

Chicago SAP BusinessObjects User Group

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What I'm going to tell you about - Make sure you listen or else...



Data Exploration with Explorer

- The Nuts and Bolts
- Best Practices (Un-accelerated version)

Data Acceleration with BWA

- Current Design
- Future Plans

Data Federator

- What it is
- How to take advantage of it

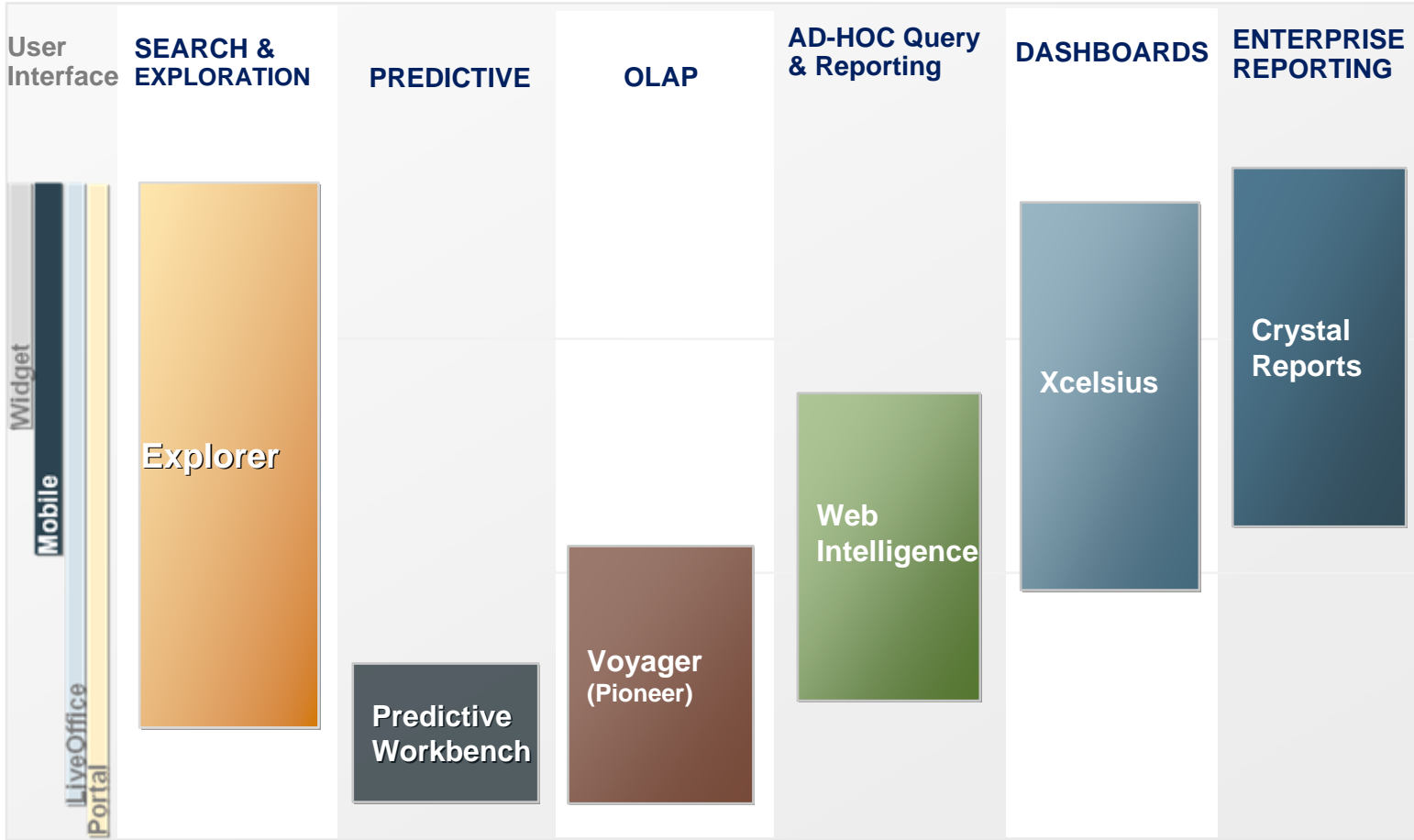
OLAP Data Analysis with Voyager(/Pioneer)

