Your Digital Network. Your Future.
Network Services

Accenture Digital Network Deployment:
Enabling CSPs to Secure Improved ROI on Network Investment
Accenture Digital Network Deployment: Enabling CSPs to Secure Improved ROI on Network Investment

For Communications Service Providers (CSPs), effective network planning and deployment remains one of the keys to achieving market leadership. Network infrastructure continues to be used as a major competitive advantage; and accordingly, CSPs are sustaining network CAPEX even in markets where margin pressure is high.

However, the focus of network deployment is increasingly shifting from simply assuring customer reach and coverage to also securing profitable rollout, so that adequate return on investment (ROI) is delivered to investors—and many challenges lie in the path of securing adequate ROI in this area:

- The execution of network deployment programs is intrinsically complex, requiring orchestration of multiple and diverse entities, ranging from technology vendors to construction companies to municipalities.
- Historically, network rollout programs have been affected by delays and cost issues; and technical mastery and planning discipline are necessary, but not sufficient, to overcome these issues, as many risks and unknowns can affect the outcome.
- Today, in addition, literally millions of components must typically be integrated into a given network, reflecting a full range of network technologies and topologies to support dense radio coverage for ultra broadband (video, 4G and beyond) and to provide ultra narrowband (Internet of Things) users with deep fiber penetration.

Deploying today’s increasingly complex network in accordance with customer needs and marketing requirements, while anticipating competitors’ moves, demands not just centralized discipline, but unprecedented agility in control, steering and execution.

Yet despite the increased complexity of network deployment, execution of network deployment has remained largely unchanged for the last 20 years. All too frequently, 4G and Fiber programs have issues with timing; and few are delivered on time and on budget. And while late delivery often leads to overspending, its too-frequent antidote—rushed attempts to make up for lost time—too frequently can result in network quality issues. There is too much reliance on ad-hoc process management, often with undesirable consequences such as over-reliance on local project managers, blame being attached to contractors, or overspending on material management.

To address these challenges, Accenture has developed a new approach that transforms and industrializes the old process of network infrastructure creation: Accenture Digital Network Deployment (DND). Whenever there are large and complex CAPEX programs to modernize a network or introduce a brand-new technology, and success demands the orchestration of multiple and diverse entities, Accenture DND can deliver tremendous value.
How Accenture Digital Network Deployment Works

To help CSPs optimize deployment of a digital network, Accenture DND brings together all relevant Accenture capabilities and assets, including:

- **Consulting:** Accenture Strategy and Accenture Consulting services provide network planning and development strategy, operating model transformation and business process re-engineering.

- **System Integration and Tools:** Accenture Technology and Accenture Digital have come together to create PLATO, a comprehensive digital platform covering every step of the network deployment process, from network planning to construction to financial management. The platform includes a Network Deployment Optimization (NDO) tool for deployment workflow management, along with DND Analytics engines that take advantage of the use cases and knowledge base developed by the Accenture team specializing in network creation and deployment, including their experience at identifying potential roadblocks and optimizing vendor deployment.

- **Services and Operations:** Accenture Consulting and Accenture Operations deliver foundation services for management and control of planning and rollout; supporting services, such as network engineering services and document management, for network planning and design; and Analytics as a Service for continuous improvement of multiple processes such as procurement, supply chain management, material management and logistics, and digital data management for site data, permitting and other functions.

All these capabilities must be harnessed to help assure effective, efficient network deployment.

**DND Consulting: Delivering an Integrated Telco**

As previously noted, deployment of today’s complex networks necessitates the integration of literally millions of components reflecting a full range of network technologies, including macro RAN, FTTx, heterogeneous networks (small cell, Wi-Fi, indoor networks / DAS) and IoT coverage networks; and given this increasing complexity, deployment needs to be addressed through an automatic, digitalized process.

