

SAP NetWeaver BW Accelerator & SAP BusinessObjects Explorer Overview



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THE BEST-RUN BUSINESSES RUN SAP





From SAP NetWeaver BI Accelerator to SAP NetWeaver BW Accelerator

- SAP NetWeaver BI was renamed into SAP NetWeaver BW
 - Reflects strategy and focus on business warehouse
 - Avoids conflicts with BI tools from SAP BusinessObjects portfolio

SAP BusinessObjects Explorer

- New name of BusinessObjects Polestar
- Bundle “SAP BusinessObjects Explorer, accelerated version”
 - SAP BusinessObjects Accelerator
 - SAP NetWeaver BW Accelerator
 - SAP BusinessObjects Data Services
 - SAP BusinessObjects Explorer (blade) – contains limited BOE license

Agenda



1. **Overview**
2. BWA Appliance
3. BWA Configuration & Administration
4. SAP NetWeaver BW Accelerator in Detail
5. SAP BusinessObjects Explorer
6. Service Level Agreements
7. Roadmap

Opportunities not Harvested

Traditional methods too inflexible, unreliable or not economical

SAP



THE TRENDS

Increased adoption of analytics

- Data explosion, growing 50% p.a.
- Frequent need for change
- More users / usage of analytics
- Users create queries despite having no knowledge of BI technology



THE CHALLENGES

Traditional BI platforms are bottlenecks

- Unpredictable response times
- Inability to meet demand for change
- €(tuning or boutique hardware)

SAP NetWeaver BW Accelerator Value Proposition



Cost of Operation

- Save time to build and maintain aggregates
- Save disk space
- Take load off BW hardware
- Consolidate BW landscape

Performance / Scalability

- Ready for high data volumes (retail, utilities, banking etc.)
- Challenging response time SLA
- Ad-Hoc reporting / stable response times
- Scalable blade server platform

Time for Development

- Less focus on performance aspects (aggregates, caching strategies, DB tuning etc.) → Faster development of new models and queries
- Less performance-specific queries

Extend the BI Reach

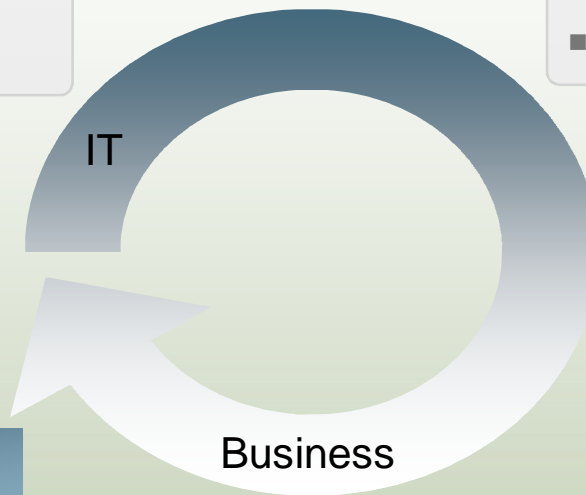
- Bring BI information into additional user groups using SAP BusinessObjects Explorer

New Business Scenarios

- Get more detailed insight into your business

Data Latency

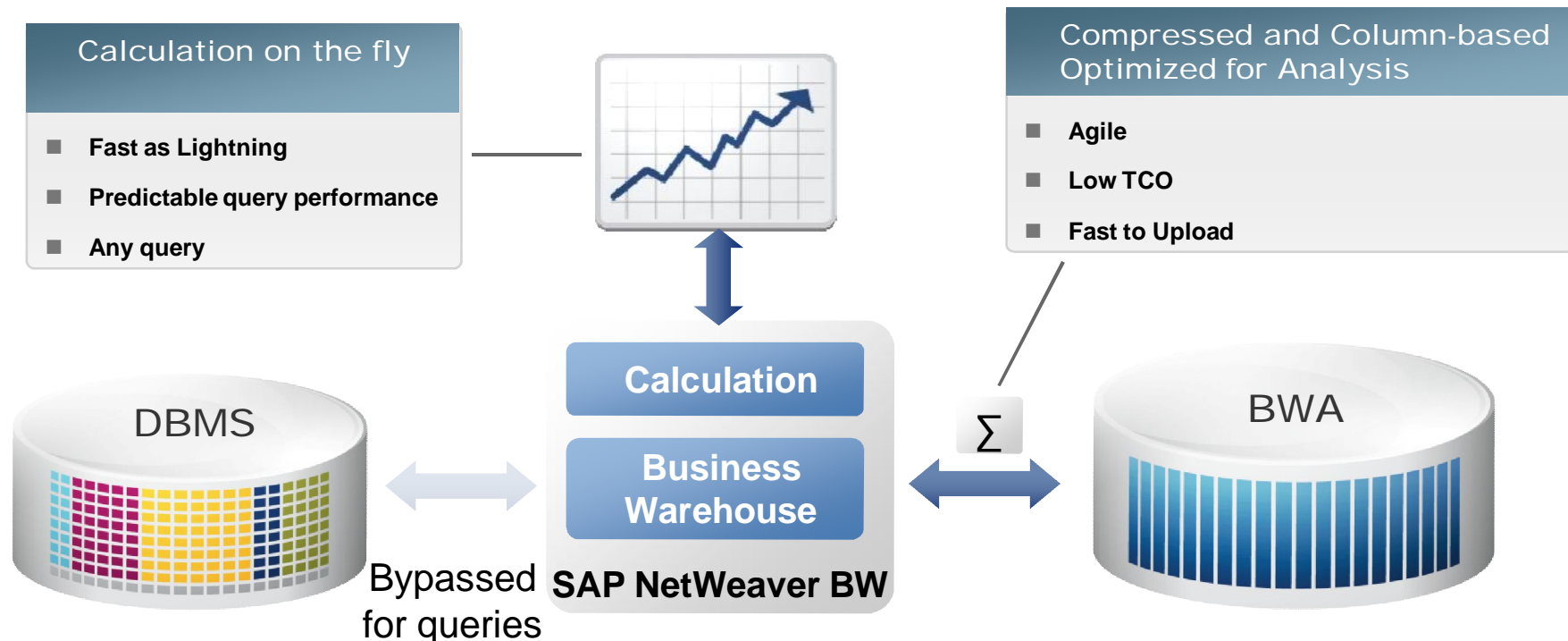
- Extremely shortened roll-up and change run times
- Opportunity for more frequent data alignments
- Compression not always needed





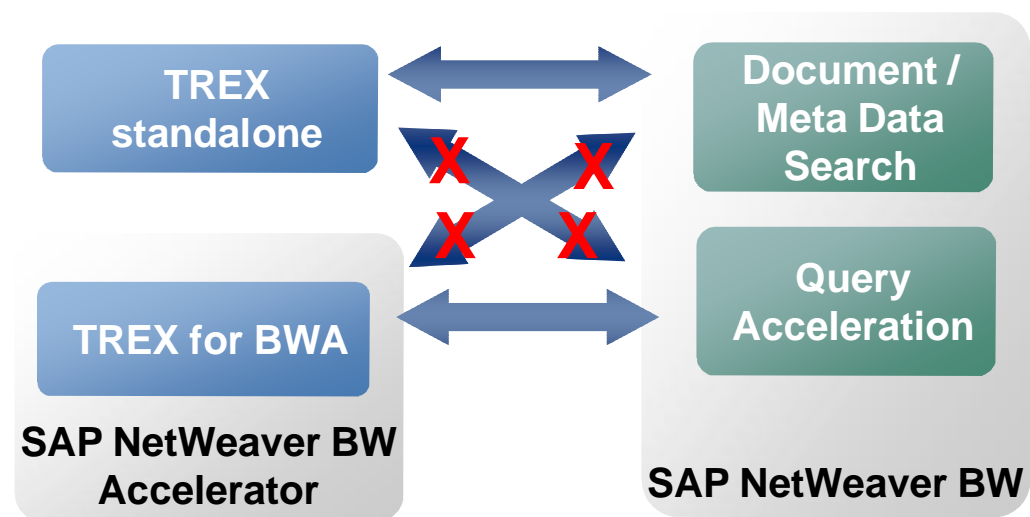
SAP NetWeaver BW Accelerator for high performance BI at lowest operation costs
A new transparent approach to boost BI query performance

- Performance speedup factor between 10 and 100 - also for BusinessObjects clients
- Without changing the BW user experience (transparent to users)
- Ensures low cost of operations
- Prerequisite: SAP NetWeaver BW 7.0



TREX and SAP NetWeaver BW Accelerator

- TREX : Search and classification engine, mainly for unstructured data
- BW Accelerator is built using TREX technology (indexing, retrieving, compression ...) to handle structured data
- Note: BW Accelerator and TREX are two different installations
 - The BW Accelerator cannot be used for standard KMC functionality
 - A TREX installation cannot be used as a BW Accelerator

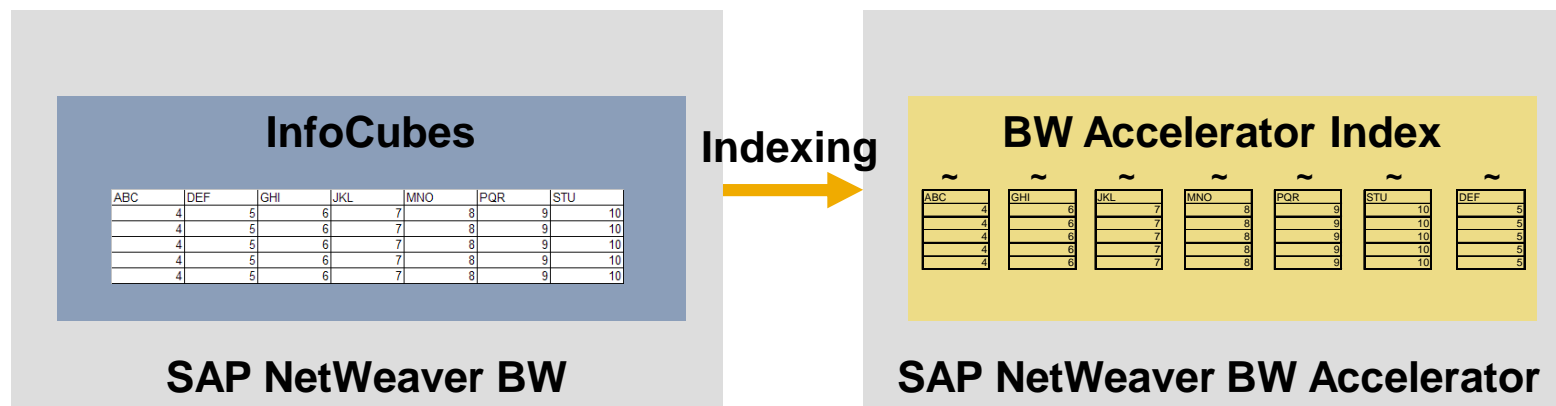


Terminology – BW Accelerator Index

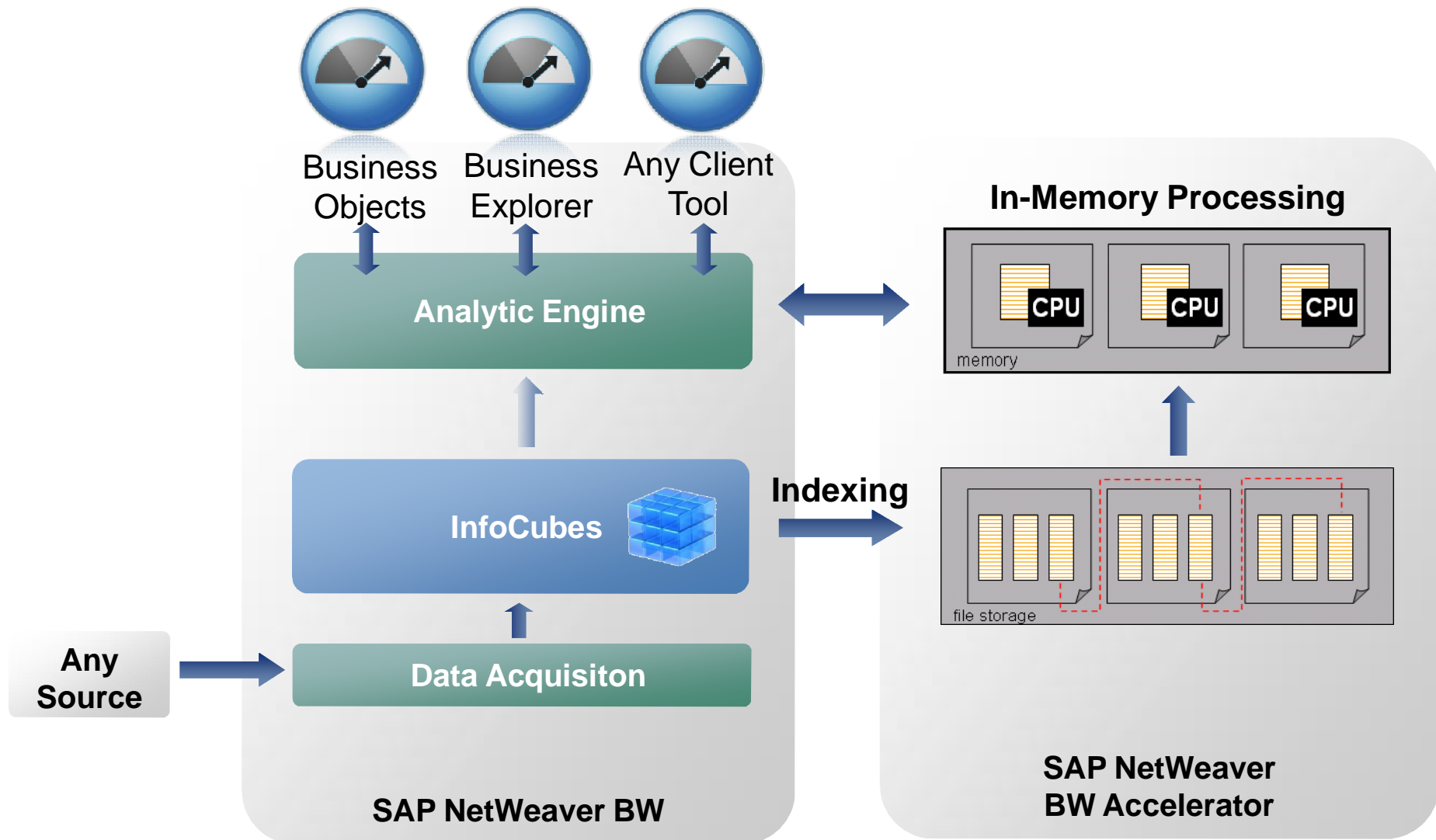


Index

- BW Accelerator index: Structure containing replicated data and indexes (one index per table) that represents the BW star schema for the BW Accelerator
- Indexing: Transfer of InfoCube data to the SAP NetWeaver BW Accelerator server and processing and compressing it into the BW Accelerator index



