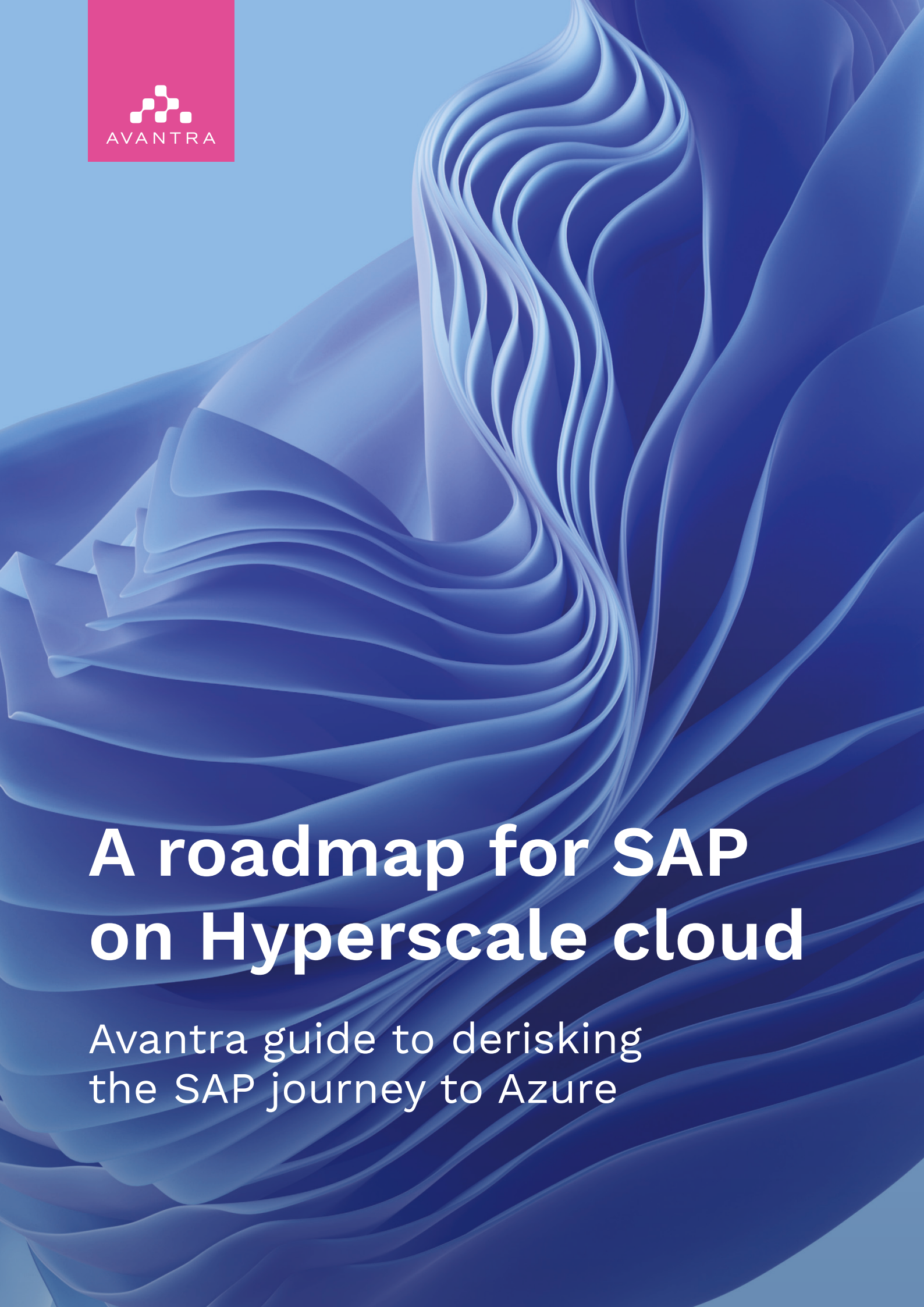

A roadmap for SAP on Hyperscale cloud

Avantra guide to derisking the SAP journey to Azure

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Ravi has worked with SAP systems throughout his career, as an SAP migration lead, SAP managed services lead, and SAP cloud architect, in large and small consulting companies and for a variety of clients across multiple industries.