As Figure 1 shows, Accenture's vision for an integrated telco is based on functional operating layers, with each one having clearly delineated areas of accountability and responsibility.
Figure 1: The New Network Operating Model

Layers

- Organization
- Processes
- Systems
- People

Core Activities

- Command Center & Demand Management
- Center of Excellence
- Central Functions
- TELCO Network Centralized Functions
- TELCO Network Regional Functions
- Factory (Shared Service Center)
- Front Office
- Back Office

Non Core Activities

3rd Party Services

- Network Equipment Providers
- Construction
- Field Force
- Acquisition
- …
The new model encompasses a full range of capabilities (organization, operating process, systems and people) in one integrated blueprint, with carefully delineated areas of responsibility that reflect the company’s core competencies:

- The CSP remains responsible for executing steering and value-added network-related activities, including network budgeting, forecasting and planning, and best practices are utilized to create Centers of Excellence for these and other core functions in order to continuously improve performance.

- Meanwhile, repetitive non-core activities, ranging from configuration of network elements to document management, are handled through an industrialized model in which the company retains control of outsourced resources and capabilities.

As part of this, a lean control model, with fewer control points across the end-to-end process, is used to manage third-party services. Until now, use of such services has traditionally been handled through turnkey contracts that rely on vendors to oversee scheduling and budgetary aspects, risking a lack of visibility into the current status of execution. The new model, by contrast, delivers insight into day-to-day activities of network equipment providers and other third-party stakeholders, providing improved quality assurance and enhanced control over funds and timing. Given the scale of the costs involved, this added element of control can result in considerable savings, and even in incremental investment opportunities that can optimize the value of company financial resources.

This model leverages Accenture's specialized DND Consulting capabilities, including a Deployment Process Diagnostic for the new operating model, a Planning and Deployment Quick Scan for the new model, multiple network value initiatives, and Accenture's extensive experiences in large 4G and fiber network rollout programs in the U.S. and Europe.
Digital Network Deployment platform: 
Bringing Together Vital Systems for Optimal Control

Critical to the functional integration of the new network operating model is the technology integration made possible by PLATO, Accenture’s Digital Network Deployment platform. As shown in Figure 2, PLATO overlays existing company data and systems in a modular manner, enabling the integration of the functions involved in network deployment. Its back-end layer enables service orchestration through the network, while also establishing business rules for the multiple functions necessary to effective deployment, including network deployment optimization; supply chain management and analytics that permit integrated forecasting and planning; effective control of logistics, and tools for software collaboration.

PLATO permits end-to-end control of the network management process, from the overall program plan down to site-level execution, disintermediating the previous layers of third-party stakeholders and creating a more competitive market for as-needed services directly with end providers. In so doing, it delivers not just integrated control of supply chain, materials and workforce, but effective orchestration of these factors for maximum impact. PLATO’s front-end layer offers semantic search capabilities and a contextualized view that covers the structure, meaning and context of the information provided. Meanwhile, an adaptation layer engages with existing client systems for workforce management, inventory management, document management and other systems, collecting and managing information from these systems for network deployment effectiveness. The adaptation layer allows network deployment functions to access the right data for a given task, while also minimizing impact on the existing client systems with which it interfaces.

Beyond this, PLATO’s front-end layer is accessible through multiple formats, permitting workers in the field to use information from the platform through smartphones and tablets, and thereby enhancing real-time control and quick reactions to roadblocks and other issues. As shown in Figure 3, a dashboard view accessible through the front-end layer permits stakeholders to access multiple widgets, depending on the data views they are looking for—but always offering a “single source of truth.”

