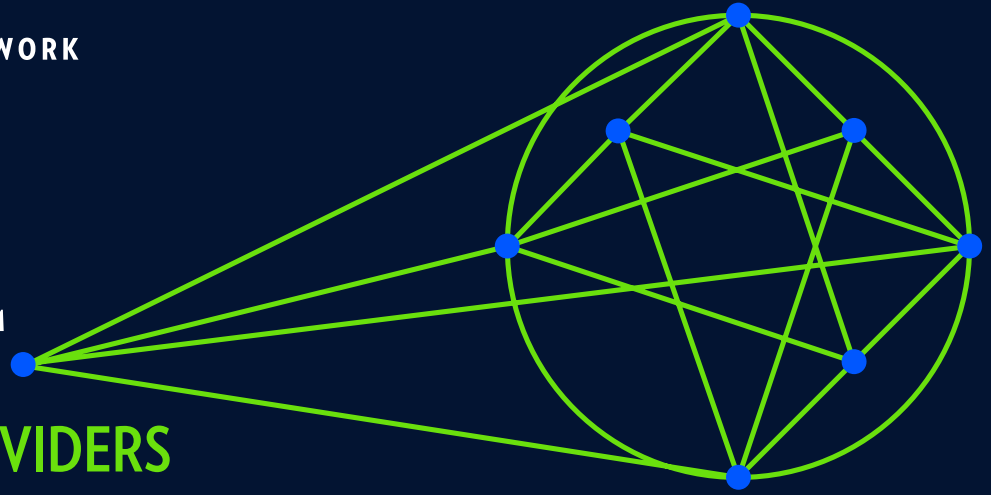


ElastiNET™

FOR SERVICE PROVIDERS



DEAL CONFIDENTLY WITH A CHANGING WORLD

In today's world 'change' is the only constant. Enabling technologies are changing, as is competition and customer expectations. Service providers worldwide are on a mission to transform themselves to deal with this. Their goals are to simultaneously broaden and speed-up service offerings to increase topline revenues, while streamlining and automating operations to reduce costs.

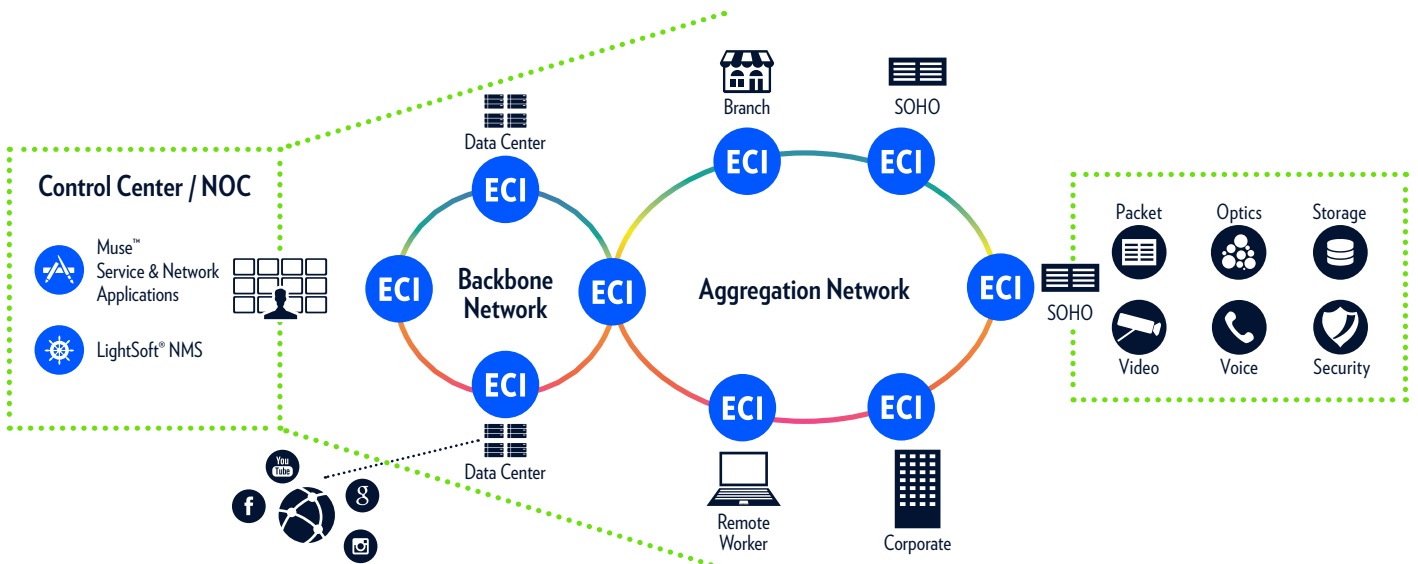
ECI's ELASTIC Services Platform leverages a suite of modular software applications over a programmable network infrastructure that lets SPs handle change with confidence, to achieve their business goals. ECI offers:

