How to ... Checklist: Rapid SAP NetWeaver 7.0 BI Technical Upgrade with BI Accelerator Implementation

Version 1 – October 2007

Applicable Target Release:
SAP NetWeaver 7.0 BI
Business Information Management
Enterprise Data Warehousing

Applicable Source Releases:
SAP BW 3.0B
SAP BW 3.1 Content
SAP BW 3.5 (aka SAP NetWeaver '04)

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1 Scenario

You are planning to upgrade your SAP BI system to the SAP NetWeaver 7.0 BI (aka 2004s) release. Your current system is one of the following versions: BW 3.0B, BW 3.1C, or BW 3.5 (aka SAP NetWeaver '04 BI). You require a checklist to help you to plan your upgrade activities.

2 Introduction

Background

This is a collection of common tasks recommended to be executed in relation to an upgrade to SAP NetWeaver 7.0 BI. The 'original' SAP BI releases covered in this document are SAP BW 3.0B, SAP BW 3.1 Content, SAP BI 3.2 Content, or SAP BI 3.3 Content. If your SAP BI system is of version SAP BW 2.0B or 2.1C, numerous additional tasks will be required (in addition to the ones in this checklist), as you will need to perform migration steps to bring your system's functionality to the 3.x level. SAP NetWeaver 7.0 BI (aka SAP NetWeaver 2004s BI) is considered the 'target release' in this document.

An important general concept to grasp about SAP NetWeaver 7.0 BI is the "coexistence strategy". The coexistence strategy means that new features, functionality, technology – has been implemented in a manner where it is not mandatory to utilize them once the system has been upgraded. In general, the 3.x functionality continues to be supported – data loads using the 3.x functionality are still viable, the 3.x BEx tools can be utilized without concern. The coexistence strategy lends itself to a phased upgrade project approach.

The exception to the "coexistence strategy" is the "BI statistics" functionality – the 3.x "BW statistics" content (for example, table RSDDSTAT) is no longer functional once SAPup has been completed. It is mandatory to implement the 7.0 "BI statistics" content in order to enable capture and analysis of BI performance data. The coexistence strategy has a role in the approach in this document, in that it is assumed as a key part of the short-term project plan (together with the implementation of the BI accelerator). This document assumes a "technical upgrade" plan for the short-term with the BIA deployment. Furthermore, it is assumed here that subsequent project phases (medium and long-term) will include migration to, and exploitation of, new 7.0 BI features, functionality and technology.

About this Document:

It should be noted that a number of the tasks in the document are duplicated in other SAP materials (Upgrade guides, How-To papers, white papers, etc) and SAP notes.

This document is not intended to replace standard SAP documentation, but is provided as a complimentary checklist to these documents.

Additionally, this checklist should not be considered exhaustive. Periodically, additional tasks, updates, and tips may be generated, and it is intended that the primary delivery mechanism of such information be via SAP notes. We intend to routinely compile new content into this document and to re-publish this document on the SAP Service Marketplace. Changes to the document will be recorded in the document version number on the title page.

3. Actions that can be executed weeks or months before starting the technical upgrade procedure

Task	Relevant Information	Status
Understand BIA concepts	Examine materials available on SDN > SAP NetWeaver > Business Intelligence > Key Topics > BI Accelerator or at https://www.sdn.sap.com/irj/sdn/bia	
Review new features of SAP NetWeaver 7.0 BI	In order to build a long-term vision for the use of SAP NetWeaver 7.0 BI in your organization, examine materials available on SDN > SAP NetWeaver > Business Intelligence > Getting Started > BI Capabilities in SAP NetWeaver 7.0 (2004s) or at https://www.sdn.sap.com/irj/sdn/go/portal/prtroot/docs/webcontent/uuid/e78a5148-0701-0010-7da9-a6c721c6112e	
Build business case for BI upgrade and BIA project; executive sponsorship and budget	Utilize above materials to help build compelling business case, outlining massive benefits and favorable TCO aspects. The extensive array of powerful new features beneficial for the scenarios Enterprise Reporting, Query and Analysis, Enterprise Data Warehousing, and Business Planning and Analytical Services provides ample opportunity to derive significant business benefit. Performance breakthroughs available with BIA will ensure high productivity, extensive use of BI, and low administration cost.	
Formulate initial plan for short, medium and long-term upgrade project phases	The approach outlined here includes implementation of BIA in the short-term project phase, but otherwise is a "technical upgrade" – meaning, the system will be utilized like a BW 3.x system following the completion of the SAPup upgrade procedure. This approach assumes that in future project phases, you will likely migrate to the new analysis authorizations, new dataflow; roll out the new 7.0 Business Explorer tools, etc. Please be aware of the "co-existence strategy", meaning the SAP NetWeaver 7.0 BI system can function like a BW 3.x system, the use of new features and functionality is generally not mandatory, and this approach is fully supported by SAP.	
Establish project charter	A project charter is a statement of the scope, objectives and participants in a project. It provides a preliminary delineation of roles and responsibilities, outlines the project objectives, identifies the main stakeholders, and defines the authority of the project manager. It serves as a reference of authority for the future of the project.	
Perform initial sizing estimate for BIA	See SAP note 917803 - Estimating the memory consumption of a BIA index (only valid for BW 3.x systems). Also, follow the steps outlined in SAP note 1010267 – complete the sizing spreadsheet and questionnaire, and open an SAP customer message per instructions and attach the documents to it. Furthermore, contact the appropriate hardware partner for sizing instructions.	
Initiate procurement of	Contact the appropriate hardware partner to initiate procurement of the BIA appliance. For more information, see SDN > SAP NetWeaver > Business	

