




ribbon

TECH FORUM 23

Automating Your Network

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Solutions Marketing



Look ma,
no hands

IP Wave Portfolio

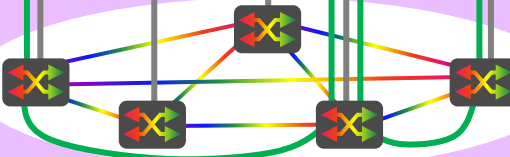
Muse
SDN Domain
Orchestrator



NPT
IP Routers

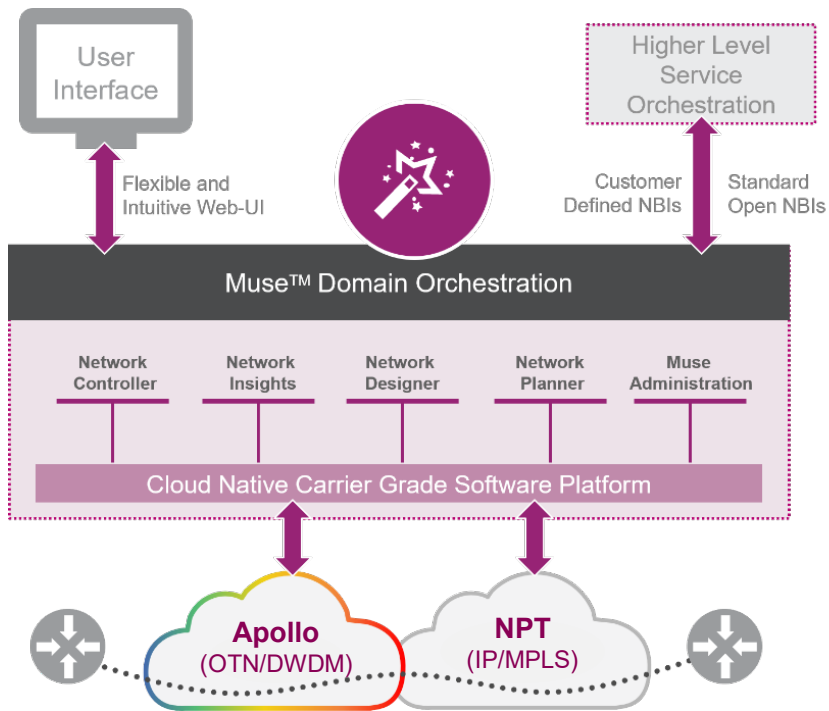



Apollo
Optical Networking
Systems





Ribbon
Professional
Services


Muse SDN Domain Orchestrator

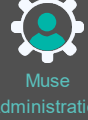


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Live network control for topology commissioning, service provisioning, fault management, maintenance and automations.
- 

Self-Service BI application for analyzing the network inventory, performance, utilization and other KPIs.
- 

Graphical Low-Code tools for designing service templates, network elements, tasks and automation workflows.
- 

Topology design and optimization, optical services and equipment allocation, and export of required reports.
- 

User management, authentication and authorization, licensing, system health, and more.

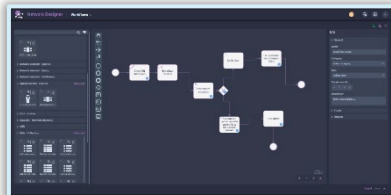
Muse Values

Intuitive Web UI



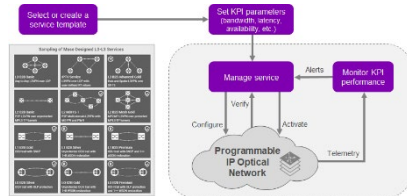
- Reduce mgmt complexity
- Tailor to NOC processes