He believes that subject expertise is only half the battle — to be a trusted advisor, you must also understand customer behavior and know how to ask the right questions.

About the author

Executive summary

The benefits of moving business critical enterprise systems, such as SAP, to the cloud are well understood – but the challenges involved in migration and operations, especially when it comes to SAP systems, are not always fully appreciated, or anticipated.

Introduce consistency in the way SAP operations are managed, to give you the visibility you need to set out with confidence, and steer a smoother course.

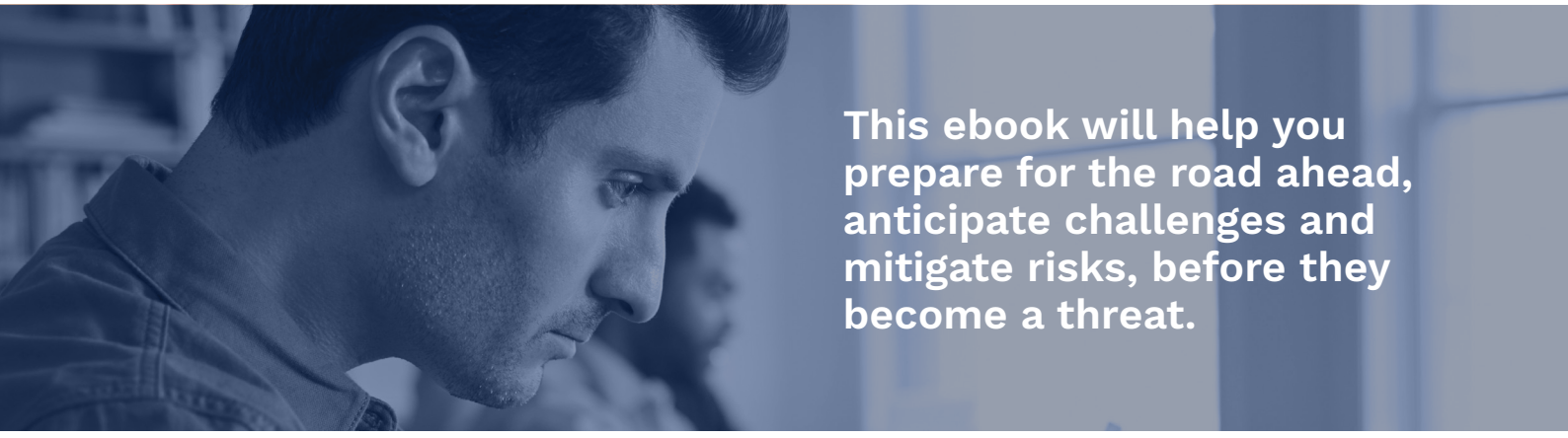
In this ebook from Avantra, we look at how organizations that rely on SAP should prepare for the journey to the cloud. As we shall see, smart use of automation and other DevOps tools help you introduce consistency in the way SAP operations are managed, can give you the visibility you need to set out with confidence, and steer a smoother course.

Introduction: Journey to cloud

If your organization is planning to move its SAP landscape to the cloud, you are likely to be weighing up one of the three large hyperscalers as a provider of choice.

Amazon Web Services (AWS), Google Cloud platform (GCP), and Microsoft Azure all have much to offer SAP customers in terms of agility, innovation, and integration with emerging technologies, and Avantra is proud to partner with all three.

At the same time, we know that the journey to the hyperscale cloud is not without its challenges. A cloud migration, like any major business change, brings with it a risk of disruption. For SAP operations teams, that prospect can be daunting; after all, you are responsible for 'keeping the lights on', delivering resiliency, and avoiding costly downtime.



