AVANTRA

3 Unexpected SAP Cloud Challenges and How to Conquer Them

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Executive Summary

Running SAP systems in the cloud can provide a litany of benefits to users at every level of the organization. However, many hidden, unexpected and expensive challenges can quickly arise before, during and after migrating mission-critical SAP systems to the cloud. Some of these challenges include inconsistent standards and efficiencies, unanticipated and surprising costs, and unplanned and potentially dangerous downtimes. Plaguing both Enterprise IT operations and Managed Service Providers (MSPs), these challenges can transform a practical and profitable project into a disruptive and daunting endeavor.

If only a cloud-management solution existed that could thwart these challenges. A solution which would ensure that SAP systems are effectively and efficiently run in the cloud. Potentially simple to install, a solution that heavily utilizes automation to manage and optimize complex SAP landscapes in both a hybrid, on-premise and cloud and multi-cloud environments.

Introduction

Cloud computing is the use of computer system resources and services located over the internet and not locally. From local bakers to multinational banks, many businesses are rapidly moving and operating some, and even a majority, of their critical corporate infrastructure and systems into the cloud. Some substantial benefits of cloud migration include significantly lowering IT costs, ramping up innovation and time-to-market, and improving service quality. These benefits and more are the forces driving the migration of SAP systems into the cloud.

There are four components or types of cloud computing

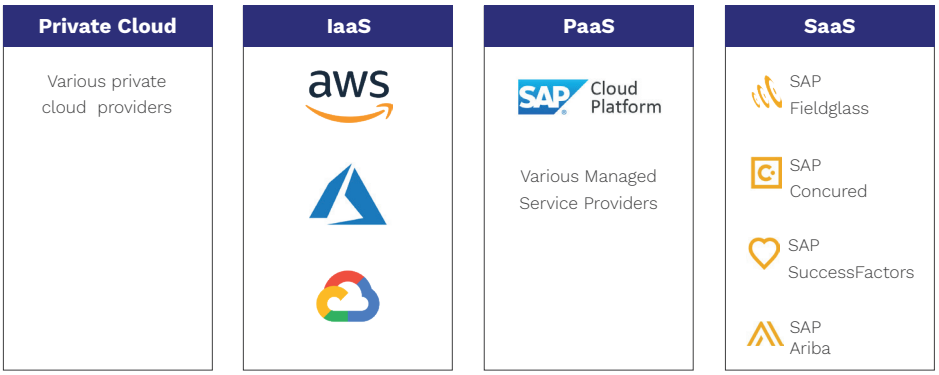
1. Private Cloud: In a private cloud the end customer controls the whole stack and has full control over the services and infrastructure.

2. Infrastructure-as-a-Service (IaaS): The end customer rents the IT infrastructure and has no interaction with the hardware. Amazon Web Services (AWS), Google Cloud Platform (GCP) and Microsoft Azure are the three leading SaaS providers. Forrester projects that by 2020 AWS; GCP and Azure will capture 80% of all platform revenue.

3. Platform-as-a-Service (PaaS): The end customer is provided with cloud computing services to quickly develop, test, customize and manage applications. The end user may not have access to the underlying database or infrastructures. The SAP Cloud Platform is an example of a Platform as a Service. Many Managed Services Provides are starting to utilize PaaS to manage the database while enabling their customers to work on the application layer.

4. Software-as-a-Service (SaaS): Software applications are delivered to the end customer over the internet. The end user usually logs in via a web browser or mobile device and inputs any business needs. The end user relinquishes full control over nearly everything including hardware and operating systems.