This dashboard enables CSP personnel to engage in informed decision-making, providing a single point of control for data analysis, with tools for prescriptive simulation and optimum capacity planning. These tools take advantage of an extensive database reflecting Accenture’s experience, deploying powerful analytics to enable CSPs to optimize their opportunities.
### Figure 2: The PLATO Digital Network Deployment Platform

<table>
<thead>
<tr>
<th>Front End Layer</th>
<th>Mobile - iOS/Android/Windows Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web Portal</td>
<td></td>
</tr>
<tr>
<td>Presentation Logic</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Back End Layer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Orchestration</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Business Rules</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Process Management (workflow automation)</td>
</tr>
<tr>
<td>Supply Chain Management</td>
</tr>
<tr>
<td>Digital Asset Management</td>
</tr>
</tbody>
</table>

| Advanced Analytics |

| BI/Reporting |

<table>
<thead>
<tr>
<th>Adaptation Layer</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPM</td>
</tr>
<tr>
<td>WFM/Market Place</td>
</tr>
<tr>
<td>eMail/SMS</td>
</tr>
<tr>
<td>Document System</td>
</tr>
<tr>
<td>Map</td>
</tr>
<tr>
<td>ERP</td>
</tr>
<tr>
<td>NW Inventory</td>
</tr>
<tr>
<td>TT</td>
</tr>
</tbody>
</table>
Both European and American CSPs have obtained significant benefits from Accenture's DND System Integration and Tools for projects related to planning and deployment workflow automation, deployment workflow automation and network CAPEX optimization.
DND Services and Operations: Increasing Agility and Streamlining the Operating Model

Building on this core platform, Accenture's services for Digital Network Deployment offer additional benefits on multiple levels. As shown in Figure 4, DND Services span network creation from planning to construction control, including core management and control services, supporting engineering services, and value-added analytics and continuous improvement services. All these DND Services are supported by cloud-based, “over the top” modular assets that digitizes the process of network rollout and upgrades it through powerful analytics features.

These services build on Accenture's proprietary tools, unique experiences and capabilities to deliver value in multiple areas, including:

- The ability to manage complex PMO and provide Supply Chain consulting.
- A pre-integrated platform for planning, data integration, reporting and analytics.
- Offshore capability for reporting and analytics.
- Partnerships with NEPs and construction companies.

Multiple European, North American and Asia Pacific CSPs have benefited from specialized Accenture service and operations capabilities, including an Optical Fiber Factory, an IP-Trail Factory and a Fixed/Mobile Deployment Command Center.
Figure 4: Services that Enhance the Impact of Digital Network Deployment

Core Services: Management & Control

<table>
<thead>
<tr>
<th>Program &amp; Project Timeplan Management</th>
<th>Continuous Process Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time &amp; Budget Forecast/Trending</td>
<td>Continuous Process Improvement</td>
</tr>
<tr>
<td>Rollout Plan &amp; Resource Capacity Optimization</td>
<td>Continuous Process Improvement</td>
</tr>
</tbody>
</table>

Core Services: Management & Control

Supporting Services: Engineering

<table>
<thead>
<tr>
<th>Rental Manager (QPEX)</th>
<th>Optimization &amp; Testing Execution</th>
<th>Access Design Factory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site Acceptance &amp; Handover</td>
<td>NW inventory and Documentation Update</td>
<td>Transport Design Factory</td>
</tr>
<tr>
<td>NW Configuration</td>
<td>Administrative &amp; Supply Chain Office Factory</td>
<td>IP Design Factory</td>
</tr>
</tbody>
</table>

Core Services: Management & Control

| Working Capital Efficiency | Continuous Process Improvement | Roadblock Analysis & Removal | Network Utilization & Quality Analytics | Network Maintenance Cost Optimization |

Tools

PLATO

- Single Point-of-Control
- One-Click Order & Track
- Data Integration Overlay
- Analytics Engine
Throughout this discussion, we have highlighted a number of CSPs who have already benefited from the application of Accenture consulting, system integration and tools, and services and operations in the area of Digital Network Deployment.