SAP NetWeaver BW Accelerator Architecture



1

Information Broadcasting /
Precalculation

2

Query Cache

3

Aggregates

4

InfoProvider

**Query Execution
Without BW Accelerator**

Information Broadcasting /
Precalculation

Query Cache

SAP NetWeaver BW Accelerator

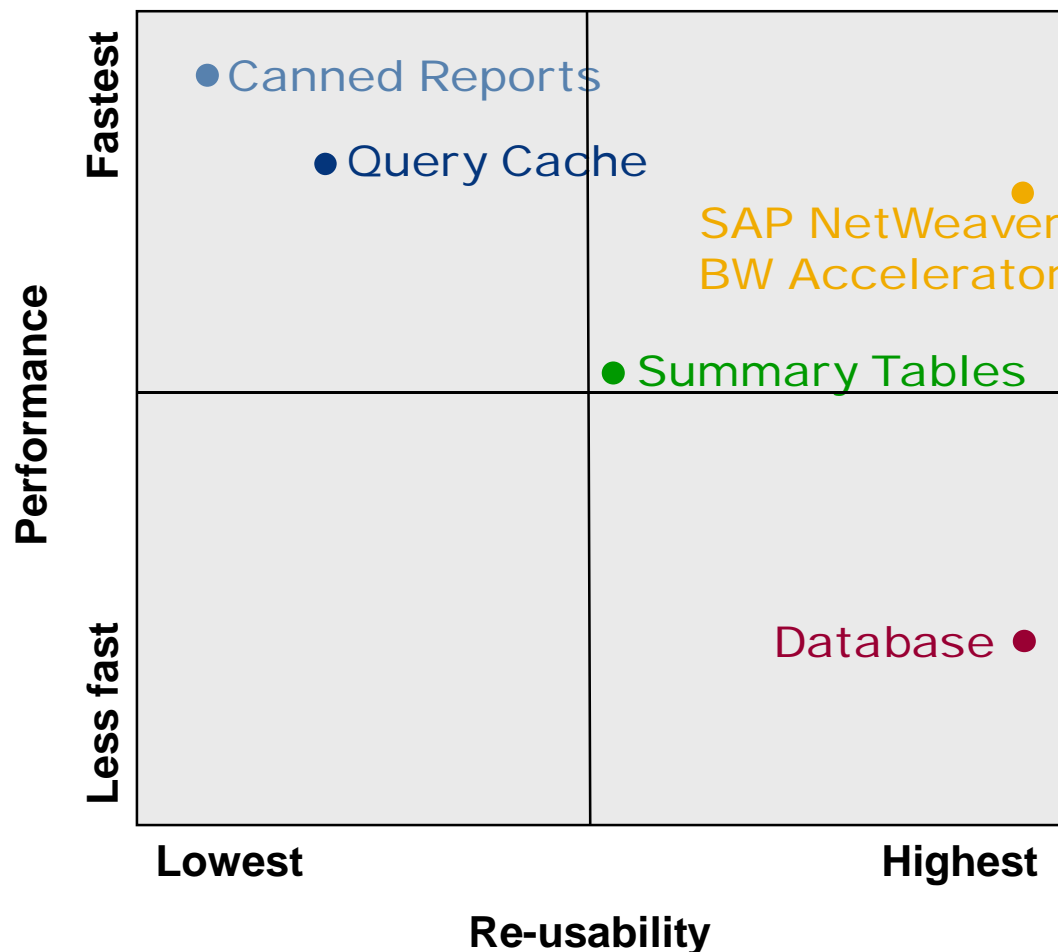
**Query Execution
With BW Accelerator**

SAP NetWeaver BW checks the listed repositories (in the order shown) to obtain the query result.

BI Performance Techniques: Speed vs. Re-usability



The BW Accelerator offers high re-usability together with fast performance in a manner not possible with other techniques!



High re-usability → Very few specific objects (or sets) can be used to accelerate many different queries

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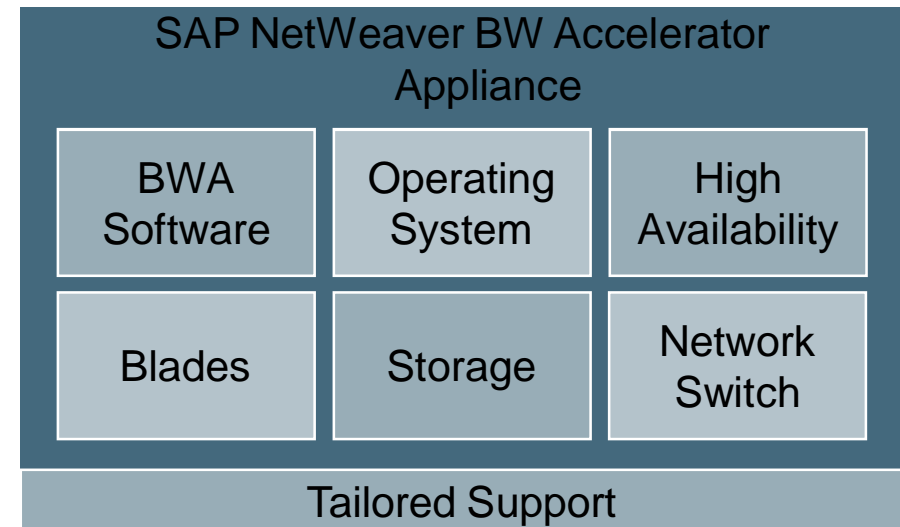
SAP NetWeaver BW Accelerator will only be available as an **appliance** (“in a box”)

- Complete SAP NetWeaver BW Accelerator preinstalled
- Only little configuration effort by the customer, e.g. indexing relevant InfoCubes
- Advantages
 - Rapid Deployment
 - Performance-optimized
 - Minimized Maintenance
- Premium Hardware Partners (as of Q4 2009)
 - Hewlett-Packard
 - IBM
 - Fujitsu
 - SUN
 - Dell



Components of the Appliance

- Standalone or fit into an existing customer rack
- Blade servers with 64-bit Intel Xeon CPUs
- Linux SLES, 64-bit
- Optimized storage included
- High-Speed Network Switch
 - Dedicated network between BW and BWA
- High Availability options
 - Built-in redundant components
 - Synchronized backup
 - Switchover
- Tailored support offers by the hardware partners



Note: SAP NetWeaver BW installation continues to be supported on the platforms described in the PAM (product availability matrix). SAP NetWeaver BW may even run virtualized – please make sure the NW BW-BWA network connection is sufficient in that case.

Benefits of Appliance Shipment



Rapid Deployment

■ Instantaneous operation

- Pre-Installed by hardware vendor
- Minimal pre-defined configuration requirements for the BWA software

■ Simple purchase

- Limited variations based on standard components

■ Quick Time-to-market

Appliance



Performance & Integration

■ Optimized hardware/software efficiency

- Combination of hardware components and configuration optimized for high-end performance and high availability

■ Assured quality of functionality

■ Reduced integration effort with hardware and software

Reduced Costs of Operation

■ Minimized maintenance

- Centralized monitoring through CCMS

■ Easy scalability through blade server architecture

■ Affordable commodity hardware

■ Reduced license costs for 3rd party components

■ Minimized upgrade risk

■ Optimized HW/SW support offers

SAP NetWeaver BW Accelerator Appliance Photos



BWA appliance by IBM



BWA appliance by HP



CPUs by Intel



BWA appliance by Fujitsu **FUJITSU**



BWA appliance by SUN



Purchase and Implementation Process



Pre-requisites

1. Upgrade to SAP NetWeaver 7.0
2. Perform Sizing via QuickSizer (recommendation: use services provided by SAP AGS "SAP Quality Check")

Purchasing Process

1. Contact SAP Account Executive for BWA license
2. Contact hardware partner's AE for ordering BWA hardware

Installation by Hardware Vendor

1. Hardware Partner ships and installs BWA appliance
2. Some on-site configuration might be necessary

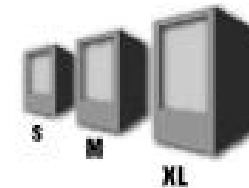
Post-installation Set-up

1. Identify InfoCubes and index them
2. Recommendation: Configuration Check for BWA (as part of SAP Quality Check for BWA)

For further services provided by SAP AGS or consulting, please see SDN!

BWA Sizing integrated in SAP QuickSizer

- QuickSizer access: <http://service.sap.com/quicksizer>
- Create Project and select SAP NetWeaver BW
 - Create a new QuickSizer project, otherwise the BWA options will not appear.
 - Most of the data captured is the same as for SAP NetWeaver BW sizing. If you have already performed a BW sizing, you can Copy & Paste the values for the BWA sizing.
- If you already have a BW system (loaded with data), then the program and method described in SAP note 917803 is recommended
 - Report computes memory requirements and disk space (also runs on SAP BW 3.x)
- Using the BWA will take load off of the SAP NetWeaver BW system. As this load reduction depends on several detailed factors (such as share of query time spent in analytic engine, size of result set, number of users etc.), this reduction has not been captured in the SAP NetWeaver BW sizing.
- Refer to Thread on SDN posted by Marc Bernard for some additional info
 - <https://forums.sdn.sap.com/thread.jspa?threadID=776332&tstart=0>



Sizing

■ Hardware sizing

- Hardware partner translates the results of SAP QuickSizer into optimal configuration of hardware
- High availability setup:
Extra blade(s) required as backup for automatic failover

■ Valid for production and test system

- Possibly less rigid performance requirements for test systems → optional sharing of resources (see 'BWA in non-production environments')

You can find the output of the program in the spool list in the form:

TableName	Memory [kB]	Attribute
/BI0/D0BWVC_0032	4	DIMID SID_OVC_PROD2
/BI0/D0BWVC_0033	37	DIMID SID_OVC_SELL2
/BI0/D0BWVC_0034	11	DIMID SID_OVC_LOC2
/BI0/D0BWVC_0035	5	DIMID SID_OVC_REDU2
/BI0/D0BWVC_003P	3	DIMID SID_ORECORDTP
/BI0/D0BWVC_003T	16	DIMID SID_OFISCVARNT
/BI0/D0BWVC_003U	3	DIMID SID_OCURRENCY
/BI0/SCURRENCY	6	CURRENCY SID
/BI0/SFISCPER	170	FISCVARNT FISCPER SID
/BI0/SFISCVARNT	2	FISCVARNT SID
/BI0/SFISCYEAR	8	FISCVARNT FISCYEAR SID
/BI0/SUNIT	7	UNIT SID
/BI0/SVC_COL2	3	VC_COL2 SID
/BI0/SVC_GROU2	2	VC_GROU2 SID
/BI0/SVC_HOME2	9	VC_HOME2 SID
/BI0/SVC_LOC2	10	VC_MARK2 VC_LOC2 SID
/BI0/SVC_MARK2	3	VC_MARK2 SID
/BI0/SVC_MAT2	3	VC_MAT2 SID
/BI0/SVC_PAYM2	3	VC_PAYM2 SID
/BI0/SVC_REDU2	2	VC_REDU2 SID
/BI0/V0BWVC_003F	98	KEY_0BWVC_003P
/BI0/XVC_PERS2	22	SID S__OVC_HOME2
/BI0/XVC_PROD2	67	SID S__OVC_GROU2
/BI0/XVC_UNIT2	5	SID S__OVC_HOME2
/BI0/YVC_PROD2	70	SID DATETO DATEFROM

*

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Important note: sizing has to be adjusted once new InfoCubes are indexed by BWA that haven't been taken into account for the original sizing

High-End Scalability with SAP NetWeaver BW Accelerator



Jupiter – Executive Summary

- SAP NetWeaver BW Accelerator ready for rapidly growing data volume
- No scalability limits identified (tested up to 140 blades)
- Proven manageability of large-scale SAP NetWeaver BW installations
- Impressive throughput – for both writing and reading BWA indexes
- High reliability

Jupiter Facts

- 25 TB InfoCube data (corresponds to overall 50-70 TB data warehouse)
 - Total of 78 InfoCubes, 30 billion rows
- 135 IBM HS21 blades (2 dual-core CPUs, 16GB)
 - 17 TB storage
 - Plus 5 backup blades → not needed, as there were no hardware outages

Further Information

- WinterCorp whitepaper: <https://www.sdn.sap.com/irj/sdn/BWA>



Which memory setup is supported for BWA blades?

- See matrix for release status of blade generation and memory. Most up-to-date information can be found in PAM: <http://service.sap.com/pam> --> NW 7.0 (see attached ppt)
- Please see additional information for Nehalem CPUs in SAP note 1363917.
- For mid-size customers, the HW partners offer one XS configuration consisting of 8GB/12GB blades. This offering provides best value at reasonable hardware and license costs.
- Any combination of blade generations can be used in the same BWA system. See SAP note 1163149 for more details.

	Irwingdale (single-core)	Woodcrest (dual-core)	Clovertown (quad-core)	Harpertown (quad-core)	Nehalem (quad-core)
8 GB	✓	✓ (for mid-size offering)	✓ (for mid-size offering)	✓ (for mid-size offering)	✗
16 GB	✗	✓	✓	✓	✗
32 GB	✗	✗	✗	✓ Details in SAP note 1161765	✗
Other (12/24/36/ 48GB)	✗	✗	✗	✗	✓ HP, IBM, Fujitsu, Dell



Why is the storage part of the BWA appliance?

