Microsoft Azure

E-book Series

17 Lessons Learned Migrating SAP to the Cloud

Critical takeaways from the Microsoft SAP migration experience

Moving SAP to the cloud

This e-book is primarily for IT and business decision-makers who play a key role in their organization's migration, vendor, or digital transformation decision-making. In it, you will see what that transformation looks like on Azure/Microsoft Cloud solution stack (infrastructure, security, data, and AI), specifically in terms of migrating SAP, SAP HANA, and SAP S/4HANA workloads.

SAP is the backbone of your business—from sales to operations and from financials to supply chain. You're most likely adapting to changing business needs, planning for SAP's mandatory transition to HANA-only support in 2027, or looking for ways to integrate AI and improve the performance of your SAP deployment.

But there are the challenges, primarily the question of efficiency and costs. What will it cost, in time and resources, to migrate to the cloud? How do you bring your teams up to speed on how to leverage the tools in your new cloud solution? How do you effectively manage that change efficiently and to the benefit of your existing operations?

Fortunately, making your new SAP investments in Azure will not only help you be more efficient, agile, and innovative, but it will put you in a position to uplevel your ERP transformation using emerging AI and data capabilities—all without incurring the heavy burden of a time-consuming or costly migration.

Microsoft Cloud benefits:

Intelligent insights

Visualize and share data on Microsoft Power BI or analytics platforms including Qlik, Tableau, and SAP Fiori.

Team productivity

Minimize app switching, collaborate freely within Teams and Microsoft productivity apps, and integrate with Microsoft Power Platform to build low-code apps, add chatbots, and automate error-prone processes.

AI tools and training

Give teams the tools and skills required to integrate Azure AI services into your processes.

Security and compliance

Get seamless identity management and access control with Microsoft Entra ID (formerly Azure Active Directory) and threat monitoring with Microsoft Sentinel solution for SAP applications.

The SAP and Microsoft partnership

For over twenty years, Microsoft and SAP have collaborated to provide a well-defined strategy for running essential business applications in the cloud and facilitating innovation for enterprises. Microsoft Azure enhances the efficiency and transparency of your SAP infrastructure, making sure your business is confidently positioned for the emerging technologies of the future. This allows you to speed up innovation using cutting-edge AI capabilities while safeguarding your data and optimizing expenses.

The future of ERP involves a high degree of automation and intelligence, enriched by Artificial Intelligence and Machine Learning technologies. This advancement aims to empower humans to concentrate on strategic and deeply collaborative scenarios extending beyond internal company operations to encompass partnerships and supplier interactions. Microsoft, a global leader in productivity software boasting over 250 million monthly active users in Teams and a strong presence in security solutions like Microsoft Entra ID for inter-company federation, represents an ideal partner to SAP's status as a worldwide leader in ERP software.

Using Azure, you can deploy SAP solutions rapidly on a secure, scalable, and future-ready cloud platform. This joint Microsoft and SAP ecosystem provides unique insights and rich product integration to help you make the most of running SAP solutions and applications in the cloud.

Agile innovation

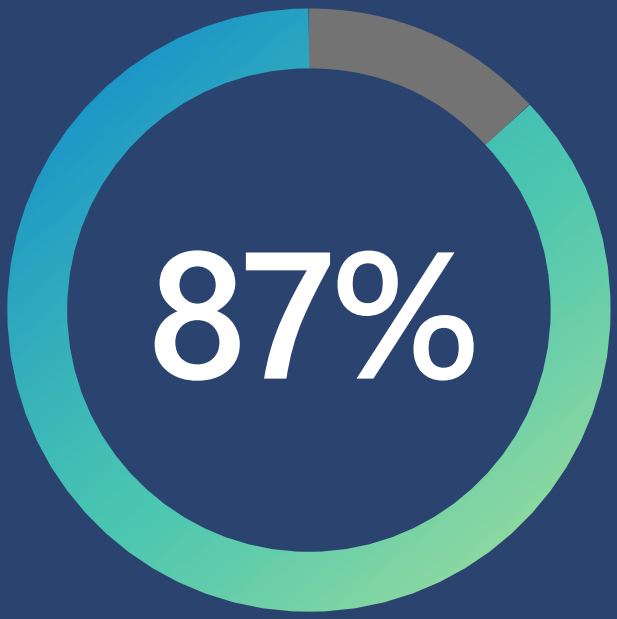
Moving to the cloud will save us money, but this is really about becoming more agile and innovative. This means our teams can stop worrying about keeping our infrastructure up and running and focus on innovating without a lot of heartburn. They can run experiments, learn, and then use those learnings to take us in new directions—and if an experiment doesn't work, they can easily shut it down and move on to something else.

