be changed
- Always check the latest corrections of the program RSEC_MIGRATION

Use

As of SAP NetWeaver 7.0, a completely new concept for analysis authorizations is used in BI; this concept is based only on authorizations as elementary objects. The previous authorization concept (reporting authorizations) has been completely replaced. There is a move away from the SAP authorization concept of authorization objects. The new authorizations can contain any authorization-relevant characteristics and handle single values, intervals, and hierarchy authorizations equally. Navigation attributes can now be flagged as authorization relevant in the attribute maintenance for characteristics, and can be applied as characteristics in authorizations.

Activation of authorizations by InfoProvider is no longer required. Instead, all authorization-relevant characteristics are checked. In addition, there are three special characteristics for the InfoProvider, the activity, and the reconceived authorization characteristic validity, which specifies the validity period of an authorization. The authorization of an activity, such as Write, is set for an InfoProvider using InfoProvider. The validity period of an authorization is set using Validity. Patterns and open time intervals provide a variety of options, such as creating authorizations that are valid periodically.

The characteristic for InfoProvider represents the structure of the InfoProvider store in the Data Warehousing Workbench with its master data and the hierarchy characteristic for InfoArea. This makes it possible to authorize entire InfoArea's.

The authorizations are available as virtual master data for the characteristic 0TCTAUTH and can also be grouped hierarchically, for example, to create thematic arrangements.

The authorization checks on authorization objects for hierarchies and InfoProviders, which also had to be maintained until now, are no longer required for reporting analysis and have thus been removed from the analysis, unlike back-end management. This means that there is no longer a difference between hierarchy authorization and hierarchy node authorization in the query.
Former and new authorization concept

- It is highly recommended to migrate to the new concept
- The former authorization concept won’t be supported any longer
- You can, however, switch back to the former concept – in some exceptional cases (during upgrade, IMG setting)

Effects on System Administration

- Administration has been simplified significantly. Usability and flexibility have also been greatly improved.
- Secondary effects such as automatic activation of authorization objects for new InfoProviders can also be eliminated, if required. The maintenance effort required also decreases since back-end checks on hierarchies and InfoProviders are omitted (authorization objects S_RS_HIER, S_RS_MPRO, and so on).
- Every characteristic marked as authorization relevant is checked during query execution. If no authorization is found, no authorization is given. The authorization relevant property is the only relevant property; the function of the authorization objects and the activation are no longer required.

Effects on Customizing

- The new concept is the default. In Customizing, you can switch back to the old concept at SAP Customizing Implementation Guide → SAP NetWeaver → Business Intelligence → Reporting-Relevant Settings → General Reporting Settings → Analysis Authorizations: Select Concept.
There is no possibility to run the old and the new concept simultaneously. However if you plan to switch to the new concept immaterially after the technical Upgrade, there is no need to use the old concept any longer.

**BI Authorizations:**

- Note 820183 - New authorization concept in BI
  - if required, switch to obsolete Authorization concept /nRSCUSTV23
  - transfer from business content:
    - 0tcaiprov
    - 0tcaactvt
    - 0tcavalid
    - 0tcakyf
  - and assign * authorization in at least one role. Can be revoked later.
- enhance role's: Objects of BIW S:A:BIWOBJ with object s_rs_admwb activity 23 on object BR_SETTING
  - assign s_rs_bcs with * field value to role S:E:BIWREP
  - add authorization S_RS_DTP to role s:a:biwobj
  - If upgrading from BW 3.0B: add tcode RSPC to role s:a:biwobj
New Maintenance of the statistic data collection

Maintenance of Statistic Properties

For Queries, InfoProviders, Web Templates, Workbooks and DTPs

Switch Statistics data collection on or off

Set the statistic detail level
- \(0^1\) = Aggregated data only
- \(1^1\) = No detail on data manager
- \(2^1\) = Detail on all levels

...accessible from the Data Warehousing Workbench → Tools or using transaction RSDDSTAT

Use
- With the new architecture for BI reporting, collection of statistics for query runtime analysis was enhanced or changed. The parallelization in the data manager area (during data read) that is being used more frequently has led to splitting the previous "OLAP" statistics data into "data manager" data (such as database access times, RFC times) and front-end and OLAP times. The statistics data is collected in separate tables, but it can be combined using the InfoProvider for the technical content.

- The information as to whether statistic data is collected for an object no longer depends on the InfoProvider. Instead it depends on those objects for which the data is collected, which means on a query, a workbook or a Web template. The associated settings are maintained in the RSDDSTAT transaction.

Effects on Existing Data
- Due to the changes in the OLAP and front-end architecture, the statistic data collected up to now can only partially be compared with the new data.
- Since the structure of the new tables differs greatly from that of the table RSDDSTAT, InfoProvider’s that are based on previous data (table RSDDSTAT) can no longer be supplied with data.

