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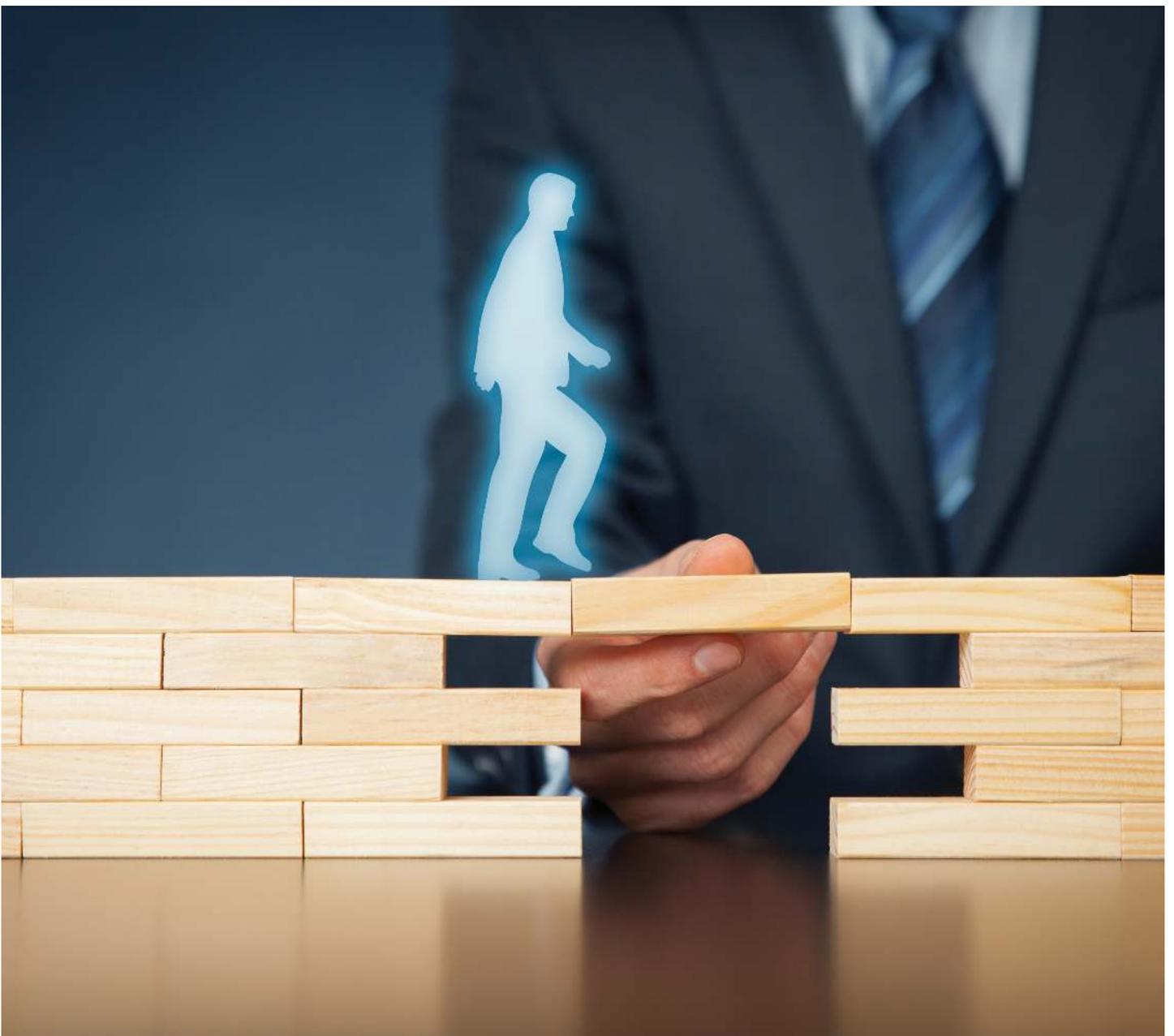
Build vs. Buy

Key Steps to Overcome Capital Constraints in the Data Center

Data center industry trends are changing the way businesses spend money and invest in information technology (IT) initiatives. After years of restricted spending as companies coped with the effects of the economic recession, IT budgets are starting to thaw and are enabling businesses to put more resources into their IT strategies.

