BUILDING AN SAP LANDSCAPE FOR DIGITAL TRANSFORMATION

SOLUTION OVERVIEW

THE VALUE OF STANDARDIZING ON RED HAT ENTERPRISE LINUX

IDC studied seven organizations that standardized on Red Hat Enterprise Linux and the Red Hat Satellite management system.[1] Based on its research, IDC found that these organizations:

- Experienced 74% less unplanned downtime.

- Required 42% less IT staff time to manage their operating environments.

- Realized average annual business benefits worth $16,633 per 100 users through their investment in Red Hat.

INTRODUCTION

Digital transformation is necessary for companies to thrive and compete in today's world. Unless they change the way they do business, companies face disruption from new competitors, as happened with Uber and Netflix. Concern about such disruption is widespread; research from MIT Sloan School of Management and Deloitte Consulting found that nearly 90% of the 1,000 companies surveyed believe their core business is threatened by new digital competitors that are challenging their products and services.[2]

Despite this widespread concern, most organizations are not ready to meet such competition. According to research from Oxford Economics, sponsored by SAP®, only 16% of companies report that they are prepared to successfully take on digital transformation.[3]

Two types of change are required for digital transformation: technological and organizational. This piece describes the type of technological foundation that organizations require to drive digital transformation efforts. IT optimization puts in place a nimble, agile, and cost-effective foundation for digital transformation and innovation that can then be supplemented with the organizational development required to succeed at digital transformation.

IT organizations are evolving the datacenter to keep up with the influx of data. Wherever possible, they are looking for opportunities to improve performance, availability, and stability—all while reducing operational overhead due to resource constraints. For many, this means modernization. According to research by Forrester, the majority of companies are implementing or planning to implement datacenter modernization. They are doing so to achieve high performance (61%), high availability (61%), and increased efficiency (86%).[4]

Companies running SAP business applications have additional impetus to modernize their infrastructure, paving the way for innovation and digital transformation. The SAP landscape is changing: SAP customers currently running SAP's business applications on a non-SAP database must migrate to SAP S/4HANA® by 2025. Many SAP customers are in the process of preparing for this transition, while at the same time optimizing their environment to support additional digital transformation initiatives.

REQUIREMENTS AND CONSIDERATIONS FOR SAP S/4HANA

SAP HANA is an in-memory platform designed to enable transactional applications and analytics from a single copy of the data. But applications must be specifically written to take advantage of this power.

1   IDC report, "The Value of Standardizing on Red Hat Infrastructure Solutions," Al Gillen and Matthew Marden. September 2016.

2   Deloitte University Press and MIT Sloan Management. "Aligning the Organization for Its Digital Future: 2016 Digital Business Global Executive Study and Research Project," 2016, Gerald C. Kane, Doug Palmer, Anh Nguyen Phillips, David Kiron, and Natasha Buckley, http://sloanreview.mit.edu/projects/aligning-for-digital-future.

3   Oxford Economics, "Leaders 2020: The next-generation executive: How strong leadership pays off in the digital economy," 2017, http://news.sap.com/sixteen-percent-companies-ready-for-digital-transformation/.

4   Forrester, "The Modern Data Center: Vital for Digital Transformation: The Business Benefits of Data Center Modernization and the Imperative to Innovate," December 2016. Pippa Jolli.

SAP S/4HANA is written to take full advantage of SAP HANA's architecture. Not only does SAP S/4HANA run in-memory, but it eliminates the need for lengthy processes, such as financial reconciliation, because it works on a single copy of the data. Rather than relying on sales reports or projections from a data warehouse, SAP S/4HANA computes analytics in real time from live data.

Through SAP S/4HANA, SAP offers customers a new, modern way of integrating their operational and analytical worlds. SAP S/4HANA enables operations to directly benefit from analytical context to improve SAP performance and efficiencies. But before customers using SAP business applications on other platforms can realize the benefits of SAP S/4HANA, they must undergo a migration.

SAP customers will need to upgrade to the latest versions of business applications before they can migrate their database to SAP HANA, and then migrate existing SAP applications to SAP S/4HANA. When these requirements are considered, the 2025 migration deadline does not seem far away.

Because SAP S/4HANA supports transactional applications as well as analytics from a single copy of the data, it increases the demands on your infrastructure. Preparing your SAP landscape through IT optimization can make the transition smoother and more efficient.

The following sections outline requirements and considerations for your preparation for SAP S/4HANA migration.

LINUX PLATFORM

Regardless of the operating system (OS) you are using today to run SAP applications, the transition to SAP S/4HANA can be made easier, and you can achieve the stability you require, by standardizing on a single operating system.

SAP has chosen Linux® as the operating system for SAP HANA and SAP S/4HANA. Linux proves its value with its power, flexibility, and reliability. Also, it is a leading operating system for servers and other large-scale systems. More than 90% of today's 500 fastest supercomputers run a Linux distribution, including the 10 fastest.[5]

HIGH AVAILABILITY

As SAP HANA takes on a central function as the primary database for your SAP landscape, and as workloads grow increasingly critical, so too do availability requirements for the SAP environment. Downtime is not an option. Customers need a solution that takes advantage of SAP HANA's native high-availability capabilities and offers a standards-based approach to ensuring the availability of SAP systems.

When evaluating your choices for an operating environment for SAP S/4HANA, look for completeness of the solution, including its ability to handle application-level high availability as well as native support for SAP HANA system replication.

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5 *Top 500 supercomputer sites, https://www.top500.org/lists/2017/06/.*

MANAGEMENT AND AUTOMATION

Research from IDC on the SAP HANA appliance market has shown that customers are demanding more capabilities to help them manage complex environments.[6] Specifically, companies are seeking increased use of automation, such as resource allocation, provisioning, and monitoring easier main-tenance; easier life-cycle management; and better management software.[6] In all of these areas, customers ranked the importance of these capabilities higher than their current satisfaction level. Streamlining management of SAP HANA is a high priority.

