

The background of the entire image is a close-up of a textured surface, possibly a piece of fabric or a technical material, with a repeating pattern of small, irregular, yellowish-brown shapes. On the right side, a hand is visible, holding a pen and pointing it towards a grid of lines that is overlaid on the textured surface. The lighting is warm and focused on the hand and the grid.

# RUN

*like never before*

*Real-Time Data Platform*

**RUN BETTER.**

**SAP**<sup>®</sup>

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## FOREWORD

# Innovation Without Disruption

A real-time data platform: delivering the flexibility and choice you need to transform your business and run like never before.



### REDEFINING THE DATABASE MARKET

The pace of business change is unrelenting, fuelled by technological innovation. Spurred by the pressure to perform and seduced by the immediacy of Internet search and the ubiquity of mobile devices, business users expect instant access to the information they need and the ability to make sense of the mass of data that is created every second.

It's a tough challenge for IT organizations, and to help you leverage these new technologies while delivering the information that their business users demand, SAP is redefining the database market with its next-generation real-time data platform.

With our unique combination of the game-changing SAP HANA® database, market-leading data management products, and SAP® solutions for enterprise information management, we are able to offer a complete and integrated set of offerings to meet all the data management needs of large and medium-sized enterprises:

- A single software-based architecture for both data management and enterprise applications
- A flexible, scalable, and extensible platform for evolution at your own pace
- Market-leading total cost of ownership (TCO) for "Big Data" and traditional transaction processing
- Hardware independence and choice

Our real-time data platform will simplify layers of complexity and deliver unmatched capabilities in next-generation Big Data applications and analytics, together with enhanced support for cloud and mobile applications – all with minimal disruption.

### DELIVERING A CLEAR ROADMAP FOR THE FUTURE

As our real-time data platform provides a clear roadmap for the next 10 years, it is of particular value to SAP customers considering an upgrade to their enterprise applications. This real-time data platform is the foundation for next-generation SAP applications, and the evolutionary and non-disruptive integration of data management products from SAP and Sybase, an SAP company, can help protect your existing IT investments while providing a smooth upgrade path for both your applications and databases – now and in the future.

With SAP Business Suite applications on SAP Sybase® Adaptive Server® Enterprise (SAP Sybase ASE), for instance, we can offer optimal integration of application and database solutions, along with integrated maintenance and synchronized releases – reducing complexity and TCO while improving performance.

On the following pages we outline the key elements of our real-time data platform, and how they could help your business run like never before.

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**“On average, companies in the study estimated the total cost for [SAP] Sybase ASE to be 28% less than the total cost of other RDBMSs they are using, which will save them about \$129,000 per 100 users over five years.”**

**IDC White Paper:** Calculating the True Cost of RDBMS Ownership and How Sybase ASE Stacks Up: A Guide for SAP Business Suite Users

# Meeting Today's Data Management Challenges

How can IT organizations leverage the key technology trends and innovations to boost business performance in today's fast-changing competitive environment – while reducing TCO?



Economic uncertainty. Continuing volatility in markets, commodity prices, and stocks. Growing globalization. Increasing consumer power. A more complex regulatory environment. Disruptive technologies. An explosion in data volumes. The business world has never been more challenging, or the speed of change so rapid.

Yet at the same time, companies are under constant pressure to perform: to execute better, faster, and more consistently than their competitors while controlling costs and maximizing profits.

In today's world of big data and real-time business, how can a CIO do more with less? How do you accelerate the innovation required to deliver the trusted data and deeper insights your business users need, while reducing the complexity and cost of your IT landscape? Let's start by looking at the key drivers of innovation and technology in data management.

“SAP HANA helps customers access and deliver information at unprecedented speeds up to 100,000 times faster than before and enables them to envision fundamentally new ways of running their businesses.”

Dr Hasso Plattner, Chairman, SAP Supervisory Board, SAP AG

## DATA VOLUMES ARE EXPLODING

Data volumes are growing exponentially. Every second, data is gathered from all sorts of sensors and networks across the planet and beyond. The IT challenge is to distill this rising tide of data into valuable business information and insights – and being able to act on these insights quickly and effectively.

