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Your Journey to
the Cloud

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What you will learn with this guide

Modern IT professionals like you are focusing on a cloud-first strategy for their businesses. But for many of you, understanding the journey to the cloud can be the first stumbling block.

This guide will outline the options available to you. We'll outline key strategies to help you on this journey, and demystify often complex cloud and modern datacentre topics.

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- Your datacentre today
- The role of your virtual infrastructure during a cloud journey
- Flash storage and the Software Defined Data Centre
- Your cloud journey
- Cloud readiness
- Migration assessments
- Azure landing zones
- Migrating your workloads
- The hybrid cloud

Starting with today...

- Is your current virtual environment starting to get a bit old?
- Are you considering what you need to do next?

For many organisations looking at their cloud journey, these questions are the starting point. Most that haven't yet moved to the cloud rely on a virtualised server infrastructure which usually requires regular maintenance to remain secure and up to date. Typically, they will be looking to replace their virtual infrastructure every five years.

However, many organisations now stretch this out to seven years because they eventually want to migrate to the cloud. This might not be a good thing. If you do this, it's important to ensure that you're fully supported for hardware and software failure during the lifetime of your virtual environment.

If you are using VMware vSphere, you can use their hardware compatibility list (HCL) to check how long your infrastructure will remain supported.

On your journey to the cloud, you need to make sure that your virtual environment is reliable, as this will give you the freedom to focus on the journey ahead. This is an important factor as it can take anything from 6 months to 3 years or longer, depending on the size and complexity of your IT environment. Because of these lengthy timeframes, some IT professionals simply decide to refresh their virtual environment one last time.

Many organisations also have the challenge of where best to place legacy applications that were not designed for the public cloud. It may be that an on-premises solution is needed to host these workloads but this shouldn't have a negative effect on visibility or management. By using solutions like Azure Arc you can bring native Azure services to workloads running outside of Azure. Whether that's on a different cloud platform or your own virtual infrastructure inside your private data centre. In short, the hybrid cloud will be the model many organisations choose to adopt.

Understand your cloud journey

The secret to cloud success starts by fully understanding the journey you'll need to take from start to finish.

So now let's explore the steps on the way.

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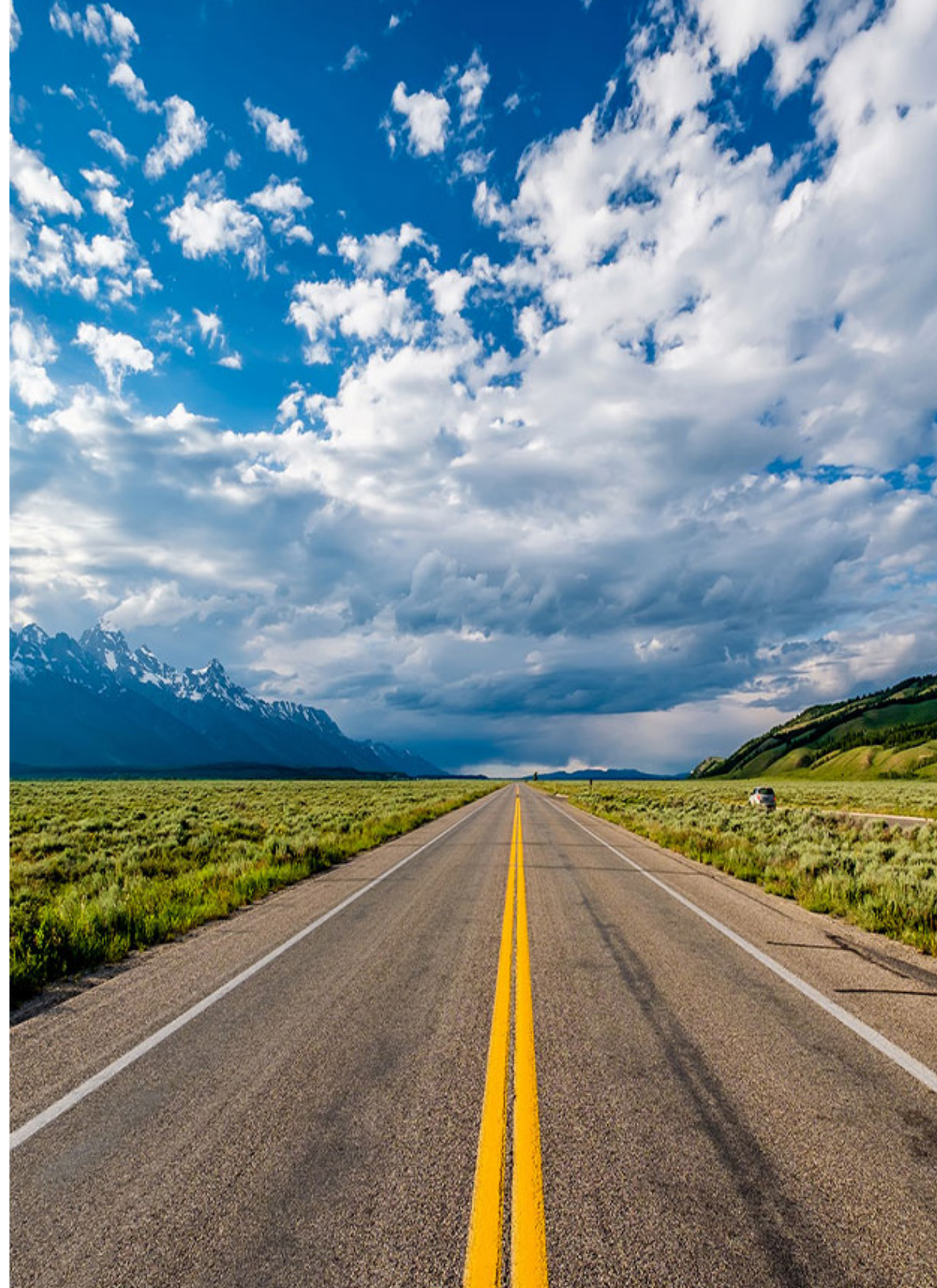
Cloud Readiness

