

# STEELCENTRAL NETPLANNER

## PREDICTIVE MULTI-LAYER NETWORK PLANNING

### BUSINESS CHALLENGE

#### Growth and Upgrades

- » Which links will I need to upgrade in 3 months?
- » How will my new corporate applications affect utilization levels?

#### Network Services

- » Which VPNs do I have deployed on each of my links?
- » How much topology utilization is attributable to VPNs?

#### Network Resiliency

- » If I have a fiber cut which portions of my network will go down?
- » Can I optimize, hence downgrade, my network while maintaining responsiveness?

#### Balancing Performance vs. Cost

- » Can I simplify MPLS TE on my service provider grade network?
- » How does my route optimization affect network performance?

### THE RIVERBED SOLUTION

Riverbed® SteelCentral™ NetPlanner enables planning and design of multi-technology, multi-vendor networks with complete lifecycle support - including network data import, baseline analysis, cost-effective network change planning, survivability, and configlet generation for push to network devices. NetPlanner's unique ability to model the behavior of the entire network and the supported applications:

- Automates capacity planning, survivability analysis, and traffic engineering workflows combined with comprehensive, business-relevant reporting
- Delivers data-driven predictions for validating network changes due to growth, technology migration, and pre-deployment analysis before deploying to the production network
- Supports planning for traffic trends, technology rollouts and key initiatives such as data center migration, deployment of Unified Communications, VPN, and IPv6 migration
- Improve network survivability by predicting the impact of node, link, or shared risk group failures and planning protection strategies

### KEY BENEFITS

NetPlanner help carriers, ISPs, government agencies, and enterprises facilitate service and technology deployments, meet service level agreements, maximize existing network investments, and obtain significant ROI. NetPlanner's in-depth analysis of "what-if" scenarios can compare pre- and post-change impact on network infrastructure from a performance perspective.

- Cost-effectively plan network requirements to support the deployment of new applications and technologies such as VoIP and IPv6
- Right-size network capacity to support projected traffic growth
- Minimize risk by evaluating different network architectures and technology migration plans
- Achieve service level compliance through QoS and traffic engineering
- Improve network survivability and security
- Accelerate troubleshooting of routing and network configuration problems

## KEY FEATURES

- Automatically create a high-fidelity network model encompassing topology, devices, configurations, and traffic using configuration and operational data from the production environment and other network management systems
- Leverage best-in-class analytics to evaluate a wide range of “what-if” scenarios in a virtual environment without making changes to the production network routing such as VPN or QoS configuration
- Analyze network capacity usage to identify trends, threshold violations, inefficiencies, atypical behavior, and the timing of future upgrades to links and tunnels to meet service level objectives
- Automatically design and optimize network topologies based on user-configurable priorities for cost, resiliency, and performance-related criteria such as link utilization and reduced delay
- Visualize all VPN deployments, their underlying topology, traffic flows, and relevant KPIs from a single browser dedicated to VPN analysis
- Import flow information from Riverbed® SteelCentral™ NetProfiler for realistic traffic flow information when performing capacity analysis and planning