Optimized packet-optical transport
access to core

Simplified service creation and delivery

Automated service & network operations lifecycles

Smooth migration and seamless ecosystem integration



OPTIMIZED PACKET-OPTICAL TRANSPORT

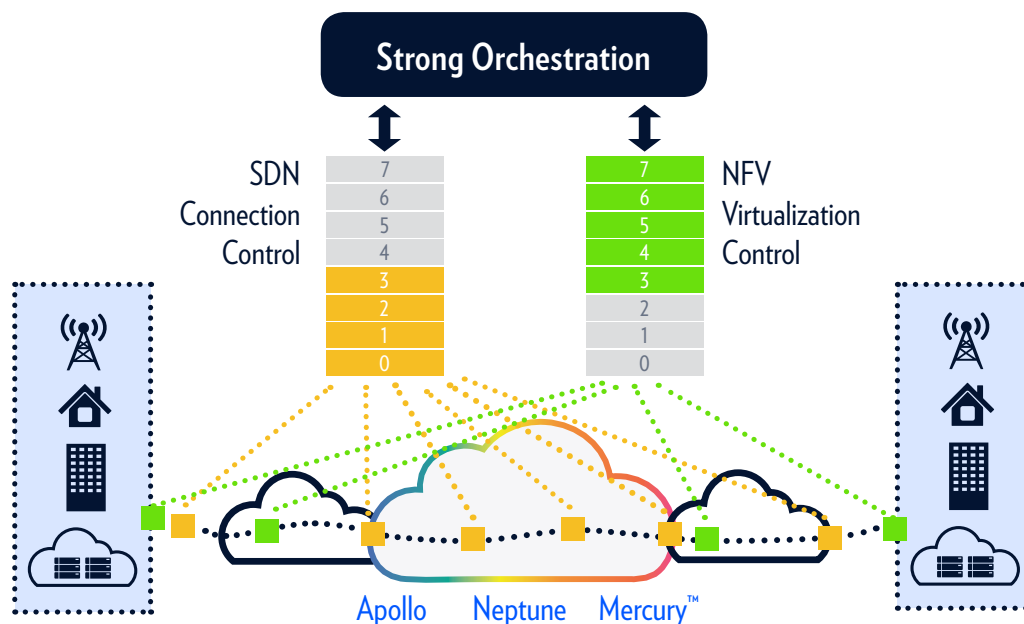
ACCESS TO CORE

At the foundation of the ELASTIC Services Platform is a dynamically controllable and reconfigurable L0-L3 access-to-core network infrastructure. Real-time SDN connection control uses cutting-edge path computation algorithms to provide high-performance data paths between endpoints, and can even set backup paths in the event of failures. Connectivity combines with virtualized functionality at the network edge to deliver advanced mobile and fixed services. This architecture implements all essential service provider architectures and business applications, including:

- Aggregation networks
- Mobile backhaul networks
- 5G network slicing

- Reconfigurable optical transport
- Secure enterprise connectivity
- Modernized business services

Telemetry and analytics provide deep insights into and over- and under-utilization, to continuously optimize the infrastructure. By leveraging a combined view of the packet and optical layers, traffic flows can be optimized using techniques like router bypass, and protection routes can be eliminated by providing packet path restoration at the optical layer. In short, the ELASTIC Services Platform provides the intelligence and flexibility to do more with less, delaying the need to add network resources as traffic grows.