- The storage as part of the appliance has some significant advantages:
 - Rapid and instantaneous deployment (preinstalled hardware and minimal configuration effort)
 - Optimal performance configuration through highly integrated hardware and software setup
 - Reduced cost of operation (minimized and centralized maintenance)
 - Support only involves SAP and the HW partner, not a third party – support can be highly specialized and tailored on the complete offering
 - High Availability (switch-over) may depend on the storage and cannot be offered out-of-the-box using other storage systems

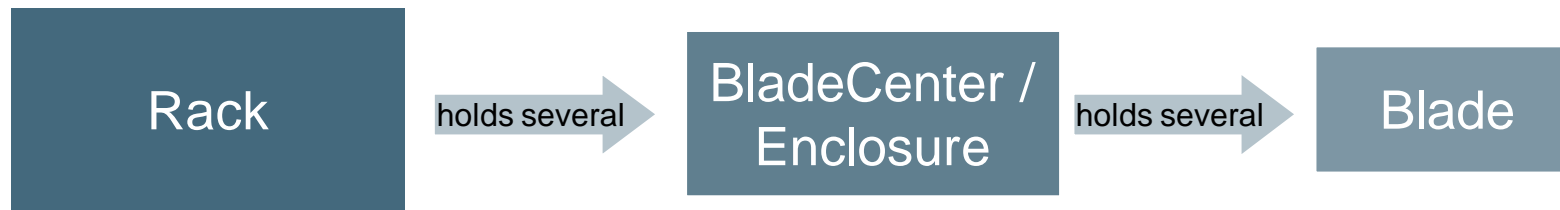
Appliance FAQ

Optimizing the Appliance Investment



I have done some investments into the blade infrastructure. How can I optimize this infrastructure?

- An existing rack including the power source can be used for all SAP NetWeaver BW Accelerator and SAP NetWeaver Enterprise Search appliances.

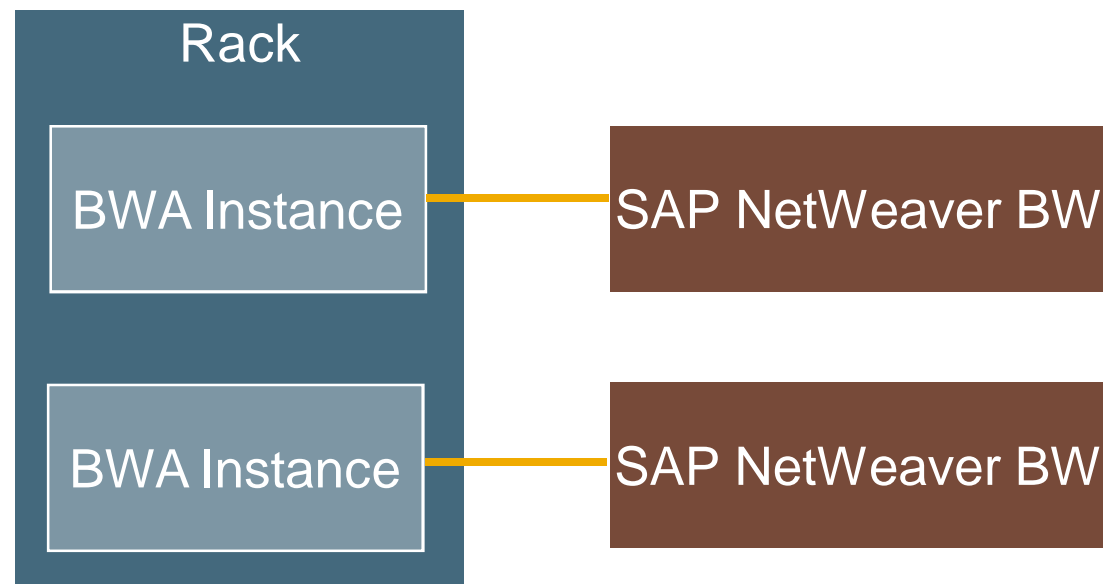


- Appliances are available in several sizes. Be sure to choose the right size under the following aspects
 - Do not undersize the system in order to be prepared for the future
 - Do not oversize the system to avoid investments into 'empty' and unused hardware.
- Performance, supportability, high availability, security etc. can only be guaranteed by both SAP and hardware partners, if you strictly stick to the appliance set-up
- Note: any changes to the standard appliance set-up require additional effort and a separate project; a pre-installed delivery from factory cannot be guaranteed. Performance, supportability, high availability etc. have to be ensured by the customer and/or the implementation partner.



Do I need 1:1 relationship between BW and BWA?

- The only supported configuration for productive systems is a 1:1 connection between the BW instance and the BW Accelerator to ensure uncompromised performance of BWA.
- In order to maximize the value of the investment, you can install several BWA instances in one rack – utilizing the existing infrastructure. For production systems, it is required to have dedicated storage (disk controller) and network connection (switch) to ensure that high load on one BWA instance is not impacting performance of the other instance.
- Several BWA instances can be installed in one BladeCenter/enclosure on project basis.



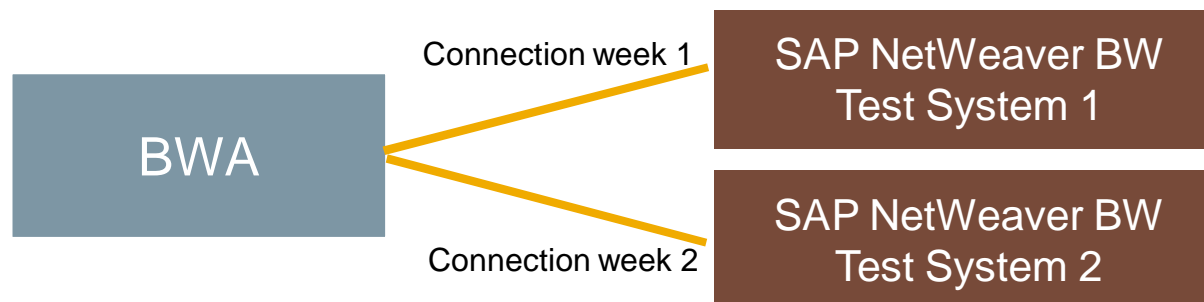
Appliance FAQ

Sharing the Blade Infrastructure



What further options do I have for test environments?

- Ideally, the components of the infrastructure are exactly sized to the system needs, so that there is no need to deviate from the appliance definition.
- Note again: any changes to the standard appliance set-up require additional effort/costs and a separate project; a pre-installed delivery from factory cannot be guaranteed.
- As non-productive systems typically have less requirements towards high performance and disaster tolerance, following components may be shared on project basis:
 - Storage and network connection (in addition to rack and BladeCenter/enclosure)
 - Blades, only if you do not need several test BWA systems in parallel (but sequentially)
 - Note that only one active BWA installation per blade is supported at a time (is connected to exactly one BW instance)
 - You can install several (inactive) BWA systems on one blade
 - Activate the BWA system that you need for a given period of time and rebuild the BWA index on it (for more information, please refer to SAP note 979609)



- Note that reorganization or restart of one BWA instance may affect all connected BW systems.

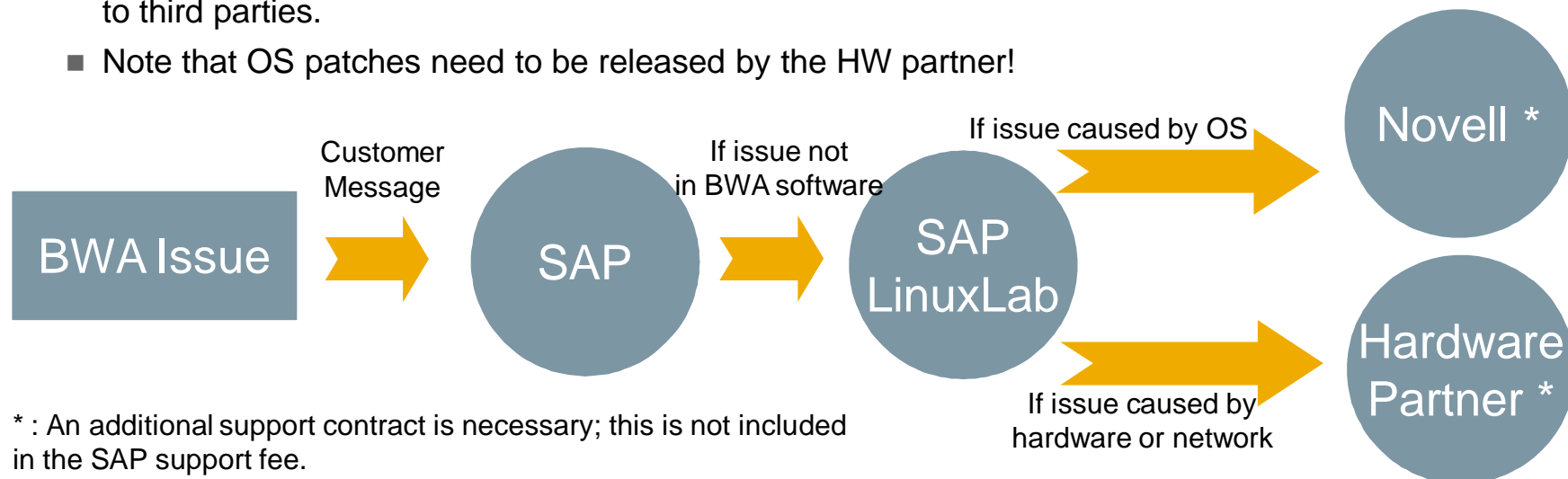
Appliance FAQ

Maintenance and Support



Who maintains and supports hardware, software and OS of the BWA?

- BWA software support is included in the SAP service fee
- Additional support contracts are highly recommended:
 - Hardware partner offers contracts for hardware maintenance; ask for tailored BWA support offers
 - Novell offers enhanced support for SUSE Linux in collaboration with SAP Linux Lab ('SUSE Priority Support for SAP'). This offer facilitates communication and ensures seamless support at high quality particularly for BWA customers. Please check www.novell.com/sapsupport for more information.
- The maintenance and support process is organized in the same manner as other SAP products
 - Software issues are handled by SAP, and the link to hardware partners is via Linux Lab.
 - The customer is responsible for applying patches and support packages or for contracting this work to third parties.
 - Note that OS patches need to be released by the HW partner!



Agenda



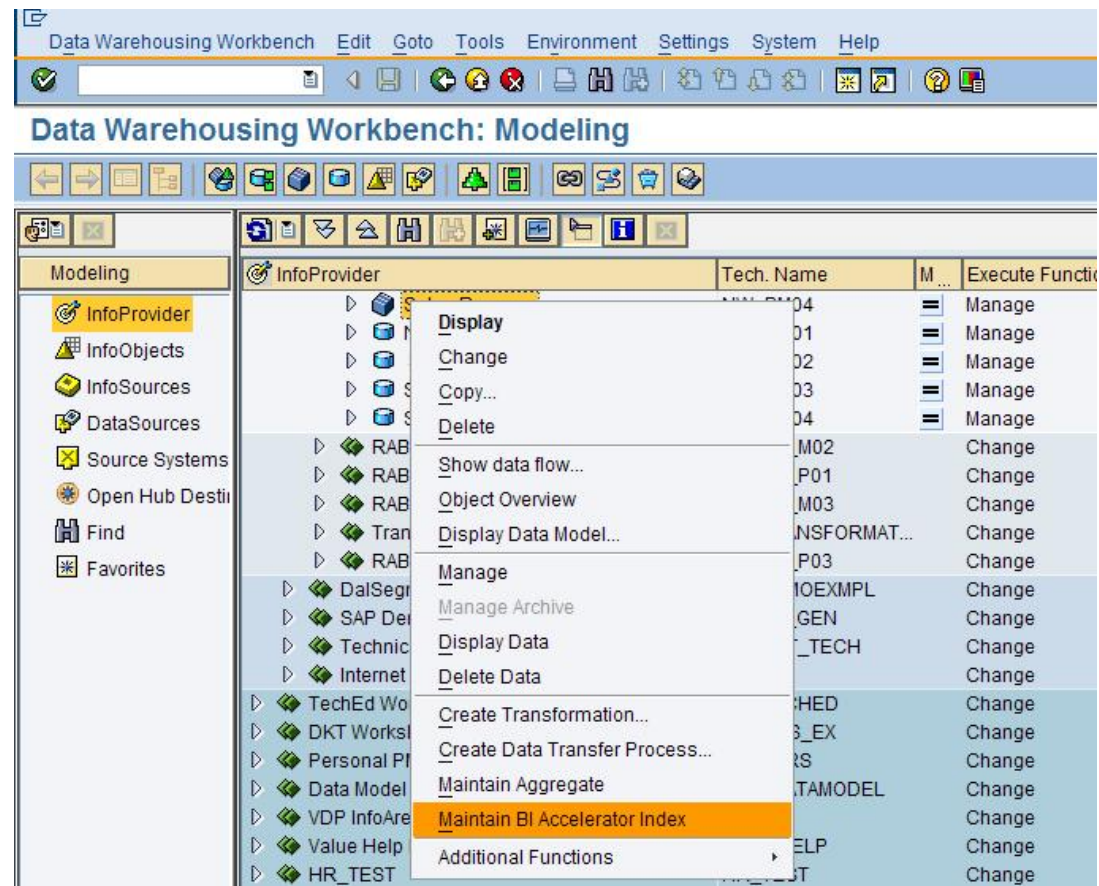
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BW Accelerator Index Maintenance – 1 –



