Making the Case for Business Intelligence Solutions Powered by SAP HANA

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ASUG Real Experience. Real Advantage.

About Me

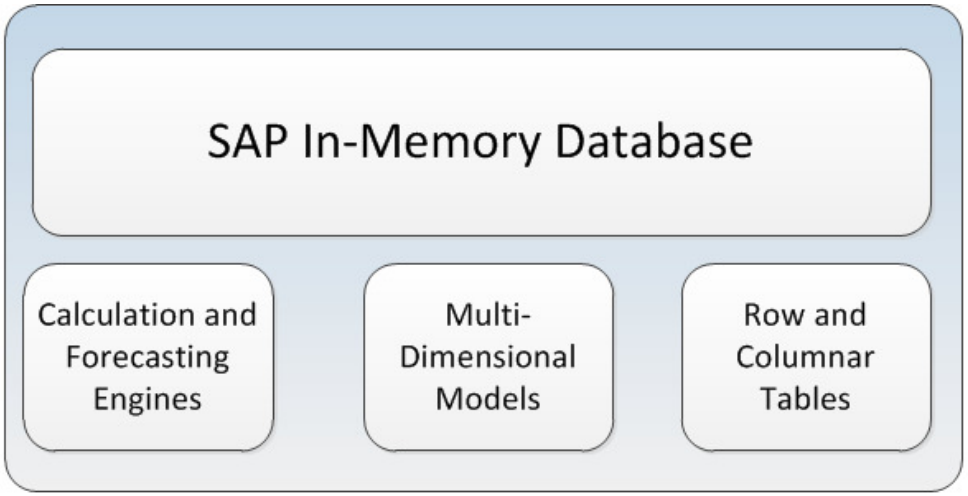
- Jonathan Haun Consulting Manager with Decision First Technologies. http://www.decisionfirst.com
- Over 12 years implementing BI solutions utilizing Crystal Reports and BusinessObjects
- Experience with multiple ETL tools and RDMS
- Certified in multiple versions of BusinesObjects Enterprise, BusinessObjects Data Services and BusinessObjects Reporting tools
- Certified SAP Trainer
- Over one year of experience implementing BOBJ and BW solutions on SAP HANA
- Manager of the “All Things BOBJ BI blog”. http://bobj.sapbiblog.com
- Twitter Feeds @jdh2n http://twitter.com/jdh2n

Learning Points

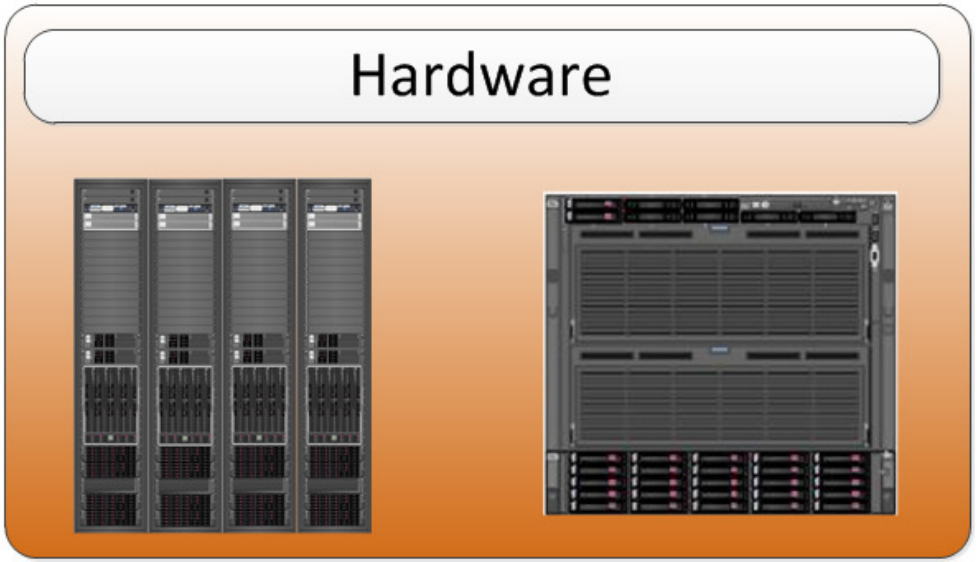
- What is SAP HANA ?
- Solutions Currently Available based on SAP HANA
- Performance Improvements
- ROI for Solutions Based on SAP HANA

What is SAP HANA ?