A modern approach to systems management utilizes deep analytics and knowledge specific to your IT environment. Because the SAP environment is complex, the move to SAP S/4HANA requires this higher level of understanding. In order to optimize performance and system health, custom-ers need a tool that can use data analytics to predict and automate the work of managing the SAP environment.

Some IT operational analytics (ITOA) tools offer a noninvasive, anonymized approach to monitoring the system landscape for issues before they impact operations. Such software tools apply predictive and prescriptive analytics to IT operations, scanning the environment for vulnerabilities or weak-nesses and identifying resolutions.

When evaluating tools that ease management of the systems in your SAP landscape, look for capa-bilities that enable automation and control of system management tasks, thereby simplifying and streamlining the management of the operating system.

SECURITY AND COMPLIANCE

SAP customers need to ensure that their critical systems are secure and up to date. Many of the security issues within the SAP environment arise due to a service not having the most current security patches or updates. Therefore, customers need tight control around security updates and system patches as they move to SAP S/4HANA. Automated patch distribution and version control are vital to ensure that everything is up to date—and provide an audit trail for compliance purposes.

OPTIMIZED PERFORMANCE

As customers move to SAP S/4HANA, they will want to ensure that the environment is optimized to achieve the best possible performance. SAP HANA requires certain tuning profiles, and maximiz-ing performance requires attention to the settings and parameters of underlying operating systems. Look for a vendor that pays attention to detail in deriving the maximum performance from critical SAP systems.

SCALABILITY

In addition to performance, database scalability is required to support large datasets. SAP HANA needs to handle several hundred TB of data, and its performance depends on the scalability and per-formance of the operating system.

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6   IDC report, "The Value of Standardizing on Red Hat Infrastructure Solutions," Al Gillen and Matthew Marden. September 2016.

RED HAT ENTERPRISE LINUX FOR SAP SOLUTIONS

Standardizing on a single operating system paves the way for migration to SAP S/4HANA. Red Hat® Enterprise Linux for SAP Solutions offers a single operating system to support SAP business applications, including SAP S/4HANA, SAP Business Suite powered by SAP HANA (often referred to as "Suite on HANA"), and SAP business applications running on any database.

The result of a long-standing collaborative engineering relationship between Red Hat and SAP, Red Hat Enterprise Linux for SAP Solutions is built on the same foundation as the world's leading enterprise Linux platform, Red Hat Enterprise Linux. It combines the reliability, scalability, and performance of Linux with technologies that meet the specific requirements of SAP applications. Red Hat Enterprise Linux for SAP Solutions delivers stability, high availability, state-of-the-art management and automation, performance, scalability, security, and compliance for your SAP environment.

The High Availability Add-On included with Red Hat Enterprise Linux for SAP Solutions offers a complete solution for the SAP landscape. It enhances native SAP HANA system replication and failover technology to automate the failover process, ensuring uptime for critical SAP applications.

Red Hat for SAP Solutions includes the Smart Management Add-On for Red Hat Satellite life-cycle management. Red Hat Satellite ensures that security patches are up to date and provides an audit trail so that customers can report on the historical state of their systems at any point.[7]

Red Hat Insights, combined with Red Hat Satellite, offers additional management for SAP environments. Red Hat Insights identifies issues and offers automated resolutions for vulnerabilities in your environment before business operations are impacted. This tool utilizes decades of knowledge and the experience gained by Red Hat Support over thousands of enterprise deployments.

Together, Red Hat and SAP offer simplified support. When customers report a problem, Red Hat, SAP, and hardware partners work together behind the scenes to identify the problem and resolve it. That's one of the many benefits of a long, strong partnership with SAP that began more than 17 years ago, when Red Hat Linux became the first distribution of Linux certified to run SAP applications.

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7   *Red Hat Satellite Server is not included with Red Hat Enterprise Linux for SAP Solutions.*
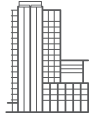
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DEPLOYMENT BEST PRACTICES

As customers prepare to migrate and upgrade their SAP landscapes, they should be aware of the importance of modernizing and standardizing their operating environment, which will provide a stable, agile foundation on which to move forward. Maintaining a secure infrastructure, ensuring high availability, and reducing operational overhead are critical for building an infrastructure that will support future innovation and minimize disruptions to your environment.

Specific recommendations:

- **Standardize on Linux**. It makes sense to standardize your SAP environment on Linux, the operating system of choice for SAP HANA and SAP S/4HANA. This paves the way for a smoother migration to SAP S/4HANA, ensuring minimal disruption.

- **Simplify management, high availability, and high performance**. SAP operating environments are complex; look for a vendor that understands your landscape and works to ensure that your SAP environment remains secure, compliant, highly performant, and always available.

- **Prioritize stability**. For SAP environments, stability is a key performance characteristic. Look for a vendor that offers the support you need. SAP certifies its products on minor releases of the operating system, but operating system vendors vary in terms of the length of their support for such releases, including security patches and critical bug fixes.

- A**lign on digital transformation strategy**. Look for a vendor whose vision of digital transformation aligns with yours. Your roadmap may include Internet of Things (IoT) initiatives, containerization, private and public cloud services, and more. A vendor whose product portfolio is aligned with your vision—and SAP's vision—can help you effectively execute your digital transformation strategy going forward.

LEARN MORE

Learn more about SAP S/4HANA at sap.com/s4hana.

Learn more about Red Hat Enterprise Linux for SAP Solutions at redhat.com/rhel.

Learn more about the innovative partnership of Red Hat and SAP at redhat.com/sap.