Mike Taylor
Manager of the Microsoft SAP program in Core Services Engineering and Operations
Microsoft

Learn from Microsoft's journey

Like many organizations, Microsoft relies on SAP to manage a significant portion of they're operations. They've made the journey to SAP in the cloud and helped many other organizations migrate successfully. Along the way, they've learned lessons and developed best practices that can help you in your migration. In the following chapters, you'll discover 17 lessons learned over the course of this journey, including a complete checklist on page 30–31.

Let's look at each step of the migration and examine the lessons learned to help make your journey to the Microsoft Cloud easier.



According to SAP over 87 percent of total global commerce is generated by SAP customers and more SAP systems are running in the cloud each year.[1]

Assess your SAP landscapes

Lessons 1-4

The first step in your journey to SAP on the Microsoft Cloud is ensuring you understand your existing SAP application, including the underlying infrastructure of your application landscape, the dependencies, and the IT resources your application consumes. This information will help you develop an effective strategy for your migration.

For example, like Microsoft, your organization likely runs SAP applications across various physical or virtual servers. While your current management tools might represent these clearly, you'll need an assessment mechanism to feed data into subsequent steps to kickstart your migration journey.

Discovering servers and virtual machines is usually a straightforward process. It relies on interaction directly with the endpoint (using an agent) or the managing hypervisor, like Microsoft Hyper-V. Ultimately, the goal of the assessment phase is to collect server and application information, including type, configuration, usage, and applications that might be running.

Identify application and server dependencies

Once you've gathered information about all the servers and virtual machines you discovered, it's time to map any dependencies or communications among your SAP application, third-party applications, and the underlying infrastructure.

This is a critical step because it helps you discover application dependencies so you can:

Decide what you can retire
Across all SAP landscapes, are there any workloads running on old hardware that aren't used often or used by very few people? Are there any application roles that you can consolidate? Now is the right time to streamline and right-size your SAP workloads.

Decide what you can replace
Look for systems that you can replace with software-as-a-service (SaaS) offerings. For example, SAP has SaaS solutions like Concur, SuccessFactors, and Ariba. Microsoft has SaaS products like Dynamics CRM Online that integrate into SAP business processes.

Prioritize workloads for migration

It's also important to determine migration risk. Migration risk usually depends on two factors:

Business impact:

How significant is the workload to your business operations?

Complexity:

How complex is the application, and how well does your team understand it?

A critical workload will score a higher risk, even if it's simple. A more complex but less critical workload might result in a lower risk score, making it a better candidate for early migration.

Analyze your configuration

Configuration analysis ensures your SAP workload will function as expected on Azure. This process provides insight into your SAP workloads, the best way to migrate them, and any modifications you need to make to ensure a successful migration. You must look at your SAP configuration and cloud compatibility at this stage. Can it be migrated with its current configuration? Or do you need to provide workarounds or recommend configuration changes? Does anything about the solution need to change?