Software engineered from the ground up to leverage the capability of todays hardware.



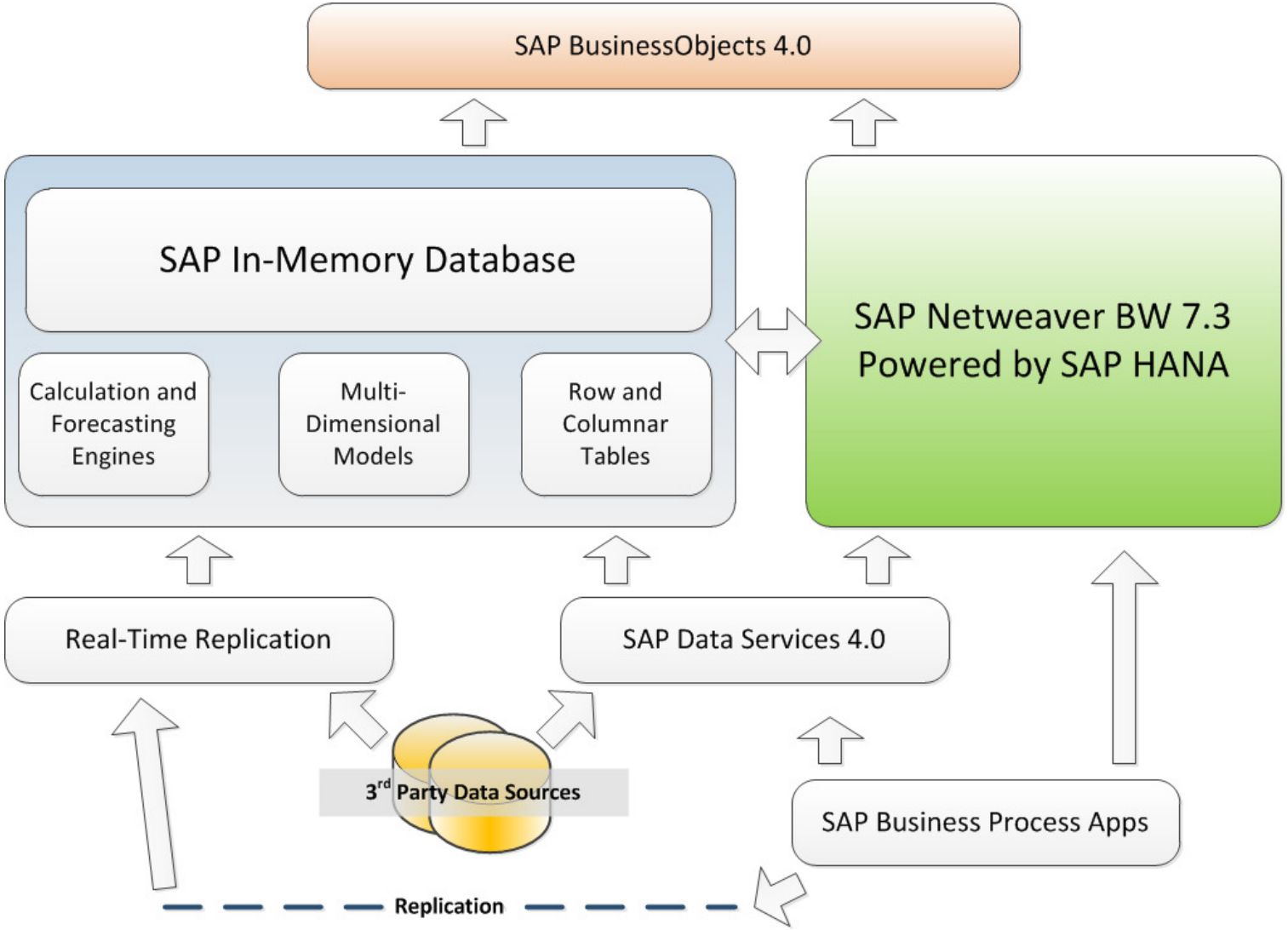
Hardware scalable from 128 GB RAM and 20 CPU cores to 8 TB RAM, Multiple Blades, and 100's of CPU cores.



What is SAP HANA ?

