

# A Headache-Free, Hybrid Approach to Adopting SAP HANA

ASUG



The cloud is quickly becoming the new normal. Studies indicate that cloud adoption among SAP users is close to 90 percent. This doesn't mean that they have moved their core systems onto the cloud. More likely, customers are adopting the cloud for workloads that are not mission-critical, while keeping their core systems on-premise. Many who are taking the next step to update their infrastructure with SAP HANA or SAP S/4HANA still are choosing to deploy these in an on-premise environment, but this is starting to change.




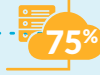
### Cloud Cover for SAP S/4HANA

Recent ASUG research indicates that 50 percent of those who already have migrated to SAP S/4HANA have taken an on-premise approach, while another 30 percent have adopted a hybrid (some on-premise, some cloud) model. Those who plan to transition—but have yet to do so—have a different goal in mind.

Fewer than a quarter of these future migrators plan to use on-premise solely to build their SAP S/4HANA infrastructure. As expected migration dates get further out, customers planning a move to SAP S/4HANA become increasingly likely to involve the public cloud in their strategy. Of those expected to transition in 2020 or later, 75 percent expect to use the public cloud (at least partially) to run their SAP S/4HANA environment.

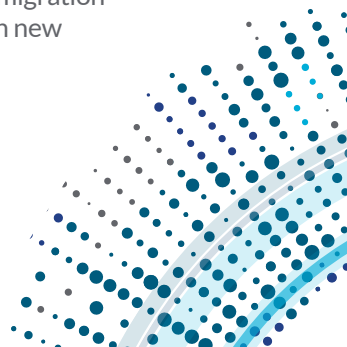
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Figure 1: Planned Environments for SAP S/4HANA Implementations

	Already Migrated	Migrating in Next 12 Months	Migrating in 1–2 Years	Migrating in More Than 2 Years
On-premise	50%	25%	29%	17%
In a public cloud	6%	25%	17%	33%
Hybrid (some on-premise, some cloud)	31% 	31% 	42% 	42% 
No plans to run SAP S/4HANA at this time	13%	19%	13%	8%

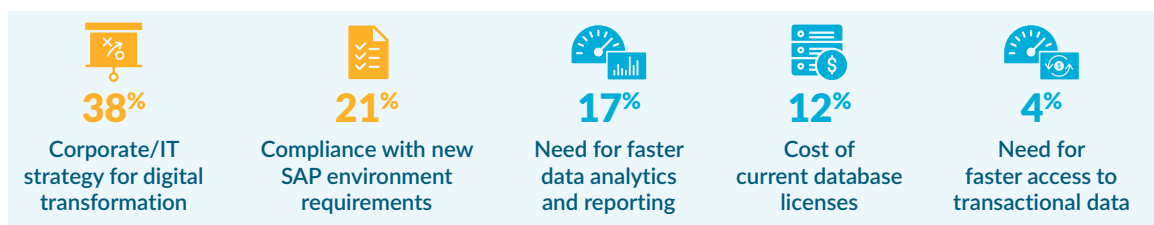
Today, ongoing SAP S/4HANA support is best suited to the on-premise landscape, but there is growing demand for support and integration partners who can help with future cloud deployments.

The move to SAP S/4HANA, the associated data migration, and the proper implementation of the system are inseparable from the core digital strategy for most SAP customers. Among those who have not yet adopted SAP HANA but are planning to, the top two motivators behind this expected migration are a corporate IT strategy for digital transformation (38 percent) and the need to comply with new SAP requirements (21 percent).



This suggests that corporate leaders are concerned primarily with implementing these new systems quickly and with little disruption, but they also see SAP HANA (and SAP S/4HANA) as critical to their company’s long-term strategy to compete effectively in a rapidly changing marketplace.

