



## proNX™ SERVICE MANAGEMENT SUITE

Product Overview – proNX Service Manager



### Service-Centric Network Management Concept

Converged packet optical networks are the most efficient answer to the growing demand for bandwidth-intensive personal and business applications. To deliver their full benefits, these networks require precise, sophisticated management, with technical staff proficiency in multiple technologies at multiple layers of the network. That's often a tall order, especially as the consumption of available network resources and a converged L0/1/2+ service delivery infrastructure is transforming the way services are provisioned and monitored.

To get a handle on the full picture, network operators need to visualize their service delivery infrastructure from a service-centric point-of-view—mitigating the complexity of their network technologies and gaining the ability to augment their capacity, provision new connections and change their service performance characteristics with ease.

By adopting a customer-oriented view of what's being delivered, providers can expedite service set-up and deal effectively with disruptions, increasing customer satisfaction and minimizing churn. Service-centric management minimizes network complexity,

blends service and capacity provisioning into a single exercise, and allows network operations personnel to rapidly deliver services even if they have minimal technology understanding or familiarity with platform-management softwares.

This Service-Centric Management approach bundles information comprehensively to improve providers' understanding of their services, the resources that deliver them, and their customers.

■ **Service Provisioning:** Accelerate, simplify and standardize service configuration

■ **Service Discovery & Visualization:** Gain a complete, streamlined understanding of services offered

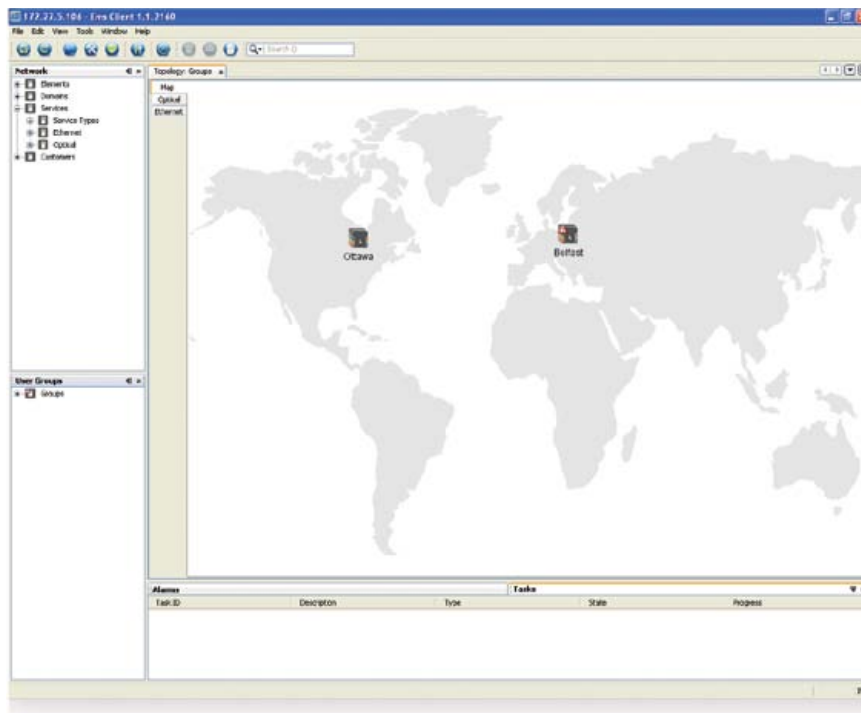
■ **Service Monitoring and Troubleshooting:** Accelerate response times through enhanced knowledge



## Introducing proNX Service Manager

proNX Service Manager allows service provisioning and management over BTI platforms and solutions to more closely align with service providers' own business processes. From a customer's perspective, they aren't buying ports, modules, network elements, a wavelength, and bandwidth—they're buying a service with pre-defined characteristics and capabilities to address their needs. proNX Service Manager is designed to simplify and automate the delivery and monitoring of services by using a service-centric view closely aligned with the way services are sold, rather than engineered.

At the core of proNX Service Manager is an easy-to-use GUI that accelerates configuration and provisioning tasks through intuitive information and software access. The ability to see only necessary information, bin and filter, one screen accelerates tasks and eliminates errors that commonly occur when Command Line Interfaces are used.



proNX Service Manager offers a practical solution to the complexity of service delivery infrastructure that provides operational savings through rapid service provisioning, and customer responsiveness with an integrated approach to end-to-end service engineering.



