

The Mighty Struggle to Migrate SAP to the Cloud May Be Over

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IDC OPINION

SAP workloads are business critical for many organizations around the world. As a result, any technology or deployment direction that SAP takes has tremendous impact on its customers. The mandate to migrate to SAP HANA and then SAP S/4HANA is one such direction. The urging to move to the cloud is another one. Together, these strategic directives from SAP have caused the equivalent of earthquakes in many datacenters.

Businesses want to take advantage of the innovative capabilities that, for example, SAP S/4HANA offers, but they can't always keep up with SAP. Cloud migration is, of course, a universally prevalent datacenter strategy, but cloud migration of SAP workloads is a different story than for general-purpose workloads. IDC has registered a multitude of challenges that customers face with migrating SAP workloads to the cloud, including the duration, the costs, the availability of tools, the integration of the SAP landscape, and the complexities of creating a hybrid cloud platform.

SAP realized that its customers need help with these hurdles and launched *RISE with SAP* in early 2021 – a year later, SAP reported fairly good adoption of the offering. *RISE with SAP* is designed to help SAP customers move to SAP S/4HANA in the cloud without them having to manage the infrastructure. The offering includes SAP S/4HANA Cloud (which is the hosted version of SAP S/4HANA), technical managed services, tools, business process intelligence, SAP Business Technology Platform (SAP BTP), and SAP Business Network. Businesses can choose to implement *RISE with SAP* on any participating cloud service provider.

One such provider is IBM, which has taken an extra step to complement *RISE with SAP* with several critical additional portfolio services, offering its customers a simplified and unified approach to delivering Enterprise Transformation in the cloud. This white paper discusses the challenges that businesses face, the *RISE with SAP* offering, and then IBM's offering that expands *RISE with SAP*.

SITUATION OVERVIEW

Cloud First for SAP Workloads Is Gaining Momentum

The SAP HANA Mandate

SAP, a global provider of business software that is critical for the operations of tens of thousands of organizations worldwide, has proven to be a persistent innovator across a multitude of software categories. The company markets enterprise resource management (ERM) applications, data

management software, customer relationship management (CRM) applications, analytics and artificial intelligence (AI) applications, production applications, and supply chain management (SCM) applications. Essentially, SAP provides increasingly integrated software solutions for nearly every imaginable business process, and new products are continuously being added.

It is not an overstatement to label SAP as a force to be reckoned with in today's businesses, one that can influence a client's IT operations in one direction or another based on its technology strategies. Historically, this has borne out with the launch in 2011 of SAP HANA, SAP's columnar, in-memory relational database management system (RDBMS) for SAP workloads, which required businesses to migrate off their non-SAP databases. In 2015, SAP also introduced SAP S/4HANA, its next-generation ERP solution fully integrated with the SAP HANA database. And, in 2017, SAP stated it would end support for non-SAP databases that run SAP applications by 2019. By then, many businesses understood the potential of SAP HANA, but they were unable to migrate as fast as SAP would have liked. Hence, SAP moved the deadline to 2025, and then even further out, to 2027.

