

# CORE NETWORK MODERNIZATION ASSESSMENT

## Service Overview

*Significant increases in data traffic coupled with dynamic and unpredictable application growth provide key challenges for service providers as they evolve the network to meet new demands. Looking for clear economic drivers for moving to the next-generation core network architecture and platforms, they are faced with the challenge of selecting the most cost-effective solution from a number of available network evolution scenarios.*

*Juniper's Core Network Modernization Assessment service helps develop flexible network models, designs, and configurations to replicate various design options, scaling patterns, and possible migration steps across the different network evolution scenarios.*

## Service Description

Through Juniper's Core Network Modernization Assessment service, you receive access to Juniper Networks Professional Services experts, who can help you develop a modeling framework to quantify the value proposition of your different network evolution scenarios. These can then be integrated with business modeling to analyze and compare cost-effectiveness by quantifying their associated capital expenditures (CapEx), operational expenses (OpEx), and any potential new sources of revenue generation associated with the various scenarios. A total cost of ownership (TCO) comparison as part of the service deliverable can then be constructed that enables the network operator to select the most optimized and cost-effective approach to evolve the network as dictated by business imperatives.

The scenarios addressed in the modeling framework are as follows:

- **Present Mode of Operation (PMO)**—This scenario extrapolates the mode of growth on current operational architecture and platforms as driven by service and traffic demands.
- **Future Mode of Operation (FMO)**—These are evolution scenarios where the network growth is facilitated by new architecture and platform options driven by traffic and service demands.

These network evolution scenarios are first defined, and then followed by the introduction of network modeling and design conducted for these scenarios. The Core Network Modernization Assessment is offered in the following phases:

- Requirement gathering and design options identification.
  - Capture and define network architecture currently in production
  - Capture and define services and traffic forecasts, inbound/outbound routing distribution, and migration control parameters as inputs to the network design
  - Understand fast convergence techniques used in the current network architecture and its impact on services and traffic flows under normal and failover modes
- Definition of up to three FMO scenarios under evaluation. The assumption here is that various FMO options exist with sufficient details to facilitate a clear analysis and create a trend analysis.
- Capture and define network architecture options employed in the various evolution scenarios
- Build the network model that simulates the traffic growth for the network and recommend changes to the architecture as outlined in the FMO scenarios to accommodate the projected growth, identify scaling issues, and identify potential areas of failure. From this model, you can capture network transport costs that outline equipment and CapEx overhead for the entire network extrapolated for each year in the evolutionary period to derive a yearly,

cumulative list of equipment and CapEx needed, and a list of network links between various types of network nodes that are required to carry the network traffic.

The service is limited to not more than three traffic growth scenarios (any more than three will be custom quoted). Typically, two workshops are held at your site or via phone, and a final presentation of the results is then provided.

### Features and Benefits

Key deliverables of the Core Network Modernization Assessment service are:

- Provide a clear report modeling the network that includes current and up to three future modes of operations
- Give you the ability to clearly understand the required network and device capacity that will enable you to achieve the expected FMO
- Provide an insight into techniques and architectural changes that your network may employ as part of the FMO in the network evolution
- Help you design and devise a clear strategy in employing appropriate techniques to aid in traffic engineering (both tactical and strategic) in your network

This service is designed to provide you with a clear insight into evolving the network as well as guidance into important aspects of choosing the right platform, architecture, traffic engineering, and trend analysis.

### Juniper Networks Professional Services

As leaders in networks and security, our Professional Services Consultants and engineers are uniquely qualified to assist service providers in designing, implementing, and optimizing network solutions. Our team appreciates the complexities and the subtleties inherent in large-scale internetwork design and can assist, or provide customized and integrated “turn-key” solutions.

Our process is to apply appropriate efforts and resources to analyze the network from an end-to-end perspective. This allows the Juniper consultants to review the existing network and give advice about solutions or specific fixes to deploy. Once the assessment is complete, our Professional Services team can deliver and implement recommended solutions.

Juniper Networks Professional Services helps accelerate your network's time to value, bringing revenue generating capabilities online faster for bigger productivity gains, faster rollouts of new business models and ventures, greater market reach, and higher levels of customer satisfaction. Your onsite staff will work closely with Juniper specialists, building operational capabilities and reducing your exposure to IT risks. As a result of our previous experience involving hundreds of networks around the world, Juniper Networks Professional Services is uniquely qualified to help customers design, implement, and optimize their networks for confident operation and rapid returns on infrastructure investments. These professionals understand today's Internet demands and those that are just around the corner—for bandwidth efficiency, best-in-class security, solid reliability, and cost-effective scaling.

The use of Juniper's consultants also avoids the requirement for you to have the necessary technical and evaluation skills in-house. The evaluation can be completed faster as you are not forced to wait until internal resources become available, nor do you have to address the issue of conflicting project priorities.

### Juniper Networks Services and Support

Juniper Networks is the leader in performance-enabling services that are designed to accelerate, extend, and optimize your high-performance network. Our services allow you to maximize operational efficiency while reducing costs and minimizing risk, achieving a faster time to value for your network. Juniper Networks ensures operational excellence by optimizing the network to maintain required levels of performance, reliability, and availability. For more details, please visit [www.juniper.net/us/en/products-services](http://www.juniper.net/us/en/products-services).

### Ordering Information

To order the Core Network Modernization Assessment Service, or for additional information, please contact your Juniper sales representative. Before the service begins, a statement of work (SOW) will be created outlining the scope of the project.

## About Juniper Networks

Juniper Networks brings simplicity to networking with products, solutions and services that connect the world. Through engineering innovation, we remove the constraints and complexities of networking in the cloud era to solve the toughest challenges our customers and partners face daily. At Juniper Networks, we believe that the network is a resource for sharing knowledge and human advancement that changes the world. We are committed to imagining groundbreaking ways to deliver automated, scalable and secure networks to move at the speed of business.

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