- Comparing and Contrasting it with other tools

Right Tool, Right Job



Low-Touch
Information Consumers



High-Touch
Information Experts

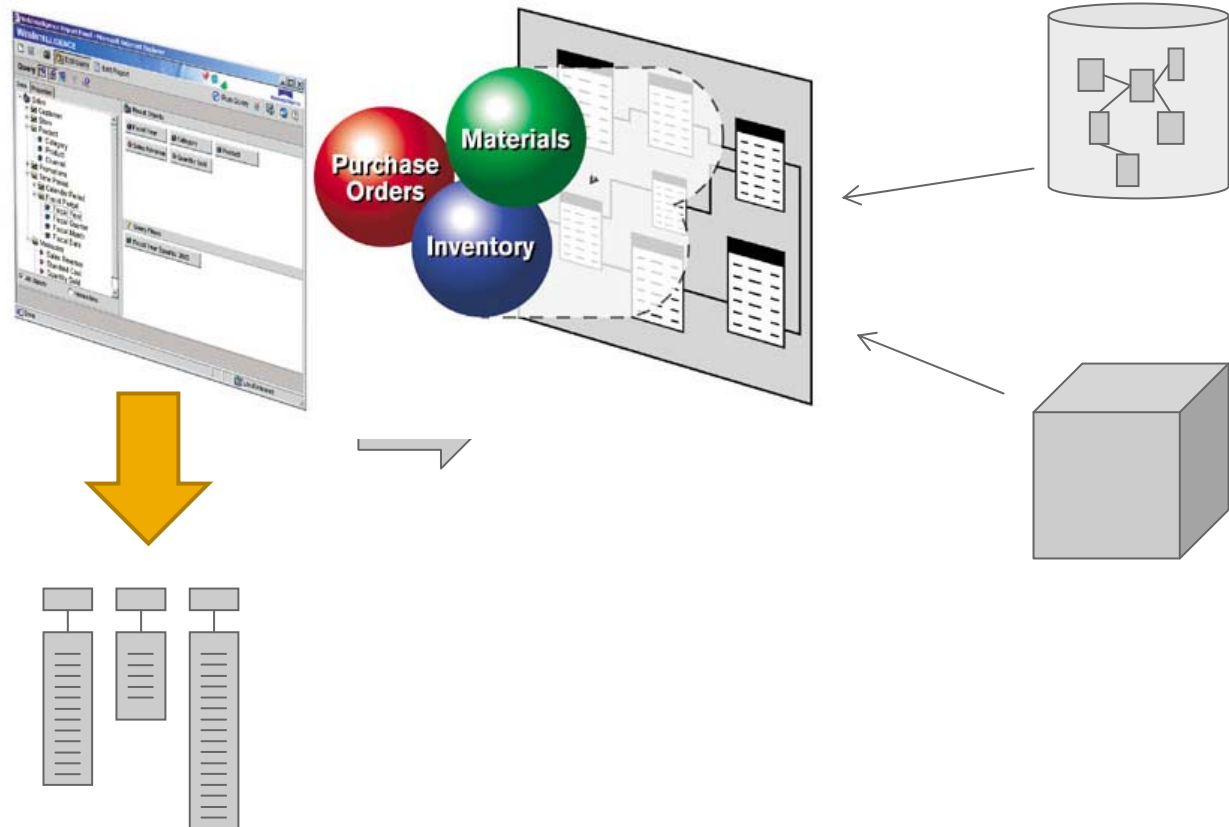
Dynamic ← Interactivity → Static

Discovery tool (rather than WebI)

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

Explore at the speed of thought

- Works against any Universe source
 - OLAP & Relational
- Build a query from the Universe (Information Space)
- Turns it into a Lucine Index



Doc 1

I did enact Julius Caesar: I was killed
i' the Capitol; Brutus killed me.

Doc 2

So let it be with Caesar. The noble Brutus
hath told you Caesar was ambitious:

	Antony and Cleopatra	Julius Caesar	The Tempest	Hamlet	Othello	Macbeth	...
Antony	1	1	0	0	0	1	
Brutus	1	1	0	1	0	0	
Caesar	1	1	0	1	1	1	
Calpurnia	1	0	1	1	1	1	
Cleopatra	1	0	0	0	0	0	
mercy	1	0	1	1	1	1	
worser	1	0	1	1	1	0	
...							

To answer the query

Brutus AND Caesar AND NOT Calpurnia

we simply AND the results together (a NOT is complemented, then ANDed)

$$110100 \text{ AND } 110111 \text{ AND } 101111 = 100100$$

The answers for this query and therefore

Antony and Cleopatra and *Hamlet*



- How do I hide the Information Spaces listed in InfoView?
 - Information Spaces created in Explorer are listed in InfoView as well
 - Information Spaces can be located in a specific folder that is hosted in an hidden folder
- Is *Personalization* now possible?
 - In SP2, an additional "Reference" Information Space need to be maintained (to map user logins against the object values that they are allowed to view)
 - Likely done in an Excel .xls spreadsheet (then Indexed)
- Why are sum OLAP Measures unavailable?
 - When you are dealing with OLAP universes, only measures that are fully additive will be available for display
 - Only those with a default aggregation like SUM
 - never "Database delegated" nor "None"
- Can you pass parameters FROM Explorer to WebI or Crystal?
 - No way to do it yet
 - Can only create a new webi doc from the filtered result set

- Can I control the order of the navigation Facets?
 - With Explorer Accelerated 1.0 facet ordering and "best guess" were based on algorithms that are primarily heuristic in nature. This makes it impractical for customers to try to influence.
 - With Explorer Accelerated 2.0, (in beta), the plan is to allow administrators to explicitly specify the ordering of the facets.