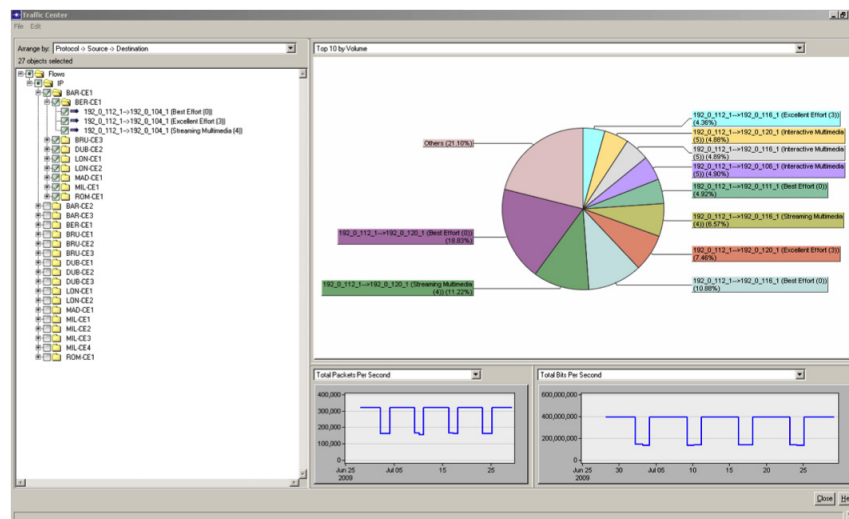
## UNIQUE CAPABILITIES

- Unlike other vendor solutions, NetPlanner's high fidelity network model combines multiple sources of data to provide a more complete understanding of the network and deliver more accurate predictions of network behavior and performance
- NetPlanner supports a wider range of out-of-the-box analyses, in both breadth and depth, than other vendor solutions. The high level of detail in the network model and customizations allow planning with minimal network impact
- NetPlanner's reporting capabilities are far superior to competitive products, providing the hard data to make calculated network planning decisions instead of just recording uncorrelated metrics
- Unique multi-layer planning and analysis capabilities with integration to SteelCentral NetProfiler and OpticalPlanner provide capabilities superior to nonintegrated point products

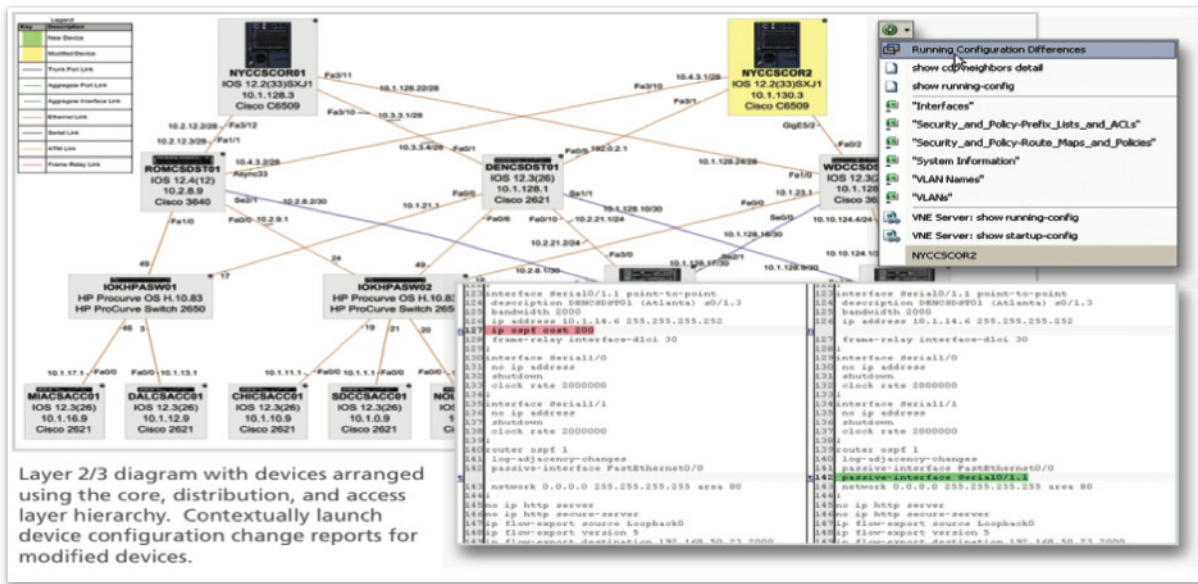
## FEATURES FOR SERVICE PROVIDERS

NetPlanner provides the following additional capabilities for service providers:

- Out-of-the-box auditing of BGP, IS-IS, OSPF, MPLS, and VPN configurations
- Service summary reports describing configured L2/L3 VPNs and VPLS instances
- IPv6 readiness assessments to evaluate a network's ability to support required features prior to migration or deployment
- Specialized rules to verify subscription/oversubscription thresholds based on client interfaces and services
- BGP diagram showing neighbor relationships with internal and external peers and route reflectors
- IPv6 topology diagrams