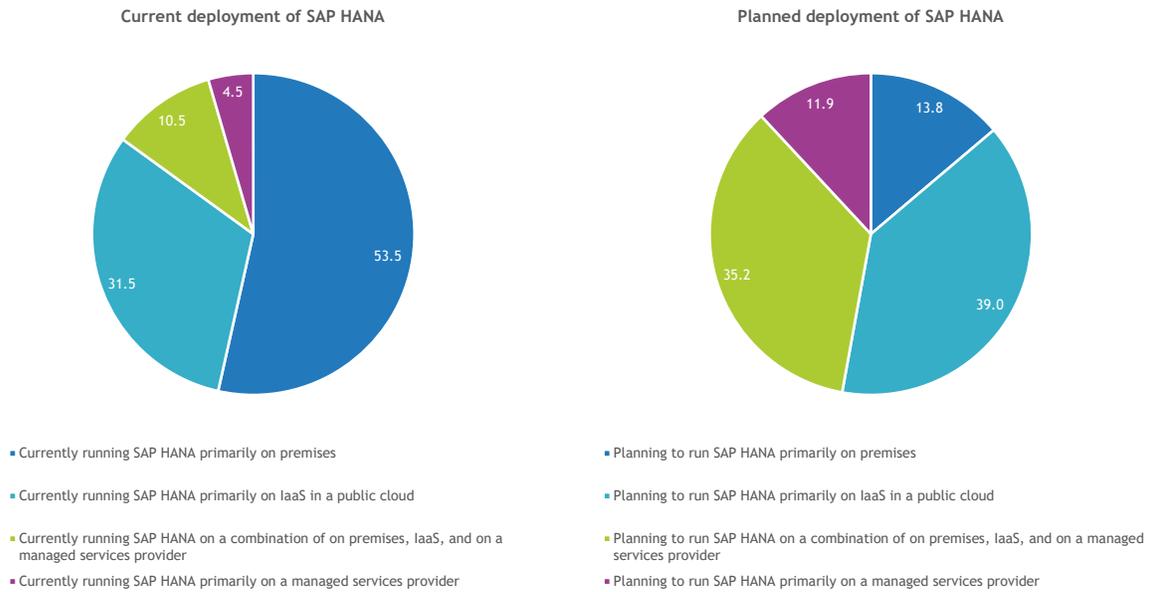
The SAP Cloud Strategy

In parallel with the SAP HANA mandate, the software company has been executing a long-term strategy to move its customers to the cloud. The SAP software portfolio has shifted from being primarily deployable on premises (many years ago) to becoming available for both cloud and on-premises deployments to, increasingly, being cloud only. Today, there are many ways to consume SAP in the cloud: on infrastructure as a service (IaaS) at one of the SAP HANA-certified public cloud service providers (SPs), on hosted infrastructure from managed SPs, and in the form of software-as-a-service (SaaS) platforms, including SAP's own cloud offerings.

IDC data (all data in this white paper is from IDC's special study *Infrastructure Adoption Trends for SAP HANA and S/4HANA 2021*) shows that the move to cloud for SAP workloads is gaining momentum. Figure 1 shows, on the left-hand side, the current deployment of SAP HANA in the United States, with 53.5% of organizations running SAP HANA primarily on premises. The pie chart on the right-hand side depicts the *planned* deployment of SAP HANA for organizations (also in the United States) that will migrate their current non-SAP database to SAP HANA in the next 12 months, showing that only 13.8% of organizations plan to deploy SAP HANA primarily on premises.

FIGURE 1

U.S. Current Deployment of SAP HANA Versus Planned Deployment in 12 Months



n = 200 for current deployment of SAP HANA, n = 210 for planned deployment of SAP HANA
 Base = respondents that indicated their organizations are currently running SAP landscape on the SAP HANA database (for current deployment of SAP HANA) and respondents that indicated their organizations are currently not running SAP landscape on the SAP HANA database (for planned deployment of SAP HANA)

Source: IDC's *SAP Data Analytics Infrastructure Survey*, October 2021

Even if they run the SAP HANA database primarily in one deployment or another, 83.9% of businesses still say that they run their *entire* SAP landscape in multiple deployments (e.g., both on premises and on IaaS). Across all the businesses that participated in this research, the SAP HANA software licensing cost was nearly equally distributed between on premises (27%), IaaS (24.6%), managed SPs (23%), and SaaS (25.5%). The same is true for SAP S/4HANA.

The Benefits of IaaS for SAP HANA or SAP S/4HANA

IDC expects that over the long term, many businesses will fully migrate to an IaaS deployment for SAP HANA or S/4HANA and gradually retire their on-premises solutions or at least significantly reduce their on-premises footprint.

IDC research has found that:

- The top 3 reasons for moving all SAP workloads to IaaS are high performance, data protection, and efficient backup and restore.
- The top 3 reasons for specifically moving SAP HANA to IaaS are better scalability, easier data management, and lower cost.
- The top 3 reasons for choosing a specific IaaS provider are better security, better migration expertise, and availability of SAP SaaS offerings to integrate with.

It is therefore fair to say that SAP is succeeding in convincing a growing segment of its customers to start the journey to the cloud for SAP HANA and SAP S/4HANA. But not all of them.