- How is Apache Lucene used? (in both the accelerated and un-accelerated versions)
 - Explorer Un-Accelerated leverages the Apache Lucene search library for both search and indexing.
 - Explorer Accelerated leverages the Apache Lucene only for search because BWA handles the indexing (via TREX).

No 'OLAP' scenario

- Polestar is not addressed to BI power users
- It does not provide sophisticated analytic capabilities to reduce the training efforts
 - Calculated measures/key figures
 - Key figures with exception aggregation cannot be displayed
 - Hierarchies are not supported
- The plan is to **keep Explorer simple**

What's are the Index limitations?

- Various documents mention the million row threshold from which performance degrades.
- Performance degradation applies to all stages of the Explorer lifecycle where the manipulation of data is occurring, but it is most pernicious during the end-user functions of search and exploration.

Modeling non-additive measures in Explorer is hard

- Suppose I have weekly ending inventories: W1 100, W2 200, W3 150, W4 100
- Modeling this in Explorer, the monthly ending inventory would show up as 550, not as 100 (the last ending inventory of the month).

What exactly is searchable?

- Explorer cannot search within the description of a universe object (nor the data lineage)

How can I make use of SAP SSO?

- Currently Explorer only accepts session token, AD and LDAP for SSO
- Must go via BOE Platform to SSO into Explorer
 - SAP SSO into InfoView, Hyperlink into Explorer
 - SAP SSO into OpenDocument

