

# Implementation Service

Demand for bandwidth is accelerating—from mobile and gaming to VR/AR apps—driving 35 percent growth since 2019. The Internet of Things (IoT) connects billions of devices, sensors, vehicles, trackers, and whatever more is to come to the network. Some of these devices involve critical communications requiring high reliability and availability, and ultra-short latencies driving the need for premium services. All of this is accelerating the pace of network evolution and challenges network operators to keep up. Whether you are deploying new equipment or migrating from old technology, your network must continue to deliver the experience customers expect.

There is also pressure to lower operating expenses while deploying new services to meet customer expectations and generate new revenue growth. A fast, efficient, and dependable way to evolve the network is needed to meet expectations.

## Customer challenges

Network operators don't always have the skills, tools, or time available to plan, design, and deploy their new or upgraded network. They may not have staff with specialized knowledge in network planning and design or who are familiar with a wide range of technology and architectures. There may be employees who are resistant to change or require training to install and manage new equipment. We also hear about concerns around network integrity, maintaining security, and configuration management. These challenges can result in delays, higher costs, and poor project execution.

## Ciena's solution

Ciena's Implementation Service overcomes these challenges with experienced, highly skilled teams who leverage our powerful automation framework and use proven processes ensuring accuracy, efficiency, and cost-effectiveness with every project.

For almost 30 years, Ciena has planned, designed, and implemented some of the most complex networks around the world. Customers rely on Ciena's expertise and global presence to successfully deploy networks without disrupting day-to-day business. Implementation Service offers full visibility right from project initiation and management through successful deployment and testing, including complete on-site and remote support available globally. We offer a tiered approach so you can determine the correct implementation model and support based on your skills, experience, and staff availability.

## Business outcomes

Whether the goal is lowering operating expenses or deploying new services to meet customer expectations and generate new revenue growth, it is critical to have the right partner to minimize risk and ensure successful outcomes. Ciena's Implementation Service helps you achieve the goals you have set, providing the following benefits:

- Accelerate your time to market to achieve new revenue streams and maximize ROI
- Minimize network disruptions with less downtime and fewer maintenance windows due to our insight into commonly occurring roadblocks inherent to network deployment and migration, as well as associated mitigation techniques
- Reduce your operational expenses by providing skilled, scalable resources, reducing need for in-house expertise

## Service tiers

Ciena's tiered implementation structure offers the flexibility to fit every operational strategy based on the level of in-house expertise. These tiers include Essential, for those with strong technical skills who can deploy the new network but require specific, remote assistance; Comprehensive, for a mix of remote/onsite support to handle most of the install; and Premier, white glove onsite service to handle all the details.

## Network design

### Network builds start with design to determine technology requirements

Ciena specialists collaborate with your network team to develop an in-depth understanding of requirements, so a solution is designed and optimized to meet your unique circumstances. Nodal design for optical networks is bundled with the service tiers. Design for routing and switching covers the whole network and can be combined with the desired service tier giving customers options to fit their level of expertise.

## Essential Tier

### Remote services where you need help

Essential tier is a suite of à la carte services offering remote, technical expertise delivered by our specialists. You determine

where you need assistance, and our subject matter experts help de-risk your project. Identify the specific areas where you may not have expertise and Ciena provides the experts to help.

## Comprehensive Tier

### Expert service at the best value

The comprehensive tier uses an automated framework and mostly remote service to avoid expensive mobilization costs to help you with your project. For optical networks, this tier includes flexibility to choose on-site services where you may lack skilled staff while still leveraging Ciena's proven remote capabilities. For routing and switching networks, we partner with your on-site field resources to get the network up and running cost-effectively. All engagements can expect highly skilled experts focused on preventing costly errors that might lead to rework and/or delay project completion.

## Premier Tier

### High touch deployment by Ciena experts

The Premier tier allows you to continue your day-to-day activities, relying on Ciena to completely manage and take full responsibility of the project. Highly skilled staff use proven processes and an automated framework to deliver fast and reliable project execution.

## Optical Design and Deployment — Three tiers with compelling options

Essential	Comprehensive	Premier
à la carte/optional services	Hybrid remote/on-site services	On-site full-service
<p><b>A-la-carte (options)</b></p> <ul style="list-style-type: none"> <li>• Remote Site Survey</li> <li>• Nodal design for optical networks               <ul style="list-style-type: none"> <li>- Full Documentation</li> </ul> </li> <li>• Remote Turn-up &amp; Test Support</li> </ul> <p><b>Customer Responsibilities</b></p> <ul style="list-style-type: none"> <li>• Project Management</li> <li>• Site Infrastructure (racks/power)</li> <li>• Install + IRM (Installation related material) and on-site activities</li> </ul>	<p><b>Bundle/Kit</b></p> <ul style="list-style-type: none"> <li>• Project Management</li> <li>• Remote Site Survey</li> <li>• Nodal design for optical networks               <ul style="list-style-type: none"> <li>- Lite Documentation</li> </ul> </li> <li>• Staging (SIF)</li> <li>• Optional on-site Install + IRM (Installation related material)</li> <li>• Remote Turn-up and Testing</li> </ul> <p><b>Customer Responsibilities</b></p> <ul style="list-style-type: none"> <li>• Customer Information Questionnaire (CIQ)</li> <li>• Site Infrastructure</li> <li>• Install + IRM (Installation related material and on-site activities)</li> </ul>	<p><b>Bundle/Kit</b></p> <ul style="list-style-type: none"> <li>• Project Management</li> <li>• Remote Site Survey</li> <li>• Nodal design for optical networks               <ul style="list-style-type: none"> <li>- Full Documentation</li> </ul> </li> <li>• On-site Install and IRM (Installation related material)</li> <li>• On-Site Turn-up and Testing</li> </ul> <p><b>Customer Responsibilities</b></p> <ul style="list-style-type: none"> <li>• Customer Information Questionnaire (CIQ)</li> <li>• Site Infrastructure</li> </ul>

