AIS Network

Operationalizing Your IT Strategy

The Definitive Guide to Cloud Enablement Services

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If your organization has a digital presence, chances are you're already using the cloud to your advantage. Slack, Salesforce and even Microsoft 365, are all cloud-based — and that's just to name a few. So, congratulations — you're on the cloud!

"Digital technology, pervasively, is getting embedded in every place: every thing, every person, every walk of life is being fundamentally shaped by digital technology — it is happening in our homes, our work, our places of entertainment."

— Satya Nadella, CEO of Microsoft

Using an existing cloud-based service is relatively simple and safe, since the provider has done the bulk of the heavy lifting to ensure the consistency and quality of their service. Migrating your own data and applications to the cloud can be a more intimidating prospect. Luckily, transitioning to your own cloud solution doesn't have to be daunting.

With the right cloud enablement service specialist in your corner, you can gain all the myriad benefits that cloud computing has to offer, without the sleepless nights that trying to fly solo can bring.

Let's take a look at some of the factors you'll want to consider.

Table of Contents

What Is Cloud Enablement?

You probably already have a general idea of what cloud computing is. It comes with a wide array of benefits that vary between users, but there are a few that are pretty consistently cited.

Cost Savings

- Less hardware spending
- Predictable pricing model
- Lower IT budget

Availability

- Accessible anywhere
- Guaranteed uptime
- Facilitates remote working

Disaster Recovery

- Saves time spent on on-site backups
- Data and applications available remotely in an emergency

Scalability

- Unlimited storage capacity
- Scalable to meet changing needs

Security

- Protected 24/7
- More secure than on-premise
- Monitored for new threats or vulnerabilities

Companies that had already transitioned to the cloud began seeing a new competitive benefit as the pandemic forced lockdowns and social distancing rules that have changed many (if not most) of the ways we do business.

New work-from-home policies are much more easily implemented when your data is already available remotely and no one is required to head into the office to maintain on-premise infrastructure.

Did You Know?

94% of enterprises are already using some form of cloud.

Cloud Challenges

No matter how great a technological solution is, it can still be challenging to plan, implement and overcome adoption resistance. Let's look at a few of the most common perceived roadblocks to cloud adoption.

Solution Selection	Upfront Investment	Fear of Downtime	Security Concerns
How do you determine which public, private or hybrid cloud model suits your needs?	You'll need to get everything set up and train your staff in using your upgraded systems and processes.	It's every prospective cloud user's worst nightmare. Having everything online seems great until your connection fails. What happens then?	Putting your business-critical data and applications in someone else's hands is a daunting prospect. How can you know it will be kept safe and secure?

Those look like some pretty serious roadblocks. Depending on the size, scope and nature of your business, even one of those might be enough to put you off.

How can you be sure this is the right choice for your business?

That's where cloud enablement comes in.

A System of Support

Cloud enablement is the process of:

- Assessing your organization's needs
- Planning a cloud solution that will meet those needs
- Implementing that solution
- Continually assessing, optimizing and enhancing

Cloud enablement isn't just a serving solution, it's a system of support and protection for your processes and assets.

So how do you get started?

You can go it alone if you have the internal resources, but it's a good idea to fill any gaps in your team's skill-base with a qualified cloud enablement service specialist (more on that later). In the meantime, this book will give you an overview of all the moving pieces of a cloud enablement solution.

Conducting a Cloud Readiness Assessment

Even though cloud has become the norm for many industries, it's still not a move you should make lightly. It's important to look at what types of workloads are best suited to cloud migrations and how your organization can transition smoothly.

Pro Tip:

If you're not in a decision-making role, a well-prepared cloud readiness assessment can even help you make the argument for migrating to budget-conscious associates.

Cloud Migration Candidates

Although it may seem like everyone is doing everything in the cloud these days, some processes and workloads are better candidates than others for cloud migration. Before you begin a cloud readiness assessment, it's important to determine which applications would most benefit from cloud enablement.