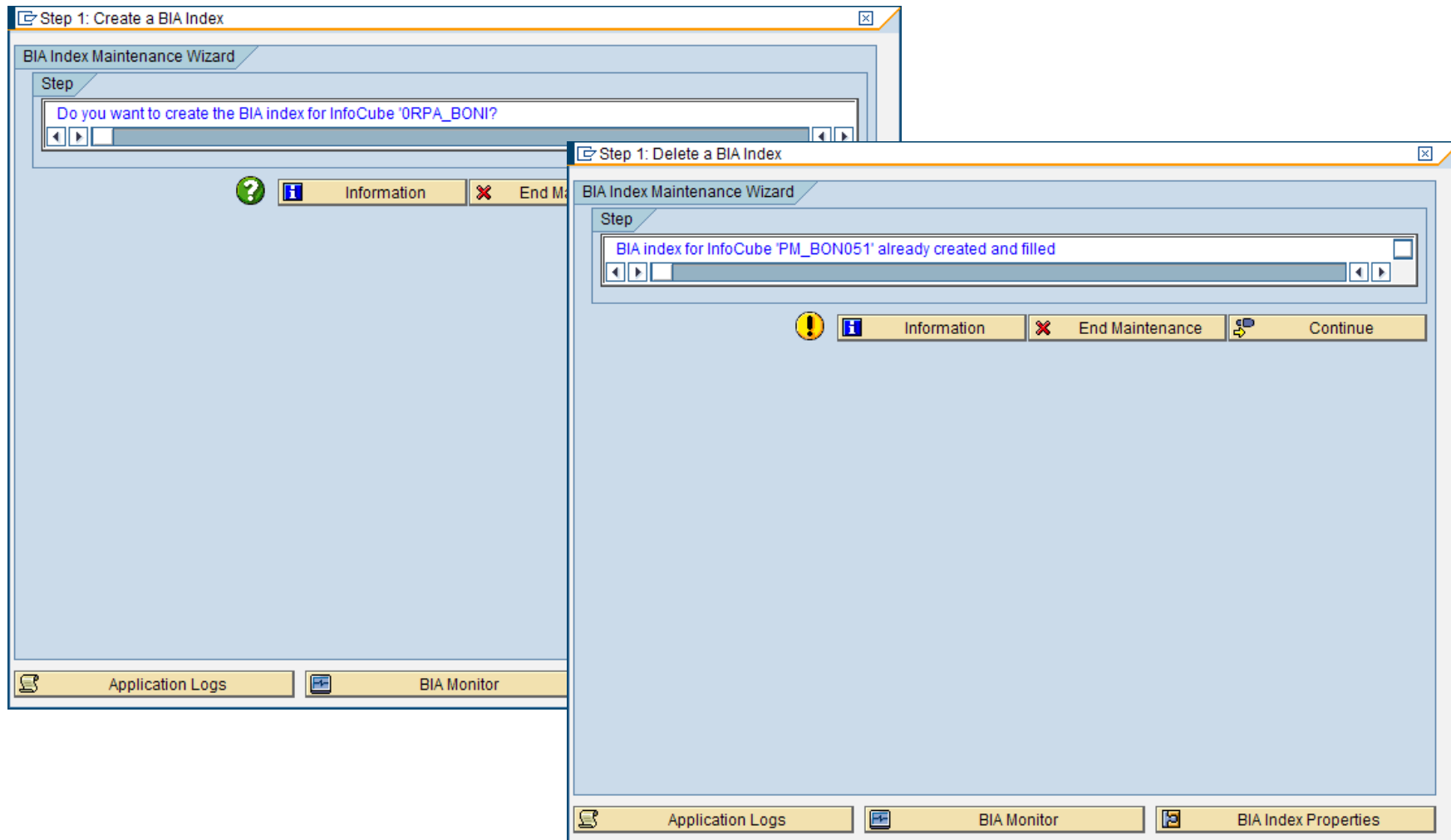
Accessing BW Accelerator Index Maintenance

- Similar to aggregate maintenance via context menu for a particular InfoCube
- Or direct access via transaction RSDDV



Index Wizard

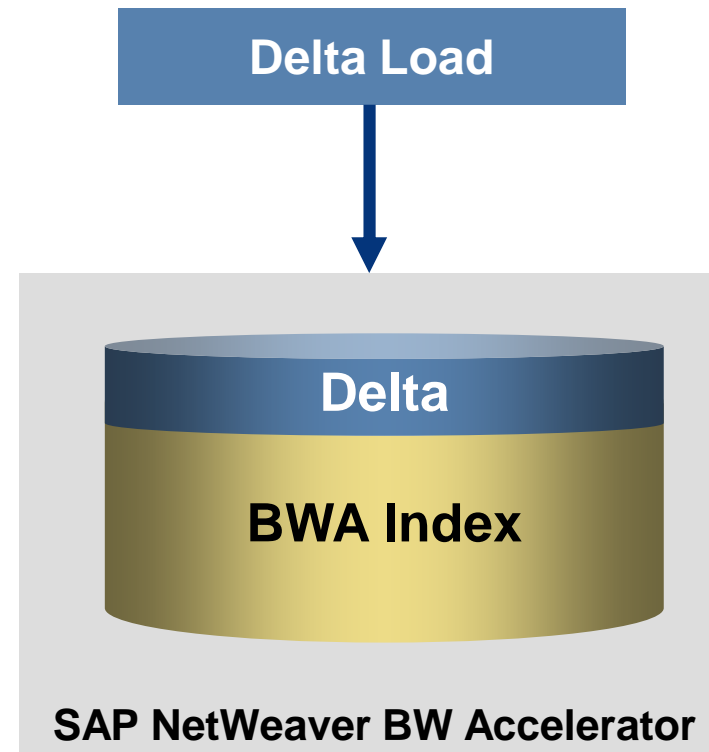
- Creation, filling, deletion of BW Accelerator indexes via easy-to-use wizard





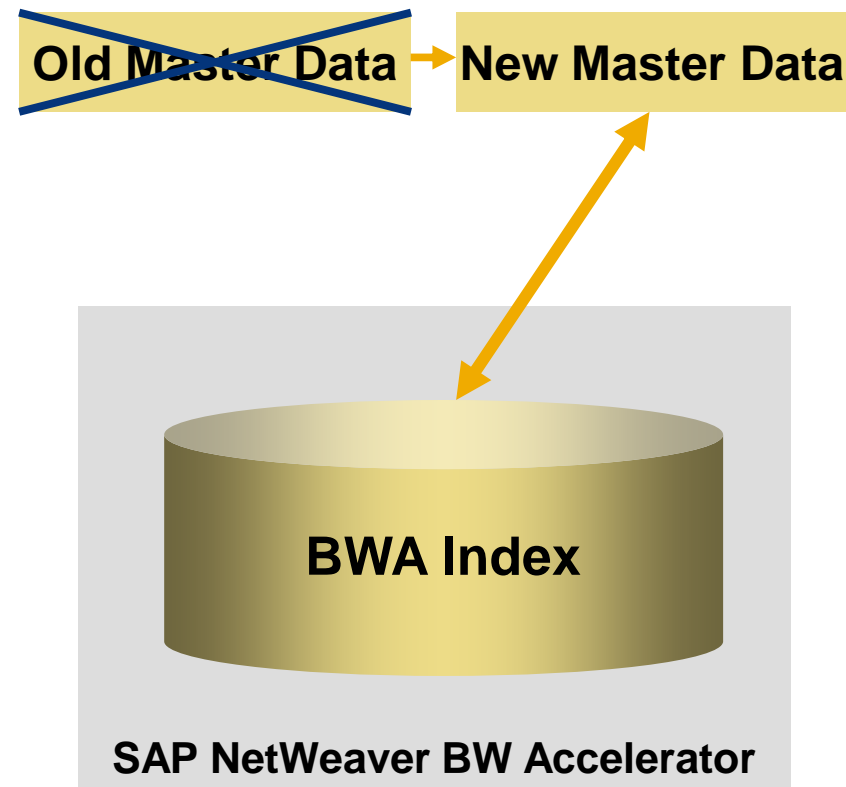
Roll-up

- Update of newly loaded data to BW Accelerator index
- Similar to roll-up process for aggregates
- Only **one** BW Accelerator index, highly parallel → very fast process
- Same process for BW Accelerator and aggregates: no need to change of process chains



Change Run

- Update BW Accelerator index after master data/hierarchy changes
- BW Accelerator index has same granularity as the InfoCube
 - No changes needed for transactional data
- Update of master data tables as part of BW Accelerator index → minimal runtime
- No update needed for changed key date of time-dependent attributes
- Same process for BW Accelerator and aggregates: no need to change of process chains





SAP NetWeaver BW Accelerator Goal: Minimal Administration

■ RSDDBWAMON

- Central monitoring and administration tool
- Index Settings
- Possible actions
 - Restart BWA server: restarts all the BW Accelerator servers and services. This includes the name server and index server
 - Restart BWA index server: restarts the index server. (The name servers are not restarted.)
 - Reorganize BWA landscape: If the BW Accelerator server landscape is unevenly distributed, this action redistributes the loaded indexes on the BW Accelerator servers
 - Rebuild BWA indexes: If a check discovers inconsistencies in the indexes, you can use this action to delete and rebuild all the BW Accelerator indexes.
- Checks
 - Connection Check
 - Index Check
 - Etc.

BW Accelerator Administration Tool – 2 –



BIA Checks Edit Goto BI Accelerator Action Log Performance Trace System Help

SAP NetWeaver BI Accelerator Monitor

BIA Connection Availability System Check BIA Load Monitor Activate

BIA Check Results

Summary Current Results History

Status	Check Description	Details	Action	Execute	Act...
	Solution 2		Restart master inde		
	Solution 1		Delete indexes that		
	Solution 3		Only connect one BI		

Check Details

Index Name

- posdw:q75003_ti_20010511
- posdw:q75003_ti_20050505
- posdw:q75003_ti_20060131
- posdw:q75003_ti_20060710
- posdw:q75003_ti_20060711
- posdw:q75003_ti_20061207
- posdw:q75003_ti_20070205
- posdw:q75003_ti_20070207
- posdw:q75003_ti_20070208

BIA Actions

Execute Actions

- ☐ Restart Host
- ☐ Restart BIA Server
- ☐ Restart BIA Index Server
- ☐ Reorganize BIA Landscape
- ☐ Rebuild BIA Indexes

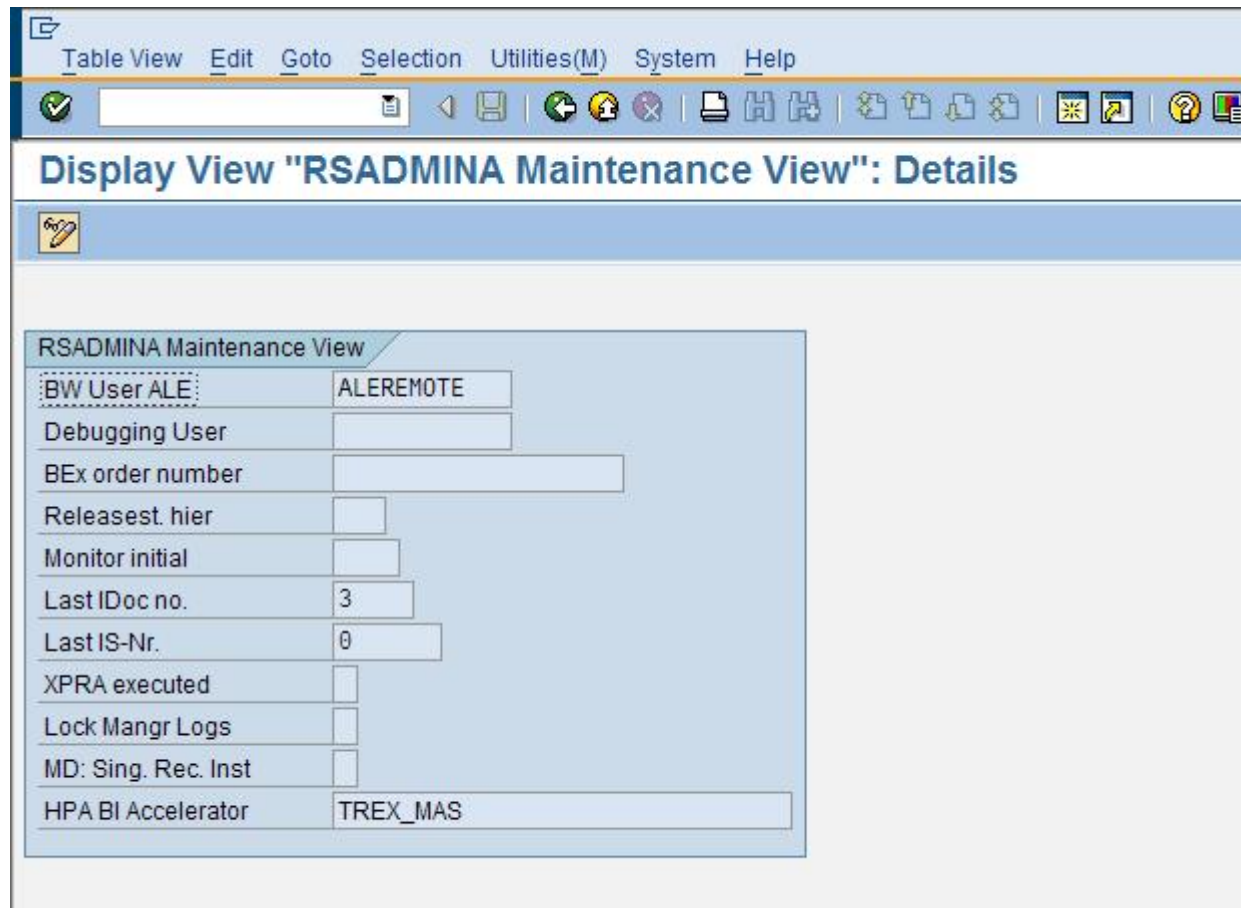
Execute

BIA Action Messages

Ty...	Message Text	Le...	LTxt
	BI accelerator services are fully available	1	
	Status information read from BI accelerator	1	

RFC Destination for the BW system

- If not maintained, BW Accelerator monitor asks for configuration details (otherwise: check transaction RSCUSTA for the correct setting)



The screenshot shows the 'RSADMINA Maintenance View' in SAP. The title bar reads 'Display View "RSADMINA Maintenance View": Details'. The main area contains a table with various configuration fields.

RSADMINA Maintenance View	
BW User ALE	ALEREMOTE
Debugging User	
BEx order number	
Releasest. hier	
Monitor initial	
Last IDoc no.	3
Last IS-Nr.	0
XPRA executed	
Lock Mangr Logs	
MD: Sing. Rec. Inst	
HPA BI Accelerator	TREX_MAS

BW Accelerator Data Consistency Check Center



BI Accelerator Data Consistency Check Center

Execute Schedule Logs Delete Information

Check Set ID Description

Name of InfoCubes

Maximum Degree of Parallelization

☐ If errors occur deactivate BIA index for queries

If errors occur send e-mail to:

☐ Execute after rollup for affected InfoCubes

☐ Execute after change run for affected InfoCubes

Start Check Center from BWA monitor
> Go to > Consistency Checks

Data Compar.

