SAP's HANA Gaining Momentum, Adoptions Picking Up

Companies: AMZN, CRM, IBM, MSFT, ORCL, SAP   December 7, 2012

Research Question:

Are firms adopting SAP's HANA in the whole enterprise platform, and is it affecting the business software space?

Summary of Findings

➢ Thirteen of 18 sources said demand for SAP AG's (SAP) HANA (High-Performance Analytic Appliance) has grown steadily over the last three to six months and will continue to grow in 2013.

➢ HANA will be offered across the entire enterprise by 2014 as more modules are built, including one for enterprise resource planning (ERP). That's when HANA will explode as companies need six to 12 months for proofs of concepts, which will begin in earnest in 2013.

➢ Companies are adopting HANA at a faster pace than six months ago. Consultants and integrators are ramping up their HANA-related businesses, hiring and training more staff to manage increased demand in the last six months.

➢ HANA is taking off because SAP now allows independent implementation specialists, driving down the cost of ownership. SAP also lowered hardware prices. HANA's compression rates leave smaller amounts of data to manage, another cost-saving measure.

➢ Oracle Corp. (ORCL) will be negatively affected by HANA's success. One consultant's client already left Oracle for HANA and more are expected. HANA does not require Oracle to run underneath it and can eliminate Oracle's high maintenance costs.

➢ One source views the offering of SAP's HANA One Platform on Amazon Web Services as a way for HANA to reach mid-market clients with the off-premise solution and lower costs.

➢ Obstacles to HANA's mass adoption include the time commitment for implementation, the challenges of migrating from a legacy system and high costs for smaller organizations.

	HANA Demand in Last 3-6 Months	Affect of Implementation Partners on SAP and HANA	Total Cost of HANA
CIOs, Systems Architects/IT Managers	⬆	⬆	⬇
IT Consultants/ Systems Integrators	⬆	⬆	⬇
Industry Specialists	⬆	N/A	N/A
SAP Partners	⬆	N/A	⬇

Silo Summaries

1) CIOS, SYSTEM ARCHITECTS/IT MANAGERS
All five sources praised HANA as a leading big data solution. **Three sources are migrating to HANA in early 2013. Two sources are engaged with other platforms, but praised HANA's ability and momentum.** Of those moving to HANA, one source plans a long-term system-wide migration after completion of a successful six-month business warehouse proof of concept. **A repeat source changed his mind since Blueshift's initial HANA report in March and now plans to implement HANA in the coming months**; he praised SAP for recommending an independent implementation specialist, which allows the company to run HANA on its own and significantly lower the cost of ownership. The third source is transitioning to SAP so integration of HANA is a natural choice with a powerful benefit likely.

2) IT CONSULTANTS/SYSTEM INTEGRATORS
Demand has increased for HANA over the last three to six months, and firms are creating support services for expected HANA growth, complete with hiring and training staff to be certified HANA experts. Sources praise SAP for introducing implementation partners, which increases a user's likelihood of adoption as it lowers the total cost of ownership. Potential clients also like the allowance for hardware purchases from multiple vendors and see this as an improvement over Oracle's requirements. **All SAP clients are expected to migrate to HANA, where they will realize the strength of the solution and transition their entire platform instead of their original intention of only one solution.**

3) INDUSTRY SPECIALISTS
Demand for HANA grew over the last three to six months, especially among the SAP base. Sources say HANA is progressing well and on track to have a strong 2013 as **deployments continue across the enterprise rather than in isolated instances.** Implementations are easy and more software companies are trying to partner with SAP to take advantage of HANA's power and potential. One source said SAP's partnership with Amazon Web Services could be a significant development in opening a new client base to access HANA off-premise and at a cheaper price.

4) SAP PARTNERS
There is growing enthusiasm for HANA. **One hardware provider sees increased client interest compared to three months ago and one software provider praised HANA's performance and speed, especially when compared to competitors.**

Background

Blueshift Research has released six reports on big data. Sources for our March 1 report on SAP said HANA was performing well in pilots and threatened Oracle's Exadata in the short run. Our April 3 report on big data management and analysis tools found a fragmented market full of many options and varying data and storage needs at the enterprise level. Our May 8 report found that full adoption of both SAP's HANA and Oracle's Exalytics In-Memory Machine was slow and that the market was focused on hybrid database solutions. Sources for our June 21 report said Informatica Corp.'s (INFA) growth prospects were in its new products, but these may not be enough to drive the company forward as its core ETL tool market had peaked, its social data tools were immature, the effectiveness of its sales team was questioned, and open-source solutions were a threat. Our July 27 report found that demand for BI (business intelligence) remained strong and was expected to grow around 10%, better than other data analytics initiatives in light of difficult macroeconomic conditions. We singled out MicroStrategy Inc. (MSTR) and Qlik Technologies Inc. (QLIK) as well-positioned leaders in their respective spaces. Our Oct. 3 report on SaaS tools said Salesforce.com Inc. (CRM) will see its growth slow in the coming year, Microsoft Corp. (MSFT) is emerging as a threat, and Oracle, SAP and IBM Corp. (IBM) have made important strides and offer mastery of the whole chain.

CURRENT RESEARCH

In this next study, Blueshift revisited its initial report on HANA, along with many sources, to determine what kind of progress SAP has made with its in-memory database and whether adoption is picking up. We employed our pattern mining approach to establish and interview sources in five independent silos:

1) CIOs, systems architects/IT managers representing enterprises using SAP software (5)
2) IT consultants/systems integrators (6)
3) Industry specialists (5)
4) SAP partners (2)
5) Secondary sources (4)

Blueshift interviewed 18 primary sources, including eight repeat sources on Blueshift's previous big data reports, and included four of the most relevant secondary sources focused on new functionalities within HANA, SAP pushing for HANA's growth in the MENA region, making it easier to develop applications for HANA, and Microsoft's creation of its own in-memory database to combat SAP and Oracle.

Next Steps

Blueshift's next report on SAP's HANA will follow up on the speed and uptake of its implementation to gauge increasing demand. We will track developments related to the release of new modules for HANA, especially ERP. We will assess the depth of the threat to Oracle and the impact of HANA Cloud on potential mid-market customers.