## Routing and Switching — Solution Design

### Up-front design for whole network

- Service Discovery
- High Level Design
- Low Level Design
- Optional Systems Integration for Solution Validation: Lab testing, 3rd party interoperability testing, Type approval for new equipment, New release certification, Use case testing, etc.

## Routing and Switching Deployment — Three tiers with compelling options

Essential	Comprehensive	Premier
à la carte/optional services	Remote Services	High touch service with on-site install
<b>A-la-carte (options)</b> <ul style="list-style-type: none"> <li>• Remote Site Survey</li> <li>• Staging in Factory (SIF)</li> <li>• Remote Turn-up &amp; Test Support</li> </ul> <b>Customer Responsibilities</b> <ul style="list-style-type: none"> <li>• Project Management</li> <li>• Site Infrastructure (racks/power)</li> <li>• Install + IRM (Installation related material) and on-site activities</li> </ul>	<b>Bundle/Kit</b> <ul style="list-style-type: none"> <li>• Project Management</li> <li>• Remote Site Survey</li> <li>• Remote Turn-up and Testing</li> </ul> <b>Customer Responsibilities</b> <ul style="list-style-type: none"> <li>• Customer Information Questionnaire (CIQ)</li> <li>• Site Infrastructure (racks/power)</li> <li>• Install + IRM (Installation related material) and on-site activities</li> </ul>	<b>Bundle/Kit</b> <ul style="list-style-type: none"> <li>• Project Management</li> <li>• Remote Site Survey</li> <li>• Onsite Install and IRM (Installation related material)</li> <li>• Remote Turn-up and Testing</li> </ul> <b>Customer Responsibilities</b> <ul style="list-style-type: none"> <li>• Customer Information Questionnaire (CIQ)</li> <li>• Site Infrastructure (racks/power)</li> </ul>

### Additional optional capabilities for both optical/routing and switching networks

Staging in factory (SIF)   Logistics support   Readiness   Onsite infrastructure   Circuit provisioning   Additional testing

### Optional capabilities

Available as standalone options or in addition to any of the three tiers, Implementation Service provides the following capabilities to help maximize your investment and reduce costs:

- **Staging in Factory (SIF)** offers customized levels of equipment staging saving time and money and ensuring equipment is ready to go out of the box.
- **Logistics support** provides logistics and inventory management including offsite warehousing and delivery.
- **Readiness – Onsite survey** confirms engineering record accuracy to reduce additional site visits, ensuring a timely install.
- **Readiness – Fiber** characterization assesses the capability of fiber prior to design and implementation to reduce installation risk.
- **On-site infrastructure** provides expert onsite cabling to save time and reduce operating costs.
- **Circuit provisioning** assists staff with provisioning new customers.
- **Additional testing** for network quality to meet SLA's, test latency, and packet tests.

### Lifecycle management

Network operators often find themselves with old software or technology and need to either reconfigure or migrate to new while keeping their network running. Implementation Service provides:

- Software upgrades. Reduce risk through implementation of the latest bug fixes and security updates. Software upgrades ensure your software is current and you benefit from the latest features and technology.
- Reconfiguration and migration. Networks grow and evolve and technology changes. We provide custom migrations across a broad range of use cases including TDM to packet, fixed grid to flex grid, vendor swaps, site consolidations, SAOS 6.x/8.x to 10.x and Network Management System (NMS) migrations.

### Solving network challenges

Implementation Service experts are here to help you deploy or migrate your network. We focus on your goals and provide flexible options to let you determine the level of assistance required to seamlessly transform your network. Implementation is our day job. We do it all day, every day.

## The Adaptive Network™ connection

Ciena's Adaptive Network vision is designed to help you dynamically respond to exponential growth and increasing demand for more dynamic services, and deliver a differentiated customer experience. As new applications and technologies continue to drive mounting network pressures, the Adaptive Network provides you multiple options to start your network evolution journey, addressing your key business challenges today and ensuring you're ready to adapt for the future. Our highly skilled Implementation Service teams utilize an automation framework and proven processes to assist you with planning, designing, and deploying/migrating your network efficiently, quickly, and accurately.

## Ciena Services

We enable your success by ensuring your network keeps pace with your business. Our regional teams partner closely with you in a shared mission to understand your priorities and deliver the exceptional digital experiences your customers expect. We help you build, operate, improve, and transform your network, your way. We leverage our robust portfolio, proven processes and tools, and nearly 30 years' experience in creating the world's largest networks—all to power your successful journey to the Adaptive Network. Together, we've got this.

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