Evaluating S/4HANA: Considerations for SAP Customers
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Executive Summary

SAP launched S/4HANA in February 2015 with much fanfare, so much so that SAP CEO Bill McDermott declared S/4HANA the “biggest launch in 23 years, if not in the entire history of the company.” Surprisingly, SAP revealed few details about what S/4HANA could actually do.

Simply put, the company essentially retooled its ERP Financials application to run on the SAP® HANA database and called it Simple Finance. SAP’s messaging focused on HANA’s processing speed and reduced data footprint — but failed to describe convincing and compelling business benefits for its customers. This left many potential S4/HANA customers and industry analysts scratching their heads over the lack of detail. Later that year, in November 2015, SAP announced its S/4HANA Enterprise Management on-premise version, which is referred to as the SAP S/4HANA 1610 update. Despite minor naming variations, SAP calls S/4HANA its next-generation business suite, and the on-premise Enterprise Management edition replaces the existing SAP Business Suite.

It’s important to know that SAP S/4HANA Enterprise Management is not truly a new product. Rather, it derives from the SAP ERP application often referred to as ECC 6.0, and as such it utilizes modules that date back to SAP’s R/3 client-server suite, which launched in 1992. SAP has partially modified these modules—which it calls refactoring—to utilize the proprietary HANA in-memory database, which in turn is marketed as providing faster query performance and a reduced application data footprint. Faster speeds and smaller data footprints can provide some benefits, mainly technical, but SAP has had a hard time articulating any significant functional user benefits. In effect, by creating S/4HANA, SAP has produced the equivalent of offering its customers a smaller, faster car for commuting to work on streets that all retain the same speed limits as before.

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SAP intends to utilize a new proprietary user experience with S/4HANA, called SAP Fiori. To date, Fiori’s use has been delivered very slowly and limited to some applications that run on S/4HANA. Despite other intentions, the primary UI in S4/HANA remains the legacy SAP GUI.

There are more concerns. SAP is not refactoring all ECC 6.0 modules to run on the HANA database. Instead, its strategy is to replace some built-in SAP ERP components with new cloud-based applications. For example, SAP replaced the Human Resources module — a key functional component of the complete SAP ERP product — with a software-as-a-service (SaaS)-based HR application from SuccessFactors (acquired in 2012) called Employee Central. Yet, SAP describes Enterprise Management as an on-premise product. In reality, it is a hybrid suite that combines both on-premise and multi-tenant cloud (SaaS) applications.

Some of these SaaS products, such as Ariba, Concur and Hybris were acquired by, not written by, SAP. They are used to extend some of S/4HANA’s functional domains. However, these SaaS products are not included in the S/4HANA base license and must be purchased separately through subscription licensing. In addition to the on-premise version, there are three S/4HANA cloud editions, each of which are made up of disparately acquired SaaS applications.

So far, SAP’s S/4HANA has been slow to catch on with existing customers. Several studies published by regional SAP user groups cite the lack of a compelling business case, as well as raise concerns about the disruption and risk involved in a costly migration. The German DSAG user group reports that 86 percent of its users say they are making little or no investment in S/4HANA. A report by Nucleus Research shows a similar lack of interest: 9 out of 10 SAP customers indicated they would not consider future investments in S/4HANA.

Overall, concerns about risk, cost and disruption are difficult to quantify, primarily because there have been so few migrations to help pave and illuminate possible paths and outcomes. With no customers to discuss their upgrade and migration experiences, it means the costs and benefits remain unclear, if not altogether elusive.

SAP documentation provides little insight on cost, but SAP does list requirements for migrating to S/4HANA that detail the hardware and software customers need for the complex data and functionality migrations, as well as the specialized expertise they will need to install, migrate data and configure their systems. The migration requirements also raise concerns about existing user customizations, add-ons and integrations that are not supported by S/4HANA, meaning that enterprises may have to write off important customizations they have already made in their SAP environments.