Silos

1) CIOS, SYSTEM ARCHITECTS/IT MANAGERS REPRESENTING ENTERPRISES USING SAP SOFTWARE

All five sources praised HANA as a leading big data solution. Three sources are migrating to HANA in early 2013. Two sources are engaged with other platforms, but praised HANA's ability and momentum. Of those moving to HANA, one source plans a long-term system-wide migration after completion of a successful six-month business warehouse proof of concept. A repeat source changed his mind since Blueshift's initial HANA report in March and now plans to implement HANA in the coming months; he praised SAP for recommending an independent implementation specialist, which allows the company to run HANA on its own and significantly lower the cost of ownership. The third source is transitioning to SAP so integration of HANA is a natural choice with a powerful benefit likely. He cautions, however, that not all companies can easily make this change and may take years for others moving to HANA. One source not using HANA called it a differentiator that is increasingly important

because of its capabilities in unlocking the power of SSD. He recently adopted Oracle's solution and said it is difficult and time-consuming to replace a legacy system.

➤ **IT vice president, large multinational retail brand**
This multinational brand is fully convinced that HANA is the future of enterprise IT and plans, long term, a full migration to HANA as its business platform. Short-term plans include a migration to HANA for business warehouse systems in January, followed by CRM later in the year.
- "I truly believe in what SAP has put out as the vision for HANA over the next three to four years as not just a database but as a platform."
- "We've done a six-month proof of concept on BW systems and we'll be migrating in January. The second piece of our migration to HANA is the CRM. We're still in proof of concept now but will migrate the CRM in 2013."
- "Long term, we are not looking to launch individual apps running on HANA, but the whole business suite. In fact, we waited implementing HANA because we didn't want to grow a HANA farm for individual groups replacing databases individually. We wanted a system-wide move."
- "I came to [this company] in 2011 [from SAP] and we were in an early phase of HANA and I was in the support area. At that time, people were not convinced about HANA, but somehow SAP cracked the nut on how it can run transactional systems, and it gives me more confidence now about our full migration."

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>
> *IT VP, Large Multinational Retail Brand*

➤ **Director of bank applications for a large European bank; repeat source**
This company will implement HANA in early 2013, a reversal from February when the company was only considering an implementation. At that time, SAP was too busy and Oracle solved the bottleneck in its database. SAP has recommended an independent implementation specialist, which he views as an important step in the partnership as it allows his company to manage HANA on its own, lowering total cost of ownership (TCO) and increasing the likelihood of HANA succeeding. He believes HANA's unique offering represents the best opportunity for SAP to grow.
- "We have planned to implement HANA in our data warehouse system. We think SAP is the leader in managing big data with HANA."
- "We decided it was time to get serious with HANA implementation. SAP has been insisting a lot, visiting us twice a week. They have suggested a consulting company to help us with the implementation and we have contacted them. We have already got an estimate on software, hardware and migration costs from SAP and an estimate from that consulting company to train our people. They said it will not take long for an SAP data warehouse expert to start working with HANA. A couple days in class and then some help while they work."
- "We are also thinking to provide our oil and gas department the possibility to use HANA as well as the banking one, so the implementation can be big."
- "However, before we proceed with Hana, there are technical issues to wait for, such as some human capital management changes that are slowing down our purchasing process by a couple weeks to a month."
- "SAP HANA is where there can be the most growth for SAP as I feel the other areas, including mobile, are quite saturated with offers."
- "We like that we can use a consulting company, independent from SAP. Their approach is not to make us dependent on them but teach us to take care of HANA ourselves. We like their work method; they stay with us and do training on the job. Previously, we had integrators who wanted to sign very expensive long-term contracts."
- "SAP has made a smart move by creating and allowing this special partnership with new consulting/integration companies. By reducing HANA's TCO and facilitating the implementation, they also increase HANA's chances of success."

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>
> *Director of Bank Applications*
> *Large European Bank*

➤ **Chief information officer and HANA user, national retail distributor**
HANA is tremendously exciting for its speed and scalability, but uptake seems slow. While global corporations may find any attempt to restructure their data daunting, those who can manage the transition as part of a larger technological evolution should reap enormous benefits from HANA.

- "We are integrating HANA into our overall adoption of an organization-wide SAP enterprise-resource planning (ERP) platform. Since we were already embarking on a massive transition to SAP technology, it was a good time to reevaluate every other aspect of our IT environment, so we are simultaneously working toward bringing our data into HANA as well."
- "I'm not sure if many other people are making this move in the absence of a substantial external motivating factor. Not many people are in our position and not many, frankly, like to put themselves in this position. Most global IT professionals that I've met have an entrenched conservative streak in the sense that change can be the enemy, not your friend."
- "Presumably, if you have big data already, you have an already-big database. Maybe that's Sybase, maybe that's [Microsoft's] SQL, maybe that's Oracle. If you're already on an SAP database, it should be challenging but reasonable to at least contemplate moving into a HANA architecture. If you're not, it's a much, much larger proposition. And if, like most organizations, you have a fragmented environment of one legacy system here, another for accounting or CRM or whatever, you have additional concerns."
- "For us, it's a natural choice. We already want to generate very large efficiencies by integrating all of our inventory, sourcing and ultimately point-of-sale functions into the ERP system and naturally we want to make those efficiencies as big as possible given the amount of money we're investing in this. That means we want the data to flow as fast as the system allows, which meant in our case using HANA to take advantage of an integrated SAP top-to-bottom architecture."

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>
> *CIO & HANA User*
> *National Retail Distributor*

- "We are maybe halfway along on our plan. So our deployments of HANA have been parallel to our existing collection of database formats so we can monitor the overall system in controlled site-by-site tests. Those sites are generating on-the-ground pricing and sales data and communicating directly with the central ERP platform to trigger automated replenishment processes in particular. So far the results are extremely promising, but because it's moving alongside our overall ERP, I'm not sure what I can attribute to HANA and what to the ERP."
- "We are not currently involved with voice search but we do need mobile support. As mobile shifts toward voice search, I suspect we'll want to be able to go with that trend as it progresses."
- "In general, I think in-memory data is the way to go. The closer to the user you can bring the transaction history and the aggregate price statistics, sales statistics, even seasonal factors, the better that user can understand the complexity and make decisions in something like real time. We aren't a retail company with the need to support millions of zero-latency connections at once, but we do need to push our millions of inventory items out to our regional managers and let them push their activities back to us."