Build vs. Buy Key Steps to Overcome Capital Constraints

Overview

Worldwide information technology spending is forecast to grow another 1.7% in 2016 on a constant-currency basis. By 2019, spending is forecast to exceed $3.8 trillion.[1]

The data center is one notable growth area. Companies are relying on their data centers more than ever to support emerging technological trends like cloud computing, big data, virtualization and the use of advanced mobile devices. As a result of these trends, businesses are spending more on their data centers.

But even as IT budgets grow, chief information officers (CIOs)s are pressured to find ways to invest in technology that will reduce operating expenditures in the near term. Such goals are difficult to attain in the data center – where a greater reliance on technology inevitably makes systems more complex.

CyrusOne's colocation facilities feature best-in-class data center power systems, redundant cooling architectures and unparalleled Internet Exchange (IX) capabilities. This interconnection enables customers to seamlessly share information with business partners, content providers,

networks, carriers and other entities via the secure cloud. Colocation offers companies more than just an easier way to gain access to interconnect infrastructures; it also reduces costs and enables new levels of network flexibility and security. CyrusOne's data centers are engineered to deliver top-tier availability backed up by 100% uptime service-level agreements (SLAs). All data centers are built with 2N redundancy of mechanical and electrical systems for a highly resilient environment. On average, a 1,000-square-foot data center costs $1.6 million to build. That number represents just one-third of the actual cost of owning and running a data center, which also requires power, cooling, standby power, on-site diesel, staff, building leases and maintenance.

Companies that opt for the "build-it-themselves" approach take a big risk, assuming they'll actually need the capacity they've built and the ongoing costs associated with data centers will remain feasible. Projecting these needs over time is increasingly problematic given the pace of change in technology, applications and business.

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1 However, currency rate changes will limit the market growth to 0.6% or $3.5 trillion. Gartner Market Databook, 4Q15 Update http://www.gartner.com/technology/research/it-spending-forecast/

The Costs of Building and Operating a Data Center

These companies also spend 12-18 months building a custom data center. For reference, setting up an IT infrastructure can be accomplished within a significantly shorter time frame through colocation.

In addition, data centers have much stricter building and code requirements and require commercial real estate contractors. A 110V outlet in a data center, for instance, can cost 20 percent more than a standard 110V outlet in a commercial office.

One-time and Ongoing Costs Associated with Company-Owned Data Centers
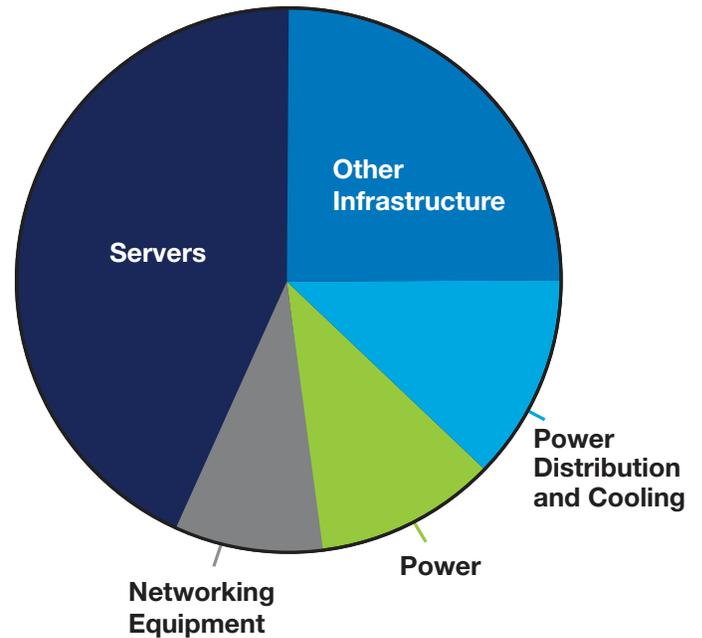
Cost to Build

45,000 square feet of ordinary office space would cost about $5 million to build, whereas a 45,000-square-foot data center costs about $36 million. Companies planning to build their own data centers must be aware that construction costs alone could be much more significant than initially anticipated.

Power

The biggest single ongoing operating expense for a data center, accounting for about 70 to 80% of a facility's ongoing operational costs. Energy costs vary by region, but the industrial power rate averages about $0.0677 per kilowatt hour in the United States and $0.1091 per kilowatt hour in Western Europe.

