



JOURNEY TO THE CLOUD

Maximize the Benefits
and Minimize the Risks



BETTER BUSINESS IN THE CLOUD

The past decade has seen a massive shift to the cloud and a digital economy. According to research from IDG, 90% of organizations were expected to have workloads deployed in the cloud by the end of 2019.

Business survival is now linked to the ability to move quickly, react, adapt, and seize opportunities with agility. The cloud helps you keep pace, with a laundry list of benefits that are essential to any business:

- + Switch from CapEx to an OpEx solution more closely tied to actual consumption
- + Improve your ability to scale IT to business demand
- + Strengthen cybersecurity and physical security
- + Increase productivity and performance of IT and users
- + Ensure resilient, reliable, and highly-available disaster recovery and business continuity solutions
- + Reduce latency and improve performance
- + Enable business innovation

On-Premises, Colocation, Managed Cloud - Which is right for you?

Maximizing the return on your investment takes careful planning and the right cloud environment to meet your goals. There isn't a one-size-fits-all solution. What are your goals for the cloud? What workloads are you running? What cloud expertise do you have?

To help you find the right road to the cloud, let's look at some of the critical factors you'll need to consider on your journey.

Cloud data centers will process 94% of workloads in 2021.

Source: Cisco

87% of enterprises will accelerate cloud migration in a post-COVID world.

Source: Logic Monitor

84% of enterprises had a multi-cloud strategy in 2019.

69% of enterprises used at least one public and one private cloud in 2019.

Source: Flexera

More than 90% of enterprises worldwide will rely on a mix of private clouds, public clouds, and legacy platforms in 2021.

Source: IDC Futurescape 2020







1 BUILD OR BUY?

The physical facility that supports your cloud infrastructure, and the ability to connect clouds and data, is essential. You need a secure and modern data center in which to operate your IT equipment.

It's expensive to build and staff your own facility. Building can cost millions, and then you still have to manage and maintain it. Retrofitting a current space will probably require an upgrade to power and cooling infrastructure, which are often overlooked.









Before deciding to build your own data center, consider:

-  **What investment would you need to make and are you in a position to make that investment?**
-  **What are the ongoing costs to maintain your own facility?**
-  **Is your team prepared to manage it?**
-  **Do you have the skills and bandwidth to take on this responsibility?**

On the other hand, you can partner with a service provider that owns and manages high-availability, energy-efficient data center facilities for you. You can utilize their hardware or use your own (colocation).

According to IDC, "A core benefit of working with a datacenter partner to support digital transformation initiatives is that the **partner can deliver the physical datacenter and connectivity resources needed like a utility** — providing **connectivity and infrastructure** anywhere that IT service is required."


FEATURES TO LOOK FOR IN AN ENTERPRISE-CLASS DATA CENTER:


-  **Physical security with controlled access, two-factor authentication, biometrics, and video surveillance**
-  **Redundant climate control and cooling**
-  **Building management systems for HVAC, power loads, voltage levels, and emergency power systems**
-  **24/7/365 on-site operations center to monitor security threats and critical infrastructure performance**
-  **Main power systems with redundant power sources and UPS systems (don't forget additional fuel onsite for extended generator runtime)**
-  **Power distribution units (PDUs) to monitor power consumption and track voltage fluctuations**
-  **Multiple carriers for connectivity**
-  **Ability to share resources, while still being isolated from the other tenants (multitenant cloud pod)**
-  **Business continuity workspace for staff in the event of a disaster**
-  **Compliance certifications**


2 TOP TALENT REQUIRED


With a move to the cloud, most organizations will find they need additional expertise to tie their network, security, and compliance initiatives in with their broader cloud goals.


You need a team to:


- 


Run day-to-day operations 24/7/365
- 


Manage and monitor all equipment
- 

Monitor all systems
- 

Maintain the facility's infrastructure including physical security, power, connectivity, and cooling
- 

Maintain redundant systems for all of the above
- 

Manage backups
- 

Be prepared for disaster recovery and business continuity situations
- 





Address cybersecurity for data and infrastructure

Not only are these skills difficult to source, but they change frequently and require ongoing training and attention. Expect to keep needing to add new skillsets and technologies that will push your limits.