NETPLANNER TRAFFIC CENTER ALLOWS YOU TO ANALYZE AND EDIT TRAFFIC AND RUN WHAT-IF ANALYSES, WITH FLEXIBLE VISUALIZATIONS



CREATE RICH NETWORK DIAGRAMS IN MS VISIO FOR DOCUMENTATION AND DISTRIBUTION WITH THE STEELCENTRAL NETMAPPER FOR NETPLANNER MODULE

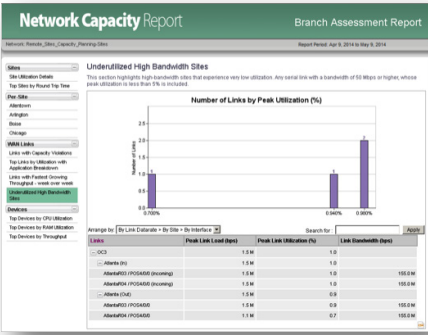
# Survivability Analysis

## Survivability Analysis Report

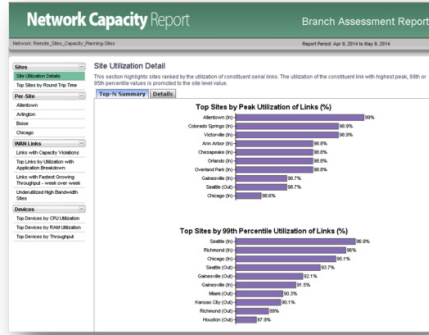
Project: SPGNP\_Demo
Scenario: Survivability Analysis with FRR\_Before

<p><b>Executive Summary</b></p> <hr/> <p><b>Network Health Summary</b></p> <ul style="list-style-type: none"> <li><span style="color: red;">■</span> Worst Case Failures</li> <li><span style="color: orange;">■</span> Breakdown by Performance Metrics</li> </ul> <hr/> <p><b>Network Performance Details</b></p> <ul style="list-style-type: none"> <li><span style="color: blue;">■</span> Affected Flows</li> </ul> <hr/> <p><b>Element Survivability</b></p> <ul style="list-style-type: none"> <li><span style="color: green;">■</span> Flows</li> </ul> <hr/> <p><b>Appendices</b></p> <ul style="list-style-type: none"> <li><span style="color: purple;">■</span> Performance Thresholds</li> </ul>	<h3 style="margin: 0;">Impact Summary</h3> <p style="margin: 5px 0;">Out of the 19 failure cases that were analyzed, there were 1 cases (5% of total) that had critical impact on the network, while there were 1 cases (5% of total) that had moderate impact.</p> <p style="margin: 5px 0;">There were 17 cases (89% of total) that had only benign or no impact on the network performance.</p> <p style="margin: 5px 0;">More information on the most severe failures can be found in the Worst Case Failures section.</p> <div style="text-align: center; margin-top: 20px;"> <table border="1" style="margin: 0 auto; border-collapse: collapse;"> <thead> <tr> <th>Impact Category</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>No Violations</td> <td>17</td> <td>89.47%</td> </tr> <tr> <td>Critical Violations</td> <td>1</td> <td>5.26%</td> </tr> <tr> <td>Moderate Violations</td> <td>1</td> <td>5.26%</td> </tr> </tbody> </table> </div>	Impact Category	Count	Percentage	No Violations	17	89.47%	Critical Violations	1	5.26%	Moderate Violations	1	5.26%
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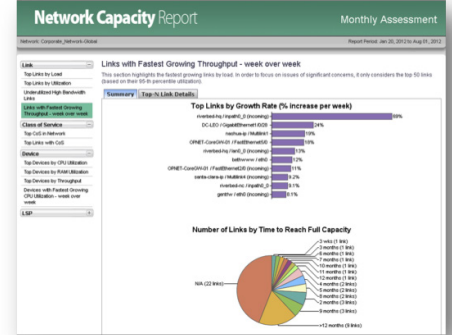
NETPLANNER SURVIVABILITY ANALYSIS REPORT PROVIDES A HIGH-LEVEL VIEW OF NETWORK SURVIVABILITY, WITH THE ABILITY TO DRILL DOWN INTO THE DETAILS TO PIN POINT WHICH PARTS OF THE NETWORK NEED ATTENTION