## Key proNX Service Manager Functions

### Service Provisioning: Accelerate, Simplify, and Standardize Service Configuration

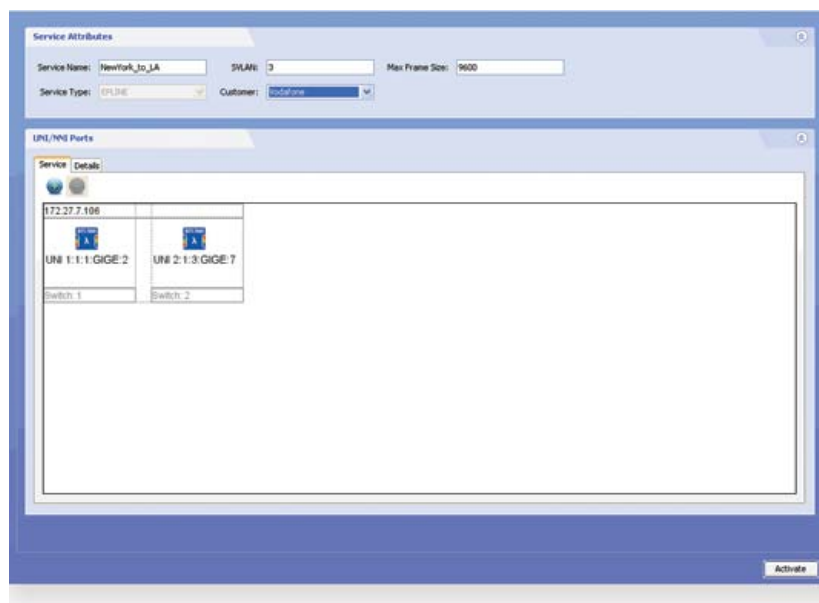
- Simplifies service provisioning to “point-and-click” rather than leveraging complex CLI languages
- Reduces provisioning times through automation and service delivery infrastructure awareness
- Step-by-step process ensures complete service provisioning and allows junior resources to undertake complex service definition tasks with confidence and low potential for error
- Alleviates manual documentation and inconsistencies with what’s implemented on the network

### Service Provisioning

Addressing customer requests in a timely fashion is imperative in today’s competitive landscape, proNX Service Manager accelerates the configuration of the service delivery infrastructure and maintains all relevant information regarding the customer and service.

Command Line Interface (CLI) provisioning strategies necessitate manual configuration of network elements and the requirement to document all aspects of the service (elements used, ports provisioned, VLANs associated, and service characteristics defined) externally in a database that is not tied to the CLI-based provisioning platform that takes time to manually update, and may not be current relative to the network. CLI command dialogues vary from vendor-to-vendor adding complexity and a high potential to improperly configure a service through improper syntax.

proNX Service Manager provides a step-by-step process and consistent approach to provisioning of services. Network operators are lead through the service provisioning process, entering service attributes including Service Name, VLAN ID, and Maximum Frame Size; the service can also be directly affiliated with a customer at this time. Customer data can include a company name, company reference, a list of employees with primary and maintenance contacts specified and a free-text notes section.

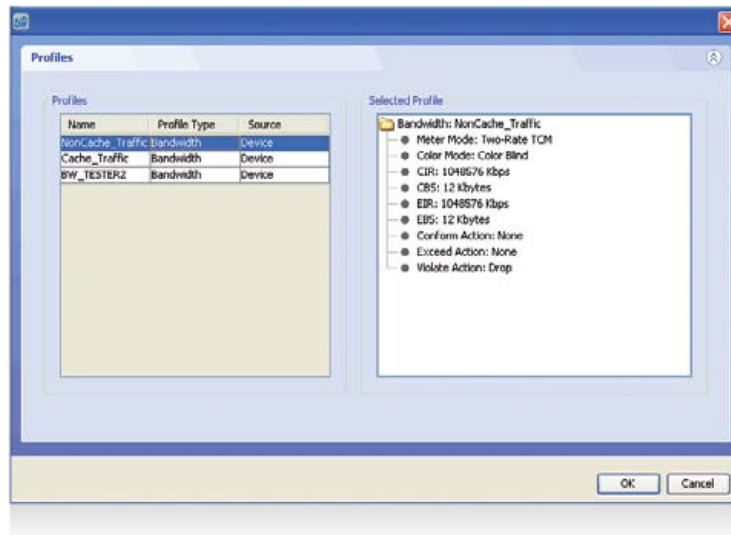




The software also automates aspects of service provisioning, for instance, by identifying available VLAN IDs within the service delivery network environment. Once service end-points are defined, available network elements and ports are identified and can be affiliated with the service instance being built.

