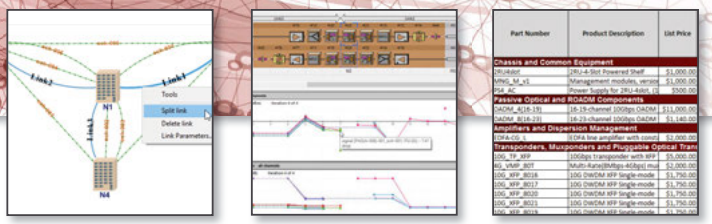
VPIphotonics
DESIGN AUTOMATION

Link Designer



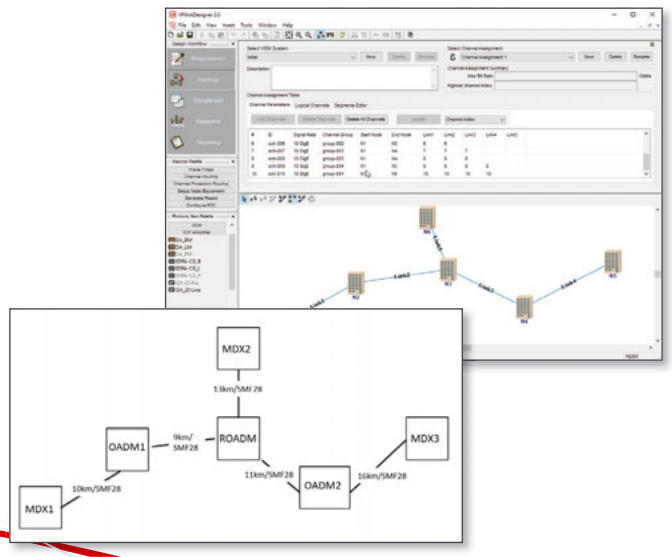
Simplified & Comprehensive Link Engineering

For those who design and configure links in optical networks and subnetworks, *VPIlinkDesigner™* is a cost-effective, easy-to-use tool which enables fast and optimum network design and provisioning.

VPIlinkDesigner provides an intuitive graphical interface and powerful algorithms for easy equipment placement and a systemwide performance assessment. It supports equipment configuration of networks with linear, branched, hub, ring and mesh topologies and offers detailed cost and performance calculation and reporting.

Whereas hours could be spent implementing a design by using a spreadsheet, *VPIlinkDesigner* enables the same network to be designed in minutes.

VPIlinkDesigner is ideal for carriers, equipment vendors, and any organization which may have campus-type or private networks. Utility companies, financial institutions, research organizations, and government organizations will benefit from the use of this tool. It is also ideal for system integrators who may be designing network solutions for custom applications.



Benefits

- ✓ Enables optical link engineering, with easy equipment placement and configuration
- ✓ Systemwide performance analysis including fiber impairments and equipment limitations
- ✓ Uniform results across an organization by using controlled equipment libraries and link design methodologies
- ✓ A future-proof platform utilizing a fully expandable technology-agnostic approach
- ✓ Built-in reporting tools providing BOM and performance reports

Link Designer

What Can VPIlinkDesigner Do for You?

VPIlinkDesigner overcomes approaches to network design that are tedious and cumbersome, such as the use of spreadsheets. It can be used to design many types of networks, ranging from simple point-to-point to complex ring and mesh topologies.

VPIlinkDesigner will automatically calculate network performance, while placing elements such as amplifiers, dispersion compensation modules, OADMs and WSS-based ROADMs where needed. It will also assist in defining roadmaps for equipment layouts, as well as provide support for technical sales activities.

VPIlinkDesigner provides

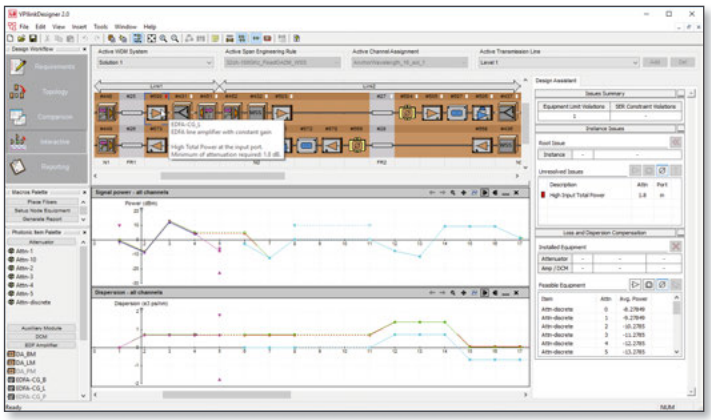
- A replacement and upgrade for the use of spreadsheets for link design
- Thorough performance evaluation of power, dispersion, OSNR, FWM, SPM, XPM and SBS for all channels, the moment that elements (e.g., amplifier, DCM) are placed
- Tools assisting with design tasks such as channel allocation, TRx placement, amplifier gain setting and padding, as well as the insertion of regeneration points