Start with applications that:

Need to scale up capacity rapidly	Front-end apps that are facing rising demand are a good candidate because of the cloud's scalability.
Are reliant on infrastructure nearing end-of-life	Are you depending on network components that will need to be replaced soon or software that is no longer supported?
Face multiple business-critical issues	Do you have security, resiliency or availability concerns about data or apps that you need for day-to-day operations?
Have inadequate backup or DR strategies	Regular backups and a solid disaster recovery strategy can save your business if the hardware is damaged or fails.
Have architectural flexibility	Look for applications whose use and processes wouldn't be significantly disrupted by a move.

Reasons for Migration

The next step in preparing for your cloud readiness assessment is considering why you want to make the move. Common motivations for a cloud transition include:

- Supporting business growth
- Improving efficiency
- Increasing agility
- Updating and innovating

Identify Roadblocks and Benefits

The next step on your journey is to conduct a cloud readiness assessment. This is a crucial stage because it will help you identify potential roadblocks — and benefits — you might not have previously considered.

Technology

Examine your existing technology, including all applications, workflows, infrastructure and data.

- Do you have infrastructure nearing end-of-life?
- Are you going to migrate business-critical data or applications?
- How interconnected are the systems you're planning to move with the rest of your IT infrastructure?
- What tools do you have that will help facilitate a smooth transition?

People

Many organizations make the critical mistake of thinking that a move to the cloud is all about technology, but your cloud readiness assessment should also consider how the move will impact the people who interact with your systems. Namely, your staff and partners, your customers and you.

- Implement training to ensure understanding of new processes and security measures on all levels of the organization.
- If there will be a change in how users interface with your business or an interruption of service — internally and/or externally — prepare to mitigate that with communications.

Processes

Your cloud readiness assessment must also examine how the move will affect your business processes. Should you transition to a cloud platform in phases or move everything at once? How will responsibilities shift with the move? Do you have security concerns specific to your business or industry for which you need to account? Are you obligated to maintain compliance with industry or government standards, or customer contracts?

Cost vs. Benefits

Once you've examined all the above factors, the final stage of your cloud readiness assessment is to weigh the costs against the benefits. How much do you stand to gain from a cloud transition? And what will it cost you? A move to the cloud often represents savings in terms of ongoing operational expenses — but identifying the other associated costs is key to a smooth transition.

Is Azure Cloud Right for You?

The biggest barrier most companies face when considering a move to the cloud is *trust*.

Organizations considering cloud enablement need to know the solution they're choosing is safe and secure. Despite being around for several years, the number one concern that stops the cloud's full embrace remains security.

The reality is that, even though we entrust our personal data to the cloud on a regular basis, many of us don't actually have complete faith in its security. And quite frankly, many of our fears are unfounded. Azure Cloud enablement can secure your data, protect private information and support compliance with global standards.

> *"Businesses and users are going to embrace technology only if they can trust it."*
>
> **— Satya Nadella, CEO of Microsoft**

Did You Know?

85% of Fortune 100 companies use Azure Cloud.

Encryption

When your data is locked up on an on-premise server, a passcode and a sturdy lock can be enough to prevent access to your business-critical or sensitive data. When it comes to the cloud, your information needs to be protected within the cloud data center you choose, as well as in transit to and from the cloud.

Azure Cloud enablement includes industry-standard transport protocols to protect data as it moves between user devices and Microsoft data centers and while data is stored in Azure data centers. Azure also offers a wide range of encryption capabilities for data at rest — meaning you have the ability to choose a security solution that works for you.

Control

Choosing an Azure Cloud hybrid solution ensures you retain full control of what data goes to the cloud and what stays on-premise. And you can move data back and forth as you see fit. Microsoft takes customer security and privacy very seriously and has implemented stringent measures to prevent any unauthorized access to your data.

Compliance

All Microsoft solutions are built on a foundation that prioritizes security, privacy and reliability. Microsoft creates, implements and continuously works to improve security-aware software development, operational and threat mitigation practices, and shares its knowledge with both government and commercial partners.

Did You Know?

Microsoft employs 3,500 cybersecurity experts to ensure security and compliance.

The Secret to a Successful Cloud Strategy

The key to a successful cloud transition is a solid strategy — a carefully considered, well-researched plan will ensure your organization can maximize the benefits of its cloud deployments.