the BIA appliance	Intelligence > Key Topics > BI Accelerator > Frequently Asked Questions - BI Accelerator in SAP NetWeaver 7.0 (2004s) or at https://www.sdn.sap.com/irj/sdn/bia; HP information is available at http://h71028.www7.hp.com/enterprise/cache/11813-0-0-0-121.html, and IBM information is available at http://www-03.ibm.com/solutions/sap/index.jsp	
Alpha Conversion (relevant for BW 3.0B systems established as a "new installation")	If the system to be upgraded is BW 3.0B system established as a "new installation" - transaction RSMDCNVEXIT must be utilized to address potential inconsistencies in data for characteristics that employ routines of type ALPHA, NUMCV, and GJAHR. Refer to SAP note 447341, and the information provided in the *help* feature in transaction RSMDCNVEXIT. Any actions taken to address potential data inconsistencies (due to the described issues), should be performed well in advance of the technical upgrade procedure. Note: The Alpha conversion is not part of the upgrade itself, but the PREPARE phase simply checks to ensure you have successfully executed the check tool. The Alpha Conversion tool is executed by Transaction RSMDCNVEXIT Check the system status: ❑ "All Characteristics Have Correct Internal Values": The Alpha converter has been successful executed. The upgrade preparation can continue. ❑ "No Check yet/Inconsistent Internal Vales exist": The Alpha converter check has not been executed. ❑ "Characteristics have Inconsistent Internal Values": The Alpha converter tool check has been executed and data problems have been detected. The InfoObject and data must be processed before the upgrade can be started.	
Note incompatibilities in SAP NetWeaver 7.0 BI	Review SAP note 955990*, BI in SAP NetWeaver 7.0: Incompatibilities with SAP BW 3.x.* This note outlines functionality in BW 3.x that does not function in exactly the same manner in SAP NetWeaver 7.0 BI.	
Plan promotion strategy for new developments (transports)	The plan must take into account that once the upgrade of the BI development system begins, no new developments (objects, code, etc) can be promoted to the QA and production systems, until the production BI system has been completely upgraded. Therefore, promote any new developments that are ready for promotion before the development system upgrade begins, then freeze transports of new developments until the production BI system upgrade is completed. ❑ One approach is to plan to correct any production issues that arise directly in the production system (note application, etc), but this carries a certain amount of risk to production stability. ❑ Another approach is to establish a "break fix" transport path, using at least one alternative BI development system. If a "break fix" transport path is established, plan for the necessary hardware resources accordingly (either utilize an existing server, or procure a server from the appropriate hardware partner).	
Obtain and	Download the Upgrade Master guide from http://service.sap.com/instguides >	

review the upgrade master guide reference	SAP NetWeaver > SAP NetWeaver 7.0 (2004s) > Upgrade > Planning > *Upgrade Master Guide*. Be advised that the content in the section "Upgrade of SAP BW / BI Information Broadcasting" discusses system landscape aspects that may be more relevant for subsequent project phases (given the assumed approach here of technical upgrade plus BIA implementation). Note: the master guide assumes utilization of 7.0 new features in the short-term, for example, in the system landscape discussion. In the approach outlined here, 7.0 new features (i.e. 7.0 BEx front-end tools) will be utilized in later project phases, not following the initial technical upgrade.	
Obtain and review the upgrade guide reference	Download and carefully review the Upgrade Guide from http://service.sap.com/instguides > SAP NetWeaver > SAP NetWeaver 7.0 (2004s) > Upgrade > Upgrade to SAP NetWeaver 2004s > Upgrade Documentation - SAP NetWeaver 7.0 SRx > SAP NetWeaver 2004s SRx Business Intelligence ABAP > (where "x" is the most recent Support Release number, i.e. SR2")	
Outline preliminary testing plan	Testing plan should be relatively simple – with the approach outlined here, there should be no difference in system utilization to end-users once the technical upgrade procedure is completed. Validation testing and stress / volume testing for the BIA appliance are advised.	
Ensure SAP Solution Manager availability	Note that the PREPARE phase of technical upgrade procedure requires a key generated from SAP Solution Manager. The minimum required version is Solution Manager 3.2 SP 4. See SAP note 805390. Furthermore, the Maintenance Optimizer feature of the SAP Solution Manager is required to maintain a download basket or Support Pack Stacks. If Solution Manager is not already available within the landscape, take steps to ensure that it is available prior to beginning the technical upgrade procedure in the BI system landscape.	
For systems running on the Oracle RDBMS: Prepare for Oracle upgrade	For customers running the Oracle RDBMS only: be aware that an upgrade to Oracle 10 is required as part of the upgrade procedure. Any internal processes required to "certify" Oracle 10 should be initiated. Note that optionally, the Oracle DB can be upgraded several weeks before the PREPARE phase, and it is fully supported by SAP to run a BW2.x or 3.x system on Oracle 10 for short periods of time prior to the upgrade of the BI application.	
Review all SAP notes relevant for the upgrade	In addition to the upgrade guide, check, download, and review all SAP notes for your upgrade ❑ Upgrade notes – upgrade to SAP NetWeaver 2004s (7.0) – i.e. SAP note 960783 ❑ OS and DB specific upgrade notes – (see the upgrade guide for the correct notes) ❑ BI-specific upgrade notes (see the upgrade guide) ❑ SAP BI Content 7.0x upgrade notes – see SAP note 1000822 ❑ BI technical content notes – i.e. SAP note1000822 ❑ Other notes identified in above notes and/or upgrade guides	

