# The Drive for Network Transformation

Rally car racing defines teamwork. A driver and navigator race for miles on public roads at incredible speed, in constant communication, acting as one. Success relies on trust, on respecting the skill and judgment of your partner.

Network transformation is no drive in the country either. Research show that 70% of in-house transformation initiatives fail—or do not meet their objectives—and that deploying high-caliber talent is a key to success[1]. Even the largest, most successful companies in the world draw on external experts to drive them forward.

Choosing the right partner is essential when planning a network transformation. For nearly 30 years, Ciena has transformed some of the world's most complex networks, teaming up with customers—discovering and defining how their business goals drive their technology and creating a path to achieve them.

Why transform now?

Demand for data continues to increase while revenues remain flat. International internet capacity grew 35 percent between 2019 and 2020 to over 600 Tb/s[2]. There will be an estimated 56 billion connected things by 2025[3], as

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2019 | 2020
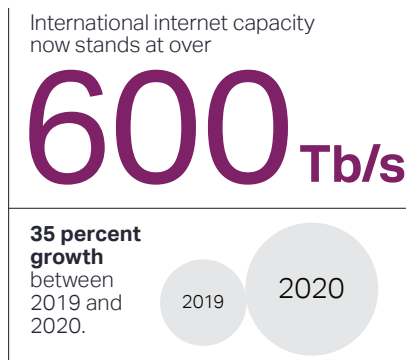
well as critical new applications demanding high reliability, high availability, and ultra-low latency. These all apply different pressures to current and future networks.

At the same time, legacy technology in the network still delivers high-margin services that customers demand. The technology these services are based on, however, is becoming obsolete and less reliable, and the risk of outages is growing.

As you race to evolve to 5G and the applications and use cases it enables, it is crucial to determine the best transport architecture that will improve network performance to support current and future subscribers, new applications, and new use cases.
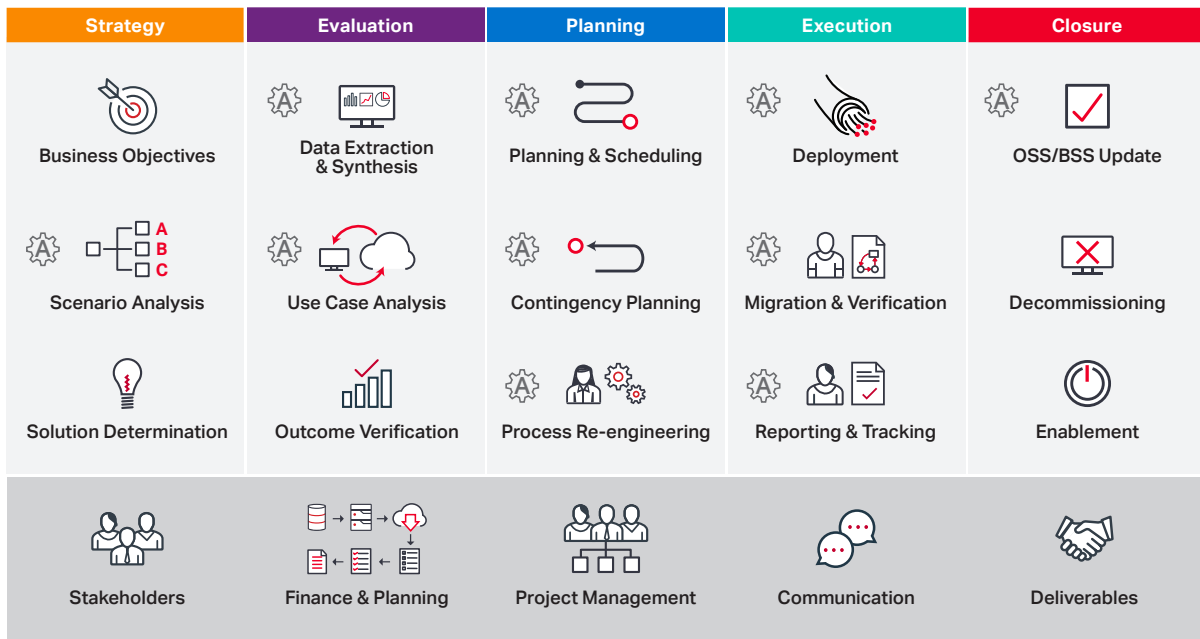
Digital transformation is happening now, and business models are being rebuilt from the ground up. The question is not if there is a need to transform, nor when to transform—but how to get started. Where are you today and where do you want to be tomorrow?

Successful network transformation

Faced with competing priorities and contention for resources, customers sometimes limit their perspective and approach to a transformation project. It can become easy to narrow focus to a tactical solution to 'simplify' the process. Should initiatives be purely tactical to overcome near-term hurdles, or more strategic with a broader look into the future? Which project will deliver the best return on investment (ROI)? With so many competing priorities, no matter the scope of the initiative, the activity can be perceived as high risk.

