Edge-corE ®

NETWORKS

Open Networking Solution Designed for Service Providers from Edge Access, Aggregation to Core Networks

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Overview

Edgecore helps service providers as they begin the journey towards Open Networking network solutions. Edgecore wants to enable our customers by providing them more choices and control of their network infrastructure.

Edgecore promises to deliver the leading connectivity solutions and services through productizing open software and hardware solutions for service providers and new experiences for their customers.

In Edgecore, we offer disaggregation solutions covering all spectrum of the network, from broadband access, edge computing, mobile network, and edge switching.

Edgecore develops a turnkey ecosystem of hardware and software networking platforms for service providers to unlock the potential of open networking and release the new service experience across mobile and multi-cloud landscapes.

Complete Solutions from Edge to Core

Working with software partners across the spectrum, Edgecore delivers Telco solutions from edge to core for different markets. By allowing customers to be flexible on the choice of business model and networking technology, our solution can be tailored to solve customer needs and issues they faced.

Edgecore offers integrated service provider solutions, helping operators to optimize their network architecture and service experience; these solutions are the key building blocks for Telco networks.

Mobile Network

Service providers are expanding their mobile networks rapidly to respond the high-bandwidth connectivity and demands for new services and subscribers with existing the 3G, 4G, and 5G infrastructures. To support this evolution, the infrastructure must evolve to support higher speed interfaces, precision timing, and synchronization, with high reliability.

Edgecore's compact, temperature hardened **CSR family (Cell Site Routers)**, versatile **AGR family (Aggregation Routers)** and high-performing **COR family (Core Routers)** are purpose-built to address these challenges.

FTTx Broadband Access

With the introduction of 5G mobile networks, the data traffic has grown rapidly from home, community and office. Operators are planning to upgrade their network infrastructure to deliver scalable and manageable broadband access services. This has accelerated the need for FTTH network service. The open OLT solution allows service providers to offer a mix of PON services from an SDN-enabled infrastructure, thereby lowering costs and increasing service flexibility.

Edgecore disaggregated OLT series enable service providers to deploy XGSPON / GPON based FTTx service from Central Office Re-architected as a Datacenter (CORD) infrastructures, and support residential and business-service delivery.

In addition, the CSR family together with Edgecore access switches can also form as ETTx service for residential, business, wireless backhaul, providing flexible 1G/2.5G/10G symmetric dedicated upstream/downstream speeds to each subscriber.

Enterprise

With BYOD assuming its role as an industry standard, small and medium-sized enterprises have more devices and applications connecting to the network, bandwidth-hungry applications increasingly threaten overall network stability and performance.

In order to provide a scalable and stable network environment to the Enterprises, Edgecore provides Multi-Gig EPS family (Enterprise Switch) solution to upgrade their network structure on existing cables and let the existing network and Wi-Fi infrastructure embrace the higher network speeds.

Together with Edgecore Access Switches and Edgecore Wi-Fi 6 Access Points, the office building can achieve full coverage of high-speed wired and wireless networks to bring the functionality and connectivity needed to guarantee the growth bandwidth needs that enterprise users expect.
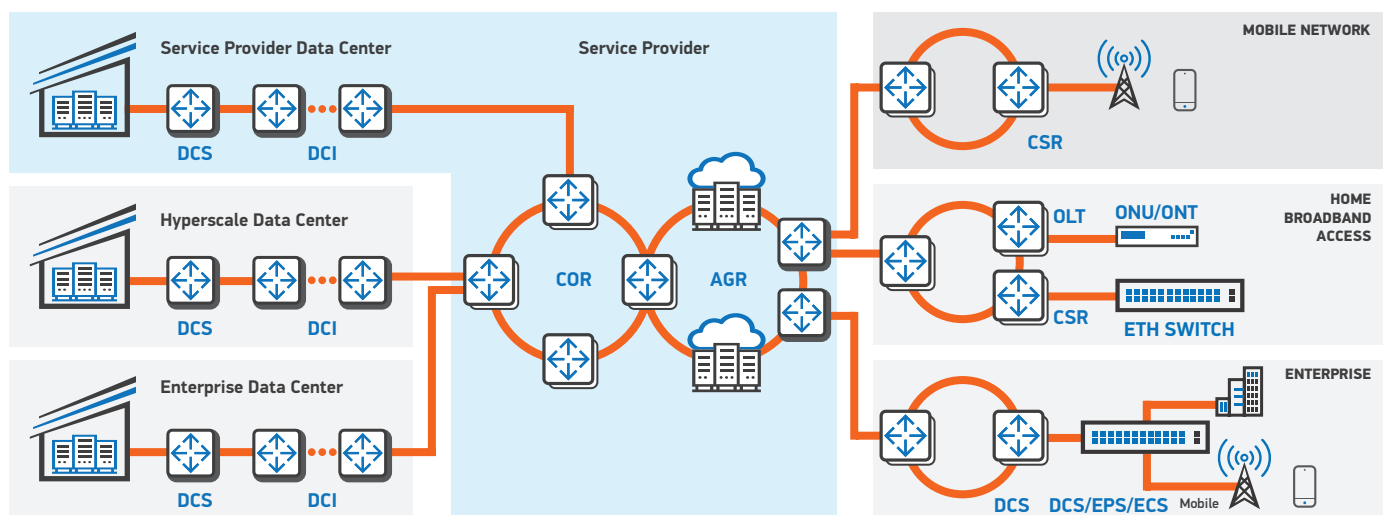
Applications

