

Build vs Buy Decision





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Introduction

In this eBook, the term build refers to building a data center yourself, where it's likely that your business will engage with outside parties to design and build your data center facility. Whereas buy represents the act of leasing a facility from a provider whose core competency is in designing, building and operating data center facilities.

Today, CIOs and IT managers are faced with that all-important decision...

Do I build, or do I buy?

Quite frankly, it's no simple matter when it comes to data center operations.

We offer this eBook as a guide to help you determine the most effective ways to evaluate your data center situation and make the decision that's right for your business.



Decision Considerations

Data centers require scalability and redundancy, and that requires investment. When you look at the expense of maintaining this kind of data center infrastructure, it simplifies build versus buy considerations.

1. Cost

A financial analysis is critical to making a sound decision about building or upgrading a data center, or outsourcing to a colocation provider. Here are a few estimated costs based on our decades of experience:

Cost	Considerations
Electrical Power	Could run \$7,500 or more per cabinet annually, which may be double that of data center providers who receive volume discounts from utilities and have facilities that use power more efficiently.
Cooling Water	Similar to electrical with providers receiving volume discounts and being more efficient (free cooling).
Equipment Maintenance	Vendor maintenance can be 10% of the initial cost of equipment per year, and replacement of back-up batteries, generators and electrical systems must be planned for.
Technical Staff and Training	A data center manager (60k - 80k) and additional technical and/or security staff (\$40k - \$60k) must be hired for operations. Employee training must be accounted for. Keeping staff with expertise is increasingly difficult in the IT marketplace, so wage inflation or recruiting costs to backfill lost employees are to be expected. Added risk associated with staff turnover.
Organizational Focus	Operating a data center can take up the time of many others in an organization - executive, vendor and utility relations, legal and environmental, government and regulatory, accounting and audit, telecom.

2. Build Time

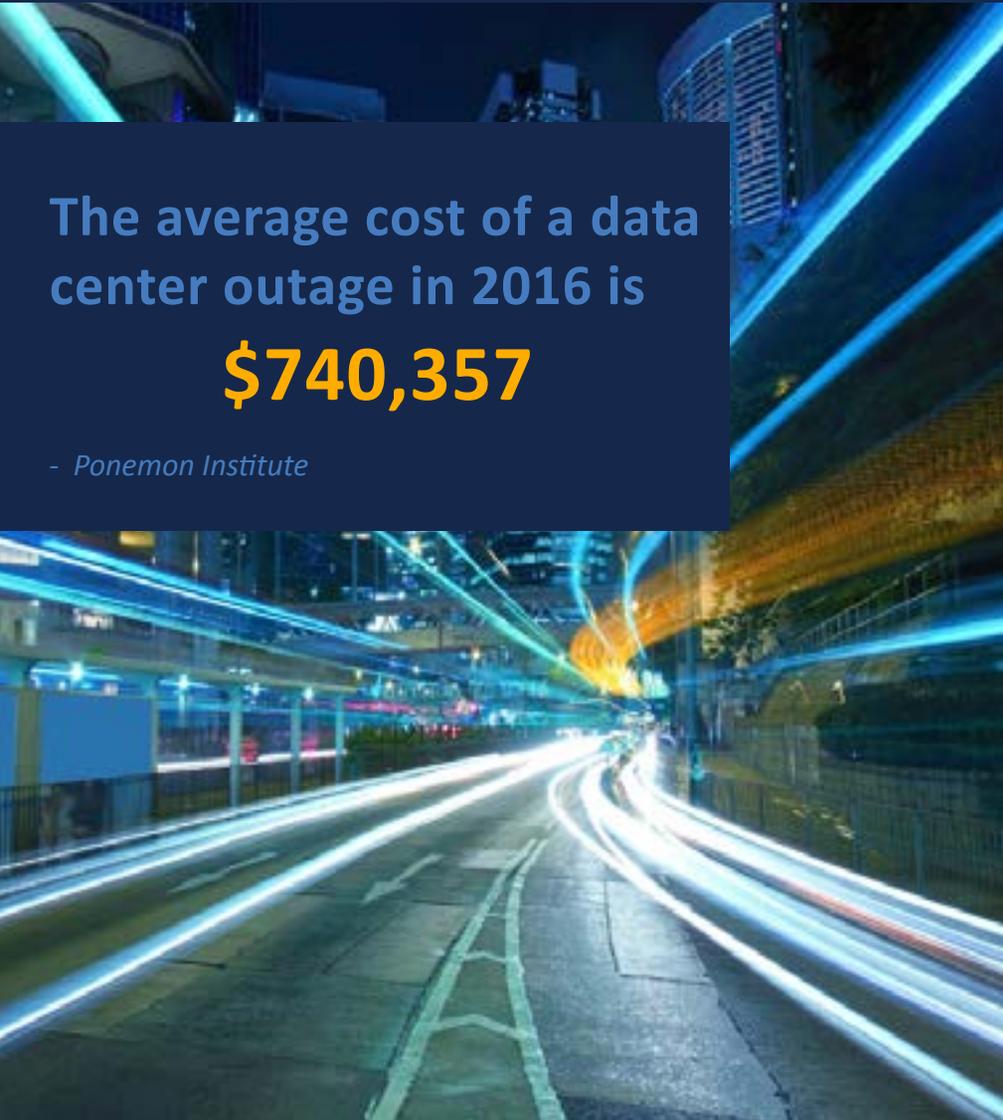
How quickly will you need your facility to be fully operational? A typical data center build can take 12-18 months from planning to completion. If you require data center space in a shorter timeframe, colocating with data center provider may be the most viable option.