Reasons for Remaining On Premises with SAP HANA or SAP S/4HANA

For some businesses, there continue to be compelling reasons to remain on premises with SAP HANA and/or SAP S/4HANA. And for many others, on premises may not be their long-term goal, but they consider a cloud migration of their SAP workloads as a daunting prospect that they are not ready to initiate yet.

Businesses that want to remain on premises do so for the following reasons:

- They may still be on legacy ECC on premises and want to run out the clock (meaning, the 2027 deadline to move to SAP HANA) before moving to SAP S/4HANA in the cloud.
- Some of them feel that they have more control to optimize the environment for performance on premises.
- For some organizations, the integrations between SAP and other systems are too deep and entangled – they feel this doesn't translate well to cloud.
- Compliance remains an issue, with some companies not fully trusting the compliance stance of IaaS providers.

Despite these perceived advantages of running SAP HANA or SAP S/4HANA on premises, the overall sentiment among these organizations is still "to get out of the datacenter" as much as possible. IDC is seeing cloud-first strategies being widely applied to SAP.

The Struggle of Moving to SAP HANA or SAP S/4HANA in the Cloud

However, and this gets to the second point, a cloud migration for SAP HANA or SAP S/4HANA is not a trivial exercise. As mentioned previously, migration expertise is the second most important IaaS provider capability that businesses are looking for – and for good reason. IDC has found that there is a long list of challenges businesses have to deal with when migrating SAP workloads to IaaS:

- **Timing.** Planning for migrating to IaaS takes 8.8 months, on average, and executing the migration takes 17.4 months.
- **Tools.** There is a myriad of migration tools and services available, but only about half of businesses find the available IaaS migration tools effective; in other words, they need much more and much better help.
- **Cost.** The average cost of the migration to SAP HANA and/or SAP S/4HANA on IaaS in terms of third-party consulting is \$1.5 million; the cost of disruption to the business is also around \$1.5 million. If businesses also need to move from a non-SAP database to SAP HANA, the cost of that migration is, on average, \$4.9 million, and the cost of moving from ECC to SAP S/4HANA is roughly the same.

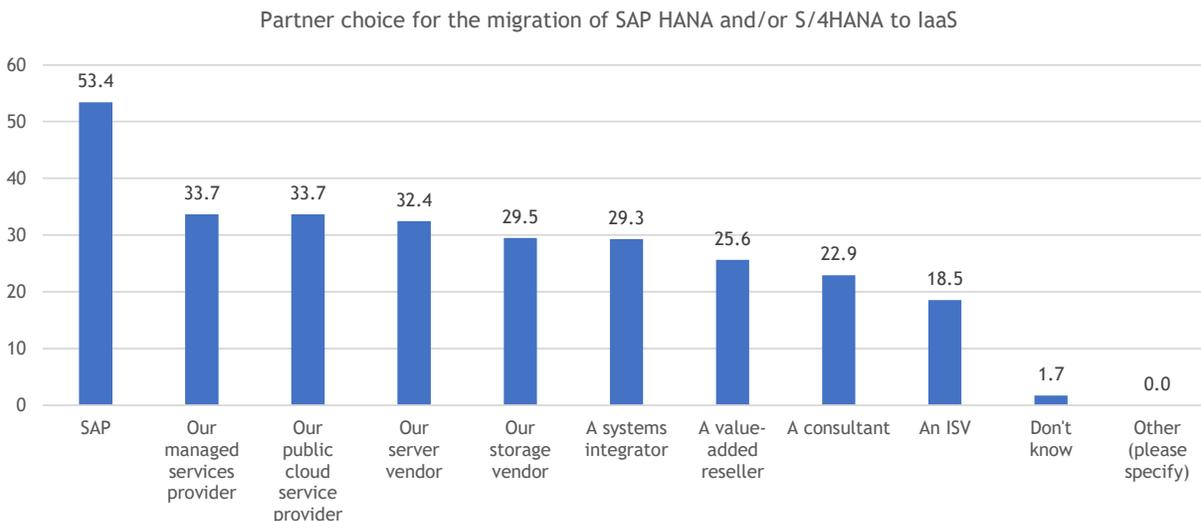
- **SAP S/4HANA in production.** Even if a POC for SAP S/4HANA is in place, moving to production with SAP S/4HANA can be a big, complicated step – as a result, only 15.6% of businesses are currently in production on SAP S/4HANA.
- **Hybrid cloud.** Many businesses want to leverage advanced open source solutions for hybrid cloud, high availability (HA), and disaster recovery (DR), as well as software-defined storage support; but making the move to cloud is an integral part of a hybrid cloud strategy and adds further complexity.
- **Integration.** 61.6% of businesses say that their multi-deployment SAP landscapes are largely or fully integrated, but only 37.8% of businesses say that integrating a multi-deployment SAP landscape is straightforward and easy – businesses need more support with integrating their landscapes.
- **Native cloud.** Once on IaaS, 78.8% of businesses want to innovate with the IaaS provider's native cloud capabilities by building new functionality around their core SAP ERP, but they say that they don't find this straightforward either.