Mobile xHaul Transport

To meet the demands for new 5G infrastructure, mobile network operators now have embraced open networking as a solution. To adopt 5G networks, there is not only increased traffic and data rates to accommodate, but also a vast increase in the number of small cell sites. Operators need a cost-effective solution to facilitates greater innovation as well as reduce both CAPEX and OPEX without compromising performance and quality.

Edgecore open cell site gateway – **CSR series**, is designed with high port density and speeds for 5G networks, and is compact and efficient for easy deployment at cell sites. It supports Layer 2, Layer 3, and MPLS features - with time synchronization protocols such as IEEE-1588 v2 and Synchronous Ethernet with Class C accuracy. In addition, Edgecore CSR series based on the latest generation chipset provides 802.1CM Time Sensitive Networking (TSN) interface, supporting SRv6 technology and eCPRI encapsulation for up-coming xHaul applications and deployments.

Edgecore comprehensive, end-to-end telco solution, from access layer to aggregation layer, all the way to the core, provides flexibility and scalability for xHaul transport network to best meet operator's requirements.

MOBILE BACKHAUL *Mass Deploying*
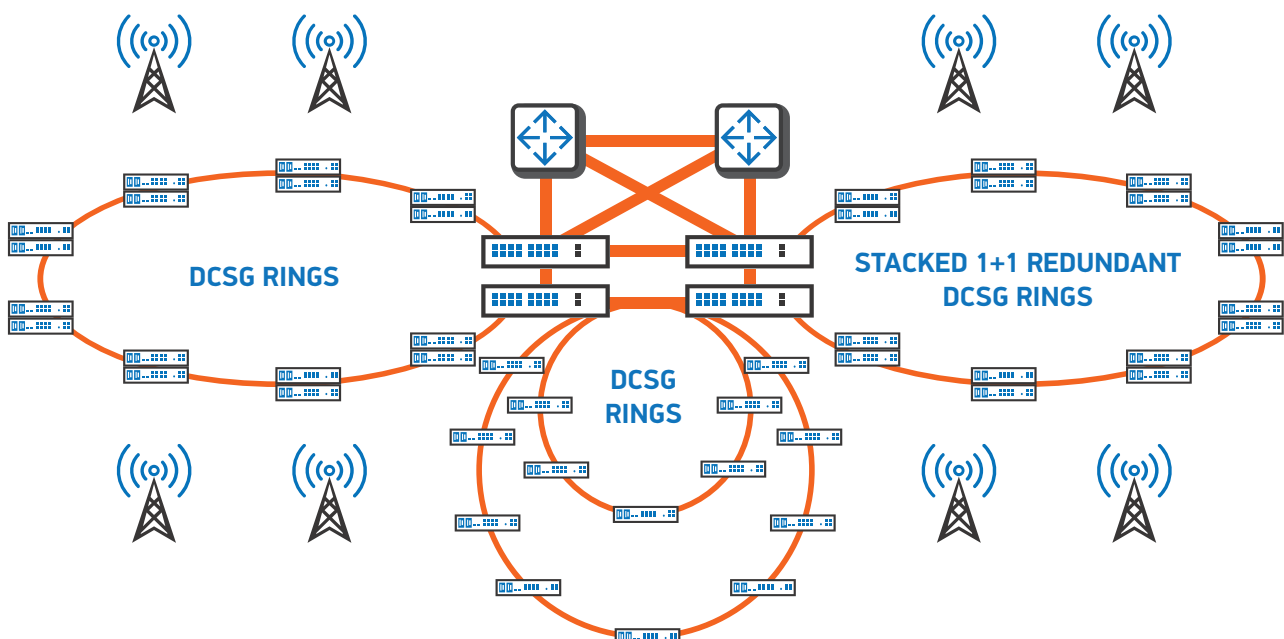
Aggregation and Open Broadband Network Gateway (BNG)

The scalability of distributed and open network architecture is allowing additional devices to be added as required, this pay-as-you-grow model could improve TCO. In aggregation layer, Edgecore field-proven and multirole-capable Aggregation Router (AGR series) portfolio offers the carrier-grade quality that is expected by service providers.

