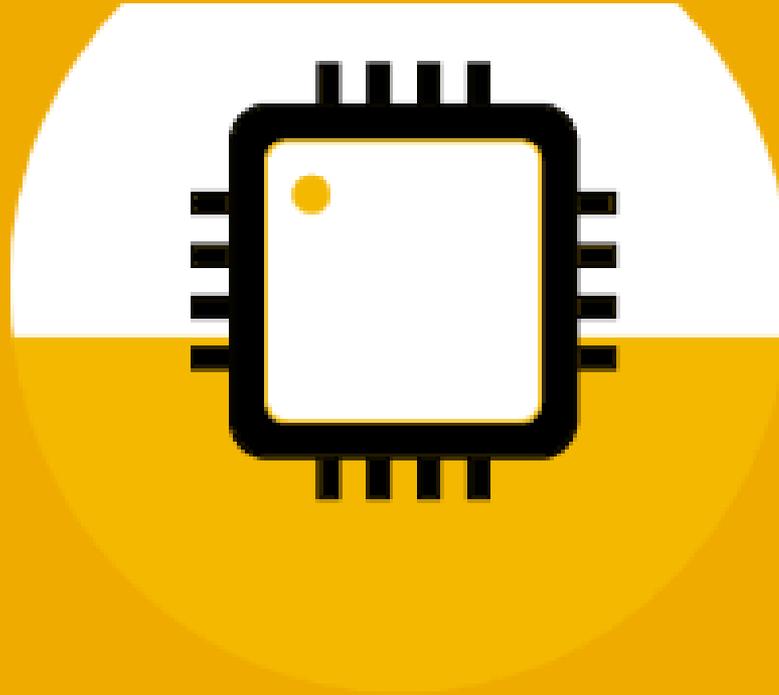


Virtual Sessions: SAP In-Memory Computing I

24. February 2012

In-Memory



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SAP HANA Virtual Session H1 2012

Date	Theme
24. February 2012	SAP In-Memory Computing I
23. March 2012	SAP HANA Edge for Reseller
11. May 2012	SAP In-Memory Computing II
22. June 2012	SAP HANA Modeling

Session SAP In-Memory Computing I

- Date: 24.02.2012
- Target Audience: Channel Partner, Sales, Presales, Project Manager, Solution Consultant
- Objectives: The audience will get an overview about the SAP In-Memory Computing. They will get a first impression about how to explore and analyze vast quantities of data from virtually any data source — at the speed of thought.
- Agenda
 - What is SAP HANA?
 - Traditional versus SAP HANA
 - Speed of Business Change
 - Technical Background
 - Ideal Customer
 - beat me up
 - Summary
- Language: English
- Duration 40 min

SAP In-Memory Computing I

Agenda 24. February 2012

What is SAP HANA?

Traditional versus SAP HANA

Speed of Business Change

Technical Background

Ideal Customer

Beat me up

Summary

SAP In-Memory Computing I

Agenda 24. February 2012

What is SAP HANA ?

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What is SAP HANA

The SAP **H**igh-performance **A**nalytic **A**ppliance (HANA) is a hardware and software combination that integrates a number of SAP components including an in-memory computing engine.



The SAP In-memory computing engine is the heart of SAP offerings that accelerate your business performance

In-Memory Computing



In-Memory Computing

Technology that allows the processing of massive quantities of real time data in the **main memory** of the server to provide immediate results from analyses and transactions

SAP In-Memory Computing I

Agenda 24. February 2012

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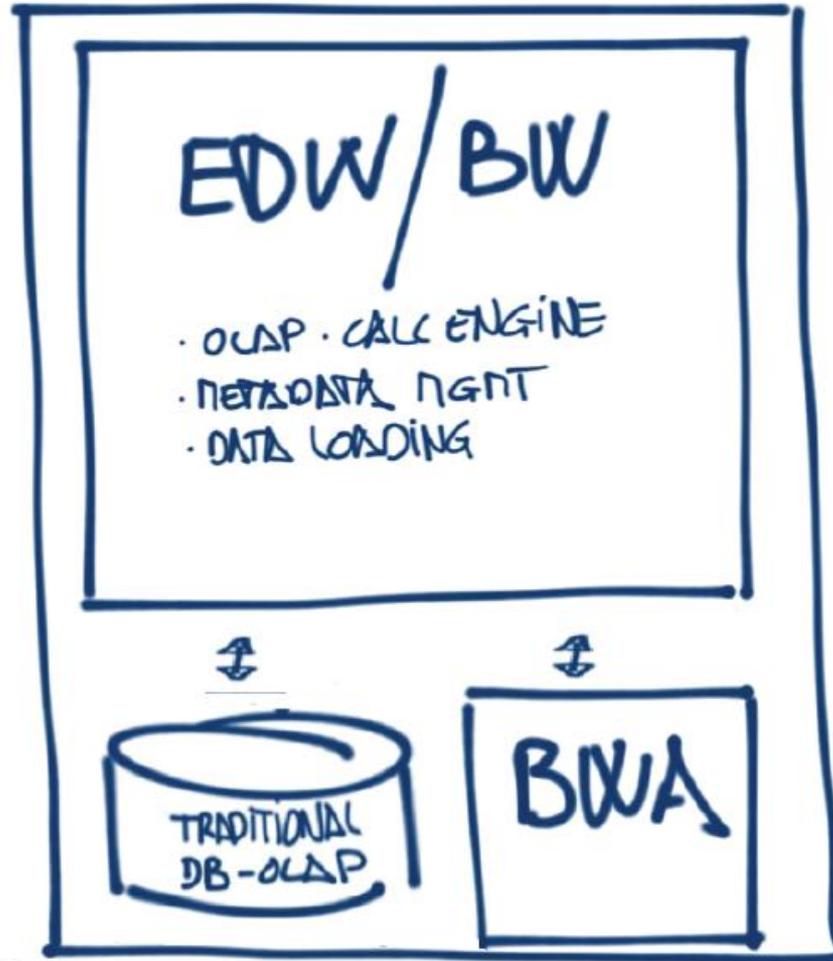
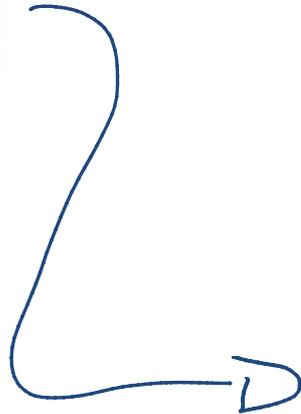
Summary

