



IDC ExpertROI® SPOTLIGHT

Cisco ACI Helps Integra Compete in Next-Generation Telecom Services Market

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Overview

Founded in 1996, Integra is one of the largest regional providers of networking, communications, and technology solutions in the western United States. Through its two business units, Electric Lightwave and Integra Business, the company provides critical data networking, unified communications (UC), managed services, cloud services, and security services to customers that rely on Integra's fully owned fiber network as a key to their operations and business success. Headquartered in Vancouver, Washington, the company currently has 1,500 employees and connects customers across 35 cities in 11 states with Ethernet access to more than 460,000 business locations.

Recognizing that its future lay with next-generation telecom services, Integra concluded two years ago that it needed to upgrade its IT infrastructure with software-defined networking (SDN) and other new technologies. Integra also intended for these infrastructure upgrades to serve as a catalyst for transforming its organizational structure to help it take advantage of new capabilities and operate more efficiently and effectively.

In 2014, Integra initiated an IT infrastructure upgrade focused on building two new datacenters. In conjunction, the telecom provider evaluated a number of SDN solutions to deliver its next-generation telecom services. In 2015, Integra decided on the Cisco Application Centric Infrastructure (ACI) as the best solution for these new datacenters. Stephen Fisher, vice president for Network Planning and Security at Integra, explained why his company went with Cisco ACI as follows: *"We needed to change our approach to meet demands of our rapidly changing market, and we decided that ACI could help us do this by making us think about services and security more holistically while giving us the scalability we need."*

Deployment of Cisco ACI has brought greater automation and openness to Integra's IT infrastructure. In addition, ACI's application-based policy model has helped reduce datacenter complexity and has allowed the telecom service provider to support physical, virtual, and cloud integration with full management visibility across physical and virtual environments. This has played a key role in helping Integra change

Business Value Highlights

Organization: Integra

Location: Vancouver, Washington

Challenge: Meet the challenge of competing in the next-generation telecom services market

Solution: Cisco Application Centric Infrastructure

Five-Year Cumulative Benefits:

- \$3.73 million in discounted business benefits
- ROI of 368%
- Payback period of 8.7 months

Other Benefits:

- 29% more efficient network engineering operations
- 90% less staff time needed to provision hosted PBX services
- Support growth of new cloud-based hosted PBX service

its IT department's structure and culture to better meet the demands of the next-generation telecom services market in which it competes. With Cisco ACI in place, silos that created inefficiencies have been broken down, and Integra has been able to reallocate staff resources to support its business growth while reducing the amount of time needed to deploy its telecom services.

The Cisco ACI solution has also served as the foundation for Integra's launch of a highly scalable and secure cloud-based hosted PBX service as the first of its next-generation offerings. Integra's Unified Communications Cloud Voice (UC Cloud Voice) service supports legacy systems and is integrated with the company's advanced Ethernet network to enable seamless connectivity with customers' network, back-office, and CRM solutions.

Based on interviews with Fisher, IDC projects that Integra will realize staff productivity gains and increased revenue worth an average of \$1.05 million per year over five years, which would result in a five-year return on investment (ROI) of 368% and a breakeven period of 8.7 months.

Implementation

Integra evaluated a number of SDN alternatives to anchor its new datacenters and enable its development of next-generation telecom services. It chose Cisco ACI as the best solution for provisioning its new services faster and with greater consistency and security. Fisher explained the choice saying, *"With Cisco ACI, we felt that we would be best aligned for day one implementation of services,"* which is essential in a telecom services market increasingly demanding scalability, security, and constant availability, including cloud-based network and telecom services.

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Integra was particularly impressed with Cisco ACI's security policy automation and the ability of the ACI fabric to scale its services quickly and easily at lower total cost. Integra also viewed ACI's ability to work with other systems as a key benefit because of its multivendor datacenter environment. In addition, the telecom services provider liked that Cisco ACI provides unified control of physical and virtual environments. Fisher explained that his company is extending virtualization to a greater share of overall workloads but that some of its workloads still perform better on a physical infrastructure; therefore, it was vital for Integra to have unified control of physical and virtual operations with its SDN solution.

