Edge-corE ®
NETWORKS

Professional Solution Provider
to Power Your Network

Contents

Overview

As our data-centric world rapidly develops around us, operators are looking for the professional solution provider to offer the one-stop shop for next-generation network infrastructure with greater server density and processing power, to help absorb demanding workloads and cope with an upcoming traffic surge from new technologies.

As a leader in open networking, Edgecore's mission is to enable access to networking technology to all, from small enterprises to large tier-1 operators. Edgecore provides innovative connectivity solutions to allow operators and partners to accomplish more. Through cutting-edge hardware design from Cloud data centers to Core & Aggregation Routers; Production ready, Commercially Deployable Distribution of SONiC operating system; and the state-of-art services included, Edgecore enables customers to realize the benefits of open networking and lowers the entry barrier to acquire the latest networking technologies.

Solution Highlights

Edgecore has industry-leading open networking hardware designs which includes a broad product portfolio spanning 400G/100G/25G/10G/2.5G/1G switches for data centers, service providers, enterprises, and chain stores.

Enterprise SONiC Distribution is an open, production ready, commercially deployable distribution of SONiC, which runs on Edgecore switch platforms. Edgecore works with application providers to offer an ecosystem of value for operators to build up the Enterprise SONiC for their applications.

Edgecore Customer Service offers a wide-range of services to aid from network planning and design, to deployment and on-going support/maintenance activities. No longer do customers have to worry about who to call in a disaggregated, open networking landscape.

Edgecore also supports broadest set of commercial and open source software choices in the industry, providing customers with alternatives to meet their specific requirements.

Edgecore serves you more than just simple selling, we are here to help you hold the key to success and value realization.

![Edge-corE NETWORKS logo]

Edgecore Cloud Data Center Solution

Key Values

Flexibility

In traditional networking, devices and their software come in a proprietary format with limited and closed OEM solutions. Edgecore Cloud Data Center Solutions make networking infrastructure more flexible and customizable, users can utilize Edgecore's turnkey hardware platforms and Enterprise SONiC configurable operating system with container-based architecture, which allow users to deploy the best topology and protocols for their network environment.

Greater Control

Many organizations would like to deploy SD-WAN solutions to reduce WAN costs and improve network performance. To take advantages of software-defined networking, Edgecore Open Cloud Data Center with common abstraction protocols is an ideal solution. With this approach, users are no longer tied to any particular platform; they can more holistically manage their data center switches and other networking components.

In addition, Enterprise SONiC is the open source oriented network operating system, it has a visible source code without hidden security holes, allowing checking against "back doors", or scanning for known security vulnerabilities. This provides an inherent level of controlling.

Rapid Innovation

A key for rapid innovation is avoiding vendor lock-in; users should have the flexibility to deploy a network infrastructure not only for today, but also for the future. Edgecore works closely with communities and software partners to continuously progress and improve product design, allowing users to retain agility and move faster to capture opportunities in the market.

Cost Effective

The automated and accelerated provisioning of network capacity and services are key factors that help users save costs and reduce CAPEX and OPEX.

- Reduced network equipment expenses: Removal from vendor proprietary extensions.
- Reduced operating expenses: Greater control over the development of enhanced network services, economies of scale, and easy-to-use configuration and management.

Enterprise SONiC Distribution

Enterprise SONiC Distribution is an open, production ready, commercially deployable distribution of SONiC, which is directly derived from the Community SONiC and hardened on Edgecore switch platforms with feature enhancements and accelerations according to field feedback; operators can benefit from openness with a proven, validated, and supported software offering.

In addition, Enterprise SONiC is validated with a variety of optics and cables delivered by Edgecore, as well as industry sources. This ensures that the overall interoperability of switch hardware, firmware, NOS, and connectivity, from drivers to applications, are proven to work together, eliminating the concerns about platform-transceiver/cable compatibility.

OPEN SOURCE, PRODUCTION READY & PROFESSIONALLY SERVICED SONiC
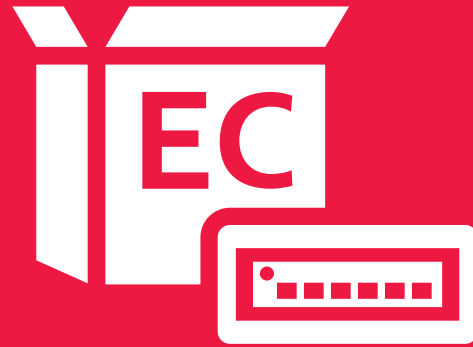
Benefit from a Hardened / Tested Solution

In order to support the commercially-deployable quality grade, Edgecore invested a developing and testing lab which supports the CI/CT (Continuous Integration and Continuous Test) workflow with fully automatic code generation and regression (acceptance) testing. The infrastructure of the lab is built on top of a tier-1 cloud service provider. It is possible to access the lab via VPN from worldwide in cost and time saving manner.