Traditional versus SAP HANA

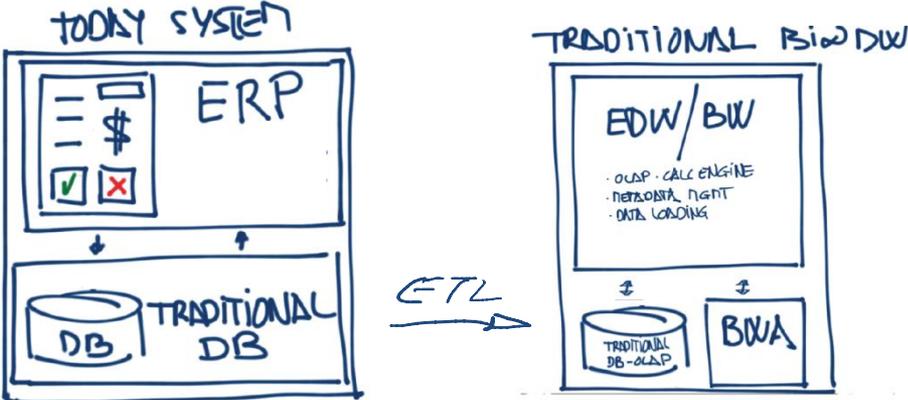


Traditional versus SAP HANA

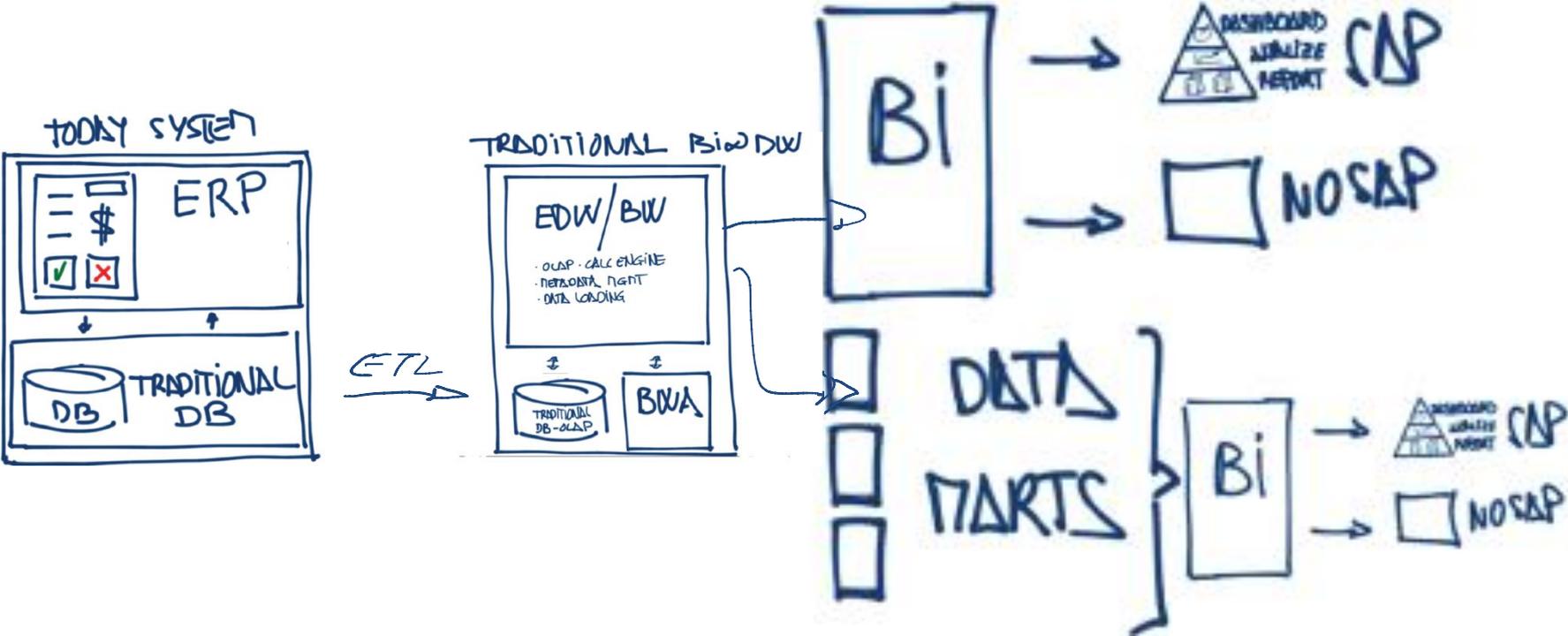
TRADITIONAL BI & DW



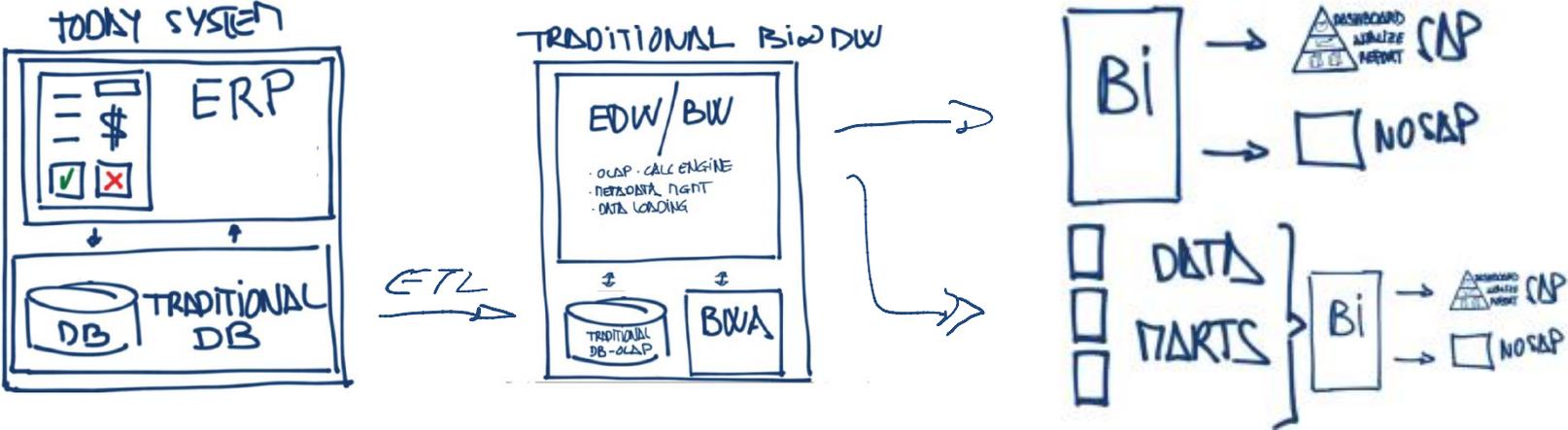
Traditional versus SAP HANA



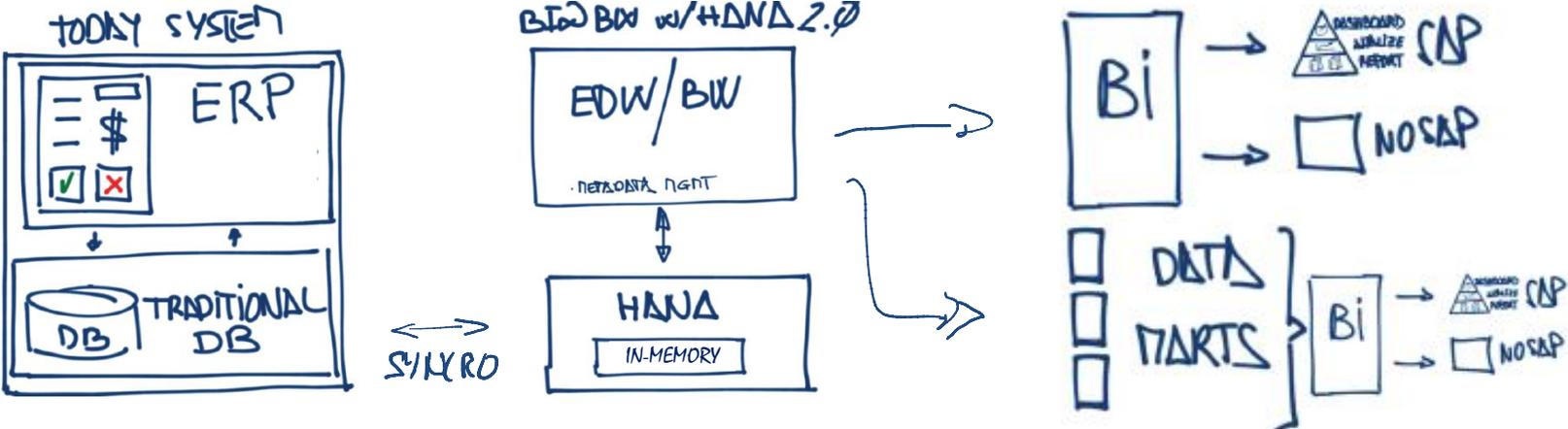
Traditional versus SAP HANA



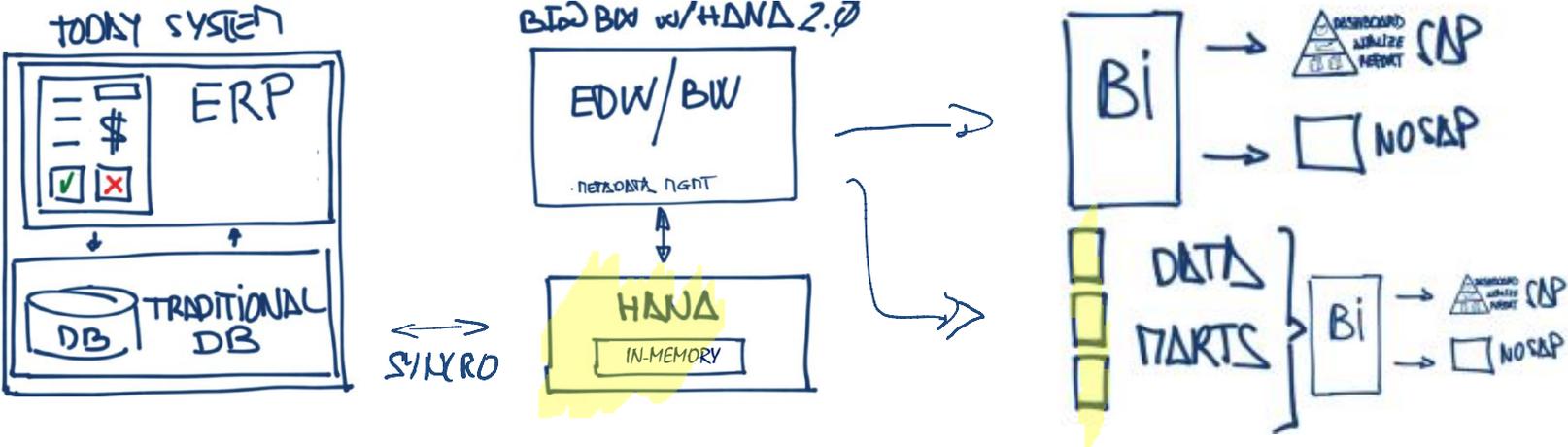