Too Many Partners

Because of these challenges with migrating SAP workloads to the cloud, most businesses end up working with multiple consulting partners and/or systems integrators that have varying levels – and rarely seamlessly complementary areas – of expertise, leading to inefficiencies, higher cost, and, ultimately, multiple "throats to choke" for the business. Figure 2 shows the partners (in ranking of preference) that businesses work with for their SAP to IaaS migration. The research also shows that on average businesses work with three different partners for this purpose.

FIGURE 2

Partner Choice for the Migration of SAP HANA and/or S/4HANA to IaaS



n = 410
Base = all respondents

Source: IDC's *SAP Data Analytics Infrastructure Survey*, October 2021

Evidently, a majority of businesses (53.4%) work, or want to work, with SAP to implement their migration to IaaS, including by leveraging SAP's latest offering RISE with SAP, while 33.7% also work with their cloud SP.

RISE with SAP

RISE with SAP, which was launched in early 2021, is SAP's response to the hurdles that SAP customers were facing with their migrations to SAP S/4HANA and their move to the cloud. The program is a commercially bundled, single-subscription contract that provides SAP customers access to a collection of tools, services, and software to help them with their business transformation. It has been designed to simplify the move to SAP S/4HANA – especially for smaller companies that run SAP ERP software – and allows businesses to step back from managing complex IT infrastructures for SAP S/4HANA.

RISE with SAP includes SAP S/4HANA Cloud (which is a SaaS version of SAP S/4HANA), technical managed services, business process intelligence, SAP Business Technology Platform, and SAP Business Network. Although RISE with SAP covers all lines of businesses and industry solutions, it also provides services for five specific industries – automotive, consumer products, industrial machinery and components, retail, and utilities – as well as human resources (HR) and procurement functionality.

IDC believes that *RISE with SAP* does address some of the challenges that businesses have been facing with their efforts to adopt SAP S/4HANA and move to the cloud. Small and midsize companies can especially benefit from the offering, but large companies with relatively uncomplicated landscapes may as well. Businesses have the freedom to deploy *RISE with SAP* on an IaaS provider of their choice, and most large cloud SPs offer the solution, including IBM Cloud, which this white paper discusses in the section that follows.