A comprehensive cloud enablement strategy should cover these 4 areas:

1. Understand What You Need

Developing a cloud readiness assessment — either on your own or in cooperation with a managed cloud service provider — will give you a clear idea of what to expect and where to start. With that, you can develop a reasonable set of goals.

2. Consider Your Architecture

Once you've assessed your readiness and set goals for your company's cloud migration, you can begin to explore what kind of cloud services your organization needs to support its front-end, back-end, cloud-based delivery and network traffic.

3. Choose Your Environment

There are a few different types of cloud from which to choose and you'll need to understand the differences, benefits and drawbacks of each to ensure you select the right one for your needs.

Public Cloud

Owned and operated by a third-party cloud provider and used by multiple tenants.

Pros: Inexpensive, low maintenance, high scalability, very reliable

Cons: Limited flexibility, resources are shared with other tenants

Private Cloud

Owned and controlled solely by the organization using it.

Pros: Increased flexibility, very high security, high scalability

Cons: Higher cost, reliability can vary depending on the provider

Hybrid Cloud

A combination of both public and private cloud solutions.

Pros: Less expensive than private, high scalability, very reliable, high flexibility, high security

Cons: More complex to implement

4. Partner with a Specialist

Cloud enablement strategy requires a very specific set of skills. Choosing the right partner — someone who can help you develop and plan your deployment, not just sell you a service — can mean the difference between success and failure.

Pro Tips

This checklist will help you identify a partner for your cloud enablement strategy.

- [ ] **Expertise:** *Look for a partner with specific certifications and industry standards.*
- [ ] **Visibility:** *A good cloud services partner will offer visibility into their practices and provide details on how they'll maintain standards and skill levels.*
- [ ] **Partnerships:** *Examine who your potential cloud enablement partner has relationships with and who they'll rely on to provide the services you need.*
- [ ] **Service:** *Does the partner you're considering provide all the services you'll need? What guarantees do they offer, and what happens if they fail to meet those guarantees?*
- [ ] **Reliability:** *Take a look at their performance over the last year and compare it to their SLA. Do they actually provide what they promise?*
- [ ] **Recommendations:** *Talk to other clients who've partnered with potential providers on their cloud enablement strategies. Read reviews, especially from organizations with needs similar to yours.*

Avoiding Common Cloud Migration Pitfalls

It's never a small undertaking to adopt a new technology or make a major change to your processes or operations. As with any major transition, cloud migrations can come with pitfalls.

Make sure your strategy includes steps to avoid these common challenges.

Lack of Preparation

Make sure your strategy includes time to do a cloud readiness assessment and understand how your teams use critical apps. Examine workloads to find good candidates for migration.

Underestimating Costs

A comprehensive strategy should help you ensure your plans match your budget. There can also be hidden costs in terms of human-hours — team members working on a migration may not be available for other tasks for the duration, so plan accordingly.

Inadequate Training

If your staff are not adequately trained in new processes, you may find they improvise solutions that undermine your goals.

All staff should receive at least some training to understand the goals of your cloud migration and how it will affect their workflows or responsibilities.

Failure to Secure Buy-In

Consult with relevant internal and external stakeholders throughout your transition so requirements and concerns from all departments and levels are considered.

You'll get a more complete picture of your transition's status, and a chance to identify any nascent procedural issues that could cause adoption resistance.

What's Involved in a Cloud Migration?

If you've completed your readiness assessment and developed a strategy that accounts for all your organization's needs and requirements, you've got a solid foundation to build on.

Pro Tip:

A cloud migration services partner who understands your concerns, requirements and the opportunities you hope to take advantage of, can be a great asset in this process.

The Migration Team

It's important to assign responsibility for different aspects of your cloud migration strategy to specific people, who — depending on your organization's resources may include members of an external cloud migration services team.

Here's an example of what a cloud migration team might look like:

Lead

Primary owner of your migration process. They are typically a CTO or CIO, but can be anyone in leadership with at least basic knowledge of the ins and outs of the cloud.