Traditional versus SAP HANA



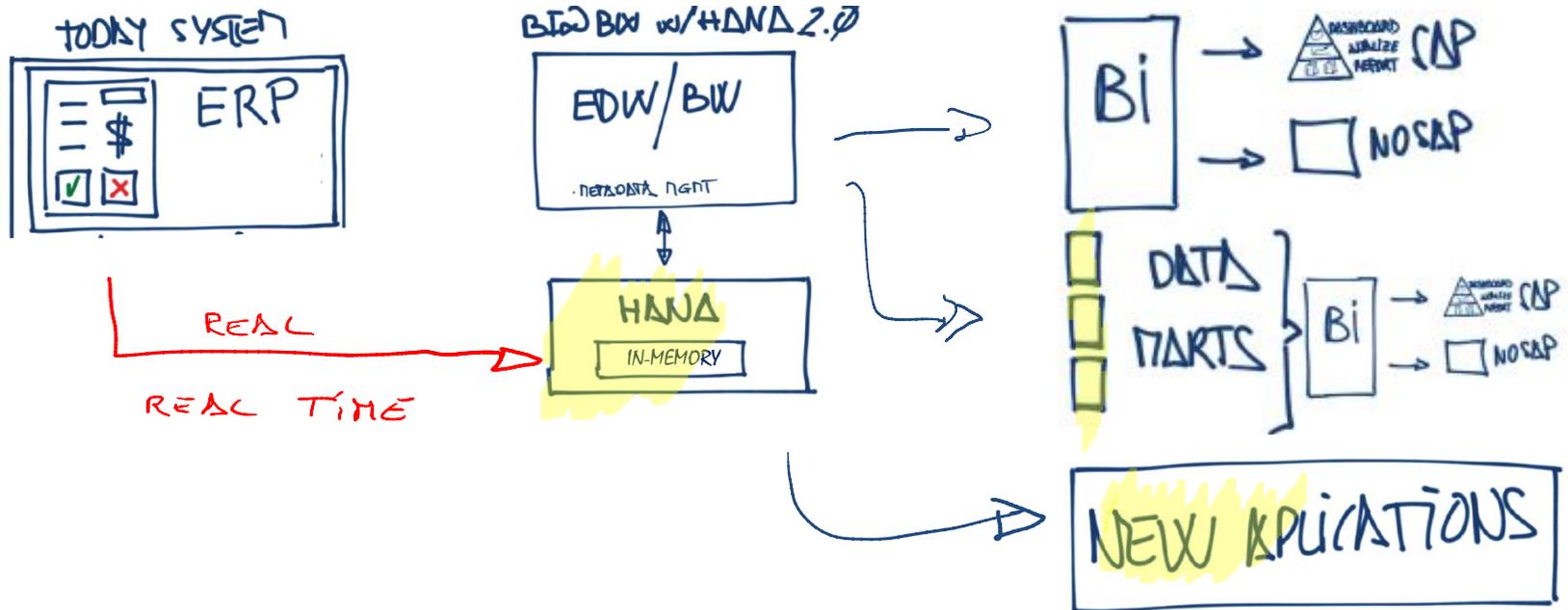
Traditional versus SAP HANA



Traditional versus SAP HANA



Traditional versus SAP HANA



Traditional versus SAP HANA

Database Studio - <Local>:BA1 - Administration - SAP MaxDB Database Studio

File Edit Navigate Search Project Run Window Help

Database ...

