

## DATA SHEET

# Explorer Path Provisioning

The Explorer Path Provisioning application is a key component of the Blue Planet® Route Optimization and Assurance (ROA) product family. Like the Explorer Traffic Engineering application, it leverages the ROA's vendor-agnostic IP/MPLS telemetry and analytics to give network operators powerful automated service provisioning capabilities. Using the Explorer Path Provisioning application, service providers can quickly and easily create a service catalog of IP/MPLS transport services which can then be automatically provisioned for subscribers using an SDN controller or orchestrator like the Blue Planet Multi-Domain Service Orchestration (MDSO). Constraints can also be applied to these service paths to address a variety of use cases, such as path diversity, low latency, disaster recovery, and data sovereignty.

For most communications service providers, provisioning new service paths based on subscriber demands can take days or even weeks. Typically, the network provider will use offline planning tools to compute the best possible paths based on the constraints required by the subscriber. Then, during a maintenance window, the Provider Edge (PE) devices are configured with the new paths in the production network. This time-consuming process defeats the rapid service provisioning that subscribers typically want.

The Explorer Path Provisioning application gives network providers greater agility, enabling customer requests for new services to be fulfilled in minutes with a few mouse clicks. The process can be fully automated, if desired, using an SDN controller or orchestrator such as Blue Planet MDSO. The Explorer Path Provisioning application works with physical and virtual devices from all major network equipment vendors as well as popular SDN controllers.

### Defining IP/MPLS transport services

The Explorer Path Provisioning application allows network providers to create a catalog of IP/MPLS transport services using an intuitive Web user interface. Each service can be defined with its own priority and optimization algorithm to be used for

### Benefits

- Easily create a catalog of IP/MPLS transport services to fulfill subscriber requests
- Provision specialized paths based on subscriber requirements in minutes
- Increase business agility and accelerate time to revenue for new services
- Improve operating efficiency by automating service path computation and provisioning
- Leverage existing assets by integrating the ROA products with other management systems

calculating the path, including lowest delay, lowest number of hops, shortest IGP, or shortest TE metric. Additional constraints can also be specified, if required. These include the use of RSVP-TE or Segment Routing tunnels, and path diversity and protection options, such as the inclusion or exclusion of nodes, links, interfaces, SRLGs, and user-specified affinities with masks.

### Assigning services to subscribers

When a subscriber requests an IP/MPLS service path between two end points with a specific set of constraints, the operator simply selects the matching service from the catalog and associates it with the subscriber. The operator can then provision the new path by selecting the source and destination PE devices and specifying the required bandwidth. If needed, additional constraints described earlier may also be specified when provisioning the path for this subscriber.