Effects on Customizing
- The Collect Statistics setting is obsolete. Instead you have to determine whether and at which granularity you wish to display the statistics data for the individual objects (query, workbook, Web template). In the RSDDSTAT transaction, you can turn the statistics on and off for all queries for an InfoProvider. The maintenance of the settings (such as before) from the Data Warehousing Workbench can be reached using Tools → BW Statistics.
Use New Transaction RSDDSTAT and check Notes

Note 934848 – Collective note: (FAQ) BI Administration Cockpit

More Notes to consider:
- Note 964418: Adjusting ST03N to new BI-OLAP statistics in Release 7.0
- Note 997535: DB02: Problems with History Data
- Note 955990: BI in SAP NetWeaver 7.0: Incompatibilities with SAP BW 3.x
- Note 1005238 - Migration of workload statistics data to NW2004s
- Note 1006116 - Migration of workload statistics data to NW2004s (2)
Activation of the BI Administration Cockpit (TCO)

Perform all steps to activate the content for the BI Admin Cockpit

- Add the Role SAP_RO_BCTRA to the executive User
- SE38 → RSTCC_ACTIVATE_ADMIN_COCKPIT or RSTCO_ADMIN
  - Check also with Note 1039381 (at least BC_703 Patch 5)

Additional Notes to consider:
- Note 834280 - Installing technical BI Content after upgrade (together with Note 824109)
  - Report RS_TCO_ACTIVATION_XPRA and Transaction RSTCO_ADMIN to execute
- Note 965386 - Activating the technical content for the BI admin cockpit
  - Role S_RO_BCTRA (for executive user)
  - Role SAP_BW_BI_ADMINISTRATOR (for the end user)
  - Transaction RSTCC_INST_BIAC

- Note 1000194 - Incorrect activation status in transaction RSTCO_ADMIN
- Note 1007064 - Performance improvement for data source 0TCT_DS23 (SNOTE correction!)
- Note 1008758 - Automatic Installation of technical BI Content (SNOTE correction!)
- Note 1019055 - Runtime errors when activating InfoObjects (SNOTE correction!)
Activation of the BI Administration Cockpit:
- For details and for performing (most of) the following implementation steps please call the implementation guide (IMG) in the SAP NetWeaver BI system (transaction SPRO) using the following path: SAP NetWeaver -> Business Intelligence -> Settings for BI Content -> Business Intelligence -> BI Administration Cockpit
- Note 934848: Collective note: (FAQ) BI Administration Cockpit
  - You have installed BI Content (BI_CONT) 7.0.2 or higher and implemented the latest SP.
  - You have applied notes 930495 and 931840 or implemented SAP NetWeaver 7.0 SPS 8
  - Activate and replicate DataSources for the MYSELF source system (Data Warehousing Workbench -> Source Systems -> Select the MYSELF source system -> right mouse click "Activate"). Please also refer to note 922462.
  - Assign the Role SAP_BW_BI_ADMINISTRATOR in the Abap (SU01)
  - You can collect and activate all relevant objects from the technical content by selecting role SAP_BW_BI_ADMINISTRATOR and grouping option set to "in data flow before" in the Data Warehousing Workbench -> Modeling -> Business Content.
  - Call transaction RSDDSTAT, and check the updating of statistics of the Objects
  - schedule the technical content process chains (0TCT*) in transaction RSPC
  - Download the Business Package BI Administration 1.0 from the Portal Content Portfolio on http://sdn.sap.com or from http://service.sap.com/swdc and import it into your SAP NetWeaver 7.0 Portal (minimum: Support Package Stack 5). Then assign the roles 'System Administrator' and 'BI Administrator' to your BI administrator users in the portal.
Useful Transactions together with NetWeaver 7.0 BI

- RSPRD_ADMIN - Broadcasting Administration
- RSBATCH - Verwaltung RSBATCH/SEARHLOGS
- RRMX_CUST - Initial Trans. for Excel with Params
- WS_CLIENT - Freigabe von Web Services
- WSADMIN - Administration Web Services
- RSTDO_ADMIN - Technischer BW Content
- RSPLSE - BI-Planung: Sperrenverwaltung
- RSPLSA - BI-Planung: Starter Einstellungen
- STSPMON - Monitor für den internen ITB
- RSRCACHE - OLAP Cache Monitor
- STRUSTBOZ - Trust Manager für Anmeldeticket
- SUPC - Profile zu Rollen
- RSPLAN - Modellierung BI integrierte Planung
- RS_FRONTEND_INIT - Initialisierung des BW-Frontend
- RSPLSE - BI-Planung: Sperrenverwaltung
- BOF - Pflege des HTTP-Service-Baums
- SMICM - ICM Monitor
- SHMM - Shared Objects Monitor
- RBBCDA - BI Content Analyzer
- RSSOPLCA - Programmklasse pflegen
- SMLO - Maintain Login Grid for Instance
- SMMS - Message Server Monitor
- RSDDEMON - BI Accelerator/Wartungs-Monitor
- GAIP - BAPI Explorer
- RZ70 - SLD Administration
- SLADAPCUST - SLD AFI Customizing
- SLDCHECK - Test der SLD-Anbindung
- ORMGR - Generic Request and Message Gen.
- ST030 - Globale Worldload-Statistiken
- RSDDSTAT - Maintain the BW Statistics Settings
- RSDIV - Pflege der Aggregate
- SM04 - Benutzerliste
- RSCUSTA - BW-Einstellungen pflegen
- TRECADMIN - TREC-Verwaltungswerkzeug
- RZ21 - COMS Customizing Monitorarchitektur
- RSPOR_CUST01 - NetWeaver Customizing - Step 1
- SM59 - RFC Destinations (Anzeige u. Pflege)
- H8N - Internationalization
- SNOTE - Note Assistant
- SE38 - ABAP Editor
You should now be able to:

- Understand the SAP Upgrade Process for the BI NetWeaver Component
- Know how to prepare the SAP system for the technical Upgrade
- Know how to check the SAP Application for the technical Upgrade
- Know how to handle errors during the Upgrade
- Know how to tune the Upgrade Process
- Know how to apply post activities before the productive usage of the SAP system starts