The service is represented visually in the configuration window, and all information related to the service instance underpinning is maintained within the software, eliminating the need for external databases or spreadsheets with manually entered configuration information. Once service definition is complete, personnel activate the service with a single click and can easily verify that the service is provisioned as it correctly as it is added to the list of services.

proNX Service Manager Profile Templates allow network operators to further standardize their provisioning activities. Profile Templates enable point-and-click service creation capabilities based on pre-defined service characteristics and attributes that are pushed to selected network elements during the service activation operation.



The proNX Service Manager increases network operations productivity and flexibility while reducing costs and expediting time-to-revenue. As an extension of the existing customer-specific OSS software, the intuitive methodology and virtualization of complex underpinning of service delivery networks provided within proNX Service Manager guarantees a proactive response to customer requests and consistency with respect to how services are defined and activated.



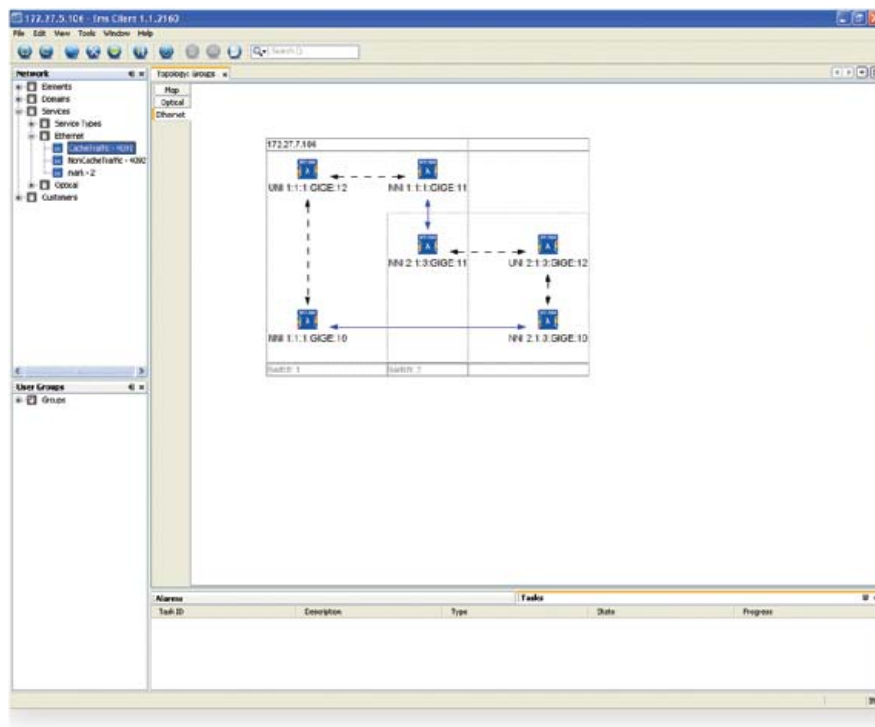
## Service Discovery & Visualization

### Service Discovery & Visualization: Simplified Service Understanding

- Understand what composes a service with “at a glance” visualization capabilities
- Complete service instance details represented in an easily interpreted visual format
- Comprehensive service discovery capabilities irrespective of provisioning method

As network configuration becomes more complex, the ability to visualize, monitor, and troubleshoot the network end-to-end is critical. Graphically representing a service instance simplifies the understanding of its components and service characteristics via the proNX Service Manager “at a glance” visualization capabilities.

Services running over the network are discovered and displayed graphically irrespective of if they were created within proNX Service Manager, using the proNX 900 Craft Interface, or via CLI. Incorporating discovered services into the proNX Service Manager database enables network operators to enhance service information previously not affiliated with the service instance, such as customer details.



