CYIENT

STREAMLINE FIELD OPERATIONS COST-EFFECTIVELY WITH CYIENT'S NETWORK PLANNING AND OPTIMIZATION SOFTWARE

Optimize workforce, business process, and network infrastructure management for seamless operations

INSIDE

Abstract

Modern telecom networks can be viewed as sprawling, service-specific technology blankets patched by decades of changes and equipment upgrades. Communications network applications today are expected to have wide bandwidth and signal transmission with minimal delay. For this, every site needs critical infrastructure systems. However, the monitoring and management of these systems have remained a primarily manual function limited to raising alerts when something fails. CSPs need a solution that helps them to improve their workflow in field operations with advanced geographical capabilities. Expensive maintenance calls need to be replaced by proactive service calls that address potential faults before they occur. Such a solution will also help service providers to extract maximum returns from their CAPEX and OPEX costs.

Over the years, communications service providers (CSPs) and cable operators have seen tremendous changes in broadband access technologies based on the demand from the end user. Today's consumer has become accustomed to high-speed broadband, high-definition channels, streaming videos, and a rapidly growing number of connected devices at home. Traditional wireline service providers have started deploying brand new full-fiber networks named Fiber-to-the-x (FTTx) to meet these ever-growing bandwidth demands, both inside and outside of the buildings, while modernizing their copper and cable plants.

Market and Technology Trends

The extension of optical fiber cables to homes is offering much higher bandwidths than old technologies by supporting numerous services simultaneously in the last mile—especially in new development areas. For mature markets, this trend will drive fiber-to-the-home and cable modem subscriptions along with copper gains. In the remaining markets, competing for subscribers comes at the expense of average revenue per subscription, as affordable bundled packages are the strategy to gain and retain subscribers.

On the other hand, global service providers' fixed revenues and CAPEX have declined over the past few years. Much of this downward revenue trend is due to the rise in mobile subscriptions, OTT, VoIP, and fixed-wireless access substitutions. Also, growing popularity of other communications offerings such as messaging apps, and numerous 4G/5G upgrades, are contributing to the revenue fall.

Service providers in mature fixed broadband markets need to be prepared to maximize their NGA (FTTN, VDSL2/FTTdp, FTTH, GEPON, RFoG, CCAP/RPD) footprint and household penetration as quickly as possible to gain higher ARPU benefits and a sufficient ROI before commoditization.

Service providers in developing markets will have a longer potential duration for premiums. Shifting focus toward continuous network deployments and its evolution towards LTE shows strong growth in GEPON and DOCSIS over EPON cable networks, which will contribute to being critical catalysts for augmenting optical network core capacity. We predict that these different next-generation access technologies will exceed the expected results by 2020. Hence, growth in fixed networks for the next three or four years seems promising if the mixed systems in Brownfield areas are deployed strategically.

The Challenge of Managing Ecosystems

Projects of large magnitude face significant challenges in managing the ecosystem for a smooth run. Communications service providers need to overcome broadly three kinds of challenges:

Business

- Managing large teams (contractors) and optimizing work allocation for seamless operations
- Providing a single seamless view of the network to all business groups
- Streamlining the processes and getting standard output from all teams (contractors)
- High CAPEX on new systems and additional investment to enhance existing systems as making them redundant is not viable

Planning

- Ensuring no overlap of projects
- Defining boundaries for planning teams
- Better use of running projects by enhancing the project scope
- Optimizing existing network data by taking the inputs from other systems

Operations

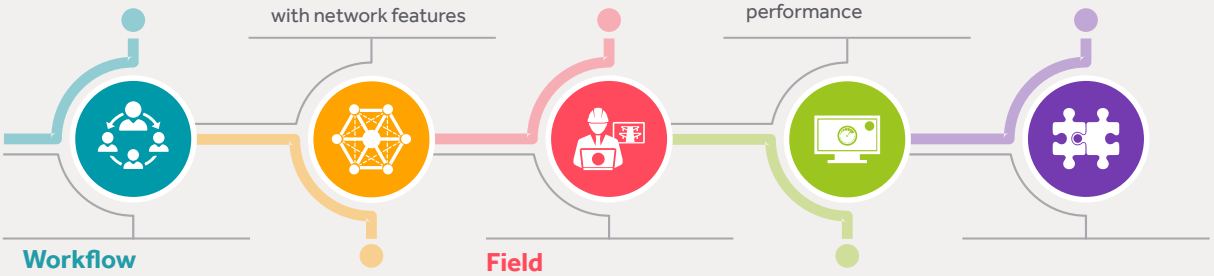
- Optimal use of field teams
- Online updates to office teams
- View of current status of inventory on field by uploading pictures of existing inventory
- Avoiding paper maps and updating different network map sources to eliminate duplication of work

