

AGILECORE™ network operating system NOS

The AgileCore Network Operating System (NOS) is an evolution of the core network control-plane with on-demand, embedded wavelength engineering and routing. Carriers now have a complete and integrated wavelength activation solution from any A-point to any Z-point in the network. A connection request launches a set of routing and engineering algorithms that include optical path information and propagation impediments as part of the selection criteria. Least cost routing & engineering, based on real-time network information, replaces manual engineering, commissioning and provisioning processes. The automation of these processes results in unprecedented operational savings and speed of bandwidth delivery.

LEAST COST WAVELENGTH ROUTING & ENGINEERING

The AgileCore NOS achieves lowest cost for end-to-end wavelengths by selecting routes that minimize regeneration and wavelength translation, and that satisfy optional user-selected routing criteria. Route computation and engineering use real-time information including network topology, wavelength-channel utilization, regenerator availability and optical performance as well as auto-detected information including propagation parameters and system attributes to compute the optimal combination of route, wavelength selection

and regenerator placement for a given routing request. This information is made available throughout the network with the help of the Distributed Information Service (DIS) and allows least cost routing and engineering to be performed on-demand by any source node in the AgileCore network.

DYNAMIC WAVELENGTH CONTROL DELIVERS SIMPLIFIES AN ANALOG CHALLENGE

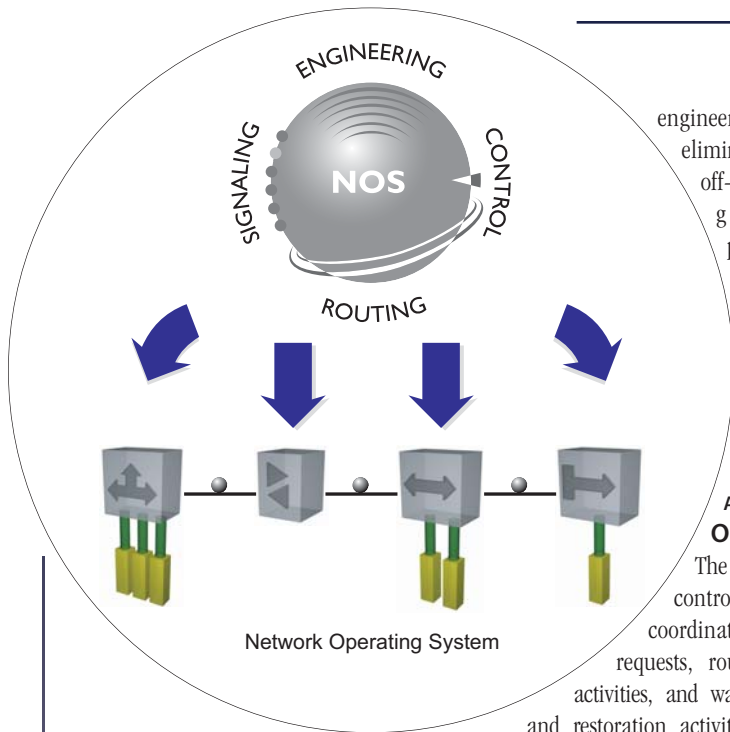
The AgileCore NOS provides an "optical signal processing" (OSP) engine to establish a wavelength control sub-layer that delivers automatic wavelength turn-up and individual wavelength control and monitoring. Using the results of wavelength routing and engineering, OSP adjusts all necessary equipment parameters along the path to tune to the appropriate wavelength and manage wavelength turn up across amplifiers and intermediate nodes. Regeneration and wavelength conversion are dynamically configured on the path at set-up time as required using available network resources. The AgileCore NOS leverages colorless DWDM tunability for wavelength assignment across the optical trail. Together with embedded wavelength routing and engineering, dynamic wavelength control reduces traditional link

FEATURES & BENEFITS

- Point-and-click GUI and client signaled interfaces set up end-to-end wavelength connections across the network in seconds
- Constraint based wavelength routing and advanced path diversity options (Link, Node, SRLG, Best Effort) automatically route and configure lowest cost wavelength paths and support network protection and restoration alternatives
- On-demand embedded wavelength engineering eliminates traditional link budgeting and off-line simulation to enable arbitrary connection paths over arbitrary network facilities
- Carrier-provisioned lifecycle margins ensure tailoring to historical fiber cut and repair rates for wavelength paths
- Call Control infrastructure is ready for emerging switched optical network services
- Real-time distributed network information enables auto-discovery, self-testing, advanced monitoring and embedded engineering/routing



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AGILECORE™ NETWORK OPERATING SYSTEM (NOS)

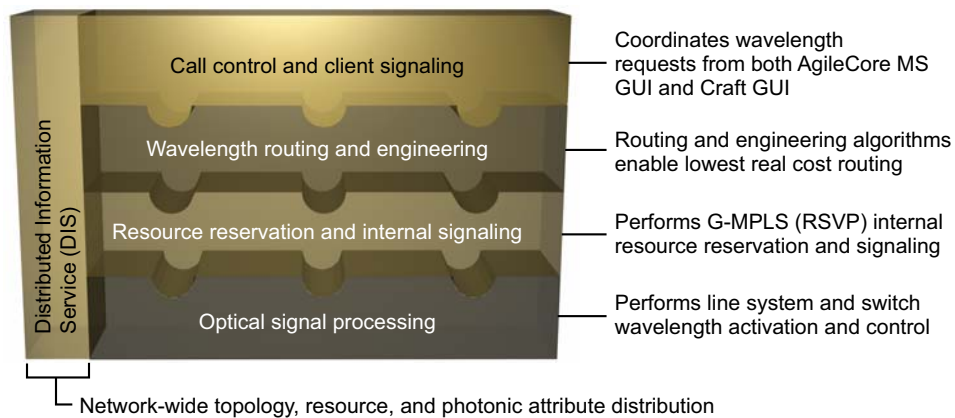
engineering effort and eliminates the need for off-line simulation to guarantee performance, enabling dynamic point to any point path set-up in minutes.

EVOLUTION TO A SWITCHED OPTICAL NETWORK

The AgileCore NOS call control infrastructure coordinates connection requests, routing & signaling activities, and wavelength activation and restoration activities. Signaling and control coordinate the activities of multiple optical path segments with the OSP layer in the network, leveraging industry proven resource reservation protocols. The embedded routing and engineering capability is available from both the AgileCore MS Connect Center as well as

(OIF) UNI client interfaces for client signaled requests. The NOS is also the nerve center for call metrics providing carriers access to billing related information for wavelength and bandwidth services.

INNOVANCE NETWORKS
delivers a portfolio of agile, intelligent photonic networking solutions that enable service providers to build profitable, next-generation core optical networks. The Innovance Networks solution offers 'Just-in-Time' capacity and accelerates the deployment of services through the core, simplifies the network and reduces the cost of operations, while addressing the network scalability challenges beyond providing raw capacity.



AGILECORE™ NOS BUILDING BLOCKS



INNOVANCE NETWORKS

19 Fairmont Avenue Ottawa, Ontario K1Y 1X4
 15 Corporate Place South Piscataway, NJ 08854 www.innovance.com

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