



Avoiding Cloud Migration Pitfalls for SAP

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Executive Summary

- ▶ SAP workloads are business-critical for many organizations. Any technology or deployment direction that SAP takes has tremendous impact on businesses that run SAP workloads. 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. Together, these strategic directives from SAP have caused the equivalent of earthquakes in many datacenters.
- ▶ In parallel with the SAP HANA mandate, SAP has been executing a long-term strategy to move its customers to the cloud. Businesses want to move SAP to the cloud but struggle to determine the best approach.

Today, there are many ways to consume SAP in the cloud:



Infrastructure as a service (IaaS) on one of the SAP HANA–certified public cloud service providers



Hosted infrastructure from managed service providers

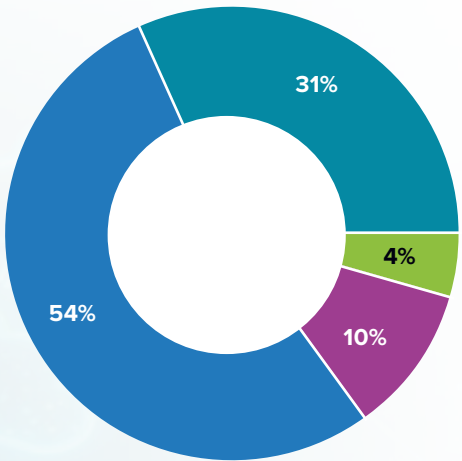


Software-as-a-service (SaaS) platforms, including SAP's own cloud offerings

Current and Planned Deployments of SAP HANA in the United States

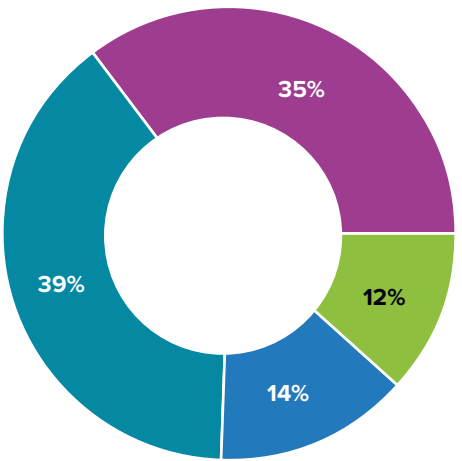
The move to cloud for SAP workloads is gaining momentum. Currently in the United States, **54% of organizations** that run SAP HANA do so primarily on premises. In the next 12 months, of U.S. organizations that will migrate their current non-SAP database to SAP HANA only **14% will be primarily on premises**, and **35% will use a combination of cloud, on-premises, and a managed service provider.**

Current Deployment of SAP HANA



- Primarily on premises
- Primarily on IaaS in a public cloud
- Combination of on premises, IaaS, and a managed services provider
- Primarily on a managed services provider

Planned Deployment of SAP HANA in 12 Months



- Primarily on premises
- Primarily on IaaS in a public cloud
- Combination of on premises, IaaS, and a managed services provider
- Primarily on a managed services provider

Source: IDC Special Report: Infrastructure Adoption Trends for SAP HANA and S/4HANA 2021