Part one:
Why Microsoft Azure?

In 2019, SAP announced its intention to partner with the three hyperscalers - AWS, Google Cloud and Microsoft Azure - for commodity infrastructure as a service (IaaS) provision. Since then, several companies, including Fortune 500s, have migrated their SAP systems to hyperscalers and have realized significant benefits as a result.

Among these are:

Agility

Economies of scale enable hyperscalers to provide infrastructure at low cost; add scaling up and down almost instantaneously to the equation and we've got a recipe for quick adaptation to your needs and demands.

This relieves you from the burden of having to provision and manage infrastructure on premise, enable right sizing infrastructure to constantly changing requirements, and frees up internal staff and budgets to focus on more value add work around digital transformation and business process optimization.

Scalable on demand infrastructure increases the overall business resiliency for your organization.

Innovation

To test a new business process, you don't need to go through the entire process of allocating budget for infrastructure, procurement and deployment which can often take weeks if not months.

Ability to quickly spin up (and down) systems on demand leads to freedom to experiment with new applications and services and changes to existing systems - driving faster innovation cycles!

Part one:
Why Microsoft Azure?

Access to emerging technologies

Over time, the value of cloud has evolved from being a cost optimization mechanism to access to a wide array of cloud native technologies and tools in cutting edge areas such as:

- Advanced analytics
- Artificial intelligence
- Machine learning
- Mobility
- Internet of Things (IoT)

Cloud hosted SAP landscapes can take advantage of these new capabilities, opening the doors to entirely new digital services and business insights with little startup cost.

The common thread among all the benefits is automation capabilities – not only can you do all these things that weren't practical on premise, you can also do it at a click of a button using several automation tools and technologies.

Combining the technology enablement of the cloud with an automation platform like Avantra allows you to do SAP system copies every week if you wanted - without burdening the Basis team.

While on the surface, all cloud providers may appear similar in terms of infrastructure and capabilities, but upon closer look the differences and value propositions start to emerge.

Below are a few examples of Azure and SAP being better together:

Data democratization

Tools such as Azure Data Factory, Synapse, and Power BI allow you to bring data to Azure and centrally manage, govern and share. Combining data from different sources also creates rich dashboards and visualizations.

Extend SAP using Azure applications

Tools such as Power Apps and Power Automate let users build their own applications (with minimal coding knowledge), empowering different teams and reducing dependency on IT. You can also use cloud native services and microservices architecture to take advantage of continuous delivery, leading to faster time to market for business use cases.

Open source automation tools

Microsoft is one of the biggest contributors to Open Source in the world. Realizing that SAP customers like open source tools such as Terraform and Ansible, Microsoft's automation framework for SAP is built on those tools, which can be accessed here: https://github.com/Azure/sap-automation.

The migration to the cloud was more about the mindset in the organization and that transformation we needed to do in IT to become the driver of change in the company instead of maintaining the old.

A big part of the migration was to reinvent the digital for the company.

Mark Dajani: CIO
Carlsberg Group

Read the full case study here

Part two:
Ready to get underway?

Any major change to SAP systems brings some risk and requires a lot of planning. These are large, complex, and often highly customized environments that were not architected to natively run on a cloud platform. That translates, for many organizations, to SAP systems being the most challenging of all workloads planned to move to the cloud.

An SAP system move to the cloud typically takes one of two forms:

1. **Lift-and-shift**

   In this scenario, existing SAP systems are often moved to the cloud as is. The main idea behind this is to get to the cloud first and start realizing the benefits in terms of flexibility sooner. This may or may not be an interim step to moving to SAP S4/HANA but when it's time to do so, the flexibility of cloud is a great help!

2. **Upgrade/migrate to S4/HANA:**

   This scenario includes the upgrade or transformation of the ERP Suite to S/4HANA, which is the next generation of business applications from SAP, built for the digital economy. S4/ HANA is based on an advanced 'in memory' platform and typically requires substantial new infrastructure and configuration (such as using cloud capabilities in terms of investment required, time to market, and so on), which clearly makes the case for something like this.

