



NYI CLOUD COMPUTING BUYERS GUIDE

What to Look For When Considering the Cloud

The cloud computing market has expanded exponentially during the past several years. And, with that, so has the confusion surrounding what options are best for your company. Worldwide spending on public IT cloud services is expected to be more than \$107 billion in 2017, according to an IDC forecast. The cloud, whether public or private, can enable businesses to generate new revenue streams, increase innovation and increase profit—all of which are essential to long-term growth and success.

If you haven't already adopted cloud into your IT environment, you might wonder if and when to go with a public cloud versus a private cloud versus a hybrid cloud, or whether you should build something else in-house. Public clouds such as Amazon's AWS can meet short-term workload requirements. But, once you start down that path, it might not be all that you thought it would be—especially after receiving a hefty bill after the first month. What may seem less expensive in the beginning, can get very costly as time goes on and your IT requirements change.

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IT'S WORTH THINKING ABOUT.

If your company is an early stage start up, mid-sized firm or large enterprise, your experiences could be quite different. One size does not fit all. Make sure you're asking the right questions before taking the cloud-computing plunge. Without due diligence upfront, you could find yourself with a bunch of new problems including:

BIG increases in costs

Don't be fooled by slick marketing or initial price charts. If the public cloud provider is advertising that they will become the replacement for your main operating costs, (which sounds good to start ups who want to woo investors) you might be fooled that implementing a public cloud will provide you with tons of savings over time. Not so. Often cloud providers will talk in terms of the 'big picture' rather than bogging you down with all the fine details. This leaves you ending up making a critical decision with limited information.

Many public cloud providers also publish their pricing and advertise that you pay only for what you use and have no minimum fees. Often when you dig a little deeper, you will find some surprises that will definitely impact all of the "savings" you first thought you were getting. Items such as network transit between cloud zones aren't mentioned up front, but it sure makes for a much more expensive AND complicated bill. Accurately sizing the solution is key—many public clouds charge based on the number of instances running. If you choose instances that are more powerful than you actually need or have more instances than your application requires—you will be paying too much.

Instance types can differ based on use, such as general-purpose servers, CPU or memory intensive workloads, I/O performance, and size. Right sizing is key. NYI has observed users losing track of their numerous instances and forgetting to turn them off. This can also result in skyrocketing costs and wasted time trying to figure out the process, what you actually have, and how to best manage it all.

Public cloud offerings often charge the small consumer more for using their services and conversely offers extra advantages to larger users for greater technological sophistication. With that, make sure you know what you are getting and what you are paying for ahead of time.

Storage costs are another area to be mindful of:

- Will you get charged for the entire amount whether you use it or not?
- Do backups have additional fees?
- Does your provider charge for every I/O operation that you perform?

Not KNOWING what you will be charged

A huge factor that often gets overlooked is the predictability of billing. Knowing what your costs will be from month to month is essential, especially for small to medium sized firms. We have found with some public cloud offerings the terminology frequently changes so when you receive an invoice its impossible to know what you have been charged for in relation to what you thought you were buying. Many providers charge directly to your credit card so if you have a billing discrepancy then its tricky to recoup dollars for billing mistakes. And if your accounting person ever has to visit your IT department to decipher a bill, then you know it's a problem—who wants to waste hours going over invoices and trying to reconcile actual resource usage with what's on the bill?

As an example, costs for things like Disk I/O can be hidden and we've heard of public cloud clients being charged every time you write a block of data to discs and also charged every time data is accessed. These types of costs are small—but very hard to track—and definitely add up to more than you thought you were going to pay. And moving into to the next point—having a human to talk to is key. It's much easier to resolve a billing issue when you can speak to a live person.

All in all, it is important to weigh the price with the performance you get, and the flexibility each vendor offers. The many different areas and options to consider can get quite confusing and make it hard to know exactly what you need until you actually put a real workload onto the cloud solution.

Lack of accountability and poor customer support

Who is going to be there to help you when you need it? Not having an account team to call upon when needed can be extremely frustrating and time consuming. A lot of the public cloud providers don't have personalized customer support. It is difficult to reach someone who is familiar with your specific needs and requirements, causing a lot of back and forth and headaches down the line.

At NYI, we take our personalized approach to customer relationships incredibly seriously. It is a great source of pride for our company. NYI technical account managers work closely with each customer, understanding their requirements and building strong relationships so we can be there when our clients need us the most.