An important first step on your journey to the cloud is assessing if you're ready. Moving to the cloud is about much more than just moving virtual machines, and it is also very different to moving to another virtual infrastructure.

You should start by discussing what your business hopes to get from the cloud. These conversations should reach further than the IT team and engage key stakeholders across your organisation. The result should be a fully documented business case agreed and signed off by all stakeholders.

The cost model

One of the key factors you'll need to talk about is the cost model. With the public cloud, you'll be moving from an upfront capital-based financing model to a recurring, consumption-based, operational expenditure model. You'll need to understand how this sits within your organisation, and whether this change is right for you.

You should also look deeper than the virtual machines you are currently running. Working with your stakeholders, think about your organisation's strategies and goals. Could the cloud help you achieve specific business goals, process more transactions, reduce costs, or optimise processes for instance? Or think about the additional value the cloud may give you by unlocking new services that aren't readily available with on-premises virtualisation estates, or are too costly or complex to deploy. This can result in lower costs and faster time to value critical business projects.

In addition, you should look into the skills gap within your IT team and organisation during this phase. During the early stages, you might consider an upskilling and partnering programme. This will help you to think about the skills you'll all need to be successful working in the cloud. Once you understand this, you can find an approach to fill these gaps.

All in all, achieving success in the cloud can deliver much more than just another IT infrastructure. But this will only happen if you start the right way, by collaborating with the entire business.

Migration Assessment

Your next step on the journey is to look at the technology available and consider your migration options. You'll have several choices when moving your workloads to the cloud.

With a migration assessment, you look at each of your workloads and document the desired outcomes, to form your migration plan. It's important to think about not only the technical route available for each workload, but also when you need to see a return on the investment. Microsoft refer to this approach as the 5 R's of migration. However, we will also add a 6th R.

To balance the work, benefit and cost, the most likely actions taken and applied will be Replace, Refactor, Rehost or Remain in that order, depending on the workload and the business needs.

As you work through your migration assessment, you'll match each of your workloads to a migration path. You'll also consider the priority of your migrations. What's more, it's important to identify your application dependencies, and understand what effect latency may have on your workloads.

The key thing to remember is that even after an initial migration is completed, you'll need to carry out ongoing evaluation. As the cloud is constantly evolving, there may be newer, more suitable options for your workloads that you should look into. Depending on the workload and its importance to your business, you might decide to review suitability every year for important applications, or every five years for less important applications.

Rehost
This simply means migrating the virtual machine to Azure with minimal changes to the virtual machine.

Refactor
A common example of this can be migrating a SQL database running on a virtual machine to an Azure SQL or Managed Instance Database. This may involve a small amount of configuration changes to your code base as the workload is now being consumed as PaaS rather than IaaS.

Rearchitect
This is where significant code changes are made to the application to support it running in a cloud-optimised way. This will typically take a lot more upfront work but give a higher ROI.

Rebuild
A better approach may be to rebuild your application directly in Azure using cloud native services. There may be a large cost associated with this but again can give a great ROI over a longer time period.

Replace
This can be where the application is replaced with a SaaS offering. For example, rather than migrating an Exchange server to Azure, you migrate the email data to Exchange online. This is usually the starting place for most organisations who have a cloud-first approach.

Remain
The last option is of course to remain on-premises. For certain applications and workloads this maybe the most relevant option.

Moving your first workloads to the cloud

The time has come for you to move your first workloads to the cloud. However, there is one important step to take before you do. With Microsoft Azure and other cloud platforms, it's important to configure the environment for the first workloads.

Introducing Azure landing zones

This might sound like you're planning a mission to Mars, but this is actually the equivalent process for your journey to the cloud. The landing zone describes the actions you should take to prepare your cloud environment for the first workloads. When configuring a landing zone in Azure you'll need to consider your requirements around network connectivity, security, governance and much more.

If this step is missed out early on, you may have challenges later. These could involve being able to scale the environment in a structured way, or having exposure to greater levels of governance or security risk.