Data center providers are experts on these issues; after all, this is their everyday business. They have the skills and expertise to plan and execute a cloud migration as well as move full cabinets, rack, pack, lay cables, map ports, and perform migration site surveys.

If you're moving to the cloud for digital transformation, keep in mind that it's difficult for your IT team to be transformative when they have to keep spinning cycles to keep your infrastructure running. This is a good time to evaluate what you know and what you don't know—and reach out for expertise to fill the gaps.

Assess your internal skills:

- 
What skillsets do you have to manage the cloud?
- 
Do you have internal IT skills to manage multiple cloud types, like public and private clouds?
- 
Are you able to transform workloads/apps to make a move to the cloud?
- 
Do you have staff to maintain 24/7/365 monitoring of your cloud infrastructure?

86% of businesses surveyed say they have one or more skills gaps that hinder their ability to plan and implement cloud applications.

Source:
<https://www.tierpoint.com/blog/moving-to-the-cloud-are-you-actually-ready/>

3 THROW OUT THE VINYL?





Many organizations are still maintaining an on-site data center just to support their legacy applications, but find this an ongoing challenge. When asked about barriers to success, IT leaders consistently voice their frustration with managing older legacy equipment and applications with newer infrastructure.

An on-premises private cloud may be a good solution for some legacy apps like big data applications that need more bandwidth. But a hosted private cloud or colocation may also be good options, allowing you to retain the value of the legacy system without the expense and time-consuming labor of an on-prem solution.




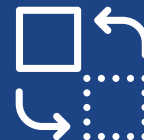
Migration to the cloud often progresses gradually and naturally through colocation to Infrastructure as a Service (IaaS), to Platform as a Service (PaaS), and then to Software as a Service (SaaS).



Review what phase your legacy apps are in, and be sure to consider:

-  Which legacy applications are ready to move and which aren't?
-  What needs to happen to get ready to migrate the application?
-  Which type of cloud is most appropriate for each application in its current state?
-  What are the pros, cons, and alternatives to migrating the application?

4 OPTIONS FOR LEGACY APPS

			
REHOST	REPLATFORM	REFACTOR	REPLACE
Move the application as is, usually to a hosted private cloud, also known as "Lift and Shift"	Move with minimal changes to code, also known as "Lift and Reshape"	Rebuild or rearchitect the application to take greater advantage of the cloud platform	Move to a newer, cloud-native version of the application or an entirely different app

4 DO THE MATH

While cloud services are no more prone to security breaches than are on-premises environments, they have become popular targets of cybercriminals. Verizon’s Data Breach Investigations Report notes that as companies have moved applications and data to the cloud, cyber-criminals have followed, and according to the State of Cloud Security 2020 survey, cloud misconfigurations are the number one cause of cloud data breaches.

Building an effective cybersecurity strategy is a challenge for even the most skilled IT professionals, and for the typical IT department in a mid-sized company, it may seem impossible. That’s before you add in compliance and regulatory requirements.

Compliance can be challenging for organizations to handle with in-house staff alone. Working with a secure cloud like Microsoft Azure, which boasts more than 90 compliance certifications, can ease the burden on your team.

Moreover, cloud providers with multiple regional and national data centers have large security staffs, enough bandwidth to blunt an initial DDoS attack, and sophisticated cloud security technologies to identify and block threats faster.

As Crowd Research Partners explained in its Spotlight report: “The math is simple: Large cloud providers can outspend any individual enterprise in securing their infrastructure and apply cutting-edge expertise and manpower in protecting a shared infrastructure. The results are often superior in terms of availability, performance, and security of public cloud environments.”

“Cloud computing is perceived as less secure. To date, there have been very few security breaches in the public cloud—most breaches continue to involve on-premises data center environments.”

-Smarter with Gartner, Top 10 Cloud Myths

Organizations with an IT security policy, incident response team, and testing plan saved more than \$1.2 million during a breach.