By providing a unique combination of services, assets and capabilities, Accenture Digital Network Deployment delivers value across three main dimensions:

• Increasing CSPs' revenue-generating ability. Network rollout typically faces a number of critical imperatives, including focusing on high-potential opportunities to increase network usage or the customer base; the necessity of dictating the agenda of the local network contractor; and reducing the number of quality issues that can interfere with customer satisfaction. By addressing these issues, DND helps CSPs quickly increase network capacity and performance; increase the efficiency with which CAPEX is spent through value-based deployment; reduce the churn rate; and improve the operator's brand market position and value.

• Reducing cost. Through centralized governance and the use of a workflow engine tool to automate the workflow process, Accenture DND helps reduce the cost of poor quality by increasing First Time Right deployment, improving plan accuracy for increased CAPEX efficiency, and enhancing orchestration and rigor for reduced rework. It also helps increase the impact of OPEX by automating processes, industrializing delivery and consolidating activities for central synergies. Beyond this, Accenture DND also helps to optimize sourcing by consolidating the freelance workforce and utilizing labor arbitrage and offshore work.

• Making the most of invested capital. Accenture DND enables CSPs to take full advantage of both working capital and fixed capital through better forecasting of opportunities for equipment refurbishment; helping assure network rollout contract compliance; optimizing the use of installation and commissioning; and reducing the number of assets under development.

In all these ways, Accenture Digital Network Deployment can help CSPs overcome the increasing challenges to achieving effective network deployment—helping to assure rollout that is not just fast and reliable, but also profitable.
Achieving the Full Promise of Digital Network Transformation

Evolving from a traditional service provider to a platform-based Interactive Digital Service Provider is a complex task. You want to minimize cost, minimize disruption, and get to the value ... fast. But it’s also clear that what got you to where you are now, won't get you to where you want to go.

Accenture has the industry expertise, digital insight, technology experience, ecosystem partners and end-to-end solutions to help build your next-generation network. We can help you make the move from a traditional network to a digital network, along multiple dimensions:

- From operating a hardware-based network... to operating a digital network platform using software.
- From working with a few hard-wired vendors... to creating an open environment that can be rapidly extended into new industries.
- From confronting regional limitations... to running a global network.
- From being constrained by corporate boundaries... to providing a seamless connection to third-party cloud ecosystems.
- From employing a workforce that “maintains”... to empowering a workforce that innovates.
- From being pigeonholed as a “dumb pipe”... to inventing the intelligent, self-learning digital platform that makes you the best choice for your customers in the future.

CSPs are evolving from traditional service providers into Integrated Digital Service Providers, with digital at the heart of everything they do. Achieving this transformation is an extremely complex task. To reach their destination, providers are looking to collaborate with partners who have the industry expertise, digital orientation, depth in technology, and ecosystem relationships to help them build their next-generation services, networks and operations.

Accenture brings multiple advantages to organizations seeking to achieve this transformation. There is no organization better at IT transformation, and with the convergence of network and information technology, Accenture is now bringing its tools for process and governance to the network world. Accenture also has an extensive track record working with a vast majority of the large enterprise customers—Fortune 500 and others—whose needs CSPs are seeking to address.

Accenture’s positioning in the communications industry, as reflected in reports by independent industry analysts such as Gartner, Inc., demonstrates that among vendors working with CSPs, Accenture is a leader that can help them maximize the benefits of their existing assets in the digital context, and create new capabilities that bring revenue from new sources.

As you pursue the opportunities offered by Digital Network Transformation, insist on having a partner who understands the breadth of your requirements... and is fully equipped to help you turn your vision into reality.
For more information

Contact

Gianluca Noya,
Accenture Network Services

Emanuele Procaccioli,
Accenture Network Services

About Accenture

Accenture is a global management consulting, technology services and outsourcing company, with more than 358,000 people serving clients in more than 120 countries. Combining unparalleled experience, comprehensive capabilities across all industries and business functions, and extensive research on the world’s most successful companies, Accenture collaborates with clients to help them become high-performance businesses and governments. The company generated net revenues of US$31.0 billion for the fiscal year ended Aug. 31, 2015. Its home page is www.accenture.com.