

# CASE STUDY: Transport Network Planning For A Tier 1 Network Operator



## ***The Business Challenge:***

One of India's largest integrated private telecom operators with over 180 million mobile, telemedia and Digital TV customers needed a network planning solution to optimize their transport network. They faced several network planning challenges involving network deployment, end-to-end service viewing and routing, new and existing equipment modeling, and Manual Traffic Projections.

They had no "just-in-time" capacity planning and deployment capabilities and they were experiencing the limitations of manual network planning. They were unable to identify and analyze network capacity utilization patterns based on historical trends. Their use of manual traffic routing across various network layers had led to non-optimized bandwidth utilization.

They were experiencing problems with data integration and data quality in their inventory systems. They had multiple complex customization scenarios underway for a variety of telecom operators in different geographically defined areas. They had a complex telecom geography with an uneven distribution of network and service type. They were experiencing low capital productivity and OpEx inefficiencies. They had over 40 different types of equipment from 7 vendors that needed to be modeled accurately for network planning.

## ***The Network Planning Solution:***

NOCVue and its outsourcing arm, Velankani, used VPIsystems' OnePlan product to provide a solution consisting of client and server modules to address the above key challenges. This involved the following functions:

- Capacity Planning
- Coverage Planning
- Equipment Modeling
- Automated Traffic Forecasting.
- Automated equipment upgrade requirements and interfaces to the purchasing system

The solution which utilized VPIsystems OnePlan Transport predictive network analytics software started with an analysis of the requirements and understanding of the client's network and data. The solution was developed and

deployed in two phases to reduce the "Time to Deploy" period. The tasks accomplished in each phase were as follows:

### *Phase 1*

1. Support for SDH Networks
2. Greenfield/Brownfield Network Modeling
3. Capacity Planning
4. Coverage Planning
5. Equipment Modeling
6. Traffic Forecasting
7. Network Failure Analysis.
8. Traffic Aggregation/Migration

### *Phase 2*

1. Support of DWDM & ASON Networks
2. End to End Service Viewing/Routing
3. Customize Routing
  - Subtended Ring
  - Ring Based Planning
  - Clone Routing etc...
4. Customized Equipment Modeling and
5. Reports

Phase 1 offered "Out-of-the-box" features from OnePlan Transport and Phase 2 developed features involving the heavy customization of routing, equipment modeling, trending and reports.

During the second phase of this work a trending engine was designed to support the trending of services and equipment and port usage over time. This data was used to make projections for next couple of years.

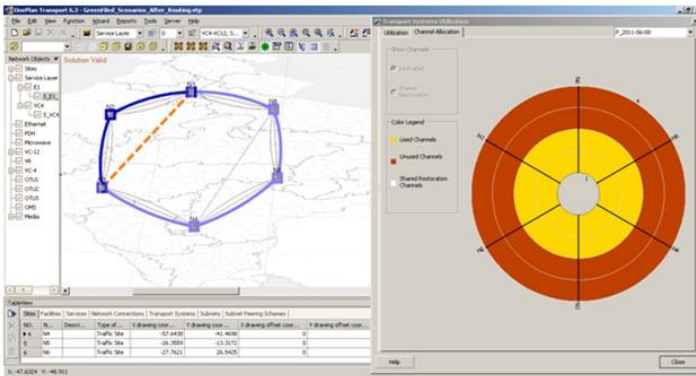
## ***The Net Result:***

This projections system has been widely used by management to predict ring or mesh usage and capacity upgrade plans. It also supported many customization functions such as, DWDM equipment modeling and routing

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functions specific to the client's networks including subtended ring, inclusive routing, clone routing and ring based planning.



The automation of network upgrade requirements lead to faster, more cost effective and more accurate capacity planning. This automation made the planning of new networks quicker and easier and met the client's requirements for rapid network deployment/commissioning. Equipment modeling helped to save direct costs by identifying and optimizing the existing cards/ports for new services. Automated traffic projections helped with management for growth planning.

Velankani also helped in conducting training and running boot camps for the client's planning community to help with the adoption of this solution