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All-in-all, the S/4HANA 1610 update is an incomplete product with unclear business value. The SAP roadmap for existing customers and functional parity with SAP ERP 6.0 is vague. The various new — and often separately licensed — components have varied costs and also lack clarity for existing customers trying to understand the ramifications of S/4HANA. The S/4HANA Enterprise Management suite may, over the next decade, eventually become a robust ERP solution and a viable upgrade option for existing SAP ERP and Business Suite customers. However, at its current stage of development, the downside risks in terms of missing functionality and the costs and risks of re-implementation appear too high. This is particularly true in light of SAP’s mixed track record of developing new products and making them commercially viable.

Despite SAP marketing efforts, most existing SAP customers are taking a wait-and-see approach that lets them leverage their current SAP implementations until the S/4HANA product matures. More importantly, this wait-and-see approach does not mean that customers are standing still.

Some enterprises are reducing their upgrade risk by cutting their support and maintenance costs in half for their existing and stable ERP implementations. This tactic frees up funds that are better spent on focused line-of-business apps or targeted cloud-based solutions. In effect, this gives SAP time to stabilize S/4HANA while letting customers move forward without risk. Overall, this type of innovate-around-the-edges strategy has been gaining momentum across all ERP implementations.

What Is S/4HANA?

SAP based the development of S/4HANA Enterprise Management on the ERP 6.0 application. ERP 6.0 was derived from its predecessor, SAP’s client-server suite R/3, which launched in 1992. In 2004, R/3 was re-architected and launched as mySAP ERP. SAP then changed the name to ERP 5.0 and upgraded it to ERP 6.0, which is currently the latest release. A key advantage of both R/3 and its successor SAP ERP is the fact that they are database-agnostic and fully support third-party databases, namely the Oracle database, IBM DB2 and Microsoft SQL Server.

In 2014, SAP announced it had refactored portions of the ERP Financials modules (referred to as FI-CO) to run on the company’s proprietary SAP in-memory HANA database. SAP initially called the product Simple Finance and launched this configuration as the S/4HANA product in early 2015. In November of that year, the S/4HANA 1610 update introduced incremental changes to a broader set of partially refactored ERP modules to provide basic logistics capabilities.

Unfortunately for existing SAP ERP customers, SAP is not planning to include all of the ECC 6.0 modules in S/4HANA. For example, SAP announced that the ERP-HR module, which comprises a key functional area in ERP, will not be modified to run on the HANA database. Rather, S/4HANA replaces it with SuccessFactor’s Employee Central, which is a multitenant, SaaS-based core HR product originally released in late 2013. S/4HANA 1610 introduced additional SaaS applications to extend its incomplete functional
domains. These extensions include Ariba for indirect procurement; Fieldglass for contingent labor management; Concur for travel and expense; and Hybris for omnichannel e-commerce. It is important to note that these products are separately licensed and not included in the S/4HANA foundation license.

S/4HANA introduces yet another major hurdle for existing customers: By refactoring the application code to run on the proprietary SAP HANA database, SAP instantly ended the database agnosticism enjoyed by SAP ERP customers. S/4HANA no longer supports third-party databases from Oracle, IBM or Microsoft. Requiring customers to move to proprietary technology runs counter to technology industry trends of moving toward interoperability and open source alternatives.

SAP claims HANA’s capabilities allow it to simplify the application functionality by using the HANA database’s computational speed to eliminate certain aggregate and derived data tables in the application data model. This is like simplifying and removing part of a car’s engine to give it better performance. This is great, but it presents new side effects like reducing the availability of tires, repair parts and aftermarket enhancements. For brand-new customers, this isn’t such a problem, but for existing customers, it also requires new specialized service technicians from a partner ecosystem that doesn’t fully exist.

S/4HANA is available in both on-premise and cloud editions. In addition to the on-premise S/4HANA Enterprise Management version, S/4HANA also includes three cloud editions: Enterprise Management Cloud, Professional Services Cloud and Marketing Cloud. All the cloud editions are comprised of the previously described SaaS products that SAP acquired. The Marketing Cloud uses the SAP-developed Cloud for Customer sales and service application.