In many organizations, this often results in a hybrid cloud deployment - an SAP landscape of new and legacy applications that straddles both on premise and cloud based environments, which sometimes involves more than one cloud provider, too.

For some companies, this hybrid deployment may be just a temporary stage before they move everything to cloud, while for many others, it will remain the case for the foreseeable future. The complexity here for SAP operations teams is that they immediately face a worrying lack of visibility into how the landscape is performing.

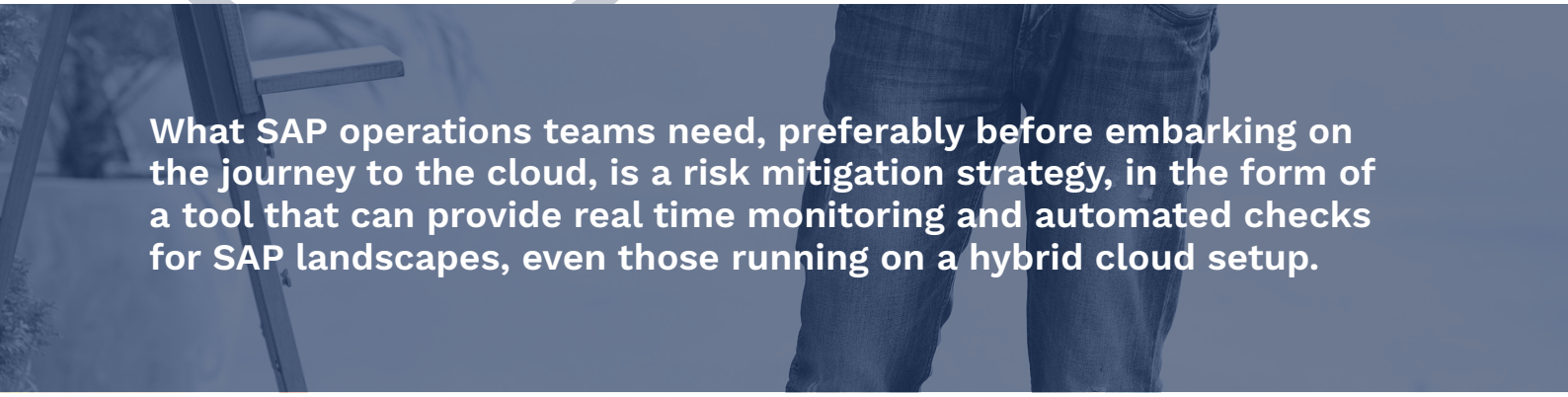
It becomes extremely difficult – if not impossible – to keep a close eye on critical SAP system performance metrics, such as work processes, business processes or batch jobs without the right tools.

Operating SAP on Azure

Migrating the systems to the cloud is only half the story. Less glorious and less talked about is operational efficiency after the migration.

With large SAP and non SAP estate on cloud, you may find yourselves having to use a raft of disparate and incompatible tools to achieve the visibility you need and still end up with blind spots.

Trying to identify the source of an issue when users need to switch between these tools is frustrating and error prone and fails to deliver a landscape wide view. This approach also comes with a hefty overhead when it comes to training, maintenance and upgrades to monitoring tools.



What SAP operations teams need, preferably before embarking on the journey to the cloud, is a risk mitigation strategy, in the form of a tool that can provide real time monitoring and automated checks for SAP landscapes, even those running on a hybrid cloud setup.

Part three:
Customer perspective and challenges

SAP ending the mainstream support for its core applications of Business Suite 7 in 2027 set an industry wide trigger to modernize SAP landscapes. Move to S/4HANA is no longer a roadmap item rather it's a planning priority. It's no surprise that this also triggers cloud adoption because of the advantages discussed earlier.

