

# SAP HANA® – An In-Memory Data Platform for Real-Time Business



The Best-Run Businesses Run SAP™

**Real-time business:  
a competitive advantage**

# Real-time business: a competitive advantage

Uncertainty and change in the global marketplace is driving bold new ideas. The future holds many transformational opportunities for breakthrough innovation while unlocking significant business value. However, competing in this new hyperconnected and digitized world requires a new business platform that meets the demand for **speed and innovation** while reducing complexity.

The SAP HANA® platform transforms existing systems while enabling innovation to meet future business needs nondisruptively. It converges database and application platform functionalities in-memory to enable the next generation of transactions and analytics processing through in-memory stored procedures, text analysis, and predictive and spatial processing.

The goal of SAP HANA is to simplify your business and technology landscape while allowing you to execute faster and consequently react in a smart and informed manner. The platform offers increased efficiency via automated business processes that provide the single source of truth through easy integration of all data, while maintaining consumer-grade usability accessible on any device.



# Real-time operational analytics

## Real-time operational analytics

Predictive analytics

Big Data warehousing drives big business

Consumer engagement applications

Sense and respond – for the Internet of things

Planning and optimization applications

Open architecture, streamlined IT landscape, lower TCO

On premise or cloud: security, privacy, and availability

With the power of in-memory computing, SAP HANA provides visibility into in-the-moment business situations. Whether that situation is a self-service customer researching a product or a service representative trying to make decisions while helping a customer or partner, SAP HANA can provide on-the-fly analysis on any combination of data. Whether the data comes from your SAP® ERP application, third-party solution, or custom application, the platform equips people across your enterprise to make decisions. With transactional and analytical data stored together, you can realize immediate benefits by using offerings such as SAP HANA Live for SAP Business Suite. The same core architecture can also be used for mission-critical non-SAP applications.

For example:

- In the automotive industry, Pirelli can now provide unparalleled service for customers by recording and analyzing tire information in real time, increasing life span by up to 20% on over 40 billion records of machine-generated data.
- Russian oil and gas giant Surgutneftegas is reducing stock-outs across 20,000 wells by analyzing inventory with report generation in as little as 6 seconds, down from an average of 40 minutes.
- For animal nutrition leader Provimi, profitability analysis reporting is 15,000 times faster, for more profitable, real-time material purchasing decisions.



# Predictive analytics

Real-time operational analytics

## **Predictive analytics**

Big Data warehousing drives big business

Consumer engagement applications

Sense and respond – for the Internet of things

Planning and optimization applications

Open architecture, streamlined IT landscape, lower TCO

On premise or cloud: security, privacy, and availability

SAP HANA provides a powerful suite of predictive analytics features. By taking advantage of predictive and text analytics, spatial processing, and data virtualization on the same architecture, you can visualize opportunities and gain insight to make informed decisions. Whether calculating cash forecasts, sales forecasts, or predictive maintenance on equipment, SAP HANA provides full vision into the future for businesses. For example:

- Bigpoint, an online free-to-play gaming company, uses SAP HANA to monitor more than 5,000 customer gaming events every

second, tracking and analyzing online behavior click by click. Real-time predictive modeling and in-memory processing enable Bigpoint to make targeted offers to each gamer.

- Global consulting leader Deloitte is using SAP HANA to harness its Big Data to revolutionize cash-flow visibility. The firm constantly runs cash-flow simulations to understand its real-time cash position tied to each client's current status in terms of payment history, services rendered, and invoice status.



# Big Data warehousing drives big business

Real-time operational analytics

Predictive analytics

**Big Data warehousing drives big business**

Consumer engagement applications

Sense and respond –  
for the Internet of things

Planning and optimization applications

Open architecture, streamlined IT  
landscape, lower TCO

On premise or cloud: security,  
privacy, and availability

SAP HANA unleashes the potential of Big Data with its ability to handle large volumes and a variety of structured and unstructured data. It provides Hadoop and R integration along with predictive and spatial analytics, text mining, and a full suite of processing engines to extract value from Big Data. Now, SAP HANA even makes it possible to run human genome analysis in real time.

By running your deployed SAP NetWeaver® Business Warehouse (SAP NetWeaver BW) application on SAP HANA, you can uncover significant new value. Complex reports and analysis that took hours or days can be available in minutes – or even seconds.

What's more, the hours and days spent by IT on complex data modeling and optimization processes are no longer necessary when running SAP NetWeaver BW on SAP HANA, giving business users the option of true self-service business intelligence (BI). For example:

- In the healthcare industry, Mitsui Knowledge Industry Co. Ltd. turned real-time cancer research into a life-changing reality by reducing DNA analysis from 2 to 3 days to 20 minutes.
- Using improved reporting speeds that are 420 times faster, the University of Kentucky is expected to increase student retention and revenue by rapidly identifying at-risk students and intervening early.