SIMPLIFIED SERVICE CREATION AND DELIVERY

The ELASTIC Services Platform is built for the emerging telecom world of advanced services that combine connectivity with virtualization. Ready-to-use templates provide graphical tools to design complex services in a visual way – encompassing endpoints, virtualized network functions, service chains, and SLA profiles.

Services can then be instantiated for individual customers via a user interface or API. Cutting-edge path computation algorithms provide optimal data paths between endpoints, and depending on the SLA profile, can arrange backup paths in the event of failures. Prior to activation, services are validated and a quick SLA test is performed to ensure they are configured properly. While this process is automated, operators can preview the allocated resources before configuration and make manual adjustments.

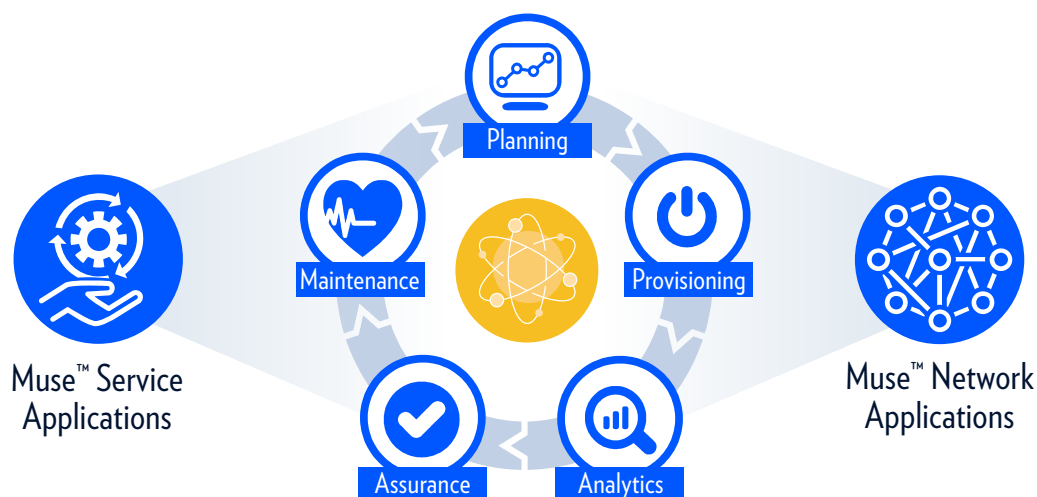
Basic and advanced service assurance options are available, based on capabilities from monitoring alarms and traffic to measuring service KPIs against historical trends, so that degradations can be recognized and addressed before they become severe.

AUTOMATED SERVICE & NETWORK OPERATIONS LIFECYCLES

Proactive management of networks is about information and speed: information about what is occurring in your network environment from traffic flows and resource utilization, to warnings and alarms; and speed, to react quickly to changes that could affect services.

At the heart of the ELASTIC Services Platform approach is speeding up the entire operations lifecycle, blurring the lines between traditional offline and real-time processes. The goal is to strike a balance between automation that removes unneeded human involvement, and allowing human operators to step in anytime to make override decisions.

Leveraging ECI's proven expertise in IP-optical transport, traffic engineering, telemetry, monitoring, analytics, and restoration, the ELASTIC Services Platform maximizes services and network availability by pinpointing problems rapidly, and often even before they occur. It then suggests or automatically applies solutions like traffic rerouting, or exercising self-healing capabilities like dynamic multilayer restoration.



