POINT OF VIEW

What Is a Modern Data Center?

A next-generation data center must be well planned, architected, and documented, and leverage the most effective management and observability toolsets.

Flexible infrastructure is often associated with the term “Modern Data Center,” but in reality, planning a next-generation data center goes beyond infrastructure choices. These plans should take the entire lifecycle of the data center into account—from acquisition, to deployment, to consumption and utilization, and beyond.

Infrastructure that propels your organization’s digital transformation efforts is important, but a truly Modern Data Center should enable growth and flexibility, while incorporating end-to-end visibility, security, and automation.

EVOLVING SOLUTIONS

To create a next-generation Modern Data Center, you must have:

- API-driven automation, orchestration, observability, and documentation throughout the entire data center lifecycle
- Comprehensive data management
- Effective processes that enable cross-departmental communication
- An adaptable and scalable infrastructure

AUTOMATED, ORCHESTRATED, AND API-DRIVEN

The Modern Data Center often behaves as an organization's private cloud. By using an automated, API-driven methodology, new technology can be acquired, configured, deployed, consumed, maintained, and sunset in a self-service manner with minimal disruption.

APIs have evolved over time, and now also provide additional levels of accessibility, security, and abstraction. As technology companies have standardized on RESTful interfaces, integrating systems has become more consistent and accessible. Since most APIs leverage standardized formats, they can provide more secure and automated integrations across the entire technology stack.

In today's environments, there are so many necessary tasks that automation and orchestration are not optional anymore: they are mandatory requirements for how business is done in a Modern Data Center. Automation and orchestration also extend the ability to integrate your management approach so that it can seamlessly incorporate the tools you use to monitor, manage, and provision servers with the same tools you use for storage or network. Ultimately, this leads to streamlined data center manageability.

Use Case

CLIENT:

Health insurance provider

CHALLENGES:

Existing systems were not agile enough to respond to patient and provider needs, while still delivering the necessary resilience and availability.

HOW WE HELPED:

We defined and implemented an automated platform that included compute, storage, and connectivity that was integrated with a software toolset to deliver cloud disciplines and functionality.

RESULT:

Allowed the organization to stabilize and adapt their IT environment to drive better care decisions and outcomes while managing costs.

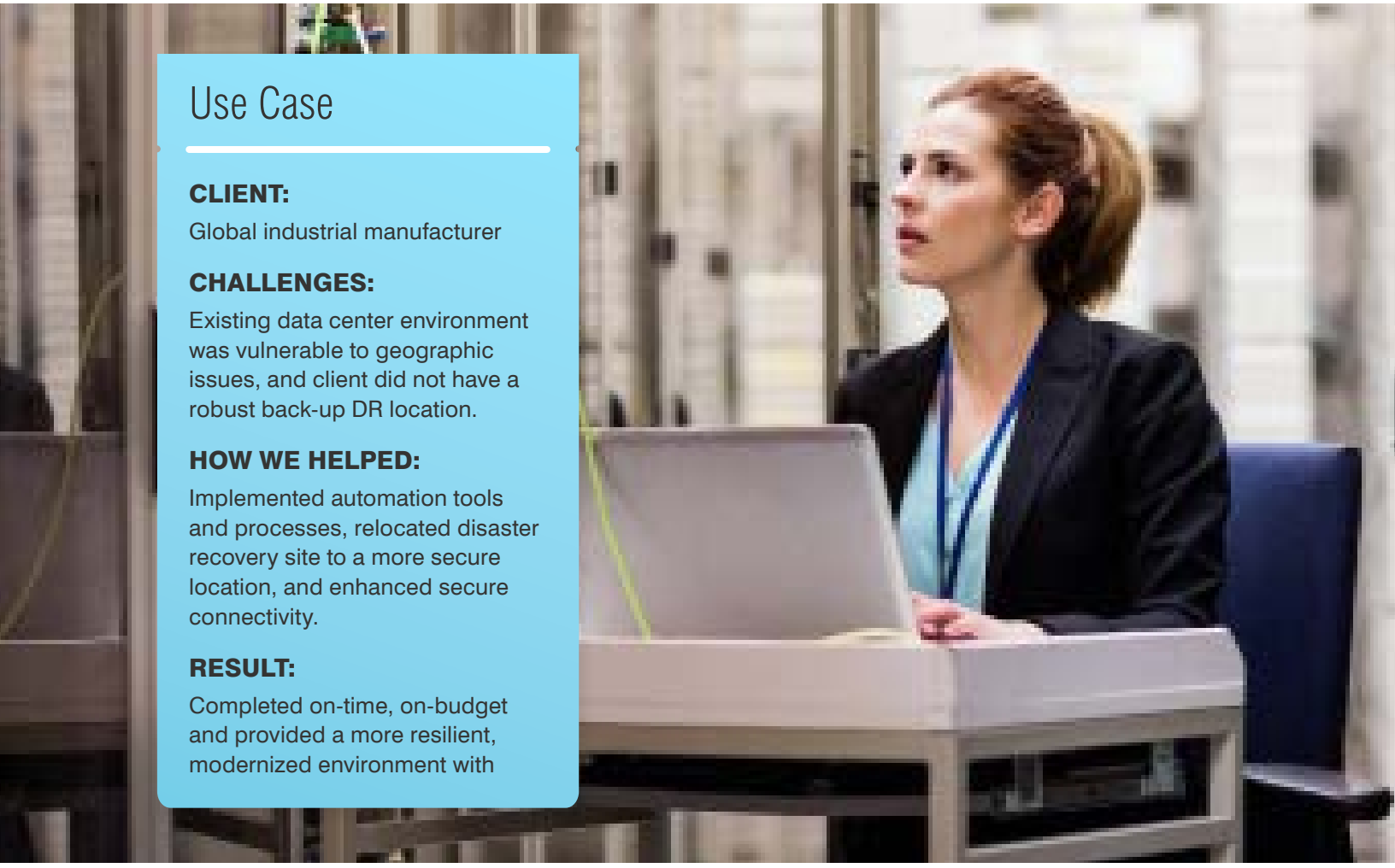
The Modern Data Center brings into play cost management, business justifiers, and speed.