Staffing

Generally the largest operational expense after power, though it varies depending on region and a facility's setup. For example, if a company keeps security and operations staff on hand around the clock, staffing and benefits will likely cost several hundreds of thousands of dollars

Pie chart labels: Servers, Other Infrastructure, Power Distribution and Cooling, Power, Networking Equipment

per year.

Maintenance
Another significant operational expense when a company builds and owns its own data center. Annual upkeep generally represents 3 to 5% of the initial construction costs. This can increase dramatically, however, if a company decides to make a major upgrade, like bringing fiber into the data center.

Depreciation
Physical data centers typically depreciate over the course of 20-30 years. Equipment depreciation in a data center on average depreciates over roughly 10 years or more. Colocation investments, on the other hand, can be depreciated over a 3-year schedule for tax purposes.

Weighing out the pros and cons of build vs. buy isn't a difficult exercise, as evidenced by these key points. In the next section, we'll explore in more depth a few of the key advantages of colocation.

Advantages of a Third-Party Service

Hiring a colocation data center service provider is a viable alternative for companies looking to avoid both the cost and the responsibility of building and maintaining a data center. Instead of constructing their own facilities from the ground up, companies can partner with a third party to reduce the amount of capital they spend while also taking advantage of state-of-the-art equipment and facilities.

Here Are Some of the Most Compelling Arguments in Favor of Colocation

Cost

Cost is a significant consideration in any IT investment. When it comes to the data center, many items impact the bottom line, including energy consumption, hardware maintenance and personnel. There are also hidden costs to consider, such as building leases, physical security and access permits.

By partnering with a third party, a business avoids many of the costs associated with building a data center. Though some operating expense (opex) does still apply, many of the capital expense (capex) charges are eliminated, including those needed to build a base shell, support security initiatives, and procure and install a mechanical and electrical infrastructure.

Power consumption will still be a factor, though it is often much cheaper in a third-party facility. Colocation customers will generally pay a flat power rate of $15 to $50 per amp per month, or the charges will be based on a meter reading at the local commercial power rate.

Staffing charges are also greatly reduced, as a service provider will have its own employees on hand. Though most colocation agreements include a "remote hands" service charge and an annual management fee, these expenses are significantly less than if a company were to hire its own staff.

Staffing

Many companies lack the expertise needed to run their own data centers. While the knowledge required to build a facility is one thing, the company must also consider the ongoing operation of the data center and its equipment for years to come.

The average company has more important things to worry about than its data centers.A retailer or a bank, for example, will generally not be well-versed in the technological expertise required to support a modern data center. This is simply not an area of focus for firms selling products or banking services to the public.

A colocation provider, on the other hand, has both the resources and talent needed to support these ongoing changes. By partnering with a third party, a business can improve its access to talent without being responsible for hiring and training new people. Colocation enables business leaders to focus on revenue-generating business operations.

Bandwidth per subscriber (kb/s)

● Centralized data center cost   ● Distributed data center cost
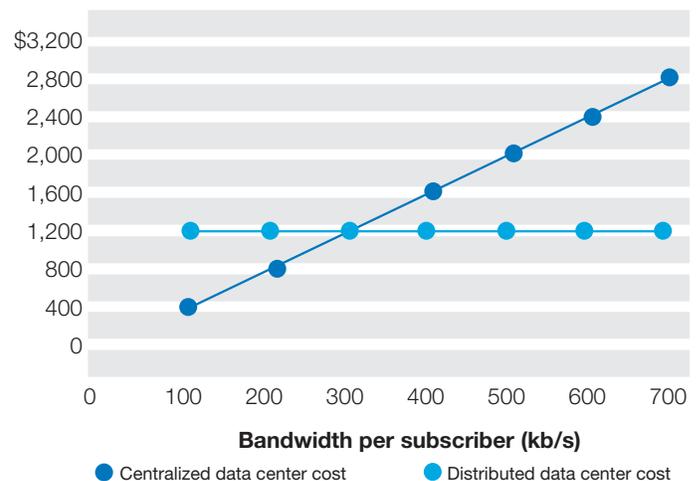
Advantages of a Third-Party Service

Reliability/Uptime

Reliability is key for any data center – especially as more companies conduct business online. However, businesses may lack the expertise necessary to keep their systems running consistently.