SMOOTH MIGRATION AND SEAMLESS ECOSYSTEM INTEGRATION

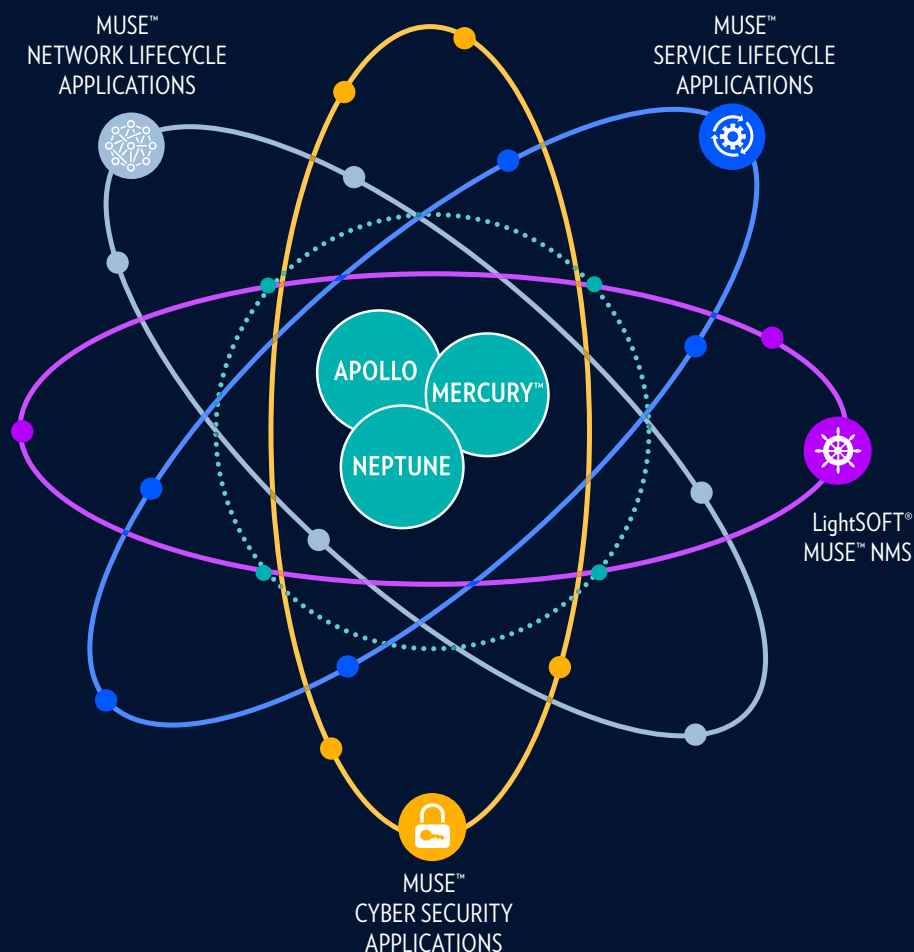
Network modernization does not take place overnight. Almost always it starts with a brownfield network and operational infrastructure, and incorporates advanced capabilities over a period of years. The ELASTIC Services Platform is designed for this employing separation of concerns between the underlying dynamic network infrastructure, the service and network control applications, and broader service provider operational and orchestration ecosystems. This allows each layer to evolve at its own pace.

There is a smooth transition in functionality from traditional network management based on NMS to real-time control and automation. Control can also be extended to 3rd-party network equipment. To enable multiple sources of innovation, 3rd-party service and network operations applications can be integrated directly on top of a carrier-grade PaaS.

The ELASTIC Services Platform fits within broader service provider modernization and automation initiatives by extending control using standards-compliant northbound interfaces. This enables direct interaction with service provider OSS/BSS and with end-to-end service orchestration systems.

Elastic Services Platform

The ELASTIC Services Platform is ECI's portfolio framework for simplifying service delivery and automating network operations. It leverages a suite of modular software applications that exercise real-time control over a programmable network infrastructure



The ElastiNET solution for Service Providers builds on the following components of the ELASTIC Services Platform:



APOLLO Optical Transport Family

Apollo's modular architecture enables super-efficient DWDM transport solutions that extend from the access, around the metro ring, to regional long haul. Apollo combines rate-adaptive low latency OTN transport and switching, with software configurable optical routing, for maximum optical transport efficiency. Benefits of using Apollo in service provider applications include:

- Industry's most versatile 200G connectivity on a single 50GHz fixed or 37.5GHz flex channel
- Support for all Ethernet, Fibre Channel, and TDM client interfaces
- Multiple automatic protection switching and dynamic (shared resource) restoration options for any level of availability
- Ability to extend Layer 1 optical encryption as a service, selective to the level of individual client interfaces
- Integrated packet transport for L1 and L2 services
- SDN-controllable