Configuration information is currently available within the service view. Available information includes:

- Network element type (BTI product name) and IP Address
- Ports in-service and MEF-defined port types (UNI/NNI)
- Connection attributes including connection type (local/remote/LAG)
- MEF-defined service type (EPLINE, EVPLINE, EPLAN, EVPLAN)



## Service Monitoring and Troubleshooting

### Service Monitoring and Troubleshooting: Enhanced Knowledge Equals Rapid Response

- Easily interpret how a network event is effecting service instances and customer
- Filter, order, group, and search alarms easily to manage priority and how to address
- Improved response to customer-raised issues with direct correlation to their service instances

Identification and resolution of service-effecting conditions can be expedited with the proper software and capabilities. Combined with the service discovery and visualization capabilities that provide graphical views of the physical and logical service topology, enhanced alarm correlation and filtering capabilities offered by proNX Service Manager simplifies getting to the root of the problem. Correlation of network events to services lets network operators quickly determine which customers are affected by the issue.

Beyond traditional alarm grouping approaches by network element, time raised, and severity, proNX Service Manager can group by support description (what services are impacted by the specific alarm). In addition, the software allows for rapid alarm search capabilities based on node, alarm type, and service.

The real-time association of the service delivery network with service instances and customers enables rapid response to customer-raised issues, allowing affected services to be quickly identified and measures to remedy commenced rapidly.

## Simplified Integration into Existing Network Operations Environments

### Interface Flexibility and Customization

The proNX Service Manager has been developed using the latest graphical display technologies to ensure comprehensive portrayal of service instances with real-time network information.

Key features enabling the simplification and management of service delivery networks include:

- Nodal and network element grouping capabilities to simplify management of large networks
- Graphical panels can un-docked allowing multiple views to be placed side-by-side
- Network discovery is easy, supporting a single or comma-separated list of NEs to discover, address range discovery, subnet discovery support, and group names.
- Management of multiple domains is supported

All views are updated asynchronously where the network element provides update data ensuring the information displayed is always current with what is happening in the network. Network operations staff has on demand access to live node information in XML format. This data can be used on screen or emailed for off-line processing.



## proNX Service Manager Benefits

proNX Service Manager will enable network operators to improve time to revenue, lower operational costs and maximize the benefits of converged networks.

### Operational Savings

proNX Service Manager provides end-to-end visibility of customer services across all aspects of the network expedites time-to-revenue with a simplified approach to service delivery and expedites fault recognition, isolation, and resolution. The consolidation of network, service, and customer information virtually eliminates the time associated with manual data entry upkeep on service configurations and details. A service-centric approach also limits staff training requirements on individual platforms, network/element software, and CLI syntax.

### Rapid Service Provisioning

The service-centric and graphical visualization capabilities of proNX Service Manager expedites service provisioning, standardizes the approach to a step-by-step and intuitive procedure and reduces the potential for error. “One-click” activation eliminates the time and effort of previously leveraged piecemeal provisioning of elements and ports with intelligent end-to-end configuration of all network resources based on standard service definition components, network awareness, and automation.

### Customer Responsiveness

proNX Service Manager allows network operators to understand a customer’s service inventory easily and quickly to expedite call center inquiries; the customer-affiliation capabilities of proNX Service Manager also enable rapid interpretation of how a network event is effecting a specific customer and provide the means for a proactive response.

## Leverage a Service-Centric View with proNX Service Manager

Traditional element and network management solutions simply do not allow network operators to address the volume and complexity of today’s service requests; manual, element-by-element processes are too slow and error prone. Reactive problem detection leads to longer outages and dissatisfied customers. Service-Centric management offered by BTI Systems’ proNX Service Manager provides a customer-oriented view of “what’s being delivered” which expedites setting up services and the addressing of disruptions—translating to enhanced customers satisfaction and minimized churn.

**About BTI Systems** | BTI is the innovative networking company that creates high-capacity, application-aware service infrastructure for metropolitan networks. With a suite of packet optical networking, application-aware intelligence software and service-centric management platforms, BTI enables service and content providers to scale capacity and profitably deliver a mix of high-value applications, services and content to subscribers and businesses around the globe. More than 350 customers rely on BTI to monetize, accelerate and simplify service delivery. Headquartered in North America, BTI operates regional sales, marketing, and R&D centers of excellence throughout the world. For more information, visit [www.btisystems.com](http://www.btisystems.com).