Figure 2: Key Motivators Driving SAP HANA Transitions

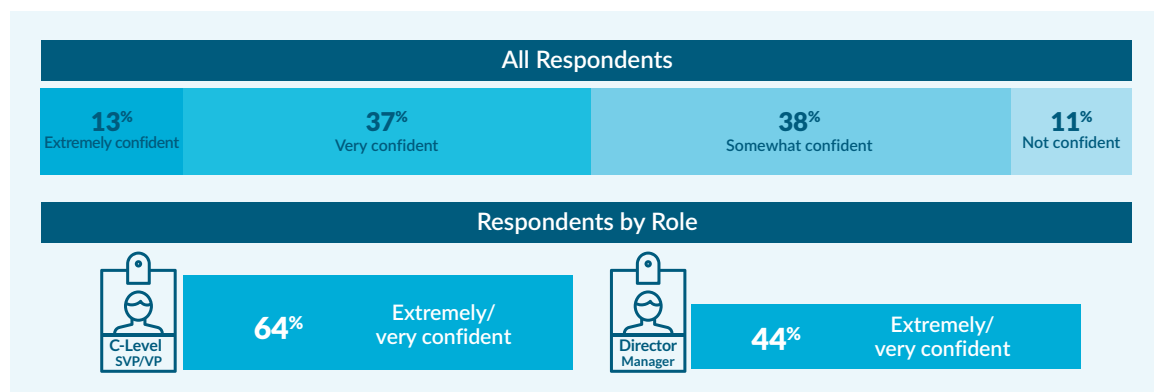


### Evaluating Risk Within the Cloud

One goal of a successful SAP S/4HANA implementation is to be able to improve performance and reporting capabilities but with minimal risk. While the option to migrate to SAP S/4HANA (particularly in the cloud) might be the smart choice for your business, are you making the appropriate plans for this transition?

ASUG research indicates that half of ASUG Members are only “somewhat confident” or more pessimistic that their company understands the level of risk related to cloud adoption. This pessimism increases among those actually using and administering the applications. Those at an executive level, however, are much more optimistic about their company’s understanding of the risks associated with cloud adoption than those at a managerial level, who typically have a more realistic, hands-on view of that environment.

Figure 3: Confidence in Understanding of Cloud Adoption Risks



If you want to mitigate risk, you must have the right knowledge on hand as you prepare to transition your systems to an SAP HANA environment. Many IT departments have insufficient Linux skills and might lack the in-depth experience needed to both implement and operate their business-critical systems in the cloud. And this does not even account for the implicit complexity of migrating to an SAP HANA environment. In fact, our research shows that 40 percent of ASUG Members cite lack of skills as a barrier, while 42 percent cite complexity and threat of downtime as potential obstacles.

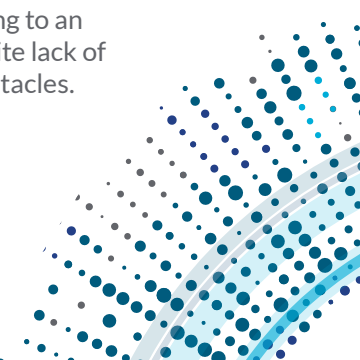
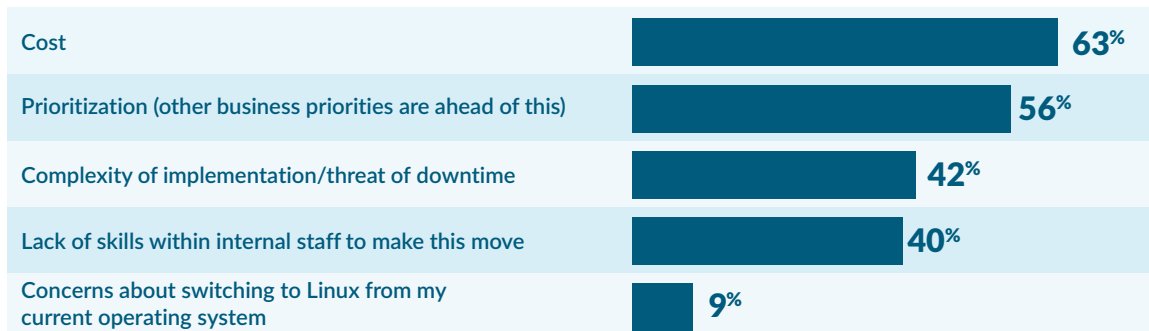