➤ **CIO of the North American subsidiary of a global manufacturer, not a HANA adopter**
In-memory data solutions like HANA are becoming increasingly important as SSD computing blurs lines between active memory and storage. SAP's early entry is a strong differentiator and should encourage IT to adopt other solutions from the company. The prospect of replacing legacy systems with an SAP solution is not immediately appealing, especially when competitors will undoubtedly respond with comparable cloud-driven solutions. Transitions will be multi-year affairs.

- "We are not considering HANA right now because we're still digesting our recent shift to Oracle for our accounting and other systems. But if we weren't, I'd definitely be intrigued with what this approach to big data offers in terms of hot access, massive simultaneous data availability and read/write capabilities and a way to unlock the power of SSD architecture."
- "Having HANA on the map gives enterprise a way to bring need-to-know data up to the user by bringing it right to the RAM. As RAM gets bigger, cheaper and faster, this is becoming a tempting option. I know IBM and Microsoft have dabbled in this field but was never really impressed with the ability of the technology to support robust enterprise use. It just didn't seem hardened enough, too close to a prototype or proof of concept. But SAP

seems very invested in setting itself up as the in-memory database vendor, so now people like me have a reason to follow along."

- "We use SAP for their ERP business suite, especially the product lifecycle and supplier tools. We do not really use them for the CRM or billing systems, for example. The idea of an integrated platform is tempting and making the database more attractive is a step in that direction. I'm sure that's true in other corporations."
- "SAP is really looking to nibble at the Microsoft data warehouse and especially all points in the Oracle ecosystem here. IBM has a big-RAM hardware solution that works with HANA, so they're not particularly threatened. Microsoft and Oracle have been fairly blatantly excluded, and EMC is a question mark."
- "I'm sure Microsoft is moving toward an in-memory data warehouse for enterprise. There have been enough rumors in the past to at least give them the idea. Oracle's been quiet. I think both of these companies are more interested in moving big data toward virtualization, into some form of cloud."
- "Any shift to HANA will take years, even on an enterprise-to-enterprise basis. The amount of transactions and customer records at stake in any true 'big data' concern is simply too large to make this a trivial decision. Just doing the exploratory due diligence takes months. This means that the earliest HANA adopters are still early in their path. As they come online and get results, we may see more people actively start the process of determining whether they might want to move toward this architecture as well. So look for the first real wave of adopters or rejecters maybe six months after you start hearing about completed HANA builds."

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>
> *CIO, Global Manufacturer*

➤ **Global IT manager for an automotive industry supplier; repeat source**
Just as in February, this source is not transitioning to HANA anytime soon, despite high regard for SAP and its in-memory database. He is working with a MicroStrategy BI solution, which demands his attention ahead of any implementation of HANA. He cited the difficult economic environment as another obstacle.

- "We don't have any plan to implement HANA in the next few years, same as when we spoke in February."
- "We think SAP is the leader in managing big data with HANA but we have invested in a new BI solution from MicroStrategy. First, we have to concentrate on that and once that is running then we can think about something else."
- "The economy is difficult now and we cannot justify any big investments at the moment."

2) IT CONSULTANTS/SYSTEMS INTEGRATORS

Demand has increased for HANA over the last three to six months, and firms are creating support services for expected HANA growth, complete with hiring and training staff to be certified HANA experts. Sources praise SAP for introducing implementation partners, which increases a user's likelihood of adoption as it lowers the total cost of ownership. Potential clients also like the allowance for hardware purchases from multiple vendors and see this as an improvement over Oracle's requirements. All SAP clients are expected to migrate to HANA, where they will realize the strength of the solution and transition their entire platform instead of their original intention of only one solution.

➤ **HANA specialist with an SAP partner in Europe**
HANA is making further inroads compared to three months ago as client interest is becoming more substantial. HANA's price has dropped due to lower costs for hardware and licenses. HANA is also now positioned as a cost-saving operation because it reduces project and infrastructure cost while increasing speed with significant compression rates. HANA has an advantage over competitors in ease of implementation and startup cost now that SAP has lowered its price. HANA has a chance to attract non-SAP users if it positions the product correctly, but the company appears to be struggling with this as it tries to add features beyond HANA that clients do not want.

- "Interest for HANA has increased compared to three months ago. And it is more concrete interest. HANA has a lower price now and companies will end up saving money compared to six months ago. All SAP clients are looking at a way to work with HANA."
- "HANA can be presented as a cost-saving operation now. It helps reduce project management costs. And it decreases infrastructure costs as well."
- "If we take the example of an average 10-terabyte data warehouse, with HANA's compression rate it becomes 600 gigabytes. We have done several tests and the compression rate is usually seven to ten times. Each case is different, but you always save."
- "All this compression produces further cost reduction in storage software and devices, maintenance, software licenses."
- "Then we have to add the advantage of HANA's rapidity. HANA saves time for their users. At a client site, we had the case of processing 100 million records in 24 hours. With HANA it is now less than an hour, an advantage for business processes."
- "SAP has concentrated their communication on mobile, mobile business apps and a lot of Sybase."
- "I have seen about 20 full-scale implementations. SAP says HANA will be able to run the whole IT system by the end of the year. I think it might be in mid-2013."
- "Looking at the competition, Oracle is much slower than HANA. Microsoft/HP appliances are good but again slower than HANA. HANA is also faster to implement and easier to maintain than competitors."
- "Price-wise, HANA is also cheaper than Oracle and IBM. Our most recent quote for an entry-level configuration for a client was the following: Oracle was at 600,000 euros, IBM Nettezza at 300,000 euros, HANA at 200,000 euros. Compared to six months ago, the cost of hardware is down about 60%. The cost of the database license from SAP is usually half of the regular installation cost because of the efficient compression rate. However there is no discount on HANA."
- "HANA is going mainly to SAP clients, but it could go to non-SAP clients too if SAP has the right approach. As SAP tries to sell ERP to non-SAP clients, those prospects get annoyed since they only want HANA."
- "Sapphire was really good this year. It felt fuller, but there were also fewer halls compared to last year and this could have contributed."