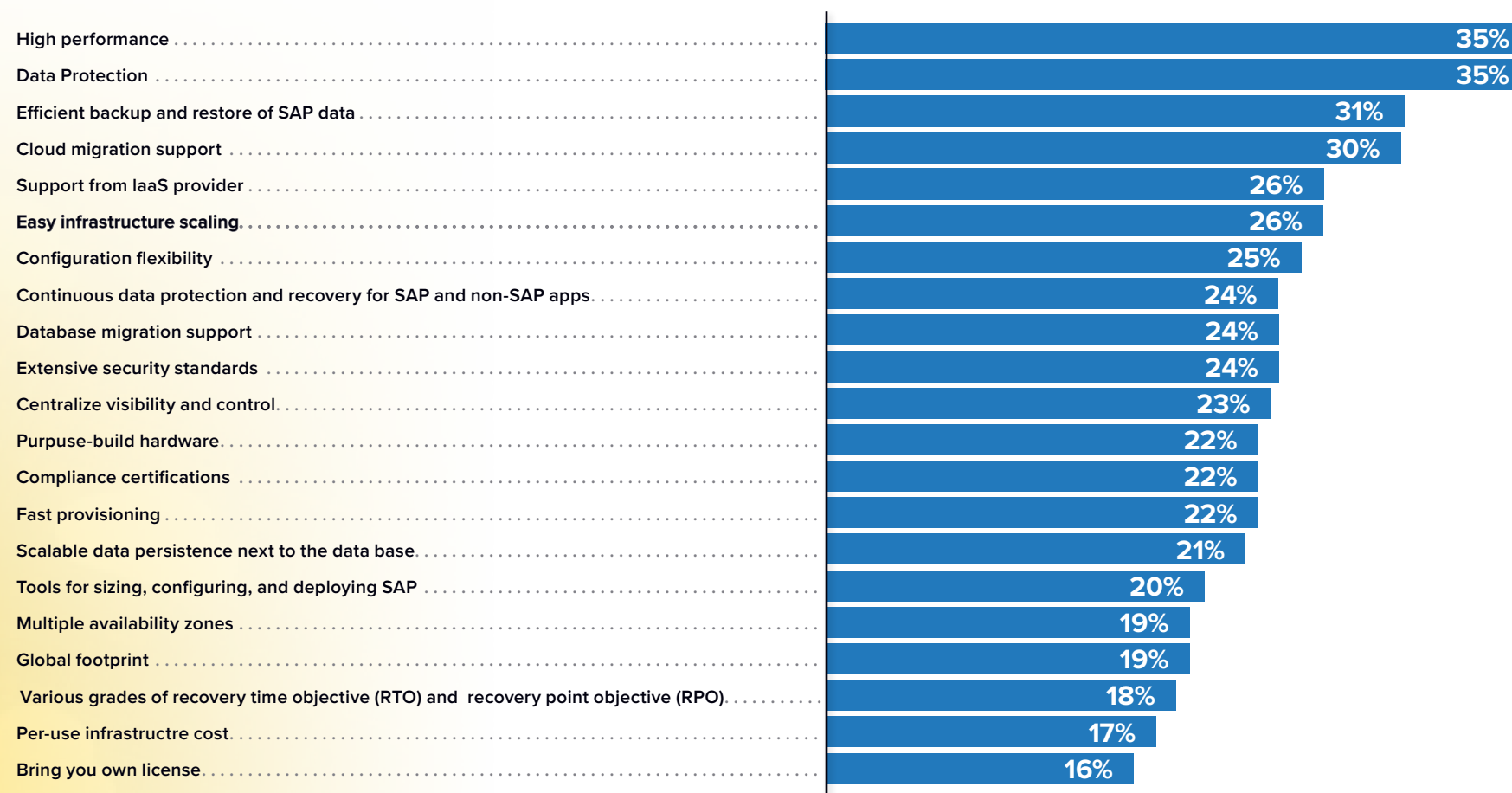
Reasons for Choosing an IaaS Deployment for SAP HANA

IDC expects that over the long term, many businesses will fully migrate to an IaaS deployment for SAP HANA or S/4HANA and will gradually reduce their on-premises footprint. The top three reasons for running SAP on IaaS are:

- **High performance**
- **Data protection**
- **Efficient backup and restore of SAP data**

Reasons for Running the SAP-Certified Compute and Storage Installation on IaaS

(Percentage of Respondents)



Source: IDC Special Report: Infrastructure Adoption Trends for SAP HANA and S/4HANA 2021

Justifying and Overcoming SAP Cloud Migration Challenges



A cloud migration for SAP HANA or SAP S/4HANA is not a trivial exercise. IDC has found that businesses face a long list of challenges when migrating SAP workloads to IaaS:



Tools

A myriad of migration tools and services are available, but **only about half of businesses** find the available IaaS tools effective; in other words, they need much more and much better help.



Cost

The average cost of the migration to SAP HANA or SAP S/4HANA on IaaS in terms of **third-party consulting is \$1.5 million**; the **disruption to the business is also around \$1.5 million**. If businesses need to move from a non-SAP database to SAP HANA, that **migration averages \$4.9 million**; the cost of moving from ECC to SAP S/4HANA is roughly the same.