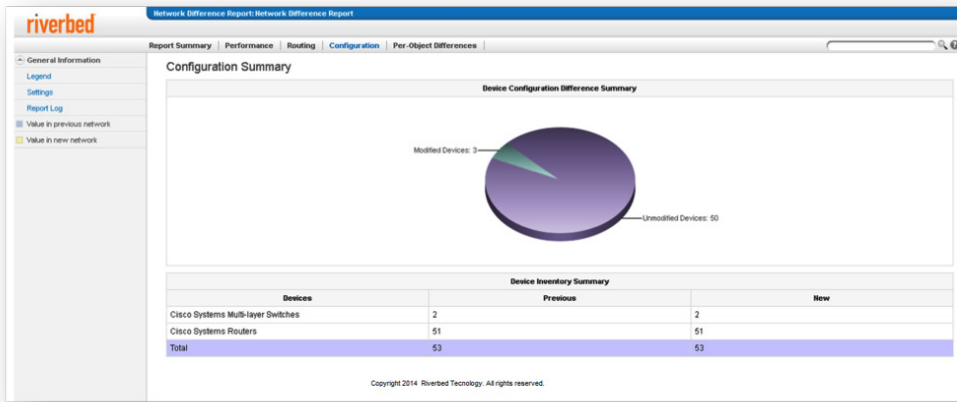
BRANCH ASSESSMENT REPORT PROVIDES SITE-LEVEL CAPACITY INFORMATION ON UTILIZATION METRICS FOR SEPARATE SITES



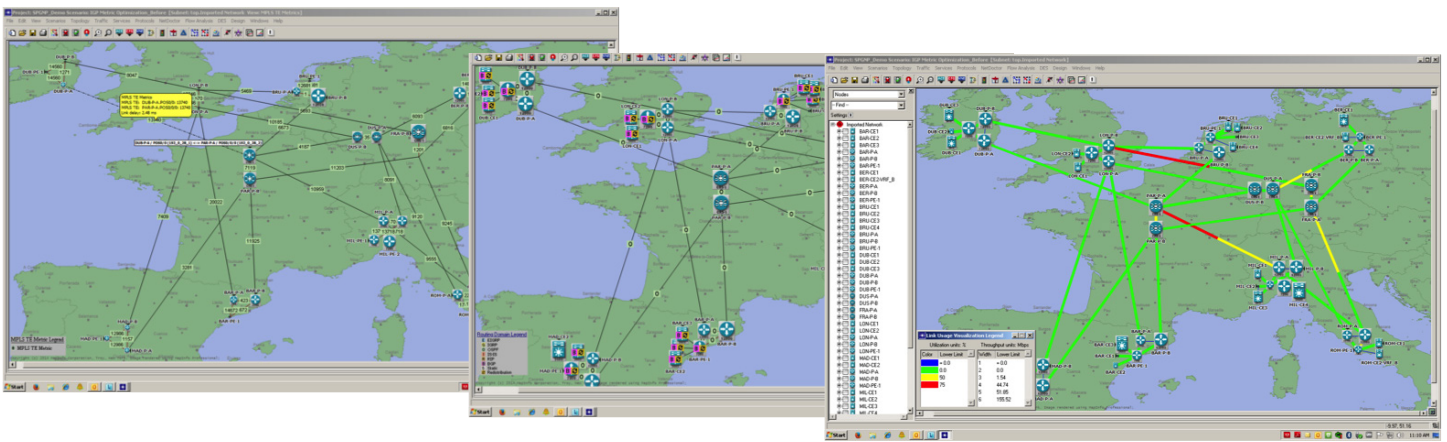
REDUCE THE AMOUNT OF MONEY SPENT ON UNNECESSARY INFRASTRUCTURE WITH REPORTS ON UNDERUTILIZED HIGH BANDWIDTH SITES