VPIlinkDesigner is intended for use by

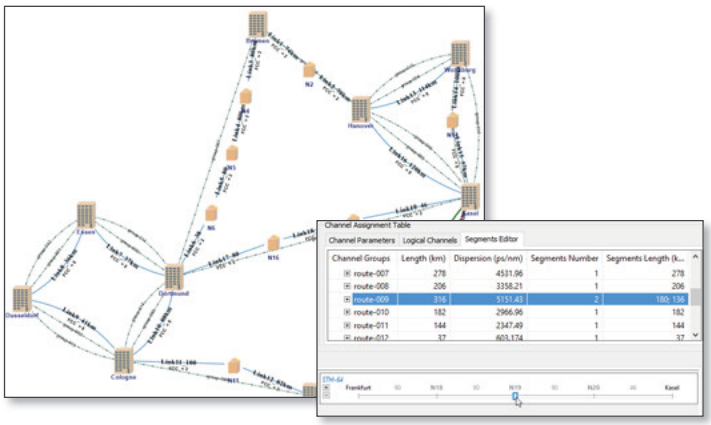
- Universities and research institutions with several campuses on a network
- Utility companies with multiple facilities on a network
- System integrators performing custom network design
- Internet service providers and CLECs with networks on exclusive or leased fiber networks
- Government entities and financial institutions with multiple locations on a network

The Design Process

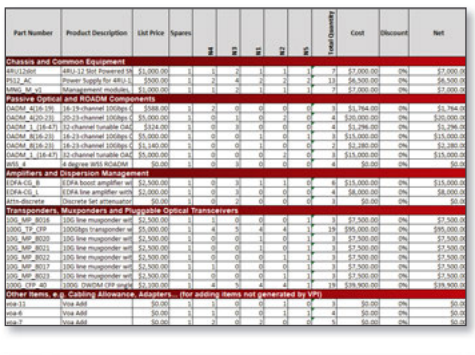
1. Establish topology and facility placement
2. Select the equipment libraries to be used
3. Build network design solution
4. Assess network performance and rank solutions by cost or other metrics
5. Generate performance reports, bills of materials, etc.



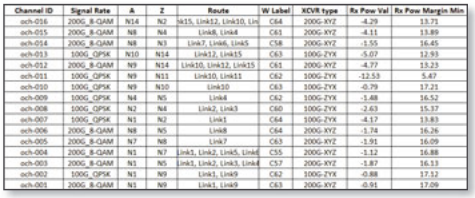
User interface showing component placement and performance graphs