SAP S/4HANA in production.

Even if a proof of concept (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.



Timing

Planning to migrate to IaaS **takes 8.8 months** on average, and executing the migration **takes 17.4 months**.



Hybrid cloud

Many businesses want to leverage advanced open source solutions for hybrid cloud, high availability, and disaster recovery, as well as software-defined storage support. Moving to cloud is an integral part of a hybrid cloud strategy and adds further complexity.



Integration

61.6% of businesses said that their multideployment SAP landscapes are largely or fully integrated, but only **37.8% of businesses** said that integrating a multideployment SAP landscape is straightforward and easy. Businesses need more support integrating their landscapes.

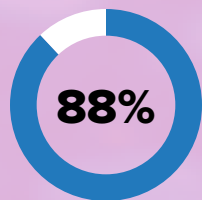


Native cloud

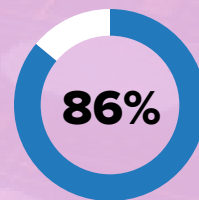
Once on IaaS, **78.8% of businesses** want to innovate with the IaaS provider's native-cloud capabilities by building new functionality around their core SAP ERP, but they don't find this straightforward either.

Value Gained from an SAP Migration to the Cloud

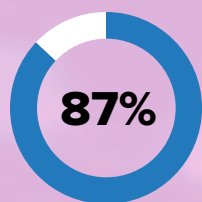
In order to justify migrating their SAP landscape to the cloud, businesses are looking to gain significant value when selecting an IaaS provider for SAP.



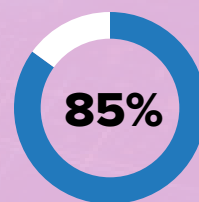
of businesses consider automated provisioning and automating operational activities like backup, cloning, and OS patching important or very important.



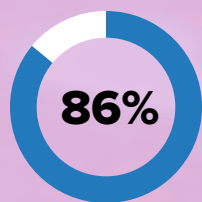
of businesses find the availability of industry-specific solutions is important or very important.



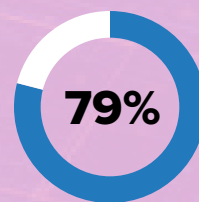
of businesses said native data integration between the SAP solutions and the IaaS provider's technology is important or very important.



of businesses consider a provider's capabilities with data and analytics, artificial intelligence/machine learning, and Internet of Things/edge important or very important.



of businesses said sustainability and carbon footprint are important or very important.



of businesses innovate (or plan to) with the IaaS provider's native-cloud capabilities by building new functionality around the core SAP ERP.

Why Choose a Cloud Provider for SAP HANA

Businesses start the migration process carefully. The top workload once SAP HANA or S/4HANA has been migrated to the IaaS provider is **test/development (30%)**, followed by **backup (27%)**. They are also careful about choosing a provider. The top 3 reasons for choosing a cloud provider for SAP HANA are:



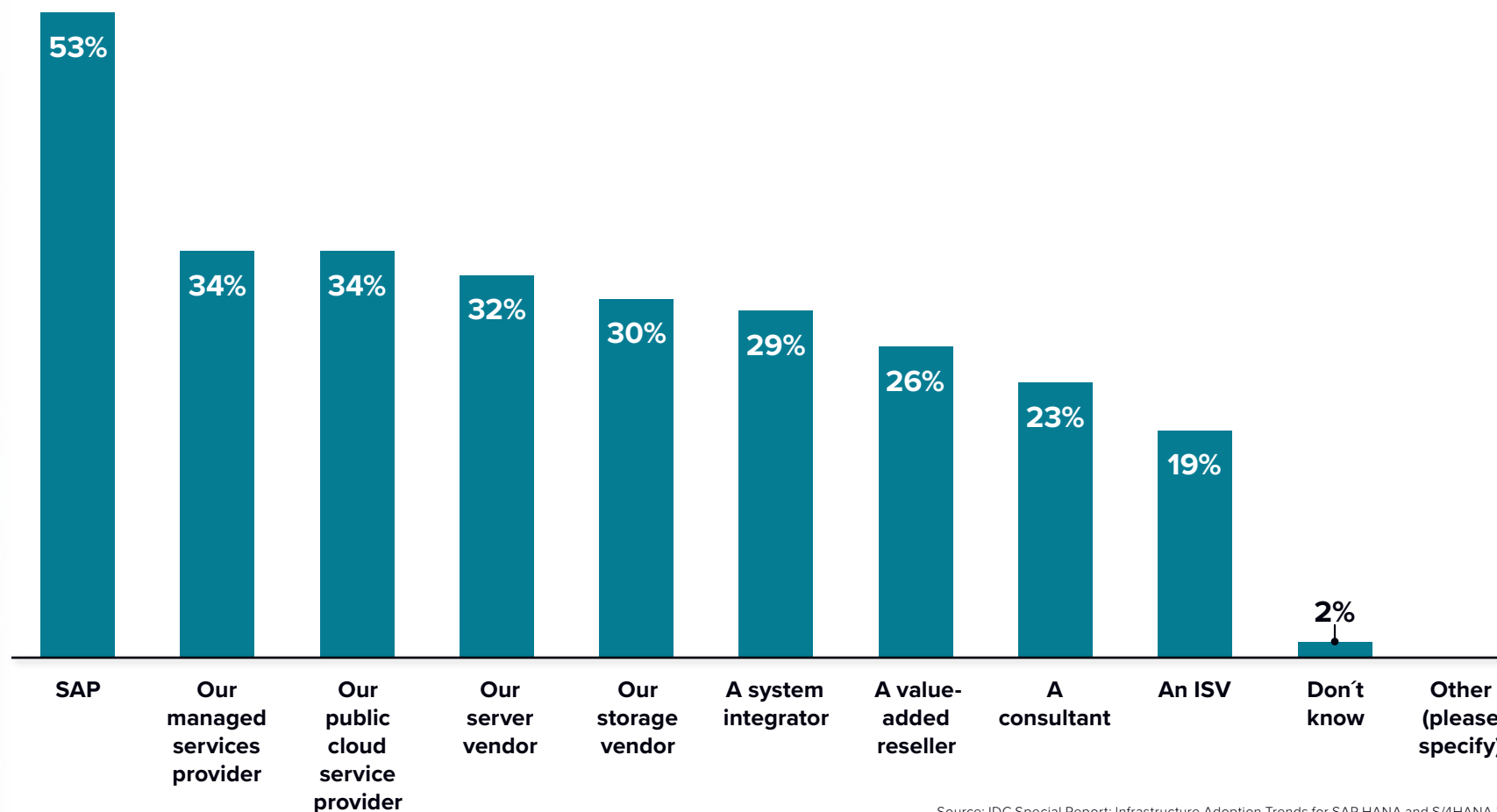
- Businesses are willing to switch IaaS for SAP providers if they're not satisfied. **63% of businesses** said that it is likely or extremely likely they will change cloud service providers for SAP in the next 24 months.
- 87.5%** of businesses consider automated provisioning and automating operational activities like backup, cloning, and OS patching important or very important when selecting an IaaS provider
- 78.8%** of businesses innovate (or plan to) with the IaaS provider's native cloud capabilities by building new functionality around the core SAP ERP.
- 85%** of businesses consider a provider's capabilities around Data & Analytics, AI/ML, IoT/Edge important or very important when selecting an IaaS provider for SAP HANA, S/4HANA, and/or BW/4HANA.
- Nevertheless, businesses feel that despite all the effort involved, they can find the right IaaS for their SAP environment; **90% of businesses** are satisfied or very satisfied with the IaaS environment for their SAP landscape.

Source: IDC Special Report: Infrastructure Adoption Trends for SAP HANA and S/4HANA 2021

A Complex Partner Landscape

In order to overcome the challenges with migrating SAP workloads to the cloud, most businesses work with multiple consulting partners and/or systems integrators with varying levels of expertise. Businesses work with two to three vendors at the same time, and these vendors are rarely seamlessly complementary, leading to inefficiencies, longer migration times, more disruption, higher costs, and ultimately, multiple “throats to choke.”