Moving your workloads

You can then begin to move your workloads to the cloud. The tools you use and steps you take will depend on the migration option you've chosen. You should start with a migration test or sample workloads first.

For each workload you migrate, you also need to plan how and when to test to see if it's been successful. We recommend you consider taking a proof of concept, pilot and production approach. The proof of concept will focus on moving a workload to test the process without involving your people. The pilot will move a low priority workload with a small subset of staff to get sufficient feedback. Finally, the production migration will move a full production workload from your virtual infrastructure to the cloud.

Above all, the most important consideration when migrating workloads is to use a managed and considered approach.

Connecting your hybrid cloud

As we've mentioned, many organisations will end up with a hybrid cloud environment. This is usually made up of workloads split between the public cloud and a modern virtual infrastructure in the datacentre. But this doesn't have to mean siloed management and disconnected systems.

Microsoft Azure is increasingly reaching out from the public cloud and into datacentres. In addition, technologies like Azure Arc allow you to unify the management of on-premises technologies like Windows Servers, SQL, vSphere and more with your Azure Workloads.

For some organisations, creating a landing zone in Azure as discussed, and enrolling workloads to be managed by Azure Arc, could indeed be their first steps into the cloud.

Your Azure Journey

Govern and Manage

Strategise	Plan	Prepare	Migrate
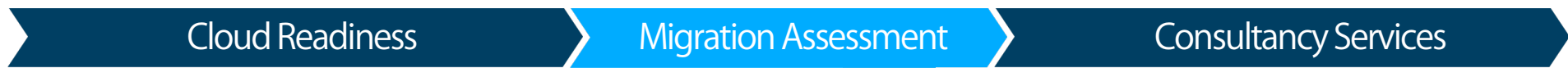
Cloud Readiness		Migration Assessment		Consultancy Services			
Fully define business objectives, motivations and justifications. Conduct a business familiarisation session. Identify your first project.	Conduct a technical cloud familiarisation session. Create a service catalogue.	Determine the strategic approach for each application. Align stakeholders and the required resources Identify workloads and timelines. Conduct a skills gap analysis.	Deploy tooling for on-premises discovery. Document application dependencies. Create test plans and migration waves.	Agree on critical success factors for the project. Agree on all roles and responsibilities during the project. Ensure a full project plan is created with regular communication to the business and users where needed.	Implement Azure landing zones as per the needs defined throughout the project. Ensure all required security and availability are considered and implemented as needed. Roll out technical education programme.	Ensure all cloud business processes are implemented and understood. Keep the relevant stakeholders informed of project status.	Run test failovers and complete UAT. Migrate workloads to Azure. Documentation and handover.

The role of the virtual infrastructure in your cloud journey

Many organisations find that they still need to run some workloads locally. This is usually due to a business requirement, such as proximity to work processes or people, or simply to fit within a cost model.

For any business that still needs to run workloads on its' own infrastructure, a modern virtual infrastructure has to be simple to manage, easy to maintain and automated wherever possible. Clearly, selecting the right solution for your infrastructure will depend upon your particular needs. So let's explore some of the trends that we're currently seeing.

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1. Moving Disaster Recovery to the cloud

Retaining a virtual infrastructure on-site may be critical to many organisations. But there are ways to reduce the amount of infrastructure you need. You can start by looking at your on-site virtual infrastructure and making sure it meets your requirements.

A good starting point is to consider how disaster recovery is managed within your business. A proven disaster recovery solution is essential for most organisations. However, it's also a good place to look for cost and time savings.

While on your journey to the cloud, you can migrate your disaster recovery infrastructure at the same time. Technologies like Azure Site Recovery and ComputerWorld DRaaS enable you to retire older disaster recovery hardware, and take away the burden of managing this yourself. In fact, moving to a DRaaS solution can be a quick win, allowing you to take your first steps on your cloud journey.

2. Microsoft Azure Stack HCI

Many organisations also refresh their virtual infrastructure while moving to the cloud. This ensures that their virtual environment is reliable and can deliver the performance needed, while they focus on the move itself.

There are many technologies that allow businesses to benefit from hybrid cloud management while moving to the cloud. Azure Arc is one of the most commonly-used technologies. In fact, many organisations take this to the next level by implementing the Microsoft Azure Stack HCI platform as their on-premises virtualisation infrastructure.

Microsoft Azure Stack HCI is an on-site hyper-converged infrastructure that offers you high levels of performance plus full management from Azure. In effect, it's another location within Azure enabling you to choose where to place individual workloads – on site or in Azure.

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So, in conclusion

Your organisation can unlock massive business benefits by implementing a truly modern infrastructure in the public cloud - and in your own datacentre. However, these benefits can only be unlocked with careful planning involving all of your stakeholders.

The journey to the cloud takes time. But by understanding the key steps and starting today you can also unlock business value throughout the journey.

ComputerWorld is proud to partner with Microsoft, Dell and VMware to help you on your journey to the cloud. Our highly trained and certified consultants can help you deliver real business benefits from modernising your infrastructure on-premises and in the cloud.

Start your journey today. Book a complimentary cloud strategy session to explore the variety of options available to your organisation.

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