Optical Channel Assignment and Topology editor



Bills of Materials



Channel Budget Summary

Product Features

Capabilities

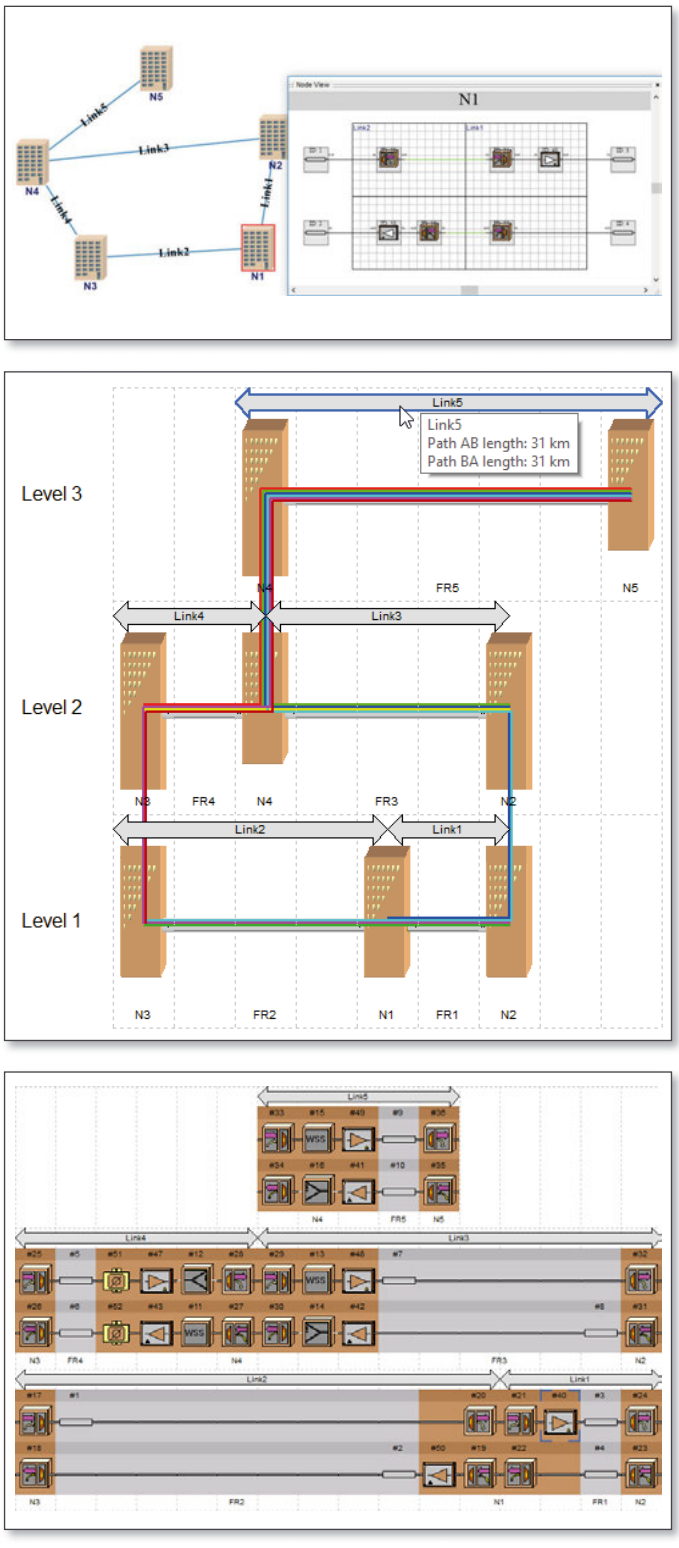
- Creates linear, branched, hub, ring and mesh topologies
- Enables visibility of regeneration points
- Supports OADMs, WSS-based ROADMs, banded designs, transponders
- Automated wavelength allocation
- Placement and configuration of passive and active components
- Generates BOM including racks, power supplies
- Enables performance analysis
- Deals with fiber impairments

Easy-to-use graphical user interface

- Intuitive interface provides process flow, facilities and equipment view
- Macros eliminate repetitive or complex tasks such as routing primary and protecting channels
- Topology Editor permits visualization of channel parameters such as route, bit rate and length
- Equipment is shown inside its facility
- Display detailed component connections including parallel structures (banded etc.) inside facilities

Intuitive display of performance results

- Metrics are plotted as longitudinal variations along the route or as spectra at each location
- Metrics are updated instantly to reflect any change in the design
- Limits and uncertainties are plotted, for example, the receiver sensitivity and overload



Topology in Graph, Level, and Photonic view

VPIlinkConfigurator & Design Services

As the volume and complexity of designs increase, upgrading to *VPIlinkConfigurator* may be warranted. This upgrade offers more design tools, a scripting platform for customizable user macros and broader list of equipment templates. Furthermore, *VPIlinkConfigurator* offers fully automated and cost-optimized placement of amplifiers and dispersion compensation elements.

VPIphotonics provides customization and programming services to help integrate *VPIlinkConfigurator* into your engineering and sales process.

Services include, for instance, the implementation of

- Custom equipment libraries
- Macros for the placement of passive equipment including custom control interface and rule sets
- Synthesis algorithms for link loss and dispersion compensation adhering to custom design rules
- BOM and performance reports according to company standards

VPIphotonics also offers design services using these tools to accomplish your network designs on a contractual basis.

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