Edgecore latest AGR series products provide high switching capacity, and deep buffering memory with a large TCAM, capable of providing TSN interfaces, network slicing, and eCPRI encapsulation, which is best act as a PE router, or an Internet peering router, also fits in 5G networks.
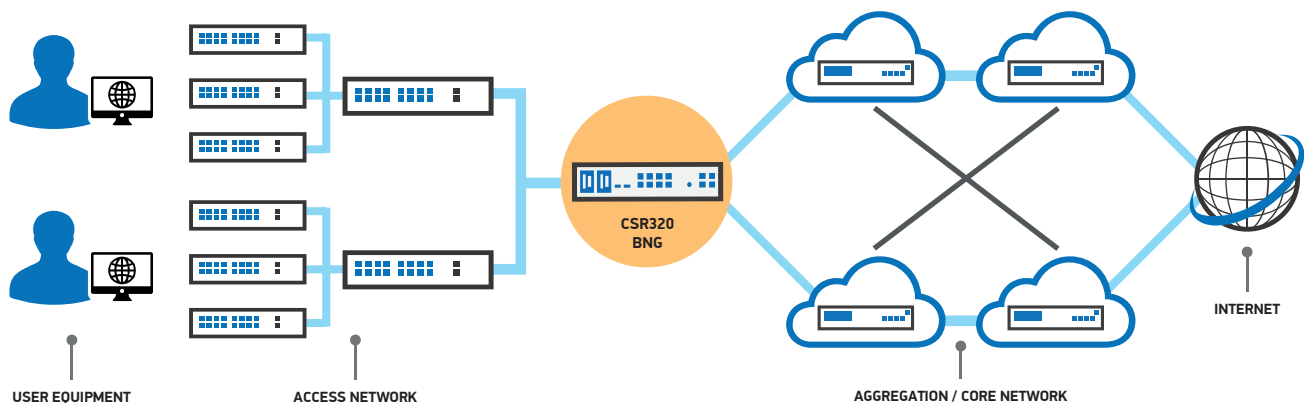
AGGREGATION
Mass Deploying

800Gbps+ Aggregation
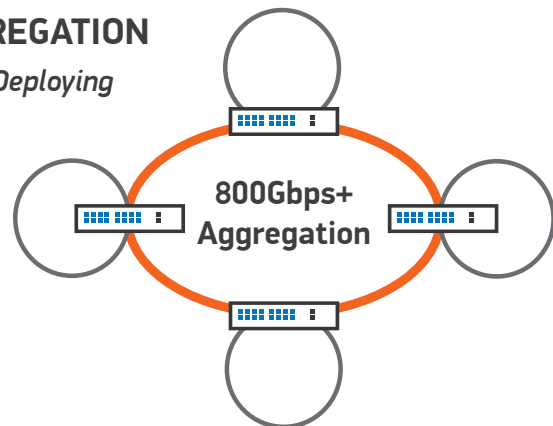
Edgecore AGR series is also an ideal solution for Broadband Network Gateway (BNG). BNG platforms with a large TCAM enables high scale of subscribers to connect to the broadband network, with subscriber management and traffic aggregation with BNG software stack from NOS partners we work closely with, forming a BNG solution for different business size of deployments.

CSR Series:

For smaller distributed BNG deployments closer to subscribers, and is located between the access network and the aggregation/core network.

CSR320 BNG

USER EQUIPMENT   ACCESS NETWORK   AGGREGATION / CORE NETWORK

INTERNET

AGR100 Series:

For medium centralized or distributed BNG deployments located between the aggregation and core network. Supports MPLS and PE router functionality along with BNG. Scales to support a higher number of subscribers and traffic throughput.
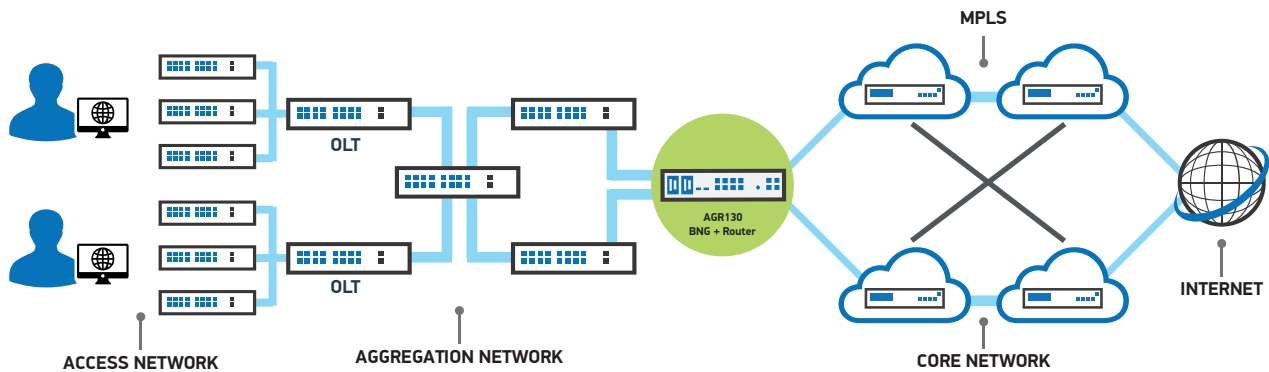
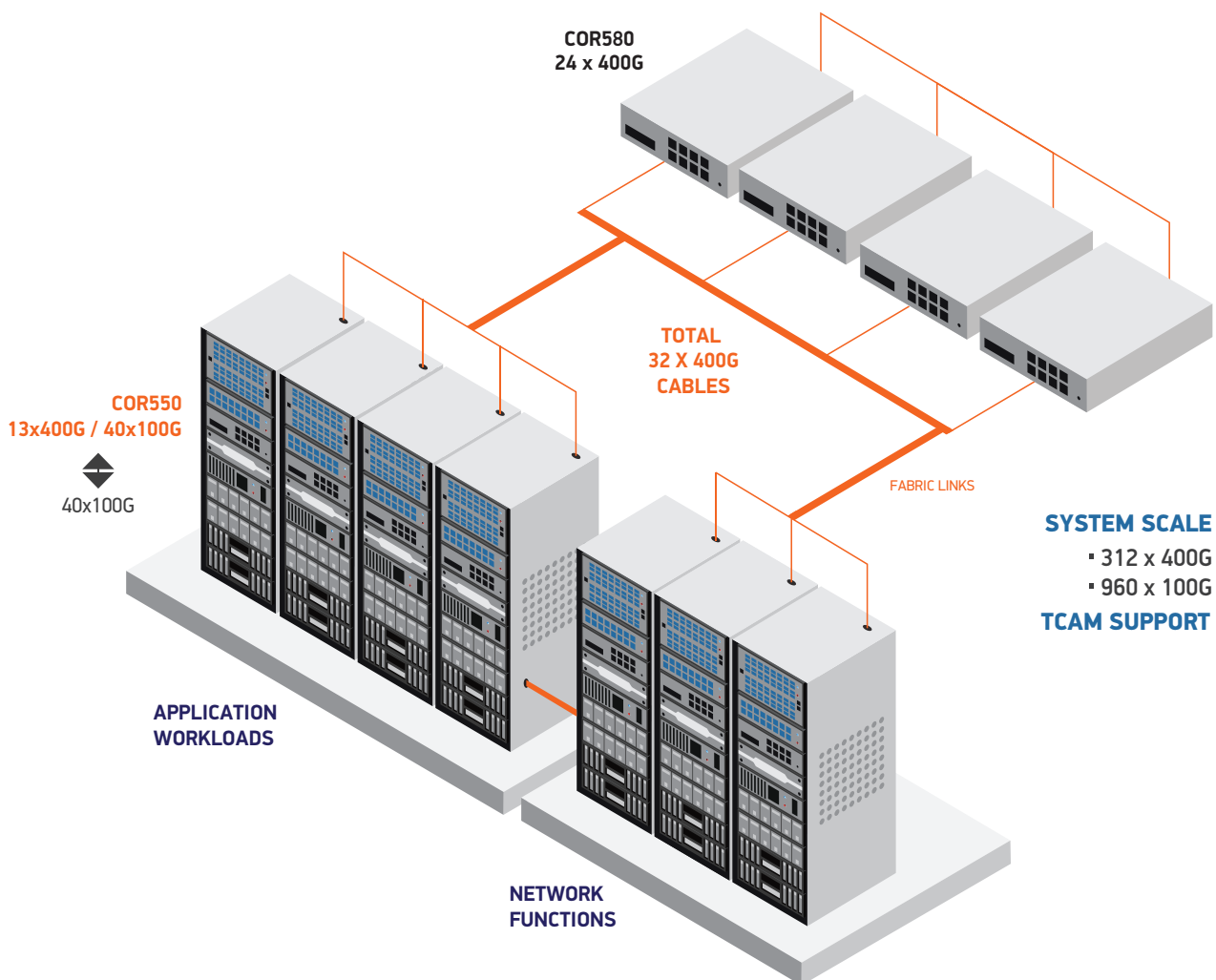## AGR400 Series:

For large centralized or distributed multi-service BNG deployments located between the aggregation and core network, and supports seamless MPLS on both uplink and downlink. Supports encapsulation of subscriber sessions over MPLS pseudowire. Capable of supporting MPLS and PE router along with BNG functionality. Highly scalable to support a large number of subscribers and traffic.
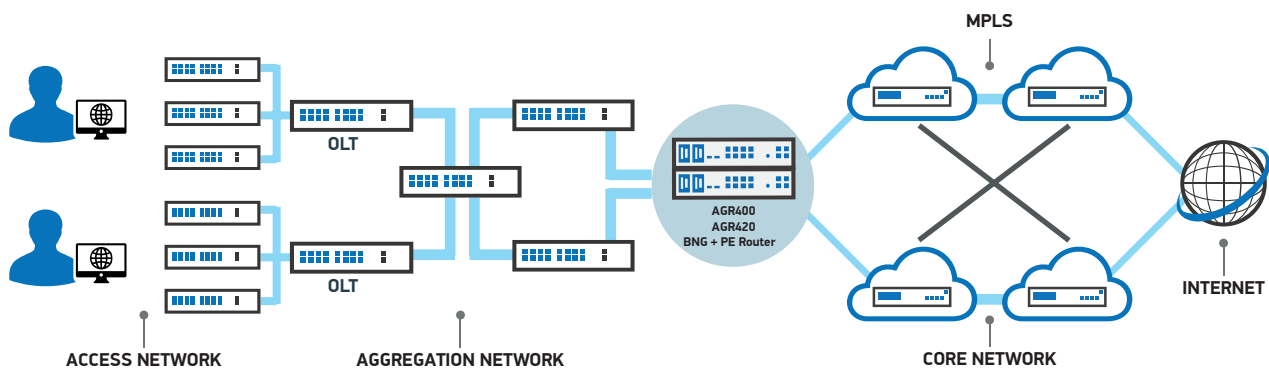
Edge-corE®
NETWORKS

Distributed Disaggregated Chassis

As service provider networks rapidly transform, Edgecore is now developing distributed disaggregated chassis systems based on Broadcom's Jericho2 and Ramon switch ASICs - the Core Routers Series (COR series), that provide the required deep buffers, port density, and horizontal scale-out flexibility.

These new devices conform to Open Compute Project (OCP) specifications for a distributed disaggregated chassis, where a number of switch systems connected through fabric links operate as if they were a single logical router with 100G external I/O links. The 400G fabric links employ a cell-based protocol with fixed-size packets distributed across multiple fabric interfaces forming a redundant, non-blocking leaf-spine topology. With extensive scalability, the distributed disaggregated chassis offers service providers the ideal solution as they strive to keep ahead of the growing bandwidth demands in their aggregation networks. And provide service providers the flexibility to expand their network as required.

COR580
24 x 400G

COR550
13x400G / 40x100G

40x100G

TOTAL
32 X 400G
CABLES

FABRIC LINKS

SYSTEM SCALE
- 312 x 400G
- 960 x 100G
TCAM SUPPORT

APPLICATION WORKLOADS

NETWORK FUNCTIONS

FTTx Application

With the increasing demand for bandwidth driven by high-speed broadband Internet access, IoT devices and video streaming services, operators require a new Fiber-To-The-X infrastructure to fulfill the customers' needs. With more interests from service providers worldwide in disaggregated PON service delivery from Residential CORD environments, Edgecore helps operator to build a future-proof network to deliver the best customer experiences.

Edgecore OLT product line provides GPON and 10G XGS-PON based on Broadcom StrataDNX™ chipset and PON MAC SOC merchant silicon to deploy 10G PON/GPON services with a lower cost and greater software control over SDN-managed open network infrastructures.

Edgecore accelerate the availability of open hardware manageability from open software platforms to increase flexibility and improve performance for broadband access and other services.