Totals in BIA

BIA and DB Totals

Random Queries

Index Exist.

☐ Execute Test

Details of Check

Specific Options

Comparison Only for Table

Five different types of checks are available and can be scheduled.
Click on the info button for more details.

BW Accelerator RSRV Checks



Consistency Checks

- BI Accelerator Consistency Checks
 - Master and transactional data
 - Compare data in BW tables and BIA indexes
 - Check sums of keyfigures of BIA queries
 - Compare sums of keyfigures of BIA queries with database
 - Existence of indexes for DB tables
 - Meta data
 - Check definition of logical Index
 - Compare Index definition with table on DB
 - Find Index with Status "unknown"

Performance Checks

- BI Accelerator Performance Checks
 - Size of Delta-Index
 - Propose Delta-Index for Indexes
 - Compare size of fact tables with fact index
 - Load BIA index data into main memory
 - Delete BIA index data from main memory
 - Estimate runtime of fact table indexing
 - Estimate memory consumption of fact table index

Index Repair

- BI Accelerator Repair programs
 - All BIA Indexes delete and rebuild
 - BIA Index adjustments after InfoCube activation
 - Rebuild all MasterData-Indexes of a BIA Index

Compounded Test

- All Combined Tests
 - Master Data
 - Transaction Data
 - Hierarchies
 - Database
 - Aggregates
 - BI accelerator
 - Consistency-Checks (detailed)
 - Consistency-Checks (fast)
 - Performance-Tests

System Information

- System Information
 - Aggregates
 - BI Accelerator
 - Show system-wide parameters for indexing
 - Show all BIA Indexes with status and parts
 - latest messages of the BIA alert server
 - Simple BIA functionality check



Useful SAP Notes

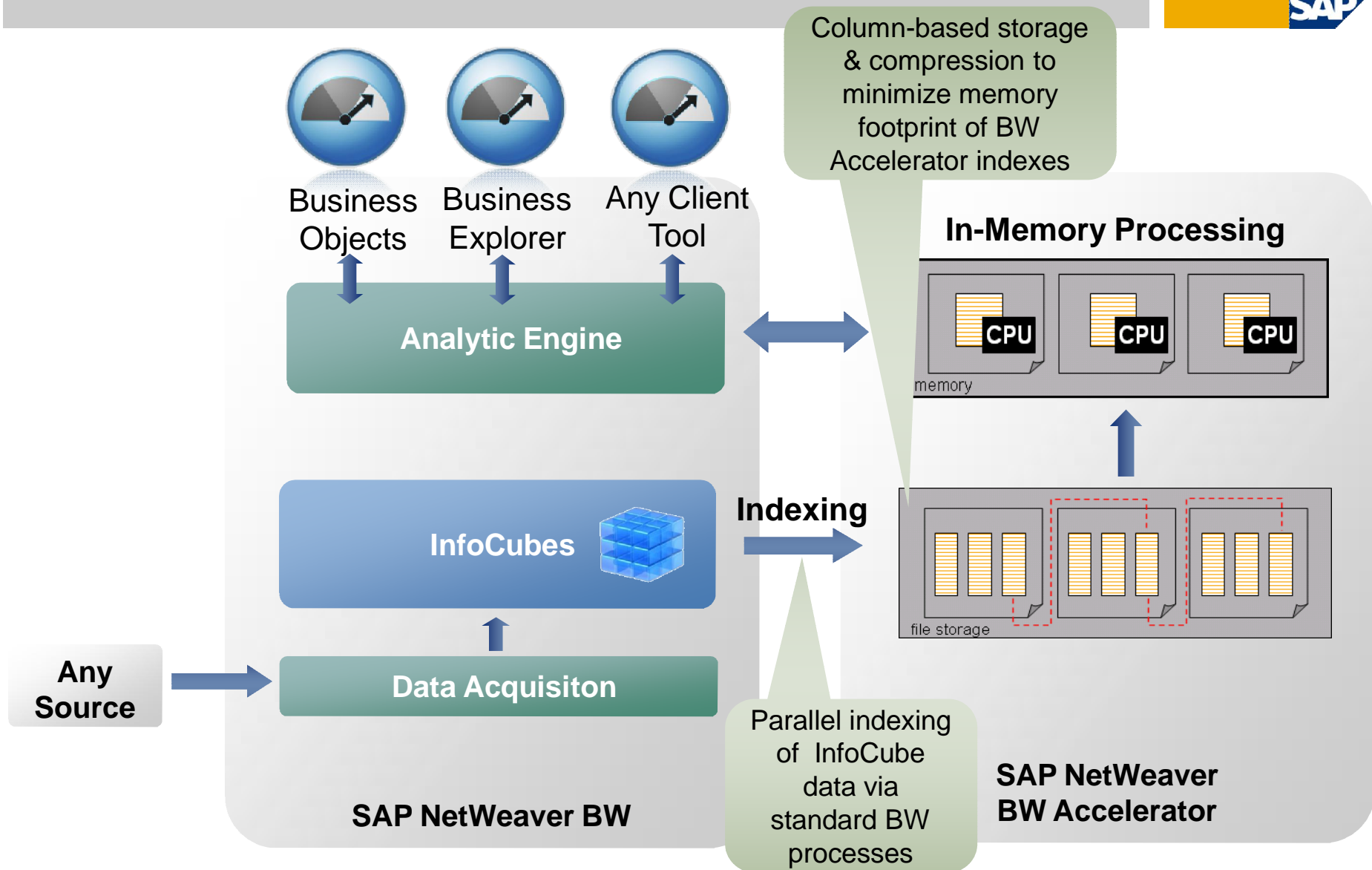
- Compatibility of SAP NetWeaver BW SPS and BWA revision
 - SAP Note 1148111
- Database Fallback for BWA
 - SAP Note 940635
- Estimation of memory consumption
 - SAP Note 917803

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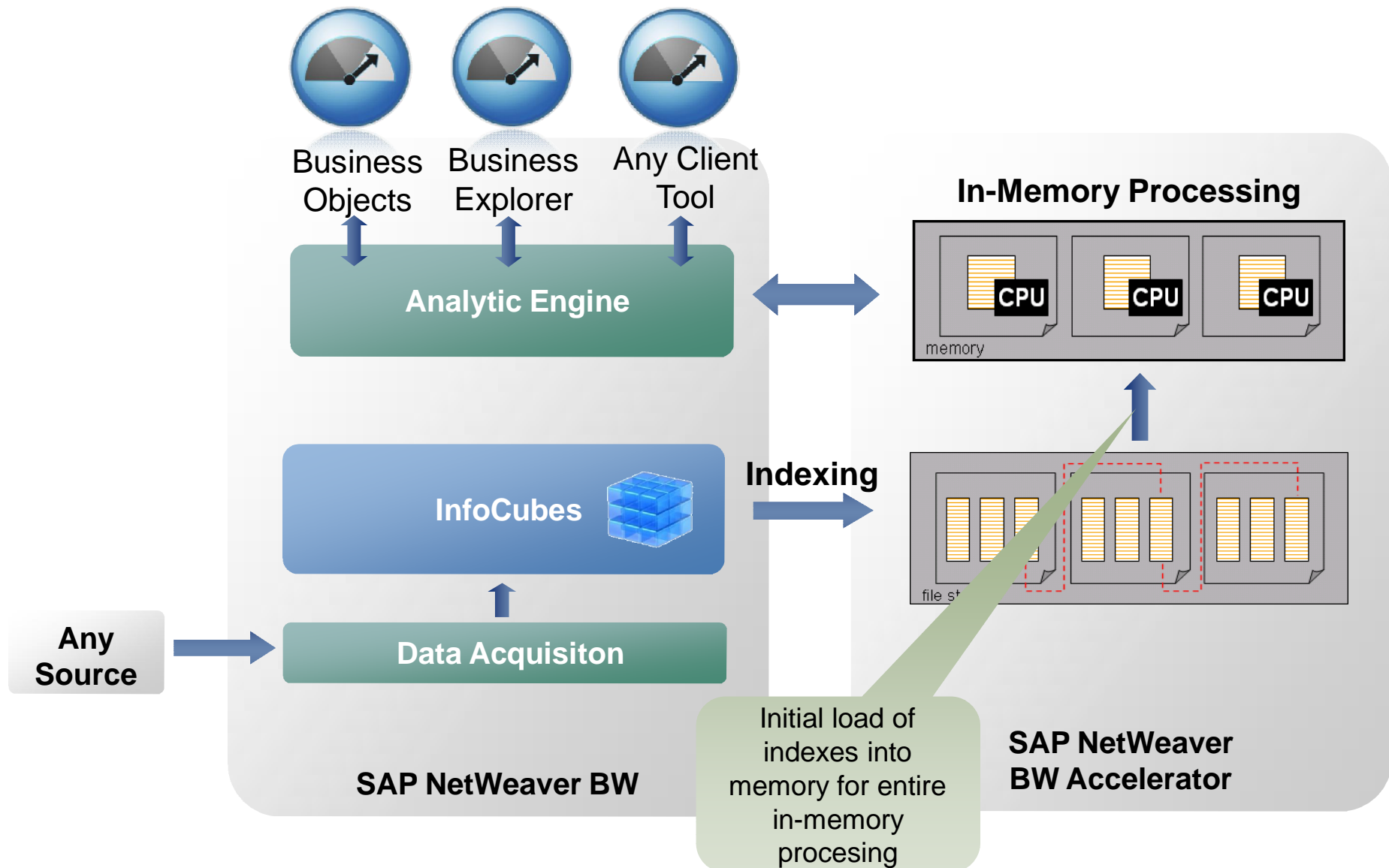


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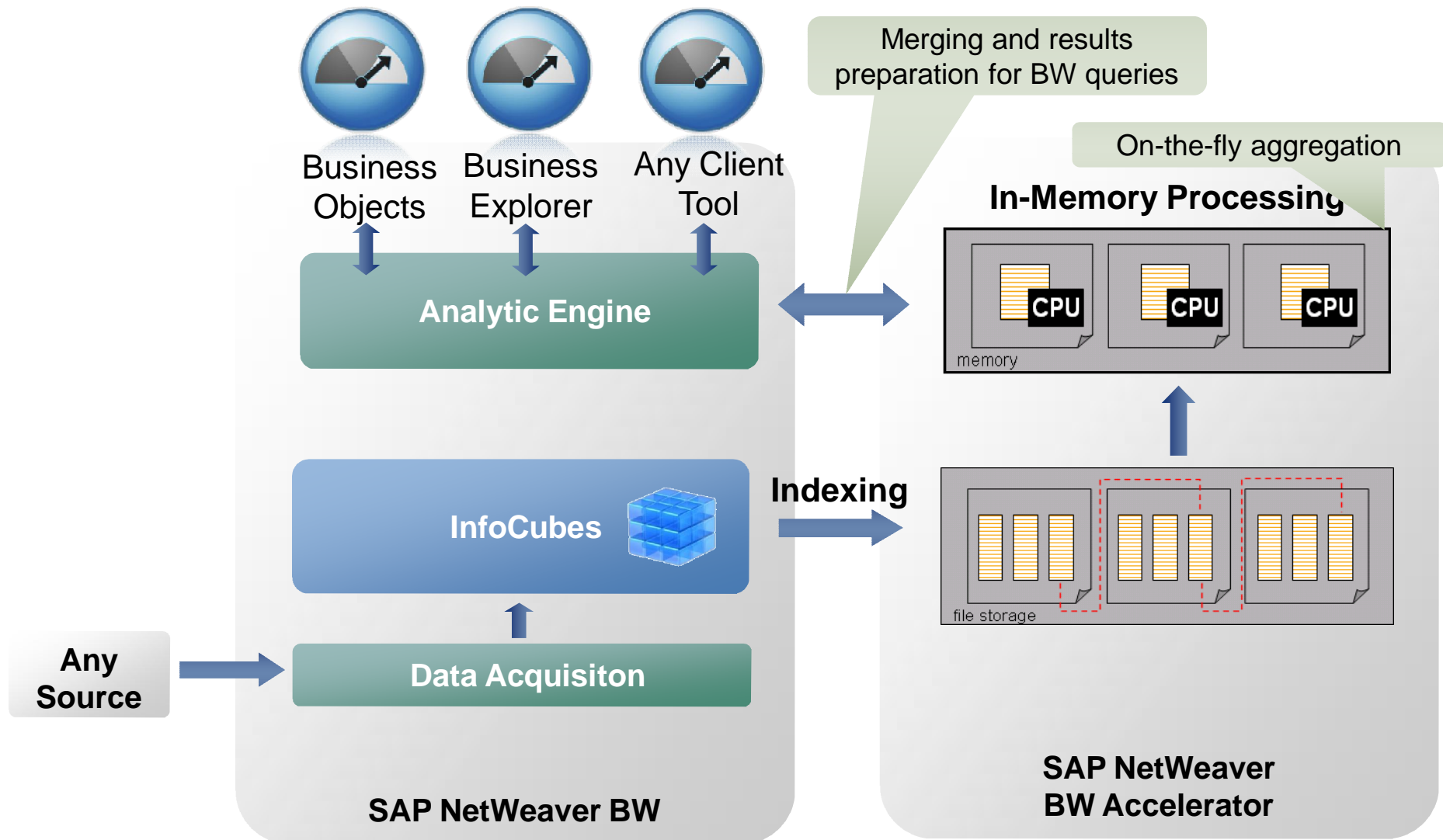
BW Accelerator Index Build Time



