

There is no cloud.

Cloud is what you make it

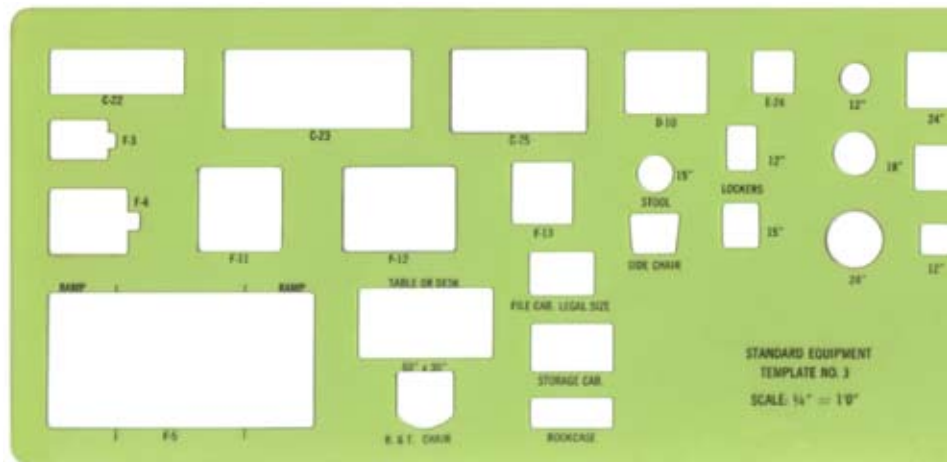
For a term that was introduced by researchers at MIT nearly 15 years ago, there's an awful lot of hype around cloud today. And for good reason. Cloud is a powerful new approach to solving business problems in different, better, and potentially radical ways. Though the technology itself is evolutionary, its business applications are nothing short of revolutionary.

What's new and what's not

The basic issues driving migration to cloud today are nothing new. Cost control. Agility. Managing complexity. Getting more efficient without sacrificing service – from IT to the business and from the business to the customer. These have been the big drivers since the beginning of computing itself, even as technology has steadily evolved to create new capabilities with distributed computing. Web services, clusters, grids – and now cloud – every step brings new potential for faster, better, cheaper.

But if cloud is evolutionary in terms of technology, it's truly revolutionary when it comes to business impacts – loaded with opportunities for innovation, competitive advantage, and good old-fashioned value management. Simply put, cloud services can free any organization to ask, "What should we do?" instead of, "What can we do?"

Virtualization leads directly to cloud, where on-demand IT services can be delivered anywhere they're needed, with elastic scale and cost. Who doesn't want that?





Keep the technology cart behind the business horse

Some of the hype around cloud is being driven by technology companies with exciting new products to sell. And while it's always good to hear what they're up to, that's not the place to start your thinking.

Rather than focusing on IT layers, such as Infrastructure or Software-as-a-Service, keep your eyes on the business capabilities that will be served or created. You may find it helpful to think of these as "capability clouds." Examples include email clouds, collaboration clouds, analytics clouds, or development or testing environment capability clouds. Using this approach, you should be able to connect your investments clearly and directly to a business case with a real value proposition.

Next, identify one of your current applications or IT services and express it as a business capability – a business service. Then examine it in light of the five characteristics that distinguish cloud services from other delivery approaches such as grid, utility computing, or plain old IT outsourcing. If a majority of these characteristics apply to your business problem or proposed technology solution, then it makes sense to consider cloud as a viable option.

Five distinguishing characteristics of cloud:

1. End-user self service – automating the process of customers subscribing to cloud services, as well as provisioning those services
2. Location independence and multi-tenancy with regards to service provisioning and delivery
3. IP ubiquity – enabling access anytime and anyplace there is a network connection
4. Elastic performance and load – the ability to scale both up and down period by period
5. Elastic pricing and contract terms – the ability of subscribers to buy services "by the drink"

Assessing these characteristics will carry you forward to technical considerations about which style of cloud makes the most sense for your own unique needs.

The five styles of cloud

1

Public

Cloud services can be delivered in many modes, and in fact, in blends of modes. Some definitely involve the public Internet – hence the name “public cloud.” If you go to a public cloud as a subscriber, a service provider will then use the public Internet to deliver that service to you. Google, Amazon, and Salesforce.com are familiar examples of public cloud services.

2

Private

It’s perfectly possible to take the same virtualization and IT automation technologies and operational disciplines used in public cloud and implement them inside your shop, data centers, and IT organization. This private cloud option provides for more complete control and security, though it’s rare for a private cloud to attain the economies of scale of public clouds.

3

Hybrid

Hybrid clouds blend internal capabilities (private cloud) along with subscriptions to some capabilities from a public cloud. This is the most common implementation today.

4

Community

Community clouds involve a collection of private clouds coming together for the purpose of economies of scale, efficiency, and effectiveness. Once together, participants are able to subscribe to and provide one another with services. The formation of community clouds provides early insight into the challenges and power of multi-cloud integration.

5

Virtual private

This style of cloud is now emerging in the market. A virtual private cloud looks like it’s all yours, inside your data center, but in fact is being supported by a large-scale public cloud provider who has carved off a private piece of their capability or capacity that is virtually dedicated to your organization. This compromise approach is delivered as Infrastructure-as-a-Service, and can provide for better security and privacy for enterprise platforms and software.

