

# DATA CENTER INFRASTRUCTURE STRATEGY: CAPEX VS. OPEX

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There are several approaches to data management and data center infrastructure, such as owning and operating the data center, colocation, public and private cloud solutions, and a hybrid version of these approaches.

As organizations evaluate which strategy best suits their needs, the deciding factor often comes down to business impact and capital expense (CapEx) versus operational expense (OpEx). **Building a data center can cost upwards of \$1,000 per square foot, depending on the exact specifications and capabilities of the center.** [Colocation centers](#) can be more cost-effective.

In a [CIO survey conducted by Credit Suisse](#) (Analyst Sami Badri), results indicated a trend toward enterprises shedding capital-intensive owned data centers and moving to more of an OpEx model of leasing data center space and leveraging the public and private cloud.

This trend suggests that there is a movement toward a OpEx-focused model for both data center space and services that can be delivered via the cloud. Below, we'll compare the traditional CapEx model to the increasingly popular OpEx options to help explain the drivers behind these two approaches to data center infrastructure.



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## CAPEX Strategy

Organizations — particularly large enterprises or companies that operate in highly regulated industries — have traditionally owned and operated their own private data centers. This infrastructure model is entirely CapEx. The organization is responsible for everything from data center design and obtaining real estate and equipment to maintaining and operating the infrastructure. It can take around 18 months to [build your own data center](#).

This approach requires a lot of cash up front, along with future spending to replace equipment or expand capacity. In a best-case scenario, organizations that own data centers will find themselves spending big money to replace equipment every three to five years.

However, these cycles aren't always predictable. If something happens, such as a server or cooling unit needing to be replaced before its anticipated end-of-life year or the organization scaling faster than expected, companies that have invested in the CapEx, full ownership model will find themselves facing unanticipated expenses.

Alternatively, if the need for data center capacity should diminish, companies that operate their own data centers will be stuck with unused space and equipment, falling short of their initial investment return. Unfortunately, scaling down is not easy in a CapEx model.

Overall, running a CapEx approach to data center infrastructure is costly and labor-intensive. What many organizations find is this diverts budget and resources away from the core purpose of their business without adding a significant amount of corporate value.

What you're responsible for with owning a data center:

- Finding real estate for the data center
- Equipment procurement
- Design and setup of data center infrastructure
- Hiring, training, and retaining data center staff
- Infrastructure management (replacing and repairing equipment)
- Managing scaling needs
- Meeting ongoing security and compliance requirements

## OPEX Strategy

With [colocation and public cloud solutions](#), many organizations are transitioning their data centers from CapEx to more predictable and controllable OpEx. By outsourcing data center infrastructure and management, organizations drastically reduce the time, resources, and requirements associated with the data center.

With this model, organizations only pay for the space, power, and resources they need in an already built and maintained environment. The provider handles details like staffing, security, network diversity, and even special compliance standards like PCI DSS. Under the CapEx model, these elements would cost the organization much more to implement and maintain.

Because data center users are tapping into the provider's infrastructure, scaling on an as-needed basis is much simpler and cost-effective than trying to build to scale. When growth is necessary, the infrastructure is in place and just needs to be tapped into. If the need decreases, the infrastructure that is sitting unused didn't cost your organization CapEx and doesn't negatively impact the overall ROI.

Outsourcing the data center is also beneficial for those enterprises that are adopting a [hybrid cloud](#) strategy (combining private and public clouds). According to the [State of the Cloud Survey](#), 28% of surveyed companies leverage a hybrid cloud approach. Opting for an OpEx-based colocation model, users are easily able to maintain their private cloud connectivity and have immediate low-latency, high-bandwidth access to public cloud providers.

Overall, OpEx can streamline an organization's data center infrastructure strategy, freeing up valuable time, budget, and resources to focus on core business values. This strategy can also ensure a more efficient and cost-effective execution of a robust cloud adoption plan.

What you're responsible for with OpEx:

- Evaluating and selecting the right provider
- Selecting a specific location and facility
- Working with the provider to design an environment to your specifications
- Communicating needs and changes
- Meeting your compliance responsibilities (if applicable)
- Ordering network connections

## Which Is Right for You?

The choice between CapEx and OpEx comes down to whether it is financially feasible and strategically beneficial to maintain privately owned data centers or whether outsourcing to a trusted vendor is more appropriate. The CapEx model not only gives organizations complete control over their environment but also puts a full burden in their hands. OpEx solutions allow companies to shift these necessary but mundane tasks to a vendor that spends 100% of their time focused solely on data center maintenance and management.

With these factors in mind, it's no surprise that 42% of responding enterprises in a [451 Research study](#) shifted an application or workload from a privately owned data center to a colocation solution in the past 12 months. The top reasons for the move all center around the theme that owning and maintaining a data center is not the company's primary business.

1. Improved reliability and uptime (42%)
2. Improved business continuity and disaster recovery (42%)
3. To consolidate company-owned data centers (41%)
4. Business growth is outpacing data center space (39%)

When it comes to a data center strategy, there is no "right" approach. Every corporation is unique and places emphasis on different benefits and risks. For more CapEx vs. OpEx examples, in-depth information on data centers, and the latest trends in the industry, [subscribe to the Evoque Blog](#).