After deciding to go with Cisco ACI in mid-2015, Integra began its Cisco ACI implementation by deploying it in its new datacenters in Portland, Oregon, and Salt Lake City, Utah. The Portland datacenter went live with internal-facing and customer-facing services in mid-2015; at the time of IDC's interview with Fisher, the Salt Lake City datacenter was online but not yet in production mode.

According to Fisher, deployment of Cisco ACI itself took a little over a week after Integra spent about six weeks deciding on and modeling the services Integra would deploy on the ACI fabric. *"We dedicated a team of two network people and one compute person to work on the deployment with help from our security people,"* he said. Fisher noted that Cisco provided a specialist for guidance during the first service deployment, which he described as invaluable to effectively deploying Cisco ACI.

Benefits

Integra can provision next-generation telecom services more efficiently and consistently with Cisco ACI in place and with the needed scalability, security, and reliability. This is critical to Integra's ability to compete in the rapidly evolving telecom services market and has underpinned the company's ability to provide the next-generation telecom services demanded by customers.

Fisher also credited Cisco ACI with helping change the culture within the company, and specifically the broader IT department, in a way that creates efficiencies and allows the team to more collaboratively and efficiently support business operations. Before Integra deployed Cisco ACI in its two new SDN datacenters, the company's siloed IT staffing model was creating inefficiencies and disrupting potential synergies between groups. Network engineers handled the network-related elements of provisioning services, while the IT operations teams handled the compute, storage, and application aspects. Integra now uses the Cisco Application Policy Infrastructure Controller (APIC) to provision and manage its datacenter fabric, which provides a single policy-based control point for all configuration, management, and operational tasks through a simple graphical user interface that makes troubleshooting easier and faster. This obviates much of the need for siloed IT teams and allows Integra to reduce the amount of time these teams must spend on day-to-day activities.

According to Fisher, with ACI in place, these silos have been broken down, and Integra's engineering and IT operations teams have been integrated into a single organization. Meanwhile, standardized ACI policies are repeatable and easily managed, so Integra can delegate more control to its service delivery team, increasing the company's provisioning agility and freeing higher-paid individuals to do more productive tasks. Fisher explained, *"We've reduced management time with the ease of upgrades, with the separation of control and data planes, as well as the consolidated visibility of the ACI environment."* As a result, network engineers have become more efficient and can devote more of their time to supporting the delivery of customer-facing services, and Integra has been able to reallocate IT operations team resources to create a team responsible for supporting its cloud infrastructure services through infrastructure automation efforts.

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Fisher explained that ACI has made application and service delivery life cycles more efficient by moving control of the process to the service delivery organization. Previously, each application or service release involved a multistep process with "handoffs" between up to five teams, reflecting the siloed nature of Integra's IT staff. However, with ACI in place, Integra has streamlined the service delivery life cycle by eliminating three handoff points. This not only has resulted in staff time savings for teams that no longer have a role in delivering applications or services but also has reduced and accelerated the entire life cycle. Fisher commented, *"With ACI, the IT teams who turn out and support services for customers and applications for internal users define and implement them. This means that we are more efficient and better aligned for efficient implementation of new applications or services from day one. Because of this, we've increased the success of our initial service implementations."*

Greater consistency achieved with ACI has also increased Integra's success rate with initial service deployments, which means Integra now responds to fewer service-related issues. This not only saves staff time but also means that Integra's customers have a better experience, starting with the initial deployment of their services.

Meanwhile, Cisco ACI supports Integra's business growth by enabling the company to scale its services more easily. This is because the Cisco ACI architecture allows for growth with minimal configuration effort and little to no impact on installed workloads. In addition, Cisco ACI has accelerated the service provider's development of API and network function virtualization (NFV) services. Meanwhile, repeatable workloads benefit from reduced deployment times, enabling Integra to provide services to its customers in a more timely fashion. In addition, Integra has leveraged the security features of ACI to make it easier and faster to deploy security solutions with greater consistency so they work from day one.