Real-time operational analytics

Predictive analytics

Big Data warehousing drives  
big business

### **Consumer engagement applications**

Sense and respond –  
for the Internet of things

Planning and optimization applications

Open architecture, streamlined IT  
landscape, lower TCO

On premise or cloud: security,  
privacy, and availability

# Consumer engagement applications

The consumerization of IT has elevated customer self-service to new levels. Customer relationships today rely on subsecond responses as users interact with enterprise systems. Applications that were originally created as systems of record now need to become systems of engagement. The SAP HANA platform is architected to transform existing systems to deliver new service levels without disruption.

SAP HANA also provides a unified platform for the integration of enterprise applications with consumer apps. While providing real-time tracking by consumers, it can simultaneously provide real-time insights for the enterprise. This powerful next-generation application enables companies to respond with precision when making real-time offers to customers.



“We have seen massive system speed improvements and increased ability to analyze the most detailed levels of customers and products.”

Colgate-Palmolive Company



# Sense and respond – for the Internet of things

Real-time operational analytics

Predictive analytics

Big Data warehousing drives  
big business

Consumer engagement applications

## **Sense and respond – for the Internet of things**

Planning and optimization applications

Open architecture, streamlined IT  
landscape, lower TCO

On premise or cloud: security,  
privacy, and availability

Managing business in a connected world requires real-time adjustment to millions of live signals from the devices and machines. For example, SAP HANA powers high-performance sense-and-response applications such as SAP Smart Meter Analytics software and the SAP Supplier InfoNet solution.

These new generations of smart applications built using machine learning are enabling preventive and efficient business practices by detecting, analyzing, and adjusting to exploding machine data from the Internet of things and increasing quality of life through intelligent buildings, robots, cars, and smart cities.



“With the program [software], we can continue to provide a clean, reliable supply of energy to our customers – today and in the future.”

Gary Murphy, Chief Project Officer, Smart Metering Program, BC Hydro



# Planning and optimization applications

Real-time operational analytics

Predictive analytics

Big Data warehousing drives big business

Consumer engagement applications

Sense and respond – for the Internet of things

## Planning and optimization applications

Open architecture, streamlined IT landscape, lower TCO

On premise or cloud: security, privacy, and availability

A rapidly changing business environment requires real-time planning and optimization. Enable real-time prescriptive analytics by reducing layers of processing and accelerating complex computations required for scheduling and simulations. SAP HANA provides various breakthroughs such as real-time material requirements planning, iterative period-end closing with real-time posting, real-time bonus calculations, in-the-moment sales forecasts,

and POS interactive data analysis. Along with consumer apps, it transforms enterprise resource planning from a system of records to a system of engagement.

For example, ConAgra Foods Inc. now enjoys better insight with fast financial processes, including the transfer of material ledger data – from 9 hours down to 20 minutes.



“[Our] internal technical comparison demonstrated that SAP HANA outperforms traditional disk-based systems by a factor of 408,000.”

Mitsui Knowledge Industry Co. Ltd.





# Open architecture, streamlined IT landscape, lower TCO

Real-time operational analytics

Predictive analytics

Big Data warehousing drives big business

Consumer engagement applications

Sense and respond – for the Internet of things

Planning and optimization applications

**Open architecture, streamlined IT landscape, lower TCO**

On premise or cloud: security, privacy, and availability

SAP HANA is for all applications – and is the platform for all SAP applications. SAP HANA uniquely combines massively parallel processing and in-memory computing for mission-critical systems by providing a single platform for consumer apps for real-time tracking.

SAP HANA enables a vast reduction in total IT complexity through the simplification of layers and network, and converged online transactional processing (OLTP) and online analytical processing (OLAP) in columnar DBMS to eliminate latency. This results in a 10% to 30% reduction in total cost of ownership (TCO). Because of massive consolidation of hardware, you need far fewer resources to provision the data for development and testing.

Gagandeep Bawa, manager at eBay Inc., reports, “SAP HANA will free up all the bandwidth right now involved in figuring out what is going on. The user just has to feed in a metric without really worrying about which algorithm is the best, and can easily use the system because it is inherently intelligent and configurable.”

Doug Turner, CEO of Mantis Technology Group, says, “We can get close to an order of magnitude improvement in performance, additional headroom, and access to new practical capabilities (as a result of the performance improvements) and still save money.”