- SAP HANA is a true next generation database. It is a fusion of both software and hardware that is fully engineered to provide deep and rich access to billions of rows of data.
- Data on SAP HANA is stored and accessed in RAM which eliminates the traditional limitations of spinning magnetic disks.
- Data is stored physically close to the CPU allowing faster and more direct access to the data.
- The HANA software is the first of it's kind to be built from the ground up to support multi-core CPU's and in-memory direct access to data. Memory First, Persistent Storage Second.
- Data can be stored using either Row or Column based storage providing flexibility in supporting both Front End Applications and Business Intelligence on a single platform.
- SAP HANA has built in Multi Dimensional Modeling Views that can mimic the capabilities of OLAP without the need to duplicate data into Cubes. This reduces the TCO of storing the data while providing the flexibility to perform both MDAS or Operational reporting.

Solutions Currently Available based on SAP HANA



Solutions Currently Available based on SAP HANA

- SAP HANA Standalone
  - Leverage the power of SAP HANA with data from any source.
  - Move data into SAP HANA in real-time or in batch using replication or Data Services 4.0
  - Highly customizable for any data analysis requirements
  - Supports Analytics, MDAS, Forecasting and Operational reporting in a single solution
  - Analyze billions of records at amazing speeds using SAP BusinessObjects 4.0
  - Similar to the Traditional EIM strategy of building Data Marts
- SAP Netweaver BW 7.3 powered by SAP HANA
  - Run BW directly on SAP HANA by replacing your existing RDMS with SAP HANA
  - Reduce the overall data footprint of BW with direct integration with SAP HANA
  - Easy solution to adopt for existing SAP BW and SAP ECC customers
  - Load 3rd Party Data in BW utilizing Data Services
  - Analyze billions of records at amazing speeds using SAP BusinessObjects 4.0

Solutions Currently Available based on SAP HANA

- Multiple rapid solutions based on your Industry or Line of Business
  - COPA, CRM, Finance, ERP, Cash Forecasting and many others. See more at sap.com

http://www.sap.com/solutions/technology/in-memory-computing-platform/hana/overview/solutions/in-memory-solutions-finder.epx

  - Over 20 prebuilt solutions and growing
  - Prebuilt solutions that are easy to deploy while reducing development costs
  - Ability to manage billions of transactions with sub-second response times
  - Analyze billions of records at amazing speeds using SAP BusinessObjects 4.0

