

# Understanding the Five Characteristics of Cloud Infrastructure-as-a-Service Solutions

*A FusionStorm White Paper  
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A more granular definition of public versus private cloud helps organizations understand the range of available options and select the most appropriate cloud IaaS solution for their needs.

Sometimes a single word can fully encompass a complex concept. Other times, one word simply isn't enough. It all depends upon your perspective.

Legend has it, for example, that Arctic peoples have many more words for "snow" than do people of more temperate climates. Legend or not, it expresses the notion that differences in language reflect differing views of the world.

When it comes to cloud computing, one word may be enough to define consumer-oriented cloud services. For consumers, the word "cloud" adequately describes IT services accessed remotely via the Internet. The word conveys the sense of abstraction of computing into the unknown.

IT professionals, in contrast, generally break down the concept further into "public cloud," describing services made available to large groups, and "private cloud," describing a cloud infrastructure operated exclusively for an organization. Then there is the "hybrid cloud" that combines public and private cloud infrastructures through technology that enables data and application portability.

As cloud computing matures, however, these terms have become insufficient to describe the various procurement, deployment and management options that are available within the cloud. Organizations need a bigger vocabulary to help them make informed decisions about today's cloud Infrastructure-as-a-Service (IaaS) offerings.





## Remaining Barriers to Cloud Adoption

The five cloud characteristics illustrate how a more granular definition of public versus private cloud can help customers overcome key concerns regarding cloud IaaS and select a cloud service provider based upon business and application requirements. Barriers remain, however. Further refinement of the cloud model is needed to fully address customer concerns regarding cloud adoption.

One issue is **transparency**. Customers want more than SLAs. They want the ability to see what's going on inside the IaaS architecture as well as the performance and availability of the cloud components behind it. Some large, well-publicized public cloud outages have exposed the fact that the cloud providers were not as transparent as they could have been about how the cloud operated internally. Cloud providers should learn from these mistakes and provide cus-

tomers with a high degree of visibility into the IaaS environment.

Customers also want greater **flexibility and choice**. For example, some customers need to integrate dedicated servers into the cloud environment to support legacy or non-x86 platforms that cannot be virtualized. Too many cloud service providers have created inflexible platforms that cannot easily adapt to those kinds of requirements.

Customers want an easy solution for **disaster recovery and business continuity**. Cloud should be an enabler rather than an inhibitor of business continuity, and cloud IaaS providers should offer a simple means for performing back-up and disaster recovery within the cloud.

In addition, customers want the **ability to easily move workloads** back and forth between internal systems and various cloud providers. As a consequence, they want to mitigate against proprietary solutions that create cloud lock-in.



## Conclusion

The cloud adoption dialog remains focused on the public versus private cloud debate, seemingly limiting the customer's choices to either building out a private cloud infrastructure in-house or accepting the potential risks inherent in the public cloud. This either-or scenario does not encompass all of the options available in the cloud IaaS marketplace.

Customers need a more robust language to describe the various ways in which a cloud infrastructure may be procured, deployed, managed and accessed. Just as Eskimos may have many words for "snow," IT managers need a vocabulary that goes beyond "public" and "private" to discuss the cloud environment.

By breaking down cloud IaaS into five characteristics, each of which may be "public" or "private," IT managers can make informed decisions regarding cloud IaaS solutions. Selecting a service provider that most closely matches business and application needs is critical to reaping all the benefits of scalable cloud infrastructure while meeting specific financial, operational, security and access requirements.

FusionStorm's "Cloud Anywhere" solutions consist of IT products and services to deliver cloud computing where and how it benefits customers the most. We deliver both customer-premises and hosted cloud solutions to bring the agility and cost savings of cloud computing to organizations of all sizes.

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