

Infinera Software-supported Network Migration

Enabling high-speed migration in the most complex environments

As telecommunication service providers embrace the opportunities of 5G and DAA, they see the need to move away from their legacy TDM-based networks, ramping them down or replacing them with IP-based technologies. Unlike previous migrations, which were more a matter of patching the network where needed, this migration is a full replacement of the old technology. However, the execution of this network transformation is very often hampered by the complexity of the legacy network. Infinera software-supported network migration overcomes this complexity by providing:

- Comprehensive insight into the structures of the old network
- Scenario analysis with Infinera Explorer, a platform for network analysis and process automation
- Software-enhanced automation of the migration workflow

BENEFITS OF INFINERA SOFTWARE-SUPPORTED MIGRATION

- **Transparency** with respect to current and future network structures and true capacity utilization
- **Ease of planning** due to all network information being available in one system
- **Efficiency** through workflow automation
- **Scalability** to enable high migration throughput
- **Highest quality** by avoiding human transcription errors
- Combination of the **newest software technology** and more than 30 years of networking experience

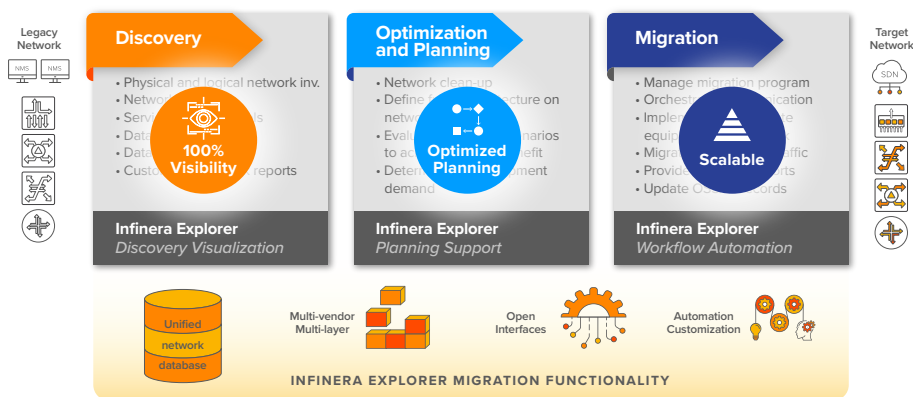


Figure 1: Infinera software-supported migration process

A SOFTWARE-SUPPORTED MIGRATION PROCESS DESIGNED TO TRANSFORM LARGE-SCALE NETWORKS

Migrating large-scale networks requires a process that consistently supports execution with a high cadence, night by night, week by week, year by year. Infinera Professional Services can leverage decades of experience in executing the most complex network transformation projects to achieve these results. For a large-scale multi-vendor network, the migration process is significantly enhanced by supplementing human resources with the migration enhancements provided by Infinera Explorer. For maximum efficiency, the Infinera Explorer platform supports three distinct phases of a network transformation program: discovery, optimization and planning, and migration execution. The discovery phase lays the foundation for scaling and automation by integrating all migration-relevant data into the Infinera Explorer database. The optimization and planning and migration execution stages are highly automated to ensure high-speed network transformation combined with unsurpassed quality.

ABOUT INFINERA EXPLORER

Infinera Explorer is the Infinera platform for network analysis and process automation. It is based on open-source software components like OpenSearch, MariaDB, and jBPM. These components are customized by Infinera Professional Services to fit the required purpose, which ranges from providing insight into the network to improving network planning. It also includes the automation of business processes. Infinera Explorer is multi-vendor capable by design and due to its lean architecture, it can easily be adapted to specific applications such as network migration support.

DISCOVERY OF MULTI-VENDOR, MULTI-LAYER NETWORKS

Discovery includes the extraction of all relevant data for both the current and future network from the customer's OSS/BSS and NMS systems. In close collaboration with the customer's network experts, this data is stitched together to cover the network parameters regarding inventory, topology, and circuit utilization. The Infinera software consulting team combines a deep understanding of transport networks with the skills necessary to extract and convert data from a multitude of host systems. These capabilities enable the team to retrieve network data even in the most complex environments, for example, extracting the data from historic Bell standard systems like TIRKS or stitching together network data from a multitude of different vendor NMSs. After integration of the network data, service providers have access to a wealth of analytical tools and reports for analyzing the network information. The first use case for this analysis is typically identifying network conditions that require cleanup, e.g., inconsistencies between the systems in use, wrongly blocked resources like unused circuits still existing in the network, or data remnants from unfinished network operations. As a typical result, Infinera Explorer helps to uncover wrongly used network resources comprising between 10% and 40% of the network, which can immediately be made available to support future migration.

MIGRATION PLANNING

Using the customizable analytics engine of Infinera Explorer, software-supported migration enables in-depth analysis of the existing and future network to examine migration priorities, for example, reducing risks by taking out end-of-life equipment first, migrating end customers to new IP-based services, or implementing strategies to efficiently reduce space and power consumption. Having defined the priorities for the migration strategy, Infinera Explorer supports the next step, which is further detailing the prioritized scenarios to create a migration schedule.

WORKFLOW AUTOMATION

Increasing the level of automation applied to migration execution has two major effects:

- It ensures the scalability of migration execution – essential to meeting target migration schedule goals
- It increases the quality of delivery by avoiding human errors and missteps in coordination

Infinera Explorer enables two primary types of automation. First is technical automation of the network configuration during the migration, for example, reading out the former configuration and, through application of rules, generating and executing the new node configuration. Second is automating the associated workflows preceding and following the migration execution. Workflow automation ranges from sophisticated tooling for progress monitoring to more simple workflow enhancements based on the migration planning data like work order generation, end customer information, site survey guidelines, or new equipment order requirements.

INFINERA SOFTWARE CONSULTING SERVICES

In addition to software-supported network migration, Infinera software consulting services can help customers to get even more out of their unified network data for utilization in day-to-day processes, for example, to support ongoing network planning and performance or capacity dashboards or to integrate with OSS/BSS systems.

With Infinera's lean and versatile Explorer software combined with our experience with live traffic migration planning and execution, you can be confident your network transformation project will be successfully accomplished on time and on budget, with minimum risk of existing customer service disruption.