3. Outage Risk

According to the Ponemon Institute, the average cost of a data center outage rose from \$690,204 in 2013 to \$740,357 in 2016. The costs of downtime can be detrimental to the health of your business. When your data center suffers any incident and your data is not accessible, the result is a disruption in your business operations. The reliability of your data center to prevent and recover from unforeseen incidents is critical to your organization's success.

4. Security & Compliance

If physical and network security is top-of-mind for your organization, you're not alone. With a growing number of potential threats, both digital and physical, it's no wonder. Your valuable IT assets should be safeguarded against both man-made and natural disasters.



The average cost of a data center outage in 2016 is
\$740,357

- Ponemon Institute

Maintaining compliance with external regulatory requirements such as HIPAA, SOX, GLB, PCI-DSS and other industry requirements is a burden for even the largest IT departments. Colocation data centers provide control environments to meet your security and compliance requirements

5. Environmental

Will the data center be located in a geographically stable location? One with a low propensity for natural disasters such as earthquakes, tornadoes and floods. If not, your company could be at risk for potential data center outages due to environmental issues.

6. Data Center Scalability

Under or over provisioning can cause any number of problems as you could end up with too much empty space in your facility or not enough power, cooling or connectivity. In contrast, leasing data center space oftentimes allows you to expand as your needs do.

While there are a number of factors to be considered, perhaps the most pertinent is asking yourself if building, owning and operating your own data center is a strategic advantage to your business, or just a burden on internal resources and capital? Or perhaps, this it's best to outsource this initiative to a qualified external organization? These questions should help you make the ultimate decision, in order to meet your core business goals.

Making the Case for Colocation

At OneNeck, we believe that third-party colocation facilities are an excellent solution to augment data center space and eliminate the need for significant capital expenditures for IT infrastructure and additional sites.

In addition, concerns can be minimized by transferring responsibility to a qualified colocation partner, an expert with the expertise and dedicated resources to address all these challenges.

Here are the top four ways companies benefit financially by leveraging the expertise and services of a colocation provider:

1. CAPEX vs OpEX: Leasing space in a colocation facility is less expensive

Building your own data center is expensive. The planning and designing phase alone can cost between 20 and 25% of the construction expenditures. Forrester estimates the costs to build the actual building, if you're not using an existing structure, at \$200 per square foot.