Check OS and DB and Specific Information	Refer to details relevant for your specific RDBMS type and Operating System at http://service.sap.com/pam > SAP NetWeaver > SAP NetWeaver 2004s; in particular see the DB/OS information under "databases".	
Database patches	Depending on your RDBMS type, Database patches may need to be installed. Refer to the upgrade guide and release notes for specific instructions for patching your database type.	
32-bit operating systems	For customers still running on 32-bit operating systems – upgrade OS to 64-bit version (whenever possible). See SAP note 996600.	
Check content dependencies and plug-in requirements (SAP source systems)	Dependencies of BI_CONT Add-Ons: Functional Correspondences https://service.sap.com/~sapdownload/011000358700007362962004E/func_corresp.htm Dependencies of BI_CONT Add-Ons: Technical Prerequisites: https://service.sap.com/~sapdownload/011000358700007362972004E/tech_prereq.htm BI Extractors and Plugin Information: http://service.sap.com/~form/sapnet?_SHORTKEY=01100035870000682135&	
Check starting SP level requirements	The minimum starting support package levels (for the BI system) to upgrades are listed in the upgrade guide – but also check SAP note 818322 (which controls_. If a higher level is needed than your current level, the SP upgrade can either be done in advance, or alternatively as one of the first steps you perform as part of the technical upgrade process. Note that if the starting SP level must be upgraded as a manual step of the technical upgrade process, the end-to-end time to perform the upgrade procedure will be extended.	
Plan for additional space requirements	Prepare for additional space utilization for all systems to be upgraded. The disk space required for the required upgrade directory (ie. /usr/sap/put for UNIX systems) may be up to 6 GB. Also, consider the space requirements in the DB during the upgrade, which may be as high as 28 GB. The exact DB space requirements will be calculated by PREPARE. Note that 500 MB space is required in the DB to run PREPARE.	
Check support status with third party software vendors	Contact vendors who supply third-party tools utilized with your BI system to determine support status. In general, since the system will be operated in the same manner as a BW 3.x system in the time following the technical upgrade, all third-party tools should function without issue. Types of third-party tools to check: ❑ 3rd Party Reporting tools (example: Business Objects) ❑ 3rd Party ETL Tools (example: Informatica, etc) ❑ Scheduling and Monitoring tools (example: HP OpenView, Patrol, etc) ❑ Other OS or DB related tools	
Schedule your	It is recommended that you use one of SAP Safeguarding checks to validate	

Task	Relevant Information	Status
SAP upgrade and/or going-live check process	your upgrade process and health of the SAP NetWeaver BI system itself. It is prudent to schedule these checks at least a month in advance. Also, schedule the BIA checks available from SAP Active Global Support. More information is available on the safeguarding page of the SAP Service Marketplace: http://service.sap.com/safeguardingupgrade or http://service.sap.com/**safeguarding**	
Installation of BIA appliance(s)	It is generally recommended to perform stress/volume testing on the BIA appliance as part of the BIA implementation project. In order to achieve this, the BIA appliance should be in place in advance of the start of the technical upgrade procedures. Stress/volume may be accomplished by attaching the BIA appliance to a QA or test system prior to connecting it to the production BI system.	

4. Actions that can be executed weeks before starting the technical upgrade procedure

Task	Relevant Information	Status

Confirm all developments that are ready to be promoted are deployed	Ensure that all BI developments that should be promoted are in fact deployed.
	
	❑ In the DEV system, all development transports that are ready to go should be released (i.e. change request created and released) and imported to all downstream systems (i.e. QA and PRD systems).
	
	For developments not already collected in the transport collector, a decision must be made: Deploy the developments or wait until the upgrade has completed to deploy.
	
	   o Developments to be deployed should be collected, released, and imported into the QAS and PRD systems.
	
	   o Developments that should be deployed after the upgrade should be re-tested/re-developed after the upgrade.
	
	❑ In the QAS or PRD systems, ensure that all development transports (that were designated for promotion) have been imported prior to the start of the technical upgrade procedure in the DEV system.	

Determine strategy for downtime minimized or resource minimized	Refer to the upgrade guide for a discussion about the options for the technical upgrade procedure, resource minimized vs. downtime minimized (section entitled *upgrade strategy planning*). Determine the selected technique in advance, and plan the associated outage to end end-users accordingly. ❑ In general, resource minimized accomplishes the technical upgrade procedure in with a fast end-to-end runtime, but end-users cannot work in the system once the EU_IMPORT1 phase of SAPup begins. ❑ With downtime minimized, end-users can continue to run queries while	