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Hardware appliance

- Really just a SUSE Linux blade

Renamed many, many times

- BIA
- BWA
- Open Accelerator

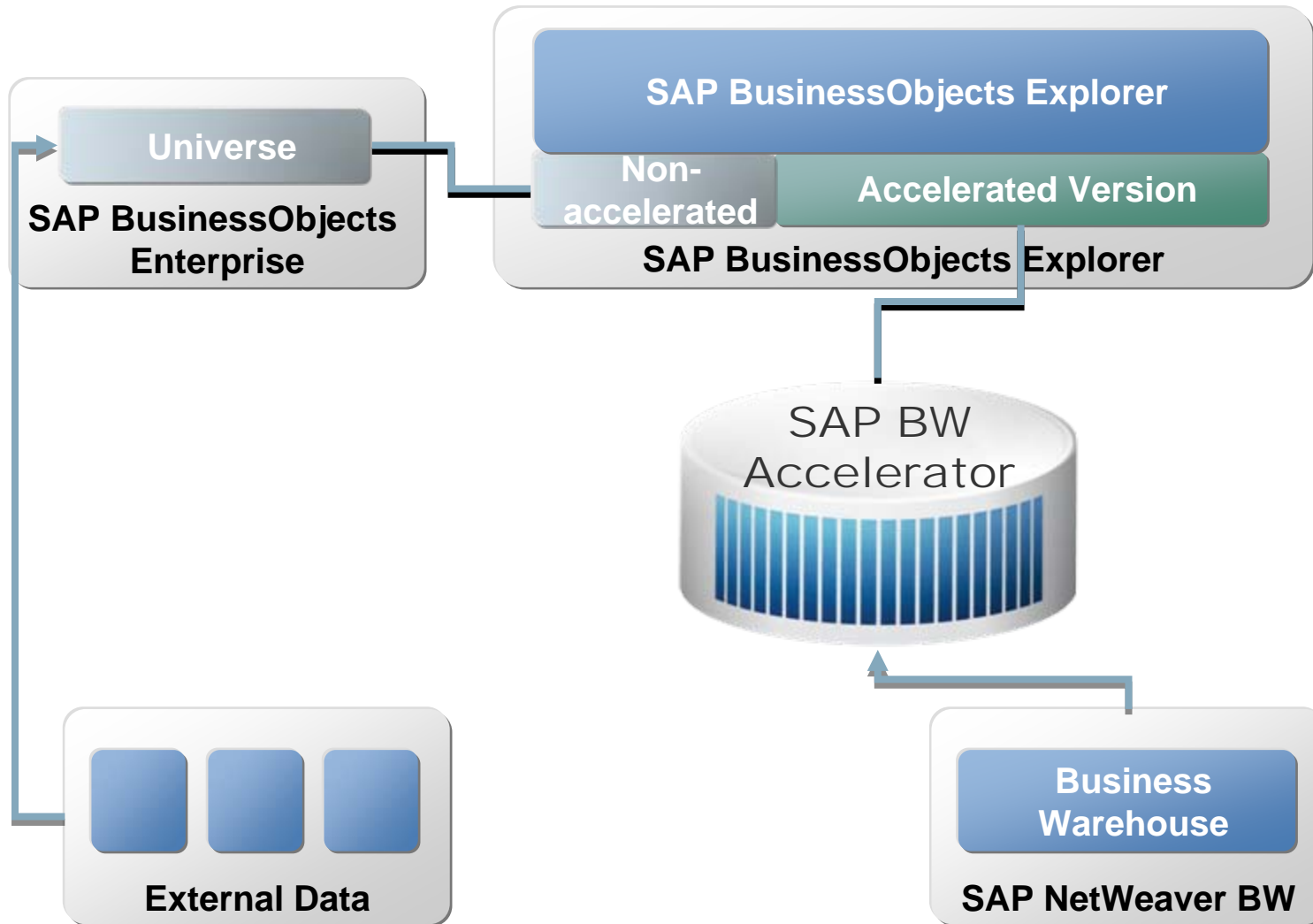
Speeds up BEx BW queries

- But how?

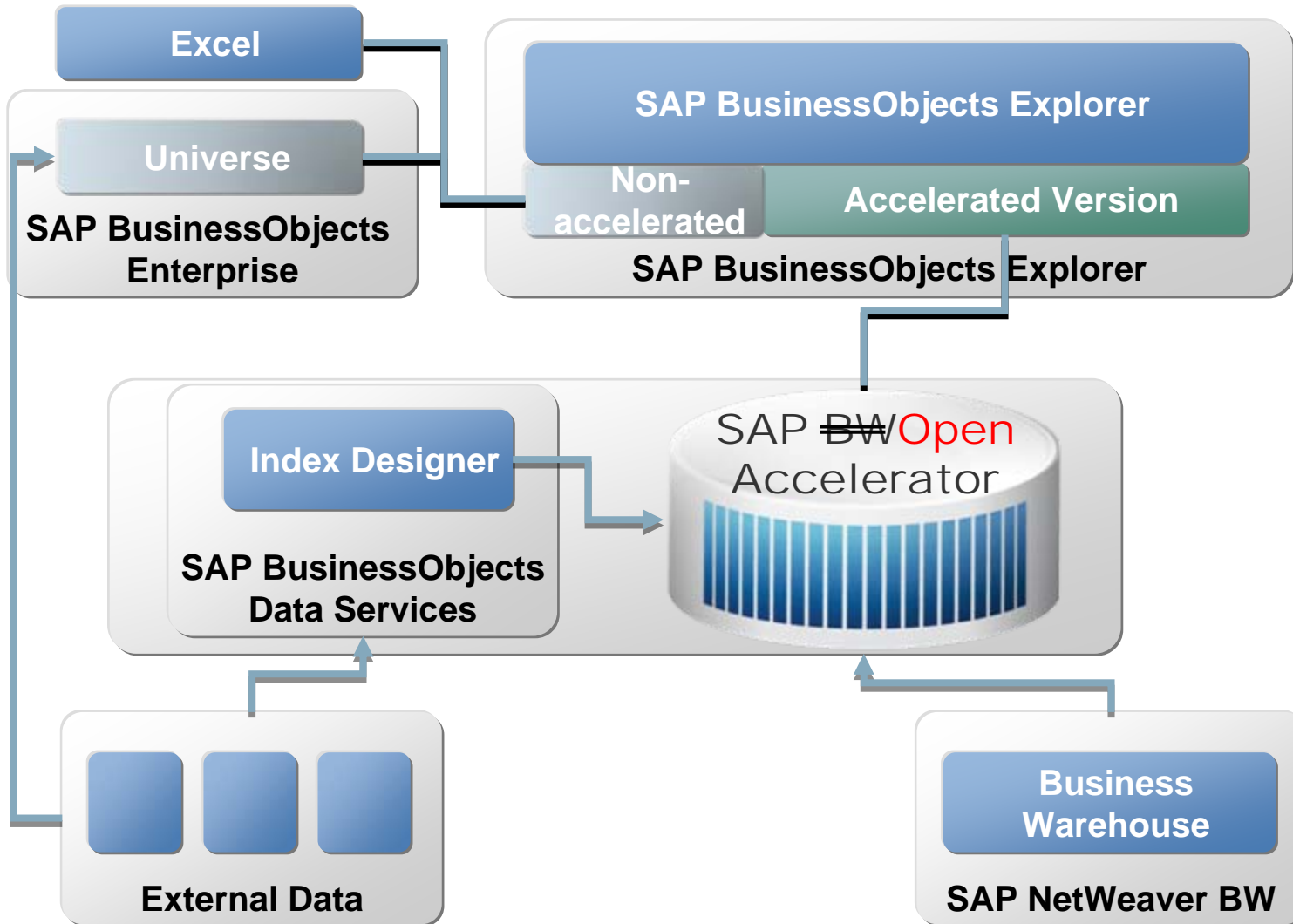
Client tools?