ETTx Application

In addition, Edgecore offers another cost-effective Ethernet-To-The-X solution for operators to offer end-to-end service. We recommend to leverage high volume products to enable the better lead time and reduction on the cost. With Edgecore CSR Series at the access layer, which support timing synchronization and flexible 1G/10G/25G/100G/400G interfaces connecting to Edgecore access switches, to form a reliable and resilient solution with comprehensive security, robust multicast control, advance QoS and simple management network.
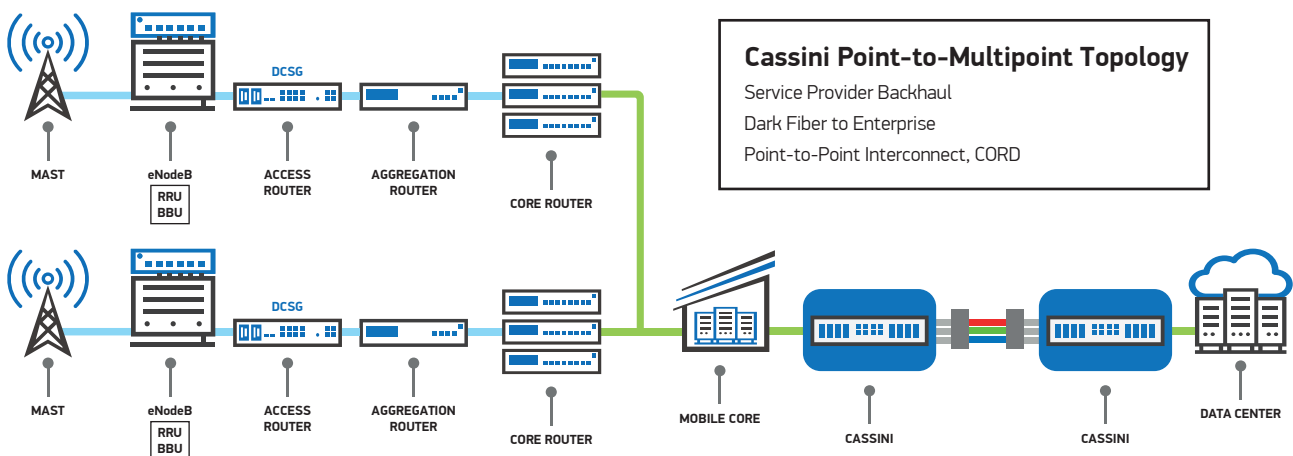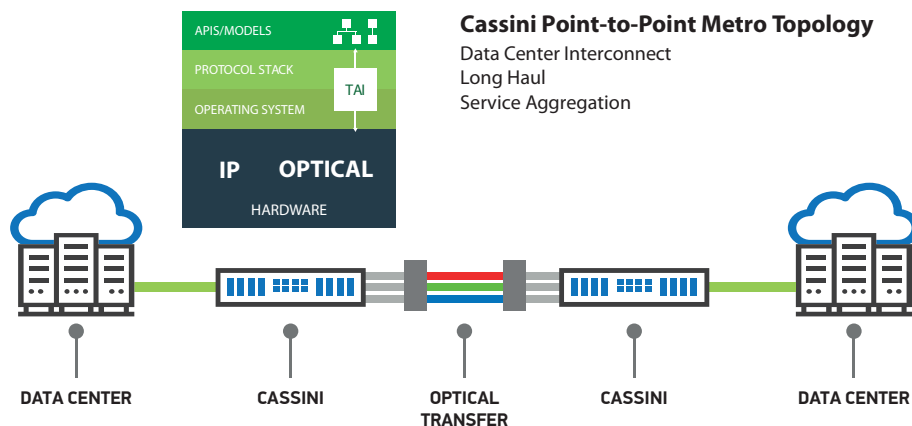

ODN

vOLT Series

Nx10/25G (DWDM)
or
100G/400G Access Ring

CSR Series

Access Switch 4530 CSFP
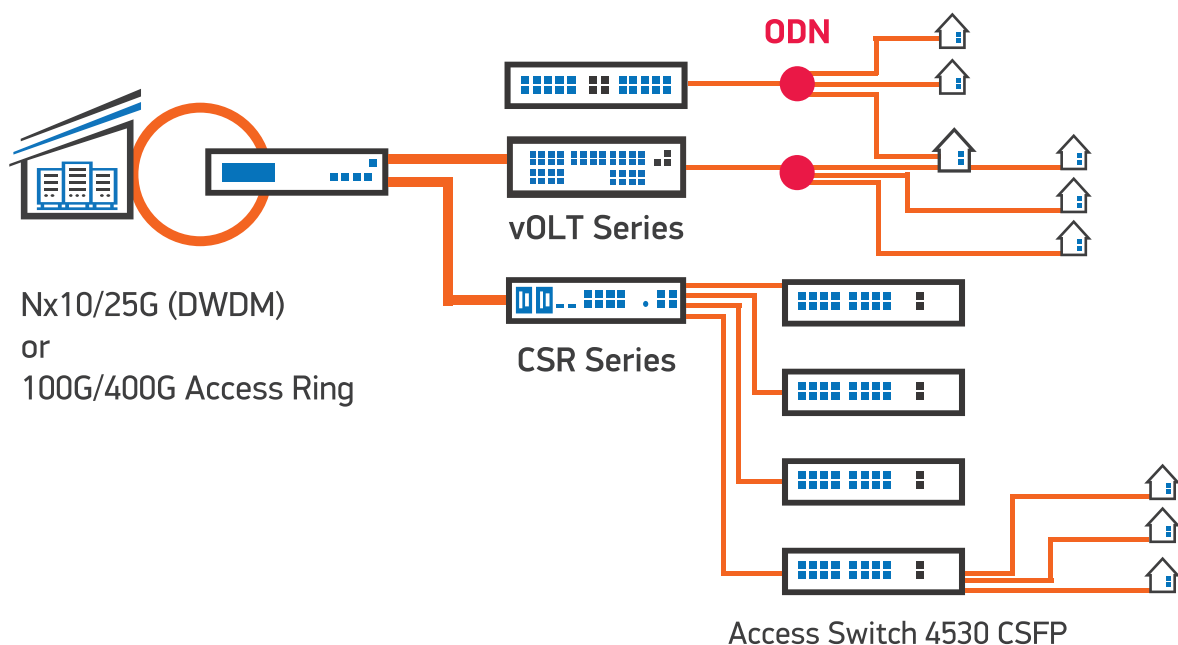
Metro and Long-Haul Optical Transport