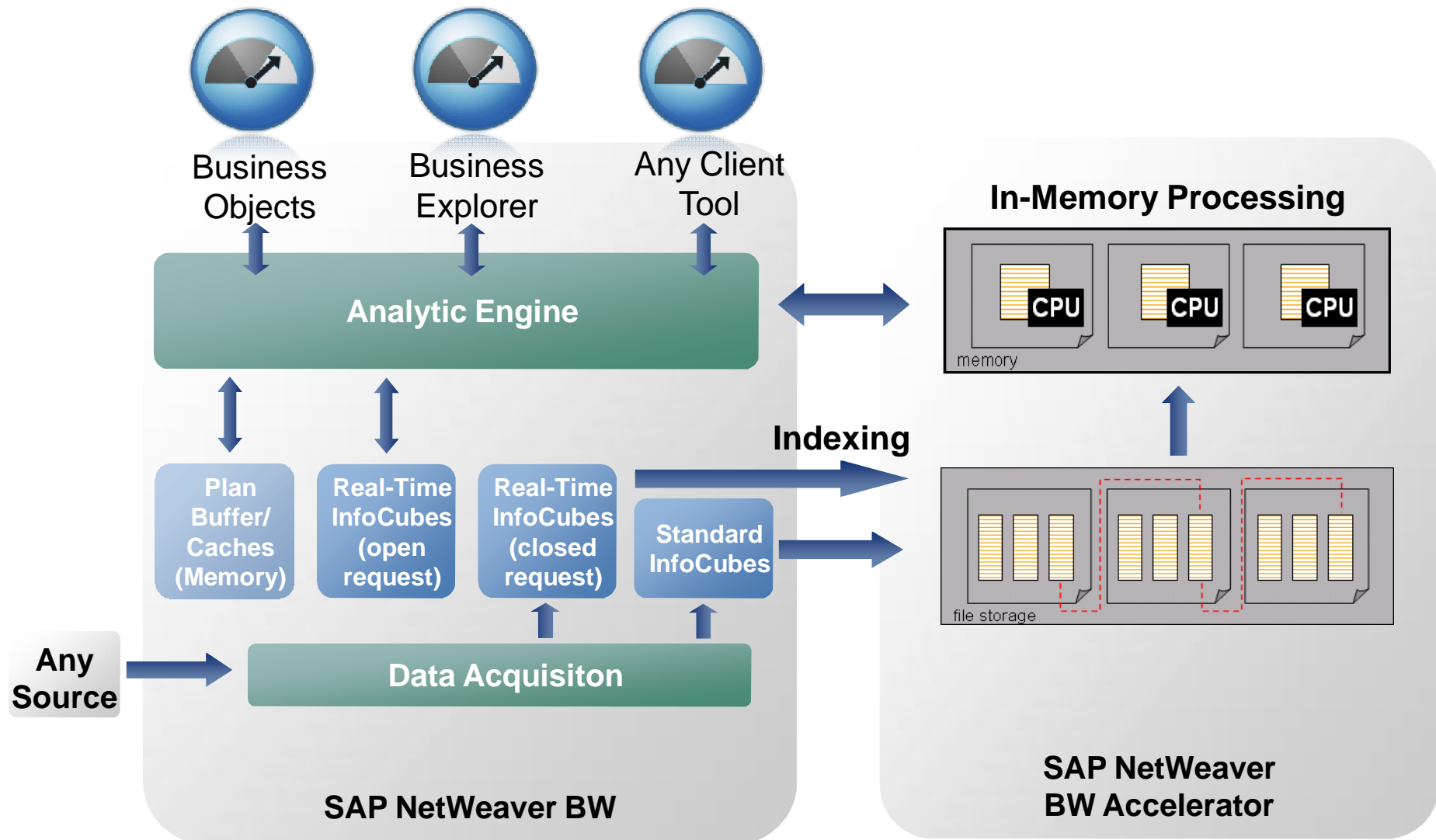
BW Accelerator Initial Load Into Main Memory



BW Accelerator Query Run Time



BW Accelerator for Planning

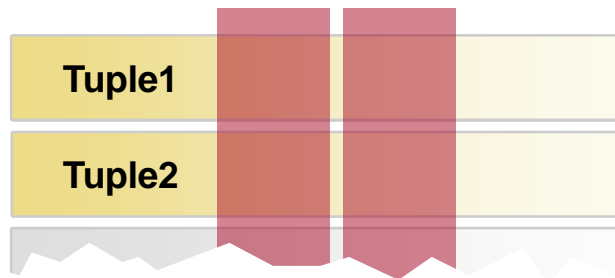


BW Accelerator Architecture: Vertical Decomposition



Classical DB

stores tables by row

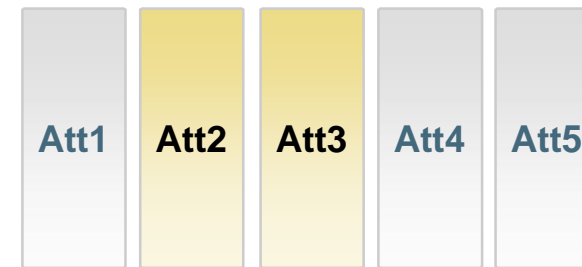


To find all instances of an attribute value:

- Go to the first row
- Check the attribute value
- Go to the next row
- Check the attribute value
- Repeat for each row in the table

BW Accelerator

stores tables by column

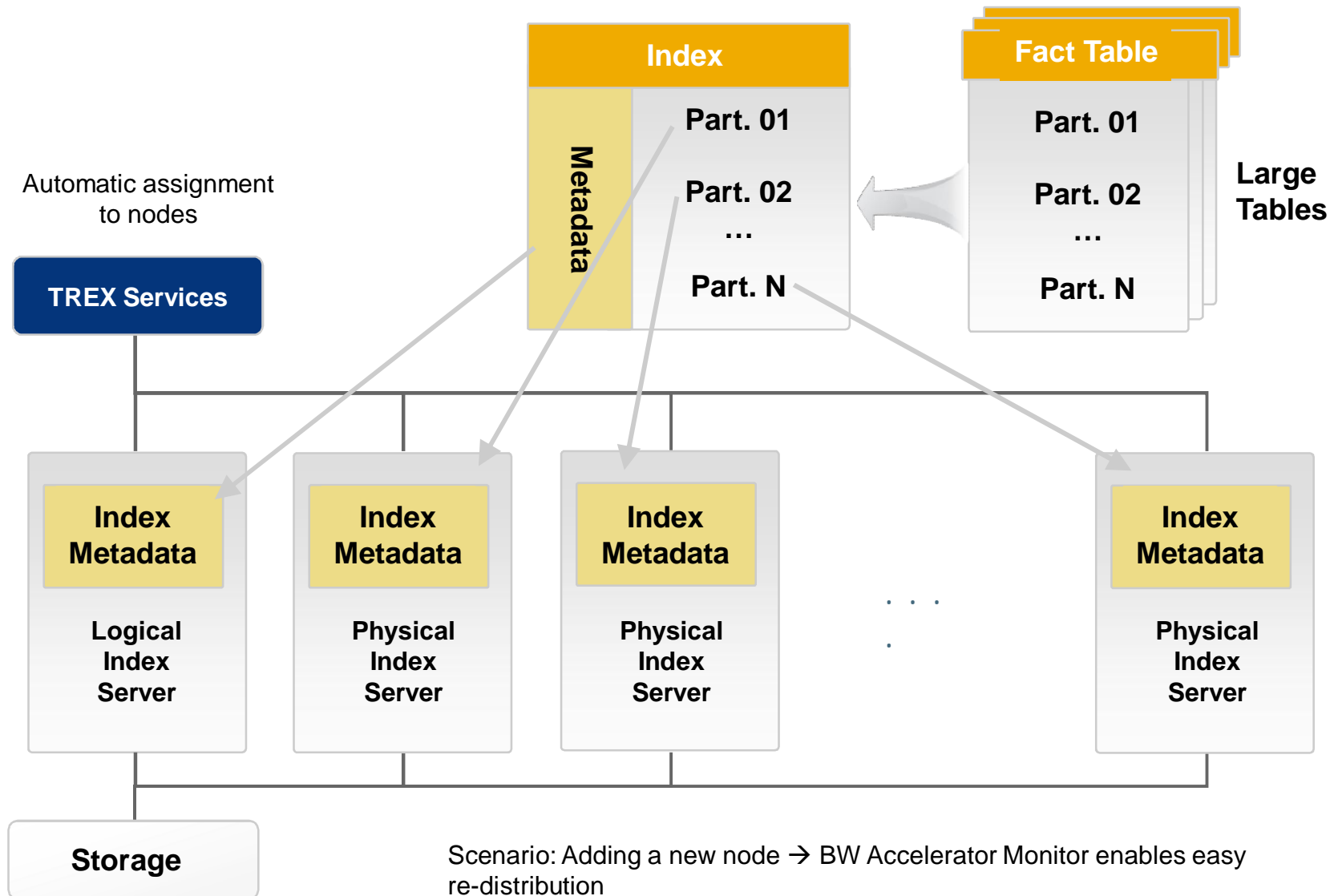


To find all instances of an attribute value:

- Go to the attribute column
- Read its row values

**If you don't have
a predefined index
ready you can wait
a long time ...**

BW Accelerator Architecture: Horizontal Partitioning





Compression

- Dictionary-based compression
 - Size of table keys significantly reduced
- Average compression as rule of thumb: 10 (Lab result)
- SAP NetWeaver BW Accelerator can handle huge data volumes in main memory (without need for costly disk accesses)
- Note: only BWA index parts necessary for the query need to be loaded into main memory (Hybrid dynamic index)

BW Accelerator Architecture: Summary



BW Accelerator Queries

- Automatically join required indexes as specified in the BW Accelerator index
- Aggregate large amounts of data in parallel
- Restrict aggregated rows with boolean query expressions
- Process more than one boolean expression at once

Very fast aggregation algorithm

- Exploits integer coding for max speed and min I/O
- Designed to run on latest blade servers and grid landscapes
- Optimizes usage of memory and cache resources
- Optimized for BW

Compressed memory index

- Many million documents can fit in 1 GB memory
- Stores by column (not by row)
- Can split indexes horizontally for parallel processing

Hybrid dynamic index

- Enables indexing of huge volumes of structured data
- Keeps only required columns in memory

Agenda



1. Overview
2. BWA Appliance
3. BWA Configuration & Administration
4. SAP NetWeaver BW Accelerator in Detail
- 5. SAP BusinessObjects Explorer**
6. Service Level Agreements
7. Roadmap

Demonstration

Who Has the Data?



“When you two have finished arguing your opinions, I actually have data!”



Bring BI to All Business Users

- Simplicity and speed of search
- Intuitive data exploration and visualization
- Fast response across mountains of data

Help IT to Be Successful

- Easy and efficient to manage and scale
- More reactive to business with faster delivery
- Heterogeneous data sources



Intuitive Data Exploration and Visualization

Bring BI to All Business Users



Intuitively explore data

- No data model or data knowledge required

Items to Select

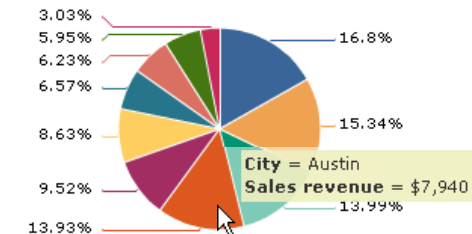
Measures: Sales revenue (SUM) None None

Year	SKU desc	Color
2001	Polo Collared T-Shirt	Ivory
2002	Whisky Dancer T-S...	Chocolate
2003	Long-Sleeved Torn ...	
	Flower Patterned T-...	
	Long-sleeved Crew...	
	Long-Sleeved Velve...	
	Loose-Fitting T-Shirt	
	Pomodoro Lace T-S...	
	Advanced...	

Automated relevancy of results

- Most relevant information is displayed first
- Best chart type auto generated

City	Sales revenue
Austin	\$7,940
Los Angeles	\$5,426
San Francisco	\$4,917
Washington	\$3,743
Dallas	\$3,550
Miami	\$3,391
Colorado Springs	\$1,727
Total (10)	\$56,985



Share insights with others

- Export to CSV and Excel
- Save it locally as a browser bookmark
- One-click to send a link to the results by email



Help IT to Be Successful Transforms IT Into an Agile Business Partner



Easy and efficient to manage and scale

- Serve more users without impacting IT budget
- Free up time towards more value-added activities

More reactive to business with faster delivery

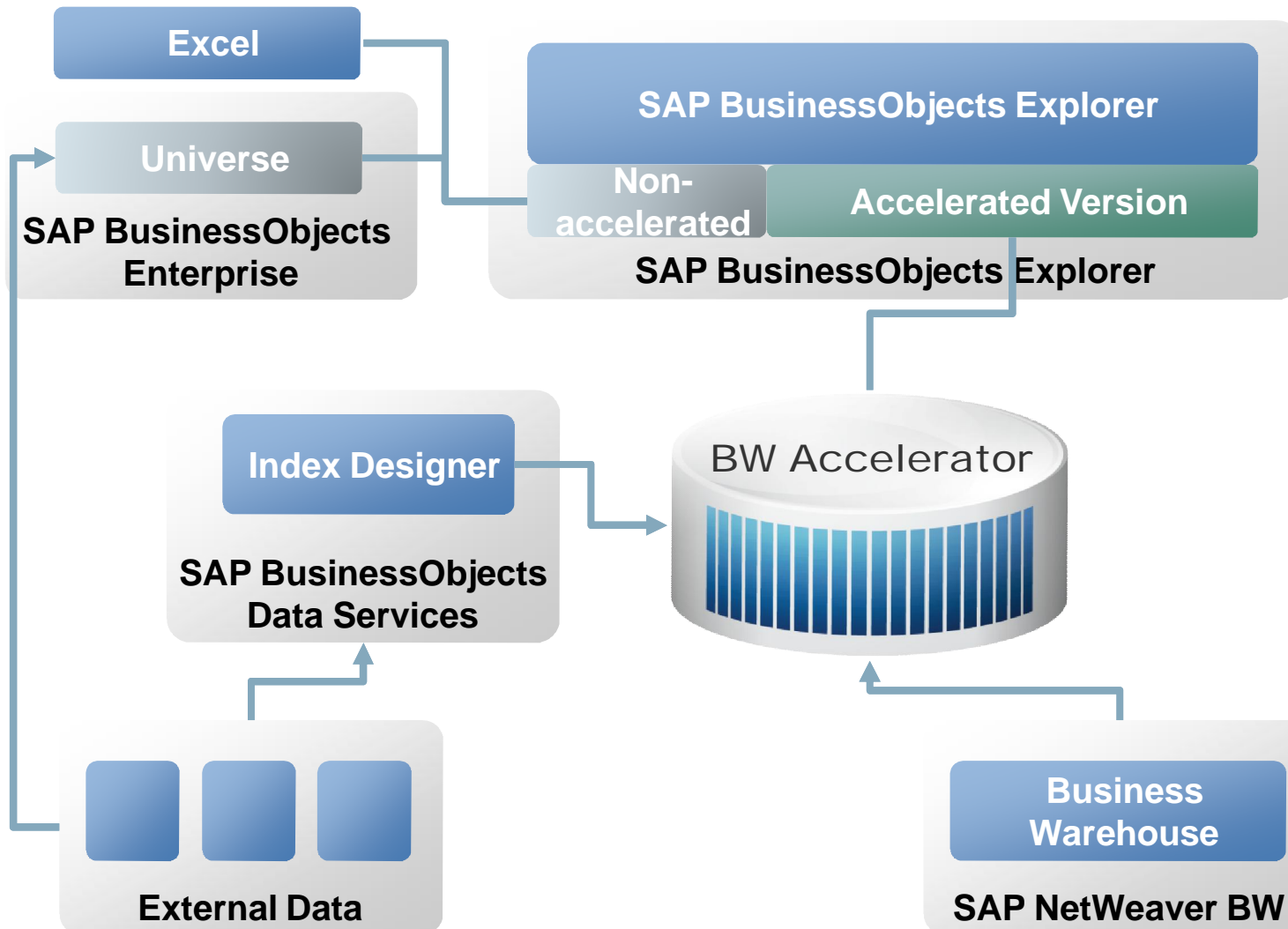
- Build a bridge between business users and IT
- Increase business user autonomy
- Raise IT services to new levels