Project Manager

Keeps everyone on track and on time. They must be able to bridge the gap between the technical and business sides of the move, and be able to coordinate team members and tasks.

Architect

Designer and manager of your cloud architecture. They will work with other team members to address any migration issues before and after your migration.

System Administrator

A cloud migration can change an SA's role significantly. Task this person with managing new cloud resources to meet your needs, and be prepared to offer additional training as required.

Security Manager

This person will configure, deploy and maintain security measures for your new cloud environment. They will identify and communicate potential vulnerabilities.

Compliance Specialist

If you're bound by compliance requirements for your industry, ensure someone on your migration team understands them and can ensure they are maintained.

Stages of Migration

There are a number of stages involved in successful cloud migrations. Make sure you include all of these (or find a cloud migration services partner who can) as you begin your move to the cloud.

Requirements analysis and readiness assessment

Determining your organization's needs and whether or not a cloud solution can meet them, as well as selecting applications most suited to a cloud transition

Planning and architecture

Designing and building a public, private or hybrid cloud solution that fits your business needs

Migration strategy and application prioritization

Developing a transition plan that addresses concerns from all stakeholders and determining in which order applications will be moved

Application and data migration

Moving selected data and applications to the cloud with consideration for security, compliance and operations requirements

Testing and optimization

Ensuring the migration has been successfully completed, identifying inefficiencies and vulnerabilities, and addressing them

Operation and maintenance

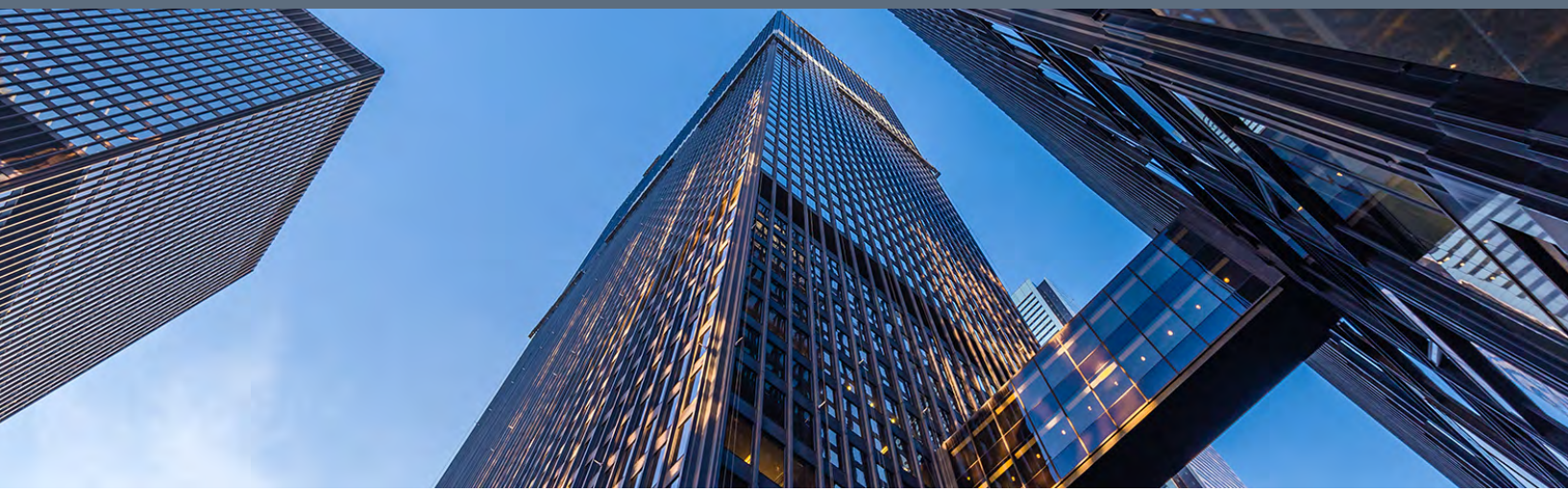
Overseeing and maintaining your cloud environment with an eye to reliability, security, backups and performance

What Happens After Migration?