Explosive bandwidth demands in mobile 4G and soon 5G, fixed wireline and cable networks is driving providers to rapidly scale the capacity of the Optical Transport Network (OTN). The underlying OTN infrastructure is very complex, expensive and is a closed hardware and software system. Service Providers are now demanding more open, scalable and cost-effective infrastructure.

Edgecore Cassini, the industry's first open packet transponder, is built to enable network operators to easily extend and migrate existing metro and long-haul Dense Wavelength Division Multiplexing (DWDM) networks by adding new 200G capacity and extend inter-datacenter and Layer 3 services all in an open network platform.

With a flexible mix of fixed 100G packet switching ports and expandable 100/200G coherent optical line cards, Edgecore Cassini also comes encryption with MACsec to enable secured connections on both client facing links and metro or wide area connections.

Edgecore has many successful deployments all over the world. Cassini connects networks from cities to villages without boundaries. In addition to its easy management, Cassini improves operational experience by cutting down CAPEX and OPEX, and offers more flexibility for data center interconnection and long-haul optical transport.

Cassini Point-to-Point Metro Topology
Data Center Interconnect
Long Haul
Service Aggregation

APIS/MODELS
PROTOCOL STACK
OPERATING SYSTEM
TAI
IP   OPTICAL
HARDWARE

DATA CENTER   CASSINI   OPTICAL TRANSFER   CASSINI   DATA CENTER

Cassini Point-to-Multipoint Topology
Service Provider Backhaul
Dark Fiber to Enterprise
Point-to-Point Interconnect, CORD

MAST   eNodeB RRU BBU   DCSG   ACCESS ROUTER   AGGREGATION ROUTER   CORE ROUTER

MAST   eNodeB RRU BBU   DCSG   ACCESS ROUTER   AGGREGATION ROUTER   CORE ROUTER   MOBILE CORE   CASSINI   CASSINI   DATA CENTER

Successful Cassini Case Studies

✅ **Turkcell Completes First Live Network Trial of TIP's Cassini Solution in Turkey (2021)**

Edgecore's Cassini packet-optical switches with IP Infusion's OcNOS and equipped with Lumentum's 100/200G CFP2-DCO pluggable modules, successfully connected two of Turkcell's data centers (DC), and a DC from Gebze to Europe that are 150 km apart.