## NEW DISTRIBUTION AND CONSUMPTION CHANNELS ARE DEVELOPING

Information and processes are becoming more distributed as businesses expand into new geographies, new partner networks, and new customer-facing channels. At the same time, the same information and processes need to be accessed via new consumption channels such as mobile devices. The IT challenge is to manage these new channels effectively.

## THE IT INFRASTRUCTURE IS MOVING TO THE CLOUD

Cloud computing is really taking off. Over half of the world's servers are now virtualized or deployed on either an internal or public cloud platform. It's likely that more and more core enterprise applications will make the switch, enriched with unique functionalities only possible in the cloud such as cross-organizational collaborative data analysis, simulation, or planning.

## CONSUMERS ARE LEADING THE ENTERPRISE

The consumer sector has driven most of the recent major technology trends – particularly mobile. In the business world, this has caused some radical shifts in the way that employees expect to access and consume information and content. The growing popularity of intuitive touchscreen interfaces, social networks, gamification, smartphones and tablet devices all present challenges for IT – but also significant opportunities for the business.



## MEMORY IS GETTING EVEN CHEAPER

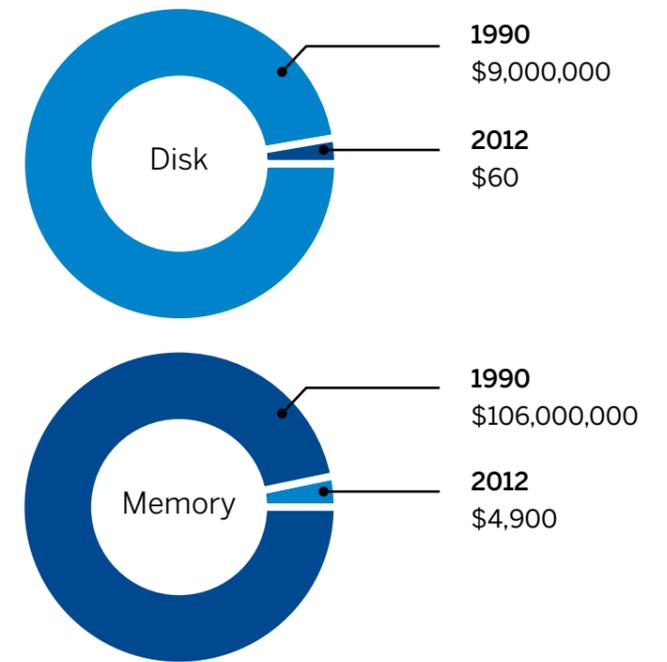
In the past, memory was so expensive that database vendors optimized for disk. However, with memory costs dropping so dramatically over the last 20 years, we have reached a tipping point where it's now possible to harness the power of in-memory computing, which delivers access speeds between 1,000 and 10,000 times faster than disk.

## WHAT DOES THIS ALL MEAN FOR THE IT ORGANIZATION?

Clearly, IT organizations need to respond to these data management challenges. New technologies need to be integrated with existing applications, and devices need to become seamlessly connected and assimilated into business processes. But how can existing systems evolve to incorporate all these innovations without disrupting the current business? And how can organizations plan for the necessary transformation to take place at the pace they can accommodate and choose?

A flexible technology platform is key, and on the following pages we outline our vision for a real-time data platform: an adaptable, extensible, and open enterprise platform and infrastructure that delivers current and complete information at any time for any device – and with a low total cost of ownership.

## Cost per Terabyte



## Real-Time Data Platform

SAP's vision is to provide a single, logical, real-time data platform that provides the framework for business transformation at a pace that suits you – and delivers innovation without disruption.

