

Big data in your hand

REALTECH uses SAP HANA*, optimized for the Intel® Xeon® processor E7 family, to enable big data analytics on mobiles



"The Intel® Xeon® processor E7 family meets all the requirements of SAP HANA*, and SAP is optimizing its software for the hardware at a deep level to use the technology to its fullest. The best thing is that customers know they can trust the Intel Xeon processor E7 family."

Hinrich Mielke,
Consulting Manager,
REALTECH Consulting GmbH

CHALLENGES

- **Data analytics.** Independent SAP consultancy REALTECH needed a way to enable its customers to process huge amounts of data, in detail and in real time
- **Rapid response.** With mobile devices rising in popularity, REALTECH needed an analytics platform that can deliver results to mobile devices, rapidly and on-demand

SOLUTIONS

- **Proof of concept.** REALTECH conducted a proof of concept of the SAP HANA* platform based on the Cisco Unified Computing System* (UCS*) C260 M2
- **Powerful processors.** The Intel® Xeon® processor E7 family delivers the performance required for big data on SAP HANA

IMPACT

- **Paradigm shift.** SAP HANA, running on the Cisco UCS and the Intel Xeon processor E7 family, delivers performance and possibilities that will transform the IT market segment
- **Planned services.** REALTECH is about to offer hosted and on-premise SAP HANA services, enabling customers to analyze and respond to data faster than ever before
- **Revenue growth.** REALTECH is already guiding existing SAP customers as they upgrade into SAP HANA, and helping them to pilot new services that take advantage of the technology

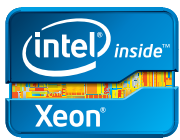
Unlocking the value of data

Data has value, but is highly perishable. The faster you can analyze it, the more successful you can be. With every passing second, though, the amount of data out there multiplies: new transactions, new customers, new products, new trends. Even the weather can have an influence on many businesses, in sectors such as retail, tourism and hospitality. How can companies grapple with all this data, and turn it into useful intelligence? How can they convert recent numbers into predictions and actions that help to build the business?

SAP HANA is a technology that aims to answer these questions. A scalable multicore platform for real-time analytics based on in-memory database technology, it is optimized for the Intel Xeon processor E7 family. Before SAP HANA, database systems were all disk-based. Consequently, their speed was limited to the speed of the hard disk. With SAP HANA, the data is all stored in memory, eliminating the latency associated with hard disks and reducing network latency. SAP HANA is integrated with SAP's business software, making it particularly attractive to companies that already use SAP applications.

Hinrich Mielke, consulting manager at REALTECH, and Christian Schmitz, alliance manager at REALTECH, are among the many people who are excited about the potential of SAP HANA. REALTECH is a specialist SAP consultancy, headquartered in Germany, with offices worldwide. Furthermore, REALTECH is the first certified Run SAP Implementation Partner in EMEA and a preferred SAP partner. It helps large companies (with typical turnovers of over EUR500 million) across all industries including automotive, defense and finance to set up, manage and maintain their applications and data.

"Our customers are already using SAP software to run their business processes such as finance and reporting, and they have two key requirements that are becoming more and more urgent," says Mielke. "One is the challenge of big data: The amount of data these customers have is increasing exponentially. They want to be able to analyze this data in real time, and to drill down into the details. The other requirement is the need for mobile access to data across the enterprise. People using mobile devices aren't willing to wait 30 seconds for data to pop up. Using smaller screens, they need to drill down and interact to find the data they need. That puts strain on the back end, which isn't fast enough to handle near-real-time access like that. SAP HANA promises to be really fast. Not 10 times or 100 times faster, but 10,000 times or 100,000 times faster."