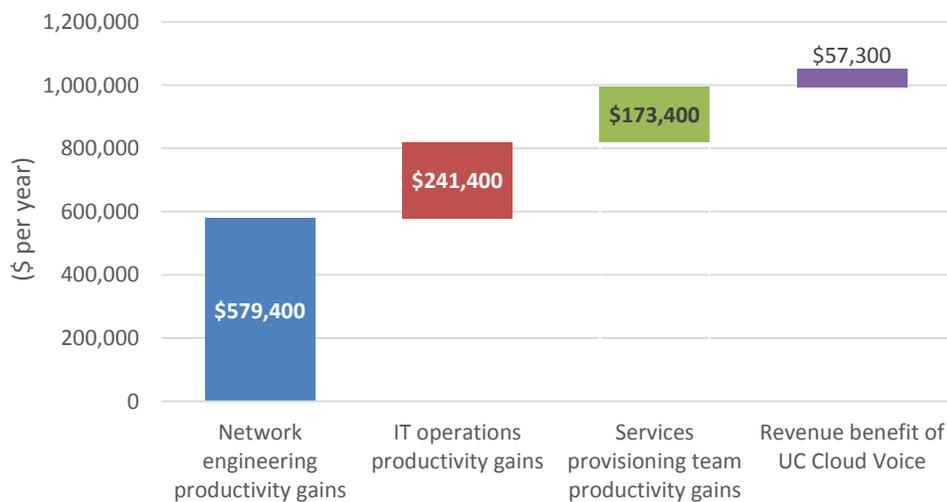
In 2015, Integra leveraged the Cisco ACI architecture to launch a new next-generation service called Unified Communications Cloud Voice. The cloud-based hosted PBX service utilizes virtualization and datacenter technologies to provide a highly scalable, secure, reliable, and customizable suite of communications services. In addition, Integra is now able to offer managed quality-of-service (QoS) levels to maintain business-critical voice communication across the cloud. According to Fisher, Cisco ACI has helped support development of this line of business by enabling agile deployment of these services and by allowing Integra to target new customers. He explained, *"The cost and efficiency benefits of ACI and the overall deployment architecture for our Unified Communications Cloud Voice service has allowed us to reduce the customer size we can support with our deployments. Prior to deployment, we limited the customer size to 20 phones; with the new architecture, we have moved the minimum to 10 phones."* As a result, Integra is growing its Unified Communications Cloud Voice service customer base and believes that it will continue to grow this business line and achieve more revenue with these services.

Quantifying the Benefits

From interviews with Fisher, IDC has quantified the value Integra is expected to achieve with Cisco ACI in terms of additional revenue and staff productivity gains. IDC puts this value at an annual average of \$1.05 million over five years (see Figure 1).

FIGURE 1

Average Annual Benefits



Total average annual benefits: \$1.05 million

Source: IDC, 2016

IT Staff Productivity Benefits

Deployment of Cisco ACI has supported Integra's efforts to create a more unified IT team, with a culture geared toward holistic delivery and support of the company's services. As a result, Integra has been able to break down silos that were creating inefficiencies, opening up the opportunity for it to make IT teams more productive and shift staff resources away from day-to-day activities and toward supporting its efforts to grow its business. In addition, delivery of Integra's hosted PBX services requires less staff time per deployment because the ACI APIC has helped eliminate three handoff points between teams. IDC puts the total value of IT staff time savings and productivity gains for Integra attributable to Cisco ACI at an average of \$994,200 per year over five years in the following areas:

- **Network engineering.** Cisco ACI has enabled Integra's network engineering team to take on substantially more work related to supporting the business, including deployment of its customer-facing services, without expanding the size of the team. Cisco ACI has supported these efficiencies by eliminating many siloed workflows, deepening automation, and enhancing network visibility. On average, Integra's network engineering team is 29% more efficient as a result of the company's deployment of Cisco ACI, which IDC values at an average of \$579,400 per year over five years.
- **IT operations.** Cisco ACI has also made Integra's IT operations team more productive by supporting efforts to align them to efficiently and effectively provide customer-facing services. As a result, Integra has been able to reallocate several members of its IT operations team to support infrastructure automation. IDC projects that these IT operations team efficiencies will be worth an average of \$241,400 per year over five years.
- **Policies and endpoint provisioning and management.** Cisco ACI has enabled Integra to reduce the amount of staff time needed per customer-facing service deployment. Previously, a different individual had to handle the network, security, virtual machine, storage, and physical installation aspects of a deployment, requiring a total of five hours of staff time per service deployment. Because of the ACI template automation capabilities, one person is now able to handle all of these tasks, reducing the number of handoffs and bringing the staff time needed per deployment to an average of 30 minutes. IDC calculates that time savings related to service provisioning will be worth an average of \$173,400 over five years for Integra.

Business Benefits

Cisco ACI has also enabled Integra to launch and grow its new cloud-based hosted PBX services (Integra Unified Communications Cloud Voice service). Delivery of these services requires agility and flexibility that Integra would have struggled to achieve with its previous datacenter environment, thereby limiting its ability to grow this line of business. With Cisco ACI and the SDN datacenters in place, Integra is able to deploy its UC Cloud Voice services in a timely and agile fashion, without impediments from its datacenter infrastructure or IT staff structure, while ensuring the quality and reliability of these services. As a result, Integra is achieving consistent growth of its UC Cloud Voice services and growing its customer and revenue bases. Integra attributes a part of this revenue growth to Cisco ACI. IDC projects that, after applying an assumed 15% operating margin and taking into account the portion of the incremental revenue that Integra attributes to Cisco ACI, the telecom services provider will realize an average of \$57,300 in revenue-related benefits per year over five years.

IT Infrastructure Cost Reductions

Integra has also found that Cisco ACI is serving as a cost-effective SDN solution. Because Integra's use case for Cisco ACI included greenfield services, IDC has not included datacenter-related cost savings or avoidances attributable to Cisco ACI in its ROI model. However, deploying Cisco ACI

allowed Integra to avoid upgrading two large network switches. In addition, deployment of Cisco ACI should minimize Integra's security costs associated with firewalls and load balancers as the company moves to virtual, software-based firewalls and load balancers that can be provisioned as part of an automated service chain as well as contribute to savings in space and power from the smaller form factor of the ACI topology and the increased use of virtualization in the datacenters.

Return on Investment

IDC projects that Integra will achieve discounted benefits worth \$3.73 million over five years as a result of deploying Cisco ACI while making a discounted investment of \$800,000. This will result in a five-year ROI of 368% on its investment in Cisco ACI, with the telecom services provider breaking even on its investment in nine months (see Table 1).

TABLE 1

Five-Year ROI Analysis

Benefit (discounted)	\$3.73 million
Investment (discounted)	\$0.80 million
Net present value (NPV)	\$2.93 million
Return on investment (ROI)	368%
Payback period	8.7 months
Discount rate	12%

Source: IDC, 2016

IDC conducted interviews with Fisher to understand the impact of deploying Cisco ACI on Integra's operations and business. IDC gathered the information needed to quantify the benefits and investment associated with the company's use of Cisco ACI in these interviews and created an ROI analysis from the results.

IDC calculates the ROI and payback period in a three-step process:

1. Measure the financial benefits directly resulting from the solution, including increased IT staff productivity and higher revenue since deployment.
2. Ascertain the total investment.
3. Project the investment and benefit over five years and calculate the ROI and payback period. The ROI is the five-year net present value (NPV) divided by the investment. Payback period (expressed in months) is the time required to pay back the initial investment and establish a positive cash flow. To account for the time value of money, IDC bases the ROI and payback period calculations on a 12% discounted cash flow.

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