Based on proven reliable infrastructure

- 1000's of deployed SAP NetWeaver BW customers
- 100's of successful BW Accelerator implementations
- All industry segments, including CPG, Retail, Insurance, Telco, Manufacturing, etc



SAP NetWeaver BW Accelerator and SAP BusinessObjects Explorer Integration





BWA Index for SAP BusinessObjects Explorer

- Contains 'standard' BWA index
- Provides additional information: texts, conversion factors, security
- A Explorer-enabled index can also be used to accelerate BW queries
- You can easily convert a standard index to a Explorer-enabled index
- Note: Some Explorer-specific features (such as snapshots) are not available to other front end tools

Texts, Attributes and Hierarchies

- Texts in one language (including support for time-dependent texts)
- Time-dependent master data is always displayed for the current date (query keydate = current day)
- Time-dependent hierarchy snapshots for current date

Unit/Currency Conversion

- Simple unit conversions and currency conversion factors for one key date
- Additional flexibility through query snapshots (e.g. InfoObject-specific unit conversion)

BWA Index

Texts

Hierarchies

Conversion
Factors

Security

BWA Index
for Explorer



BWA Index for explorer (ctd.)

Security

- Note: Explorer authorizations automatically filter to the authorized values (join)
- Support of one SAP NetWeaver BW analysis authorization per user (user does not need to be a NW BW user)
 - This simplified security approach has been chosen to ensure consistent (across drill-down) and understandable values
- Support of user exit variable during indexing (possibly re-index frequently)
- Support of user groups for simplified mass maintenance

Key Figures

- Support of cumulative key figures
- Calculated key figures using simple calculations
- Restricted key figures



SAP NetWeaver BW meta data support

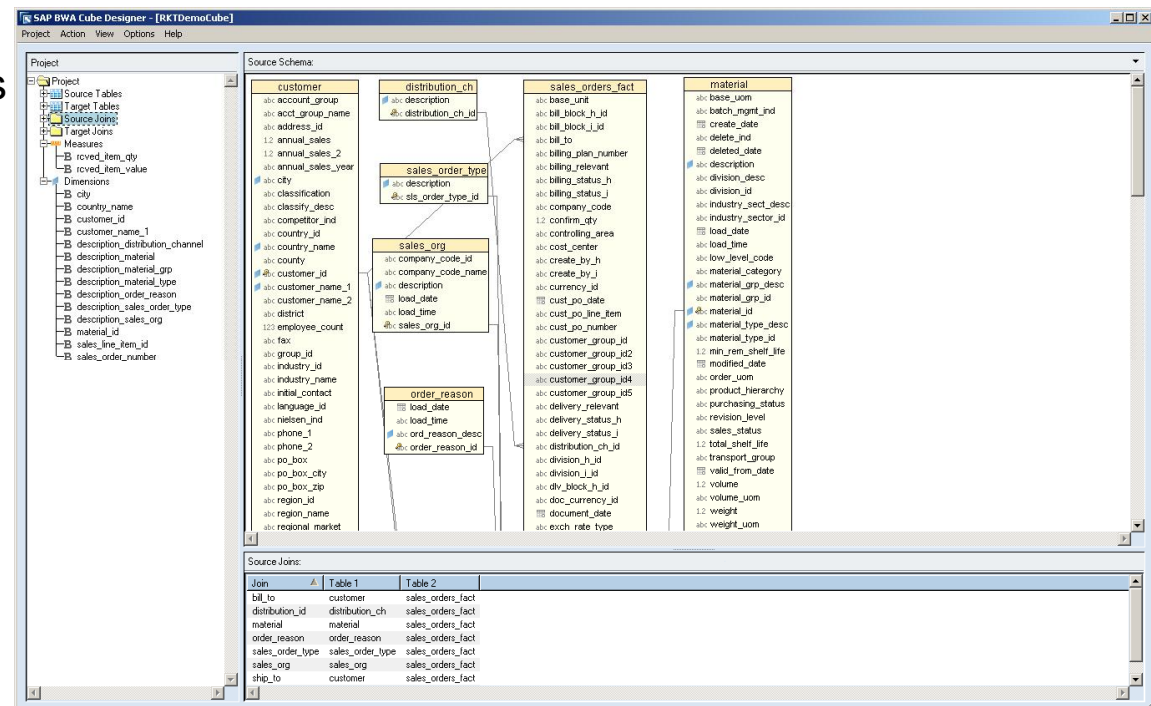
- Single InfoCubes
- Multi-provider indexing and exploration:
 - Natively index common MultiProviders
 - Index once for Explorer and BW use cases
 - Delta-loading capability
 - Snapshot indexing of complex MultiProviders
 - Such as those that refer to DataStore Objects and InfoObjects
 - Support for MultiProviders with compounded characteristics across InfoCubes (compound father in one InfoCube, child in another)
- Query indexing and exploration
 - Explorer can now be used to explore existing (or new) Queries
 - Quickly index your existing Queries for Explorer and have your users exploring them almost immediately
 - Snapshot indexing of Queries
 - Ability to leverage query features such as complex unit conversions

Loading External Data into BW Accelerator Index Designer



Index Designer

- Add-on to Data Services Designer
- Modeling Options
 - Allows to model BWA cubes (star schema) based on any data source
 - Define characteristics and key figures
 - Join source tables
- Generates ready to use Data Services objects and jobs
 - Generates repository entries
 - Generates Data Services jobs (create, delete, load)
- Note: this data can only be consumed in Explorer



Automatic Filtering of authorized values

- Define special information space as personalization layer
 - Include dimension for user
 - Include further dimension and fill values per user name that should be filtered
 - This Information space type is not explorable and searchable

Name *

Description

Keywords

Availability ☐ Explorable and Searchable

Facets, Measures and Filters

- Facets
 - Store name
 - Name of manager

- Link personalization information space to consumable information space
 - Authorized values are automatically filtered

☐ No data filtering

☒ Data filtering using an existing Information Space

User Object

Local Facet	Reference Facet
Store name	Store name

Sizing of SAP NetWeaver BW Accelerator & SAP BusinessObjects Explorer

- See SAP note 1339507
- Note: this sizing is additive to a previous BWA sizing for query acceleration

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Scenarios

- Scheduled maintenance work
 - Hardware maintenance: blade, storage system, network
 - Software maintenance: OS or BWA patching
 - Landscape changes: removing or adding blades
- Unplanned downtime of hardware components
 - One or more blades
 - Storage
 - Switches, controller etc.
- Backup and Recovery
 - Software errors: corrupt files, destroyed index
- Disaster Recovery
 - Severe hardware failures
 - Natural hazards (fire, earthquake, ...) or terrorism



SAP NetWeaver BW Accelerator Features

■ High Availability

- Redundant hardware components: power supply, switches, controller etc.
- RAID-5 to ensure operation after failure of one disk (in the disk array)
- Optional spare blade(s)
 - Automatic activation of backup blade and automatic re-distribution of index after failure (during BWA downtime, queries go directly to the database)

■ Standard fallback to database if BWA is unavailable

- Email alert
- SAP Notes 940635, 1097529 and 1094309

■ Disaster Tolerance

- Switch-over

■ Further information

- SAP Developer Network
 - SAP NetWeaver → Business Intelligence → BW Accelerator → BW Accelerator (BWA) High Availability (PDF, 1.3 MB)
- SAP Note 984034



Hardware-Based Switch-Over Concept

■ Scenarios

- One data center fails (due to fire, power outage, earthquake, terrorist attack etc.)

■ Concept

- Redundant data center (including redundant BWA appliance)
- Synchronous mirroring
- Different concepts per hardware vendor
 - HP: integration into cluster manager, reconfiguration via script after switch-over
 - IBM: GPFS-based switch-over using BWA master-/backup-server concept

■ Contact

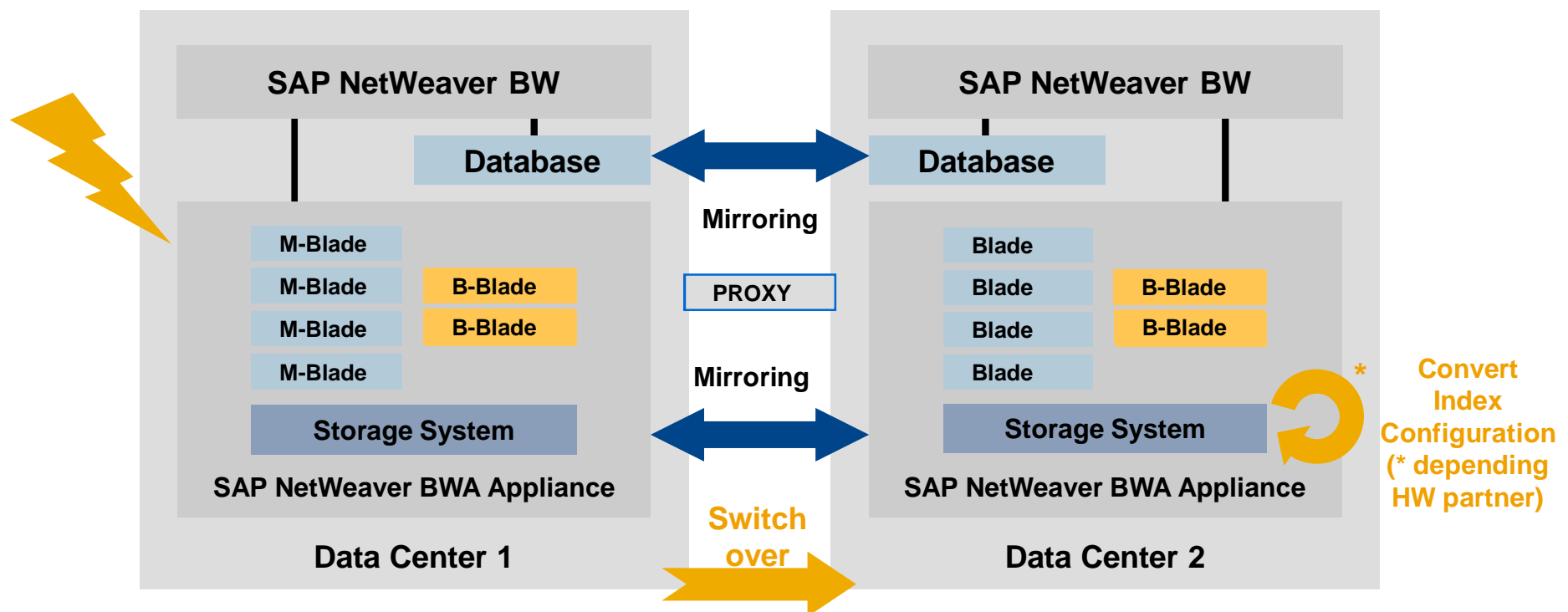
- Please contact your hardware partner
- Note: not available from every hardware partner

Disaster Tolerance Switch-over HP Concept



HP Concept

- 2 independent landscapes
- Switch is triggered by a script
 - Mounts standby landscape and changes index configuration (e.g. hostnames)