A SINGLE, UNIFIED SOLUTION IS VITAL FOR CSPS TO MANAGE THEIR NETWORK INFRASTRUCTURE EFFICIENTLY AND EFFECTIVELY.

Our Solution

We have been working with many CSPs globally for in-depth research on the issues and difficulties they are facing in managing their network infrastructure. Our research and interactions indicate the need for a single unified solution that can effectively manage human resources, business process, and network infrastructure, and integrates with OSS/BSS—connecting end-to-end operations for telecom service providers. At the same time, this solution needs to be accessible to all the stakeholders involved, to enable consistent exchange of information across the organization.

Network Planning and Optimization (NPO), a proprietary tool of Cyient, is positioned to do more for CSPs than just address the five core challenges.



Manage Network

- Network elements visibility
- View and edit the network feature info
- View connected network features
- View photos and documents associated with network features

Dashboard Reports

- Get a bird's-eye view of project/ctivities
- Monitor the project/ activities
- Get dynamic reports with a single click
- Better visibility into project teams' and contractors' performance

Workflow Orchestration

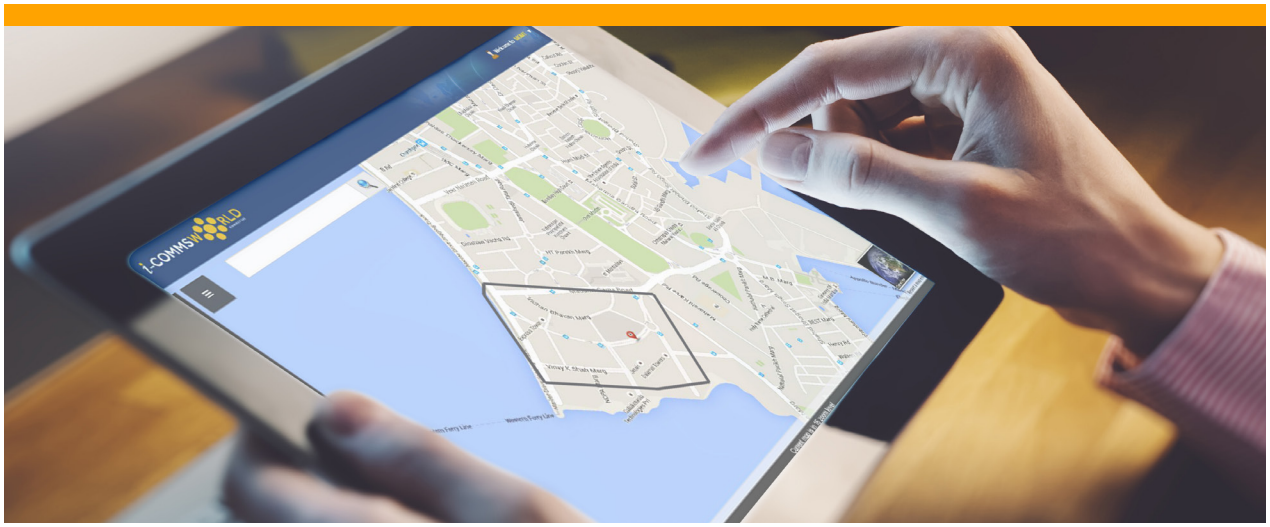
- Configurable workflows for projects tasks
- Link project/tasks to user groups
- Transitional states to approve/reject projects/tasks

Field Operations

- Assist in field survey
- Gain visibility into network elements
- Edit network features online
- Take photos associated with network features

Integrations

- Plug-in to connect with legacy systems like Smallworld, ESRI, ENE, G/Tech
- Connect using SOAP over HTTP to NMF, FMS, CRM, SOM, anSAP etc.