Administration

<Local>:BA1 ONLINE Data: 78.45 % Log: Overwrite mode is activated! Sessions: 21.00 %

Overview Data Area Log Area DBA History Analyzer Task Manager Activities Caches Parameters Backup Snapshots Command Line

General Usage Parameters

No. of Data Volumes: 13 Total Size: 173,055,792 KB 100.00 % MaxDataVolumes: 23
 Extendable Online to: 23 Used Area: 135,760,984 KB 78.45 %
 Dynamic Data Area Adjustment: ON Free Area: 37,294,808 KB 21.55 %

Data Volumes

Name	Size	Ty...	Device/File	Used	Free	Filling	Reads	Pages Reads	Writes	Pages Writ...
DATA000	13,312,0...	FILE	C:\sapdb\BA1\sapdata...	10,48...	2,822,...	78.80 ...	6,858	7,670	287	486
DATA000	13,312,0...	FILE	C:\sapdb\BA1\sapdata...	10,48...	2,823,...	78.79 ...	7,381	8,130	291	496
DATA000	13,312,0...	FILE	C:\sapdb\BA1\sapdata...	10,36...	2,950,...	77.83 ...	7,061	7,734	372	664
DATA000	13,312,0...	FILE	C:\sapdb\BA1\sapdata...	10,48...	2,830,...	78.74 ...	6,992	7,828	372	632
DATA000	13,312,0...	FILE	C:\sapdb\BA1\sapdata...	10,48...	2,828,...	78.75 ...	7,158	8,080	372	592
DATA000	13,312,0...	FILE	C:\sapdb\BA1\sapdata...	10,44...	2,867,...	78.46 ...	7,149	8,029	371	792
DATA000	13,312,0...	FILE	C:\sapdb\BA1\sapdata...	10,48...	2,822,...	78.80 ...	6,537	7,504	186	319
DATA000	13,312,0...	FILE	C:\sapdb\BA1\sapdata...	10,45...	2,859,...	78.52 ...	7,420	8,449	373	715
DATA000	13,312,0...	FILE	C:\sapdb\BA1\sapdata...	10,39...	2,915,...	78.10 ...	6,784	7,614	373	652
DATA001	13,312,0...	FILE	C:\sapdb\BA1\sapdata...	10,48...	2,831,...	78.73 ...	7,478	8,411	373	671
DATA001	13,312,0...	FILE	C:\sapdb\BA1\sapdata...	10,48...	2,828,...	78.75 ...	7,169	8,571	373	656
DATA001	13,312,0...	FILE	C:\sapdb\BA1\sapdata...	10,41...	2,893,...	78.26 ...	7,089	8,066	373	602
DATA001	13,312,0...	FILE	C:\sapdb\BA1\sapdata...	10,29...	3,021,...	77.30 ...	6,728	7,478	372	593

Console Properties

Database Studio

Local <Local>:BA1:control

SAP In-Memory Computing I

Agenda 24. February 2012

What is SAP HANA ?

Traditional versus SAP HANA

Speed of Business Change

Technical Background

Ideal customer

Beat me up

Summary

Speed of Business Change

Years It Took to Reach a Market Audience of 50 Million



Radio

38 years



TV

13 years



Internet

4 years



iPod

3 years



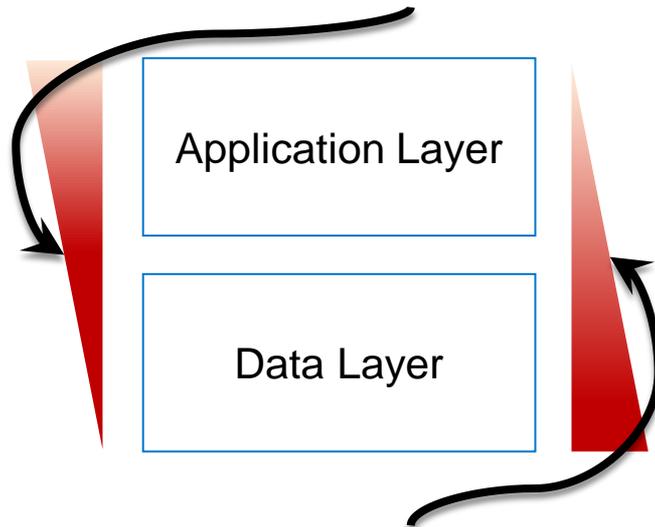
Facebook

2 years

“The greatest danger in times of turbulence is not the turbulence; it is to act with yesterday’s logic.” – Peter Drucker, 1980

SAP In-Memory computing

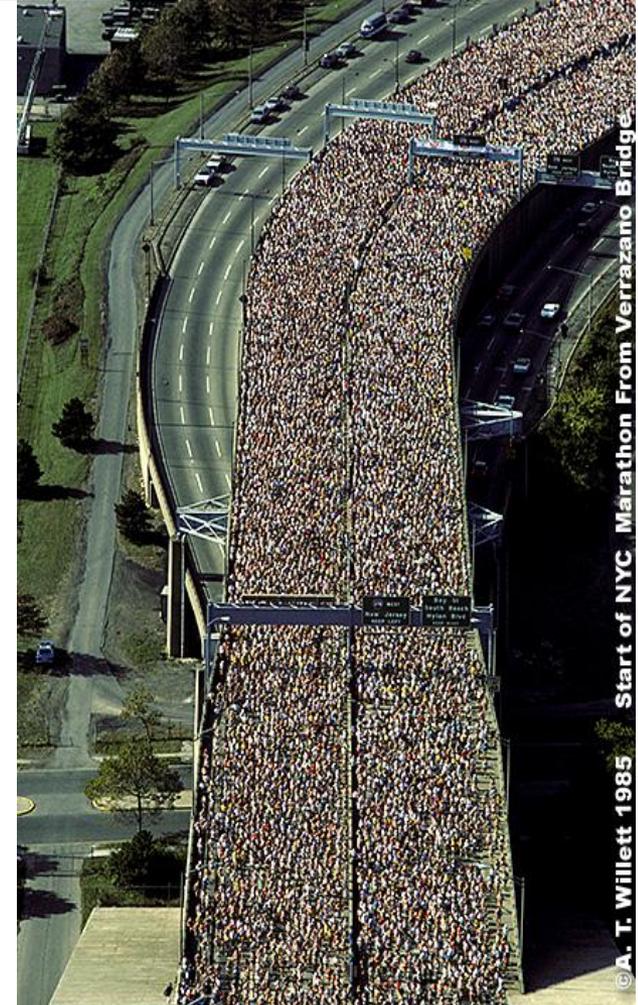
Today's applications execute many data intense operations in the application layer



High performant apps delegate data intense operations to the in-memory computing

In-Memory Computing Imperative

Avoid movement of detailed data calculate first, then move results



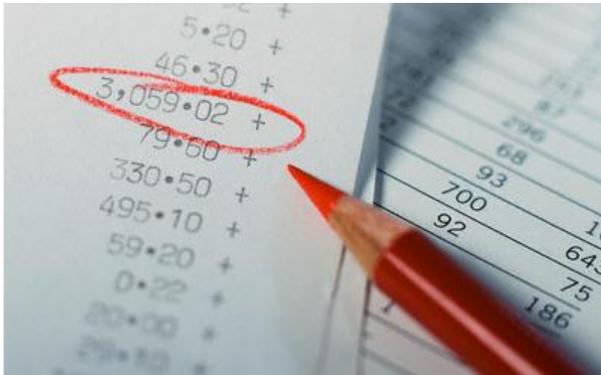
Why care about Real Time??