Workflow Automation



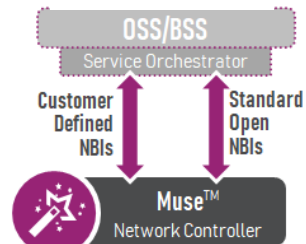
- Reduce OPEX
- Minimize human mistakes

Closed Loop Provisioning



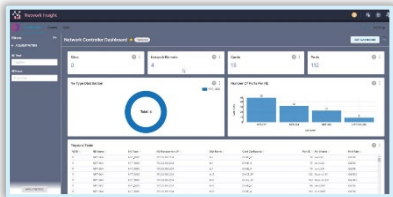
- Speed time to revenues
- Sell performance assured services

Flexible NBI



- Integrate within end-to-end SDN ecosystem

Insights & Analytics



- Better use of CAPEX
- Improve NOC efficiency

Network Health



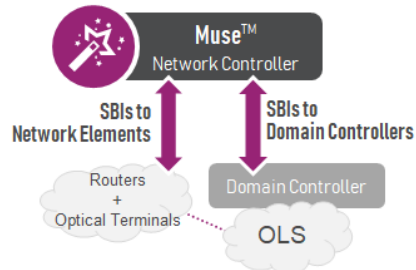
- Predictive maintenance
- Fast-accurate fault finding

Cloud Native



- DevOps and Customization
- Performance and Security

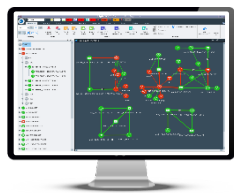
Flexible Multi-Vendor SBI



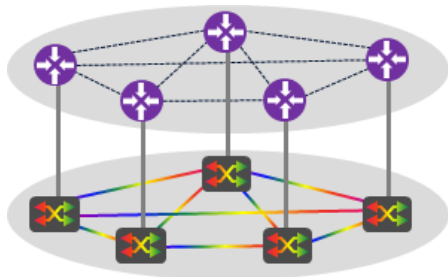
- Disaggregated solutions
- Remove vendor lock-in

How Muse Changes the IP Wave Value Calculation

Situation with LightSOFT



LightSOFT primarily **supports** the network

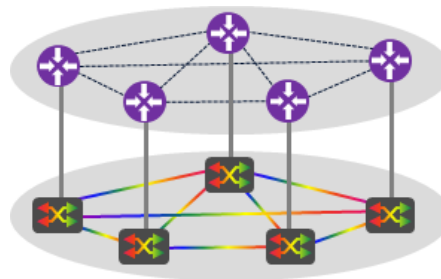


Sellable value is almost entirely the NPT/Apollo network itself

Situation with Muse



- Muse **enhances** the network value, boosting the selling proposition
- SDN functionality is sellable add-ons
- Customization generates Professional Services



The NPT/Apollo network is the **foundational value**

Transport Network Automation

The application of technology to deliver **connectivity services** and control the underlying **IP Optical network** with minimal human intervention



Problems Automation can Solve

Services Delivery

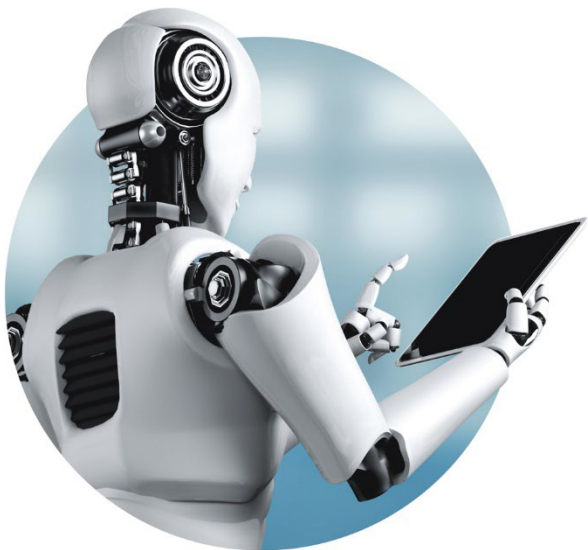


*Improve Revenues and
Customer Satisfaction*

- Faster creation and delivery of services
- Direct customer selection of services
- Continuously monitor services performance, and:
 - report to customers against SLAs
 - preemptively correct deficiencies
- Understand services impact of outages
- Eliminate human errors

