

Leading Telecom Service Provider Asks Ciena to Consolidate and Transform Its Costly, Fragmented, Legacy Network



Lacking in-house expertise for the complex project, the service provider selected Ciena to migrate multiple legacy platforms onto a next-generation network.

Key challenge

Accelerate migration from multi-vendor legacy infrastructure to a next-generation network that reduces risk and minimizes Operating Expenses (OPEX)

Building a network for the future often requires letting go of the past—this is especially true when outdated legacy technologies become too costly and problematic to operate. If day-to-day increases in OPEX offset revenue generated from the legacy technology, then transformation becomes an immediate concern.

This was the case with a large telecommunications service provider that offers wireline and wireless products and services. The service provider needed to transform its legacy, long-haul Dense Wavelength Division Multiplexing (DWDM) network to reduce risk and maximize operating efficiencies to protect profit margins. It had three related challenges:

Increased risk of failure and rising OPEX: Maintenance costs were increasing while revenues were staying relatively flat, which threatened the company's profitability. The costs stemmed from maintaining legacy DWDM equipment used in the service provider's long-haul network. The infrastructure was built with multiple vendor platforms—many having reached or nearing end of life. The power-hungry legacy

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Director of Sales at Ciena

equipment was beginning to fail, and spare parts and software upgrades were not always available. Management of the multi-vendor system was also complicated, which added to maintenance costs. The service provider needed to consolidate services onto a modern next-generation network that would minimize risk and reduce OPEX while supporting traffic growth and new revenues.

Migration complexities: Migrating the legacy network to a modern, next-generation network was a complex challenge. The service provider had accumulated infrastructure through numerous acquisitions and mergers and some of the equipment was 30 years old. The company had never decommissioned unnecessary legacy systems, and as a result, it needed to migrate thousands of circuits and retire numerous network elements. To exacerbate these complexities, the company did not have accurate inventories or data analyses to characterize the equipment or systems.

Lack of in-house expertise: The service provider initially believed it could consolidate the legacy network and migrate to a next-generation network on its own. But after a year, it realized that the project was too arduous and time consuming for its in-house teams. The company did not have adequate engineering staff—due not only to workforce reductions, but also to the retirement of many of the engineers with expertise in legacy systems. Further, the younger engineers did not have the required experience. Without enough experienced engineers to handle the project, the transformation effort fell behind schedule. The service provider realized it needed a strategic partner to help achieve its network transformation.

Solution

A one-stop-shop to expedite network consolidation and transformation

Of the many vendors who provided its legacy network, the service provider chose Ciena as its trusted partner to consolidate and transform its legacy DWDM network. The two companies already enjoyed a positive, long-term working relationship. Ciena was well-acquainted with the company's long-haul network. The service provider knew that Ciena had the decades of experience, knowledge, and resources required to take on the complex project, turn it around, and complete it within the desired timeframe. Perhaps most importantly, Ciena had a tried-and-true transformation methodology that has guided many migration projects around the world.

Ciena's Consulting and Implementation Services teams carried out [Ciena's proven transformation process](#) to manage and execute the program. Key steps included the following:

Consulting: The Ciena team worked closely with the service provider to understand its business goals and to ensure the network transformation strategy and plan of action was optimized for long-term business success. Based on this understanding, a business case was created that defined the scope of the project and the most appropriate way forward.

Discovery: The team used custom applications, automation tools, and analytics to rapidly map and extract network data in relation to the circuits, devices, and traffic paths used in the legacy network. Data was pulled from different sources—including circuit databases, reservation tools, and inventory management systems—to create a single, specialized analytical 'master' database. This database provided a single

Summary

Challenges

- Increasing risk of downtime and high maintenance costs of legacy infrastructure
- Complex multi-vendor legacy network
- Shortage of internal skills to successfully undertake the migration on its own

Solution

- Ciena Services Consulting and Implementation teams' expertise combined with its trusted transformation methodology

Benefits

- Future-proofed network that mitigates legacy network risks
- Reduced operating expenses
- Simplified network management

view of the service provider's network, leveraging Ciena's comprehensive and customizable analytics library.

Ciena's methodology eliminated project roadblocks—like unsuccessful circuit migration paths—and formed an optimal execution plan. The Ciena team traced and confirmed traffic paths, allowing site engineering teams to identify stranded bandwidth and low- and heavy-utilized links to document detailed designs.

Ciena then crafted a strategy to move circuits from the legacy system to the next-generation network and decommission legacy equipment. The strategy ensured that migration time would be optimized, and service impact would be minimized. This included process re-engineering to ensure long-term customer success.

Planning: Ciena's project managers and engineering consultants worked closely with the service provider's technical and operational teams to develop robust Engineering Methods of Procedure (EMOPs) for every scheduled activity, including contingency plans. The meticulous planning helped to use onsite resources efficiently and optimize migration time by minimizing the number of maintenance windows, traffic downtime, and spare equipment required.

Execution: The Ciena team used the EMOPs and migration order tools for the project to ensure that the migration was carried out in the most efficient way. Remote engineers and field teams performed the physical activities needed to migrate to the new technology and update Operations Support System (OSS) records and inventory.

Closure: As each segment of the network was completed, the Ciena team conducted post-migration testing, interfaced with the OSS and Business Support System (BSS) to update traffic paths, and reported changes in the systems. Ciena also provided training and handover plans to the service provider's teams as they assumed network responsibilities. Ciena continues to remain involved to help manage back-office operations and decommission legacy systems.

Results

A worry-free migration to a modern next-generation network, reducing risk and OPEX

By partnering with Ciena for the entire transformation project, the service provider was able to migrate effectively and seamlessly to a next-generation network that reduces risk and OPEX.

The future-proofed network can accommodate increased traffic demands now and for years to come. By moving legacy circuits to the next-generation network, the risk of unplanned downtime has been greatly reduced and the customer experience improved. The time and cost of locating hard-to-find spares is now a thing of the past. With the decommissioning of legacy network elements and installation of energy-efficient modern equipment, overall power consumption has been reduced. Space savings and lower cooling costs have trimmed operational expenditures even further.

The consolidation of multiple legacy platforms onto a single next-generation network has simplified network management. The service provider can now easily view its assets and inventory and manage its advanced network with fewer resources. In addition, it has much improved insight into its existing network, which enables it to better plan future upgrades.

Nay Newell, Director of Sales at Ciena, noted that by coming into the project early and developing a close partnership, both Ciena and the service provider were able to achieve mutual success.

"Because of our tried and tested transformation methodology and our deep network expertise, we were able to quickly gain credibility with the customer and accelerate its network transformation," Newell said. "We are happy to say that our customer now perceives us as a one-stop-shop for all of its network transformation needs."

Ciena served as a one-stop-shop for all of the customer's transformation needs and assumed full responsibility for the project. This allowed the service provider to engage directly with a single, always-accessible source for all project status communications. Because of Ciena's tested transformation methodology, the service provider has been able to migrate to its next-generation network at a faster pace than it would have been able to achieve on its own. The service provider was also able to realize the benefits of the transformation project while allowing its internal resources to focus on core business activities.

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