- **Real time Analytics**
- **Real time Decisionmaking**
- **Real time Execution**



Innovation Drives Success

Technology Innovations Enable **Businesses** to Become ...

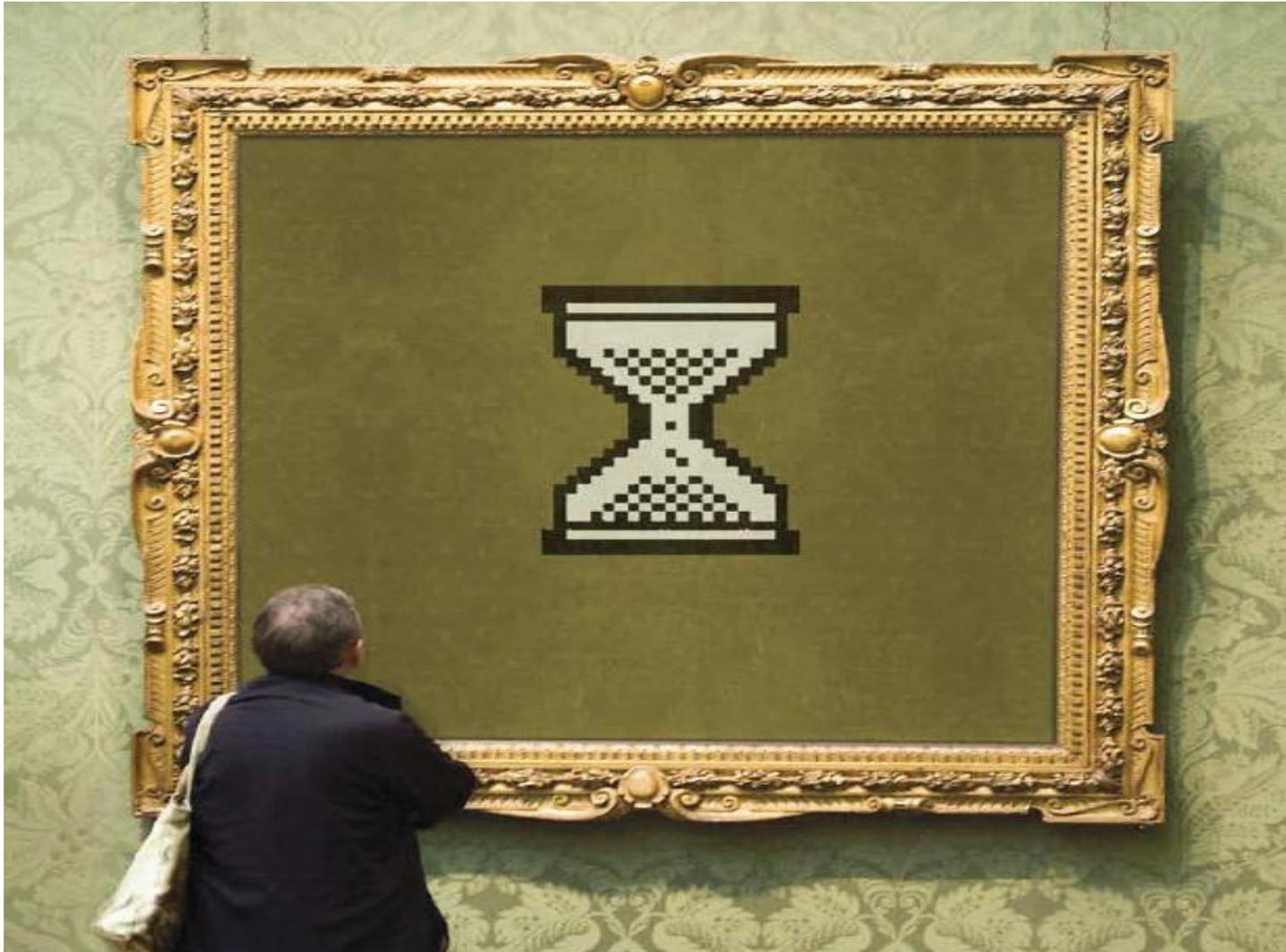


Fiscally and operationally efficient

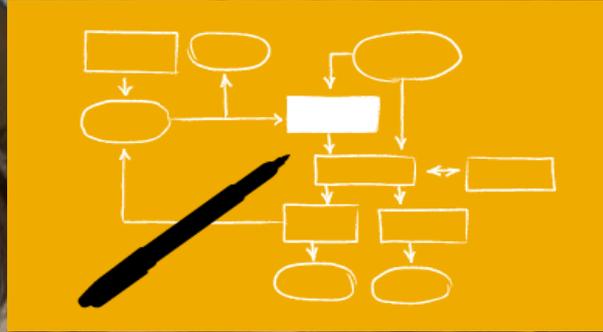
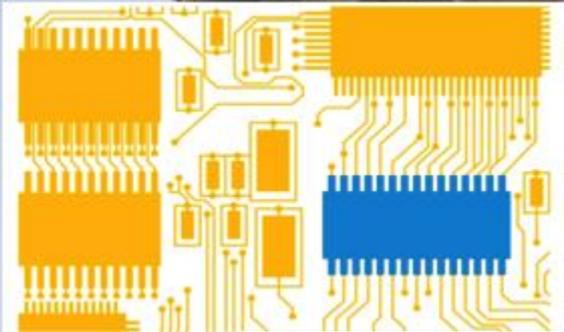
More flexible and quick to action with proper insight

Empowered at the business user level to make smart decisions and act on these demand

The Art of Waiting...



Three strategies for running better using SAP HANA



Breakthrough analytics

Deliver real-time insight and manage 'big data' with the SAP HANA™ appliance with SAP BusinessObjects BI

Amazing new applications

Drive rapid innovation and meet strategic challenges with a new wave of in-memory business applications

Dramatic simplification

Reduce complexity to lower cost and accelerate value delivery from IT

SAP In-Memory Computing I

Agenda 24. February 2012

What is SAP HANA ?