Limited Security

Many public cloud users inadvertently misconfigure their cloud infrastructure with inherent security flaws and liabilities. Some of these flaws open up vulnerabilities into their network, which can be easily exploited by a variety of security threats. Companies with large amounts of private customer data should definitely be concerned about security and the overall reliability of their cloud solution. By going with a private cloud option, you have direct access to a team of cloud experts to guide you, and be assured that vulnerabilities are locked up tight. Private clouds offer more control and thus less risk than most public cloud options. NYI's cloud platform has been engineered in a highly redundant and secure environment and we have cloud experts constantly monitoring the cloud environment, and they're available to help whenever you need it.

High profile, regular outages

There have been lots of examples in the news lately—some outages caused by human error and some by Mother Nature herself. One public cloud provider required that a big majority of its clients reboot due to a critical vulnerability in the virtualization software. What this means is, if your provider is telling you that you will 'never go down.' then it's probably more marketing hype than anything. A big part of the cloud is still Internet connections and servers—so there are vulnerabilities to contend with no matter which way you go—you just want to make sure that you have a trusted partner to help you through those issues and help you when you need it.

In any event, make sure that your cloud solution has secure backup plans in place in case disaster strikes. If you are provisioning your workloads on public clouds you might not have direct communication with experts to

ensure you have all areas of your configuration/solution covered with a contingency plan. If they have set Service Level Agreements (SLA) to back up an outage, they can be difficult to understand, meaning essentially you must then architect your application to accommodate failures. NYI makes it easy and backs our cloud service with a 100% SLA guarantee.

Got Noisy Neighbors?

Cloud is essentially based on shared resources where a physical server, upon which customer instances reside, hosts multiple virtual machines. "Noisy neighbors" are evident when one or more virtual machines on the physical host spike significantly. This can result in poor performance for the remaining virtual machines. Other companies' apps and solutions will then run slower than they should. Many public clouds are built around a model of sharing resources—hardware, network, and storage—and if you're not prepared to manage this noisy neighbor dynamic then you will spend lots of time trying to mitigate and recover from it.

Large, technically savvy organizations have huge deployment infrastructures, which can inherently minimize their reliance on an individual virtual machine. As such, the noisy neighbor problem is lessened as they can easily spin up new infrastructure when needed. However, this scenario is very challenging for small to mid-sized companies. The level of automation needed to automatically replace components is complex and can be costly – and manually dealing with these issues can take days and weeks of dedicated IT time.

With NYI's cloud solution, you have guaranteed clear cloud partitions—with enough dedicated compute, storage, and network resource space between them so that noisy neighbors can't impact your performance.




These are just a few things to consider before choosing when to use cloud, and what to look out for. Don't get surprised or caught off guard. NYI can guide you through these areas and many others; and help you develop a colocation, cloud or hybrid environment that is right for your business.

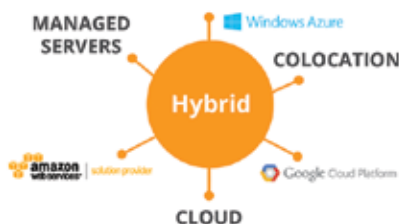
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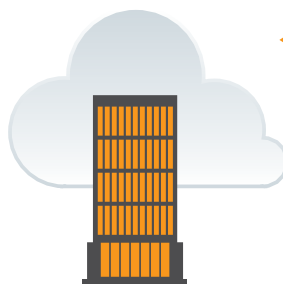

No true enterprise hybrid cloud capabilities


No dedicated non-virtualized servers




No colocation.
Hybrid solutions including colo + cloud can be a perfect combo for many types of companies—and allows companies to leverage the best of both worlds.


No managed services.
Your business might require expert assistance in other areas. By choosing a service provider that has added capabilities, your team can leverage the right kind of support—whenever you need it.



About NYI

At NYI, we understand you're important and so is your business. Our approach is simple, effective and unique in our marketplace. We look beyond our world-class data centers and focus on supporting customer growth and success acting as a genuine extension of your IT team. Since 1996, we have provided our customers with fully managed, highly customized infrastructure solutions built to suit their specific business and mission critical IT needs. Our customers view us as a true partner; always available for round-the-clock support from a team they know and trust.

Contact NYI's team of experts today – and talk to a real LIVE person.

COLOCATION / CLOUD / HYBRID / MANAGED SERVICES / DISASTER RECOVERY

NYI

With NYI you can customize combinations of colocation, dedicated hosting and cloud to gain more flexibility and cost efficiency.

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