Plan your costs

Evaluate the potential cost savings of your migration. For example, you can use the total cost of ownership (TCO) Calculator to calculate your TCO for Azure and compare it to that of a comparable deployment that uses your on-premises infrastructure. On-premises servers and virtual machines are often over-provisioned, using less than 20% of capacity. If you were to take the physical configuration of your on-premises server and map this to an IaaS Virtual Machine series type, you would likely find that you were paying for more performance and scale than you need.

Based on your assumptions and inputs for configuration requirements for running SAP workloads—including compute, storage, network, and database—you can predict the cost of resources to be used on the cloud and estimate the cost savings you can realize by migrating your workloads to Azure.

Migrate on your terms

Migrating SAP to the cloud is all about starting from where you are so every component can contribute to increased productivity and collaboration.

Select from a broad array of over 60 Azure regions and 128 Azure virtual machines, all certified for SAP, supporting the most extensive SAP-native and RISE with SAP environments globally.

Collaborate with the industry's largest specialized SAP cloud architects and engineers team.

Leverage top-tier cloud services, including the Azure Monitor for SAP solutions and Azure Backup.

Enhance your data resources with access to over 100 connectors.

Incorporate AI and machine learning capabilities for in-depth analysis and responsive actions on edge data.

How Microsoft assessed its SAP environment

Running SAP in the data center at Microsoft presented several day-to-day challenges for their Core Services Engineering and Operations (CSEO) team. On-premises infrastructure costs were high, and the infrastructure did not support peak load and was hampering digital transformation.

The team looked at the SAP system—which ran on over 600 servers and virtual machines—looking for machines with low usage in terms of time or users. The question was: could this functionality be combined into one app? It was the perfect time to streamline, right-size, and eliminate physical servers and on-premises virtual machines.

The team looked at the performance and capabilities of physical servers and virtual machines as part of the assessment. They also looked for systems that they could replace with a SaaS solution. All these considerations helped define the strategy that best met migration requirements.

Lessons learned along the way

The CSEO team learned some valuable lessons that can help you with the assessment phase of your own migration:

Lesson 01

Gather information

Before performing an IaaS migration, the team needed to understand the complexity of the SAP workloads, the underlying infrastructure, the size of each workload and related databases (in terms of velocity, volume, and variety), and the requirements for seasonal elasticity.

Lesson 02

Remove clutter

Moving to the cloud is an opportunity to throw out the stuff you're not using. When you own that old on-premises server, it doesn't matter how much old stuff you have buried in there. When you're on the cloud, the cost of keeping it around can add up fast.

Lesson 03

Right-size your Virtual Machines

It's easy to overprovision virtual machines. Consider aggressively right-sizing and then size up as needed. At the same time, you want to avoid the work of frequent resizing. The right balance is important here.

Lesson 04

Plan your Azure region strategy before migration

Azure regions have a global reach, so make sure that your resources are hosted in an Azure region or regions that provide the best connectivity for your company. Also, consider disaster recovery aspects as part of your Azure region strategy.

See **Building an agile and trusted SAP environment on Microsoft Azure** for a closer look.

Launch your SAP migration

Lessons 5-9

Once you've completed your discovery and assessment, it's time to prepare for the next step—the actual migration. This is where you can choose the best approach to meet your ultimate business requirements.

For example, you might lift and shift your SAP database using SQL Server Always On or S/4HANA System Replication to seamlessly replicate your on-premises data to the cloud. At the same time, you can choose to refactor the application tier of your SAP. And you might also decide that a SaaS solution like SAP Concur makes sense for expense management.

How Microsoft migrated SAP to the cloud

Along with planning which aspects of this SAP environment to rehost, refactor, rearchitect, rebuild, or replace, the CSEO team at Microsoft also looked at the migration from a horizontal and vertical migration strategies standpoint.

The horizontal strategy started with the lowest tier of environments, sandboxes, before moving up the stack to development systems, test systems, disaster recovery, and production systems. This horizontal "tier-by-tier" approach quickly drove migration numbers and established the necessary processes from the bottom up.

Different migration approaches:

Rehost: "Lift and shift" your current solutions to Virtual Machines in the cloud.