Many data center service providers tout the concept of the Five 9s - that is, 99.999% availability. This equates to about five minutes of downtime per year. Though the reality of the Five 9s may vary from vendor to vendor, any reputable services provider will have redundancy and fault-tolerance practices in place to ensure systems run as consistently as possible.

When you construct your own data center, the incremental cost of going to each new "9" on electrical cooling is astronomical. The cost of working with CyrusOne, however, is not only affordable but also creates a greater level of resiliency than companies can achieve by building their own data centers.

Flexibility/Scalability

Business needs change constantly. Whether a company is growing or downsizing, its data center needs fluctuate from quarter to quarter. When a business builds its own data center, its flexibility is restricted. Even if business activity is brisk, it may take some time before an organization can buy the equipment necessary to support the uptick.

Colocation and third-party data center services offer flexible, on-demand solutions that can scale to meet a company's specific needs, eliminating the revenue loss incurred with over- and under-investment and freeing up capital that can then be allocated to areas of the business.

Finally, companies leaning toward "build" must ask themselves whether they are really better at handling heating, ventilation and air conditioning (HVAC), security, power and other ongoing maintenance tasks than a company whose core business is doing just that alone. The answer is usually a resounding "no."
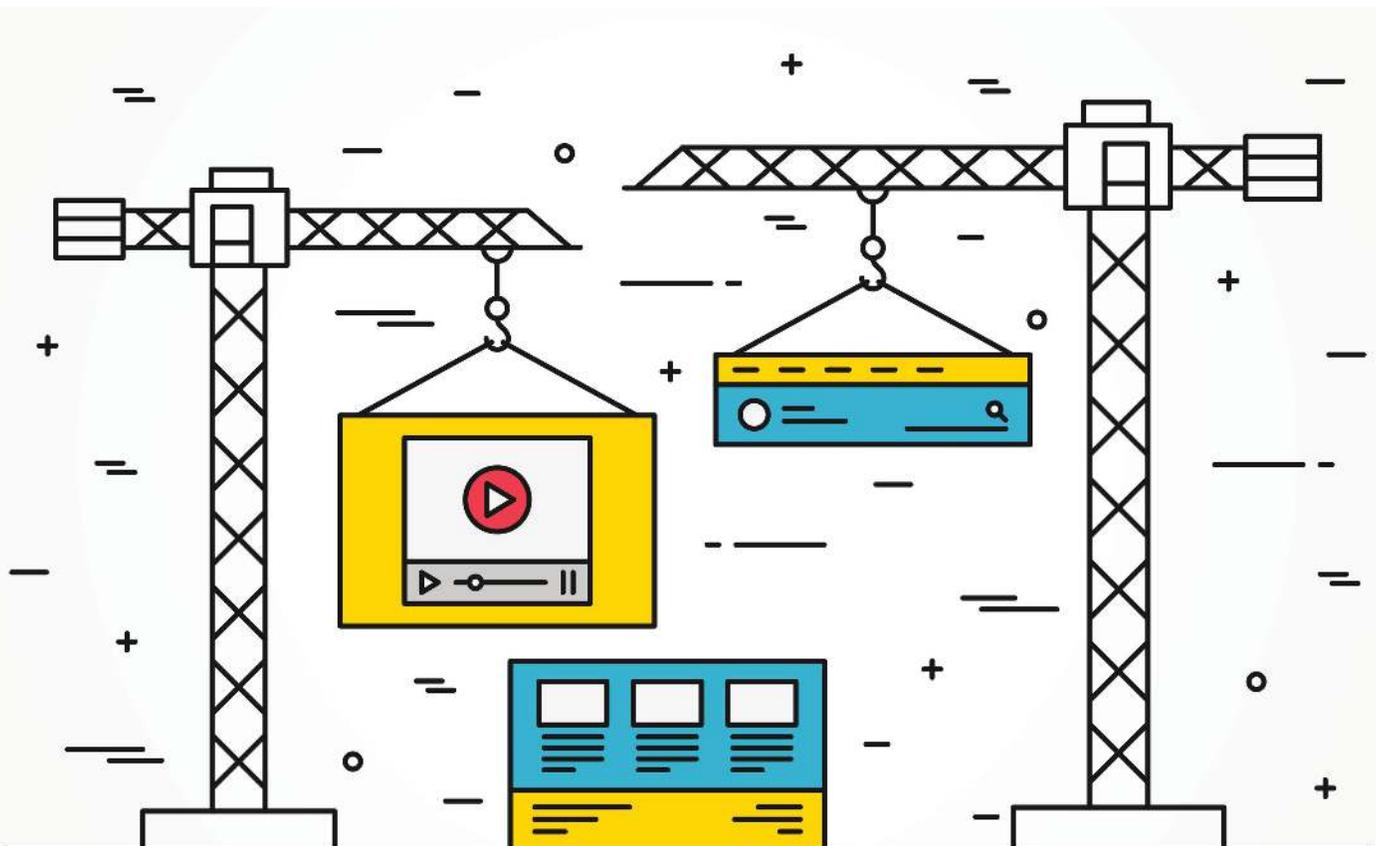
Concerns and Colocation