> ➤ **Head of business analytics and technology for a global technology consultancy**
Demand for SAP HANA is stronger than ever as more systems go live and existing customers expand toward enterprise-wide adoption, using HANA for everything from analytics to data warehouse to cloud services. HANA implementation partners are very much in demand, as are certified HANA technicians.
  - "Companies view HANA as everything from a point analytic system to a cloud platform for all of their apps."
  - "Companies dip their toe in [HANA] with something that's very high-value first, usually the point analytic solution or the business warehouse, then they're all in."
  - "Companies don't necessarily start off thinking that HANA will be their enterprise-wide platform, but they end up thinking that way."
  - "HANA is definitely more popular now. Three months ago, our phone was ringing weekly with new clients and now it's almost daily. SAP used to do all the implementations themselves, and now, by design, they've moved implementations off to partners."
  - "Licenses to implement HANA are doubling every year and the number of SAP HANA consultancies is more than doubling every year. It's a fast-changing market."
  - "About three to six months ago the pain was in growing demand [for HANA] and now the pain is in finding enough qualified IT staff."

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>
> *HANA Specialist, SAP Partner Europe*

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>
> *Head of Business Analytics & Tech. Global Technology Consultancy*

- "My customer base is global 500s so they don't struggle to justify the cost, but their adoption depends on where they are on their technology maturity curve."

➤ **Vice president of SAP consulting in the U.K. for a global technology consulting firm**
Migration to HANA is inevitable for existing SAP business-to-consumer companies with high-volume databases, such as, utilities, CPG manufacturers, retailers and those in the public sector. Companies that try HANA for specific solutions end up realizing the advantage of HANA as a platform solution.
- "Extending HANA to existing SAP customers is inevitable. Any SAP customer with high-volume databases will clearly see HANA as the solution. Companies are beginning to see that HANA will be the answer to some of their problems."
- "Interest in HANA is growing quarter on quarter. In the U.K. we've gone from zero projects in the first quarter of 2012 to three in the second quarter and we'll end the year with probably six."
- "HANA is a journey with companies. They start off with a proof of concept for a specific solution, then end up viewing it moving across their entire enterprise in 2014. I wouldn't be surprised if by the end of next year we're bidding on enterprise-wide HANA platform projects."
- "I've seen no evidence of a hardware delay. Maybe we just ordered ours at the right time."
- "I don't know the cost of the projects, but I know some companies have had to reduce funding to other IT initiatives to get HANA in."
- "We've launched HANA in the public sector, and it's popular with consumer-product companies, retailers and utilities—any company driven by [business-to-consumer] activities."
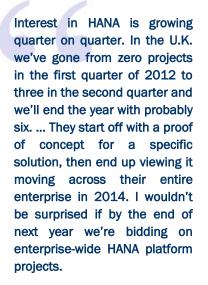- "By the end of 2013 we'll have hundreds of HANA-certified staff people [at our company]."

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>
> *VP of SAP Consulting, U.K. Division*
> *Global Technology Consulting Firm*

➤ **Director of SAP sales at an international SAP mid-market partner; repeat source**
HANA is an impressive solution with speed and power, but it remains expensive, despite recent price reductions. Large companies have proofs of concept ongoing, but smaller clients still find the price tag out of reach. NetWeaver Business Warehouse powered by HANA is most successful and strong sales are expected if companies can fit it in their budgets which remain under pressure with the global economic crisis.
- "HANA is an amazing solution and response times are very fast. It is an extraordinary performer, but prices are still high and it is therefore hard to sell it. It depends also what you do. An airplane company takes years to build its products so they don't need their system to be so fast. Retail is a better target, but not all companies want to invest right now."
- "HANA prices have gone down and this will favor implementations in utilities and retail. Elsewhere, budgets are small, which makes selling HANA difficult."
- "We have a hard time selling HANA to small companies. With bigger companies, we have a couple proofs of concept."
- "We particularly like HANA on BW [Business Warehouse]. It really works well and this will sell, budget permitting."
- "Meanwhile, SAP is trying to position the other database, ASE so they get Microsoft and Oracle out of their client base."
- "We had a difficult third quarter, we are having a difficult fourth quarter and this is unrelated to SAP, it is the economical situation. We have a hard time with new clients again because of the economic crisis."

➤ **Data integration consultant; former IBM storage manager**
HANA is growing fast off a very concentrated base while enterprise IT is still flirting with the technology and its promise. Ultimately, the architecture represents a breakthrough challenge to dedicated Oracle database appliances. The ability to buy hardware from multiple OEMs is enticing. Future iterations of SAP Business Suite will incorporate HANA as a fundamental component, encouraging existing customers to adopt the architecture and expand their SAP relationship.

- "I have had two of my customers here adopt HANA. Both signed up in the last six months. I'm not sure it was the best fit for them at this stage in their evolution, but they see themselves growing very quickly and wanted a way to ensure their database could scale up very, very fast. That in itself represents tremendous growth in terms of the HANA deployments I had in my world previously."
- "Most of the large enterprises are kicking the tires on HANA but either aren't at the right point in their technology purchasing cycle—they just signed a database contract with SAP or someone else or they have other overhanging concerns—or are too early along a lengthy vetting process to push the button. It can easily take a year to make this kind of decision. It doesn't and shouldn't happen overnight."
- "My customers like the fact that they'll be free from the Oracle economy and so have a lot more flexibility with HANA than they would with OracleDB. They can pick a server from any of a half-dozen vendors and know it will work great. That server will be tailored to the memory requirements and performance profile of HANA but can theoretically be repurposed as time goes by. And they can mix and match. You don't get that with Oracle and the notion of one appliance or one hardware upgrade path that suits the software."
- "They wanted open-ended scale. In both cases the business model is pushing for really viral social media growth, and so there will be a period where virtually all of the customer relationships will be active simultaneously as people open accounts and play around with the product. It's not a situation where you create an account one day, let it go dormant for a few months while you sign up new people, and then a month or two later you generate some new transactions or not that need to be recorded for future access. They'll be accessing maybe 85%, 90% of their accounts all the time if all goes as planned. That meant HANA and the memory-resident approach."
- "If you're CRM-driven and big, you're more inclined to want HANA. In a lot of eyes it's almost being sold as a CRM facilitator so I wouldn't be surprised if SAP is selling it right alongside its CRM tools. I also suspect that SAP will be folding both CRM and HANA into the core of its ERP platform, simply because the CRM function is becoming much more central to the way large organizations need to operate."
- "Big organizations tend to be using SAP already at some point in their IT environment. The more unique might-want features SAP can create, the closer to a must-have platform they become. HANA is a might-want feature because the ability to run so many hot queries is really unique. Someone like an Oracle can support an equally massive database in the petabyte, exabyte range, but that's a matter of size, not agility."