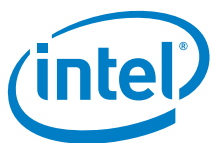
The Intel® Xeon® processor E7 family offers the best price/performance ratio for big data

Delivering the proof

REALTECH delivers an individual solution for each customer that matches its environment and business needs. As well as consulting many of its customers on their in-memory strategies, REALTECH has worked with one of them so far to conduct a proof of concept of SAP HANA running on Cisco UCS, powered by the Intel Xeon processor E7 family. Cisco UCS for SAP HANA is a defined set of hardware and software that serves as an integrated infrastructure stack and delivers the performance and reliability needed to power memory-intensive, mission-critical applications and virtualized workloads. SAP and Cisco have optimized the SAP HANA database on the next-generation Cisco UCS server platform with the Intel Xeon processor E7 family, giving customers a server platform designed from the start for today's challenging requirements.

"SAP HANA is sold as an appliance, where you buy the hardware and software in a bundle," says Schmitz. "That means you can only buy bundles that have been tested and certified by SAP. We chose the vendor with the best integration options and the most recent technology, and that was flexible enough to deliver a high-quality machine on time. That was Cisco."

The customer participating in this proof of concept is a manufacturer with a large data warehouse, containing 4.5TB of structured data used for analyzing the timeliness and completeness of past deliveries. This information is used to help it set its future delivery commitments. Ideally, the company wants to know its performance in real time, so it could make promises to customers about when new orders would arrive as the orders are placed. The reports were taking too long to generate for this to be possible, though, making this application a perfect candidate for SAP HANA.



SAP HANA is sold as a standalone appliance designed to run self-contained so that its speed is not compromised by slower systems. For its proof of concept, REALTECH integrated it with a SAP business warehouse on a separate server so that data can be copied across into the SAP HANA appliance in a batch, making it ready for real-time processing.

The ideal processor

"The underlying technology of the Intel Xeon processor E7 family within SAP HANA and the in-memory database are fascinating, they really are," says Mielke. "There are good reasons for SAP HANA to run on the Intel Xeon processor E7 family. SAP HANA requires the ability to build servers with a huge amount of memory, and a processor with many cores. Even more important, though, is the amount of level 1, level 2 and level 3 cache the processor has. It needs to be both plentiful and fast. The memory bandwidth also needs to be high, and the whole system needs to support at least 10GB Ethernet. The Intel Xeon processor E7 family meets all these requirements and SAP is programming optimizing its software for the hardware at a deep level to use the technology to its fullest. The best thing is that customers know they can trust the Intel Xeon processor E7 family."

He adds: "As soon as we had our data in SAP HANA, it performed as we hoped it would. The speed-up we've observed is like moving from a PC with a hard disk to one with a solid-state drive. Our next step is to conduct formal benchmarking."

A vision of tomorrow

As Mielke sees it, there are two ways that SAP HANA, powered by the Intel Xeon processor E7 family, will bring about a paradigm shift in IT that spans all industries. "Regular business will be made faster, but there will also be new business opportunities that we haven't thought of yet because we haven't had the technology to do them."

He cites the example of a retailer which could analyze how well ice cream is selling across Germany in real time and then compare that

Lessons learned

"If you do a proof of concept for SAP HANA, start early," advises Mielke. "Don't underestimate the technical complexity that it brings to your data and your IT department. Be prepared to invest time in the technology and in setting up the application. It does take work, but the results are worth it. The best approach is to talk to someone who has experience with SAP HANA already."

with stock levels, the current weather, and the weather forecast to direct deliveries and maximize the sales opportunity.

Mielke concludes: "Companies are understandably conservative when it comes to changing their core technologies, but once they have seen the speed improvement, they will be inspired. The Intel® processors used for SAP HANA will help to build their confidence. In our experience with database servers, Intel processors provide the best price/performance ratio, regardless of the operating system."

REALTECH plans to resell SAP HANA as a hosted application, or as a supported or managed service at the customer's premises. In time, REALTECH expects SAP business intelligence applications to migrate to SAP HANA as the default platform. For REALTECH, SAP HANA with the Intel Xeon processor E7 family presents an opportunity to help customers to upgrade into tomorrow's SAP technology, and to help them to explore the new opportunities that SAP HANA presents to transform their business with more insightful uses of data.

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