Additional setup costs include fire safety systems, building permits and local taxes, capital expenses like hardware and installation, and network connectivity. Once you are up and running costs are difficult to project and include power, maintenance, and staffing on an ongoing basis. The cost of power alone, taking into account regional variations, generally accounts for 70-80% of total operation costs.

Colocation providers lower your overall expense of running a data center by providing economies of scale and sharing the physical building expenses, such as climate control, and lowering the overall burden that comes with maintaining your own enterprise data center.





2. True scalability is easier to achieve

When building a data center on-premise, organizations need to predict their future needs to determine what size to build. This may mean that you have hardware sitting around that is underutilized or you don't have enough capacity at peak times. Either way is costly. Colocation provides the ability to right size your data center to your needs today and the ability to pay as you grow without idle or insufficient capacity

3. Colocation is less complex to maintain

Building and maintaining your own data center consumes a great deal of not only capital resources but human resources as well. It is difficult and expensive to find the depth and breadth of IT expertise needed to operate your data center 24/7, provide business continuity, enhanced security, disaster recovery and optimize applications and systems. The colocation shared resources model means that the expertise is always on hand to optimize your systems and offload core IT functions to free up internal staff to devote more time to mission-critical initiatives

4. Organizations save money by reducing downtime

The average cost of a critical application failure has been pegged at \$500,000 to \$1 million per hour, according to IDC. Reliability is a key evaluation criteria. To ensure optimal uptime, the best choice in colocation provider will have data centers in multiple locations for failover, business continuity and disaster recovery in the case of natural disaster, human error or equipment failure.

Why Colocation is the New Center of Hybrid IT

Organizations have never had more choices in how they architect their data centers. You can maintain your own servers on your own premises. You can use the public cloud; you can create private clouds. You can use a hybrid cloud, mixing services in the cloud with services housed in your own data center. Or you can house your own servers in a colocation facility and connect to the cloud from there creating a hybrid environment that has great benefits.

Location, Location, Colocation

For more and more organizations, colocation is becoming the centerpiece of their hybrid IT strategy. Colocation takes advantage of the benefits of owning your own hardware while using the colocation facilities power, cooling, and network infrastructure for connection to the cloud.

The advantages you gain include:

1. Physical security

Using a colocation facility eliminates the need for companies to maintain a separate, secure area on their own premises to house physical hardware. Colocation facilities protect your organization by providing a building with multiple layers of security controls and monitoring. Inside the facilities, most colocation centers provide levels of security ranging from open racks to private locked rooms.



2. Compliance

Although colocation facilities support multiple tenants, unlike cloud providers, every tenant runs on their own hardware. This makes it possible to meet compliance requirements in industries like finance that require single-tenant environments. The applications run on your own secure servers and can access cloud applications through secure, private connections.

3. Free space

Maintaining your own data center on-premises means allocating space to equipment; this physical space also needs to include spare capacity to allow room for future growth. The cost of that unused space is significant. By making use of a colocation site, companies only pay for the room they need now and can add rack space within the center as needed later.

4. Lower cost

Using colocation can be cheaper than maintaining your own data center. The costs for power and environmental controls are built into your contract. You need a smaller support staff than in your own data center because the colocation site is responsible for some services you provide for yourself, such as networking support.

5. Redundancy

Colocation facilities are built with network and power capacity to support many tenants; they have more capacity than you would typically build into your own data center and also have redundant systems to ensure uninterrupted service. Many providers have multiple locations, letting you more easily meet business continuity and disaster recovery concerns.

6. Control

With cloud environments, you necessarily surrender control over your environment to the cloud provider. You may share a machine with other clients and you don't have control over scheduled upgrades. In colocation, the servers are yours alone.