RISE WITH SAP PREMIUM SUPPLIER on IBM CLOUD

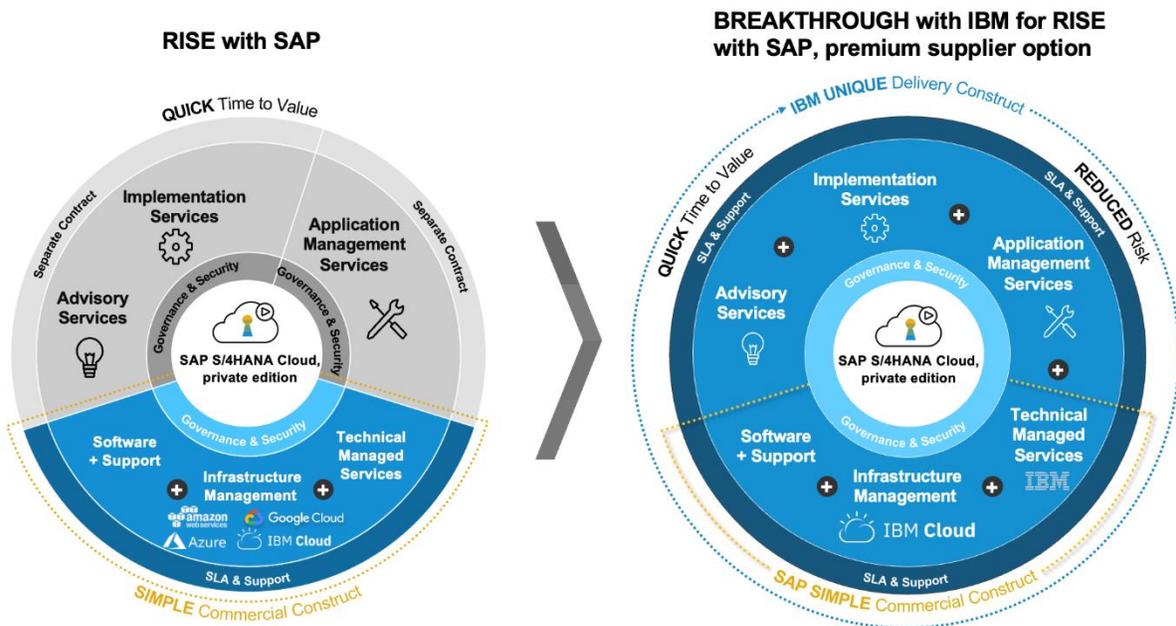
Businesses that choose IBM Cloud as the IaaS provider for *RISE with SAP* have the advantage of engaging with a single partner for the entire journey, combining the business innovation offering that is *RISE with SAP* with IBM's offering *BREAKTHROUGH with IBM*. IBM calls the combined service "BREAKTHROUGH with IBM for RISE with SAP, premium supplier option" and is the first cloud service provider designated as a premium supplier by SAP.

This IBM offering is designed to provide various additional capabilities that help accelerate and enhance the benefits of *RISE with SAP*. The offering leverages IBM's expertise with cloud migration and deployment strategies, architecture optimization, and industry-specific solutions. Specifically, *BREAKTHROUGH with IBM for RISE with SAP, premium supplier option* integrates several portfolio services with *RISE with SAP*, such as advisory services, implementation services, application management services, infrastructure as a service, and IBM Technical Managed Services.

Figure 3 illustrates how *BREAKTHROUGH with IBM for RISE with SAP, premium supplier option* offers a simplified journey to S/4HANA with a unified accountability entirely executed by IBM (the circle on the right-hand side), rather than a scenario in which organizations need to contract with SAP for *RISE with SAP* and with various additional partners for the cloud infrastructure in addition to the advisory, implementation, and application management services (the circle on the left-hand side).

FIGURE 3

BREAKTHROUGH with IBM for RISE with SAP



Source: SAP, 2022

Some of the benefits of *BREAKTHROUGH with IBM for RISE with SAP* are:

- Businesses engage with a single point of accountability, which simplifies the engagement from a contractual and execution perspective; pricing has also been standardized across all regions.
- The offering includes IBM capability to design *intelligent workflows*, which aim to break an organization's business processes out of their traditional silos and create more integrated, transparent, and agile end-to-end workflows with the intent to cut costs, increase speed, and improve the end-user experience.
- SAP Business Technology Platform is part of the offering. SAP BTP combines enterprise applications with database, data management, and analytics in a single platform for cloud and hybrid cloud; SAP BTP includes hundreds of prebuilt integrations for SAP and third-party applications.
- IBM Cloud features a broad portfolio of SAP-certified compute instances (IDC counted 107 different SAP-certified instance types on IBM Cloud) as well as FIPS 140-2 Level 4 data encryption and a range of additional security features that, IBM claims, make it impossible for IBM to see or use a customer's data.
- IBM Cloud also offers hundreds of cloud services that complement *RISE with SAP*, including IaaS hosting; features to experience demos or build POC systems; the availability of tooling to enable DevOps and SecOps; the means to build data lakes for analytics, IoT, and edge extensions; microservices and APIs for application integration; and artificial intelligence (AI)-infused automation.

- The foundation of IBM Cloud is the popular open source container management platform Kubernetes, which enables organizations to operate in a containerized environment and leverage a wealth of open source software.