Before diving into a colocation or third-party data center service arrangement, businesses must do their homework to ensure their expectations are met.

Security is one area deserving oversight since organizations have historically been hesitant to send their data center operations to third parties for security and other control reasons. Although this and many other concerns are dissipating, a company would still be well advised to take the following into consideration.

Control

Many organizations worry about losing control of their data centers when turning to third-party services. While understandable, this concern is no longer warranted when weighed against the benefits derived from the expertise and reliability of a third-party service.

A third party's reputation depends upon its ability to protect equipment and critical company data. In many cases, these restrictions are more stringent than the customer itself can enforce. Furthermore, a provider is likely to have a bigger talent pool to draw from to ensure critical systems are running around the clock and is able to respond to any and all situations.

Security

Most colocation and third-party services providers have strict protocols in place to control facility access. CyrusOne, for example, employs military-grade data center security protocols to protect all physical assets.CyrusOne offers over seven levels of security including on-site data center security guards on staff 24/7 year-round; video surveillance and recording of the exterior and interior of each facility; biometric and key-card security for rigid access control; and turnstile doors to prevent tailgating.

Latency

Some companies are concerned about potential higher latency resulting from housing their data center equipment off-site. Every second counts in some industries, and the speed with which a company can send data packets through the network may be a distinct competitive advantage.

If a data center is located too far away, transmission time may be extended, which can be an issue for latency-sensitive organizations.

However, this concern is decreasing as more sophisticated technology emerges and data center service providers deploy more strategic interconnect infrastructure. The growing use of dedicated connections or multiprotocol label switching (MPLS)infrastructures, for example, reduce the time it takes to deliver data packets across the network, virtually eliminating many latency concerns.

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Summary

Given the cost, resource and operational benefits of colocation, many Fortune 1000 CIOs are exploring and partnering with third-party data centers. In the past, deciding to build rather than buy may have been a prudent choice. However, colocation has evolved significantly and now offers businesses many clear and tangible benefits over building their own data centers.

The construction, operational and long-term maintenance costs associated with building data centers can be astronomical. Colocation and third-party services eliminate many of these costs and allow the organization to focus on core competencies and revenue-generating initiatives. In addition to the significant cost savings it provides, a third party also offers the expertise, reliability and scalability that companies need from their data centers.

Colocation services from CyrusOne enable CIOs to overcome data center challenges.

With strategic locations throughout the United States, as well as state-of-the-art facilities in the U.K. and Singapore, CyrusOne answers the build vs. buy question and gives customers the solutions they need to adapt to the changing IT landscape, reduce expenditures, and gain a competitive advantage in today's marketplace.

About CyrusOne

CyrusOne specializes in providing highly reliable, flexible and scalable enterprise data center colocation that meets the specific needs of customers across its broad portfolio of carrier-neutral data center facilities in the United States, Europe, Asia and Latin America. CyrusOne employs its Massively Modular® engineering and design approach to optimize design and construction materials sourcing and enable just-in-time data hall inventory to meet customer demand. The company engineers its facilities with redundant power technology, including an available 2N architecture.

CyrusOne customers can mix and match data centers to create their own production and/or disaster recovery platforms by combining facilities via the low-cost, robust interconnectivity provided by the CyrusOne National Internet Exchange (IX).

For more information contact us at 855-564-3198 or visit CyrusOne.com