Colocation for “No-Cloud”

The Importance of a No-cloud Option

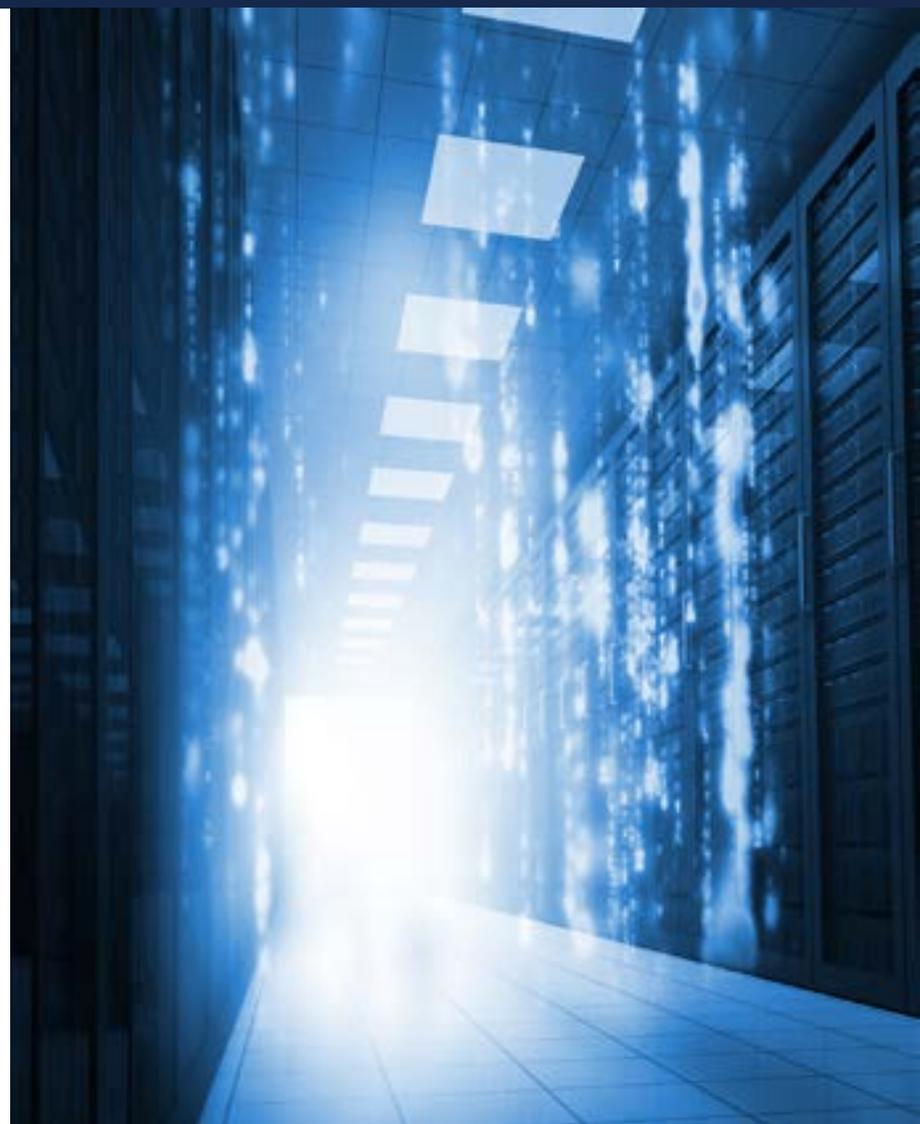
There are many reasons for moving applications to the cloud. As compared to on-premises data centers, the cloud is more cost-effective, flexible and reliable. The wealth of available SaaS applications provide convenience, operational efficiency and agility to improve the ability for businesses to move faster and foster innovation.

However, not all applications are suited to the cloud. Between 20 and 40 percent of all business applications lack a platform for deployment in the public cloud. For example, they may have certain latency requirements that cannot be satisfied by a public cloud provider. These legacy applications are critical for maintaining business operations but don't easily fit into an all-cloud strategy.