Figure 4: Potential Challenges to SAP HANA Implementations



When faced with these challenges, finding partners with SAP experience can mean the difference between success and failure. As with most projects, it helps to start from the ground up by selecting your software-defined infrastructure (SDI) and Linux provider. Choosing the right SDI provider may seem trivial, but SAP leverages so much open-source software that a solid SDI foundation is critical to a stable, optimized experience.

#### What Is Software-Defined Infrastructure (SDI)?

Software-defined infrastructure (SDI) is a cloud-based infrastructure that can connect and manage large quantities of end users, virtual and physical services, and applications. SDI differs from a traditional on-premise infrastructure because it is designed to leverage software innovation over hardware and automation over manual processes. SDI solutions help IT drive innovation with greater agility and automation, as well as reduce costs.

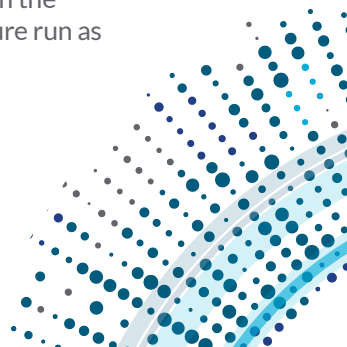
### How to Spot the Ideal Software-Defined Infrastructure (SDI) Partner

To help make your journey a smooth one, here are some tips for what to expect and look for in an open-source SDI provider as you begin to plan for an SAP S/4HANA transition.

**Tip 1: Evaluate your internal capabilities to guarantee high availability/disaster recovery (HA/DR) for your new system.**

High availability is a system characteristic that ensures operational performance for an extended period. Disaster recovery is the ability to recover or continue with vital infrastructure if a natural or man-made disaster occurs. Both are critical needs to address in your requirements. ASUG’s research indicates that 89 percent of SAP users find high availability/disaster recovery extremely or very important to their SAP service delivery. Relying on your internal systems and staff to minimize downtime or single points of failure might not be the best use of your resources.

Look for—and evaluate—SDI partners based on their ability to support the scenarios that are most important to your organization, such as scaling up, optimizing performance, or reducing cost. The ideal partner should be able to accomplish this across both traditional and on-premise deployments, as well as in public and private clouds with major providers such as Amazon Web Services and Microsoft Azure. A best practice is to look for solutions that integrate within the operating system layer and have predeveloped options specific to SAP to make this feature run as smoothly as possible.



**Why it matters:** A [2014 Gartner study](#) suggested that the cost of network downtime is roughly \$5,600 per minute. A [2015 IDC study](#) indicated that every hour of downtime on SAP applications can cost a company anywhere from \$500,000 to \$1 million, a number that surely has grown. A robust, high-availability solution that is already tightly integrated with SAP helps reduce your risk.

**Tip 2: Assess your alignment (and the alignment of migration support) with SAP's infrastructure.**

SAP is increasing its use of open-source software. Currently, SAP leverages OpenStack (infrastructure as a service, or IaaS), Cloud Foundry (platform as a service, or PaaS), Kubernetes (container management), and Ceph (storage) for innovative platforms. SAP has relied on Linux for almost 20 years. In fact, SAP HANA is only supported on Linux. SAP made this decision for many reasons, including the fact that open-source software is more malleable than proprietary software. Additionally, by standardizing SAP HANA on a single operating system, it allows SAP to maximize performance, testing, and stability. SAP HANA is the core to SAP's offerings, so those characteristics are critical.