A FLEXIBLE, SCALABLE INFRASTRUCTURE

Physical infrastructure is not the only defining factor behind a Modern Data Center. It is, however, important to create an infrastructure that can scale to meet current and future digital transformation needs.

Our modern operations philosophy is summed up in the phrase **Cloud is not a place. Cloud is a set of disciplines.™** One of those disciplines is scalability—the ability to add or remove resources without service interruption. This allows organizations to shift their focus from individual IT components to overall capacity and capabilities.

Automated rightsizing, whether scaling up, down, or across the enterprise, is based on the concept of focusing on workflow instead of infrastructure. The Modern Data Center brings into play cost management, business justifiers, and speed.



Use Case

CLIENT:

Global industrial manufacturer

CHALLENGES:

Existing data center environment was vulnerable to geographic issues, and client did not have a robust back-up DR location.

HOW WE HELPED:

Implemented automation tools and processes, relocated disaster recovery site to a more secure location, and enhanced secure connectivity.

RESULT:

Completed on-time, on-budget and provided a more resilient, modernized environment with

COMPREHENSIVE DATA MANAGEMENT

A Modern Data Center must recognize the ubiquity of data and the need to easily move or access it. It is crucial that your organization has data available to test systems and understands how the data will be backed up and moved during this process—and outside of it.

An organization's data is its greatest asset, and when leveraged correctly, data unlocks valuable insights that reveal room for business growth and opportunities.

The Modern Data Center has methods to move, protect, store, and obtain insights from data. This includes having capabilities in place that ensure the right data is available in the right format and with the right access.

In a Modern Data Center, you can leverage these data insights to their full potential. It has an efficient data mining and a resilience strategy in place that safeguards this vital resource. In short, a Modern Data Center should provide the ability to securely leverage your organization's most valuable asset.

CROSS-DEPARTMENTAL COMMUNICATION

In a Modern Data Center, it is also critical to identify and close the gaps between disparate teams that oversee the data center, applications, public cloud, monitoring, networking, and security. Closing these gaps can help your organization achieve end-to-end visibility. This cross-departmental communication allows you to be proactive—working together to anticipate issues before they arise.

Use Case

CLIENT:

Electric generation and transmission cooperative

CHALLENGES:

Corporate infrastructure, including five data centers, was outdated and did not leverage automation and cloud disciplines.

HOW WE HELPED:

Architected and implemented a modern data center strategy based on the organization's priorities around growth, security, and cost management. Automation was introduced to free up staff time for more critical work.

RESULT:

Ensured a smooth modernization of two full-scale and three remote data centers with dozens of physical servers, hundreds of virtual servers, and terabytes of data storage.

In many ways, the trend toward open APIs and orchestration is helping to close these gaps, bridging business language and the language of technology together. For instance, 20 years ago, IT leaders often had an infrastructure and operations background. But over the last five years, there has been a shift where CTOs and CIOs are increasingly coming from a development background. They're already thinking about the software, the code, and the concept of code as infrastructure. They know the advantages of an API-driven data center, because it is essentially code. As a result, they no longer see the data center as a monolithic waterfall, but expect it to have the same kind of agility you would see in a software-driven world.

Keeping these lines of communication open and working with business leaders helps develop a greater understanding of how the technical details relate to the business issues. This is a critical step in cross-departmental collaboration.

ADDRESSING MODERN DATA CENTER CHALLENGES

As organizations work to create a Modern Data Center, there are a few common challenges that can arise. Here's a look at a few, and how to overcome them:

- **Establishing an orchestration framework:** Establishing an automation and orchestration framework can be a heavy lift. You can get around this by planning for it ahead of time—making decisions not just around automating individual pieces, but creating a framework around which to drive your automation.

- **Creating a people-first IT and infrastructure process:** IT and infrastructure processes, at their core, come down to the people deploying them. People need to understand what their role is, where they will or will not be needed, and how automation and orchestration will help them perform better in their role rather than eliminate the need for their role entirely. This means explaining the goals behind automating and orchestrating processes—which is to make systems more agile, freeing IT professionals up from tedious manual work so that they can prioritize more challenging and business-forward tasks. This effectively turns IT into a partner with the lines of business.

Action Recommendations

A Modern Data Center has many characteristics, but here are four steps to get you started:

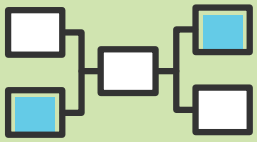
1

Open lines of communication between IT and business leaders, allowing for proactive data center planning

2

Create API-driven automation and orchestration processes while communicating to employees how these strategies will enable them in their roles

3



Ensure your data center allows for broad data access and availability—allowing you to fully take advantage of and understand the data itself

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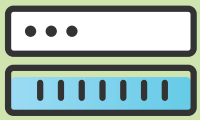

Implement a flexible, scalable infrastructure built for your business needs

EVOLVING SOLUTIONS

We're here to help your organization build a Modern Data Center.

Let's get to work.

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