Problems Automation can Solve

Network and Traffic Engineering



- Maintain an accurate view of multivendor network inventory and topology for overall proper operation
- Monitor network resource usage and trends, and preemptively correct impending problems
- Continuously monitor and optimize traffic performance
- Deploy new equipment rapidly, and ensure NE software is up to date
- Eliminate human errors

*Optimize use of Capex and
Reduce Costs*

Problems Automation can Solve

Network Health and Maintenance



*Increase Availability and
Reduce Costs*

- Monitor network health and trends, and preemptively correct impending problems
- Identify the root cause of hard failures and intermittent problems
- Reconfigure the network upon failures to maintain services, and manage revert to previous configurations

Service Templates Architecture



Service Catalog

Service templates improve time-to-market and reduce human mistakes by defining all the service parameters allowed and default values.



Global Parameters – Topology, Protection, Scale, etc.



End-Points Parameters – Interface Role, VLANs, Optical Channel, etc.



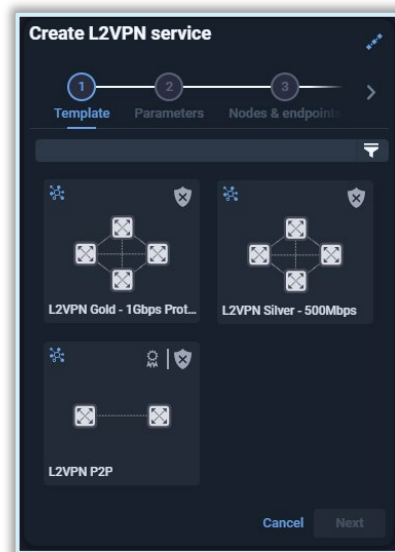
Rates and Bandwidth – Bandwidth and QoS Profiles, OTN Rates, etc.



Path Computation – Path metrics (latency, number-of hops, etc.), Include/Exclude admin-sections, etc.



SLA and Assurance – KPI thresholds, assurance tests schedules, etc.



Muse Low-Code Capabilities

Service Templates

- Define services properties
- Define services SLA and Assurance tests
- Templates customize the provisioning wizards

Automation Workflows

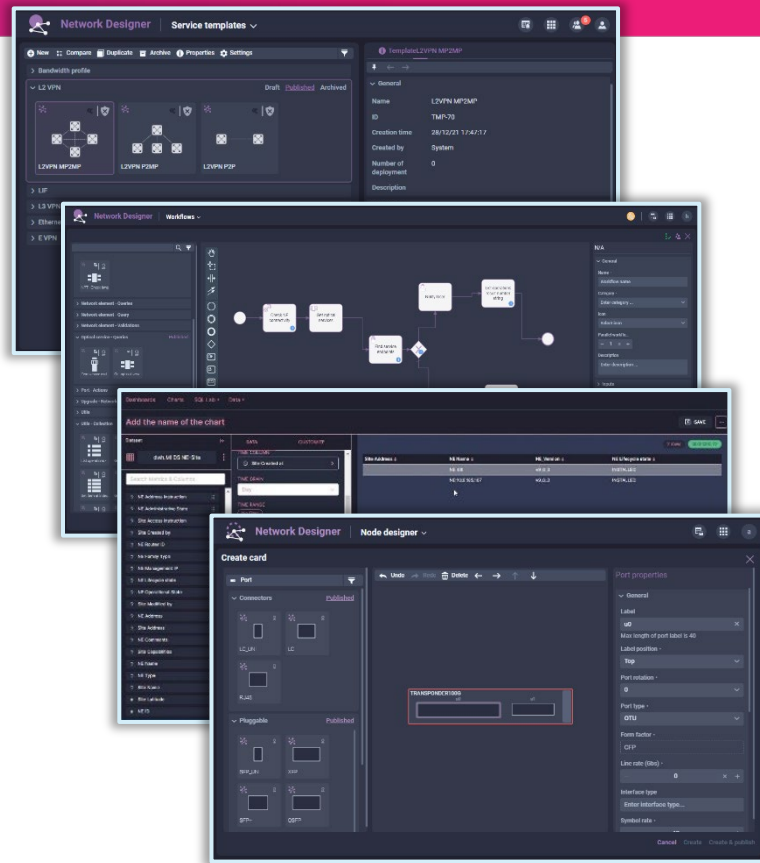
- Create automation flows with triggers and actions
- Create your own actions using scripts
- Automate any repetitive action – Troubleshooting, Upgrades, etc.

