



THE ADAPTIVE NETWORK USE CASES

IP/MPLS Service Analysis

ROUTE OPTIMIZATION AND ANALYSIS



Challenge

Most service providers have very little visibility into their IP/MPLS networks. The tools they typically use only offer partial views of the network's current state, so the provider has minimal knowledge of how routing behavior is affecting service delivery and the quality of the customer experience. They're in the dark. To make things worse, once there is an issue, troubleshooting becomes even more complex as the routed infrastructure changes intermittently and without warning. It's like trying to hit a moving target. The result? Failure to meet SLAs, unacceptable time to resolution for trouble tickets, and increasing customer dissatisfaction.

Solution

Part of Ciena's Adaptive Network, Blue Planet® Route Optimization and Analysis (ROA) builds an up-to-the-minute virtual map of the IP/MPLS network, so users can see exactly how routed traffic is traversing the network and precisely where performance is abnormal. Sub-optimal conditions missed by traditional tools can quickly be identified to correct possible service delivery issues and to allocate network resources more efficiently.

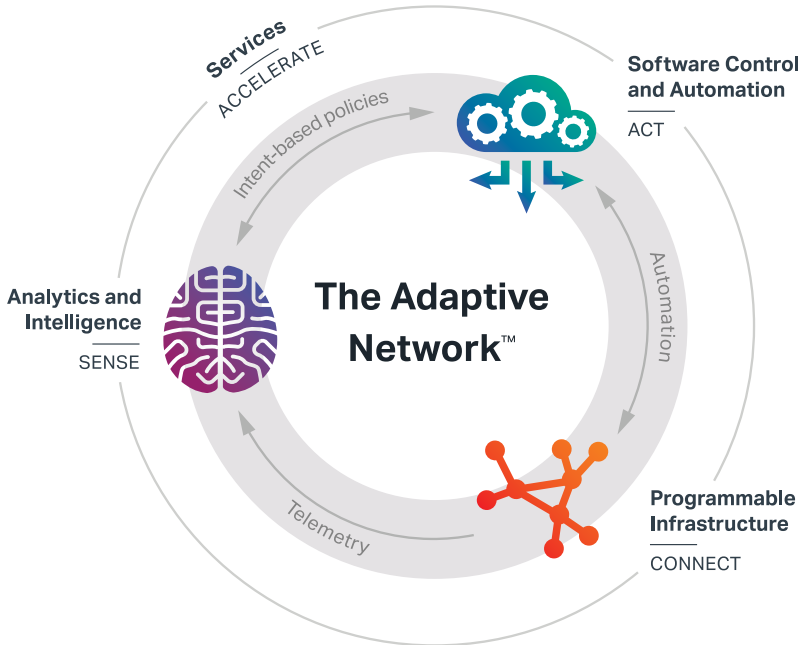
Blue Planet ROA works by capturing real-time network telemetry from the devices in IP/MPLS networks as well as from network orchestrators and SDN controllers. All routing events are noted by passively monitoring the IGP and BGP routing protocols to maintain an always-current Layer 3 topology model. Traffic flow records and performance metrics are collected and mapped to the routing data to provide path-aware visibility into service delivery. The route optimization data can be used to establish historical baselines for alert triggers, generate traffic matrices for different times and workloads, and enable forensic analysis and what-if modeling.

Benefits

Ciena's Adaptive Network, leveraging the Blue Planet ROA solution, allows service providers to:

- Map the network traffic to visualize how network routing paths affect SLAs
- Resolve transient and intermittent IP/MPLS network performance problems much faster
- Avoid unintended service impacts from network changes
- Make more informed infrastructure investments
- Accelerate the design and provisioning of new, differentiated services
- Provide a better customer experience

Taking an Adaptive Network approach



- 1 Analytics and intelligence**
 Blue Planet Route Explorer virtual appliance participates in the IP control plane, collecting all IGP and BGP routing events in real time
- 2 Analytics and intelligence**
 Blue Planet Route Explorer displays topology and routing path changes to enable IP/MPLS network visualization and monitoring, forensic analysis, and what-if modeling
- 3 Analytics and Intelligence**
 Blue Planet ROA's Traffic Explorer® module analyzes flow records for faster problem diagnostics and ROA Performance Explorer uses SNMP-based performance data for sophisticated root-cause analysis
- 4 Software Control and Automation**
 Blue Planet Explorer Traffic Engineering offers automated calculation and configuration of traffic engineered tunnels to optimize traffic and relieve congestion
- 5 Software Control and Automation**
 Blue Planet Explorer Path Provisioning creates ideal service paths based on defined business policies and current network performance, then passes this information to BP Multi-Domain Service Orchestration (MDSO)
- 6 Software Control and Automation**
 Blue Planet MDSO orchestrates provisioning of new service paths across the programmable infrastructure
- 7 Ciena Services**
 Consulting services provide ongoing improvements to assess the performance of the network and make recommendations

Introducing the Adaptive Network Vision

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