For clarity, it is important to note that SAP uses the term “cloud” very loosely, and it requires careful attention to make distinctions between the different deployment modes for S/4HANA. The on-premise Enterprise Management version (itself a hybrid application) can be hosted in a managed cloud by a variety of providers including SAP, Amazon Web Services and more recently, Microsoft on its Azure platform. The Marketing, Professional Services and Enterprise Management Clouds are all completely different applications and are deployed in a public cloud as SaaS applications.

Product Maturity

S/4HANA Enterprise Management 1610 is an early-stage product that will require years of SAP development effort to fully refactor to deliver the functional scope of existing SAP ERP and other Business Suite applications. To accomplish this, SAP would need to potentially rewrite more than 400 million lines of code. The 1610 update’s functional scope, including some financial and logistics capabilities, is small in proportion to the ERP application from which it derives.

SAP has not yet developed other key functional domains (including ERP modules as well as Business Suite applications such as Supply Chain, Sales and Service). Considering that the on-premise edition is on a yearly release cycle, it may take SAP well over a decade to deliver functional parity with ECC 6.0 and the Business Suite — if SAP even stays the course to deliver functional parity at all. The multiple industry solutions for which SAP ERP is well known may be even further off on the S/4HANA roadmap.

The entirely new architecture and database means customers migrating to S/4HANA will be early adopters and face the inherent risks involved in an immature application and the technology required to run it. In one report, the German-speaking SAP User Group (DSAG) notes, “The product is still very new. The percentage of companies who have made it a main investment is in the single figures. We’re again seeing some of our members taking on the role of pioneers when it comes to deploying new products. However the HANA cloud platform [sic] doesn’t seem to be fully established on the market, with just one percent of survey respondents planning to make it their main investment.”

Another challenge is the user interface. Today, S/4HANA uses the SAP GUI, which is a legacy UI used on SAP ERP and other Business Suite products that SAP first developed in 1992. SAP intends to replace the SAP GUI with Fiori as a “reimagined” user experience, natively incorporated in S/4HANA. And yet, SAP is far from clear as to how or when Fiori will fully replace the SAP GUI. Release 1610 documents describe some user-based Fiori applications built for the Financials domain; however, the documentation provides scant information on the extent to which Fiori will be used in S/4HANA and how long it will take to rewrite SAP ERP’s transactional screens. It has been reported that for SAP to completely replace the legacy SAP GUI in S/4HANA, the company would have to rewrite hundreds of thousands of transactional screens.

In one illuminating article on the matter of Fiori, SCM Focus pulls no punches, noting, “The most important thing to know about Fiori is that Fiori will not be a replacement for the SAP GUI, and Fiori only has a very small amount of coverage over the collection of screens that make up the SAP GUI. Therefore, any S/4HANA implementation will not be assisted here and there by SAP GUI, it will be the primary interface of S/4. The customer may develop more apps using Fiori but that is the extent of Fiori.”

What this really means is that the decades-old and much-maligned SAP GUI is the default interface for S/4HANA — and will be for quite some time. While many enterprise applications are adopting more intuitive web-based UIs, SAP is asking its customers to adopt a new product that still somehow sports a decades-old UI, the same UI that has garnered customer criticism for years. Chairman and cofounder Hasso Plattner said it best, admitting in an interview: “Users told us, ‘Your UI sucks.’”

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Where Is the Business Case for Migration?

Early on, SAP described S/4HANA as a monumental event for the company, but SAP has continued to struggle with articulating a compelling functional business case for S/4HANA that resonates with its SAP ERP customer base. According to a recent survey by the Americas SAP User Group (ASUG), “First and foremost, nearly 60 percent said they’re still not seeing a compelling business case to justify the investment. That’s down from 75 percent in the 2014 survey but it remains the top sticking point.”

Much of SAP’s messaging has focused on technical features such as faster query times and a reduced data footprint, which begs the question: Are faster speeds in ERP systems truly important?