	SAPup runs, up until the MODPROF_TRANS phase, but the end-to-end runtime of the technical upgrade procedure can be significantly longer (compared to resource minimized). It is for this reason that resource minimized is often the mode that is selected by many customers.	
Plan for the Java upgrade (SAP NetWeaver '04 (aka BW 3.5) systems with Java already installed on the same server as ABAP only)	If (and only if) an SAP NetWeaver '04 Java instance is already installed on the same server as the SAP NetWeaver ABAP instance (CI), plan for the synchronized upgrade of the Java instance. Refer to the Java-specific upgrade guide available at: http://service.sap.com/instguides > SAP NetWeaver > SAP NetWeaver 7.0 (2004s) > Upgrade > Upgrade to SAP NetWeaver 2004s > Upgrade Documentation - SAP NetWeaver 7.0 SRx > SAP NetWeaver 2004s SRx Java (where "x" is the most recent Support Release number, i.e. SR2") Note: If SAP NetWeaver Java is not currently installed, the approach outlined here recommends performing the installation in future phase (medium or long-term) of the upgrade project.	
Refine plan for testing strategy	Several variations of testing strategies exist, including creating a test system as a system copy of the production system, or focusing the bulk of testing activity into the QA system after its upgrade has been completed. If validation as well representative stress/volume testing can potentially be performed in the QA system, and in many cases this approach can provide an efficient upgrade project strategy.	
Check Operation Modes	The system must have at least one operation mode defined and assigned to the instance in order for the upgrade to proceed. Go to transaction RZ04 to check operation modes. If one does not exist, create it and assign it to the instance.	
Convert Data Classes of InfoCubes	The existence of any DDART data classes not corresponding to the proper naming conventions can cause activation issues during the SAPup procedure. Create a new data class as described in SAP note 46272, then run report RSDG_DATCLS_ASSIGN. The upgrade guide provides more information about this required task.	
Check and rebuild missing indexes	Missing indexes can cause the SAPup phase PARCONV_UPG to run for a very long time, as missing indexes will be rebuilt in that phase. Avoid these long runtimes by checking for missing indexes in DB02 and rebuilding as many as possible. InfoCube fact table indexes may be dropped by process chains (or automated settings)as part of data load operations, so take this into account when determining the approach for rebuilding missing indexes. Sometimes indexes do not get rebuilt properly, and triggering a rebuild will resolve this. Either uses the index rebuild functionality in DB02 or in the RSA1 utility InfoCube Manage (context menu) (depending on index type).	
Check Inconsistent InfoObjects	Before PREPARE is executed, InfoObjects must be checked and repaired if necessary. This step should be performed in advance in case manual repairs are necessary, then performed once again in the steps to be executed immediately prior to running PREPARE.	

	Procedure:
	1. Go to transaction RSD1
	2. Choose *Extras > Repair InfoObjects*
	3. Choose *Execute > Repair*
	4. Choose *Expert Mode > Select Objects*
	5. Select the following checkboxes:
	    ☑ *Check Generated Objects*
	    ☑ *Activate Inconsistent Objects*
	    ☑ *Delete DDIC Objects*
	    ☑ *Display Log*
	6. Execute the program
	
	The program repairs the inconsistent InfoObjects as much as possible. After the InfoObjects have been repaired, check them again, and manually correct any remaining inconsistencies.	

Review information about new technical content for BI statistics	Become familiar with the new technical content delivered in SAP NetWeaver 7.0 BI. This is the key area that is an exception to the "coexistence strategy" – the technical content for "BW statistics" that has existed since BW 2.x is completely obsolete with SAP NetWeaver 7.0 BI. For example, transaction ST03N (BI system load) does not work at all without the new technical content installation. The new technical content should be installed despite the fact that the administration cockpit will not be deployed in the short-term upgrade project plan. Review SAP notes 964418, 965386 and 934848, and plan to incorporate the installation of the new technical content into tasks performed following the technical upgrade procedure (SAPup).	

Clean up inconsistent PSA directory entries	Run the Program RSAR_PSA_CLEANUP_DIRECTORY from note 849857 to prevent potential data loss in PSA/change log. If issues are encountered with partition 0, run program SAP_PSA_ZEROCORRECT from note 856097.
	
	Choose the following selections: Processing Options – "Persistent Staging Area", "repair"; Check Options (select all).
	
	Note: The logs created by this program can later be accessed by transaction 'SLG1' using the following select conditions:
	    - Object > RSAR
	    - Subobject > METADATA
	    - External ID >RSAR_PSA_CLEANUP_DIRECTORY	

Check consistency of PSA partitions	Per SAP note 339889, check PSA partition consistency – in Transaction RSRV > PSA tables, Select 'Consistency Between PSA partitions & SAP Admin'. In the selection for PSA (leave blank). If issues are described they can be repaired by choosing "Correct Error".	
Check compounding consistency in MultiProviders	Review SAP note 920416 that discusses a potential issue with compounding in MultiProviders. Essentially, a condition that shows as a warning during activation becomes an error in SAP NetWeaver 7.0 BI that prevents MultiProvider activation. ❑ If the RSCOMPCONS report does not yet exist in your system, use transaction SE38 to create a "Z" version of the report and then copy the	

	source code from the advance corrections	
	❑ Run report RSCOMPCONS to identify MultiProviders that contain this compounding issue	
	❑ Either utilize transaction rsdmpro to correct and activate the affected MultiProviders (strong recommended) OR	
	❑ Implement the solution described in SAP note 931597 as a post-upgrade step (should be considered a short-term workaround if chosen as a course of action)	