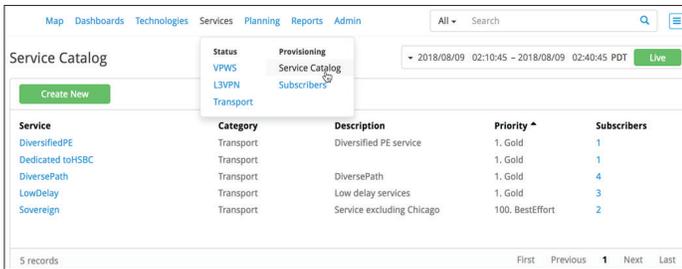


Figure 2. Catalog of services based on various constraints

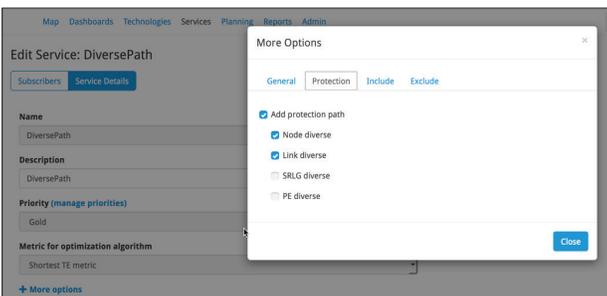


Figure 3. Specifying service path constraints

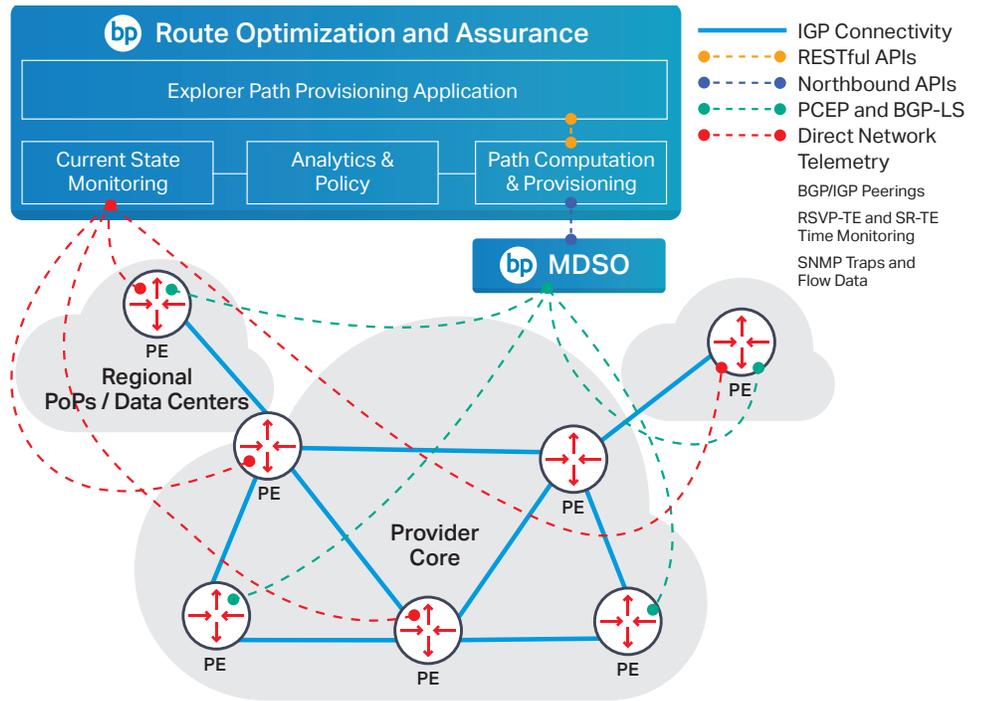


Figure 1. Explorer Path Provisioning with Blue Planet Route Optimization and Assurance product

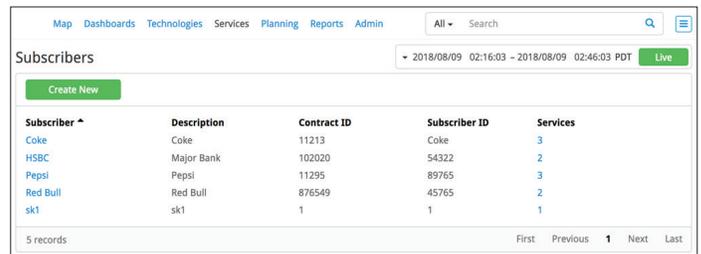


Figure 4. Inventory of subscribers and services

### Automating path provisioning

Once the operator has provided the service path constraints and endpoints, the Explorer Path Provisioning application's path computation and optimization engine calculates the best path(s) for the service using its real-time and historical routing telemetry and analytics. It presents the results within seconds, displaying a mini-topology map of the end-to-end path(s), including each hop. If the path computation engine determines that no path is available to satisfy the supplied constraints, the operator can adjust them and re-submit the request.

When the operator is satisfied with the suggestion, the new path may be activated with a click of the mouse. Blue Planet ROA passes the configuration data to the Blue Planet MDSO or any SDN orchestration software via published APIs for automated provisioning. The network change will be detected immediately by ROA's real-time routing data collection, completing the closed-loop automated provisioning lifecycle.