NEPTUNE Packet Transport Family

Neptune (NPT) streamlines end-to-end metro service delivery by combining carrier-grade service assurance, visibility, and control with packet efficiency and unparalleled L1 to L3 multiservice support. It is the ideal platform for traffic aggregation and mobile backhaul applications. Key benefits of Neptune for service providers include:

- Deterministic packet performance across the WAN, with resiliency and E2E visibility
- Elastic MPLS (IP/MPLS and MPLS-TP) for seamless interworking
- Certified for all MEF CE 2.0 services and implements both L3 and L2 VPNs
- Unrivalled multi-service support for Packet, WDM/OTN, and TDM services
- Integrated NFVi for value-added services based on ECI or 3rd-party VNFs
- SDN-controllable via NETCONF/YANG interfaces



MERCURY™ Virtualization Platforms

Mercury mixes and matches a rich library of certified ECI and third-party virtualized network functions (VNFs) to instantiate service and network functionality quickly and economically. Optimized for deployment at the network edge enterprise or at customer premises, Mercury let's service providers take advantage of their physical proximity to end-customers to deliver the best low latency experience. Mercury is supported by a complete ETSI-standard MANO, and initial applications include virtual CPE and traffic optimization.



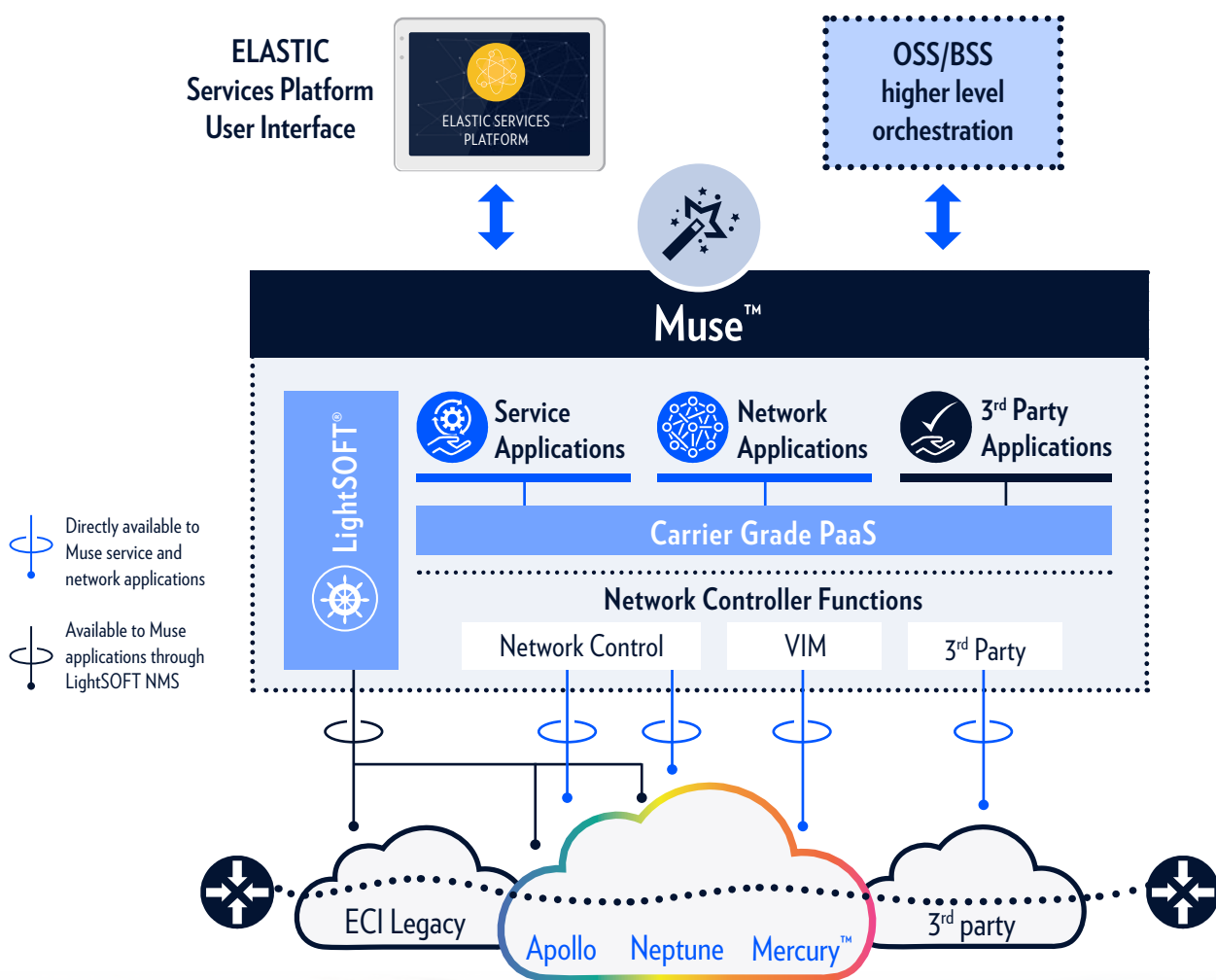
MUSE™ Software Suite

The Muse suite is ECI's holistic software offering, leveraging the best of industry-leading management systems and SDN/NFV applications. Powered by a carrier-grade PaaS, Muse delivers real-time control over a programmable network infrastructure and automates the service and network operation life cycles. It guarantees that the right people and systems get the right capabilities for their requirements, through intuitive, easy-to-use user interfaces, or industry-standard APIs. It provides comprehensive support for

service provider applications, including:

- **Service lifecycle applications** – applications that enhance the deployment and management of services over their complete lifecycle. They make building, editing, moving, scheduling, and retiring services simple, automated, and intelligent.
- **Network lifecycle applications** – applications that improve the operations and ongoing management of complete networks. They ensure the network infrastructure is in place, optimized, and running smoothly to support services.

- **LightSOFT®:** ECI's LightSOFT network management system (NMS) features a multi-dimensional, multi-layered approach to managing converged networks. Easy-to-learn and easy-to-use, it delivers full management control of all packet, optical, OTN transport, and service layers at the click of a mouse.