Business Benefits

- The NPO solution offers business value to telecom service providers in the immediate term and acts as a transformational platform in the long-term, where most of the business processes around inventory can evolve based on NPO.
- NPO enables process efficiency with better workflow management by acting as the base platform for modeling and managing the end-to-end process flow, with all the stakeholders being represented.
- NPO allows the user to easily monitor the overall process time, and the turnaround time at each step, and focus on removing hurdles to improve the process using automatic alerts and notifications, process state changes, reports, and dashboards.
- NPO has geographic design capabilities, which allows each planner to place the site on the map along with the technical parameters of the site. Each location can be associated with inside plant inventory as well. Also, it has the facility to view the available network closest to the site, such as fiber or copper network, to allow for the backend connectivity of the site.
- NPO's geographical capability gives it a significant advantage over non-geographical, plain workflow systems. Users view the maps and network geographically and make the decision about network planning and resource management with a spatial context a lot more intuitively and efficiently.
- Since NPO does not require any third-party licensing, it is more cost-effective when compared to other COTS solutions.
- One of the biggest USPs of NPO is that it can integrate easily with your client's GIS platform using WMS layer integration.
- NPO provides a clear view of the workload of your planners, designers, and field engineers ensuring efficient utilization with appropriate project allocation.
- NPO's mobile device module has an option to integrate with any workforce management system to improve the end-to-end process—not only the plan and design but also the build and operate part of the process.
- Lastly, NPO provides a dashboard view of progress, performance, and productivity of the business groups.

THE CYIENT THOUGHT BOARD

Manage, Plan, and Build Field Operations Cost-Effectively with NPO

What are the major challenges faced by the telecom industry today?

Evolving broadband technologies

Increasing customer expectations

Declining revenue and CAPEX

Growing need to maximize NGA

Shifting focus to continuous network deployment

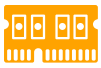
What are the advantages of fiber optic cable-based communications networks?

High reliability

High security

Low attenuation

Low interference



High information capacity

Longer lifespan

What are the main challenges faced by CSPs in managing new network infrastructure technologies?

Resource and staffing issues

Absence of process and structure

Overlapping of projects

Lack of defined boundaries for planning teams

Optimizing current network data

How can Cyient's NPO help CSPs address network infrastructure challenges?

Workflow orchestration

Network management

Streamline field operations

Dashboard reports preparation

Integration of related systems

About Cyient

Cyient (Estd: 1991, NSE: CYIENT) is a global engineering and technology solutions company. As a Design, Build, and Maintain partner, for leading organizations worldwide, we take solution ownership across the value chain to help clients focus on their core, innovate, and stay ahead of the curve. We leverage digital technologies, advanced analytics capabilities, and our domain knowledge and technical expertise, to solve complex business problems.

With over 15,000 employees in 20 countries, we partner with clients to operate as part of their extended team in ways that best suit their organization's culture and requirements. Our industry focus includes aerospace and defense, healthcare, telecommunications, rail transportation, semiconductor, geospatial, industrial, and energy.

For more information, please visit www.cyient.com

Contact Us

North America Headquarters
Cyient, Inc.
99 East River Drive
5th Floor
East Hartford, CT 06108
USA
T: +1 860 528 5430
F: +1 860 528 5873

Europe, Middle East, and Africa Headquarters
Cyient Europe Limited
Apex, Forbury Road,
Reading
RG1 1AX
UK
T: +44 118 3043720

Asia Pacific Headquarters
Cyient Limited
Level 1, 350 Collins Street
Melbourne, Victoria, 3000
Australia
T: +61 3 8605 4815
F: +61 3 8601 1180

Global Headquarters
Cyient Limited
Plot No. 11
Software Units Layout
Infocity, Madhapur
Hyderabad - 500081
India
T: +91 40 6764 1000
F: +91 40 2311 0352

COM_WP_NPO_SF_0919