5. Actions that can be executed directly prior to running the PREPARE phase of the technical upgrade procedure

Task	Relevant Information	Status
Download most recent SP stack, and most recent BI support pack	❑ It is recommended to upgrade to the latest version of all relevant support packages (SP stack) during the upgrade via the support package binding functionality of the technical upgrade procedure.	
	❑ Please note that starting with SAP NetWeaver 7.0 Support Package Stack 10, there is a new intermediate SAP NetWeaver 7.0 BI ABAP Support Package strategy. For more information, see SAP note1013369. It is recommended to also bind in the most recent BI ABAP support package with the other SPs in the SP stack.	
	❑ Support Packages are delivered via SAP NetWeaver Support Package stacks (SP-Stacks).For more information on the SP-Stacks and SAP NetWeaver SP-Stacks, please see the SAP service marketplace alias SP-Stacks (http://service.sap.com/sp-stacks)	
	❑ The following support packages should be downloaded as a minimum:	
	o SAP_BASIS	
	o SAP_ABA	
	o SAP_BW	
	o PI_BASIS	
	o BI_CONT 7.0.x (where x is target content release)	
	❑ You should also review, download, and bind in support packages for all add-on components that are installed on SAP BW and will be upgraded during the SAP BW upgrade (e.g. SEM-BW, ST-PI, etc)	
	❑ Download the target release's support packages using the Solution Manager Maintenance Optimizer and unpack them in your system's patch directory (ex. usr/sap/trans/eps/in)	
Upgrade SAP	Check for the newest versions of your SAP notes for the Upgrade.	

Note updates	Tip: The SAP service marketplace offers an option to subscribe to OSS notes so you can be notified of changes when you log on.	
Apply latest Support Package tool patch	Apply latest SPAM patch before executing PREPARE.	
Remove temporary BI database objects	Delete temporary BI database objects. Execute routine SAP_DROP_TMPTABLES. For more information see SAP note 449891. Also see note 883843 and 974639 Note: this should not be run during heavy query activity – abends of query operations are possible when this is run.	
Check for invalid temp tables	In transaction SE14, from the *Extras* menu, choose *Invalid Temp Tables.* If tables appear, they can be deleted from this screen.	
Once again, check and rebuild missing indexes before running PREPARE	As mentioned, missing indexes can cause the SAPup phase PARCONV_UPG to run for a very long time, as missing indexes will be rebuilt in that phase. Avoid these long runtimes by checking for missing indexes in DB02 and rebuilding as many as possible. InfoCube fact table indexes may be dropped by process chains (or automated settings)as part of data load operations, so take this into account when determining the approach for rebuilding missing indexes. Sometimes indexes do not get rebuilt properly, and triggering a rebuild will resolve this. Either uses the index rebuild functionality in DB02 or in the RSA1 utility InfoCube Manage (context menu) (depending on index type).	
Ensure that correct Java Runtime Environment version is installed on server	Check the upgrade guide for details about checking the JRE version (i.e. executing the command "Java –version: should return something like 1.4.2). Make sure that the specified version (per the upgrade guide) is installed; if not, install it. This is available from Sun Microsystems.	
Ensure DB Statistics are up to date prior to the upgrade	Depending on your database type, a "DB statistics" update may be specialized task (i.e. Oracle). ❑ Use the DB-specific functionality to check and update DB statistics for all relevant tables. Tables without statistics, especially system tables, can significantly impact upgrade runtimes. ❑ Check DB statistics for missing Indexes for InfoCubes and aggregates, use transaction RSRV to check them.	
Check user DDIC status	❑ Determine user DDIC password in client 000. Hint: Do not have an initial password set for user DDIC. As logging on with DDIC will force you to change it on log on and this will interrupt the upgrade. ❑ Ensure that the DDIC user in client 000 has the correct authorizations (i.e. SAP_ALL).	

All transfer and update rules (that previously have been activated) should be active	Check for inactive update rules and transfer Rules. All update rules and transfer rules (that previously have been activated) should be active or deleted. Execute program RSUPGRCHECK to locate any inactive update and transfer Rules. See SAP note 449160.	
All InfoCubes (that previously have been activated) should be active	Check for inactive InfoCubes and aggregates. All InfoCubes (that previously have been activated) should be activated or deleted. Execute program RSUPGRCHECK to locate any inactive InfoCubes. See SAP note 449160.	
All InfoObjects (that previously have been activated) should be active	Check for inactive InfoObjects. All InfoObjects (that previously have been activated) should be activated or deleted. Execute program RSUPGRCHECK to locate any inactive InfoObjects. See SAP note 449160.	
All ODS objects (that previously have been activated)should be active	Check for inactive ODS objects. All ODS objects (that previously have been activated) should be activated or deleted. Execute program RSUPGRCHECK to locate any inactive ODS objects. See SAP notes 449160 and 861890.	
Ensure all ODS data load requests have been activated	Ensure ODS requests are activated. In the administrator workbench RSA1, choose Monitoring (bottom left) > Status Overview > *Sort by Load Status*. Choose *manage* for each one and consider whether deletion and reload is appropriate for red and yellow requests. Some requests (i.e. yellow) can simply be activated.	
Special consideration for modifications to certain InfoObjects	Refer to SAP note 996602. If modifications have performed to time characteristics, 0CURRENCY, 0UNIT, 0DATE, 0DATEFROM, 0DATETO, 0SOURSYSTEM, or 0TIME, these modifications are overwritten with the delivered content version of these InfoObjects. If modifications have been made to these InfoObjects, create or locate a change request containing them sourced from the BI development system. This change request will be re-imported into not only the BI dev system, but also any other systems following SAPup. See SAP note 996602 for additional information. If issues persist following the import of the change request in this case, run report RSDG_XPRA_IOBJ_TO_NW05; see SAP note 939484 for details.	
Unicode BI systems: Ensure special reports have been run	Special reports must be run for any Unicode SAP system. If they have not already been run (or you are not sure), execute reports RUTTTYPACT and UMG_POOL_TABLE. For more information, see SAP notes 544623 and 813445.	
Complete any data mart data extractions and	❑ Load and empty all data mart delta queues that exist in the BI system. (e.g. for all export DataSources, or if the BI system is a source system for another BI system)	