Refactor: Make minimal changes to your solution so it works in the cloud.

Rearchitect: Change how your solution works to optimize it for the cloud.

Rebuild: Rebuild your solution using cloud-native technologies to get the most from the cloud.

Replace: Replace portions of your current solution with SaaS.

In parallel, the team also pursued a vertical strategy, picking lower-criticality SAP applications with their complete environment (sandbox, dev and test, and production systems). A vertical approach allowed the team to quickly define production processes for patching, resizing, and other maintenance tasks, and to accelerate learning.

Start with lower-risk SAP solutions, then migrate more critical ones

Microsoft was already using server virtualization in their on-premises datacenters. The team created a new virtualized target environment in Azure with minimal changes to the server operating system (OS) and OS-level configuration. They also made only small changes to the configuration of SAP applications.

The team used a lift-and-shift (rehost) strategy to take servers from the on-premises environment and re-create them as Azure Virtual Machines with roughly the same resources and configurations. Because the team ran multiple sandbox, test, development, and production environments, they used the horizontal strategy on the sandbox environment as a series of test cases or mini-pilot migrations. It was perfect for initial experimentation. Following that, they then used the vertical strategy to adjust these internal processes. It was also a great way to spot any issues in production early on.

As a result of the migration, the team realized that developers will need assistance when they refactor, rearchitect, and rebuild their apps to integrate SAP with Azure services. This is why they created the SAP ABAP SDK for Azure, simplifying SAP integration, and the SAP Web Services Platform for Azure, enabling partner applications to integrate with SAP consistently and efficiently.

Lessons learned along the way

Migrating our SAP infrastructure demonstrated a few things:

Lesson 05

Use a vertical strategy for migrating low-risk applications

When the project started, the plan was to use the horizontal strategy. But, because some of the end-to-end applications were low criticality, the migration team used them with the vertical strategy to get experience with a production environment in Azure and thus accelerate learning.

Lesson 06

Consider a cloud-first approach for new systems

When they a new system, the team wasn't sure whether to put it on-premises and then move it or to build it in Azure from the get-go. It was low business impact, so they built it in Azure. Microsoft saved money and learned about cluster setups and production environments in Azure.

Lesson 07

Think through your migration strategy

Understanding what to move and when to move it is a big part of moving SAP to Azure. The horizontal and vertical strategies discussed in the first resource provided below give you practical, business-friendly guidance on migration strategies.

Lesson 08

Migrate around business-critical events

Don't move systems when they're needed for major events such as product releases, quarterly financial reporting, and big projects that go live in the production environment. For a closer look, see Strategies for migrating SAP systems to Microsoft Azure and Streamlining business processes with SAP connectors and Azure services.

Lesson 09

Avoid wasting migration time on unneeded systems or data

Confirm that retired systems aren't migrated, that your SAP infrastructure inventory is accurate, and that your disaster recovery plan is tested and in place.

Make the most of SAP in the cloud

Lessons 10-13

Once you've moved to the cloud, you'll want to optimize your SAP cloud environment to gain business and cost efficiencies—and discover ways to fuel your innovation initiatives with AI.

You would typically size on-premises servers and storage infrastructure for the next three to five years, based on the expected maximum use and workload during the asset's lifespan. But often the full capacity of the hardware isn't used outside of peak periods—or isn't needed at all. Maintaining these on-premises systems is costly, while the cloud offers much more flexibility to scale your SAP systems up or down for current and short-term needs—not just for whatever the maximum load might be throughout the few years. As demand fluctuates, you can reoptimize your environment based on current needs and avoid paying for redundant resources.