Partnering to succeed: Network transformation is not just a matter of ripping out old technology. Ciena's transformation approach takes a comprehensive view of your business strategy, priorities, market context, and goals, and translates them into network outcomes to enable you to efficiently deliver the results your customers are looking for.

1. Boston Consulting Group (BCG), Flipping the Odds of Digital Transformation Success, Oct 2020
2. Telegeography blog, 2021 Global Internet Map Tracks Global Capacity, Traffic, and Cloud Infrastructure
3. IDC, Business Models for the Long-Term Storage of Internet of Things Use Case Data, #AP45984120, Jul 2020.

Strategy	Evaluation	Planning	Execution	Closure
Business Objectives	Data Extraction & Synthesis	Planning & Scheduling	Deployment	OSS/BSS Update
Scenario Analysis	Use Case Analysis	Contingency Planning	Migration & Verification	Decommissioning
Solution Determination	Outcome Verification	Process Re-engineering	Reporting & Tracking	Enablement
Stakeholders	Finance & Planning	Project Management	Communication	Deliverables

Automation and tools-enabled activities

Figure 1. Transformation methodology

Ciena partners with you to maximize ROI—leveraging your insight into the business and desired outcomes with Ciena's deep industry experience, extensive multi-layer networking knowledge, mastery of data analysis, and field-proven analytical tools.

Ciena's data-centric approach results in solutions that meet the broadest organizational objectives. Ciena optimizes associated processes to meet and accelerate planned timelines and future-proof the project, ongoing business processes, and IT with customized tools that improve long-term productivity and maximize network investment efficiency. Ciena focuses on your objectives and success as a shared mission, allowing you to focus on your business priorities.

Proven transformation methodology

Drawing on the expertise of Ciena's Consulting and Implementation Service teams, Ciena helps answer the big questions of transformation:

What if? Strategy and business

What? Scope and scenarios

How? Execution and business processes/practices transformation

The approach? A rational five-phase methodology that has delivered on customer objectives around world.

Strategy: Working closely with customer department leads and subject-matter experts, Ciena scopes, formulates, evaluates, and plans pertinent strategies and scenarios. Ciena captures and evaluates goals; establishes the key success metrics; and amasses, integrates, and analyzes all necessary data to help decide what is most worthwhile for your business.

This allows Ciena consultants and customers to define the scope of the project, align teams on goals and objectives, evaluate new technologies, and build a robust business case to create greater certainty of ROI.

Discovery: The discovery process is used to develop a complete understanding of the network undergoing transformation.

Legacy networks include multiple vendors and have taken years to build. Detailed inventories of assets can be difficult to locate, do not exist, or are not accurate. To solve this, Ciena maps and extracts network data from different sources—network management systems, network elements, reservation tools, and inventory management systems. The data is cleaned, normalized, and integrated into a single view of the network that powers a customizable analytics library. This allows elimination of project roadblocks—such as known unsuccessful circuit migration paths—and enables the formation of an optimal execution plan.

It is critical to understand how customer, service, and IT system domains might impact any network transformation activities before planning begins to prevent potential challenges later.

Planning: Ciena's project managers, consultants, and engineers work closely with customers' technical and operations teams

to develop robust Engineering Methods of Procedures (EMOPs) for every scheduled activity. Ciena ensures mission-critical services remain available during reconfiguration, consolidation, upgrade, or migration between legacy environments and next-generation infrastructure. Every avenue is explored, from assessing possible re-engineering of customer processes to preparing contingency plans.

To optimize delivery, migration activities and processes are reviewed. Rules and requirements for service availability, maintenance window time frames, and customer impacts are fed into our planning tools and combined with stakeholder interviews to determine areas for improvement. The process autonomics engine is then used to address inefficiencies by eliminating, improving, or automating time-consuming manual operations.

Execution: Execution is the actual deployment. This is where experience, proven methodology, data analysis, automation procedures, and preparation ensure successful delivery.

The process autonomics engine interfaces directly with Operational Support Systems (OSS), network orders, management systems, business process management, and others, minimizing touch points and removing the need to cut and paste information. Ciena creates simple tools, allowing access to the master data to annotate and attribute in-flight operations of business-as-usual, dates, responsibilities, and changes.

Pre- and post-migration testing ensure each step in the deployment is performed properly and the network operates as it should.

Closure: A variety of closure activities must be completed before a project can be declared finished. Ciena conducts an audit, performs OSS and Business Support System (BSS) updates, and decommissions and removes legacy equipment. All teams across sales, technology, and operations are trained in the new technology and the capabilities it brings.

Overall process
The entire end-to-end process is underpinned by Ciena's Consulting and Implementation Service teams, leveraging a deep understanding of telecommunications, data analysis, and expert project management.

Ciena's Strategic Network Consulting and Implementation services
Learn more $\rightarrow$

Ciena's project managers employ best practices, such as the Project Management Institute (PMI) Project Management Body of Knowledge (PMBOK), and diligently apply lessons learned from all their engagements to ensure consistent, positive

experiences that accelerate a customer's ability to mitigate risks, migrate, and realize their strategic business outcomes.

