

With world statistics indicating a major shift in businesses and with Gartner reporting that by end of 2027, 90% of them will move to cloud from on-premises infrastructure, it is imperative to understand why this change is occurring and how can companies leverage the benefits by adopting it.

On-prem to Cloud migration is not just about moving your data from one space to another, it's about taking good advantage of Infrastructure as a service. Once your company decides to move to cloud, you decide to business data, applications, and resources from servers, databases, and computers located on-site to the cloud.

But you might often wonder why I would do this when my application is running stable on-premises. To make the decision easier for you, let's count out some advantages:

Accessibility and Collaboration

Location flexibility is one of the benefits companies can offer when they leverage cloud solutions. If you have on-premises infrastructure, the operational effectiveness to work from anywhere — home or office — utilizing resources gets murkier. After cloud adoption, this flexibility allows up opportunities for hiring talent that is not physically located near your offices. Cloud environments are easier for collaboration. Data and insights are readily available for any authorized access provisions.

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Performance and Cost efficiency

It's easier to access all the resources when they're in the cloud. The Cloud service providers try to reduce latency for their clients by setting up data centers in different locations. So that even if the physical location for the company is facing disruptions, the resources are still available to all the employees if they have a device with an internet connection. Additionally, the need for additional resources is just a click away, as there is no need to set them up yourself. Releasing resources also comes handy as "pay as go" feature allows freeing up on-cost premises troubles. Thus, as companies choose from Capital Expenditure to Operational Expenditure, a significant cost reduction can occur on the company's yearly balance sheet.

Disaster Recovery and Data security

Cloud based systems provide robust disaster recovery capabilities, ensuring that the company's data is safe and can be restored quickly in case of a disaster. Cloud base providers have an inbuilt security system, and tools are already employed for detecting and mitigating data breaches as soon as they occur. So even though on-premises data centers

too might have deployed the same security measures, having this facility provided from as a cloud subscriber takes away the regular hassles of maintaining the accuracy of the mitigation patterns deployed.

Reduced Maintenance

With on-premises infrastructure, the regular updates of software, hardware and handling system failures, all of which require specialized IT skills and time remains a company's responsibility. Cloud providers handle these maintenance tasks and allow freeing up the company resources who can then focus on delivering higher business value.

Integration and interoperability

Cloud platforms offer pre-built services and APIs for easy integration with the diverse data sources, simplifying the creation of a unified data pipeline that can be utilized by the company as a subscriber of the cloud services.

Sustainability

Cloud providers run on massive scales and invest heavily in energy efficiency. So, moving a company's operations to the cloud can reduce the company's energy use and carbon footprint.

Challenges in Cloud Adoption

Doc Wilson was correct when he stated that "nothing in the world comes for free."

So, with several benefits comes the challenges of IaaS. Listing down the challenges faced by subscribers/businesses that move to Cloud, lets also understand how that can be counterfeited to lessen the impact of breaches, as and when they occur.

One of the main challenges to Cloud adoption is *data security and privacy* breaches. With some strict guidelines around **HIPAA** and **GDPR**, it is essential for businesses to realize that once they adopt the Cloud route, they must ensure that the sensitive data of their customers is far from compromise. Cloud providers on the other hand must ensure that any third-party security that they engage with takes adequate measures to ensure that unauthorized access, breaches or leaks are not occurring the data entrusted by the subscribers. Engaging in appropriate encryption methods for Data at rest will also ensure that breaches are mitigated properly. In transit data has to also ensure that only fully authenticated and authorized are provided access to the data resources of the concerned the Cloud subscriber. Choosing the regulatory landscape catered to the subscriber also helps the Cloud provider ensure that a customized data protection plan is catered to for your industry and region.

Next comes the challenge of *data migration*. As companies chose to move to Cloud Infrastructure, the huge amount of data migration that needs to happen from the on-premises location to the Cloud involves heavy transaction routes that need to ensure data security. The risk of data loss during the migration process as well as maintaining the business continuity during this large operation is of utmost importance here. Phased migration is the ideal way to go ahead in this case as gradual movement of data reduces the burden on the channels established which can help mitigate package drops as migration is taking place. Another important point to remember in this case is, the backup plan for a few days after migration, so that any unanticipated loss can be handled by a backup copy maintained on-premises always remains available.

Then comes the challenge of *Cost Management*. Though it is very evident that moving from on-premises to Cloud leads to long-term cost management, the pay as you go model has to be monitored carefully to ensure additional resources subscribed to during peak times, get released as soon as the need is fulfilled. Regular auditing of consumption is the approach to be followed to guarantee that the company is saving the infrastructure cost as it chooses to move from one setup to the other.

Last but not the least comes the skill gap. As the company chooses to move to Cloud, the teams in the team need to upgrade their skill set to get accustomed to the task of managing and operating in a cloud-based environment. Initially leveraging external resources that enable upgrading the skill of your regular team is the ideal path to follow in this case. Investment of this sort ensures that your team, which knows the business logic of the operations, learn how to address the application needs as the infrastructure to support them moves to Cloud.

Highlighting the benefits and challenges, the strategic advantage in today's rapidly evolving digital landscape, it is evident that adopting cloud is the way to move forward. By choosing to harness the ever-growing need to stay relevant, companies could unlock new possibilities as they choose to embark on this journey.