Another way to maximize SAP in the cloud is to add AI capabilities with Azure OpenAI Service and Copilot. Built directly into Microsoft Fabric—an end-to-end data and analytics platform—these tools let you innovate with AI and deploy virtual assistance bots to expedite SAP processes. Here are some other examples of cloud optimization capabilities to keep your SAP cloud environment optimized:

Cost management

You can use capacity-management tools such as Azure Cost Management to help you size your SAP workloads in Azure, so you pay only for what you need when you need it. This reduces the total cost of ownership of unused hardware and ongoing server maintenance and gives you the agility to size your SAP workloads for now and easily change your setup as needed to handle future requirements.

Understand and optimize your cloud costs with Microsoft Cost Management.

Enhance employee productivity with AI

Empower non-technical team members to get more done with AI-powered solutions.

Microsoft 365 Copilot

M365 Copilot is an AI assistant designed to enhance the productivity of non-technical SAP users and developers. It achieves this by offering users intelligent support across various Microsoft 365 applications and datasets, enabling them to accomplish a range of tasks seamlessly.

For example, M365 Copilot lets users create and edit SAP reports in Excel employing natural language commands such as "show me the sales revenue by region for the last quarter" or "add a chart

to compare the profit margin of different products." M365 Copilot can also be prompted to provide relevant code within Visual Studio Code and help users find and share pertinent information contained in SAP documents, emails, chats, and meetings.

Learn more about Microsoft Copilot.

Microsoft AI SDK for SAP

The Microsoft AI SDK for SAP ABAP is a Software Development Kit designed to give SAP ABAP developers the essential resources for creating intelligent enterprise applications with AI capabilities like Azure OpenAI. Using AI SDK for SAP ABAP v 1.0 and integrating Azure Open AI with SAP ABAP/SAP business processes, you can build innovative applications that help automate manual tasks, deliver business insights, and offer more personalized customer experiences.

For instance, it allows developers to generate natural language summaries of SAP reports and documents with the assistance of Azure Open AI text summarization services. It also employs speech recognition and synthesis services that let developers create voice assistants capable of understanding and responding to natural language commands from SAP users.

For more information about AI SDK for SAP ABAP, watch this demo video.

High availability and scalability

You can deploy and assign multiple SAP app instances to SAP redundancy features like logon groups and batch server groups for scalability and high availability of the SAP application layer. You can configure these app instances on different virtual machines in Azure for high availability. SAP automatically dispatches the workload to multiple instances per the group definitions.

If an instance isn't available, business processes can still run via other SAP app instances that are part of the same group. Use Azure Availability Zones to protect all the components of your SAP instances against infrastructure disruptions and ensure guaranteed 99.99 percent availability.

Access better insights from SAP and non-SAP data

Through data analytics, you can identify inefficiencies, pinpoint areas for improvement, and refine strategies, ultimately leading to more efficient operations. Moreover, data analytics enables predictive and prescriptive insights, allowing you to anticipate challenges, respond proactively, and drive innovation. Azure Synapse Analytics is an integrated experience in Microsoft Fabric that combines the strengths of SQL technologies commonly employed

in enterprise data warehousing, Apache Spark technologies for handling big data, and Azure Data Explorer for in-depth log and time series analytics.

Learn more about how Microsoft Fabric brings your analytics capabilities together on a single, end-to-end platform to deliver deeper business intelligence insights.

Rolling maintenance

The scale-out logic of SAP app instances can be used for rolling maintenance. You can remove one virtual machine (and any SAP instances running on it) from the SAP system for maintenance activities without affecting production. After you finish your work, you can add the virtual machine back, and the SAP system automatically uses the instance again.

By optimizing SAP on the Microsoft Cloud, the CSEO team positioned the SAP environment to grow and change with business needs. It's now leading digital transformation and empowering everyone in the organization to achieve more. Put simply—Azure makes the SAP solution better.

How Microsoft optimizes in the cloud

Like you, Microsoft wants their SAP environment to be agile, efficient, and able to grow and change with their business. This requires monitoring and optimizing the environment to:

Increase cost savings by using Azure M, D, and E Series VMs to simplify infrastructure management.

Create more agile, scalable, and flexible SAP solutions.