BI and Analytics

- Self service Business Intelligent tool
- Create your own widgets and dashboards
- Create user defined analytics reports

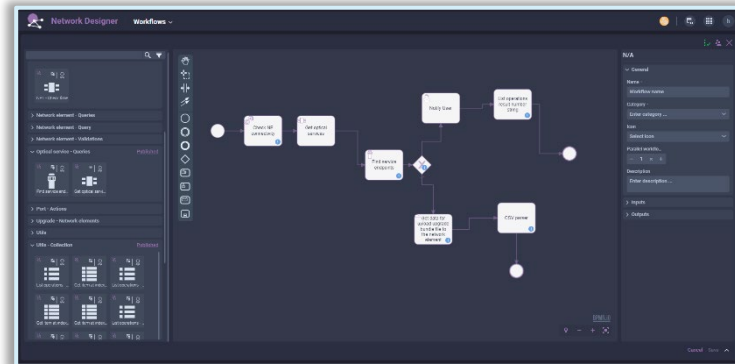
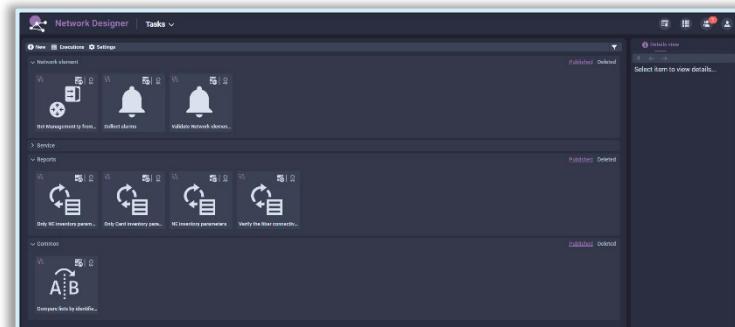
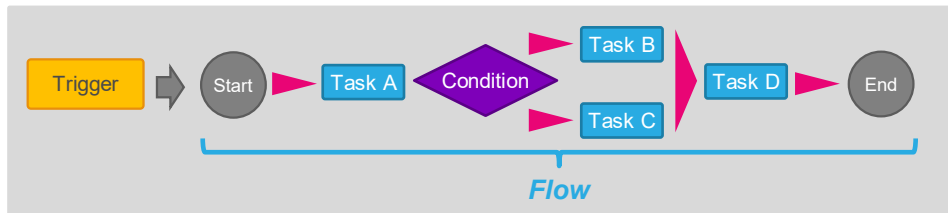
Network Elements Templates

- Model any 3rd party NE to be presented in Muse
- Define size, slots, cards, capabilities
- Add the models to the network for representation, and manage them via dedicated SBIs