This methodology delivers the best transformation path for customers and enables each department within the customer's organization to know exactly what activity they need to focus on, when to prioritize it, and how to execute it most efficiently. The master data that underlies analytics and process autonomics ensures all personnel involved in a migration are fully aligned.

Proven results
Ciena recently partnered with a Tier 1 Communications Service Provider (CSP) to perform its network transformation. Its source legacy system and target systems, including its Network Management System (NMS) and OSS, did not include any Ciena products. Ciena was an independent partner.

The CSP had cumbersome processes, resulting in slow and error-prone network planning activities. Its initial transformation timeline was in jeopardy—not only would its customers be negatively impacted by its transformation processes, but its costs would also rise above its original budget.

Ciena's network transformation approach helped transform the customer's network and processes using a combination of the right people, integrated data analytics, and automation. Ciena architects and analysts quickly customized tools to interact with all the relevant parts of the customer's network, NMS, and OSS.

By streamlining planning, and especially circuit migration scheduling and execution, Ciena's field engineers had all the necessary capacity and migration dependency information on demand, making it possible to schedule site visits and maintenance windows with the confidence that there would be zero waste.

The *before* and *after* KPIs in Figure 2 illustrate that the customer's previous manual approach could only achieve 10 circuits migrated per week. With analytics and process automation, Ciena's field engineers performed more than 100 circuits migrations per week, with less than half of the labor force the default approach would have required. Planning, preparation, and execution time were cut by 90 percent—
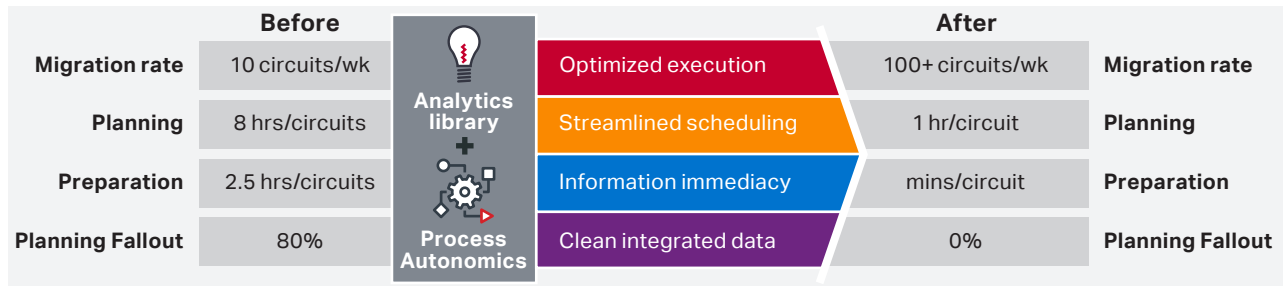
	Before			After	
Migration rate	10 circuits/wk		Optimized execution	100+ circuits/wk	**Migration rate**
Planning	8 hrs/circuits	Analytics library	Streamlined scheduling	1 hr/circuit	**Planning**
Preparation	2.5 hrs/circuits	Process Autonomics	Information immediacy	mins/circuit	**Preparation**
Planning Fallout	80%		Clean integrated data	0%	**Planning Fallout**

Figure 2. Transformation process improvement results

from many hours to minutes per circuit. Critically, the new methodology and process ensured that target capacity was available during maintenance windows, eliminating cancellations due to inefficiency, which previously impacted an average of 8 out of 10 maintenance occasions. Ultimately, services were migrated onto the target network equipment seamlessly, effortlessly, and with minimal impact to the CSP's customers.

Conclusion

Ciena delivers a tried and tested network transformation approach by leveraging people, data analytics, and automation to deliver the most optimal path forward and ensure customers get the most out their transformation investment. Ciena teams with customers to understand business needs and remain focused on objectives, enabling customers to provide the best results for their end-users and ensure long-term business success.

Committed to broadening the scope of what is possible, Ciena asks questions, challenges assumptions, and suggests alternative ways to achieve desired outcomes. Bringing together business and technology goals provides a better future—one where customized tools, optimized processes, and an efficient delivery model provide the ability to compete confidently, surpass rivals, and secure a market leader position.

The Adaptive Network™ connection

Ciena's network transformation approach accelerates the journey to the Adaptive Network. The Adaptive Network brings together hardware, software, and services to empower greater network agility, responsiveness, and real-time insight than ever thought possible. Ciena partners with you, leveraging our people, processes, and tools, to ensure your network delivers exceptional experiences for your customers.

Ciena Services

Ciena Services enable success by ensuring your network helps you deliver the exceptional digital experiences your customers expect.

Ciena Services' regional teams partner with you, as a shared mission, to help build, operate, improve, and transform your network. We leverage a robust portfolio of seven complementary services, our proven processes and tools, and nearly 30 years' experience creating the world's largest optical and IP networks to power your success and your journey to the Adaptive Network.

Your success. Our people. It's why we exist.

Was this content useful? Yes No

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