suspend any data mart extractions	o The SAP Service API (S-API), which is used for internal and BI data mart extraction, is upgraded during the upgrade. Therefore, the delta queues must be emptied prior to the upgrade to avoid any possibility of data loss. o See SAP Note 506694 and 658992 for more details. ❑ Note: If you perform any data loads after executing PREPARE, re-check the status of all delta queues the BI system ❑ Generally, you can empty delta queues by performing two complete extraction / load processes. ❑ Note that it is NOT required to empty V3 updates and delta queues in SAP source systems for BI (i.e. SAP ERP) – this is only required if and when a plug-in (or PI_BASIS) upgrade is performed in the SAP source system.	
Reschedule InfoPackages and process chains	Data load and other operational tasks (i.e. change run) should not be executed while SAPup runs. It may be advantageous to re-schedule these activities prior to the final execution PREPARE. Note that SAPup automatically locks background jobs – thus data load and other operations are automatically prevented. However, it is often helpful to explicitly manage the re-scheduling of jobs.	
Migration of Workload Statistics Data	For Release NetWeaver 7.0, there is completely new workload statistics collector. This newly developed workload statistics collector is incompatible with earlier workload statistics data. In order to preserve the data for use after the upgrade, follow the steps in SAP notes 1005238 and 1006116. The actions to perform prior to running SAPup: ❑ Create the table ZWNCMOMIGR as specified in SAP note 1005238 ❑ Execute program RSMIGR12 from SE38 as specified in SAP note 1005238	
3.0B systems only: Run SAP_FACTVIEWS_RECREATE	For BW 3.0B systems: Execute report SAP_FACTVIEWS_RECREATE from SE38 before running SAPup, to prevent problems with the /BIC/V<Infocube>F fact views. For more information, see SAP Note 563201.	
Backup your system before starting PREPARE	Before execution of PREPARE, perform a full database backup. Ensure you can recover to the point in time before PREPARE was executed.	
Additional tasks	Follow any additional instructions detailed in the upgrade guide and in SAP Notes.	

6. Tasks that should be executed after completing PREPARE and prior to executing SAPup

Task	How-To	Status
Address any instructions/errors generated by PREPARE	Address any issues listed in log file *checks.log* generated by PREPARE. Repeat PREPARE until all checks are successful.	
Backup the database	Before executing the upgrade, ensure that you have a backup strategy in place so you can potentially recover to the point where loading was completed and the upgrade started. Ensuring you can return to a consistent point in time (without having to handle rollback or repeats of data loads) is important to managing any risk of upgrading.	
Cease all BI administration tasks	❑ Cease all BI administration tasks such as object maintenance, query/web template maintenance, data loads, transports, etc at the beginning of the upgrade. The administrator workbench and the Data Dictionary are locked in the early phases of the upgrade. ❑ Reminder: depending on the upgrade strategy selected (downtime minimized or resource minimized), users may be able to execute queries during portions of SAPup execution, and data loads may be able to run during parts of SAPup as well.	
Repeat PREPARE before start of SAPup	If there is some time separating the last execution of PREPARE and the planned start of the upgrade itself, it is *strongly recommended* that PREPARE is re-executed immediately prior to the start of SAPup. This ensures that all checks are executed on the system status as close as possible to the upgrade time, mitigating the likelihood that any unexpected errors that could occur during SAPup that could unnecessarily delay the upgrade.	
Additional tasks	Follow any additional instructions detailed in the upgrade guide and in SAP Notes	h

7. Tasks that should be executed after the completion of SAPup

Task	Relevant Information	Status
Refer to the upgrade guide for post-upgrade procedures	Post-upgrade steps listed in the upgrade guide should be reviewed and performed. Many of the steps recommended here are also documented in the upgrade guide.	

Address any actions identified during upgrade	Complete all actions and issues listed in the "Longpost.log" log generated by upgrade tool "SAPup"	
Check system parameters	Check OS, DB, and instance profile parameters. ❑ Check System Instance parameters for new SAP NetWeaver 7.0 BI specific parameters. See SAP note 1044441for details ❑ Check for any DB specific parameters for your DB release ❑ Check for any new OS parameters (OS dependencies guide)	
Check Database archiving mode	Turn database archive log mode back on if it was disabled during the upgrade.	
Check the system's installation consistency	Execute Transaction SICK to check installation consistency.	
Check the system logs	Perform a basic technical systems check. For example, check system and all dispatcher logs.	
Compile upgrade runtime statistics and send to SAP	Execute post-upgrade program 'RSUPGSUM' and send the output to SAP, see the upgrade guide for details. Also, run report UPANA<SID> (i.e for unix it is located in /usr/sap/put/htdoc/eval).	
Backup your SAP NetWeaver BI system	Perform a full database backup.	
Upgrade dialog instances (new installation of application servers)	Consult the upgrade guide for details on upgrading dialog instances (application servers) – this procedure has changed – the dialog instances need to be reinstalled.	
Kernel upgrade	Apply a recent kernel version to the central instance and application servers.	
Regenerate ABAP loads	Regenerate new and modified ABAP loads. Execute transaction SGEN, selecting the new 'regenerate after SAP System Upgrade' option. (This may take some time and will impair system performance while it runs).	
Review support package information for follow-up actions.	Review SAP notes providing additional information for all BI Support packages applied during the upgrade ❑ Search for notes with the keyword "SAPBINews" ❑ .i.e. "SAPBINews NW7.0 BI Support Package 14" ❑ Follow instructions identified in the SAP notes	
	Variants created in 3.x systems must be migrated, run report	