Performance Improvements

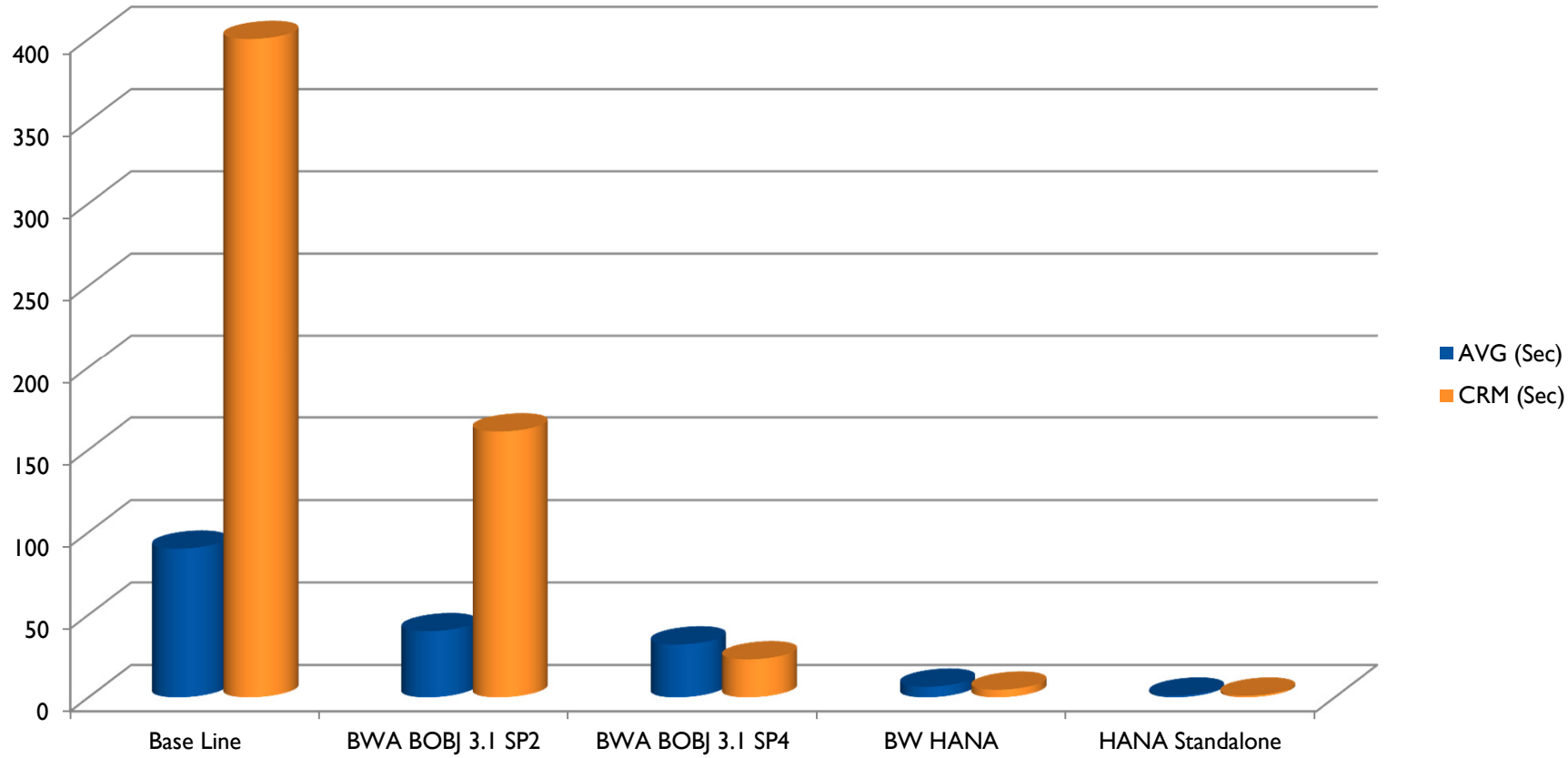
Customer's History & Performance Gains

BW with Legacy DB2 database. No BOBJ	Legacy DB-BWA With BOBJ 3.1 SP2	Legacy DB-BWA With BOBJ 3.1 SP4	BW HANA With BOBJ 4.0 SP4	HANA Stand Alone With BOBJ 4.0 SP4
Baseline •No BWA or BOBJ Reports	Faster Report Speed •BWA 2.5x faster •Early version of BOBJ not stable •No Improvement on Data Loads	Faster Report Speed •BOBJ 3.1 SP4 very Stable •Reports are faster due to Query Striping	BW Powered by HANA •Reports are faster then BWA •Delta Data Loads are much faster (3.2x)	HANA Standalone Database •Reports are faster then BWA and BW Powered by HANA •Data Loads are very fast
Report Response Times: •Avg 90 sec •CRM 400 sec •Data Loads 15 hrs	• Reports: •Avg 40 sec •CRM 161 sec •Data Loads 15 hrs	• Reports: •Avg 32 sec •CRM 23 sec •Data Loads 15 hrs	• Reports: •Avg 6.4 sec •CRM 4.6 sec •Data Loads 4.6 hrs	• Reports: •Avg < 1 sec •CRM < 1 sec •Full Loads 3.2 hrs

