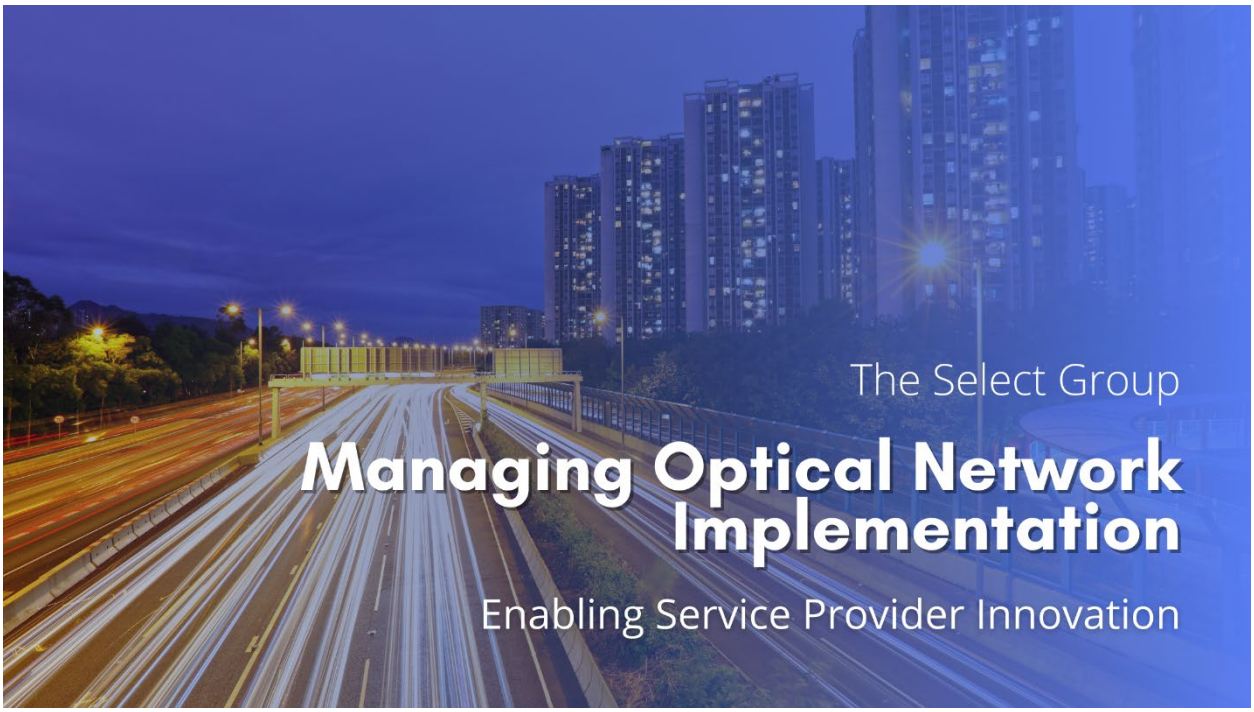

The explosion of the build-out of 5G, Cloud, IoT, Artificial Intelligence (AI), Machine Learning, and the growing array of bandwidth-hungry applications have become ever more reliant on higher speed fiber optic connections traversing an increasingly diverse geographic environment. For the economic growth of Network Service Providers (NSP) providing advanced services, Optical Transport Networks (OTN) must be provisioned quickly with an increasing level of complexity at a lower cost.

OTN technology enables a network to evolve to a scalable and robust solution that caters to various client applications with flexible requirements. It creates a transparent, hierarchical network deployed in metropolitan, regional and long-haul packet-optical transport networks. It comprises a set of International Telecommunicaiton Union – Telecommunications (ITU-T) recommendations, standardizing interfaces and rates for high bandwidth optical clients. In addition, OTN creates a framework for consistent wavelength multiplexing, providing a robust and manageable transport infrastructure that scales well beyond 100 Gbps. Structurally, OTN utilizes a digital wrapper, a multiplexing hierarchy and comprehensive layered instrumentation to deliver mapping, multiplexing and switching that can simplify the process of end-to-end circuit provisioning and improve transport capacity management.

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Challenges for Network Service Providers

Optical Transport Dependencies

A NSP's business constraints require large capacity, high resiliency, flexibility and scalable bandwidth for multi-service offerings at the lowest cost. However, the increased flexibility also increases complexity and dependencies across a more significant number of components. An example of some of these dependencies and the related questions may include:

1. How does a request impact the layers of the optical transmission section (OTS), the optical multiplexing section (OMS) or the physical optical section (OPS) of the network?
2. Are different physical sections of the OTN possible based on the information obtained?
3. Does this request provide the required information about the transmission and switching operation at endpoints?
4. Can the network support the capacity request of a multiwavelength optical signal?
5. Can the network support the dynamic services being requested?
6. Does the capacity request align with the operational model?
7. Can the network support any crucial service restoration requirements?