Types of Clouds for SAP Applications

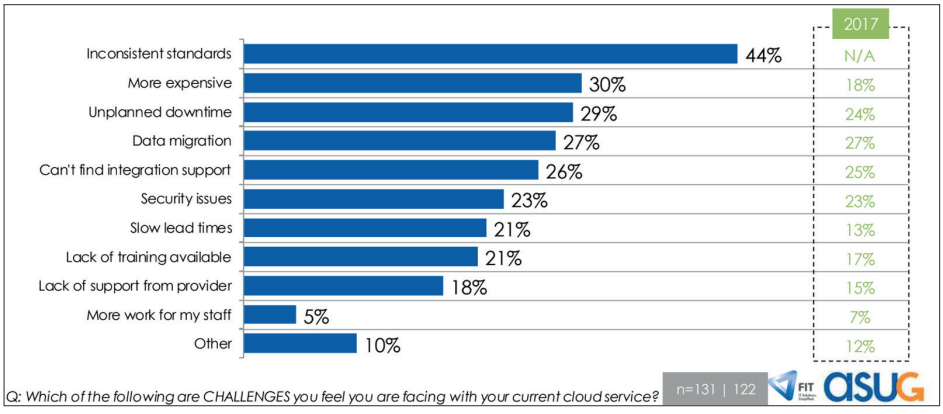


According to the analysts at Gartner, “by 2020, a corporate ‘no-cloud’ policy will be as rare as a ‘no-internet’ policy is today. Corporate encouragement for SAP cloud migration will only continue to grow.

SAP in the Cloud ≠ Dynamice

Many of the cloud computing benefits are frequently not initially realized when migrating SAP systems into the cloud. Hosting SAP systems on one of the three major IaaS cloud providers tends to be not nearly as dynamic as IT operations and MSPs originally anticipated. From scaling, to cost, to maintenance, numerous challenges emerge when running SAP systems in the cloud. The below results from a joint Freudenberg IT (FIR) and American SAP User Group (ASUG) SAP customer survey illuminating the most common challenges SAP customers encounter before, during and after SAP cloud migration.

Challenges of SAP Cloud Migration

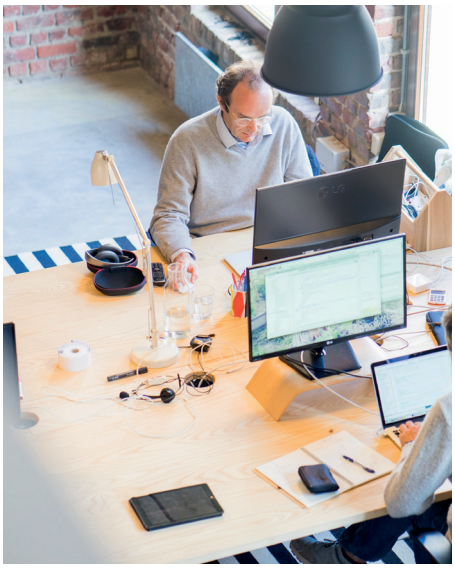


3 Unexpected SAP Cloud Challenges and How to Conquer Them

Challenge 1:
Inconsistent Standards

According to 44% of SAP customers the largest challenges they encounter when migrating SAP systems to, and then running in the cloud, is inconsistent standards. Using one of the three major IaaS providers, AWS, GCP or Azure, to deploy and then manage SAP systems in the cloud offers a wide range of strengths and potential pitfalls. Each of those three cloud providers offers a vast variety of capabilities and tools. Some may not be as enterprise focused and ready, while others may lack significant documentation. These inconsistent cloud standards can quickly cause confusion for IT operators or MSPs who must manage a hybrid and/or multi-cloud environment.

Most SAP migrations to the cloud tend to be, at least in their initial stages, hybrid. These hybrid migrations combine the legacy on-premise systems with those migrated to the cloud. In some cases, multiple cloud providers are involved with the migrated cloud systems. Having to utilize a separate and strikingly different tool for each environment will naturally produce confusion and inconsistent management and monitoring. This can easily result in inefficiencies and even failures (not to mention the overhead of training, maintenance and upgrades). This inefficient use charters us towards the next two challenges – lack of visibility and additional unexpected costs.