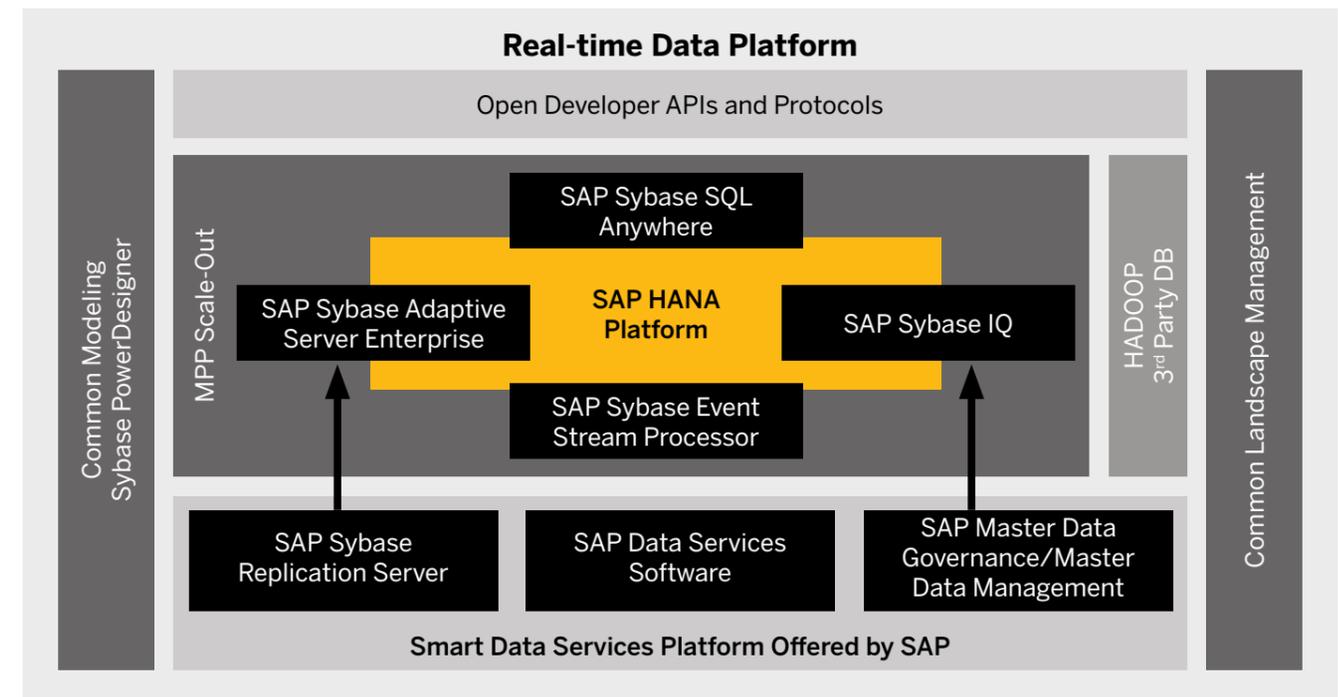


**DELIVERING INNOVATION WITHOUT DISRUPTION**  
**ONE LOGICAL, REAL-TIME PLATFORM**  
**FLEXIBILITY, SCALABILITY AND EXTENSIBILITY**

“SAP's vision is focused on enabling a paradigm shift in data management: transforming enterprise IT departments from complex and slow landscapes to a simplified architecture that enables new classes of 'Big Data', cloud and mobile applications...”

**Dr Vishal Sikka**, Chief Technology Officer, Member of the Executive Board, SAP AG

### Next generation Real-time Data Platform



## A Flexible Platform for All Your Data Needs

A real-time data platform provides a flexible framework for the innovation that drives business transformation – whatever your data requirements today and in the future.



### IN-MEMORY DATABASE

Analyze all of your data in real time with the ability to process both operational and analytical data in a single, next-generation in-memory database.

- Gain real-time business insights with near-zero latency
- Quickly identify risks and opportunities with built-in predictive analytics
- Supercharge your core business processes and custom applications

### SAP HANA Platform

*Run queries against your multidimensional data – faster*

- Get lightning-quick results from complex data queries
- Run multiple queries in parallel – without sacrificing performance
- Develop intricate, predictive models to meet your business needs

### EXTREME TRANSACTION PROCESSING

Improve the availability of applications requiring extreme online transaction processing and scalability – with this high-performance database platform.