Source: Ponemon Research

Assess your security needs:

-  What are you currently doing to protect your physical facility?
-  Which of your workloads are most valuable and most vulnerable?
-  Which security tools and services do you have implemented?
-  How are you currently monitoring your systems?
-  Have you audited your IT security implementation?
-  Do you have certified security personnel?
-  What compliance and regulatory regulations do you need to meet?
-  What level of control do you need over your security settings?
-  How familiar are you with public cloud security models?

SECURITY BEST PRACTICES TO PREPARE FOR A CLOUD MIGRATION:



Audit your security practices



Assess your security practices, compliance requirements, and existing security technologies



Define all security processes and practices and document security controls



Inventory your IT environments



Develop a cross-platform security strategy



Implement cloud security technology

5 BE PREPARED

Business resilience enables an organization to quickly adapt to disruptions while maintaining continuous operations and safeguarding people, assets, and brand value. While the cloud supports business resilience, just using cloud services doesn't mean you're protected.

A single data center, or even multiple data centers in one specific region, can put your organization at higher risk of downtime from severe weather, human error, equipment failure, and cyberattacks. On the other hand, a data center provider with geographically diverse data centers, disaster recovery expertise, and managed services can help you increase business resilience.

A good managed services partner will help clients evaluate their downtime risks and system dependencies and design a business continuity and disaster recovery program **before disaster strikes.**



Start building an effective plan with a deep understanding of your business requirements:

- ? **How much downtime can your business afford?**
- ? **How current does the data need to be for each application?**
- ? **Which applications does your business need to function?**
- ? **How long can the business function without each application?**