Scaling Project Management Teams

The NSP's transport implementation teams are generally responsible for delivering transport network connectivity to sites and customers. Each team needs a strong foundation of project managers with the following primary responsibilities:

- Managing capacity and circuit requests implemented to ensure timely delivery.
- Facilitating capacity requests with specialists, partners, vendors, and customers to ensure on-time delivery.
- Assisting with problem resolution and escalations as they arise.
- Provide process and other guidance to better position for success.
- Establish strong rapport with team members.

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Project management is a complex field of work that requires a unique blend of traits that align perfectly with the project's goals. While there is no shortage of resources, certifications and expert advice, project management continues to be one of the most challenging professions. The role of project manager at an NSP typically has the following requirements:

- Strong vendor management skills and project management skills.
- Strong written and verbal communication skills.
- Ability to establish trust with individuals working all levels of the project.
- Experience or technical understanding of all the transport network functions/environment is preferred.
- Outstanding organizational and analytical skills.
- Knowledge of field or utility construction is a plus.

Customer Request

A top Fortune 50 NSP transport implementation team asked TSG to build a proposal to support them. The customer wanted a partner to work on Business as Usual (BAU) projects while their internal teams focus on their 5G network innovation. The project's scope included working on new requests and migration activity for the optical transport network. TSG owns the end-to-end request process assigned to support the implementation of optical transport equipment into the network and meet all service level agreements as required.

Strategic Project Management

TSG Managed Solutions: Managing Risk

Our client needed a partner that understood the complexities of managing and scaling optical transport project management teams. After spending time with the client's team to understand their requirements and craft a comprehensive solution, the TSG Managed Solutions Team took responsibility for the project.

In our experience, each project is unique concerning the industry knowledge, scope, objectives or client requirements. Therefore, the task of breaking down a project management effort is highlighted, but not limited to the following attributes:

- **People, Teamwork and Synergy:** Most project management challenges fall under this category, including challenges with stakeholders and project team members.
- **Funding and Resources:** Challenges with concerns like budget, deadlines, and resources.

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- **Organizational and Process:** This category includes change management and other processes and challenges with management and executives, as well as a misunderstanding of the project management role within the organization.
- **Skills Mismatch:** Challenges can exist with an individual project manager's lack of personal or organizational skills and motivation among the team and themselves. Organizations should carefully consider the type of project manager to ensure success.

TSG's team and deliverables-based approach allowed us to stay engaged at scale with the client. Our process begins with appointing a long-term **engagement manager** to be the **single point of client contact**, ensuring service-level agreements (SLAs), deliverables, and milestones are met. The engagement manager also identifies and manages the project's scope as dictated in the SOW, including all financial performances like invoicing, budget tracking and service level agreements, in addition to team performances.

Service Level Agreements (SLA)

The TSG team must ensure all deliverables are met and completed within committed quality, availability, and responsibilities agreed to by the NSP and their customer. There are many types of optical network requests, and each has customized SLA milestones appropriate to that type of service and servicing organization; some examples are the following:

- Equipment installation planning and budgeting.
- Engineering delivery of fiber, as needed.
- Detailed engineering, ordering and installation instructions.
- Various sources of equipment being shipped directly to the site of installation.
- Tracking receipt of materials and resolution of missing materials.
- Operations/installation and vendor bring-up of equipment.
- Testing of equipment and connections.
- Ensure incorporation into system inventory ready for traffic and customer hand over.

Reporting and Tracking

The TSG team develops and prepares management reports on transport implementation covering critical metrics in the transport delivery process. A few examples include:

- Track escalations and expedited requests.
- Host weekly project reviews.
- Provide weekly status reporting.

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Key Performance Indicators (KPIs)

KPIs are a pertinent part of measuring the successes of the engagement with TSG. Some central KPIs were:

- Equipment definition readiness.
- System readiness.
- Equipment received readiness.
- Installation package readiness.
- Ready for traffic.
- Facility activation date on-time completion of 95% or better.

Project Management Results

Increased Efficiency

Since 2016, our clients have leveraged The Select Group for projects to supplement their organization's core competency. They recognize building project management expertise in-house will require heavy investment in the necessary processes, procedures and tools. We enable our clients to translate the need to work on a well-executed project or change management beyond their current skill set and understand the value of integrating with a company that does it well to increase success.

Benefits of partnering with TSG for project management support include:

- Reduced time spent hiring and providing personnel oversight.
- Improved business agility for the client.
- Delivered faster return by leveraging best practices and operational strategies.
- Enabled faster rollout of new services, saving them time and money.

Are you looking for project management support?

We're ready to help.

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