- Achieve millions of transactions per minute with terabyte-sized databases while supporting rapid growth rates in data and transaction volume
- Reduce operational risks by providing for data security and availability
- Lower IT costs through efficient use of storage, processor, and staff resources

### SAP Sybase Adaptive Server Enterprise

*Get rock-solid, ultrafast performance at low cost*

- Handle database management more efficiently to significantly lower total operational costs
- Achieve the performance and availability you need to conduct extreme transaction processing
- Rely on a stable, secure database management system to reduce risk and increase agility
- Establish a path for continuous innovation within mission-critical application environments

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““Running the SAP ERP on [SAP] Sybase ASE proves to be a winning combination because it allows medium-sized companies like us to install it in a cost factor that will be beneficial in both hardware and software and at the end maintenance.”

**Juan Steig**, CIO, El Machetazo



### BIG DATA MANAGEMENT & ANALYTICS ENGINE

Accelerate analytics and Big Data processing with native MapReduce, Hadoop integration, predictive analytics and built-in text analytics – with this highly optimized analytics relational database management system (RDBMS).

- Run ad hoc queries on large datasets up to 100x faster with true columnar database technology
- Efficiently analyze both structured and unstructured data in the same platform
- Maximize return on assets with high compression and commodity hardware

### SAP Sybase IQ Server

*Gain speed and agility from Big-Data analytics*

- Execute complex data analytics tasks with unsurpassed query performance
- Accelerate reporting, data mining, and analytics even in the most challenging environments
- Offer accurate, timely information to end users across the organization
- Reduce costs and improve return on assets (RoA) and return on investment (ROI) with technology that promotes economy
- Gain greater scalability with an open, flexible, column-based architecture
- Support a growing volume of users and data – without sacrificing load speed or query performance
- Perform predictive analytics based on massive amounts of historical data

## A Flexible Platform for All Your Data Needs Cont.

### MOBILE DATA MANAGEMENT

Design and deploy custom database-powered applications that automatically synchronize business data to thousands of mobile computing devices, and remote offices.

- Harmonize your data securely, reliably, and with zero administration
- Empower users with access to vital data – anytime, anywhere, on any device
- Streamline rollouts with automated deployment and rapid application development
- Benefit from support for all leading computing platforms

### SAP Sybase SQL Anywhere® Solutions

*Rapidly design and power embedded database applications for mobile and remote environments*

- Create powerful, data-driven applications that run remotely on laptops, handhelds, and smartphones
- Harmonize data automatically and securely with best-of-breed synchronization technologies
- Minimize database administration with performance and self-maintenance features
- Leverage advanced features and flexible, standards-based platforms to speed application development



### DATA REPLICATION

Replicate and synchronize Sybase, Oracle, Microsoft, and IBM database transactions – for secure, high-performance data delivery across the enterprise.

- Support data movement, distribution, synchronization, and migration
- Rely on high availability and distributed disaster recovery solutions
- Drive real-time reporting with zero impact to the production system
- Leverage an uninterrupted data migration path
- Support bi-directional synchronization across heterogeneous databases

### SAP Sybase Replication Server®

*Make sure your data is always where you need it to be with real-time data replication*

- Maintain business continuity with robust delivery of disaster recovery data
- Capture high-volume data for real-time reporting with zero impact on your production system
- Keep data synchronized across diverse database environments to maintain performance and stability
- Migrate data from an older database platform version to a new one without interrupting operations

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“As we explored our options, we concluded that SAP Sybase replication technology was clearly superior to other available products.”

**Don Nielsen**, Manager of Database Administrator Group, Grain Division, Cargill Inc.

### ENTERPRISE MODELING

Leverage industry-leading modeling, impact analysis, design-time change management, and metadata management techniques throughout your organization.