- Explorer – directly
- Others – via Data Federator

Previous Release - SAP BusinessObjects Explorer, accelerated version for SAP NetWeaver BW

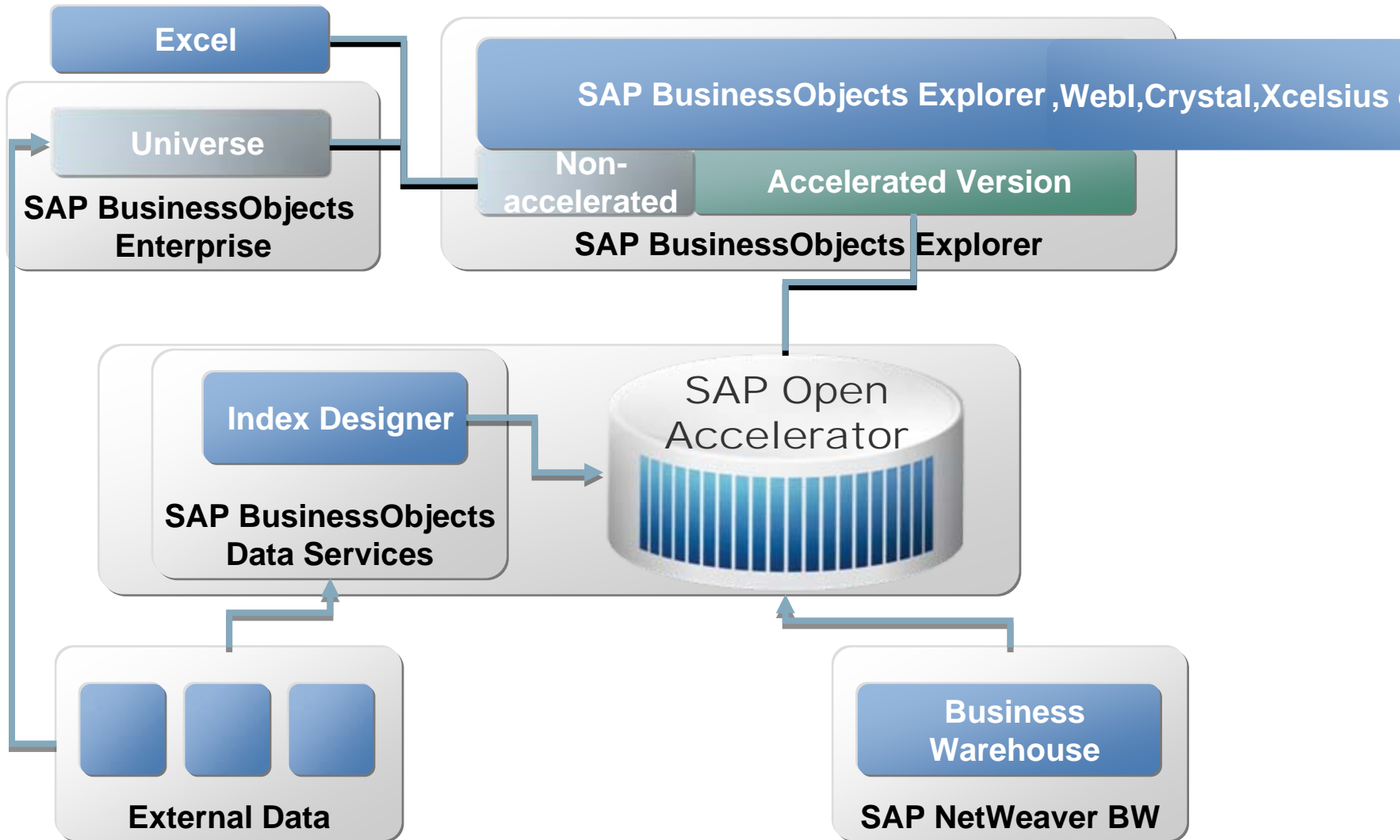


SAP BusinessObjects Accelerator and SAP BusinessObjects Explorer XI 3.2 Integration



FUTURE SLIDE!