It depends. The main benefit of S/4HANA’s processing speed is in what Gartner refers to as time-bound processes. SAP cites examples of business processes, such as materials requirements planning for manufacturers, where multiple inputs require faster processing speeds — particularly as organizations run scenario planning with variables such as order volumes, material price variations, inventory levels and their effects on projected profitability. Improvements for critical time-bound processes may justify S/4HANA for some enterprises, but SAP hasn’t provided any benchmarking information on quantifiable performance advantages over what SAP ERP users are able to accomplish today. For existing SAP ERP customers, the lack of live referenceable customers makes this business case a guessing game.

In addition to materials requirements planning, SAP has also claimed that HANA’s processing speed will enable the finance function to conduct its periodic closing of the books faster than before. While faster systems are usually appreciated, most financial professionals agree that closing the books is mostly a function of communication with close coordination across multiple people involved in the process. For these companies, increased processing speeds may not result in demonstrable business value.

Diginomica co-founder Dennis Howlett sums up the business case issues: “We consistently hear that customers take one look at HANA and balk at its cost, largely because the business case is perceptually difficult to make. It’s not just the license but the hardware specifications that hobble making standing up [sic] a HANA case.”

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S/4HANA Migration: Risky, Complicated and Expensive

Nucleus Research reports that one of the greatest customer concerns about migrating to S/4HANA is the potential disruption and risk posed by moving from their existing SAP ERP and other Business Suite applications. Overall, a good many SAP customers remember the initial pain they had to endure to finally achieve their stable ERP installations—and they are not interested in revisiting similar challenges. Possible business disruptions need to be evaluated against ROI calculations, of course, but S/4HANA migrations are even more complicated because moving to S/4HANA means abandoning third-party databases for a completely new proprietary database.

According to Gartner analyst Roxane Edjlali, “The reason the business case for SAP HANA is such a major challenge is because many organizations have large investments in their ERP implementation. They have purchased licenses for their existing DBMS—Oracle, IBM and SQL Server—so they need a good business case for switching their underlying DBMS for HANA.”

Companies have to manage their third-party database licenses very carefully as they plan a move to S/4HANA so they don’t end up paying a high price for something they don’t need, which also quickly erodes the business case for S/4HANA. In addition, organizations risk losing customizations and add-ons that won’t work with S/4HANA, and even if they choose to rewrite or rebuild their customizations with S/4HANA, they will still need to find or retrain specialized technical staff to attempt it.

It doesn’t end there. A migration to S/4HANA requires additional technology expenditures—both hardware and software—and almost always requires specialized consulting resources, too. Since few existing customers have migrated their ERP instances to S/4HANA, there are no clear estimates on the costs, risks and level of effort involved in migrating.

While SAP is not transparent about the costs, risks and level of effort, its documentation is clear about what’s required to migrate ERP to S/4HANA. The initial step is replacing the customer’s third-party database with the SAP HANA database. HANA licensing characteristically lacks transparency but multiple sources indicate it is based on the value of the existing application it will be supporting, plus the number of named users. HANA licenses are reportedly expensive when compared to conventional relational database management systems (RDBMs) from Oracle, IBM or Microsoft. Lastly, the HANA database requires costly SAP-certified hardware for optimum performance with explicit specifications for memory, the number of processors and processor speeds. The Fiori UI also requires a dedicated server.

The data migration process from legacy implementations requires considerable effort and specialized resources to load and configure HANA. According to the SAP HANA platform technical overview, in SAP’s own words, HANA requires “individual work and cooperation on a highly technical level. Superior project preparation and good coordination, detailed planning with project management resources and quality training for technical resources are essential prerequisites for a smooth deployment.”