- Align business and IT to increase overall productivity
- Leverage open support for heterogeneous environments
- Customize and connect semantic, logical, and physical models to help enforce standards and ensure compliance
- Facilitate complex enterprise architecture implementations
- Increase agility with Link & Sync for true impact analysis

### SAP Sybase PowerDesigner Software

*Improve collaboration and communication across the enterprise with model-driven architectures*

- Empower database, information, and enterprise modelers with robust, intuitive modeling tools
- Better align business with IT by offering stakeholders a 360-degree view of key information assets
- Offer stakeholders a multi-aspect enterprise view, so they can implement fast, reliable changes
- Boost communication and collaboration by enabling stakeholders to visualize and manipulate metadata
- Utilize one environment for creating the linking and syncing of business process and data models throughout the enterprise (semantic, logical, physical)

### SAP Sybase Event Stream Processor

*React quickly to critical events – with real time, event-driven analytics*

- Process and analyze multiple streams of high-speed, high-volume complex event data in real time
- Get actionable information from event streams and generate alerts for events needing quick action
- Initiate automatic responses to changing conditions based on one or a combination of events
- Develop applications quickly for fast ROI with the high-performance complex event processing (CEP) engine

## Unlock the Power of Big Data

Structured or unstructured, SAP or non-SAP, massive or minute volumes – help deliver rapid and valuable insights from virtually any type of data with SAP Data Services software.



### A FOUNDATION FOR ENTERPRISE INFORMATION MANAGEMENT

According to popular estimates, the amount of data essential to running a typical business doubles every 18 months. Unfortunately, that data is often scattered across Websites, tucked away in e-mail messages or spreadsheets, and stored in a variety of data marts, data warehouses, databases, and enterprise applications.

To give your business users reliable data when and where they need it to make rapid and informed decisions, you need to integrate, transform, improve, and deliver trusted data to critical business processes. SAP Data Services software delivers a single solution for data integration, data quality, data profiling, and text analysis – a single development user interface, metadata repository, data connectivity layer, runtime environment, and management console to unlock, move, govern, and improve all your data.

### INTEGRATE STRUCTURED AND UNSTRUCTURED DATA

Today's massively expanding data volumes are potential goldmines. The challenge for business users is finding the valuable nuggets of insight quickly and easily. SAP Data Services supports almost every type of business and social data – including structured, unstructured, and even free-form – that can be integrated, processed, and cleansed.

Information is delivered and integrated with management reports, analytic dashboards, and mobile-device displays, so everyone can understand where the information comes from and how best to apply it. Wherever they are, your stakeholders can quickly and efficiently make the well-informed decisions that drive business success.

### INTEGRATE BOTH SAP AND NON-SAP DATA SOURCES

With SAP Data Services you can integrate and improve data from all software landscapes, and is the optimal way to manage your critical data in the most efficient, cost-effective way available.

SAP Data Services can also be used with a wide range of supplementary data management offerings from SAP (including SAP HANA appliance software, the SAP NetWeaver® Business Warehouse [SAP NetWeaver BW] component, and SAP NetWeaver BW Accelerator software) and existing SAP customers also gain greater IT efficiencies as a result of deep integration with SAP BusinessObjects™ business intelligence solutions and SAP Business Suite software.

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“SAP HANA will be the mission critical and reliable data platform to make real-time cancer analytics into a reality, especially when our internal technical comparison demonstrated that SAP HANA outperforms traditional disk-based system by a factor of 408,000 when performing data analysis.”

**Yukihisa Kato**, Director & Executive Officer, CTO, R&D Center, Mitsui Knowledge Industry Co., Ltd



LEARN MORE

## Get in Touch

To learn more about our real-time data platform or find out how we can help, contact us today.

Visit our website:

[www.sap.com/uk/solutions/technology/database.epx](http://www.sap.com/uk/solutions/technology/database.epx)



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“...a clear conclusion from this research is that Sybase is significantly superior to Oracle with respect to total cost of ownership.”

**Philip Howard, Bloor Research White Paper:** Sybase ASE Total Cost of Ownership: A Comparison to Oracle

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