SAP BusinessObjects Accelerator "Wave 3"



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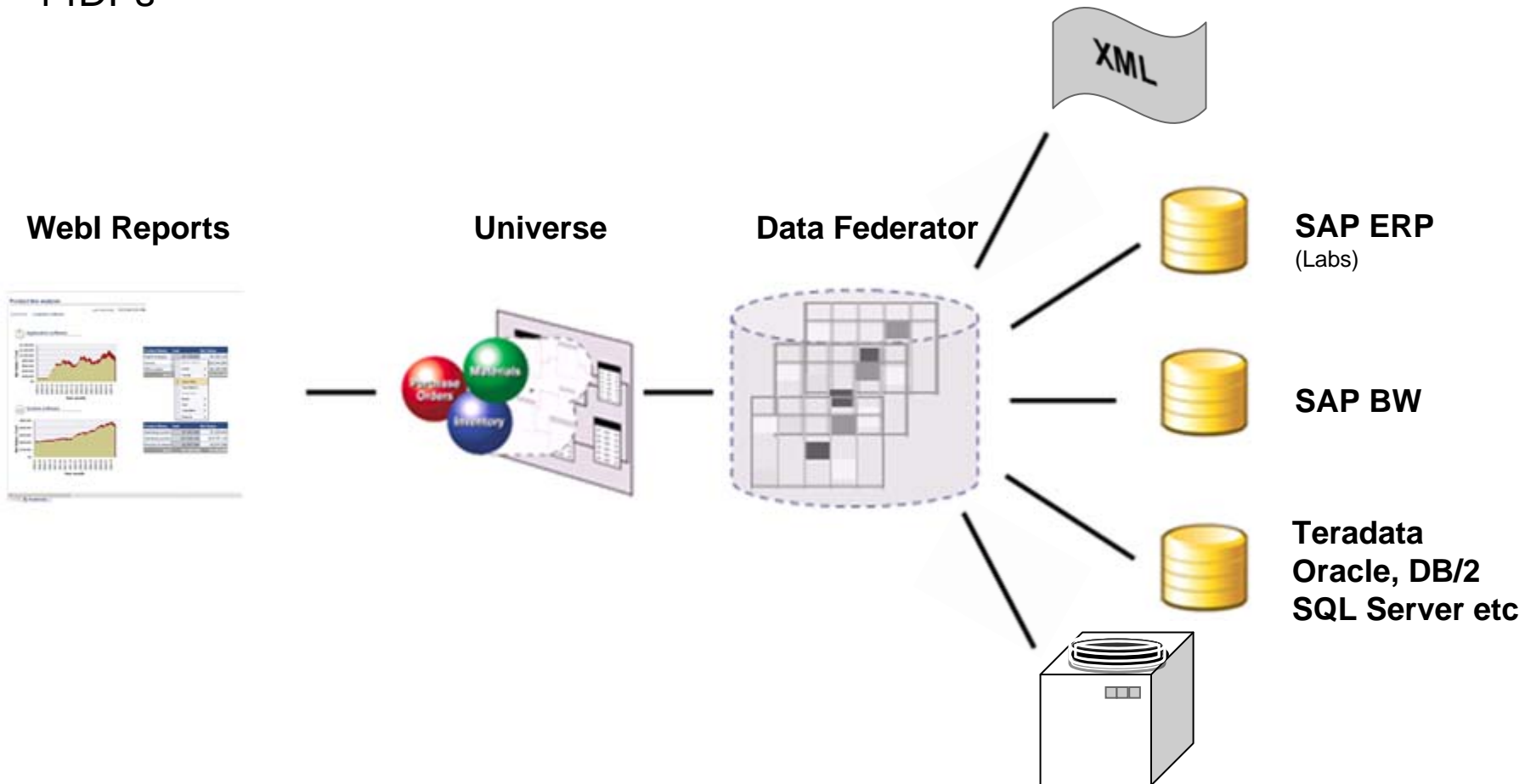
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- Combine SAP with other sources (SAS, Teradata...) *at the Data Source level*
 - Multi-source Universes
- But why not Webi?
 - 14DPs



■ Flexible data modeling

Design

- Unified view (Design Multi-Source Data Foundation)
- Connect to your existing information systems
- Transform data on the fly (function, mapping rules...)

■ Query any sources uniformly

Runtime

- Multi-Source SQL Query engine
 - Including multi-source join operators
 - Pull required data at runtime (access information on demand)
 - Parallel query execution
- Query optimizer
 - Generate an optimal global execution plan according to the underlying sources
 - Delegate dynamically computations to sources
- Rewrite SQL statements
 - Generate native queries (SQL, Xquery ...)
 - Can generate non relational statements (program and function calls...)