Migrate variants	RSR_VARIANT_XPRA from SE38, see SAP note 1003481.	
Install new documentation	Install new SAP online documentation, see upgrade guide for detailed information.	
Resolve any modified SAP delivered role issues	If SAP delivered roles were modified, then these modifications may incorrectly appear in the upgrade modification adjustment tool (SPAU). Review and implement SAP note 569128 as required.	
Migration of Workload Statistics Data	For Release NetWeaver 7.0, there is completely new workload statistics collector. This newly developed workload statistics collector is incompatible with earlier workload statistics data. In order to preserve the data for use after the upgrade, follow the steps in SAP notes 1005238 and particularly 1006116. The actions to perform following the successful execution of SAPup:

1. Temporarily deactivate the SWNCREORG report in the TCOLL table (ST03N: Collector and Performance DB -> Performance Monitor Collector - Execution Times).

2. Start the data conversion. To do this, execute the SWNCMIGRATION1 report. The data of the ZWNCMOMIGR table is converted and saved in the SWNCMONI table.

3. Check the data in transaction ST03N. The instance names in the workload statistics data get a prefix consisting of the release identification before the upgrade and an underscore. The obsolete data in ST03N is clearly separated from the new data and any confusion can be avoided as a result (for example with month dates).

4. Check the retention times of the workload statistics (ST03N: Collector and Performance DB -> Performance Database -> Workload Collector Database -> Control). The retention times are adjusted to the system settings before the upgrade.

5. Activate the SWNCREORG report in the TCOLL table again (ST03N: Collector and Performance DB -> Performance Monitor Collector - Execution Times).

6. See Note 966309 (Release 7.00) to check the configuration of the TCOLL table.

7. After you have completed the data migration successfully, you can delete the data that is contained in the ZWNCMOMIGR database table. | |
| Set authorizations concept to 3.x authorizations | There is a new analysis authorizations concept available with SAP NetWeaver 7.0 BI, but it is not mandatory to utilize it, the 3.x reporting authorizations concept is fully supported in this release. The approach outlined here provides for a technical upgrade in the short-term project plan, thus within this approach should remain with the 3.x reporting authorizations concept in the time immediately following SAPup processing.

Use transaction RSCUSTV23 to select the authorization mode "Obsolete Concept with RSR Authorization Objects". In a | |

	subsequent project phase, when you are ready to migrate to analysis authorizations, this setting will be changed again.	
Check MultiProvider authorization	See SAP note 927872, which discusses a change to handling of authorization check for MultiProviders. Specifically, if you had specified authorization check on MultiProviders in RSCUSTV16, this setting is no longer relevant, even with the use of the 3.x reporting authorizations. If you had specified MultiProvider authorization check in RSCUSTV16, use authorization object S_RS_MPRO in roles to specify MultiProvider access.	
Generate Hash Values for Scheduler Selections	Steps for improving data load monitoring performance are recommended following the successful completion of SAPup. Run report RSSM_HASH_ENTRIES_CREATE from SE38, and select the option "all requests" and specify a value for parallel processing commensurate with the number of available background processes. For more information, see the details in the upgrade guide, the section "Follow –Up Activities for the Enterprise Data Warehousing Scenario", "Generating Has Values for Scheduler Selections". This is also discussed in SAP note 906789.	
Check and Conversion Program for Request Information	Additional steps for improving data load monitoring performance are recommended following the successful completion of SAPup. Run report RSSTATMAN_CHECK_CONVERT_DTA from SE38, and select "Check/Convert All InfoProviders", and "With Status Manager Check", and specify a value for parallel processing commensurate with the number of available background processes. For more information, see the details in the upgrade guide, the section "Follow –Up Activities for the Enterprise Data Warehousing Scenario", "Generating Has Values for Scheduler Selections". This is also discussed in SAP note 906789.	
Additional Check and Conversion Program for Request Information	Additional steps for improving data load monitoring performance are recommended following the successful completion of SAPup. Run report RSSTATMAN_CHECK_CONVERT_PSA from SE38, and select "Check/Convert All PSAs", and "With Status Manager Check", and specify a value for parallel processing commensurate with the number of available background processes. For more information, see the details in the upgrade guide, the section "Follow –Up Activities for the Enterprise Data Warehousing Scenario", "Generating Has Values for Scheduler Selections". This is also discussed in SAP note 906789.	
Migrate InfoPackage groups to process chains	As of SAP NetWeaver 7.0 BI, InfoPackage group functions are not supported in the Data Warehousing Workbench. You can utilize the program RSPC_MIGRATE_INFOPACKAGE_GROUP to automate the migration process. Be sure to manually inspect any process chains created via this migration program, and correct any potential inconsistencies.	