Source:

https://news.sap.com/2020/02/sap-s4hana-maintenance-2040-clarity-choice-sap-business-suite-7

Some of the opportunities with cloud also pose challenges as highlighted below:

- **Learning curve**

  SAP projects are often complex and large scale. Managing that with learning new technology and optimizing for cost can be a headwind that can push the project off the track.

- **Automation maturity**

  While automation is often touted as the 'be all and end all' for managing cloud infrastructure, it requires a certain level of maturity and customization to account for SAP architecture.

- **Operational excellence**

  Once running on cloud, maintaining security, compliance, intelligent monitoring and downtime minimization (whilst also optimizing performance and cloud costs) are important tasks that require not only the knowledge but also the right tools. The promise of unlimited scalability doesn't mean much without the right process and/or tool to take advantage of it when the business needs the extra capacity during the month end close.

Having an experienced and reliable partner is a good way to mitigate a lot of risks and sets you up for success in the journey to cloud.

Customer insight

As you get more familiar with the cloud and the organization's processes and procedures mature, you may want to have an evaluation criterion for every new service or cloud technology you adopt. Some of these may include:

- **It should be in line with all compliance metrics your company or industry requires**
- **It should be automatable with your choice of automation tools such as Terraform/Ansible**
- **It should be a native service with SLA rather than something that needs to be installed on a VM, which has additional maintenance considerations**
- **It should be compatible with your monitoring and reporting requirements**

Part four:
Your risk mitigation partner

Avantra provides complete visibility, automation, monitoring and management across every SAP and non SAP element in an SAP landscape, regardless of whether it's in the cloud or on premise.

Once installed, Avantra automatically identifies the various SAP system elements and versions in place and then applies the appropriate monitoring and alerts to them, according to the specific operating system, database and SAP components involved. Performance insights, in the form of reports and metrics, are provided to the SAP operations team in a single, consolidated view.

The Avantra workflow engine also enables SAP operations staff to automate interactions with SAP components, which can be of huge value during and after a migration to the cloud. These include stopping and starting SAP applications, databases and servers during maintenance windows, running operating system level commands, interacting with databases, or pausing systems until a check comes back with a specific desired result.

Changes to SAP system configurations, profiles and parameters – commonplace in a cloud migration – can be tracked and escalated through notifications, offering an extra layer of oversight and security.

Throughout a migration, Avantra monitors systems and collects valuable data, to eliminate blind spots and address security and compliance risks. It can also be used to create a systems performance benchmark, enabling an organization to compare pre and post migration performance - building an accurate picture of the derived benefits of the migration.

And by monitoring SAP landscapes, both on premise and in the cloud, Avantra can automate vertical scaling to provide the necessary cloud resources to match the demands placed on these systems. For example, Avantra can automatically increase resources during peak hours and can scale them back down again during quieter periods to reduce costs. Additional application servers can be spun up but kept dormant, until performance issues dictate that they're needed.

Microsoft/Avantra partnership

Conclusion
derisking your journey to the cloud

It's no secret that SAP landscapes are complex systems to manage, and it keeps getting more complex by the day. At the same time, they're also becoming more business critical, so any downtime is disruptive to the business and often planned maintenance windows are slim as well.

Nobody knows that better than SAP operations teams - and at Avantra, we understand the substantial incremental challenges that a cloud migration and operation pose to those teams.

We know that keeping SAP up and running is already hard work, given the stacks of reports, metrics and alerts churned out every day.

Cloud migration just adds to the workload and it's a process that cries out for derisking, well ahead of departure.

We also know from years of experience working with SAP customers that many routine responses and fixes can easily be handled by new technology and tools. Automation is invariably faster, cost effective and more accurate than human intervention. The same rule applies to the massive amount of work involved in keeping an SAP landscape running during a cloud migration.

The good news is that this automation is also key to reducing a great deal of unnecessary burden on the SAP operations team, which can then focus its resources on more valuable aspects of their organization's cloud migration project.