PERIODIC REPORTS MAKE PLANNING EASY BY TELLING YOU EXACTLY WHICH PARTS OF THE NETWORK TO FOCUS ON IN THE FUTURE



NETWORK DIFFERENCE REPORT PROVIDES A SUMMARY OF THE CHANGES MADE TO THE NETWORK - FOR PERFORMANCE, ROUTING, CONFIGURATION, AND PER OBJECT DIFFERENCES, AS WELL AS HIGHLIGHTING ANY NEEDED CHANGES IN PERFORMANCE



RICH SET OF NETWORK VISUALIZATIONS ALLOW YOU SEE WHAT IS IN YOUR NETWORK AT A GLANCE. EXAMPLES SHOWN HERE ARE LINK UTILIZATION, MPLS TE METRICS AND IPV4 PROTOCOL VISUALIZATIONS

## TESTIMONIALS

*"[Riverbed SteelCentral NetPlanner] avoided the downtime of our critical applications by designing the network with resiliency to outages."*

– Senior Network Architect,  
Financial Services Company

*"We have finally become proactive in dealing with network capacity and performance issues, since we started using Network Planner."*

– IT Manager, Pharmaceutical Company

*"The use of [Riverbed] across our radio, core and IP networks gives us the ability to model all facets of end-to-end customer experience with a single tool. Optimizing customer experience is the priority for the business, and the use of a single tool minimizes the investment in time and money required to achieve this."*

– Forecasting and Capacity Planning Manager,  
Global Service Provider

*"Multi-layer network optimization is important to reduce transport cost, increase network reliability, perform network dimensioning, and generate shared risk groups. These are traditionally hard problems to solve, but using [NetPlanner/ OpticalPlanner Module for SteelCentral NetPlanner] makes multi-layer optimization possible. I have been using Riverbed's products for many years and [NetPlanner] is the best product out there."*

– Principal Network Architect,  
North American MSO

## RELATED PRODUCTS

### SteelCentral NetProfiler

SteelCentral NetProfiler provides an end-to-end network and infrastructure view that helps you manage performance through the lens of the application to easily troubleshoot and find the root cause of network and application issues before your end-users ever know there's a problem.

### OpticalPlanner Module for SteelCentral NetPlanner

OpticalPlanner designs resilient, cost-effective DWDM and SONET/SDH/ OTN networks. OpticalPlanner integrates with SteelCentral NetPlanner for IP/MPLS-over-optical network planning, providing unique multi-layer traffic engineering capabilities to optimize network capacity and reliability.

### SteelCentral NetCollector

Industry-leading deep network discovery to acquire comprehensive data from the network. Riverbed® SteelCentral™ NetCollector acts as the central topology, traffic, configuration, and events data repository and event integration engine for Riverbed's SteelCentral Network Planning and Configuration Management (NPCM) suite.

### SteelCentral NetAuditor

Automated network documentation, auditing, security, and policy compliance. Riverbed® SteelCentral™ NetAuditor helps ensure network integrity, security, and policy compliance by performing automated network-wide configuration audits, analyzing an up-to-date model of your network to diagnose device misconfigurations, policy violations, configuration inefficiencies, and security violations. NetAuditor's Provisioner module can push NetPlanner-generated configurations into network infrastructure devices.

### NetMapper Module for SteelCentral NetPlanner

Generate layer-2, layer-3, and logical network diagrams, with support for exporting HTML and MS Visio diagrams, including the ability to highlight network differences in diagrams.

## ABOUT RIVERBED

Riverbed Technology, Inc., at more than \$1 billion in annual revenue, is the leader in Application Performance Infrastructure, delivering the most complete platform for location-independent computing. Location-independent computing turns location and distance into a competitive advantage by allowing IT to have the flexibility to host applications and data in the most optimal locations while ensuring applications perform as expected, data is always available when needed, and performance issues are detected and fixed before end users notice. Riverbed's 25,000+ customers include 97% of the *Fortune* 100 and 96% of the *Forbes* Global 100. Learn more at [www.riverbed.com](http://www.riverbed.com).