Check Number of Background Processes	A minimum of 5 background processes is recommended as improved parallel processing is available in SAP NetWeaver 7.0 BI. Check the number of background processes and consider increasing the number to at least 5 or possibly a much higher number.	
Activate Hierarchy Versions	With SAP NetWeaver 7.0 BI, fixed values for hierarchy versions have changed. To avoid problems when working with hierarchy nodes, activate all hierarchy versions again by running program RRINCLTAB_REBUILD from SE38. For more information, see Note 922467.	
De-select new tRFC scheduling	For data loads inside the BI system (i.e. export DataSource) or when BI acts as a source system for another BI system, the tRFC behavior is changed in SAP NetWeaver 7.0, so that the SMQS out scheduler is used to manage data packets in extraction and load processing. As the approach outlined here provides for a technical upgrade (allowing you to operate the system in the same way as prior to the upgrade in the short term), run the program RSA1_TRFC_OPTION_SET from SE38. For the option "Behavior with connected BW >= 7.0" deselect "Standard tRFC scheduling". In a later project phase, where you take advantage of new functionality, run this program again and set to "Standard tRFC scheduling". For more information, see SAP note 916706.	
Perform (SAPI) upgrade follow-up tasks	❑ If required, Re-activate the SAP BW "Myself" source system. ❑ See SAP Note 506694 and 510835. ❑ Check that all other Source Systems are active, and activate as required.	
Check ICF services	Some services in the Internet Communication Framework may have become deactivated during the upgrade. In transaction SICF, expand the hierarchy under "SAP" > "BW" and check the services (i.e. "BW") Activate any that have been deactivated.	
Check that BI personalization is implemented	Validate that personalization has been activated in your SAP NetWeaver BI system. Note: It has been observed that in some cases, BEx Personalization has to be re-activated after an upgrade from SAP BW 3.x to SAP NetWeaver 7.0 BI. It is advised to check the status of personalization after the upgrade. ❑ Enter the IMG (transaction SPRO), select SAP Business Warehouse -> Reporting relevant settings -> General Reporting Settings -> Activate Personalization in BEx Check the status of the Personalization settings. All entries should be active – highlighted by an unchecked check box. ❑ To activate highlighted Personalization, click Execute.	

Implement new authorization objects.	Implement new authorization objects: ❑ New objects are automatically implemented in profile SAP_ALL but not in any other profile (i.e. not in SAP_NEW) ❑ Regenerate SAP_ALL by executing program RSUSR406 from SE38. ❑ See the information at http://help.sap.com/saphelp_nw2004s/helpdata/en/ f3/291542e4b4df2ce10000000a1550b0/frameset.htm Ensure that the new security objects are implemented and assigned to relevant SAP NetWeaver BI users. Note: most of the new objects are relevant for functionality to be utilized in subsequent upgrade project phases (i.e. working with the new dataflow concept, etc).	
Systems upgraded from releases 3.0B and 3.1 only: migrate charts to 3.5 version	For systems upgraded from 3.0B and 3.1 versions, the chart types need to be migrated to the 3.5 version. Check the upgrade guide about running the report RSZW_CHART_MIGRATION_35, more detailed instructions are available there.	
Conversion programs for the product master	Refer to the upgrade guide for more information about running report COM_PRODUCT_UPGRADE.	
Systems with SEM installed: special steps	Systems where SEM is installed: see SAP note 855382. Run reports UMB_BSC_CONVERT_UMB_SC170 and UMM_32_TO_35_CONVERT from SE38.	
BI statistics content installation	Install the new technical content (despite the fact that the administration cockpit will not be deployed in the short-term upgrade project plan). Review SAP notes 964418, 965386 934848, and 834280 and follow the steps to install the new technical content (using the options in the IMG, SPRO), and ensure delivered BI statistics process chains are active and scheduled.	
Reschedule process chains and InfoPackages	If you rescheduled process chains and InfoPackages before running PREPARE or SAPup, schedule those process chains and InfoPackages for normal processing.	
Connect BIA appliance to BI system and perform indexing	The BIA appliance should be interfaced with the BI system. Make sure the RFC connection is functional. Select the InfoCubes to be indexed in the BIA appliance, and run the indexing jobs to fill data into the BIA indexes.	

Appendix: Example High-level Timeline (Rapid Technical BI Upgrade and BI Accelerator Implementation)

Basic Task Performed	week
Upgrade project planning (business case, budget, order software, project charter, team readiness)	
Establish BIA project with hardware partner	
Sandbox (BWS) pre-upgrade tasks	1
Establish Sandbox from system copy – BWS	1
Technical and functional preparation tasks	1
Database backup	1
Sandbox (BWS) technical upgrade procedure (PREPARE and SAPup)	2
Sandbox (BWS) post-upgrade tasks	3
Database backup	3
Other technical and functional post-upgrade tasks	3
New BI statistics content implementation	3
BI accelerator initial installation, configuration, indexing (against BWS)	3
BI accelerator testing in BWS (sandbox)	4, 5, 6
Validation testing in BWS	4, 5, 6
Development system (BWD) pre-upgrade tasks	5
Confirm that all new developments are deployed	5
Technical and functional preparation tasks	5
Database backup	5
Development System (BWD) technical upgrade procedure (PREPARE and SAPup)	6
Development System (BWD) post-upgrade tasks	6
Database backup	6
Technical and functional post-upgrade tasks	6
New BI statistics content implementation	6
BWD – post upgrade testing	7
QA system (BWQ) pre-upgrade tasks	7
Technical and functional preparation tasks	7
Database backup	7
QA (BWQ) technical upgrade procedure (PREPARE and SAPup)	8
Sandbox (BWQ) post-upgrade tasks	8
Database backup	8
Technical and functional post-upgrade tasks	8