



## Lumina Extension Adaptation Platform

Model-driven software platform enables automation of heterogeneous networks.

SDN has long enabled interfaces like Netconf and OpenFlow to program network elements. Most networks, however also contain a vast amount of legacy devices that do not support these programmable interfaces. In this common scenario, network administrators are forced to use siloed and manual CLI methods or use rudimentary automation with devops tools.

LEAP is an extensible software platform that enables the automation of legacy network elements using model driven frameworks, shielding the complexity of underlying south bound interfaces and enabling northbound applications.

## **Benefits:**

- 1. Improve network flexibility by making network applications aware and cloud-ready
- 2. Extend life of existing capex investments by enabling programmability for legacy network elements
- 3. Decrease service delivery times from months to minutes with one-click service provisioning and easy order management integration using model driven APIs
- 4. Increase efficiencies with Intent-driven network operations leveraging abstract data models
- 5. Continued extensibility via microservices driven framework
- 6. Ease of deployment for devops teams which can continue to use existing python skills no additional programming languages are needed
- 7. Pure Play Open Source base enables community innovation without vendor lock-in



DATA SHEET

LEAP uses a microservices architecture to extend the capabilities of Lumina's OpenDayLight based SDN controller to enable better integration with business layers. In a language agnostic manner, the platform promotes addition of new microservices based components. Devops operators teams leverage existing Python skills to extend their service automation frameworks in-house, based on business demands, without dependency on external vendors.

## **Pure Play Open Source-Based**

SDN has long enabled interfaces like Netconf and OpenFlow to program. LEAP is based on the leading Open Source SDN platform OpenDaylight. This modular platform allows operators to customize and automate networks of any size and scale. OpenDaylight has long been the open source networking solution of choice by service providers controlling programmable interfaces. But the programmable network is only half the battle. Lumina Networks brings the expertise needed to extend open-source, softwaredefined networking into legacy networks as well. Our hardware-agnostic platform provides a comprehensive networking solution with prepackaged use cases for large-scale market adoption. We simplify the automation and digital transformation of hybrid network deployments in a way no other vendor can.

In alignment with our commitment to protect our customers from vendor lockin, even from us, we recently upstreamed a LEAP project to the OpenDaylight community. **OpenDaylight-Plastic** brings resilient model-to-model translation capabilities through various mechanisms. These mechanisms include, but are not limited to, declarative expressions of schemas, schema-independent morphing, and unbounded data morphing.

While nearly every company in the communications industry appreciates the value open source can bring, they also recognize that open source isn't easy. This is why Lumina Networks is the #1 commercially deployed OpenDaylight vendor - we have the expertise and community leadership to successfully execute open-source projects.

While LEAP delivers a pure-play open-source foundation for you to expand on, the Lumina Networks team also works with operators to promote applicable code back into the open-source community. This protects operators from being locked into one vendor's implementation of open-source solutions—even ours.





## **Expanded Lumina SDN Controller & LEAP**

### **Solution Architecture**





## **Features**

API-driven work-flow engine	Creates deterministic workflow behavior with a rich set of new workflow actions for cancellation and suspension of workflows, while providing more control to southbound devices
Dynamic Workflow Parallelism	Allows identical tasks to execute in parallel to speed up automation processes and optimize performance while reducing OPEX
Intent to Config translation	Extensible framework to translate any abstract model into vendor/device configurations
South-Bound Interfaces	Supports an array of standard programmable south bound interfaces such as OpenFlow, Netconf, OVSDB, BGP, PCEP, gRPC and legacy interfaces such as CLI/SSH, and extensible for other legacy interfaces like TL1
North-Bound Interfaces	Model driven RESTCONF APIs
Integrated Inventory Management	Inventory discovery and unification of inventory across heterogeneous networks
Template support	Ability to define templates and perform templatized bulk config push
Transaction Management & Error Handling	Atomic service config push and rich error handling
South bound WorkFlow integration	Rich framework support for defining pre-config, post-config validation hooks
Config dependency management	Ability to express dependency chains between configurations

# **Feature Specifications - Monitoring**

South-bound monitoring interfaces	SNMP, gRPC, streaming telemetry (like JTI)
Alarm translation	Extensible framework for alarms normalization
Analytics integration	Ability to push streaming data to analytics/time-series-db with rich dashboards



## **Ordering information**

To support integration and knowledge transfer for customer sites, Lumina Networks provides NetDev services to ease the process. To order LEAP and associated NetDev Services, please contact your sales representative at:

www.luminanetworks.com/contact-us



#### **About Lumina Networks**

We take supported OpenDaylight projects, vetted by the community, for safe and secure deployment into the network. Our own NetDev team works directly with internal development teams to build the tools specific to an organization which ensures secure and reliable implementation.

We believe in teaching our customers "how to fish," sharing our best-practices and offering our expertise along the way. Companies can quickly. Companies quickly expand the skills and abilities of their development teams while removing the reliance of outside consultants where vendors lock in to use their product. Lumina Networks and its SD-Core platform can be deployed across a wide spectrum of business verticals without hesitation. Additionally, our NetDev services combined with close relationships with the Linux Foundation means companies always have the newest and most innovative solutions available to solve critical business problems. luminanetworks.com 800.930.5144

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