Migrating legacy applications to the cloud is extremely expensive and resource-intensive, not to mention disruptive to everyday business operations. So businesses now face a quandary – While the business is moving away from costly on-premises enterprise data centers, how do IT departments address applications that can't be moved to the cloud?

The Benefits of Colocation for “No-Cloud”

Viable no-cloud options include hosting platforms such as managed service providers (MSPs) and colocation providers. An MSP or colocation provider can host critical applications at a much lower expense than your own physical on-premises data center. [Colocation](#) in particular, offers many of the benefits of the cloud, including easy scalability, strong security, and predictable monthly expenses.





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Of course, there are many considerations that go into finding a colocation provider. (Check out our [Colocation Checklist](#).) Businesses interested in the colocation option need to find providers that can meet their workload requirements, are strategically located and have strong security and Disaster Recovery (DR) plans in place.

Formulating a Three-tier Strategy

Many businesses benefit from a three-tiered cloud strategy.

Tier 1: This tier encompasses all applications in the public cloud, including applications from SaaS providers that run in the public cloud. Most businesses place the majority of applications in this tier.

Tier 2: This tier represents all applications hosted by an MSP or colocation provider. For various reasons, these applications are not suited to the public cloud.

Tier 3: This is the tier for all applications hosted on-premises through your own data center. Because of the expense of maintaining an on-premises data center, the number of tier 3 applications is receding for most companies, and over time, this number should move closer to zero.

Assess your workloads to determine the optimal solution.

OneNeck IT Solutions

Delivering High Availability, High Reliability

OneNeck IT Solutions offers purpose-built, concurrently maintainable data center facilities fortified for maximum performance. We offer high-availability and high-reliability colocation services that go beyond mere infrastructure. There are many reasons that our customers choose OneNeck colocation for mission-critical operations:

- **Purpose-built colocation facilities** – We design and build mission-critical data centers optimized for performance and dependability. Our data centers deliver uninterrupted uptime with access to security, physical asset protection, workflow separation, and we back it all with detailed, 100% SLAs.
- **Power and cooling** – Protecting your data center requires reliability, so our colocation centers are constructed so there is no single point of failure. We use the latest uninterruptible power conditioning, power management, SLA monitoring, automated controls and efficient cooling systems.
- **Security** – We protect your assets from natural disasters and other threats. Our colocation facilities are hardened to withstand the worst natural events, and we include customizable building security measures including biometrics and the latest electronic access systems.

- **Compliance** – We believe it is imperative to provide as much assurance to our customers as possible that our practices and methodologies are compliant with various audit and certification requirements.

We can provide our customers with the following to help address their compliance obligations:

HIPAA – We can negotiate BAA for colocation and provide a press release of successful examination.

PCI – We can provide customers with our Attestation of Compliance (AOC).

ISO 27001 – We can provide customers a link to our certificate.

U.S.+ – EU Safe Harbor – We can provide customers a link to the government website listing our certification as current.

SOC – We can provide a SOC 1 Type 2 report with Management Responses.

- **Network connectivity** – All of our data centers are carrier neutral, with multiple fiber and copper transport providers built in. We also are happy to bring our years of telecom experience to install and manage connections on your behalf, and we have our own enterprise-class, multi-carrier Internet bandwidth service.
- **On-site support** – We provide remote hands support to handle routine facilities management and maintain a reliable physical infrastructure.
- **Operational excellence** – Most importantly, we are colocation experts. We host our own data centers in the same facilities we maintain for our customers. OneNeck colocation manages hosting for our hosted private cloud, ReliaCloud, infrastructure.

Our concurrently maintainable data centers are as robust as anything out there. With [8 data center facilities](#) strategically located throughout the United States, we're sure to have the perfect location for you. From [colocation](#) to [managed services](#) to [cloud services](#), OneNeck is here for you now and into the future.



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