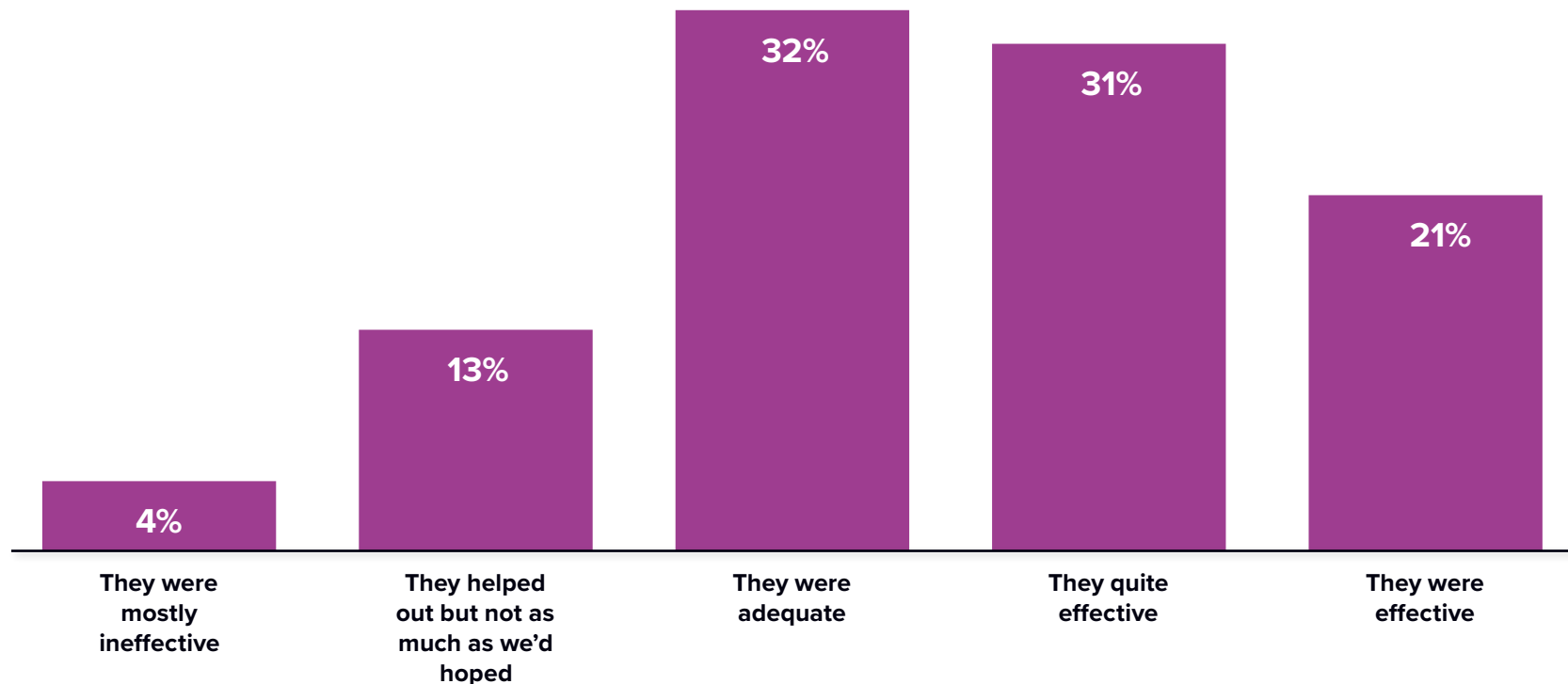
Partner Choice for the Migration of SAP HANA and/or S/4HANA to IaaS



Source: IDC Special Report: Infrastructure Adoption Trends for SAP HANA and S/4HANA 2021

How Helpful Are Partner Migration Tools?

Effectiveness of the Partner's Cloud Migration Tools



Only **51%** of businesses said that the migration tools of their partners are effective or extremely effective.

53% work with SAP to implement their migration to IaaS, including by leveraging SAP's latest offering, RISE with SAP, while **34%** also work with their cloud service provider.

Source: IDC Special Report: Infrastructure Adoption Trends for SAP HANA and S/4HANA 2021

An Alternative to Do-It-Yourself SAP Migration



RISE with SAP was launched in early 2021 as SAP's response to the hurdles that SAP customers face in 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 with access to a collection of tools, services, and software to help with their business transformation.