Once you've made your transition to the cloud, you may think you're all set. But cloud enablement services aren't just about planning, designing and building your cloud solution. The right cloud enablement services partner will still be at your side to help with operations, maintenance and support going forward.

Did You Know?

The global cloud computing market is expected to reach $623.3 billion by 2023.



Do you really need ongoing support?

Partnering with a cloud enablement services provider post-migration can help maximize the return on your new investment — and protect you against unexpected complications.

The right cloud enablement partner can be especially helpful when times of crisis turn traditional office models upside-down and force whole industries to adopt a model of remote working rapidly. They can also help you adapt your solution to fit changing requirements or respond to new threats.

When choosing a cloud enablement services partner, look for one that can detail what they'll do for you once your migration is complete (and what happens if those promises aren't kept).

Optimization

Cloud technology is continually evolving, and so will your requirements. You don't want to seek out new cloud enablement services every time there's a new development or your needs change. Look for a partner who will:

- Continually work to improve uptime and decrease recovery times
- Make continuous improvements to design, automation and scale
- Work with you to ensure your cloud needs continue to be met

Reporting and Visibility

Keeping track of all your assets in the cloud and monitoring their performance is a critical step in ensuring that you're maximizing the benefits of your investment in cloud computing. But that's no small task.

- Does your potential cloud partner provide an inventory of your cloud assets?
- Can they give you visibility into the performance of each one?

Security

Cloud security breaches can cost you millions and seriously disrupt your day-to-day operations. Choose a cloud enablement services partner who can provide the kind of protection you need.

- Can you expect proactive protection, threat detection and recovery services from your cloud partner?
- Do they offer any enhanced security measures?
- How often do they scan for and remediate vulnerabilities or perform penetration tests?

Maintenance

In addition to optimizing the cost and efficiency of your cloud solution and securing it from threats, there are also regular maintenance tasks that can help keep your platform running smoothly. Ask your cloud partner:

- How frequently are general server patching, OS updates, etc., provided?
- Do they provide any other remediation?
- Do they provide operational compliance management?

Support

A crisis is no time to find out that you don't have the support you need. If your cloud solution experiences an outage, it can cost your organization valuable time and business. Make sure you've studied the potential cloud enablement services partner's Service Level Agreement (SLA) and know exactly what to expect in terms of support.

- What is included in their operational outages response?
- Do they automate workload protections?
- Are they available 24/7?
- How do you reach them in a crisis?

Cloud for Backups and Disaster Recovery

Creating safe and reliable backups has been a key task in data centers since their inception — and for good reason. When you lose data, the ability to recover it quickly can mean the difference between inconvenience and disaster.

And choosing cloud backup over traditional backup methods can help ensure you're in the former category.

Did You Know?

1.89% of hard drives failed in 2019.

Data Storage Options

The data storage industry is undergoing significant changes as organizations accelerate the adoption of new technology. How do you know which backup technology makes the most sense for your organization?

Magnetic Tapes

Pros: They're relatively inexpensive upfront.

Cons: Magnetic tapes are fragile and vulnerable to a range of environmental conditions. This can lead to additional maintenance costs. Physical storage can also become an issue as more and more tapes are needed, and the backup process is time-consuming and inconvenient. In the event of a disaster, magnetic tape backups could be destroyed entirely.

Magnetic Disks

Pros: Magnetic disks work a lot like tapes, but are thinner, more durable and tolerate repeated overwriting better. Their sealed cases make them more resistant to the elements than tapes, and they require very little maintenance.

Cons: Older systems like floppies need to be stored physically, so space is still a concern. Newer versions can contain large amounts of data in a small physical space but are still susceptible to damage, user error and security threats

Solid-State Drives

Pros: Solid-state drives are quieter, faster and less susceptible to vibration and shock forces than magnetic disks. As the technology develops, their capacity continues to grow — and it's already pretty huge.

Cons: SSDs are as vulnerable to user error and security threats as their magnetic brethren. Despite their increased capacity when compared to tapes and disks, they still need to be physically stored and are vulnerable to damage if storage facilities are compromised.