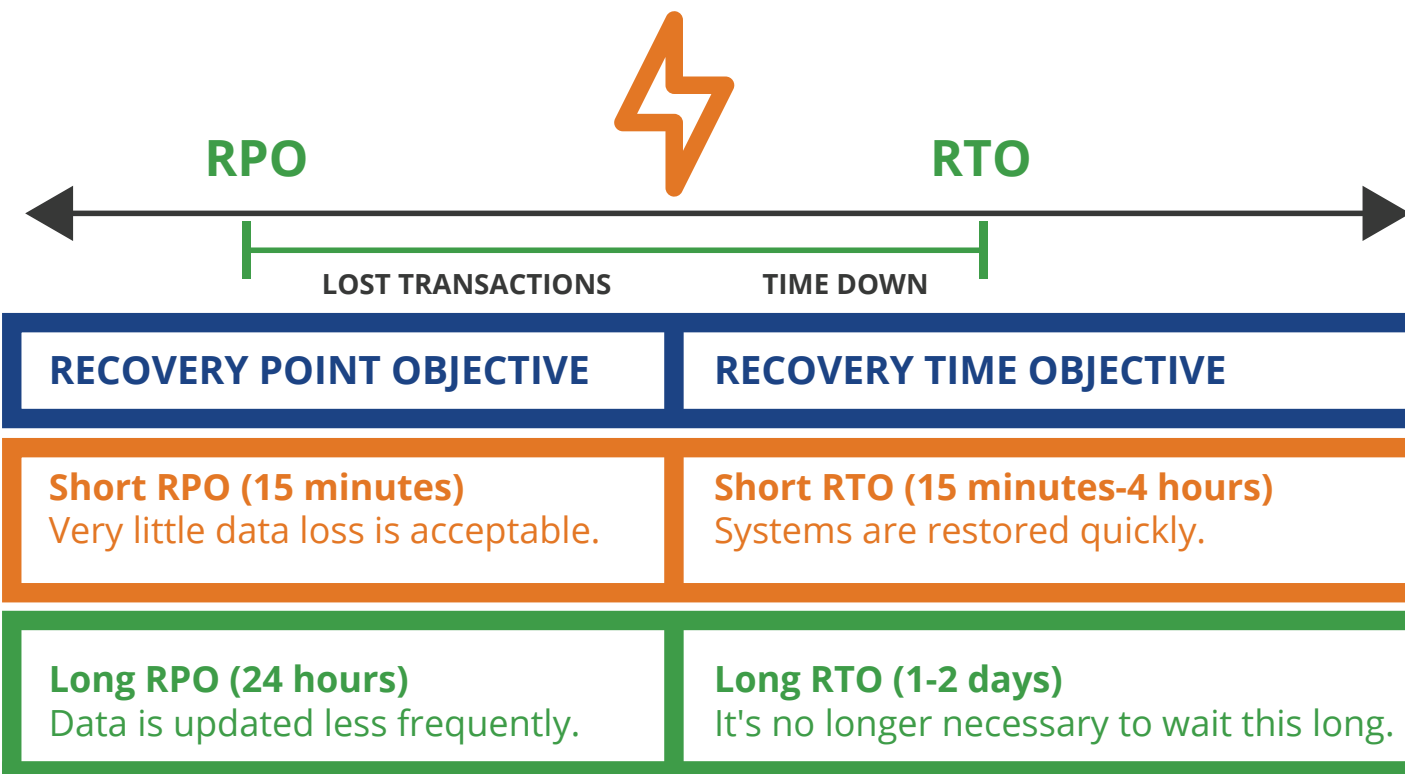
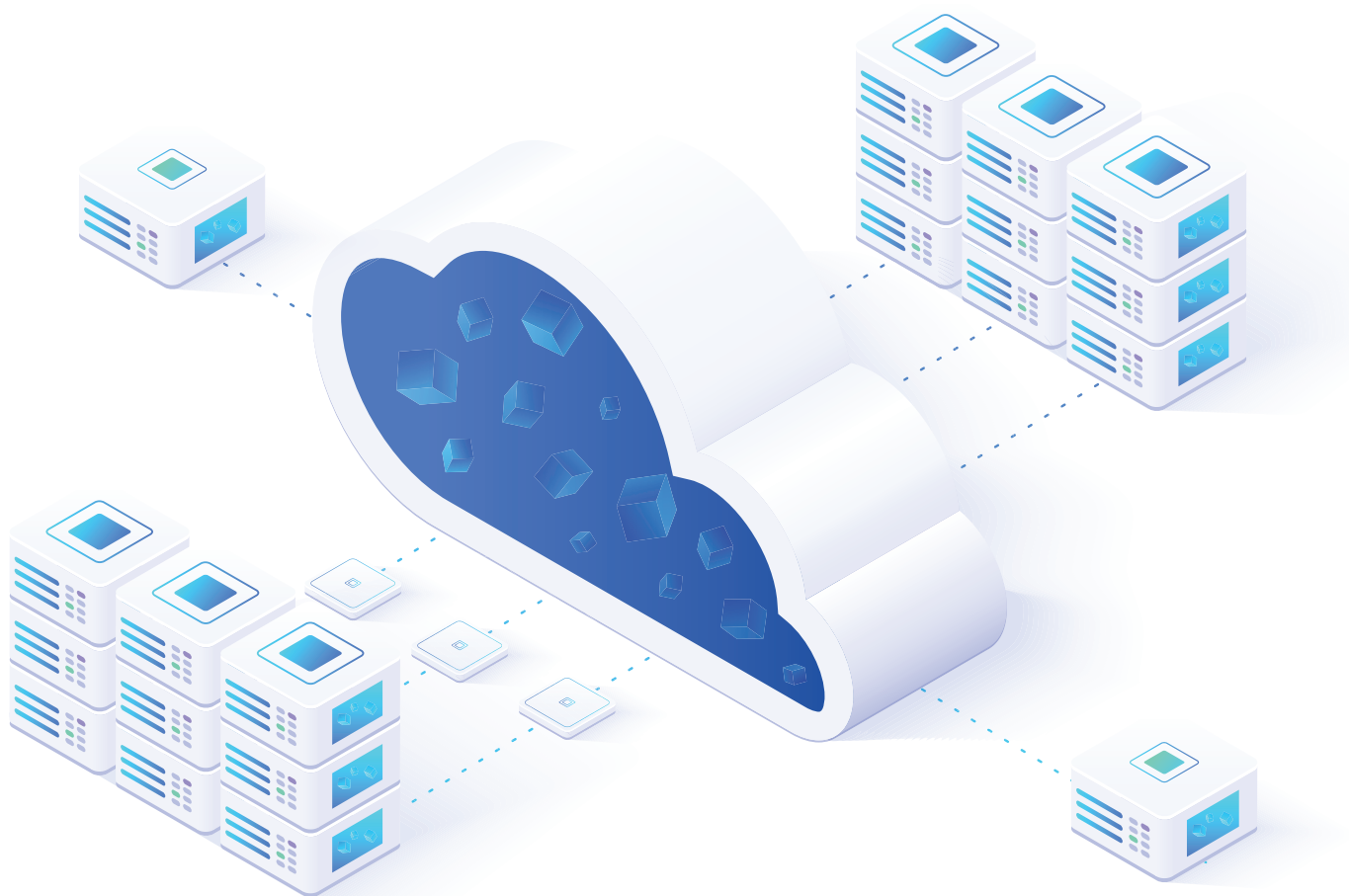
These insights will inform the replication frequency and retention time for backups that you will set. Consider your long-term goals for the cloud in your plans.

