

# Evaluating Software-Defined Infrastructure Providers for Your SAP Implementation

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# Evaluating Software-Defined Infrastructure for SAP S/4 and HANA Implementations

Whether you are migrating an existing SAP landscape or beginning a greenfield deployment of HANA, you will be bombarded with choices along the way from how to (re)engineer your business process to whether you should deploy in the cloud or on-premise and even how you will manage your SAP landscape.

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The purpose of this paper is to help you layout key criteria for choosing your open source software-defined infrastructure (SDI) partner and Linux provider. While this topic may represent a seemingly small portion of your overall budget spend for your program, SAP customers globally have found that choosing the right vendor with the proper mix of product innovation, quality and services, as well as history with SAP, can have major impacts, such as:

- **Time to Value:** *Rapidly accelerate solution stand-up with SAP specific Wizards, images and reference designs.*
- **Return on Investment:** *Ensure you are maximizing performance and ROI with pre-optimized solutions and performance benchmarks.*
- **Reduce Downtime:** *Reduce both planned and unplanned downtime through innovations in high availability.*
- **Improve Posture:** *Increase overall security posture and regulatory compliance through kernel patching and SAP specific update channels.*

The breadth of SAP's solutions landscape not only relies on open source Linux for HANA, S/4HANA and Business One, but

also on many other open source projects as well. The latest example is the SAP Cloud Platform solution, which relies on Cloud Foundry, OpenStack and Ceph. SAP is actively working to leverage Kubernetes for container Orchestration as demonstrated by the release of SAP Data Hub on containers.

Choosing an open source SDI partner that supports you on-premise, in the cloud or on the edge, greatly simplifies your management and operations, allowing you to focus your resources on innovation rather than keeping the lights on.

SAP relies on open source technology to provide mission critical capabilities which further allows them to focus their resources on innovation. Customers can expect to greatly reduce risk by removing variability and leveraging the same open source providers SAP themselves leverage across the portfolio.

As the leader in Linux and mission critical open source SDI for SAP, we surveyed our customers to get an understanding of the key questions and criteria customers used to evaluate open source SDI providers. While this is by no means exhaustive, it should help you along your journey.

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## SAP Depth & Experience

This may sound obvious but when transitioning to HANA, you want to ensure you are working with the open source SDI partner that has the deepest well of experience to pull from and that has teams who are applying best practices to help ease your transition. You also want to ensure your open SDI partner can support across all deployment models and has mature partnerships across both hardware vendors and cloud providers.

In order to gauge your potential partners depth of SAP knowledge as well as understand capabilities across deployment models, request the following information:

- *Indicate your approximate market share for HANA on Linux, S/4HANA on Linux, Business One on Linux and SAP Cloud Platform on your OpenStack and Ceph.*
- *Provide a list of all public customer references for SAP deployments on your SDI offerings.*
- *Provide a list and links to all performance benchmarks.*
- *Provide a list and links to current available reference architectures developed jointly with hardware OEMs.*
- *Provide a list and links to current available images and fast start deployment options on hyperscale cloud providers (e.g., Amazon Web Services, Azure and Google Cloud Platform).*
- *Provide your joint SAP roadmap for the next 12-18 months.*
- *List all offerings that support SAP Business One, Leonardo, HANA Enterprise Cloud and SAP Cloud Platform.*
- *List all products that SAP utilizes to develop, test or deploy SAP platforms solutions, and for each, describe how and to what extent SAP utilizes them.*

## Alignment to SAP Open Source Vision

The world of open source software is vast and often confusing. Thousands of open source communities engage in developing solutions for your IT infrastructure. Which ones are real? Which ones are enterprise ready? Which ones best support SAP's landscape? Daunting questions for sure but the good news is SAP has already done the research, testing and vetting and made strategic bets.

Linux is the foundation for everything SAP builds. SAP Cloud Platform relies on OpenStack and Ceph storage. In addition, SAP is now accelerating its container strategy. The key is to then work with an open source SDI provider that aligns to the same vision as SAP and that focuses its efforts and work on the same projects as SAP. Leveraging a partner aligned to SAP's strategy for

open source is critical. Working with the wrong provider could cause you to have multiple Platform as a Service (PaaS) solutions (SAP uses Cloud Foundry vs other providers that are leveraging OpenShift) and even end up with vendors trying to discourage you from adopting the SAP solutions and slowing your digital transformation.