The Cloud

Pros: A cloud backup solution means your information is distributed across multiple servers, and often geographically dispersed — so the risk of loss if a single memory store fails is drastically reduced. There are always some concerns about security when placing your data in another party's hands, but encryption technology has come a long way and a carefully read contract should make it clear if your provider has done their due diligence.

Cons: None, if you're careful about choosing the right cloud provider.

On-Premise vs. Secured Third Party Off-Site Location

Even more important than the question of media for your backup is the question of location. Is your data safer on-premise — somewhere in your offices — or at a remote location? Or dispersed between multiple locations? The answer may seem counterintuitive at first, but your data is much, much safer when stored offsite in third-party data centers than if you rely on an on-premise solution.

When you choose a cloud backup vs. a traditional backup, experts at the data center where your information is stored can:

- Monitor your data 24/7 to protect against data breaches and network failures
- Protect the physical data center against intrusion or disaster
- Automate backups of your data in multiple locations, so that even if one site is compromised, your data is still safe
- Regularly update software and hardware to ensure the security of your data

Pro Tip:

The cost of data loss climbed well past $1 million last year, according to a Dell Technologies study that also showed the amount of data organizations store continues to climb and security measures aren't always keeping up.

When considering cloud backup vs. traditional backups, hard drives and internal servers can still be useful pieces of infrastructure — but cloud is a great way to ensure the safety of your important data. And the right provider can help ensure that your data and infrastructure are always protected.

Benefits of Cloud Computing

Your organization generates and transmits vast quantities of data every day — including both data and business communications — so fast and reliable networking and data storage is crucial.

A move to the cloud can offer a wide range of benefits to organizations of all sizes.

Reduce Costs

The subscription-based pricing model of most cloud solutions is an attractive one. Choosing cloud lets you free yourself of the upfront hardware and software expenditures — and the unexpected costs when they fail — associated with on-premise data storage in favor of regular, predictable monthly payments.

Many organizations also cite the ability to automate data entry as a major time-saver when they transition to a cloud-based solution. Between the switch from CapEx to OpEx, the saved space and the reduction of labor, it's clear that there are many cost-related cloud computing benefits.

Access Data and Applications Anywhere

One of cloud computing's best features is the fact that it allows your team to work from anywhere. When data and applications are stored in the cloud, they are accessible via any internet-enabled device.

This is obviously useful for staff who work remotely — allowing them the ability to access your system when in the field or under a pandemic lockdown.

Firms using cloud computing can adapt quickly, as they can still securely access customer data from wherever they end up working — meaning they can be a rock for clients in times of crisis

Improve Communications and Efficiency

Your customers may have been content to communicate via phone or email a few decades ago, but today's clients want more hands-on ways to work with you. Another cloud computing benefit is the variety of ways it opens up to communicate with clients — online dashboards, up-to-the-minute reporting and unified communications systems.

Internal communications and processes also benefit when you make the switch to a cloud-based solution. Cloud calendars and email facilitate seamless communication between team members and departments. And because multiple people can access the same data simultaneously, you can eliminate redundancies and errors that occur when data is entered multiple times.

Strengthen Data Security

Every company wants to be sure that their data and business-critical information is secure. Organizations using cloud computing can leverage the expertise and resources of their cloud partners to ensure all data is rigorously protected, in transit and in storage.

- Industrial strength physical security to protect against fire or other disasters
- Redundant backup systems to guard against data loss
- Professionally designed disaster recovery processes
- End-to-end encryption to protect data moving to and from the cloud
- 24/7 monitoring for security threats

The Right Partner for Your Cloud Migration

Choosing a reliable cloud enablement services partner can make all the difference in the success of your cloud migration. At AISN, we can help your IT department cut costs, maintain operations, increase efficiency and foster innovation. We also offer a wide range of services to ensure your move to the cloud is successful.

We're here to support you, every step of the way. From the moment you start to work on a strategy or cloud readiness assessment, through migration and deployment, to ongoing maintenance, support and reporting — we can help.

AISN is a Virginia SWaM-certified leader in cloud enablement, information security and risk management, managed services and award-winning application development with a wide footprint in Virginia government as well as large corporations across North America.

Contact us today for assistance with all your cloud enablement needs.

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