LightPULSE™

Intelligent Wavelength Health Management

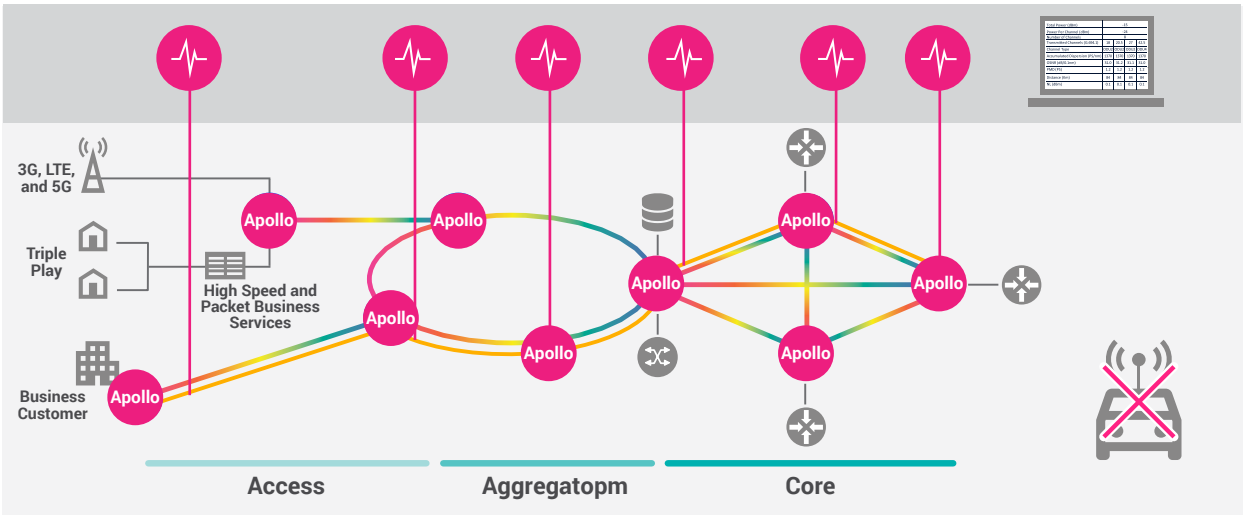
Is your network next-generation ready? High-speed transparent and reconfigurable optical networks require effective, flexible, and robust optical performance with real-time monitoring and history analysis to ensure high-quality service and resiliency. Service providers realize that a healthy network is critical for satisfying customers and meeting Service Level Agreements (SLAs) 24/7.

With Ribbon's LightPULSE, service providers can accurately understand and monitor optical impairments. As an embedded tool, LightPULSE allows any Apollo or third-party wavelength to be safely monitored across its entire optical span, without interruption or using additional equipment. LightPULSE's unique and comprehensive tools make monitoring easy, all at the click of a mouse. This includes next-generation photonic networks with CDC ROADMs, 400GHz super-channels, and coherent technology. With LightPULSE, the highest level of SLA is assured by calculating protected path trails for WSON restoration switching.

Real-Time Measurement
and history analysis

End-to-End Coverage
any Apollo or third-party wavelength

Intelligent Wavelength Management
fully embedded and automated, hands-free



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Your Challenges	Our Solution
Optimal Light Path Selection	
Service assurance	**Comprehensive analysis and tools** • **Enhanced restoration:** highest SLA using accurate OSNR provided by LightPULSE for WSON to select alternative restoration paths • **Optical trail:** inter-node connectivity for optical wavelengths using real-time optical impairment status • **Performance Monitoring:** total power, power per channel, number of channels, transmitted channels, channel-type, cumulative Chromatic Dispersion, OSNR, Polarized Mode Dispersion, distance, and non-linearity leve
End-to-End Coverage	
Optical performance monitoring (OPM)	**E2E complete optical path performance** • **Real time:** E2E OPM for any Apollo or third-party wavelength • **Optical interfaces:** manages any optical interface and optical component in the optical path between all active optical components, including transceivers, ROADMs, and amplifiers
Standard and foreign wavelengths	**Optical diversity** • **Spectrum:** ITU grid and gridless (ITU G.694.1), extended C-band, fixed grid 50GHz and 100GHz, flexible grid with 6.25GHz granularity • **'Virtual transceiver':** any third-party wavelength with all LightPULSE benefits
Expensive optical equipment	**Embedded software intelligence** • **LightPULSE:** no additional cost or equipment required; LightPULSE is an algorithm running in embedded software in each Apollo network element controller (RCP) and communicates with all active optical components • **Measurements:** on all transceivers, ingress, and egress of amplifier photodiodes and ROADM Optical Channel Monitors
Wavelength balancing	**Intelligent wavelength balancing and automated equalization** • **Optical wavelengths:** automatic equalization and balancing of the entire optical network using OSNR, non-linearity, and other optical parameters for active optical components • **OSNR performance:** prompt and accurate indication of OSNR performance performed remotely via LightSOFT®, saving specialized resources and expensive equipment, like in-band Optical Spectrum Analyzers (OSAs)
Intelligent Wavelength Management	
Truck rolls (sending technicians to the site)	**LightPULSE GUI** • **Built-in software:** shows installed Apollo network equipment information, automatically adjusts optical gain of each amplifier, equalizes optical channels • **Reduce errors:** automatically adjusts parameters, reducing error-prone manual operations, facilitating deployments, and accelerating wavelength turn-up and troubleshooting
Topologies	**Light PULSE supports** • **Topologies:** mesh, hub, ring, linear, and point-to-point • **Platforms:** supports all Apollo and Artemis platforms

Contact Us Contact us to learn more about Ribbon solutions.