Innovation, we find, quickly gains momentum when resources are freed up to focus on it, without distraction.

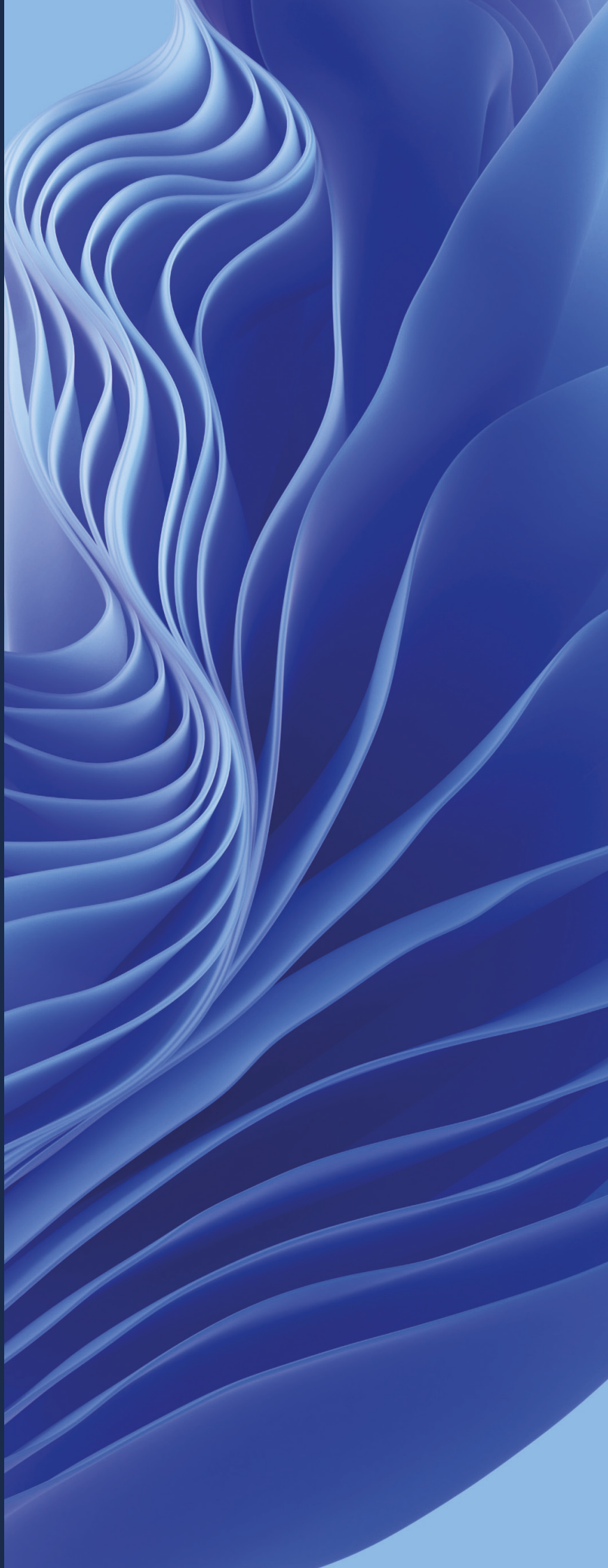
It simply makes good sense for your organization to begin its journey to the cloud with the optimal resources at its disposal – and with the very best toolkit to hand.

Continue your SAP on Azure learning journey

Both Microsoft and SAP have great learning resources – right from openSAP course to SAP on Azure learning paths that you could use to get more insights into not only how to get started, but also how to optimise the architecture, operational efficiency, and automation framework.

SAP Press' book, authored by Ravi Kashyap (one of the authors of this ebook), on the topic: "SAP on Microsoft Azure, Architecture and Administration" has great insights about how to run SAP on Azure.

Also, as a token of appreciation for reading this ebook, you can get 15% off on the above mentioned SAP Press book using code: MAAA15.



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