**Cloud vs On-Premises Pros and Cons**

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**Cloud vs On-Premises**

Cloud computing has grown in popularity with the promise of saving time and money and improving agility and scalability. What are the factors that should enter into your decision to either stick with on-premises, migrate to the cloud, or move to a [hybrid cloud](https://blog.heroix.com/blog/what-is-hybrid-cloud)? First, let’s be clear that there is no one size fits all model to help you determine which is best for your organization. The reality is, that you’ll need to do quite a bit of homework and due diligence to determine what works best. While most cloud providers tout all kinds of savings and benefits (after all why wouldn’t they?) costs can in fact get quickly out of hand. Also, on-premises deployments come with their own set of challenges, especially when confronted with significant changes in workload or the need to provide 99.999% resiliency.

**On-Premises is not going away!**

Cloud is gaining in popularity, and it certainly serves an important role in many an IT organization, however on-premises deployments are not dinosaurs and they won’t go away anytime soon. A number of factors come into play including significant sunk costs, a readily available pool of competent / cost effective IT expertise, and the fact that on-premises applications can often be more readily tailored and adapted to an organization’s needs. When compliance regulations (i.e. data must reside locally) enter into the equation, on-premises is even more compelling.

Also, organization are more likely to stick with on-premises when they are still depreciating their hardware and software costs along with no compelling technical or economic reason to change. Keep in mind to effectively leverage all the cloud has to offer, traditional applications need to be rewritten and built upon microservices – this is especially the case when hybrid cloud enters into the equation. In most instances a “lift and shift” to the cloud doesn’t result in tremendous savings.

**Cloud is here to stay!**

Cloud based deployments provide tremendous value and save organizations time and money. A [low entry cost](https://blog.heroix.com/blog/price-comparison-aws-azure-and-google)along with the savings that come with not having to build out or maintain a physical data center reap huge rewards.

Cloud also fundamentally alters how IT personnel are leveraged, enabling them to add even more value to the organization. Because cloud allows for the delivery of resources at lightspeed, whether it is spinning up new applications with SaaS, or provisioning additional servers via IaaS, IT resources no longer need to be devoted exclusively to IT infrastructure and application management. Instead IT becomes strategic – researching and recommending how to better utilize new and different technologies, helping keep their organization’s competitive advantage.

Migration to cloud also makes the staffing and the subsequent productivity of an IT organization far more efficient. Competencies in Azure, AWS, and Google Cloud are all easily transferable. The increased standardization of cloud technologies (i.e. server, storage, network, and application deployment) means that IT personnel can be more readily dropped into an existing organization and hit the ground running. Although one could argue that cloud management is more complex, it is a monolith, i.e. network administration with an Azure infrastructure is the same no matter the deployment.

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The matrix below endeavors to provide guidance as to the factors one should consider when looking towards on-premises or cloud deployments. Like everything else in IT, there are trade-offs, what is right for one organization may be totally inappropriate for another.

By prioritizing and then determining the type of technical and economic resources your organization is willing devote to each of the areas below, you’ll be able to make a better and more informed decision. 

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Factors** | **On-Premises** | | **Cloud** | |
|  | **Advantage** | **Disadvantage** | **Advantage** | **Disadvantage** |
| **Cost** | Can be cheaper in the long run | Significant upfront hardware and software costs (cap-ex) means a mistake can be hugely expensive | Predictable subscription pricing  Costs allocated to op-ex  No upfront hardware/software cost | Really need to project costs out over the long-term  Software licensing can mitigate hardware savings |
| **Security** | Organization in full control of the data locally  No third-party access to the data | Requires dedicated and knowledgeable resources  If organization lacks appropriate expertise, it risks significant exposure . | Deliver superior data security | Aggressively targeted by hackers  Data could be accessed by 3rd party. |
| **Agility and Scalability** | Physical control over the hardware means upgrades can be tightly controlled | Need to plan well in advance to changes in demand because of the time necessary to research, justify, order, and deploy hardware.  Could be stuck with excess IT infrastructure which may or may not be able to be re-purposed | Cloud resources can be rapidly adjusted to accommodate specific demand | Costs escalate when the cloud infrastructure is improperly managed (i.e. [Shadow IT](https://blog.heroix.com/blog/the-impact-of-cloud-on-it)) and not properly tracked |
| **Resiliency** | Build out only the level of redundancy needed.    Especially cost effective when 99.999% uptime isn't a concern | Costly to properly build out when 99.999% is required | Much easier and in most cases more cost effective when building out multi-site/ geo-redundant server and storage | Outside your control - you’re at the cloud providers mercy |
| **Software Customization** | Readily able to customize the platform to meet unique requirements. | Customizations can lead to reliability and software support issues | SaaS platforms are quite stable. Updates are iterative | SaaS minimize the ability to modify the platform |
| **Software Deployment** | Technology can be deployed based on unique IT infrastructure and application requirements | Complexity can mean lengthy and difficult deployments | SaaS is quick to implement | SaaS is implemented to a lowest common denominator, limiting functionality |
| **IT Support** | Infrastructure and application expertise are readily available | Dedicated IT necessary, especially when applications are tailored to meet an organization’s unique requirements. | The economies of scale inherent to cloud deployments mean that IT support can manage more with less time and effort | The learning curve for cloud is significant. Properly trained personnel are expensive |

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**Conclusion**

It really is impossible to make any sort of gross generalization as to whether one platform is going to be better or more cost effective over the other, or even whether a hybrid cloud is more appropriate. Every organization’s requirements and assumptions are unique.