✅ **Multinet Chooses IP Infusion's OcNOS® and Edgecore's Cassini 3.2T Coherent Switch for World's Largest Open Optical and Packet Transport Nationwide IP Network Upgrade**
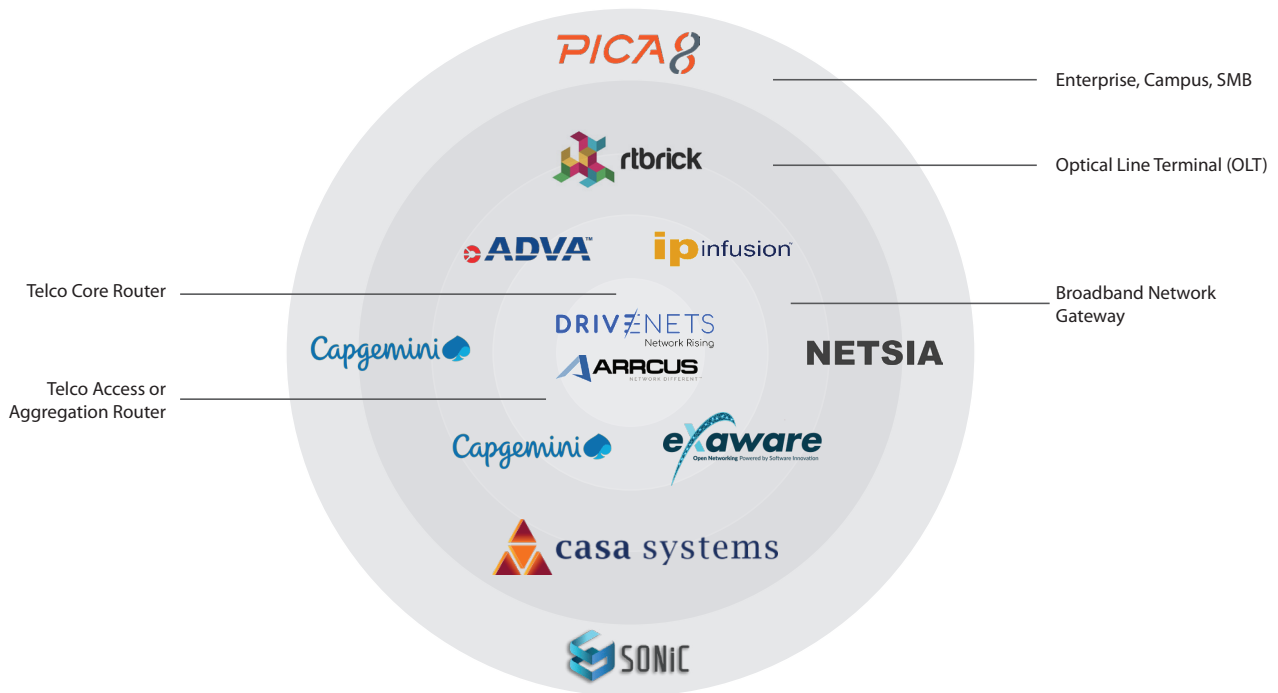
Multinet, Pakistan's premier information and communications solution provider, selected Edgecore's Cassini 3.2T Coherent switch and IP Infusion's OcNOS® networking operating system in its nationwide IP upgrade to 3.2 Tbps. This project, based on solutions developed by Telecom Infra Project (TIP), is the largest Open Optical and Packet Transport (OOPT) project to date. Multinet will be upgrading its transport network that spans the entire country covering more than 120 cities, across more than 14,000 kilometers, and supporting more than 150 million people in the region.

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Edge-corE® NETWORKS

Software Partners Ecosystem

Within an ecosystem of software partners, Edgecore delivers networking solutions based on open hardware and software platforms that increase choice, freedom, greater control, encourage and quicken innovation and lower TCO. We're continually developing break-through hardware and software that leads the networking industry and creates new business opportunities.

- Enterprise, Campus, SMB
- Optical Line Terminal (OLT)
- Broadband Network Gateway
- Telco Core Router
- Telco Access or Aggregation Router

PICA8
rtbrick
ADVA
ip infusion
DRIVENETS Network Rising
Capgemini
ARRCUS NETWORK DIFFERENT
NETSIA
exaware Open Networking Powered by Software Innovation
casa systems
SONiC

Product Overview

Edgecore offers open networking solutions across all network layers, into a broad range of end-to-end solutions for specific deployment cases ranging from broadband access, edge computing, mobile backhaul, and edge switching.
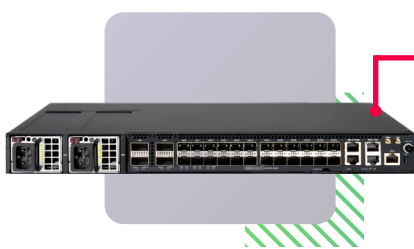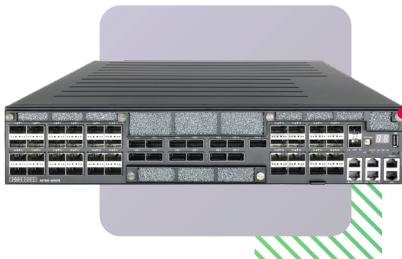
Cell Site Routers – CSR Series

For Mobile xHaul Transport

SEE MORE »

Aggregation Routers – AGR Series

For Aggregation and Open Broadband Network Gateway (BNG)

SEE MORE »

Core Routers – COR Series

For Distributed Disaggregated Chassis

SEE MORE »

GPON / XGS-PON OLT

For FTTx Broadband Access

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Cassini Packet Transponder

For Metro and Long-Haul Optical Transport

SEE MORE »

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