In a cloud environment, disaster recovery becomes more cost-effective for any size organization. Using tools such as Disaster Recovery as a Service (DRaaS) is an increasingly popular option for handling disaster recovery. DRaaS uses orchestration technologies to automate replication and recovery for better protection and manageability.

BUSINESS CONTINUITY VS DISASTER RECOVERY:

A business continuity plan is your overall plan that ensures your business can recover from a disaster. This includes things like emergency response protocols, communications plans, legal liability issues, and workspace recovery.

A disaster recovery plan is a subset of that business continuity plan that specifically covers how you will continue operations and recover your applications and data in the event of a disaster. It's about making sure your IT systems and data are available so you can resume business as usual.



Tie your disaster recovery plan to the real needs of your business. Typically:

- Customer-facing applications demand a shorter RPO and a lower RTO because data loss and downtime can have a severe impact on the business.
- Internal or administrative applications that aren't mission-critical may be able to withstand a higher level of data loss and more downtime.

WE'VE GOT YOU COVERED.

Disaster Recovery as a Service (DRaaS)

Traditional backup and recovery practices—those nightly batch backups, off-site tape storage, and time-consuming restore processes—are increasingly unworkable and inadequate.

To handle the challenges of hybrid environments, corporate IT organizations turn to DRaaS (Disaster Recovery as a Service).

As a cloud-based service, DRaaS has many advantages over traditional backup strategies:



The ability to handle diverse environments and backup needs



Automated replication and failover to the off-premises locations



Faster speed of recovery and minimal data loss



Professional expertise that comes with an experienced DRaaS provider



66% of organizations report that digital transformation is hindered by unplanned downtime of services caused by cyber-attacks, infrastructure failures, network outages, and natural disasters (with server outages lasting an average of 85 minutes per incident).

Source: Veeam

Businesses are investing more in disaster recovery and business continuity because of the need to keep services available 24x7, meet compliance requirements, and mitigate downtime costs.

Source: Forrester's Always-On, Always-Available Digital Enterprise

6 PUT YOUR IT ON FULL THROTTLE








What do you want to do in-house, and what do you want to have a cloud provider do for you? Outsourcing can help your IT team focus on revenue-generating projects instead of routine, day-to-day server maintenance.



WOULD YOU BE BETTER OFF OUTSOURCING ANY OF THESE IT MANAGEMENT AREAS?

- | | | |
|--|--|--|
|  Data center facility |  Databases |  Hardware/servers |
|  Disaster recovery |  Security |  Help desk |
|  Applications |  Care and feed cycles |  OS |

Consider the cost of managed services against the benefits your organization could reap:

-  What might you want to outsource?
-  Are there gaps between where you're currently at and industry best practice?
-  How would you envision the roles and responsibilities of the provider relationship?
-  What level of effort is required to close the gaps and bring your environment up to best practice?
-  What would it look like if you could outsource everything possible?
-  What does it look like if you keep certain staff in-house to manage specific components?
-  What is the right distribution of responsibilities based on the skill sets you have in-house?