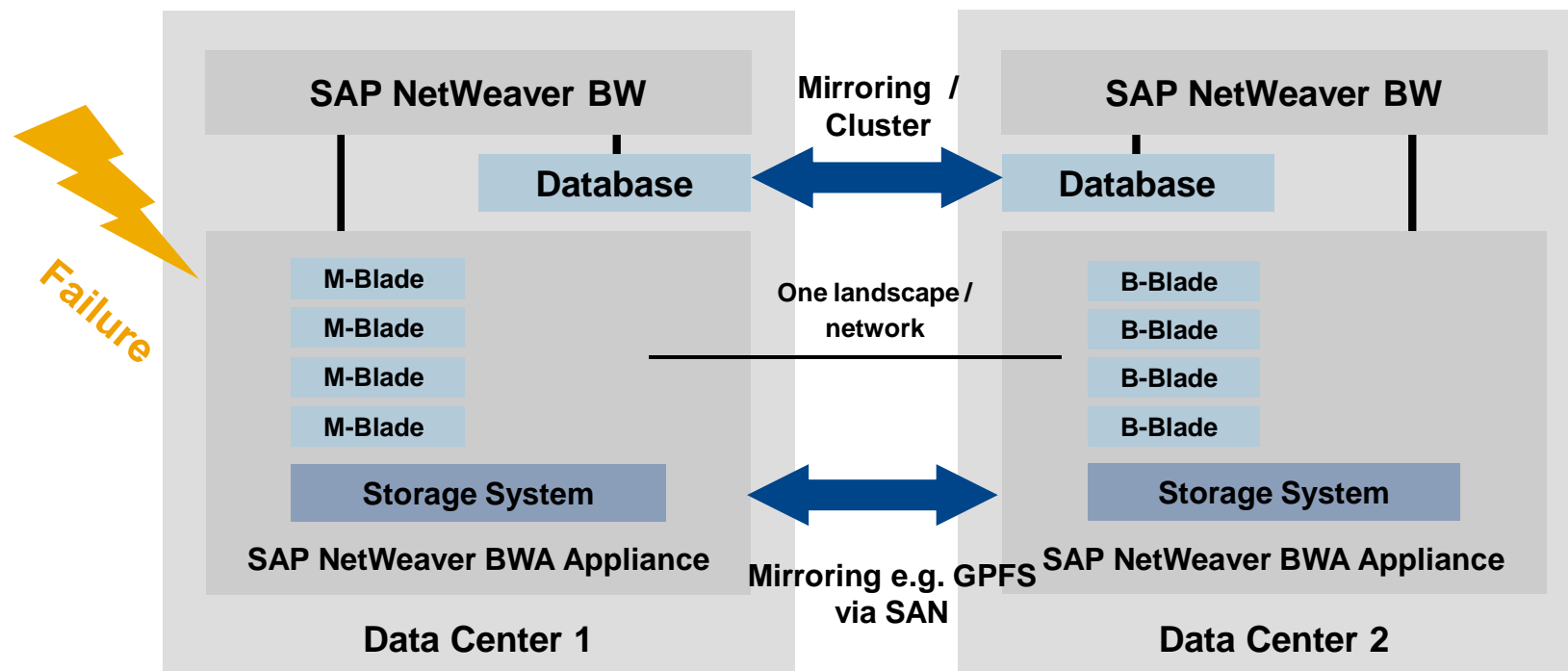


Disaster Tolerance Switch-over IBM Concept



IBM Concept

- Master in Data Center 1, Slave in Data Center 2
- Strong network connection
- One mount point GPFS via SAN → no real switch



Agenda



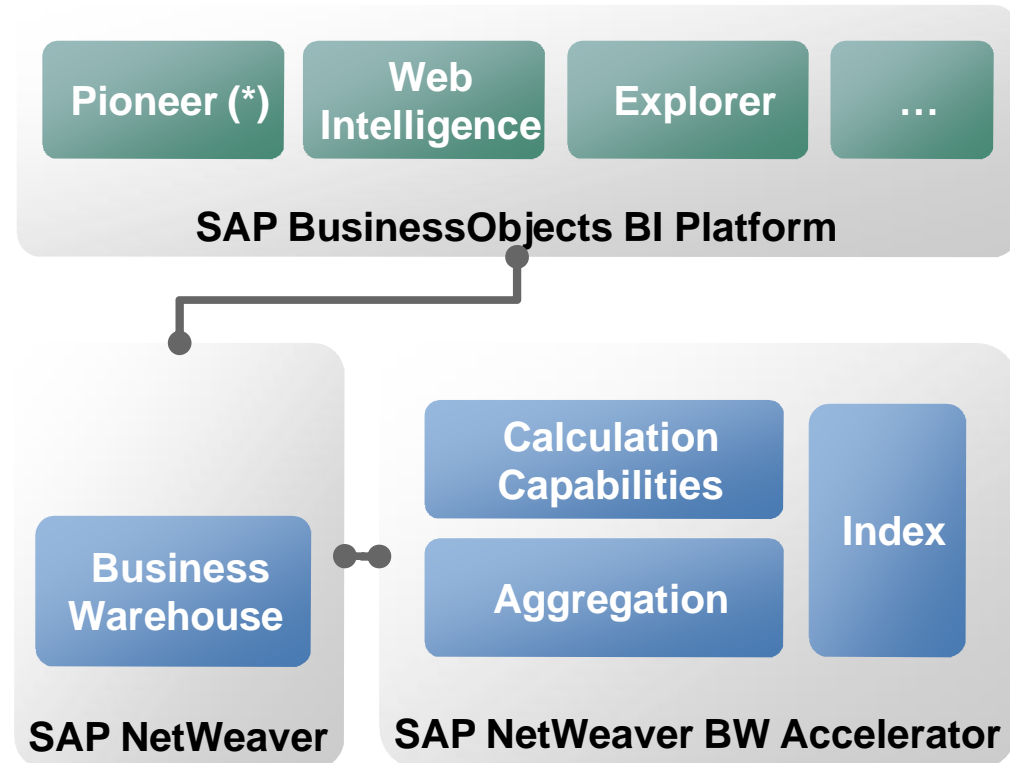
1. Overview
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SAP NetWeaver BW Accelerator Roadmap – 1 – Additional BWA Features



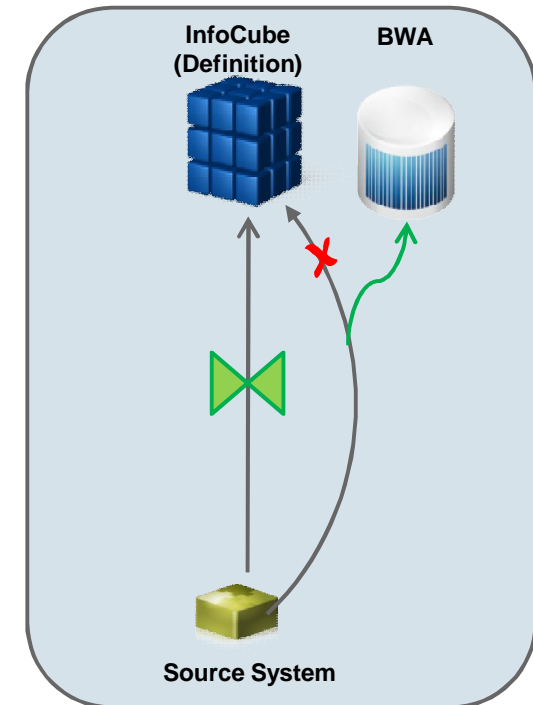
- Enable additional InfoProviders
 - Caching of Virtual InfoProviders
 - DataStore Objects (via HybridProviders or Virtual InfoProviders)
- Analytic/Calculation Capabilities
 - Top N/Bottom N
 - Improved MultiProvider handling
- Master Data Support
 - Index master data texts and hierarchies
 - Accelerate master data reporting
 - Accelerate value help



SAP NetWeaver BW Accelerator Roadmap – 2 – InfoCube persisted in BWA only



- Optional persistency for InfoCube data in BW Accelerator only
 - Persists data of InfoCubes only in BW Accelerator to:
 - Reduce data redundancy
 - Save disk space
 - Increase data base performance by reducing system load
 - E- and F- fact tables as well as dimension tables are indexed
 - Master data will be persisted in both SAP NetWeaver BW and BW Accelerator
 - A normal Data Transfer Process can be used to load data directly into BW Accelerator



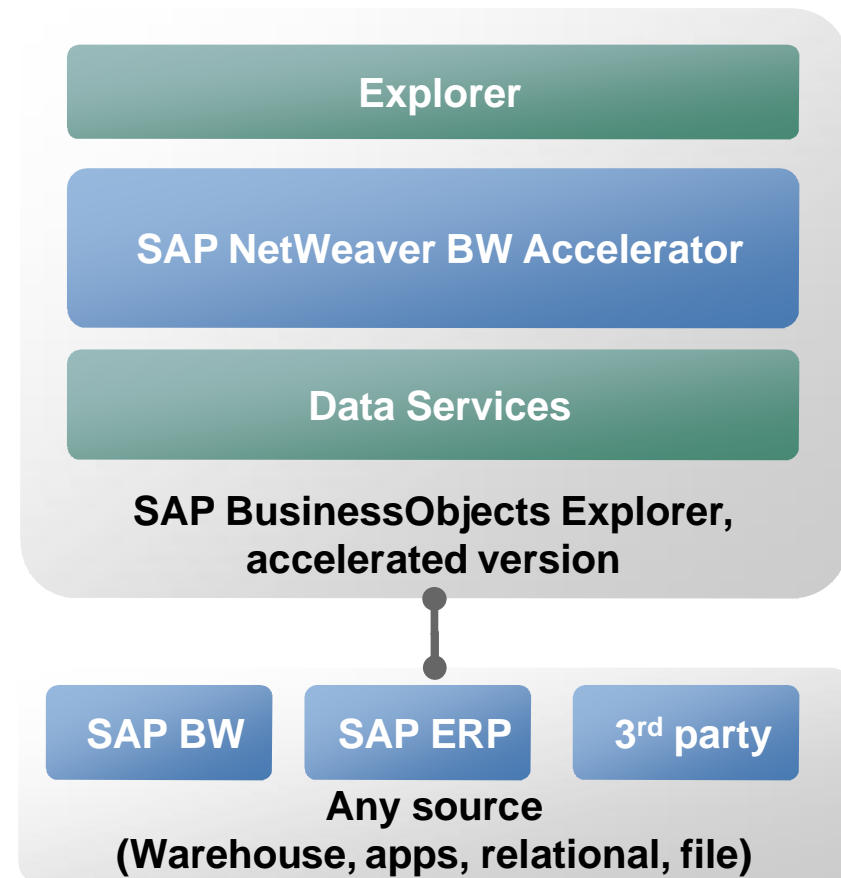
The screenshot shows the 'InfoProvider Type' configuration window. The 'Standard InfoCube' radio button is selected. Under 'With Physical Data Store', the 'BIA Status' dropdown is set to 'InfoCube stores its data in the database'. The 'VirtualProvider Without Phys' checkbox is unchecked. Under 'Based on Data Transfer Process for Direct Access', the 'With 3.x InfoSource' checkbox is unchecked. Under 'Based on BAPI', the 'With Source System' checkbox is unchecked. Under 'Based on Function Module', the 'Details' button is visible.

SAP NetWeaver BW Accelerator Roadmap – 3 – SAP BusinessObjects Explorer



Evolution of Explorer

- Leverage existing infrastructure investments
- Interoperability with other BusinessObjects tools
- Low TCO
 - Appliance Lifecycle Management
- Your corporate data, in your pocket
 - Explorer Mobile
 - Blackberry support



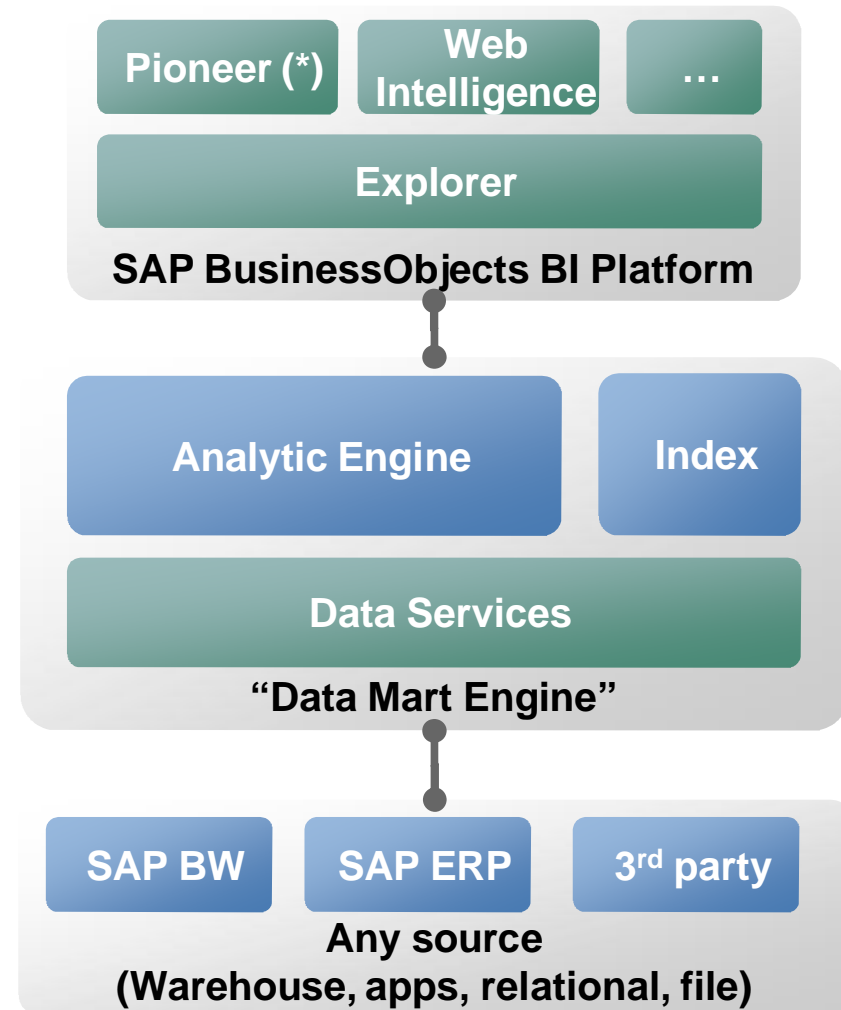
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SAP NetWeaver BW Accelerator Roadmap – 4 – Data Mart Engine



Local Innovation Space

- Safe, reliable & scalable environment for rapid business insight and innovation
- Meets ‘Shadow IT’ challenge
 - Departmental data marts
 - Centrally hosted by IT
- Any Source
 - SAP BusinessObjects Data Services
 - Simple, agile modeling environment for any sources
 - Closed-Loop Meta Data: option for synchronizing models with central BW
- Any tool
 - Explorer, WebI, Pioneer etc.
- Low TCO
 - Appliance Lifecycle Management: Live Update



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Thank you!

SAP NetWeaver BW Accelerator

Other Resources



SDN

- <https://www.sdn.sap.com/irj/sdn/BWA>
 - Standard Presentation
 - FAQ
 - Forum
 - Operations Manual
 - High Availability Roadmap
- Blogs
 - <https://www.sdn.sap.com/irj/scn/weblogs?blog=/weblogs/topic/103>

SMART

- <http://smartdirectory.sap.corp:3080/Assets/Asset.epx?Id=34617d39-112d-45f0-be0e-a8170194b385>

Service Marketplace

- <http://service.sap.com/bi>



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