➤ **Director of SAP alliance for a global consulting company; repeat source**
HANA, together with the Ariba, represent real innovation. It increases the size of SAP's product portfolio and enlarges the potential client base. One client migrated to HANA from Oracle. SAP users have had an easy implementation with HANA and migrations from Oracle to HANA have been successful. The firm is creating a support system for HANA in anticipation of increased demand.
  - "We have built a HANA competence center and we are getting up to speed to offer all our solutions running on HANA."
  - "We have witnessed the first migration from Oracle database to HANA and they were successful. HANA is not just a database, it is a technical platform to be offered as part of our business solutions."
  - "We have many solutions on HANA already, analytics and warranty, for example. We also have a sustainability solution with emission control, all in real time obviously. We have also worked on evaluation solutions. For banking solutions we are still not sure HANA adds value. But it is definitely an enabler for business."
  - "As per the recent CRM on HANA release, we have not seen it running on any client's site. However, we have seen some HANA in production. For clients who have SAP, this process was quite easy. Our next step is to make

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> *Data Integration Consultant, Former IBM Storage Manager*

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>
> *Director of SAP Alliance Global Consulting Company*

it possible for the client not to run Oracle any longer and therefore save considerable cost. In our full HANA implementations, Oracle is out of the picture. This has already started to happen and it will continue faster as solutions come out."

- "We are optimistic about HANA and satisfied for the Q4 business and pipeline. HANA with mobile and cloud is giving our solutions a big push."

3) INDUSTRY SPECIALISTS

Demand for HANA grew over the last three to six months, especially among the SAP base. Sources say HANA is progressing well and on track to have a strong 2013 as deployments continue across the enterprise rather than in isolated instances. SAP is also making inroads with clients outside of its base, including those in the Middle East and the Caribbean, who are increasingly curious about HANA's capabilities. Implementations are easy and more software companies are trying to partner with SAP to take advantage of HANA's power and potential. One source said SAP's partnership with Amazon Web Services could be a significant development in opening a new client base to access HANA off-premise and at a cheaper price.

➤ **Marketing and strategy executive for a global consulting firm; repeat source**
Interest in big data has grown significantly in the last three months. HANA continues to make progress and is reported to be a relatively easy implementation. Its use remains limited to SAP-only clients, which is not likely to change until HANA is completely finished. Oracle and Hadoop are first choice among non-SAP clients, while Microsoft is an emerging competitor.

- "Interest in big data has significantly improved since we spoke in June. Everybody wants to know what they can do, how they can use it, what to implement."
- "HANA is an interesting option to manage big data. There are several pilots and some companies who already have it in production. How much they use HANA I don't know, but it is live."
- "As far as they told me, it was fairly plug and play, relatively easy to implement, which is good news."
- "Companies are still investing in big data and outsourcing, some other traditional areas such as ERP or BI have slowed down. Geographically, some areas of the world have reduced investments such as Greece and South Europe, but it is an isolated case."
- "Oracle Exa machines are also a good option for managing big data, you can use them on top of the Hadoop layer. Oracle is making a lot of noise about Oracle and Hadoop, but it looks like most people are just getting Hadoop from Hadoop and not the Oracle-packaged Hadoop. It is like open source 20 years ago, a lot of people just got open source software from the source and not the re-packaged version from Red Hat or others."
- "Hadoop software is used a lot for social listening and a lot of data mining. Service providers use that cheap software more. With structured data, you have to get either HANA or Exa. So again it is a choice between SAP and Oracle."
- "Independent firms who are not running SAP are not looking at SAP generally even if they could in theory run HANA. SAP clients instead are taking HANA seriously."
- "For non-SAP clients, Oracle and Hadoop technology are going to be successful in the short term. Even in the mid-term, HANA will not be used by non-SAP clients. HANA will be an option for all companies when it is completely in 2014."
- "Last but not least, Microsoft appliances are emerging. Market demand for appliances is exploding and we see significant success for the HP and Microsoft partnership. Both their appliance BDA (business decision appliance) and BDW (business data warehouse) are making a lot of noise and they are also good products at a reasonable price. Microsoft is a very valid competitor for both SAP and Oracle."

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> *Marketing & Strategy Executive*
> *Global Consulting Firm*

➤ **President, IT strategy consultancy**

HANA is being adopted in the context of an enterprise-wide deployment. While the actual numbers remain small, SAP has enormous space to grow the architecture by selling into its existing database and ERP customer network. Aggressively courting users of other database solutions doesn't seem to be a strategic priority at least in the near term.

- "In the last six months I'm hearing more chatter about HANA and seeing a few more people actually start using the technology. Bear in mind that most people who are really suited for HANA are massive organizations with truly big data, so I don't work closely with anywhere near all of them. But in terms of the 100 or so big companies on my radar, the needle has started to move in HANA's direction."
- "It's all across the enterprise when it happens. You'll see some tentative rolling deployment and a lot of tests, but for all practical purposes this is an integration play, not an isolated database play. However, not everyone who has SAP in their enterprise is signing up. Not by a long shot."
- "Granted, there are seasonal and budget cycle factors at work here, too. Six months ago, the economy looked rougher and only people who absolutely needed a better database were starting the HANA process. Now things seem a bit more calm, and I think we'll see some positive announcements in the first months of 2013."
- "I think HANA is generating $200 million a year in license fees and other revenue. SAP is bringing in $1.2 billion and up from Sybase, so right there you have the relative scope of the two products as they stand today. HANA is Sybase's younger, faster sister, so this is SAP's audience to cannibalize if they choose. You'll always have holdouts who want to keep the old system, but I think conversion will be as steady or as abrupt as SAP decides it should be."
- "From there, HANA can be positioned as the database of choice to run under Business Suite, which is easily $14 billion a year coming in from a global 'Who's Who' of massive wealthy corporations. Business Suite is almost a necessity for these organizations. At that scale you really have to consciously opt away from it. All it takes is telling these people 'Oh, Oracle will still work but your competitor over in Japan is using HANA and they say the combined ROI is fantastic,' and sales resistance drops considerably."
- "At that point, things get interesting. I don't know of anyone currently adopting HANA who wasn't already an SAP customer—usually Sybase and Business Suite together—but right now HANA has about 1% of the total database market. That's a ridiculous share for a company with this heft to settle for. If they eat the Sybase user base, they're still at maybe 6% of global database. I know for a fact they want about triple that share if not more in order to jump ahead of IBM and Microsoft. That means very aggressively trying to convert the captive ERP audience and maybe even picking up some completely new accounts."
- "The goal is to lay the groundwork for an integrated database/ERP device. I think they've gone on record saying as much. So if SAP can bundle HANA into Business Suite and sell both together on a proprietary appliance and have everything work better together than it does separately, heads are going to turn."