Learn more about Blue Planet MDSO [→](#)

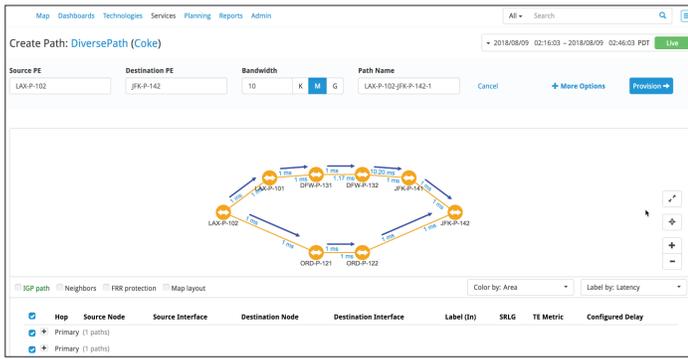


Figure 5. Mini-topology map shows results of diverse paths service request

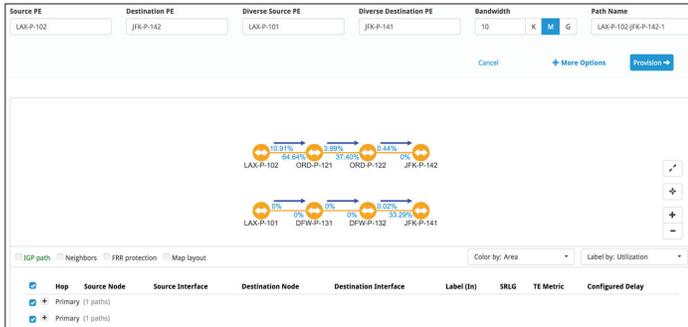


Figure 6. Results of diverse PE paths service request

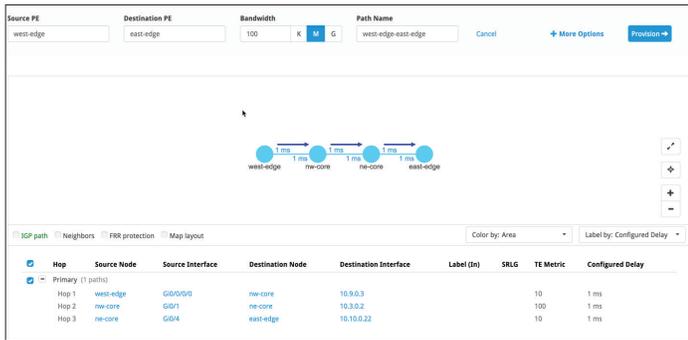


Figure 7. This low latency VPN request can be configured automatically by clicking the Provision button

## Integration with Operations Support Systems and service orchestrators

The Explorer Path Provisioning application may be integrated with existing Operations Support Systems (OSS) and orchestration platforms via open REST APIs supplied with ROA. For example, a subscriber request with specified service constraints could be passed by an OSS to the Explorer Path Provisioning application via the ROA APIs. The application would compute the best path and return the results to the OSS via the APIs for provisioning—with no human touch points.

## Increasing competitiveness

The speed with which the Explorer Path Provisioning application provisions new service paths can increase business agility for service providers and create differentiation in competitive markets. At the same time, engineers are freed from repetitive, time consuming planning and configuration tasks allowing them to focus on more strategic projects.

Some operators may be reluctant to fully automate service path provisioning, preferring to adopt automation more gradually. The Path Provisioning application allows for human oversight and control at each step so that the process can be thoroughly vetted.

Blue Planet ROA product and Explorer Path Provisioning applications are future-proof investments. Network operators can use them today to achieve their network service assurance goals and be confident that the technology is fully ready to support their network transformation initiatives of tomorrow.

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