- Standard interfaces to facilitate integration into service providers ecosystems, including southbound interfaces for control of network equipment, and northbound interfaces for integrating with OSS and higher levels of service orchestration.



BENEFITS OF ELASTINET FOR SERVICE PROVIDERS

Optimized packet-optical transport access to core	<ul style="list-style-type: none">• Optimize resources across multiple layers (L0-L3) to maximize traffic handling and delay the need for new resources• Reconfigure the network dynamically for continuous optimization, fast service delivery, and high availability• Integrate virtualized functionality at the network edge for value-added end-customer services• Be ready for 5G through an ability to slice and allocate transport resources to different 5G service classes
Simplified service creation and delivery	<ul style="list-style-type: none">• Design innovative services using powerful graphics tools that combine SDN connectivity with NFV virtualization• Instantiate individual services rapidly using cutting-edge path computation algorithms• Validate SLAs before activation to ensure that services are configured correctly.• Assure SLAs proactively by measuring service KPIs against historical trends to anticipate degradations
Automated service & network operations lifecycles	<ul style="list-style-type: none">• Optimize network design using a “what-if” planning tools• Turn-up new equipment error-free with auto-discovery and plug-and-play provisioning• Assure network and service performance by combining telemetry information, policy rules, and analytics, with automated software control• Pinpoint hard problems rapidly using integrated monitoring and measurement capabilities
Smooth migration and seamless ecosystem integration	<ul style="list-style-type: none">• Evolve smoothly from a brownfield network environment migrating interfaces and functionality from NMS to real-time control applications• Integrate directly with OSS and higher level service orchestrators through standard northbound interfaces.• Develop and integrate 3rd-party applications through open APIs on top of a carrier-grade PaaS

Contact us to find out how **ElastiNET** can transform your network



ABOUT ECI

ECI is a global provider of ELASTIC network solutions to CSPs, utilities as well as data center operators. Along with its long-standing, industry-proven packet-optical transport, ECI offers a variety of SDN/NFV applications, end-to-end network management, a comprehensive cyber security solution, and a range of professional services. ECI's ELASTIC solutions ensure open, future-proof, and secure communications. With ECI, customers have the luxury of choosing a network that can be tailor-made to their needs today – while being flexible enough to evolve with the changing needs of tomorrow. For more information, visit us at www.ecitele.com