Information Democracy

BEX / Pioneer
(OLAP metaphors)

Web Intelligence

(uses for analysis and reporting – relational metaphor)

OLAP Universes

(business objects defined using MDX)

Relational Universes

(business objects defined using SQL)

Data Federator

MDX Queries

SQL Queries

SAP NetWeaver 7.01 – BW OLAP Engine



SAP NetWeaver 7.01 – Enterprise Data Warehouse



NetWeaver BI

Explorer is the only tool that can currently connect to BWA *natively*
DF can be used to connect other tools (WebI) via 'SQL Façade'

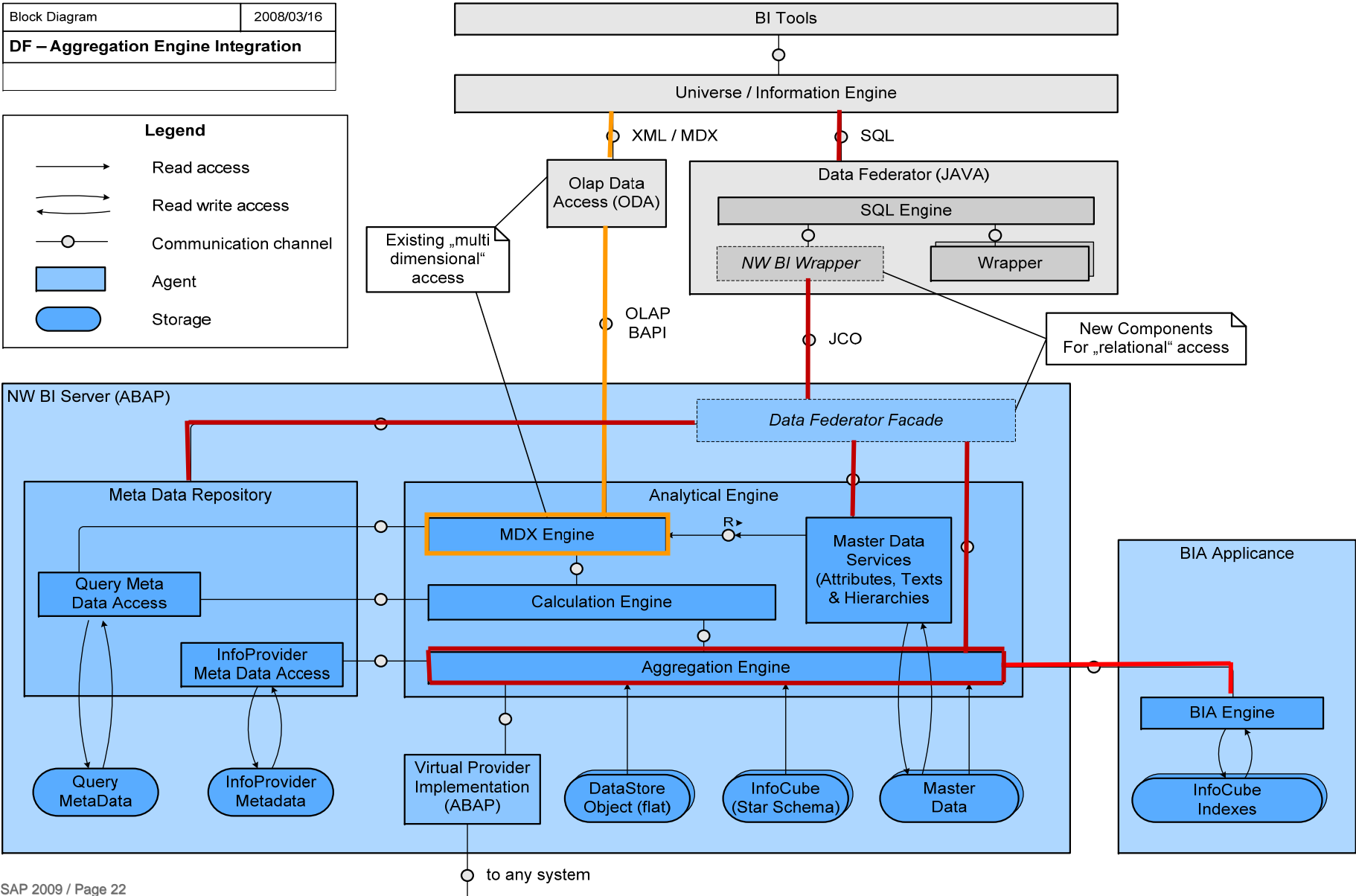
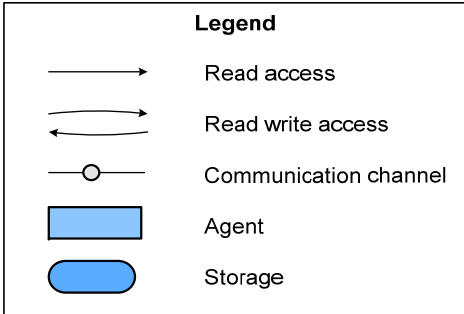
■ Scalable WebI reporting for SAP BW

