

Whitepaper

Hosting Private Clouds: Beyond the Internal Option

Once an organization decides to set up a private cloud as opposed to utilizing public cloud services, a second decision looms: where should the private cloud be located? While it might seem like using a private cloud implies that the system's hardware and software would be hosted internally on-site, many organizations choose to outsource the private cloud's hosting or to utilize a colocation provider.

In-House Private Clouds

An in-house private cloud conveys one clear benefit—increased control—and one potential benefit—the possibility of reduced operational costs. Typically, operating systems in-house carries higher demands in terms of capital expenditures, but it can lead to lower operating costs because the systems are owned instead of leased. This is a clear benefit for companies that have investment capital but that choose to limit ongoing drains on cash flows.

The primary benefit of an in-house private cloud is control. With an in-house system, the business itself manages every aspect of the system. Its executives specify the exact hardware and software that will be run. The company establishes backup processes and administration systems, and it controls how resources are pooled. The business also controls the physical location of the servers and to which networks those servers will connect.

Along with this control comes the opportunity for greater security. By locating a private cloud within a company-owned physical center and by connecting it to a hardened company network, companies reduce the chance of intrusion and data breaches. This is a significant advantage for the most security-sensitive applications and networks.

The downsides of in-house, private clouds are their accompanying responsibilities. Companies that maintain their clouds in-house also retain the capital costs and complexities of running those clouds. These disadvantages range from handling data center power and cooling issues to having to bear

the cost of hardware upgrades to maintain quality of service goals.

Outsourced Private Clouds

The other option for those who choose a private cloud is to outsource it. While this might seem like an oxymoron, an outsourced, private cloud makes logical sense. The cloud itself remains private: the company's applications and data sit on a dedicated block of servers and storage space, and they run on their own underlying software. However, the logistics of providing, housing, and managing the servers is handled by a cloud provider. Businesses that opt for this approach gain benefits in just about every aspect of the private cloud's operations.

Building an Outsourcing Strategy

Deciding to outsource requires that a business decide how much to outsource. One option is to use colocation, where the provider offers space, cooling, and power and network connections; the company then provides hardware, software, and administrative support. The other option is to use a fully outsourced solution. In this case, the cloud provider offers a turnkey system and handles all aspects of managing the cloud.

Both outsourcing models offer a broad range of benefits over a traditional, in-house private cloud model. Nevertheless, the broadest set of benefits come from the fully-outsourced model.

Infrastructure

Outsourcing a private cloud allows CIOs to outsource many of the “big picture” concerns of the system—ones that go beyond technology and technology strategy. At the most basic level, an outsourced private cloud is one that doesn’t need physical space to hold its components, electrical connections to power them, or air conditioning units to cool them.

Private clouds also free the company of responsibility for purchasing hardware and software to operate the system. Instead, these costs are transferred to the cloud provider. This achieves more than solely reducing direct capital expenditures. It also saves the company from having to research and select equipment to purchase, and from having to go through the procurement process and install the systems. During the period of ownership, the cloud provider also takes care of system maintenance and repair as well as making any necessary upgrades.

Staffing

An outsourced private cloud is a lean one from the perspective of staff levels. At a minimum, the company is spared the expense of having staff to maintain the data center and its network connection. When a company chooses to completely outsource the private cloud, it also eliminates the need to administer the software, hardware, and storage.

These staff savings come with three benefits. First, by going to an outsourced model, the company gains the benefit of the cloud company's 24-hour support. This means that employee sick time or vacation time becomes the cloud provider's problem—not the private cloud user's. Second, the cloud service provider also handles investing in its employees to ensure that they are fully trained with the latest technical expertise. Their dedicated and advanced knowledge can offer both better performance and greater up-time. Third, the company becomes better able to focus its expenditures on personnel who can drive strategy and functionality to help build value proactively.

Reliability and Security

When a private cloud comes from a third-party service provider, it usually comes with a range of reliability assurances. Comprehensive staff support is part of this. In addition, the service provider becomes responsible for creating a robust and reliable system. This might include the following:

- Provisioning multiple data connections from different network providers to minimize the risk of network connectivity outages.
- Providing enterprise-grade hardware to minimize the risk of system failures, and having backup servers and other components to swap in when failures occur.
- Creating a physical infrastructure that is built for reliability. This can include redundant power connections, backup generators and batteries, and a physically hardened weather-proof building.

- Building and implementing a backup and restoration strategy to protect critical data.

Outsourced providers are able to provide levels of physical and network security that surpass what many companies can do for themselves. This includes physical security features like fencing, intrusion-proof buildings, and biometric or ID-based access controls.

It also includes network security features. A provider with multiple customers can amortize the cost of industry-leading security hardware and software across all of its users. It also has staff that is responsible for monitoring network traffic, installing patches, and providing a higher level of protection than most end users can offer for themselves.

Adaptability and Simplicity

While it might seem like an in-house private cloud would be the most adaptable system, in practice, hosted clouds are more able to change to suit a business's needs. When a company needs to add capacity, it has to requisition and install additional equipment. If its data center is at or near capacity, it may need to add connections, power, cooling, or space. A company might even need to add staff to manage the new capacity. With a hosted solution, adding capacity can be as simple as a phone call or email to the provider who takes care of all of the logistics of managing hardware, infrastructure, and staff.

Ultimately, the adaptability of a hosted private cloud belies its greater simplicity. Hosted clouds turn the nuts and bolts of operating the cloud over to a third party. The provider manages and monitors it while providing the pieces that run it, leaving the business to focus on what it does best: using cloud services to grow its bottom line.

Cost

From an operating cost perspective, outsourcing a private cloud can be more expensive than keeping it in-house. With outsourcing, companies trade multiple operating and capital costs for a limited number of operating expenses. Typically, a fully managed private cloud will incur minor start-up costs and a monthly flat fee that covers the use of equipment, bandwidth, and support. The company might also have to pay for its own licenses. With an in-house cloud, the company has to bear the operating costs of connectivity, power, rack space, and staff while also having capital expenditures for hardware and software licenses.

The unwritten benefit of cloud hosting is that the costs are predictable. If a power system malfunctions and consumption spikes, the provider bears the cost—not the client. The staff hours to replace broken hardware falls on the provider instead of the business as well. This helps to smooth out expenditures, simplifying the process of cash flow planning.

Outsourced Private Clouds

The modern CIO and his or her staff are no longer just the gatekeepers of the network. Most businesses still do provide their own network infrastructure, but a host of other assumptions are also in place now. One of these is that the network will work when users need it. For that to happen, though, the company's systems must not only be functional but also must be performing well—and a myriad of other administrative tasks that contribute to building a company's technology platform must be in place.

CIOs are responsible for delivering the technology services and the expertise that drive business goals. At the same time, they must achieve these goals within an environment of increased cost-consciousness. Outsourcing private clouds to a managed provider fits this new reality. It offers predictable costs that, in many cases, are lower than what could be done in-house. Companies, in turn, run leaner departments, and they transform the technology infrastructure into a service that can be delivered to internal clients with a high degree of performance and reliability.