# On premise or cloud: security, privacy, and availability

Real-time operational analytics

Predictive analytics

Big Data warehousing drives big business

Consumer engagement applications

Sense and respond – for the Internet of things

Planning and optimization applications

Open architecture, streamlined IT landscape, lower TCO

**On premise or cloud: security, privacy, and availability**

SAP HANA is deployable as an on-premise appliance or in the cloud. As an appliance, SAP HANA combines software components from SAP optimized on proven hardware provided by SAP hardware partners. In the cloud, SAP HANA is offered as a comprehensive infrastructure combined with managed services. SAP HANA can also be deployed through the following cloud services: SAP HANA One, SAP HANA Cloud, and SAP HANA Enterprise Cloud.

With more than 1,900 customers, 1,100+ implementations, 600+ startups, and more than 100 partners building SAP solution extensions on the platform, SAP HANA is ready for prime time today. SAP HANA provides full high-availability and disaster recovery options in a modern in-memory architecture.

Continued on next page ►



“Reports are now running up to 1,000 times faster than before.”

Hilti Corporation



Objectives

**Solution**

Quick Facts

Real-time operational analytics

Predictive analytics

Big Data warehousing drives big business

Consumer engagement applications

Sense and respond – for the Internet of things

Planning and optimization applications

Open architecture, streamlined IT landscape, lower TCO

**On premise or cloud: security, privacy, and availability**

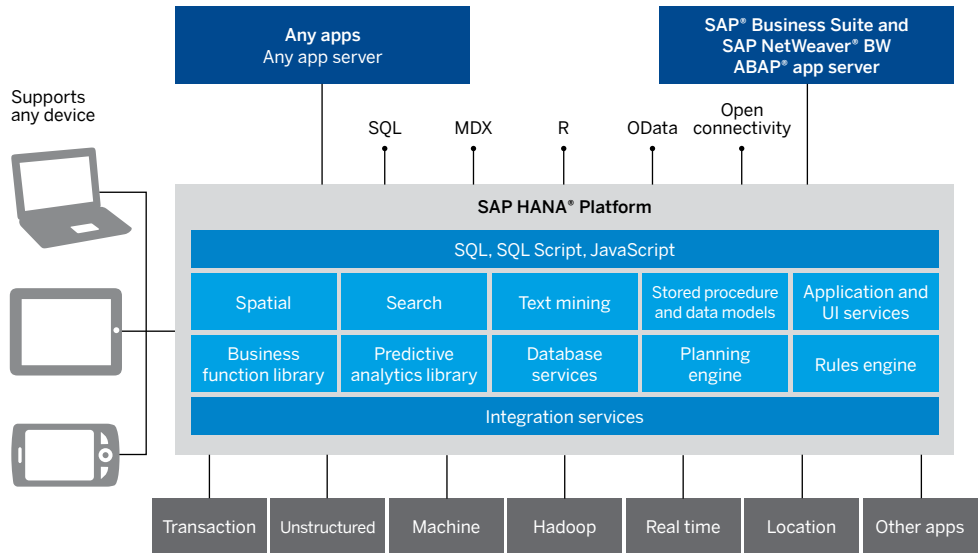


Figure: SAP HANA – An in-memory analytics and applications platform for real-time business



---

Objectives

---

Solution

---

**Quick Facts**

---

**Summary**

The SAP HANA® platform powers a new class of real-time analytics and applications in addition to existing SAP® solutions. Its unique in-memory database instantly analyzes huge volumes of data as it's created, without complex layers of data management and storage. You get answers to questions you could never ask – or never thought to ask – before, and you can run high-performance applications that make business processes faster and leaner.

---

**Objectives**

- Faster execution and increased efficiency to adjust to changes in the business
- One source of the truth with easy integration of all data
- Real-time visibility into the in-the-moment business situation

---

**Solution**

- In-memory data platform built on a next-generation massively parallel data processing architecture
- Game-changing innovation with new applications and business models and an open ecosystem
- Support for immediate analysis of data in minutes rather than days on any combination of deep and wide data

---

**Benefits**

- Gain deep insights into customer needs and wants
- Simplify design, development, and deployment for mission-critical applications by consolidating the IT landscape
- Meet the demands of the mobile user with consumer-grade usability and instant response

---

**Learn more**

To find out more, call your SAP representative today or visit us online at [www.experiencesaphana.com](http://www.experiencesaphana.com).



© 2013 SAP AG or an SAP affiliate company. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP AG. The information contained herein may be changed without prior notice.

Some software products marketed by SAP AG and its distributors contain proprietary software components of other software vendors. National product specifications may vary.

These materials are provided by SAP AG and its affiliated companies ("SAP Group") for informational purposes only, without representation or warranty of any kind, and SAP Group shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP Group products and services are those that are set forth in the express warranty statements accompanying such products and services, if any. Nothing herein should be construed as constituting an additional warranty.

SAP and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP AG in Germany and other countries.

Please see <http://www.sap.com/corporate-en/legal/copyright/index.epx#trademark> for additional trademark information and notices.



The Best-Run Businesses Run SAP™