RISE with SAP has been designed to simplify the move to SAP S/4HANA and allows businesses to step back from managing complex IT infrastructures for SAP S/4HANA. RISE with SAP includes:



SAP S/4HANA Cloud (a SaaS version of SAP S/4HANA)



SAP Business Network



Technical managed services



Services for five specific industries: automotive, consumer products, industrial machinery and components, retail, and utilities



Business process intelligence



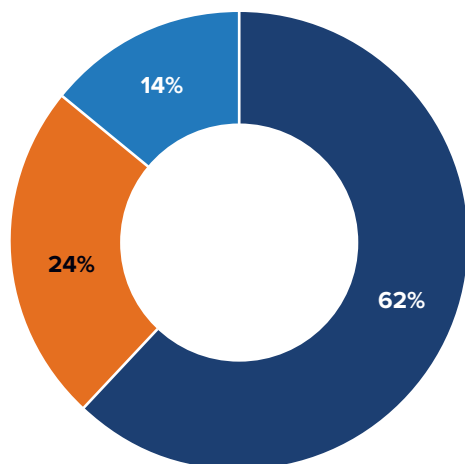
Functionality for human resources and procurement



SAP Business Technology Platform

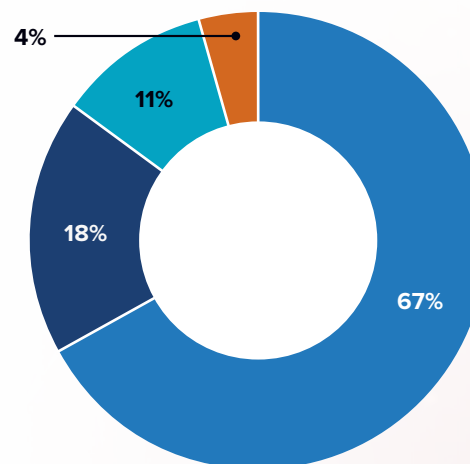
RISE with SAP Partnerships

Current or Planned Partner for Implementing RISE with SAP



- Reseller
- Consulting firm/system integrator
- Cloud service provider

Rise with Sap for business planning to run SAP HANA primarily on IaaS in a public cloud in the next 12 months



- Yes
- No
- Don't know
- I'm not familiar with RISE With SAP

- ▶ **65%** of all businesses said they have migrated or will migrate in the next 12 months to RISE with SAP.
- ▶ **67%** of businesses planning to run on IaaS say they will migrate to RISE with SAP.
- ▶ **62%** of businesses implement or plan to implement RISE with SAP with their CSP as their partner.

Source: IDC Special Report: Infrastructure Adoption Trends for SAP HANA and S/4HANA 2021