Empower developers to innovate and be more efficient with SAP integrations for Azure OpenAI Service and Microsoft Copilot.

Enhance security for critical SAP systems with threat monitoring provided by Azure Sentinel.

By optimizing SAP on the Microsoft Cloud, the CSEO team positioned the SAP environment to grow and change with business needs. It's now leading digital transformation and empowering everyone in the organization to achieve more. Put simply—Azure makes the SAP solution better.

Lessons learned along the way

In optimizing this SAP environment on the Microsoft Cloud, the migration team learned several lessons:

Lesson 10

Stay up to date with the latest technology

Azure technology and available virtual machine sizes and features always advance. For example, the recently released Azure Monitor for SAP Solutions (AMS) capabilities gather telemetry on your SAP instances and the supporting infrastructure.

Lesson 11

Optimize SAP environment before and after migration

You can optimize your environment by ensuring that retired systems aren't migrated, that your SAP infrastructure inventory is accurate, and that your disaster recovery plan is tested and in place. You don't want to waste migration time on systems or data that you don't need.

Lesson 12

Design for high availability in your production systems

Use Azure Availability Zones, SQL Server Always On, and SAP features like logon groups, remote function call groups, and batch server groups.

Lesson 13

Minimize cost by turning off Virtual Machines when they're not needed

Slash your costs by taking advantage of one of the cloud's best benefits: snooze your usage of Azure when your teams are out of the office on nights, weekends,

For a closer look, see Optimizing SAP for Azure

Secure and manage SAP in the cloud

Lessons 14-17

How Microsoft secured SAP in the cloud

Given the increasing number of threats to your cyber infrastructure, your solution is only as good as your ability to secure visibility and control of SAP usage and security in the cloud. Avoiding business disruptions, meeting compliance goals, and protecting internal and customer data were all important.

Microsoft uses Azure services in combination with SAP capabilities to provide integrated cloud security and compliance for SAP workloads and their underlying infrastructure and data while supporting more complex configurations and more user-accessible SAP solutions.

Like other SAP users, Microsoft needs to ensure that SAP infrastructure and data are secure.

The migration team developed a strategy to protect SAP assets and data with Azure security solutions and SAP tools to accomplish this.

The strategy is to make Azure and SAP infrastructure secure by design using integrated systems, tight controls, and effective monitoring to mitigate current and emerging security risks. The plan is to focus on protecting Microsoft assets and data in a high-profile environment while streamlining compliance with existing regulations like Sarbanes-Oxley (SOX) and newer ones like the General Data Protection Regulation (GDPR).

SAP security

Data security and encryption

Use built-in industry-leading controls and capabilities to enable data security and encryption.

Security monitoring and threat detection

Use the Azure logging and monitoring capabilities and artificial intelligence for real-time visibility, threat detection, and event analysis.

Single sign-on

Seamlessly access all SAP applications with a single credential by using Microsoft Entra ID single sign-on integration.

Native malware protection

Take advantage of the native malware protection, OS-level controls, OS hardening, and patch management built into your chosen operating system.

Role-based user access

Use S/4HANA's role-based authorization concept to deploy a least-privilege architecture. Using this approach, users can only perform the specific, authorized tasks allowed for an application.

Access anywhere

Enable user access via web or mobile devices—ensuring users can perform only the activities for which they're authorized—by using the Fiori Gateway user interface.

Additionally, S/4HANA security incorporates the robust Microsoft enterprise security framework and principles that developed over time. It takes advantage of the Azure-specific security framework that has positioned Azure as a cloud services leader, and it incorporates the security tools and technology that SAP and its partners have developed, including the HANA database and reporting.

For compliance, the team already knew that Azure is an industry leader in compliance, providing more certifications than any other cloud provider. This meant they could focus on internal business processes to complete the compliance solution.