* Directly Observed during recent POC with customer

Performance Improvements

Query Response Times



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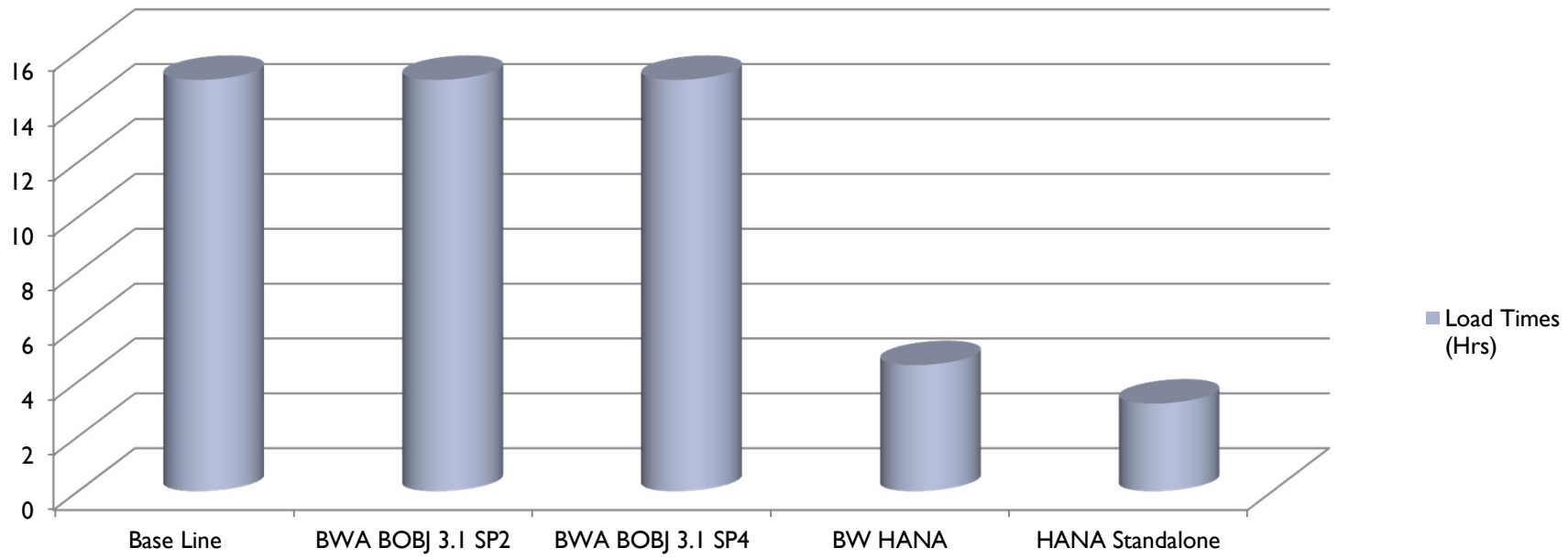
Performance Improvements

Data Load Times



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ROI for Solutions Based on SAP HANA

- Reduce Expensive SAN storage by moving data into memory with compression.
- Better integration of BW with the SAP HANA database appliance means more operations are managed by the in-memory database without the need to duplicate data multiple times.
- Multi-Providers on DSOs, in many cases, will work as well (if not better) then cubes in BWA. Further reducing the data footprint.
- Near Line storage, directly integrated into BW 7.3, can be utilized for infrequently accessed data. Allows for BW to maintain multiple storage tiers at different costs levels.
- User will experience faster response times making them more willing to deep-dive into the data. This will keep them focused on the Analysis task while increasing their knowledge and productivity.

ROI for Solutions Based on SAP HANA

Reduced Data Footprint with BW on SAP HANA

Object Type	BW on DB2	Step 1. Cleaning up to move to HANA	Reduction in System Tables	Decommission Obselete Objects	Reduce Layers with HANA	Near line
PSA	5,842	100	100	100	100	100
Legacy DB Overhead	6,141	-	-	-	-	-
Change Log	4,174	-	-	-	-	-
DSO	1,487	1,487	1,487	1,312	1,201	1,201
System Tables	1,167	1,167	300	300	300	300
Cube	708	708	708	648	591	141
Master Data	408	408	408	408	408	408
Temp	7	7	7	7	7	7
Total (GB)	19,934	3,877	3,010	2,775	2,607	2,157
6 x Comp	3322	646	502	462	434	359

* Directly Observed during recent POC with customer. Your results might very based on the type and makeup of the data.

