Scale Essential Rural Broadband Services

Converged SDN Transport for rural networks

To meet growing Internet traffic and increase subscriber access to broadband connectivity, rural service providers need a scalable network architecture that can expand capacity without overbuilding their network or adding operational complexity.

The Converged SDN Transport architecture uses advanced features and technology to help service providers design and migrate to a network that is prepared to scale to meet the increasing bandwidth and performance requirements.

The primary goal for a Converged SDN Transport architecture is to drive simplification into the service provider's network and operations with a converged and automated transport network that simplifies operations, reduces costs, and enables you to more rapidly launch new revenue generating services.

With the Converged SDN Transport architecture you can reduce the complexity and cost of managing separate network domains for your core, aggregation, and access architecture and unify different residential, business. and mobile access networks. An end-to-end IP network allows you to remove multiple layers of translation (Time-Division Multiplexing-Ethernet-IP) and reduce the amount of redundant equipment needed to operate parallel networks for each service type. Additionally, by integrating coherent optics into routing infrastructure you can remove some physical devices in the network and reduce planning complexity for upgrades, expansions, and changes to the network.

You can also simplify operations with closed-loop automation across all aspects of the network services lifecycle, benefiting from telemetry data and orchestration across network deployment, configuration, provisioning, and operations. You will be able to exceed your customers' expectations with a programmable, end-to-end IP transport solution based on SDN technologies that are designed to use real-time flow analytics and dynamic routing controls allowing you to more effectively control your network.

Optimized utilization of fiber capacity will help service providers get more out of their fiber assets. With more spectral efficiency, a higher bit rate wavelength can be run over the same fiber, getting more out of your sunk assets. Segment Routing Path Computation Elements (SR-PCE) and other network orchestration or path optimization tools can be used to ensure maximum utilization on existing capacity to lower the instance of overbuilding the network. These tools and elements can also improve network resiliency with automatic rerouting of traffic flows during outages or congestion events.
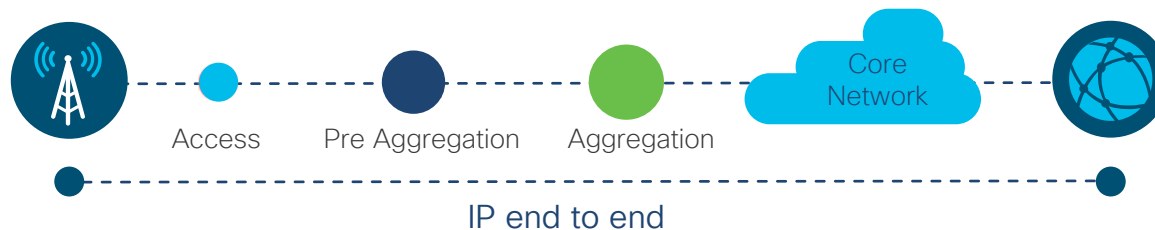
Benefits

- **Simplify operations** with a Software-Defined Network (SDN) that converges multiple traffic flows onto one common IP transport infrastructure

- **Reduce network complexity and costs** by integrating optics directly into routing infrastructure

- **Optimize fiber capacity utilization** with increased spectral efficiency and a higher bit rate wavelength

- **Improve network control** and deliver the **quality of service** consumers expect with a unified control plane based on segment routing technology and network slicing

- **Improve customer experiences** with real-time network visibility and actionable insights that reduce Mean Time to Repair (MTTR)

- **Accelerate time to market** for new services and increase revenue with a service-focused network

Access   Pre Aggregation   Aggregation   Core Network

IP end to end

Evolve your rural network with a converged architecture to:

- Evolve from unified Multiprotocol Label Switching (MPLS) towards segment routing and Ethernet virtual private networking with end-to-end IP from the access to the core network.

- Unify your wireline and wireless network services onto a common, resource-efficient transport network with scalable traffic engineering, a simplified protocol stack, and the ability to meet stringent performance metrics.

- Offer strict, agile, end-to-end service level agreements across any type of access technology built upon segment routing.

- Converge optics and routing with 100G/200G coherent optics directly in the router, helping to reduce your Total Cost of Ownership (TCO).

- Offer new personalized network experiences for your rural broadband customers.

Build a Converged SDN Transport network architecture while expanding the reach of your broadband infrastructure and improving the resiliency, flexibility, and cost effectiveness of your network.

Learn more

Discover the building blocks of Converged SDN Transport

Explore all of our Rural Broadband Network Solutions