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>
> *President, IT Strategy Consultancy*

➤ **Software consultant at a service group; repeat source**

HANA has SAP ahead of all competitors in big data, targeting its large base where demand for HANA is growing. SAP is competing well in Europe, continuing to sign deals in the fourth quarter that keep it on target.

- "SAP is doing well compared to other software vendors. They have closed a large software deal in Europe and they will be all right for their Q4 target."
- "In the big data race, SAP is ahead of all other competitors thanks to HANA. They can target their large ecosystem and therefore can grow easily just with their base."
- "I am looking at HANA seriously as there is more demand and request for information of what can be done and what cannot be done. BI is still far away and ERP as well. Data warehouse is definitely working well now."
- "Oracle is still quite behind with their Exa machines and IBM does not have anything comparable to HANA, so SAP has some good days ahead."

➤ **International HANA consultant**

HANA's popularity continues to grow as evidenced by delays in project implementation due to lack of hardware availability. Implementations cross all industry segments and SAP is making new inroads into regions like the Middle East and the Caribbean because of HANA. Software companies are increasingly interested in partnering with SAP on HANA-related products.

- "I don't know that a lot of enterprises will want to replace their whole database system with new hardware. HANA adoption will mostly be with existing SAP customers migrating to HANA."
- "HANA is used in existing SAP environments, but I've implemented a few HANA projects in the last eight months for companies that are completely new to SAP."
- "I'm visiting clients who have never used SAP before, especially in the Middle East where there's a lot of interest from the retail and airline industry. SAP is not traditionally the dominant provider in the Middle East."
- "We have a wide array of industries using HANA from insurance to manufacturing and especially the utility industry where they use HANA's speed to track energy usage in real time."
- "A lot of companies in the retail industry are interested in HANA because of the retail product Affinity Insight, a new data mining tool from SAP that enables companies to investigate sales data for correlations between the goods sold. It delivers in real time what you likely will buy in the supermarket when you're there."
- "There are a lot of projects being delayed right now because there's a delay in the hardware."
- "We get a lot of interest from software companies wanting to partner with SAP on developing products for HANA."

> **BI specialist at a consulting group; repeat source**
> HANA's offer on the Amazon Cloud with Amazon Redshift could be significant as it opens up the possibility of a new client base for SAP. Companies can now access HANA off-premise through the cloud, lowering the total cost as on-premise implementation is not necessary. This allows service companies to engage with HANA as a viable partner in solving big data needs.

- "Amazon Web Services and SAP have developed a partnership dedicated to creating new solutions for businesses of all sizes, using the HANA platform."
- "New and old SAP users can deploy their SAP solutions on the SAP Amazon Cloud in production environments. The solutions are scalable, on-demand AWS platform. It is a pay-per-use model and it does not require implementation."
- "The Amazon/SAP partnership shows that now we have to start looking at service companies as potential SAP clients. If this increases, it could mean that on-premise is going to be just a fraction of SAP's HANA business."
- "HANA's cost was the largest obstacle to [its] success, but with a cloud model, this cost diminishes and implementation fees disappear. This can change the game and it is worth following closely since we are just at the beginning."

> *I've implemented a few HANA projects in the last eight months for companies that are completely new to SAP. … In the Middle East … there's a lot of interest from the retail and airline industry.*
>
> *International HANA Consultant*

> *The Amazon/SAP partnership shows that now we have to start looking at service companies as potential SAP clients. If this increases, it could mean that on-premise is going to be just a fraction of SAP's HANA business.*
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> *BI Specialist, Consulting Group*

4) SAP PARTNERS

There is growing enthusiasm for HANA. One hardware provider sees increased client interest compared to three months ago and one software provider praised HANA's performance and speed, especially when compared to competitors. Prices have dropped as SAP reduced hardware specifications, resulting in fewer license and infrastructure requirements and allowing SAP to be more competitive with Oracle and IBM. HANA is attractive to software publishers because of its speed, and increased partnerships are expected to augment demand for HANA.

➤ **SAP partner with a hardware manufacturer; repeat source**
There is growing enthusiasm for HANA as client interest has increased over the last three months and SAP appears on track to hit sales and proofs of concept targets. SAP has lowered prices for HANA by reducing hardware certifications and the size of customer projects, resulting in fewer licenses and infrastructure requirements. This places HANA in a better position to compete with Oracle and IBM.

- "I am very optimistic about SAP results both in the short term and long term. Q4 targets appear on track."
- "We have been to Sapphire and it was excellent this year. Record participation, 11,000 people. The only missing point was a good presentation of key figures by the top three SAP executives. Otherwise, all was good."
- "HANA was the focus, for sure. SAP says HANA will be able to run the whole IT system by the end of 2012. I think it might be in 2014."
- "By 2013, we will see the first ERP/HANA implementations. Right now, ERP does not work on HANA. Out of 650 clients, SAP said 250 are operational. It means that more than 300 are not even installed yet. Of the ones that SAP calls operational, I think about one in 10 is in production, making money."
- "Interest for HANA has really increased compared to three months ago and SAP looks on track with sales and proofs of concept."
- "In six months, we will have more HANA implementations in production and massive adoption."
- "SAP has managed to reduce HANA's price, first by reducing hardware certification, making the box more of a commodity. Then they have reduced the size of customer projects. In fact, you don't need to sell HANA infrastructure as big as the Business Warehouse installation because HANA compression rate is big and you can start smaller. So as previously they were proposing big HANA project(s) and now smaller, price is lower. License price stayed the same, but as you need less infrastructure and less licenses, the price is now competitive. SAP is now in a good shape to win against Oracle and IBM."