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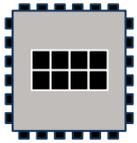
Ideal Customer

Beat me up

Summary

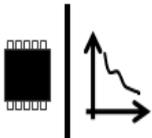
SAP InMemory Computing: Technical background

HW Technology Innovations



Multi-Core Architecture (8 x 8core CPU per blade)

Massive parallel scaling with many blades



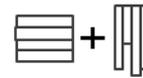
64bit address space – 2TB in current servers

100GB/s data throughput

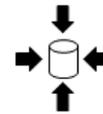
Dramatic decline in price/performance



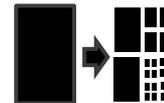
SAP SW Technology Innovations



Row and Column Store



Compression



Partitioning

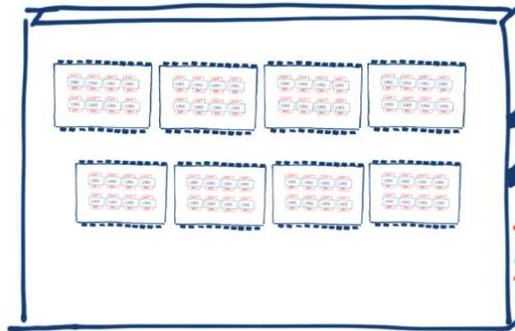
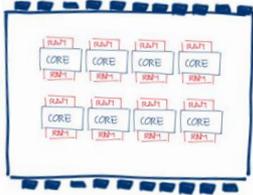


Without aggregates

Technical Background



Multi-Core Architecture (8 x 8core CPU per blade)



CORE

+
RAM

8 x CPU

8 x BLADE

64 x SERVER

Technical Background



Multi-Core Architecture (8 x 8core CPU per blade)

Massive parallel scaling with many blades



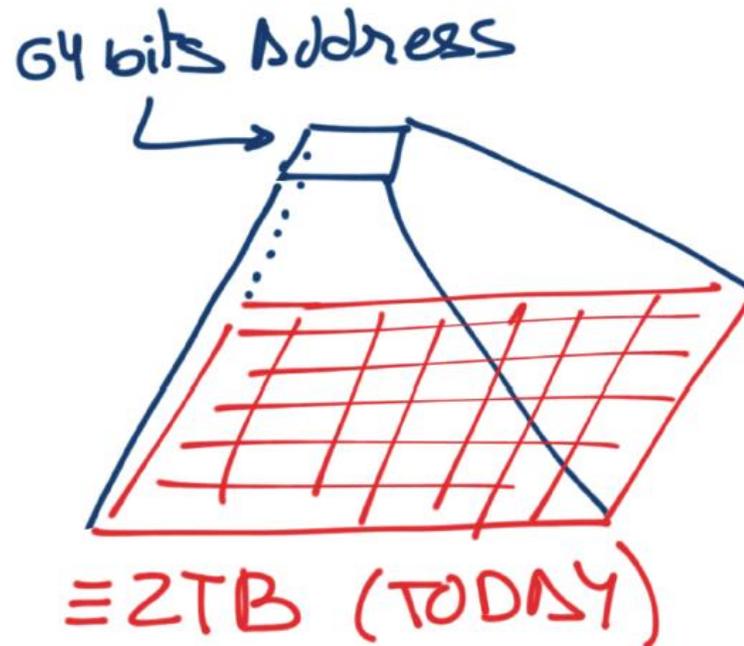
Technical Background



Multi-Core Architecture (8 x 8 core CPU per blade)

Massive parallel scaling with many blades

64 bit ADDRESS SPACE \rightarrow 2TB IN CURRENT SERVERS



Technical Background

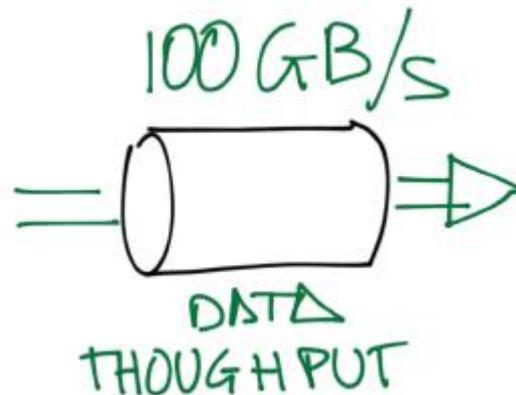


Multi-Core Architecture (8 x 8core CPU per blade)

Massive parallel scaling with many blades

64bit ADDRESS SPACE → 2TB IN CURRENT SERVERS

100 GB per second DATA THROUGHPUT





Technical Background

Multi-Core Architecture (8 x 8core CPU per blade)

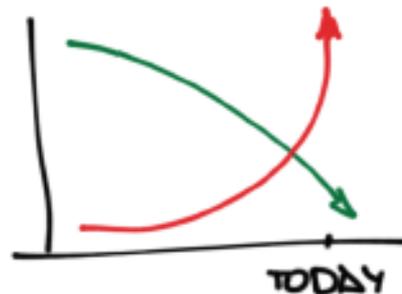
Massive parallel scaling with many blades

64bit ADDRESS SPACE → 2TB IN CURRENT SERVERS

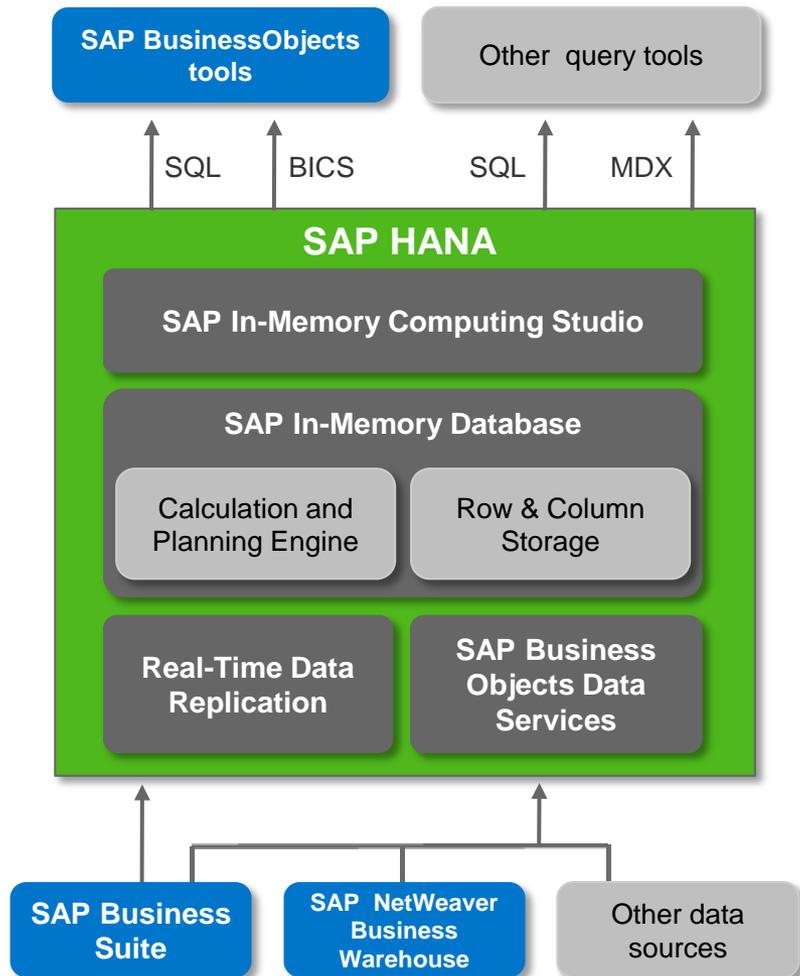
100 GB per second DATA THROUGHPUT

DRAMATIC DECLINE price/performance

PRICE VS PERFORMANCE



SAP HANA Appliance Software



SAP HANA™

- In-Memory software + hardware (HP, IBM, Fujitsu, Cisco, Dell)
- Data Modeling and Data Management
- Real-time Data Replication
- SAP BusinessObjects Data Services for ETL capabilities from SAP Business Suite, SAP NetWeaver Business Warehouse (SAP NetWeaver BW), and 3rd Party Systems

Capabilities Enabled

- **Analyze information in real-time** at unprecedented speeds on large volumes of non-aggregated data
- **Create flexible analytic models** based on real-time and historic business data
- **Foundation for new category of applications** (e.g., planning, simulation) to significantly outperform current applications in category
- **Minimize data duplication**

SAP In-Memory Computing I

Agenda 24. February 2012

What is SAP HANA ?