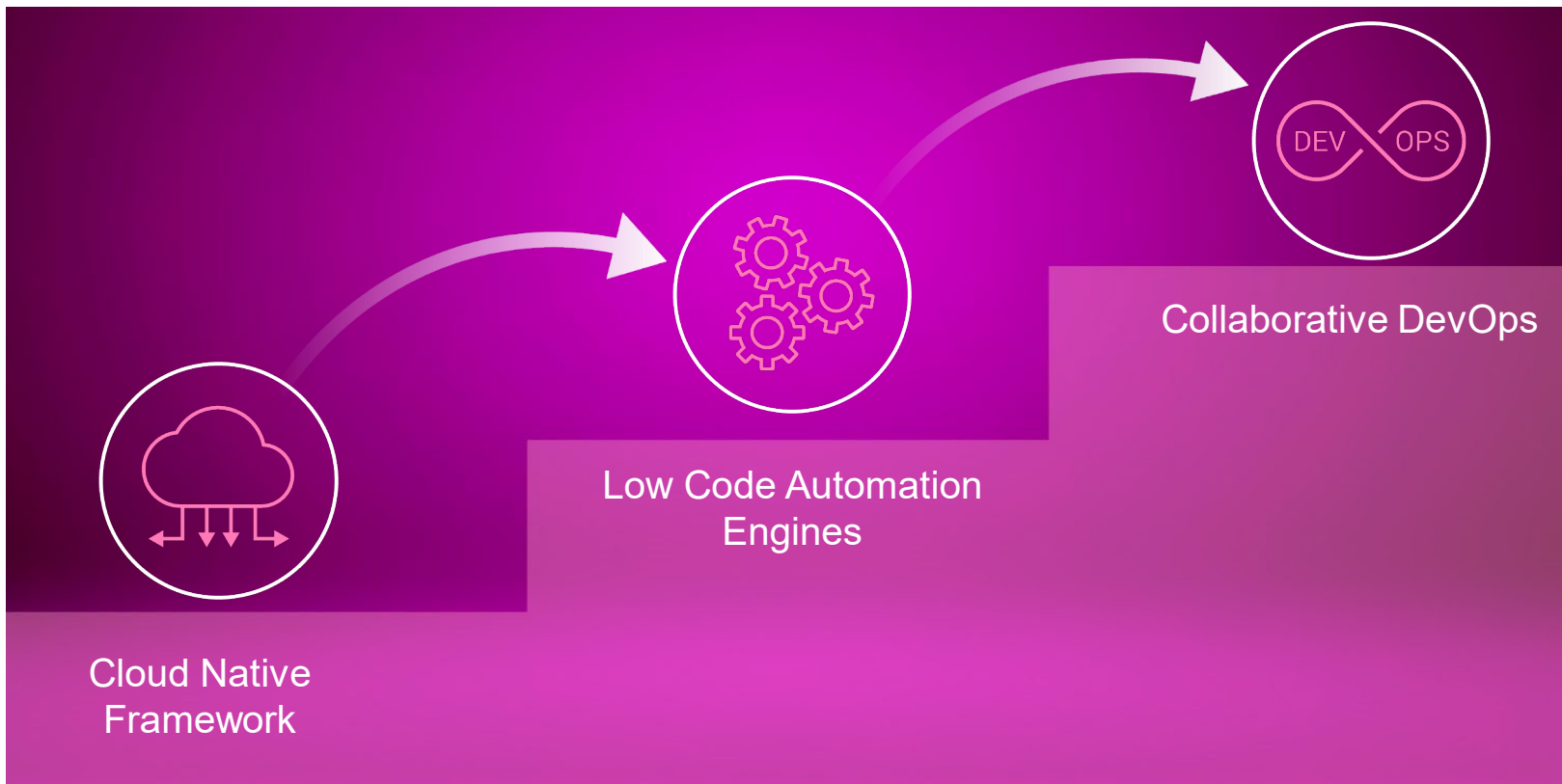


Tasks and Workflows

- Automate any repetitive action
 - Bulk Operations
 - Troubleshooting
 - Maintenance
 - NE Upgrades
- Create automation flows with triggers and tasks
 - Triggers based on network events, alarms, schedules, or REST NBI
 - Add conditions, timers, gateways, variables
- Build workflow using pre-defined tasks
 - Tasks have inputs and outputs to pass information throughout the flow
- Create your own tasks to be used in the workflows
 - Based SSH, HTTP/S (REST), Python, Shell, JavaScript, Perl



Crossing the Automation Divide with Muse







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