**Why it matters:** Aligning with the wrong SDI partner could result in operating redundant solutions with skill sets that are not compatible. For example, SAP is heavily connected to the Cloud Foundry project for PaaS and even has [a seat on the board](#). But not all open-source SDI providers are committed to Cloud Foundry and instead leverage the open-source project OpenShift. Working with the wrong provider could limit the expertise or commitment needed from your team to take full advantage of the SAP Cloud Platform. This could result in higher costs and complexity—the opposite of the operational simplicity customers are seeking.

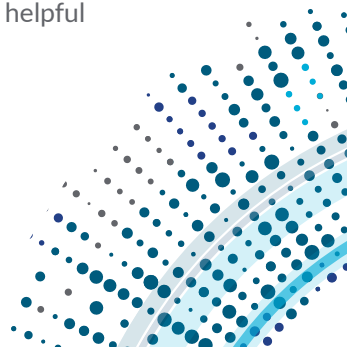
**Tip 3: Look for ongoing, third-party software support that can easily live-patch kernels.**

More and more, companies are expecting to make transformative changes (large or small) with minimal disruption to their workflows. Being able to introduce critical security or stability updates to the core elements (kernels) of your operating system without forcing your company into inactive mode is another method of gaining a strategic (and perhaps competitive) advantage. One such example that is critical to maintaining uptime is kGraft, which can perform critical Linux kernel updates without rebooting the system. For SAP HANA, it means saving the hours of downtime typically needed to reboot and reload memory, while also allowing you to stay current with critical updates. This will significantly improve your ability to maintain security posture and compliance.

**Why it matters:** There is a business cost associated with downtime, but this downtime also can be necessary to fix critical security problems. If this includes changes to the Linux kernel, it could require a reboot of the production server. If the server in question is a multi-terabyte memory SAP HANA system, a reboot can take several hours, halting your operations. Live kernel patching allows for critical security and stability updates without the need to reboot until the next maintenance window.

**Tip 4: Make sure that your IT support can navigate hybrid environments.**

Providers that are able to support both on-premise and cloud deployments likely will be best positioned to help you navigate between these two environments. If you are planning to move an SAP HANA instance from an on-premise landscape to the cloud, it will be especially helpful to form a relationship now with a provider that can pivot between the two.



**Why it matters:** The journey to the cloud has just started, and no one knows exactly where it will end. Some SAP workloads likely will stay on-premise, though it's impossible to say what the balance of the cloud versus on-premise systems eventually will be. It is important to pick a partner that can offer the same level of functionality and support for on-premise environments and major cloud vendors such as Alibaba Cloud, Amazon Web Services, Microsoft Azure, and Google Cloud Platform. This will guarantee you the flexibility to shift SAP workloads from one cloud vendor to another or back on-premise when your business needs to adapt.

### Head Start, Not Headache

Successful businesses are constantly changing, adapting, and transforming. The cloud represents the latest infrastructure shift, but the next technology already might be on the horizon. While awareness and early planning can help you improve your chances for success, finding resources that are in lockstep with your enterprise—or even ahead of you on the journey—can make all the difference. You need to find the right open-source SDI partner now to help you lay the foundation for building scalable, reliable, mission-critical systems across whatever mix of traditional and cloud environments you choose.

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#### ABOUT ASUG

Founded in 1991 by four pioneers who understood the potential of SAP software, America's SAP Users' Group (ASUG) today is the world's largest independent SAP user group with 2,400-plus corporate members. ASUG's mission is to help our members maximize the value of their SAP investments. So no matter where you are on your SAP journey, ASUG is here to help you navigate every step of the way. Find membership information at <https://www.asug.com/join>

#### ABOUT SUSE

SUSE provides the leading infrastructure platform for many SAP solutions including the SAP HANA business data platform, SAP Cloud Platform, and more. Its success is built on its long and close relationship with SAP. SAP customers value the engineering excellence, exceptional service, and an unrivaled partner ecosystem to power the solutions and support that help them manage complexity, reduce cost, and confidently deliver mission-critical services. SUSE delivers the smarter innovation SAP customers need to succeed today and tomorrow.