Traditional versus SAP HANA

Speed of Business Change

Technical Background

Ideal Customer

Beat me up

Summary

Various SAP HANA Partner Opportunities

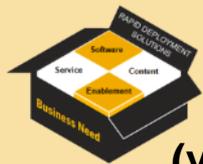
Co-Sell Opportunity

Re-Sell Opportunity

SAP HANA
Platform/Enterprise
Editions

SAP HANA
Database Edition for
SAP BW

SAP HANA
Edge Edition

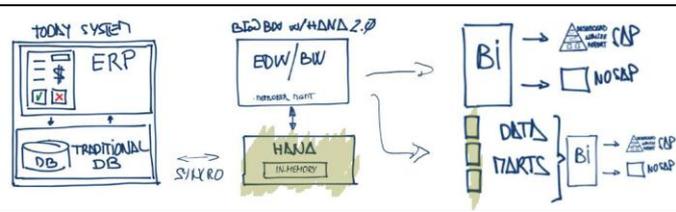


SAP HANA
Applications and Accelerators
(various high value RDS packages available and to come in 2012)



RDS packages available provide pre-defined, tested and documented content incl. service definition/fix price proposal

The Ideal Customer for SAP HANA Edge ERP installed Base



Time-consuming financial analysis and reporting processes with high volumes of data

Financial decisions based on incomplete, inaccurate and often outdated information



Inability to access detailed financial information across all business dimensions

Real-time insights into large volumes of profitability data in ERP



SAP CO-PA Accelerator

Accelerate period-end closing and reporting on vast amount of data in ERP



SAP Finance and Controlling Accelerator

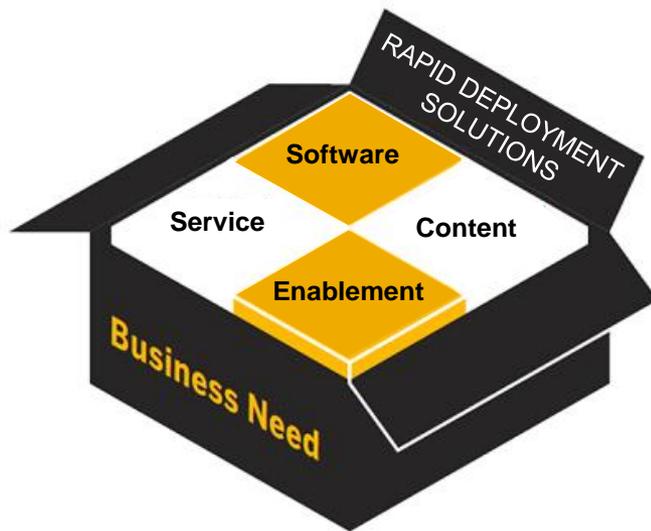
Real-time financial analysis and reporting on large volumes of ERP data



SAP ERP RDS for operational reporting

SAP and a Global Partner Ecosystem offer Rapid Deployment solutions to meet specific business needs...

SAP RAPID DEPLOYMENT SOLUTIONS



Software

Quickly address the most urgent business processes

Content

SAP best practices, templates and tools make solution adoption easier

Enablement

Guides and educational material speed end user adoption

Service

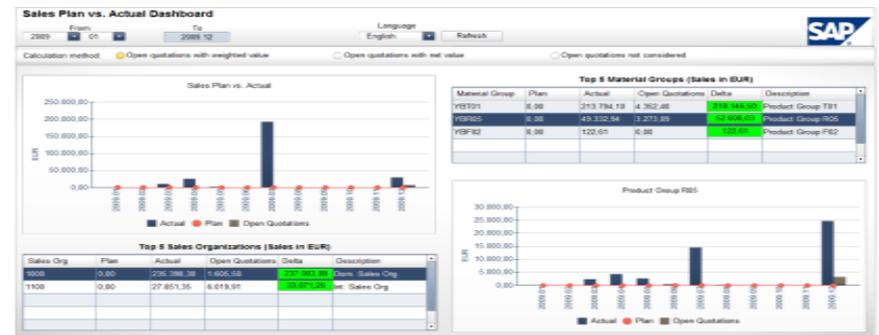
Fixed scope and price provides maximum predictability and lowers risk

New! SAP ERP rapid-deployment solution for operational reporting with SAP HANA™

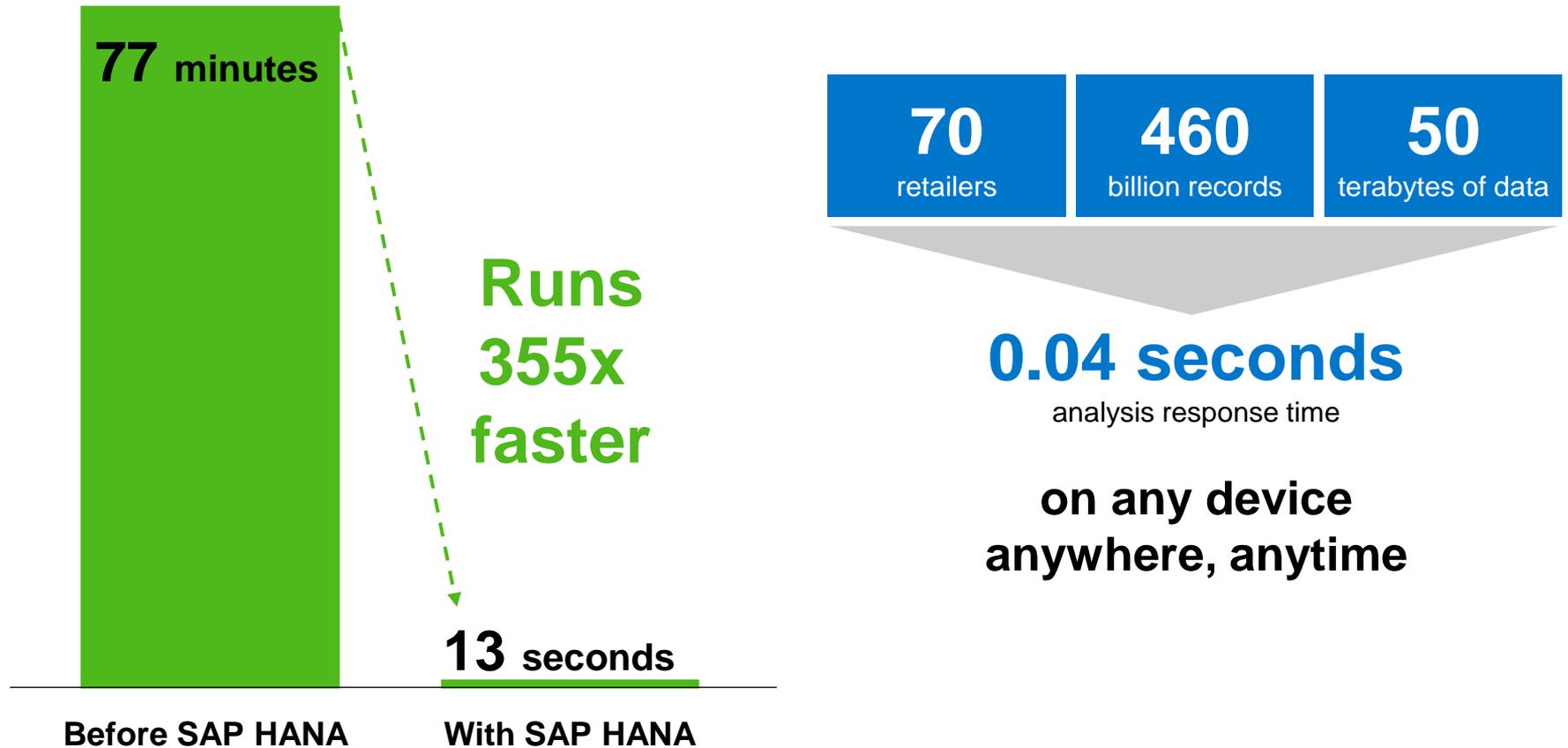
Solution to provide compelling SAP ERP operational analytics quickly and affordably