Given these various components of the offering, IDC believes that the *BREAKTHROUGH with IBM for RISE with SAP* comprehensively addresses the previously discussed hurdles that organizations face when migrating to SAP HANA and/or SAP S/4HANA in combination with a move to the cloud. IBM promises to speed up the process, lower the cost of the process, provide additional cloud migration tools and services, get businesses into production on SAP S/4HANA faster, create a hybrid cloud experience, support integration of SAP and non-SAP applications, and deliver a native cloud environment.

IDC research has shown that 80% of SAP customers that moved to IBM Cloud have realized a reduction in cost for the environment. IBM cites various other metrics for the *BREAKTHROUGH with IBM for RISE with SAP* offering that have not been verified by IDC but that claim faster deployment, lower total cost of ownership, and reduced in-house costs due to a more flexible operational environment.

CHALLENGES/OPPORTUNITIES

For Businesses

Organizations that are considering *RISE with SAP* for their cloud migration of SAP workloads will feel the pull of their current cloud SPs for general-purpose workloads to implement the offering in that same provider's SAP-certified IaaS environment. This may seem like a logical strategy as the provider will already be considered a trusted vendor, easing the internal procurement process for signing up for and executing *RISE with SAP*. Businesses are advised, however, to resist – at least temporarily – that pull and do thorough due diligence on the various IaaS providers' added value to the *RISE with SAP* package. In a world in which running different workloads on different clouds is becoming increasingly feasible, if not beneficial, it makes sense to select a cloud provider that adds significant additional value to the *RISE* offering.

For IBM

IBM has created a comprehensive offering to address various pain points around migrating to SAP HANA or S/4HANA in the cloud that are not covered by SAP's *RISE with SAP*. IBM offers this package to help move businesses to a cloud deployment of their SAP workloads. This offering has the potential of greatly simplifying the journey for customers, especially smaller and midsize businesses as well as larger businesses with an SAP landscape that is not too expansive or extensively customized. These are not necessarily IBM's typical customers, however. IBM's usual customers are very large organizations with very complex environments that rely on IBM for many intertwined services and solutions. The challenge for IBM, therefore, is to convince smaller organizations that it is easy and affordable to engage with IBM on *BREAKTHROUGH with IBM for RISE with SAP*, that IBM will be extremely responsive to their needs small and large, and that they will not be subjected to inflexible contracts with unanticipated line items. Full transparency, flexibility, and a relentless customer focus can make this IBM offering a success among smaller organizations.

CONCLUSION

SAP customers are eager to take advantage of the innovative capabilities that SAP offers with its SAP HANA and SAP S/4HANA platforms while at the same time continuing their cloud-first strategy. However, cloud migration of SAP workloads is significantly more complex than migrating general-purpose workloads. Challenges that customers face with migrating SAP workloads to the cloud include the duration of the migration, the costs, the limited availability of tools, the integration of the SAP landscape, and the complexities of creating a hybrid cloud platform.

To make this process simpler, SAP launched *RISE with SAP*, designed to help SAP customers move to S/4HANA in the cloud without having to manage the infrastructure. The offering includes SAP S/4HANA Cloud, technical managed services, tools, business process intelligence, SAP Business Technology Platform, and SAP Business Network. Businesses can choose to implement RISE with SAP on any participating cloud SP, including with IBM. IBM, however, has taken a compelling extra step to complement RISE with SAP with a range of critical additional services, offering the combination as a single package under a single contract with SAP.

Called *BREAKTHROUGH with IBM for RISE with SAP, premium supplier option*, this package adds advisory services, implementation services, application management services, infrastructure as a service, and IBM Technical Managed Services to the basic components of RISE with SAP. IDC believes that *BREAKTHROUGH with IBM for RISE with SAP* comprehensively addresses many of the hurdles that organizations face when migrating to SAP S/4HANA in the cloud. IBM states that the offering will speed up the process, lower the cost, provide additional cloud migration tools and services, get businesses into production on SAP S/4HANA faster, create a hybrid cloud experience, support integration of SAP and non-SAP applications, and deliver a native cloud environment. Given the crucial importance of these aspects of an SAP cloud migration, businesses should evaluate this offering thoroughly to determine whether they might benefit from it.

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