To understand how the partner may or may not align to SAP's vision for open source and key projects, we suggest asking the provider to provide more detail on their approach using the following questions:

- *Describe your membership in and level of engagement/contribution to Linux, OpenStack, Ceph and Cloud Foundry.*
- *Describe how you support upstreaming SAP-specific solution related requirements into the open source community for each project. Give specific examples of requirements you developed with SAP and drove into the community when using Linux, OpenStack, Ceph and Cloud Foundry.*
- *Describe your PaaS offerings and how the offerings align to the SAP Cloud Platform and PaaS solution.*
- *Describe your container delivery and management framework for SAP products.*
- *List all SAP-certified containerized workloads currently available.*

## High Availability, Compliance and Security

In the world of SAP, HANA is the engine that runs your world. When HANA is down, whether planned or unplanned, your business can be brought to a halt. Depending on the size of your business, that down time could cost you tens of thousands of dollars per hour to tens of millions of dollars. Working with a provider that not only understands the importance of eliminating downtime but also builds and configures its offerings to maximize HANA uptime is critical. In addition, new security vulnerabilities seem to be discovered daily and so you need to ensure you are compliant and secure without taking HANA down every day. You need to have a way to patch the kernel "on the fly" without time-consuming reboots.

The following list will help you see if a provider understands the importance of downtime and maximizes HANA:

- *Describe and provide appropriate architectural diagrams supporting HANA scale up and scale out high availability scenarios.*

- Describe how your solution supports or facilitates HANA System Replication.
- Describe and provide appropriate architectural diagrams regarding supported high availability capabilities in hyperscaler environments (e.g., Microsoft Azure, Amazon Web Services and Google Cloud Platform).
- Describe your ability to minimize downtime of SAP HANA systems to remediate Linux kernel security vulnerabilities.
- Describe how you configure and control Linux kernel page caching in order to maximize performance.
- Describe any enhanced security capabilities such as embedded firewalls.
- Describe your ability to secure and encrypt/decrypt storage volumes.
- Describe how your solution allow critical kernel patches to be implemented while maintaining uptime.

### Time to Value and Simplified Operations

Once you finish planning and are ready to move into execution, you want to know your solution provider has the right tools and best practices to both facilitate and accelerate your transition. You need your SAP environment to be built, configured and pre-tuned to optimize your SAP experience to speed time to value and reduce any unintended impacts to the core business. And support does not end because on days two, three and four, you need to have the tools to monitor and configure your environment not only across multiple Linux distributions but also across on-premise and in cloud from a single tool.

Finally, when there is inevitably an issue, you want to make sure your provider is tied into SAP's trouble support systems and has a deep pool of engineering resources experienced not only with their technology but also the specific requirements of SAP HANA.

In order to understand how the provider can support your complete lifecycle, we strongly suggest you also ask the following questions:

- *Implementation configuration and management*
  - Please provide a list of wizards and other tools built specifically for SAP deployment and designed to deploy pre-optimized, pre-configured environments.
  - Please describe any tools, best practices or services to assist in customers moving from a Windows or UNIX based platform to Linux.
  - Please describe any tools and wizards currently available that deploy pre-optimized environments for HANA.
  - Please describe any tools or products that allow your solutions to configure and manage other Linux distributions.
  - Please describe any update channels specific to SAP solutions and product support.
  - Please describe your ability to provide configuration and management tools for other Linux distributions providing a central tool.
- *Support*
  - Please describe the integrated support process with SAP for trouble ticket resolution.
  - Please describe any specific or dedicated engineering support you provide for SAP customers.
  - Please list your SAP support resources that are available worldwide.

As the global leader of open source solutions for the SAP landscape, we know how important it is for your SAP implementation to go smoothly and it all starts with picking the right foundational partner. We, at SUSE®, hope this paper helps you get started.

If we ever can be of assistance, please contact us, at [sapalliance@suse.com](mailto:sapalliance@suse.com).