- Bypass the BW OLAP engine
 - Connect to InfoCube, Multiprovider, DSO and retrieve associated metadata
- Query BW using SQL (performance breakthrough)
- Generate ready to use relational Universes

CONNECTOR ARCHITECTURE



Block Diagram	2008/03/16
DF – Aggregation Engine Integration	



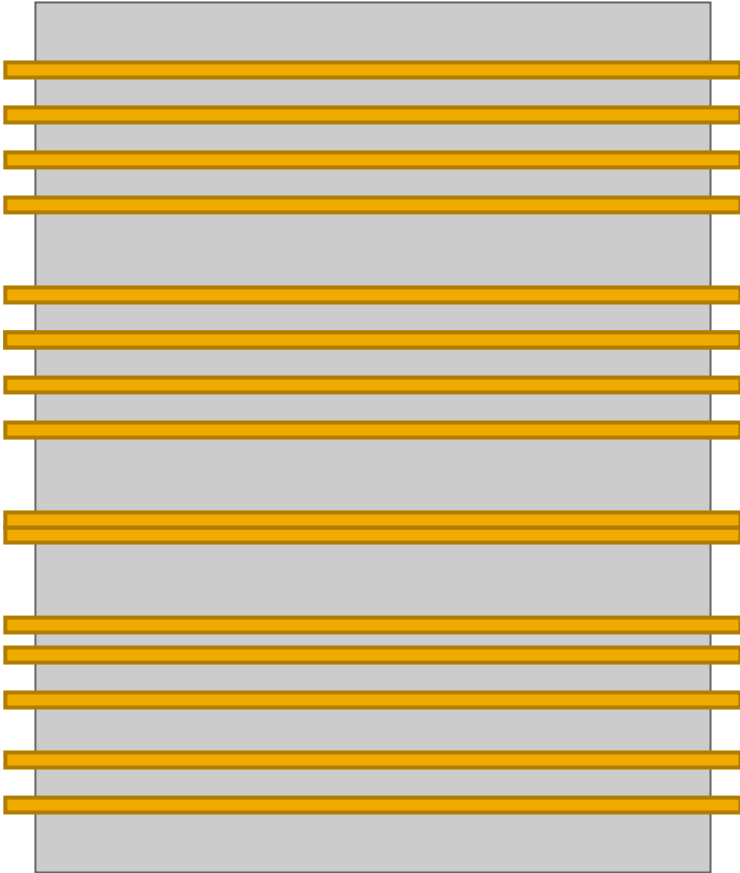
BW Server Feature	MDX	SQL
BW Hierarchies	■	
Restricted and Calculated Key Figures	■	
BEx Queries	■	
BW Variables	■	
Currency and Unit Conversion	■	
Exceptions, Conditions	■	
Security	■	■
AVG, COUNT, SUM, MIN, MAX Aggregations	■	■
Navigational Attributes	■	■
Mass Data Enabled	□	■
Ad-hoc Reporting		■
Federation (e.g. BW – RDBMS)		■

■ = fully supported

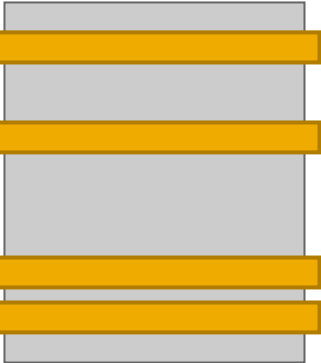
□ = limited support / workaround



Fact



Dimension



WHERE country = "USA"

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Designed where, by whom?

- Uh, huh!

Designed, why?

- Safe Harbour
- “Best OLAP Experience”
- No Universe?
 - What are WebI's strengths?...
 - USL → DSL

Lowering the heap size allows the GC to kick off earlier

- Caution setting too low could starve java rich portion of Voyager such as charting and print to PDF
- Initial Heap Size of 32MB and Max of 64MB worked effectively

Users MDAS can support depends upon query size and OLAP Vendor

- 1 user with 14.5 million cell query off MSAS2005
- 50 users with 1 million cell query off MSAS2005

Questions?