In an era where data breaches and cyber threats are always evolving, robust cloud security for SAP safeguards data and business continuity. The accompanying sidebar content on the right highlights the most comprehensive platform for SAP security in the cloud—Microsoft Sentinel for SAP®.

Considering that any breach in Microsoft SAP applications could have catastrophic consequences for us, we knew that we needed a solution that enabled rapid vulnerability detection and monitoring capabilities to reduce risks to the organization. We needed an internally managed and configured SIEM solution that could baseline user behaviors and detect anomalies across SAP to include the OS and network layer, the database layer, and the application and business logic layers.

Kusuma Sri Veeranki

Senior software engineer and SAP security lead, Microsoft Digital

Microsoft Sentinel for SAP®

The Microsoft Sentinel solution for SAP® applications provides end-to-end detection, analysis, and response to threats within your SAP environment. It maintains continuous vigilance over SAP systems, monitoring threats across multiple layers including business logic, application, database, and the operating system.

This solution enables the correlation of SAP monitoring data with other organizational signals so you can easily monitor sensitive transactions and mitigate business risks like privilege escalation, unapproved changes, and unauthorized access. It also lets you create automated response procedures for dealing with active security threats, taking some of the pressure off your security operations teams.

Microsoft Sentinel is a next-gen security information and event management solution (SIEM) enriched by AI, automation, and threat intelligence.

Find out why it was named a Leader in the 2022 Gartner® Magic Quadrant™ for SIEM.

Microsoft Sentinel offers the following key components for protecting SAP and non-SAP data:

- The Microsoft Sentinel for SAP data connector, responsible for data ingestion.
- Analytics rules and watchlists designed for threat detection.
- Accessible functions for streamlined data retrieval.
- Interactive data visualization via workbooks. Customizable parameters through watchlists.
- Automated response workflows with the assistance of playbooks.

The Microsoft Sentinel for SAP® data connector is an agent collecting application logs from the entire SAP system landscape and transmitting them to your Log Analytics workspace within Microsoft Sentinel.

Learn how the team uses Microsoft Sentinel to protect their SAP workloads in the cloud.

Lessons learned along the way

Here are the lessons learned at Microsoft about securing their SAP infrastructure:

Lesson 14

Security is a process, not an endpoint

Protecting business data is a top priority at Microsoft. When migrating SAP workloads to Azure, the team needed to consider all the compliance and data security aspects of hosting data in the public cloud. As systems evolve, they always look for ways to improve their security posture.

Lesson 15

Balance security with openness needed for troubleshooting

The team does not open all ports in Azure. They wanted to have an environment open to troubleshooting without compromising security. Port management and monitoring are key to a balanced approach.

Lesson 16

Capture legal and compliance requirements from the start

Because complying with legal requirements for data safety and security can be complicated, Microsoft worked with stakeholders and data owners for each application to capture all corporate and legal compliance needs.Plan for this up front.

Lesson 17

Gather telemetry and monitor your systems

Take advantage of Azure Monitor for SAP Solutions (AMS) capabilities as part of a comprehensive monitoring strategy.

Optimize your SAP investment

Our move to S/4HANA continues

Our move to S/4HANA has made great progress with active use of multiple HANA-based S/4 and BW/4 systems. As this journey continues, Microsoft will integrate industry best practices into every facet of the security infrastructure built for S/4HANA on Azure. This allows Microsoft to be agile and efficient and to provide scalability in an SAP environment—both internally and for customers.

SAP Applications At Microsoft—Business View

Microsoft is running 100% of their SAP applications on Azure. While the initial migration is complete, the CSEO team's optimization efforts are ongoing, lowering operating costs and improving efficiency. The team also on guard for security threats and new ways to prevent attacks. And, as noted earlier, the company is migrating to S/4HANA. Azure can handle the smallest to the largest SAP deployment with virtual machines sized to handle even a Microsoft-sized SAP ERP system. So, no matter the size of your business, you can stay agile, innovative, and efficient.