Pick from 3 Dashboards and 22 reports from the following business areas:

- Financial Reporting
- Sales Reporting
- Purchasing Reporting
- Shipping Reporting
- Master Data Reporting



SAP HANA: Real Numbers



Please refer to the latest SAP HANA Hardware sizing for the latest certified hardware sizes for maximum storage size of SAP HANA 1.0. Above tests were done in the SAP Lab with customer data-sets.

SAP HANA Virtual Session H1 2012

Date	Theme
24. February 2012	SAP In-Memory Computing I
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SAP In-Memory Computing I

Agenda 24. February 2012

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Ideal Customer

Beat me up

Summary

Who beat me ? → Try → SAP CO-PA Accelerator → Start the Test Drive <http://www.experiencesaphana.com>

The screenshot shows the SAP Experience SAP HANA website. At the top, there is a navigation bar with the SAP logo, the text "Experience SAP HANA", and links for "Login", "Register", and "Share Page". Below this is a secondary navigation bar with icons and text for "Learn", "Try", "Implement", and "Blog". A search bar is located on the right side of the page.

The main content area features a large banner with the text "It's in your hands" and "Touch it. Feel it. Learn on experience. And check back. Test Drives by SAP HANA". A central overlay window displays the following information:

- SAP Experience SAP HANA**
- Congratulations on completing the quest!**
- Your final score is 669**
- Buttons for "Tweet" and "Recommend"
- Three buttons with play icons: "Play Again", "Explore CO-PA Accelerator", and "SAP HANA Website"

Below the overlay, there are three featured test drive cards:

- Fashion Industry Trends**: What's hot, what's not? [Start Test Drive](#)
- SAP CO-PA Accelerator**: Where are you most profitable? [Start Test Drive](#)
- Demographics & Google Maps**: Who lives where - and why? [Start Test Drive](#)

On the right side of the page, there is a sidebar with a search bar and a list of test drive categories, including "Level 3 - Q", "Which of the", "purchased", "High Tech", "highest dist", "company?", "Clinto", "About", "Thorn", "A when", "our HANA".

SAP In-Memory Computing I

Agenda 24. February 2012

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Summary

What is SAP HANA

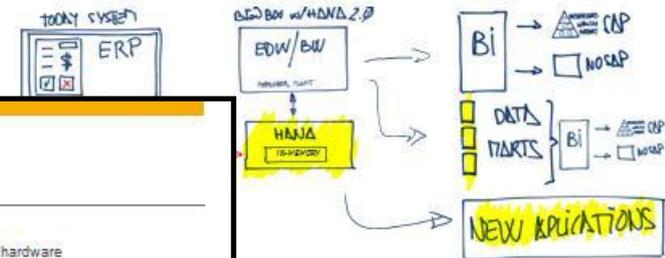
The SAP **H**igh-performance **A**nalytic **A**ppliance (HANA) is a hardware and software combination that integrates a number of SAP components including an in-memory computing engine.



The SAP in-memory computing engine is that accelerates your business performance.

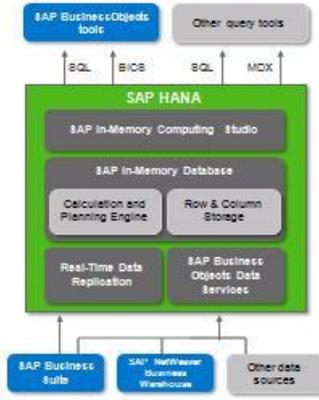
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Traditional versus SAP HANA



SAP Internal 17

SAP HANA Appliance Software



SAP HANA™

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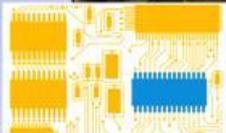
Capabilities Enabled

- Analyze information in real-time at unprecedented speeds on large volumes of non-aggregated data
- Create flexible analytic models based on real-time and historic business data
- Foundation for new category of applications (e.g., planning, simulation) to significantly outperform current applications in category
- Minimize data duplication

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SAP Internal 20

Three strategies for running better



Breakthrough analytics

Deliver real-time insight and manage 'big data' with the SAP HANA™ appliance with SAP BusinessObjects BI

Amazing new applications

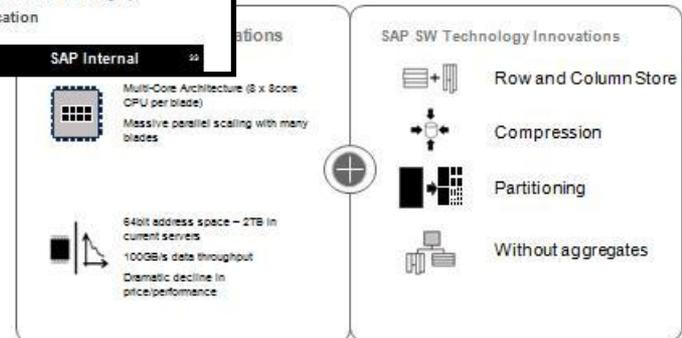
Drive rapid innovation and meet strategic challenges with a new wave of in-memory business applications

Dramatic simplification

Reduce complexity to lower cost and accelerate value delivery from IT



Computing: Technical background



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SAP Internal 27



Beat me up: my final score is 669

<http://www.experiencesaphana.com>

→ Try → SAP CO-PA Accelerator → Start the Test Drive

Thank You!

In case of additional questions, please contact:

Martin Roth

Ecosystem & Channels Readiness

Solution Center Latin America

SAP America Inc., 5301 Blue Lagoon, Suite 790, Miami, FL 33126, USA

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E martin.roth@sap.com