Supply, meet demand

The cloud styles you choose will depend on the specific services you need. On that front, we're seeing a rapid evolution toward organizations using capability clouds to deliver finished business services, without the subscriber even having to operate software. Think of this as "Business-as-a-Service." A good example is payroll services, where the subscriber submits timesheets using an online form and the provider delivers paychecks. In addition to these kinds of business services, companies can also subscribe to software, platforms, and infrastructure as services through different styles of cloud. This trend toward capability clouds is attractive to business users and buyers because it can help them create clear connections to business case value measures.

No matter which style of cloud you end up with, and no matter which services you focus on, two business model fundamentals will be critically important. Think of it this way: Cloud services represent a marketplace where there are providers and buyers. In this case, buyers can be thought of as "subscribers" because of how the contracting is done. Cloud service providers are in the business of providing (and charging for) IT services or business services that the subscribers need.

Behind this provider-subscriber model are a host of cloud service enablers, such as Dell, Sun, and IBM, selling software and hardware to the cloud service providers, just as companies like Lucent and Cisco do for the telecommunications services providers. In addition, a new player in cloud is emerging – the cloud service broker. Brokers range on a continuum from consolidated storefronts on one end to full arbitrage on the other, with a marketplace that looks a lot like the deregulated telecommunication environment of the 1980s and 90s. While there aren't yet mature examples at the arbitrage or reverse auction stage, there are a few companies that are considered storefront operators.

While it's true that cloud services are changing how businesses work, basic laws of supply and demand have not been repealed. If you build it they may come, but then again, they may not.

Everything as a service?

There's more at stake with cloud services than being able to do current things faster, better, and cheaper. Cloud services make it possible for you to do entirely new things. Small companies can orchestrate themselves into federations that can compete on a global scale. Supplier and customer networks can share knowledge that was siloed. You can add business value with every transaction you process.

For example, consider the emergence of analytics clouds – where organizations can more easily mine the intelligence embedded deep in their growing data warehouses. With Analytics-as-a-Service, business services such as pricing studies and profitability analyses are shifting to the cloud, with providers concentrating their specialized capabilities, automating the analytics process, and driving down the cost of gaining business insight. These are the kinds of transformations that can happen when you begin thinking of traditional business capabilities and processes as business services.

Many IT organizations are already on the path to cloud services, using Services Oriented (Software) Architecture and IT Services Management as building blocks. But unless your business capabilities shift in a similar fashion, you won't be able to take advantage of the full impact cloud can provide. In practical terms, this requires breaking business functions into discrete, manageable services that can be composed, disassembled, and re-orchestrated to deliver the capabilities the business needs – Services Oriented (Business) Architecture. A services approach in technology *and* in business can create a multiplier effect that can help any organization capture more value from cloud computing.

Questions to keep in mind

Which specific application and services portfolios would most benefit from the five cloud computing characteristics?

What short-term efficiencies can be gained from shifting variable workloads to the on-demand resources of a more distributed computing model?

Which business services and functions can be abstracted and provided through cloud services? Which can't?



Don't lock in until you have to – and that could mean never

The evolutionary path of cloud services is accelerating as businesses have discovered they can test innovative ideas with low-cost, low-risk projects almost on demand. It is a trend that has unleashed experimentation across the board, creating new partnerships – and new tensions – between IT organizations and the hungry businesses they serve. This edge of innovation has fragmented cloud computing into increasingly specialized services, ranging from infrastructure and platforms to applications, integration, and beyond. By combining and recombining assets of all shapes and sizes, IT organizations are redefining what's possible. Depending on the business drivers of your industry and company – appetite for innovation, governance model, cost structures, supply chain, etc. – any of these evolutionary branches could come into play. New and different combinations are all but waiting to be discovered.

There are many lessons to be learned, but one of the first is this: Stay open, stay flexible, and don't commit to anything that restricts your freedom to change. Locking into a vendor's vision may look like a life preserver today, but it could turn out to be a ball and chain. New providers of cloud services have just begun entering the market, a trend that will likely accelerate – and eventually lead to a familiar cycle of mergers and acquisitions. Although major vendors have pledged to maintain open standards for data portability, that's more easily said than done. Interoperability of cloud services with on-premise systems is just now being addressed by IT industry providers.

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Cloud is what you make it

The main question for businesses looking at cloud services today is *how* to get started, not when. The train is already leaving the station, and those who don't get onboard run the risk of losing competitive advantage.

But that doesn't mean you should dive in with both feet. There are ricochet effects all over the place – and not just in technology. For example, what are the accounting, regulatory, and taxation implications of subscribing to – or providing – Software-as-a-Service? What operational adjustments and organizational changes are needed to support private cloud services? What risk management practices come into play when you enter the public cloud ecosystem? You must start with a business case, but what's the best way to build that case for different cloud options?

From a technology standpoint, cloud is an important evolution of virtualization, automation, management, and operations discipline. From a business perspective, it is all that and more. Companies have rarely had the freedom and agility implied through cloud services today. How you architect your own approach – how you combine and recombine the growing array of services available – will drive the benefits you gain.

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