Checklist: 17 tips for migrating SAP to the cloud

Assessing your SAP environment

- [ ] **Lesson 1. Gather information**

  Understand the complexity of your SAP workloads, underlying infrastructures, sizes of each workload and related databases (velocity, volume, and variety), and requirements for seasonal elasticity.

- [ ] **Lesson 2. Remove clutter**

  The cost of carrying around dead weight on the cloud adds up fast.

- [ ] **Lesson 3. Right-size your Virtual Machines**

  Properly allocate resources to avoid over-provisioning or under-provisioning.

- [ ] **Lesson 4. Plan your Azure region strategy before migration**

  Verify resources are hosted in an Azure region or regions that provide strong connectivity and locate disaster recovery regions far enough away from your primary region.

Migrating SAP to the cloud

- [ ] **Lesson 5. Use a vertical strategy for migrating low-risk applications**

  Test your strategy and gain experience with a production environment in Azure by migrating complete environments.

- [ ] **Lesson 6. Consider a cloud-first approach for new systems**

  Save money and learn about production environments.

- [ ] **Lesson 7. Think through your migration strategy**

  Understanding what to move and when to move it is essential for migrating SAP to Azure. Practical, business-friendly guidance can be found in Strategies for migrating SAP systems to Microsoft Azure.

- [ ] **Lesson 8. Migrate around business-critical events**

  Schedule around significant events like product releases, quarterly financial reporting, and projects that go live in the production environment.

- [ ] **Lesson 9. Avoid wasting migration time on unneeded systems or data**

  Confirm that retired systems aren't migrated, that your SAP infrastructure inventory is accurate, and that your disaster recovery plan is tested and in place.

Optimizing SAP in the cloud

- ☐ **Lesson 10. Stay up to date with the latest technology**
  Take advantage of new capabilities for better ROI, security, functionality, and more.
- ☐ **Lesson 11. Optimize SAP environment before and after migration**
  Avoid wasting time on systems or data that you don't need.
- ☐ **Lesson 12. Design for high availability in your production systems**
  Use Azure Availability Zones, SQL Server Always On, HANA replication features, and SAP features like logon groups, remote function call groups, and batch server groups.
- ☐ **Lesson 13. Minimize cost by turning off Virtual Machines when they're not needed**
  Lower costs by limiting Azure usage when teams are out of the office.

Securing and managing SAP in the cloud

- ☐ **Lesson 14. Security is a process, not an endpoint**
  Consider the compliance and security aspects of hosting data in the public cloud. Security by design and least-privilege access controls are fundamental.
- ☐ **Lesson 15. Balance security with openness needed for troubleshooting**
  Don't leave your environment too open; actively monitor and manage your ports.
- ☐ **Lesson 16. Capture legal and compliance requirements from the start**
  Work with the stakeholders and data owners for each application early to capture all corporate and legal compliance needs.
- ☐ **Lesson 17. Gather telemetry and monitor your systems**
  Take advantage of Azure Monitor for SAP Solutions (AMS) capabilities as part of a comprehensive monitoring strategy.

Maximize your SAP investments by migrating to the Microsoft Cloud.

Contact Sales to speak with an Azure specialist and develop a SAP migration strategy for your needs.

Additional resources

Extend SAP applications and accelerate innovation with SAP on the Microsoft Cloud.

SAP on the Microsoft Cloud

Get technical guidance for SAP workloads on Azure: SAP on Azure Architecture Center

Explore SAP on Azure resource collection: SAP on Azure Resources

Running SAP on the Microsoft Platform blog

Maximize data and AI

Learn more about Microsoft AI SDK for SAP

Cost Optimization

Azure Snooze Power App for SAP on GitHub

Monitoring

Azure Monitor for SAP solutions with SAP on Azure virtual machines (VMs)

Azure Monitor for SAP solutions with

Security

Deploy Microsoft Sentinel solution for SAP® applications

[1]SAP Corporate Fact Sheet