



Case Study

U.S. Energy Company Simplifies and Secures With SDN

The client

The client is a Fortune 150 company and one of the largest energy holding companies in the U.S., employing 30,000 and bringing in annual revenue of \$24.5 billion. It serves more than 7.5 million retail electric customers with an electric service area comprised of nearly 25 million people. The company also operates wind and solar power facilities in more than a dozen states.

The challenge: Legacy network infrastructure that was difficult to secure, manage, and control access adequately to ensure compliance

There are typically two drivers for IT modernization projects: refresh cycles are running up, or performance issues are coming into play. In this case, the client had aging network systems that were creating a number of challenges. Various components were failing at unexpected times, causing downtime and frequent rearchitecting. This also made it difficult to budget appropriately for network expenditures.

Additionally, the client was subject to compliance requirements with respect to controlling who has access to its network. For instance, maintenance personnel needed wireless devices access to proprietary procedural documents in order to service sensitive equipment. Standard Wi-Fi solutions were discussed, but outfitting an energy plant with standard Wi-Fi technology would have been extraordinarily cost-prohibitive, requiring extensive cabling to create a network architecture capable of providing uninterrupted service in such a challenging environment.

The repercussions for failing to address access and security include monetary fines and disruptions of power delivery for large segments of the United States, among others. The company had determined that it needed to consolidate its business-critical applications from several data centers down to four. This needed to happen within a relatively short timeline in order to avoid paying penalties to application vendors.

Industry:
Energy

Insight provided:

- Comprehensive assessment
- Strategy for data center consolidation and network transformation
- Design and implementation of Cisco ACI and APIC
- Training and operational guidance

Insight services:

- Consulting Services
- Professional Services

The solution: A scalable strategy that would provide better visibility and easier management

The client had an IT estate that spanned several data center facilities and included more than 17,000 network access devices, a combination of switches, wireless devices, and remote access devices. Because of our deep expertise in data center, networking and security, and, specifically, Software-Defined Networking (SDN), Insight was brought in to help the client achieve its ambitious goals.

We delivered Consulting Services and Professional Services to formulate and execute the right strategy. In partnership with the client, we:



Designed and implemented an approach to create isolated segments within the same shared fabric without impacting production



Implemented a centralized Cisco® Application Policy Infrastructure Controller (APIC) and used programmability to accelerate the migration into new data centers



Leveraged embedded tools within Cisco Application Centric Infrastructure (ACI) to increase visibility of endpoints

Following the adage that it's better to teach a man to fish than to simply give him a fish, we helped the client's IT team truly understand how we arrived at the recommended solution, what it would do for their organization, and how to make it operational.

The benefits: Increased stability, reliability, security, and richer contextual awareness of the IT and network environment

For the first time in a long time, the client can rely on the performance and security of its infrastructure. Implementing wireless Citizens Broadband Radio Service (CBRS) solutions has allowed the client to reduce its technology footprint with just a few nodes to create reliable connectivity with little to no interference from existing structures and built-in security to keep proprietary information safe. Additionally, management has been made much easier, all done through a single pane of glass. Network operations now take less time and require less money.

The adoption of Cisco ACI® and APIC have meant the client benefits from more consistent policies across the IT environment. This has created a more stable infrastructure and greatly reduced the number of incidents on the client's network.

In essence, the client has transitioned from a reactive to a proactive entity, capable of setting its own destiny instead of being at the mercy of legacy dysfunction. As the company continues to grow and deliver energy services to more retail and residential customers, it can now scale while confidently meeting security, performance, and compliance requirements.

Benefits:

- Increased visibility and reliability
- Better stability and fewer network incidents
- Easier management through one interface
- Enhanced understanding of business applications and requirements



More predictable IT cost structure and reduced CapEx

Capabilities for automation and segmentation



Consistent policies across full IT environment

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