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> *SAP Partner, Hardware Manufacturer*

➤ **Vice president, business software publisher, and enterprise software architect**
For business software publishers like this one, the speed and power of HANA enables them to massively augment their product's capabilities. HANA is affecting the business software space in that publishers' already popular software works exponentially better on HANA because of its speed and capacity, which boosts their competitiveness and HANA demand.

- "The potential for complex voice queries of massive amounts of data is limitless with HANA. We work with SAP CRM, but we could build anything on HANA. We could enter the healthcare market and pump HANA full of patient records for busy doctors running around hospitals. There's also huge potential for us in retail where HANA can be loaded with a store's product information and customer purchase history, then any employee with an iPad Mini can access data about your preferences and purchase history when you walk in the store."
- "HANA gives us an edge going forward, and it is also a boost for SAP's CRM, giving it a competitive advantage in the CRM market."
- "We deliver solutions on other systems like Sugar CRM and Salesforce[.com], for example, but our product on SAP HANA can handle six times the number of questions and at 10 times the speed."

> We deliver solutions on other systems like Sugar CRM and Salesforce[.com], for example, but our product on SAP HANA can handle six times the number of questions and at 10 times the speed.
>
> *VP, Business Software Publisher, & Enterprise Software Architect*

Secondary Sources

Four additional sources covering new functionalities within HANA, SAP pushing for HANA's growth in the MENA region, making it easier to develop applications for HANA, and Microsoft's creation of its own in-memory database to combat SAP and Oracle.

➤ Nov. 13 Destination CRM article

SAP's HANA

HANA continues to add functionality, with the announcement of a new CRM solution and the addition of a partner for SAP HANA Cloud. Both further the uses of HANA with greater variety in applications beyond simply increasing speed.

- "SAP today announced the new SAP 360 Customer solution. Powered by the SAP HANA platform, the solution will harness the power of in-memory computing, cloud, enterprise mobility and collaboration to allow organizations to revolutionize the way they engage with customers beyond traditional customer relationship management."
- "Lenovo, the world's second-largest PC vendor, has been an early adopter of the SAP HANA platform to support the fast growth of the organization."
- "Carter Lusher, chief IT analyst at Ovum, believes the SAP CRM powered by HANA announcement is interesting as it bundles together a number of CRM-related products with tight integration with the SAP HANA in-memory data and computing appliance."
- "'This CRM/HANA solution simplifies deploying a full CRM infrastructure from SAP while leveraging the fast not just big data capabilities of HANA. It's an important move for SAP as it illustrates how HANA can be leveraged as the foot-in-the-door product to pull SAP enterprise applications into a non-customer,' he says. 'Another leverage point is the capture of social data into the CRM infrastructure to be analyzed by HANA in a time-sensitive manner.'"

> **"** This [SAP 360 Customer] solution demonstrates that HANA is coming into its own as a product that that can drive SAP revenues beyond making existing customers' applications run faster.
>
> *Destination CRM Article*

- "CRM, Lusher adds, 'is a perfect use case for HANA because CRM requires both big data and fast data functionality. As the volume of data about customers grows dramatically due to social networks and machine-to-machine developments, the ability for marketing, sales and service business units to exploit all that data in a real-time fashion will often require integrated CRM solutions built on high-performance computing. So developing a CRM application package that runs on top of HANA should be very attractive to this target market.
- "'However, just as important for SAP is that this solution demonstrates that HANA is coming into its own as a product that that can drive SAP revenues beyond making existing customers' applications run faster,' he concludes."
- "Also this week, EasyAsk became one of the first partners to sign an agreement with SAP to deliver Quiri for SAP HANA on the SAP HANA Cloud, which leverages Amazon Web Services. EasyAsk Quiri for SAP CRM will allow mobile employees to interact with their CRM data on smartphones and tablets, using a Siri-like interface."
- "'The premise behind Quiri is to significantly increase adoption of CRM by mobile field sales forces that today don't benefit from CRM solutions. Most are cumbersome, at best, in their deployment on a smartphone. Guiding, navigating, and inputting data is frustrating on a 3-inch-by-2-inch screen. Quiri works similar to Siri, but is optimized for your CRM system and far more accurate,' said Craig Bassin, CEO of EasyAsk, in a statement."
- "'Implementing on SAP HAHA dramatically increases the wide array of questions Quiri can answer and the response time, and significantly reduces development time, as well as data storage, administration and maintenance costs by eliminating duplication. Candidly, we were blown away by the benefits we experienced deploying on HANA,' said Bassin."
- "Customers will be able to buy EasyAsk Quiri for SAP HANA as an on-premises solution or in the HANA One cloud."

➢ **Nov. 27 AME Info article**

HANA is generating enthusiasm across the Middle East and North Africa (MENA), including Kuwait, for its ability to improve business processes with significant upgrades in speed all on a single platform.

- "Businesses in Kuwait were today urged to disregard notions of limitation and innovate a bolder, better run future at the first ever SAP Forum in Kuwait City."
- "During his keynote at the high-profile knowledge and networking conference, Sam Alkharrat, Managing Director, SAP MENA, claimed that the business sector in Kuwait is undergoing an encouraging shift towards innovative, value-added business software solutions."
- "Kuwait represents SAP's third-largest market in the Gulf, with IT market intelligence firm IDC noting the country's 2011 IT spend stood at US \$1 billion. The company recently inaugurated a new office in Kuwait City."

