

faster fiber seriesThe 'how-to' guide for
accelerating fiber rollouts**#3: Project orchestration – automating process flows**

One of the biggest problems service providers face when planning and managing large-scale fiber rollout and upgrade projects is how to deal with the logistics of managing multiple process flows across thousands of concurrent projects in an uncertain environment. Traditional project management tools are inflexible and unable to handle the large number of process flows and in-flight changes that need to be applied as the project progresses.

In this brief guide, we look at some of the issues facing such projects and how project orchestration can help overcome the challenges of a complex and changing project environment.

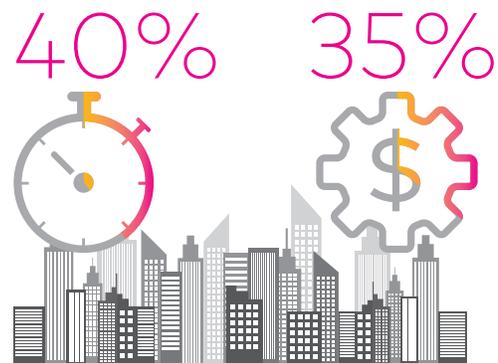
Fiber project logistics challenges

Typical fiber rollout projects involve multiple teams with hundreds of people working across several organizations, both internally and externally if contractors are employed. Project managers are continually stretched to do more with fewer people, while costs continue to rise. Project complexity increases with multiple sites, multiple parallel projects, multiple technologies, and with various network topologies and deployment logistics. Keeping everything on track and dealing with numerous exceptions and in-flight changes during the project requires meticulous attention to detail and continuous monitoring.

Business impact of traditional methods

Creating projects and task flows manually can be very time consuming and are subject to human error. Traditional manual methods of project management that lack process automation makes dealing with multiple projects, in-flight changes and real-time exceptions very

End-to-end rollout orchestration has been proven to reduce rollout time by over 40% and rollout OPEX by over 35%



difficult. This can lead to missed deadlines, poor build quality and escalating costs.

Orchestration for fiber rollout projects

Successful project management for highly complex, parallel projects involving hundreds or even thousands of personnel demands automation. But this requires a way to coordinate and drive high-volume change management processes across all of the various network inventories, asset management, activation systems, project teams and third parties in order to meet commercial objectives. Here, project orchestration holds the key. Much more than just project management,

"Project orchestration holds the key and is much more than just project management"

project orchestration applies process automation to network rollout projects to improve efficiency and reduce project time and costs.

Fiber rollout and upgrade projects are usually broken down into multiple, parallel sub-projects within a main program flow. Hundreds of separate field engineering teams work on the sub-projects, which may differ according to the network topology. For example, if we consider a fiber-to-the-home (FTTH) project, task flows for each sub-project would be predefined for specific scenarios, such as workflows for single dwellings, multiple dwelling units (MDUs), backhaul and aggregation networks.

Scale-up With Automation

With this level of complexity, it becomes much more efficient to create project plans automatically, directly from the project requirements and using predefined process templates. During project execution, each user gains access to specific information that is tailored to their individual task. Users interact with the workflow system to complete their tasks and are then automatically guided to the next task.

There are additional ways to accelerate operations. Tasks can be automated, other systems can be connected to exchange information with the orchestration layer, for example checking the status of a fiber node via the network inventory. These tasks can be completed with minimum human intervention and are especially useful where they are repetitive or predictable. Bulk network configuration and field test procedures would fall into this category.

Manual task completion can also be speeded up using guided tasks to help field engineers and other personnel to carry out specific activities with a minimum of effort and support. By applying predefined templates or "scripted" procedures for field engineers to follow and interact with, each step of the task can be tracked to ensure it is completed correctly on time. Specific instructions, checklists and 'how-to' guides can also be provided for more complex tasks like equipment connection and configuration.

The user interface may be presented in the form of user apps, which can be run on a personal tablet, notebook or smartphone to enable field use.

When in-flight changes are needed (which happens frequently in complex projects where not every eventuality can be predicted), it should be possible to apply workarounds and plan updates dynamically with minimum disruption to the project. This is sometimes known as dynamic plan management.

Project monitoring, partner management and governance

Keeping a close eye on project progress, costs and deadlines is essential. Every stage should be tracked and monitored throughout the project and high-level visual management dashboards used to provide up-to-the-minute status reports.

Third-party partners may be involved for supply of materials, sub-contract construction work and onsite installation. Different partners may be employed in different regions and it is important that each partner has easy access to the relevant site, network and project information that it needs to complete its tasks. Partners are empowered to perform self-governance, and also governance by the service provider is more effective with up-to-date information about project progress readily available.

Summary

Project orchestration offers a real solution for service providers and contractors faced with extensive fiber upgrade and rollout projects. By applying process automation to project planning and deployment, significant time and cost savings can be made and overall build quality improved. Project orchestration goes well beyond just project management, and is essential for managing complex, highly concurrent fiber deployment projects where deadlines are imperative and changes inevitable.

The next 'How-To' guide in this series will discuss high level fiber planning & cost optimization.