Challenge 2:
Lack of Visibility

Another challenge related to inconsistent cloud standards is a lack of visibility into how the systems are functioning in the cloud. Regardless of whether a business is running their SAP systems completely in the cloud, or utilizing a hybrid solution composed of one, or multi-cloud providers and on-premise systems, a crippling lack of landscape visibility and insights around system performance is experienced by IT operators and MSPs when relying on the cloud provider's default monitoring tools.

These default tools are limited in only viewing their own cloud services and thus provide performance metrics about only the cloud provider's virtual machines, operating systems, and databases, with no visibility into critical SAP system performance metrics, such as work processes, business processes or batch jobs.

Trying to identify the source of an issue affecting systems performance becomes very difficult and cumbersome when users need to switch between different tools and lack performance wide view. Insufficient visibility is further exasperated when running entire SAP landscapes across multiple cloud providers due to the inability to see complete cross-platform landscape performance. This lack of visibility across multi-cloud, as well as in the remaining on-premise systems greatly increases monitoring complexity and results in an error-prone environment. With no cross-environment visibility, accurate planning and budgeting for cloud and infrastructure, resources become practically impossible tasks.

Challenge 3:
More Expensive Than Expected
due to Inefficient Scaling

Unexpected costs plague 30% of SAP customers when migrating to the cloud. A major source of unexpected costs is that operating costs can rapidly balloon when SAP systems are inefficiently scaled in the cloud. A dynamic cloud system efficiently scales, either up, down, in, or out, to handle the growing or diminishing resources necessary to meet the business demands of the system. Without insight into the SAP operations, performance and API, the cloud provider's tool can't scale the system down as they may terminate a critical process. On the opposite side, adding new cloud resources won't help system performance as SAP systems may not use new cloud resources unless a properly configured app server was added to it. Concurrently configuring an app server is a long and tedious process, thus not a definitive solution to address the immediate needs of resources.

Not having an immediate on-the-fly solution could result in a temporary or long term slowing down of the overall system.

Vertically scaling a system up or down dynamically adds or removes resources (memory (RAM), processors (CPU), etc.) to an existing server. Horizontally scaling a system in or out will spread or diminish the load across multiple physical or virtual servers. The servers are either created or made to idle dormant. Properly scaling SAP systems in the cloud is paramount for both minimizing operating costs and for ensuring end user satisfaction due to optimal system functionality.

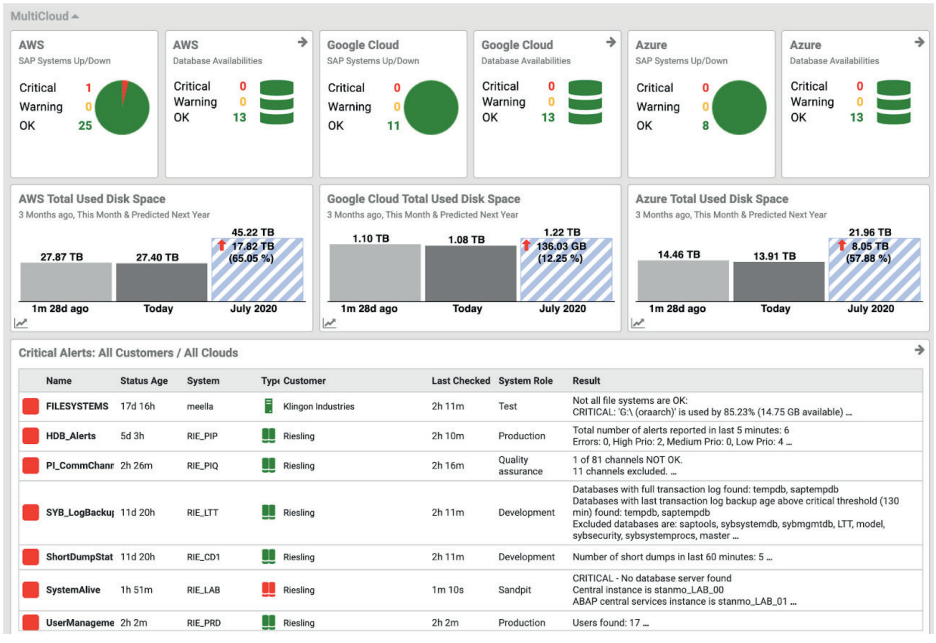
Inefficiently scaling SAP systems hosted on pay-as-you-use cloud environments can quickly skyrocket operation costs. For instance, the inability to properly scale down certain resources such as HR functionalities or production environments on nights and weekends when their usage is usually low will rapidly erode the projected cost savings that particularly justified the migration project in the first place. Without the capability to automatically scale to satisfy the business demands the once envisioned lean and dynamic SAP cloud system can transform into an albatross on the balance sheet.