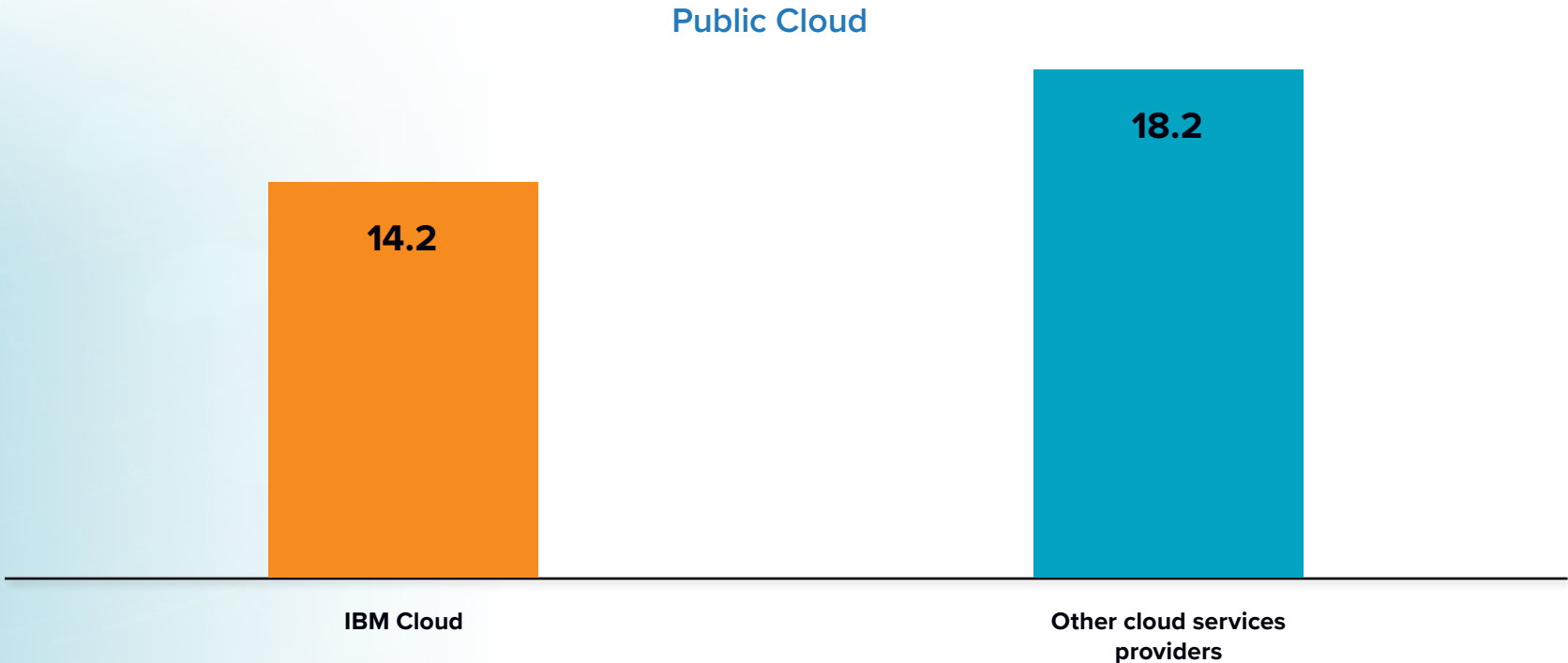
Migrations Went Faster on IBM Cloud



Customers deploying SAP solutions to the IBM Cloud were able to migrate **20% more quickly** compared to other clouds.

Time Required for the Actual Migration to SAP HANA, S4/HANA, or BW/4HANA in the Cloud

(Months)



Source: IDC Special Report: Infrastructure Adoption Trends for SAP HANA and S/4HANA 2021

About the Analyst

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Peter Rutten is a research vice president within IDC's Worldwide Infrastructure Practice, covering research on computing platforms. He is IDC's global research lead on performance-intensive computing solutions and use cases. This includes research on high-performance computing, artificial intelligence, and big data and analytics infrastructure and associated solution stacks. His coverage of performance-intensive computing includes supercomputing, as well as institutional and mainstream high-performance computing, high-end, accelerated, in-memory and heterogeneous computing infrastructure systems, platforms, and technologies. It includes computing platforms with GPUs, FPGAs, ASICs, and other accelerators that are deployed in the cloud as well as on premises. It also includes research on mission-critical x86 platforms, mainframes, and RISC-based systems as well as their operating environments (Linux, z/OS, Unix).

[More about Peter Rutten](#)

Message from the Sponsor

SAP-certified IaaS on IBM Cloud includes Power Systems Virtual Server, VMware, VPC, and BareMetal. The flexibility of IaaS options helped clients migrate applications to cloud 20%+ faster than other hyperscalers.

IBM is one of the largest implementation providers with tens of thousands of SAP practitioners and provides comprehensive application modernization services that include (a) tools like Mono2Micro to refactor monolithic Java applications to a microservices-based architecture, (b) reference architectures to modernize legacy apps, and (c) services to help decide what to migrate as is, transform before moving, or select an alternate strategy. IBM's hybrid cloud software solutions run wherever client data resides and empower predictive decision-making, ITOps automation, and security of heterogeneous environments, applications, and data.

[RISE with SAP, the premium supplier option with IBM](#) offers a “one hand to shake” simplification of ERP modernization where IBM provides both the cloud infrastructure and services to run that infrastructure, supporting enterprise clients with bespoke needs for SAP modernization.

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