Migrating ECC 6.0 users to S/4HANA requires implementing Enhancement Pack 7 and upgrading to the latest version of the NetWeaver ABAP Application Server 7.5, which supports S/4HANA business processes and corresponding user interface configurations. All S/4HANA releases, including the 1610 update, have SaaS-based components that require cloud-to-on-premise or cloud-to-cloud integration. SAP’s documentation advises customers to license the SAP HANA Cloud Platform (a platform-as-a-service solution) to build integrations between the on-premise functional domains and the cloud extensions. SAP HANA Cloud Platform requires a separate subscription license, which is another additional cost.

Finally, most existing SAP ERP implementations have been heavily customized for specific user requirements. User modifications also include add-on applications and integrations, which lead to unanswered questions about how S/4HANA will accommodate them. Every user customization will have to be analyzed for compatibility with S/4HANA. Non-supported customizations will either have to be discarded or rewritten at a high cost with risk and resource commitments. SAP has made an effort to allay user concerns about the costs and risks of migrating user customizations. The company recently demonstrated tools that analyze custom code and help identify required code changes prior to migrating; however, the tools only provide a rough idea of the scope of your custom code — they don’t tell customers how easily their customizations can be supported in S/4HANA, if at all. SAP documentation states that S/4HANA cannot accommodate all user customizations, but doesn’t define what they are. Depending on the amount of custom code that will have to be rewritten, migration costs could rise considerably (especially when organizations consider the frequency with which similar projects within their own organizations blow past deadlines and exceed budgets). Unfortunately, the practice of simply retraining users to work around lost functionality in a new system often results in business process mistakes, reduces productivity, creates employee dissent and leads to missed sales or deliveries.

In a testament to the potential risks of migrating, Gartner recommends certain risk mitigation strategies including engaging SAP’s MaxAttention Premium Support Services during migration, which is yet another cost factor that must be considered. Forrester Research also gives a nod to the high cost of an S/4HANA migration. Considering the time, effort and investment organizations expended on ECC 6, many will be hard-pressed to move to a brand-new platform anytime soon.

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SAP Customer Options

For existing SAP ERP and Business Suite customers, the prospect of migrating to S/4HANA naturally leads to questions about the business case and costs and risks, which lead to the key question: What are the best strategic options for moving forward?

One option is to move forward with S/4HANA. Companies who fit an early adopter profile — whose risk tolerance, commitment to SAP, budget and internal technical resources give them the ability to adopt leading-edge technology and work through the inevitable growing pains without regard to cost or SAP's mixed track record of R&D success — may find the potential benefits of SAP's long-term vision worth the risk of investing early in the development of the product. Potential performance improvements, real-time analytics and the perceived eventual utility of Fiori applications may be compelling enough to commit to a long-term development project or a proof of concept. Customers whom SAP considers strategic to the company will have the negotiating leverage with SAP to warrant executive sponsorship and the assignment of significant resources to their project to ensure success. SAP of course has a vested interest in their success as well because it needs successful references to accelerate S/4HANA adoption.

Other companies may see the potential benefits of S/4HANA but the product's immaturity, incomplete roadmap, missing ROI, unproven database and lack of referenceable customers will give them pause and they will follow a second option — wait and see. For these customers, time is on their side. SAP will continue to support their Business Suite applications running third-party databases until 2025, so there's no imperative to upgrade. If S/4HANA reaches functional maturity, a compelling business case can be determined; and the risks have been sufficiently mitigated, customers can still, likely more smoothly and easily than before, make the move to S/4HANA.

However, companies that elect to stay with their ERP and Business Suite implementations should also consider the rationale of paying high SAP maintenance fees to support their stable applications. Support fees should provide commensurate returns in functional enhancements, yet SAP is minimizing its investments in the Business Suite. A recent survey of 233 SAP Business Suite licensees conducted by Rimini Street showed that 72 percent of respondents are running ECC 6.0 (some are on older versions) and 75 percent of them are not on the most current Enhancement Pack release. All respondents indicated that their current system meets their business needs, and the majority also said they cannot justify the high cost of SAP support fees because they provide little or no value.