Better Cloud Management and Automation with Avantra

Installed in just minutes atop the cloud or on-premise, Avantra provides complete real-time visibility, automation, monitoring and management across every SAP and non-SAP element whether on the cloud or premise. It offers performance-based auto-scaling in complex SAP landscapes. Using Avantra, you can improve your services and service level, increase your team productivity and offer new innovative services. Best practice monitoring, automation, and management are automatically applied to all of the elements of your SAP system, and performance insights are crystalized on a single pane of-glass. Cross-landscape visibility into SAP systems hosted on-premise and on multiple IaaS providers. Using Avantra SAP cloud or multi-cloud systems scale based on SAP system performance and your business KPIs.

By monitoring your SAP systems landscape on-premise and in the cloud, Avantra can automate vertical scaling to provide the necessary cloud resources to optimize the needs of the SAP system. Avantra can dynamically scale SAP systems in the cloud, based on their performance needs. Avantra can automatically increase resources during peak usage hours and unprecedented high demand, and reduce resources during expected down times to curtail costs. Horizontal scaling can also be automated with Avantra. Additional application servers can be spun up but remain dormant until SAP system performance issues can dictate their activation and deployment to efficiently scale out the system on-demand in seconds.

Multi-Cloud Dashboard in Avantra



The automated scaling of SAP cloud systems isn't the only way Avantra solves the challenges of unexpected and unprecedented costs. Using Avantra to monitor during a cloud and/or SAP HANA migration can provide you with valuable system information that mitigate costly risks. Throughout the migration, Avantra monitors the systems and collects valuable data, even if the system is not up and running. This eliminates information gaps and lowers security and compliance risks. Avantra can also be used to create a system performance benchmark. A business can compare the pre-migration system benchmark to the post-migration system performance to help determine the value of the migration. Plus, the nearly instantaneous and painless installation process means all of the cost-saving benefits are realized without hiring expensive consultants for multi-month implementation projects.

Scale the SAP migration mountain into the clouds with the quality, security, and dependability of the number one application performance monitoring solution in the SAP market, Avantra.

Predictive Analytics for Resource Planning in Avantra

System Role	Used Space	Predicted Space	Pred. Growth	Pred. Growth %	Analysis
Production	560.13 GB	↑ 561.20 GB	↑ 1.07 GB	↑ 0.19 %	Total Space is 699.98 GB
Sandpit	8.41 GB	↑ 9.57 GB	↑ 1.16 GB	↑ 13.79 %	Total Space of 15.06 GB is used in 3y 46d (2020-10-24)
Test	482.30 GB	↓ 479.25 GB	↓ -3.04 GB	↓ -0.63 %	Total Space is 642.66 GB
Production	512.90 GB	↑ 518.60 GB	↑ 5.70 GB	↑ 1.11 %	Total Space of 848.83 GB is used in 44y 14d (2061-09-21)
Quality assurance	526.95 GB	↑ 534.87 GB	↑ 7.93 GB	↑ 1.5 %	Total Space of 848.84 GB is used in 27y 191d (2045-03-17)
Development					No performance data available
Development	217.08 GB	↓ 141.53 GB	↓ -75.55 GB	↓ -34.8 %	Total Space is 498.83 GB
Development	67.38 GB	↑ 72.91 GB	↑ 5.53 GB	↑ 8.2 %	Total Space of 167.84 GB is used in 10y 298d (2028-07-02)

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