CHOOSE YOUR OWN PATH

While moving to the cloud doesn't have to be complicated, it is typically a journey—not just a one-time decision. You might want a simple infrastructure move, largely as is, for a general migration. Or your goal may be IT transformation to maximize performance and reduce costs.

A conservative migration path may be best for organizations with mostly on-premises systems and minimal experience with the cloud. You might start by moving one or two systems to an on-premises private cloud or a colocation provider.

Organizations that already have some cloud services might want a faster, more aggressive path. An aggressive approach might start with a hybrid IT environment that combines cloud services and on-premises legacy systems, and progress to a public, hyperscale cloud platform, with plans for developing future cloud-native applications.

Whatever your goals and needs, there's an approach that will work:

- Do it all yourself in your own data center
- Manage your equipment in a 3rd party data center
- Do it yourself in public cloud
- Work with hosted private or public cloud provider
- Get expert help with managed services
- Mix and match any of the above

According to Gartner, most businesses opt for multiple clouds and/or a mix of cloud and non-cloud platforms in their infrastructure.

75% of organizations are expected to have deployed a hybrid cloud or multicloud model by 2020.



CHOOSE CLOUD OPTIONS TO MATCH WORKLOAD REQUIREMENTS



Do It All Yourself in Your Own Data Center

- + Maintains control of your IT environment
- + May provide lower connectivity costs for high-bandwidth workloads
- + May be necessary for data security and compliance concerns
- + Can reuse hardware that's under contract
- + Less latency for local users



Do it Yourself in a Public Cloud

- + Built for global reach
- + Provides anywhere access for distributed and mobile workers
- + Allows rapid, on-demand increase in capacity to meet peak usage needs
- + Ability to turn CapEx into OpEx



Manage Your Equipment in a 3rd Party Data Center

- + Uses your own hardware without the burden of running an entire data center
- + Protects data and retains control for compliance requirements
- + Ensures continuous and resilient operations and tighter security
- + Improves remote worker experience
- + Direct connectivity to cloud providers
- + Ability to turn CapEx into OpEx



Work with a Cloud Service Provider

- + Reduces day-to-day maintenance and administration burden
- + Improves scalability, flexibility, and speed to market
- + Provides 24/7/365 monitoring
- + Improves remote worker experience
- + Increases productivity
- + Ability to turn CapEx into OpEx
- + Ensures continuous and resilient operations and tighter security



Get Expert Help

- + TierPoint's team of experts can help you devise a cloud strategy and match the best cloud platforms with your IT requirements and business goals.
- + TierPoint can also provide a range of managed services to help with day-to-day operations, including security monitoring, network management, disaster recovery, and compliance.



Mix and Match in a Hybrid Cloud

- + Choose the best environment for each application or workload
- + Flexibility to adjust compute, cloud storage, and network bandwidth as business demands change
- + Built with reliability and redundancy in mind, you can failover to other clouds in your environment
- + OpEx for cloud services can replace the capital expense of new hardware allowing for more cost control

WHAT TO EXPECT ON THE ROAD TO THE CLOUD



Allocate Lots of Planning Time

All successful cloud migrations are the result of hours upon hours of planning.



Identify Accountability for Each Phase

Break the migration down into hourly, task-by-task responsibilities.



Inventory All Your Infrastructure

Identify assets, roles, and tasks that deliver value to the business, and those that don't.



Identify Hardware To Be Moved

Evaluate the tradeoff between moving old equipment or buying new equipment.



Conduct an Impact Analysis of Every Production Server

Identify application dependencies to understand how the servers interact with one another.



Address Legacy Applications

Lift and shift can cause some significant performance and security issues in legacy applications.



Develop Test Plans

These will be used in a test bubble after the migration to validate that everything is working properly.