Annual maintenance fees and related support costs are usually large line items in an IT budget, but they mask another under-scrutinized cost: forced upgrades. Many software vendors keep companies in the upgrade cycle by cutting off support for so-called legacy releases approximately every few years. Consequently, many customers upgrade to new releases just for the sake of staying supported by their ERP provider. Enhancement pack upgrades are disruptive to the business and take a toll on productivity, resources and budgets.

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Finally, consider that SAP does not support issues related to custom code. Even if you stay on current releases, SAP support may not help you address the bulk of your software issues. This is a big problem, because over 90 percent of SAP ERP instances are customized. Our research indicates that more than 65 percent of support calls are related to customizations for which SAP does not provide a solution as part of its standard support program. Considering the large percentage of support calls resulting from customization issues, does it make sense to pay the high cost of SAP support, especially when the future is so uncertain?

In addition to these significant cost and support downsides, this wait-and-see option has another major downside — failing to deliver on the innovation initiatives needed by business units to stay ahead of the competition and generate more revenue. Combined, these downsides expose the need for a third option, one that not only addresses the cost and support challenges of waiting for S/4HANA to mature over the next decade, but also enables you to deliver timely innovations that support current critical business initiatives long before the promise of S/4HANA is developed.

**Digital Transformation**

Many businesses have unfulfilled needs for technologies that help transform the business. They see their competitors deploying cloud solutions and mobile applications that help them serve their customers better or reduce downtimes on critical projects, but they lack the budget to make these investments. According to Gartner, 89 percent of the average IT budget goes to ongoing operations and enhancements. That also means only 11 percent of the budget is dedicated to initiatives that help enhance revenue, improve the customer experience or drive efficiency.

This is where third-party support can help drastically reduce their operations and enhancement expenditures, free up funds and enable them to redeploy the savings into new innovative business initiatives. Many clients are using independent support to maintain their core SAP ERP systems while innovating around the edges with new applications and line-of-business solutions. Many of these include cloud-based and mobile solutions such as travel and expense and revenue management that integrate into their ERP system and extend its capabilities. Other organizations are using their maintenance cost savings to transform their business models with digital technologies such as cloud, social, mobile and big data.

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17 “Gartner IT Key Metrics Data, 2014 IT Enterprise Summary Report,” Gartner
Conclusion

Time will tell whether S/4HANA lives up to its promise, and potential customers should approach S/4HANA with caution. SAP has had notable failures, for example its Business ByDesign product. Initially launched in 2007, only to be pulled back and relaunched in 2010, Business ByDesign never lived up to SAP’s goals of 10,000 customers and $1 billion in revenue. S/4HANA is still too new and its success is far from assured. The product’s roadmap is still unclear on what enhancements will be delivered when and if they will deliver business benefits of enough value for users to justify the cost and effort involved in migrating. It may take a decade to reach functional parity with ECC and the other Business Suite products.

Until there are enough live and referenceable S/4HANA customers, it will be difficult for existing SAP users to evaluate their options and formulate their plans. In the meantime, the SAP applications that so many companies depend on will continue to effectively run critical business processes for years to come. While customers are evaluating their options, they should consider whether the cost of SAP maintenance is providing an adequate return on their investment. They should also consider how they’re going to fund strategic IT investments that help drive revenue, enhance customer loyalty and reduce costs.

Rimini Street is the leading independent provider of enterprise software support services for SAP, SAP HANA Database and BusinessObjects licensees. More than 200 SAP clients have selected us to drive cost savings that allow them to innovate, empower their business units and modernize the systems they use to enhance revenue opportunities and increase efficiencies. We offer a higher level of service, no required upgrades and annual support savings of over 50 percent. Third-party maintenance from Rimini Street provides an attractive alternative to SAP support by reducing the cost of support and allowing companies to redirect funds previously dedicated to SAP maintenance into IT initiatives that promise higher returns and increased competitiveness. It also allows clients to take their time and make a more careful evaluation. If S/4HANA delivers on its promise as a “next generation business suite,” then clients have the option to upgrade in their own timeframe and can return to SAP support. It’s the best of both worlds.

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