- "The Middle East and North Africa region is at the heart of SAP's long-term global growth strategy that includes doubling its addressable market, reaching one billion people and generating global revenue of €20 billion by 2015."
- "SAP aims to achieve these goals through a multi-pronged innovation agenda comprising synchronized investments in five interconnected elements: extending a leadership position in applications, broadening its footprint in analytics, expanding its reach through mobile, becoming a profitable leader in the cloud, and growing the fastest in technology and database."
- "In particular, excitement is building across MENA, including Kuwait, about the potential of HANA, a ground-breaking platform rooted in-memory computing that transforms business by streamlining applications, analytics, planning, predictive analysis and sentiment analysis on a single platform to empower businesses in real-time."
- "Yodobashi, a large Japanese retailer, recently highlighted the technology's transformative potential when it accelerated the calculation of incentives for loyalty customers from three days of data processing, once a month, to two seconds—a performance improvement of over 100,000 times. A further 18 companies have achieved a similar or better performance boost using HANA."
- "SAP is currently in the midst of executing a four-year additional spending plan across MENA. Highlights include recruiting more than 500 additional employees, opening several new offices and expanding the company's partner ecosystem and the SAP University Alliances program. Additionally, significant increases will be made in the availability of comprehensive, innovative and localized service offerings."
- "The plan also includes the region's IT-specific Training and Development Center, which will certify more than 2,000 new consultants within the next four years, triple the company's existing consulting capabilities in the region, as well as accelerate and extend the localization and Arabization of SAP solutions."
- "The first mover initiative is also structured to shape the region's IT future through co-creating and innovating solutions with partners, customers and independent software vendors in fields such as mobility, HANA, cloud, urban management, smart city functionalities and Islamic banking."

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>
> *AME Info Article*

➤ **Nov. 8 Business Insider article**
Microsoft is developing its own in-memory database and expects it to up to 50 times faster without requiring specially-designed servers. Rather it will operate with servers the company already has.

- "There's a technology called in-memory databases that is taking the enterprise by storm. And Microsoft wants in."
- "Today, Redmond promised users of its SQL Server database that it, too, would have an in-memory database to compete with the likes of SAP's HANA and Oracle's Exadata."
- "The new database is code-named 'Hekaton,' and will be available in 'the next major release of SQL Server,' Ted Kummert, vice president of Microsoft's Business Platform Division, told attendees at Microsoft's database conference in Seattle this week."
- "Kummert left out a few details though, like when Microsoft plans to release the next major version of SQL Server. This could be years away. Microsoft just released the last major version, SQL Server 2012, in March. It first began talking about that version in 2010."
- "In-memory databases are one of hottest things to hit the enterprise data center in years. Instead of storing data on a separate storage device attached to the server, they keep it all in the system's memory. This makes them super fast. To make that work, they often run on special expensive servers."
- "Microsoft is promising that when its in-memory database arrives, it will work up 50 times faster and it won't require special servers, working with the ones a company already has."

> Microsoft is promising that when its in-memory database arrives, it will work up 50 times faster and it won't require special servers, working with the ones a company already has.
>
> *Business Insider Article*

- "But Microsoft is getting a very late start to this market."
- "Both Oracle and SAP are selling in-memory databases now and are racking up customers. SAP introduced Hana a little more than a year ago and says it is its fastest-selling product of all time. The company has nabbed nearly 600 customers for Hana so far and it is on track to bring in over $400 million in revenue, Computerworld's Chris Kanaracus reports."
- "Meanwhile, Oracle's CEO Larry Ellison introduced its HANA-killer last month—with his usual dollop of SAP-bashing trash talk. Oracle's Exadata x3 can hold a mind-boggling amount of data in memory, some 26 terabytes. This lets its users 'ask a question and get an answer at the speed of thought,' Ellison said."
- "He claimed Exadata x3 was bigger, faster, better and less expensive than HANA. That boast led one SAP exec to retort that Ellison's statement 'fries my brain.'"
- "While it's too soon to say how well Exadata x3 is selling versus HANA, we know that Oracle is pushing its sales team hard to sell it. One Oracle insider told us that salespeople who don't sell enough of the company's 'Exa' family of products could be facing layoffs."
- "The Exa family are Oracle's products that include closely integrated hardware and software, what the company calls 'engineered systems.' It includes the Exadata in-memory database server, the Exalogic application server and the Exalytics in-memory analytics server."

➤ **Nov. 27 Programmable Web blog**
SAP is pushing to make in-memory computing more accessible through its partnership with Amazon Web Services, while also providing an easier platform for developers to create applications. SAP is moving all of its applications to HANA.
- "There's a major shift under way in terms of how applications are being developed for the enterprise and the cloud. With the rise of more powerful multicore processors and relatively inexpensive flash memory, more application logic is running in memory than ever. In fact, the line between the database and application logic running in memory is starting to blur."
- "To make in-memory computing more accessible to developers SAP has begun wrapping standard interfaces around its High Performance Analytics Appliance (HANA) platform, ranging from RESTful APIs to support for the Open Data Protocol (OData). In addition, SAP has made an instance of HANA available on Amazon Web Services (AWS) for applications that don't exceed 64GB in image size while also tightening the integration between SAP NetWeaver middleware running in the cloud and HANA."
- "According to Ken Tsai, vice president of SAP HANA product marketing, the overarching goal of these efforts is to make it easier for developers to build a new generation of real-time applications using JavaScript or SQL Script development tools. With the rise of in-memory computing, Tsai says not only will the next generation of applications be multiple orders of magnitude faster than applications that depend on disk systems for I/O, applications based on any form of batch processing are rapidly becoming 'endangered species.'"
- "Tsai isn't suggesting that batch processing will disappear entirely, but on further examination SAP is betting that many existing batch applications were written that way because processing them in real time was both too costly and difficult to actually accomplish."
- "To help developers wrap their minds around HANA and in-memory computing, SAP has created the HANA Academy, through which developers can gain access to a free developer edition of HANA. SAP has already recruited 152 startup vendors thus far to develop applications on top of HANA, but Tsai says the goal is to create a massive ecosystem of HANA applications. To that end, Tsai says SAP is not only moving every one of its applications to HANA, it's even encouraging companies that sell applications that compete with SAP applications to move to HANA."
- "Ultimately, Tsai says in-memory computing signals nothing less than the impending collapse of three-tier models for building application as application and database logic converge in memory. That may take some

> To help developers wrap their minds around HANA and in-memory computing, SAP has created the HANA Academy. … SAP has already recruited 152 startup vendors thus far to develop applications on top of HANA, but Tsai says the goal is to create a massive ecosystem of HANA applications. To that end, Tsai says SAP is not only moving every one of its applications to HANA, it's even encouraging companies that sell applications that compete with SAP applications to move to HANA.
>
> *Programmable Web Blog*

getting used to for developers, but rest assured, in the not too distant future somebody is working on an equivalent of your favorite business application that runs completely in memory. What SAP is not so subtly suggesting is that the developer reworking that application should be you."

Additional research by Scott Martin and Carolyn Schwaar