Develop the Final Migration Roadmap

Group applications into migration phases so that nothing is broken when moving application groups to the cloud.



Develop a Disaster Recovery Plan

Anticipate downtime and identify the downtime limits for the migration.



Engage in a Dry Run to Reduce Risk

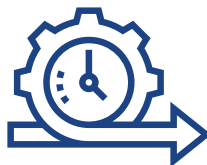
Run through the migration using a replica of the data in an isolated network.

ARE YOU READY?

Great! You've made the move to the cloud. Now what do you do? Are you positioned to manage that infrastructure?

Now is the time to unleash the true potential of your organization by freeing your IT staff for strategic projects. Partner with a managed services provider who can deliver best-in-class technology and skill sets to:

With a managed service provider like TierPoint, organizations are not bogged down maintaining infrastructure, security, and service levels; instead, you can focus on innovation and your core business objectives.



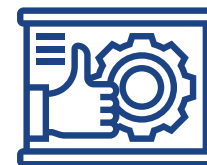
Make Your IT Staff More Agile

IT staffs are asked to wear a lot of hats, but how many of them actually support your core business and drive it forward? Outsourcing routine tasks and responsibilities to a qualified service provider can free up time, allowing you to focus on the things that move the business forward.



Enable Multi-Cloud Environments

Just because your staff knows one type of cloud environment does not make them experts across the many cloud options. You could hire additional staff to manage your various cloud environments. Or, you could work with a managed cloud provider for that expertise to fill in the gaps.



Stay on Top of Security and Compliance

It's hard for many enterprises to keep up with the latest threats. Because managed service providers are in the business of IT security, we can afford to stay abreast of the latest threats as well as tools and strategies to combat them and keep your systems secure and data safe.



Improve Up-time

By managing the security of your environment, you can limit your risk of downtime due to ransomware, DDoS, and other cyber threats. A well-architected disaster recovery strategy also minimizes downtime and data loss in the event of a disaster. A managed service provider will keep a watchful eye on your environment 24/7/365 and identify potential issues, such as over utilization of resources or malfunctions in the system, that can affect up-time and performance.

Enterprises have an average of 14 misconfigured cloud infrastructure and platform instances running at any one time, which can make data publicly accessible. Whether anyone sees the data or not, this is a compliance violation that can lead to some pretty hefty fines in many regulated industries.

Source: McAfee's Cloud Adoption & Risk Report

TIERPOINT CAN HELP GET YOU THERE.

We can help, no matter where you are in your cloud journey.

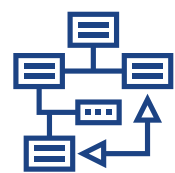
Most organizations don't perform cloud migrations frequently. If that's you, don't take on cloud migration by yourself. Instead, look for a partner, like TierPoint, with strong experience and established processes to ensure your migration is done right and with less risk.

We'll walk you through our tested migration methodology and document in detail every aspect of your infrastructure and migration plan in a centralized workbook. We help you ask the right questions and put first things first.



Assessments

- + Data collection via tools inventory compilation, workshops, and physical audits
- + Normalization, requirements traceability, and inventory baseline
- + Target state architecture
- + Migration architecture



Roadmap

- + Custom/complex design implementation management
- + Ongoing support models
- + Detailing tasks with resource assignments to schedule



Migrations

- + Hands-on keyboard for greenfield and logical app and data
- + Data center or equipment relocation
- + Data seeing and transfer services
- + Transition to steady state



Sign up for an IT strategy workshop.

CONTACT US TODAY

For more information about how a cloud service provider can help, contact TierPoint at <http://tierpoint.com>.



ABOUT TIERPOINT

A leading national provider of hybrid IT solutions, TierPoint helps organizations drive performance and manage risk. No U.S. provider comes close to matching TierPoint's unique combination of thousands of clients; more than 40 edge-capable data centers and 8 multitenant cloud pods coast to coast; and a comprehensive portfolio of cloud solutions, colocation, disaster recovery, security, and other managed IT services. With white-glove customer service, TierPoint professionals customize and manage agile solutions that address each client's unique needs.