ROI for Solutions Based on SAP HANA

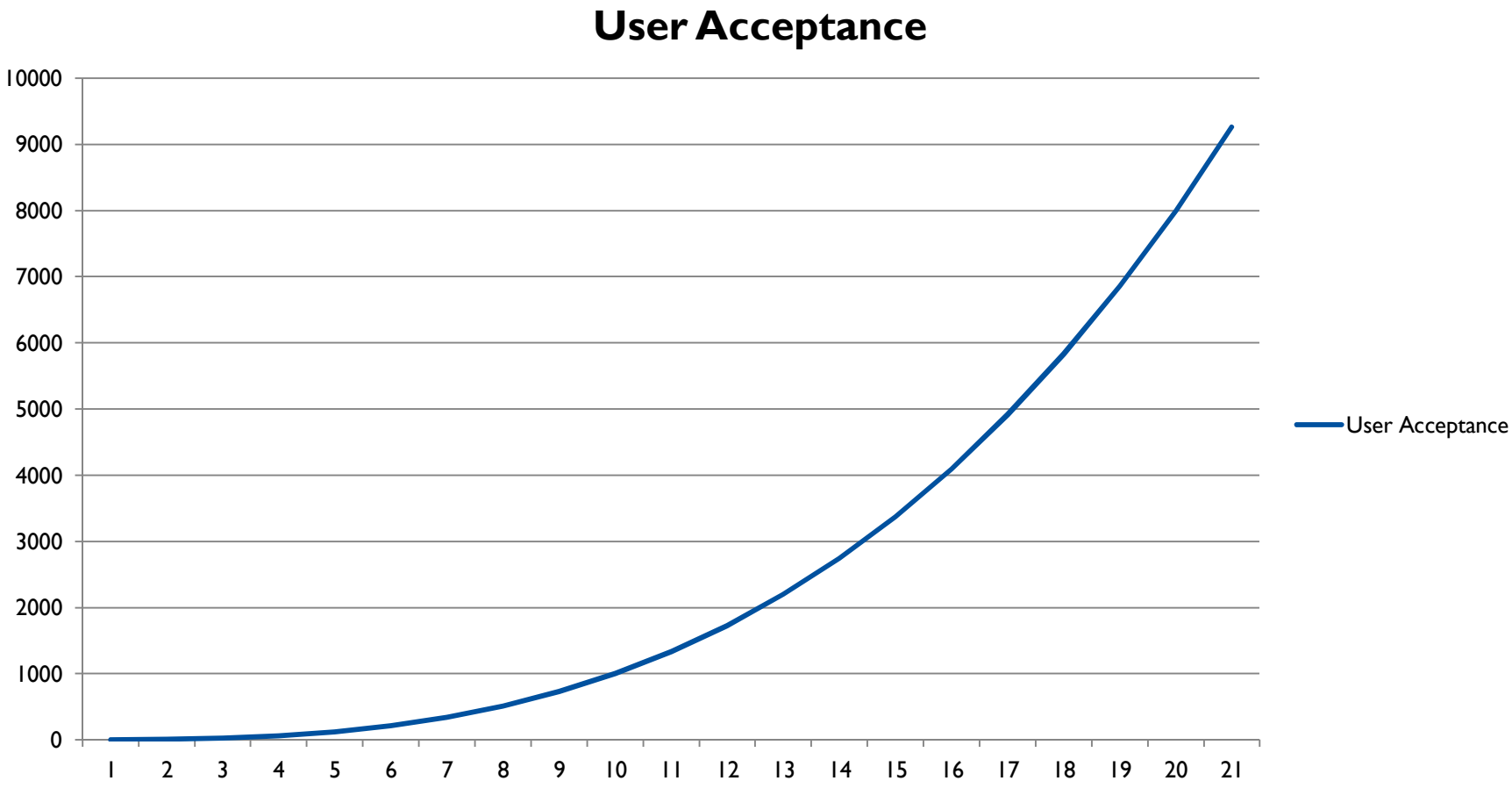
Overall Cost Savings Estimates

ITEM	SAVINGS
SAN (Fast Storage)	Eliminated (Very Expensive)
DB2 (Database)	Eliminated
Total # of Servers	Reduced by 30 -50%
SAP Licenses and Hardware	Increased Hardware and Software
Staff	Reallocated (DB2 and Storage)
BOBJ	No Change
Total Estimated Savings (5 yr)	30-40% reduction in TCO

* Directly Observed during recent POC with customer

ROI for Solutions Based on SAP HANA

Happy and Productive Users



Key Learnings

- SAP HANA is a fusion of both software and hardware. It was built from the ground-up to support in-memory data storage. Legacy vendors are still trying to develop in-memory solutions based on legacy DB architecture.
- There are three main solution categories for SAP HANA. SAP HANA standalone, BW powered by HANA and a wide variety of Rapid software solutions.
- For most organizations, SAP HANA solutions will yield significantly faster query response times.
- There will be an opportunity for most organizations to reduce their TCO for BW when powered by SAP HANA.
- User Acceptance is hard to measure in dollars, but when users are able to use BI in seconds and not minutes, they will be more productive and willing to leverage these tools.

Thank you for participating.

For ongoing education in this area of focus, visit www.asug.com.