CI / CT Workflow
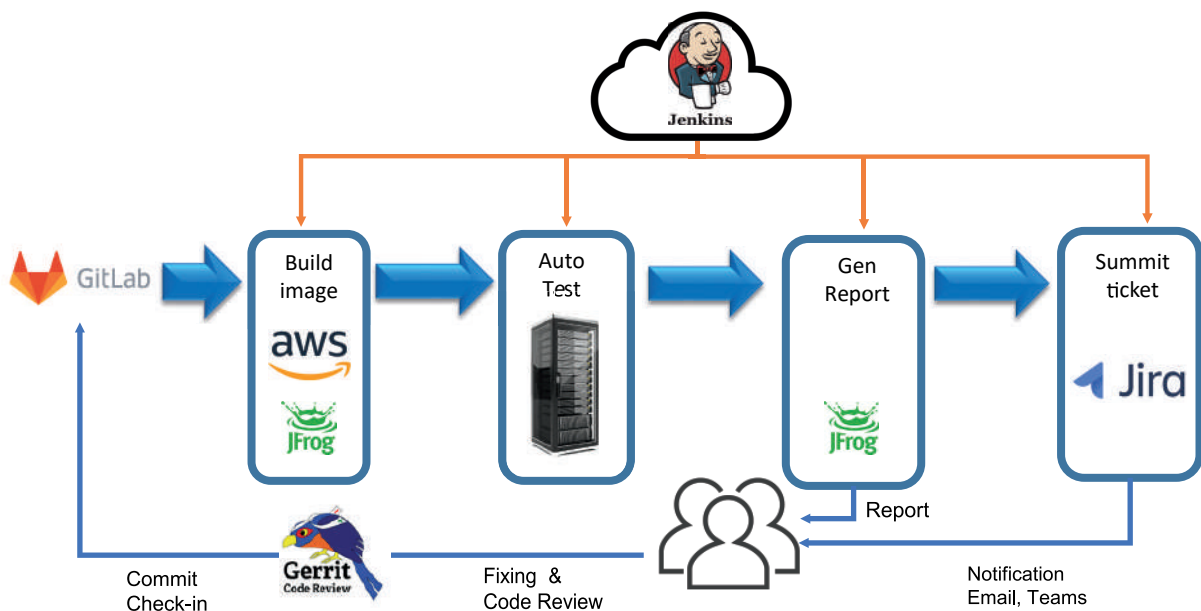
Edge, Enterprise and Cloud Data Center
Features

Enterprise SONiC Distribution integrates enterprise-ready features including Layer 2 and Layer 3 functions, Quality of Service capabilities, and key management protocols. A key to choose Enterprise SONiC Distribution is its focusing on L3 Data Center fabrics. In a multi-tier CLOS-based architecture, Enterprise SONiC is able to achieve impressive levels of scale – growing with you as your data center network requirements grow.

LAYER 2

LAG (LACP)	LLDP	MAC Aging	MC-LAG	Port Mirroring
QinQ (802.1Q Tunneling)	STP/PVST	TPID Configuration	VLAN Translation	VLAN/VLAN Trunk

LAYER 3

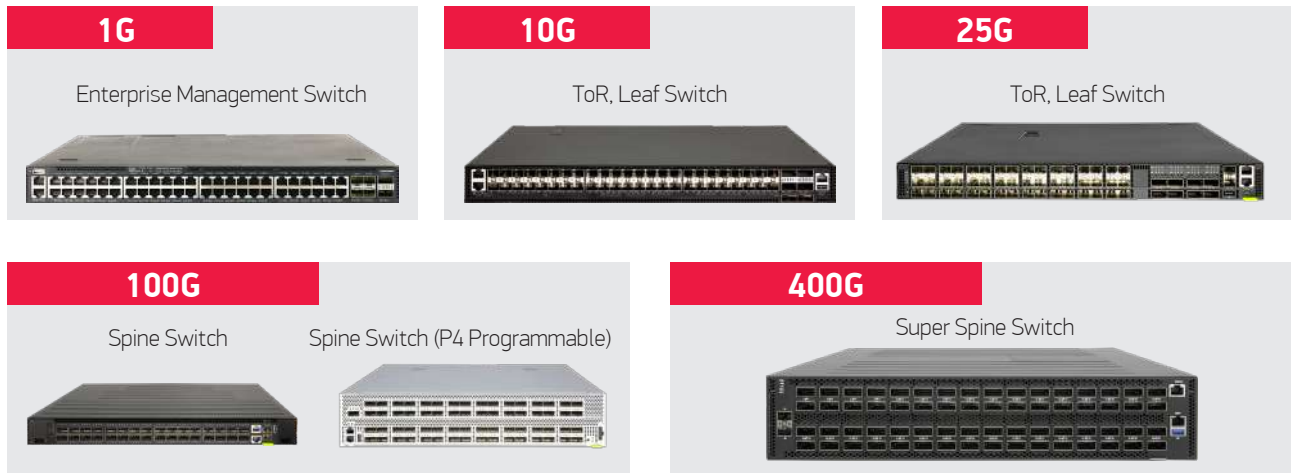|					
BGP	BGP Graceful Restart	BGP Graceful Restart Helper	BGP Multiprotocol	BGP Unnumbered Links	Critical Resource Monitoring
ECMP	EVPN / VxLAN	EVPN Multihoming	IPv6	IS-IS	NAT
	OSPF	Proxy ARP	Static Anycast Gateway	VRF	VxLAN

QUALITY OF SERVICE

COS	DSCP	ECN	Priority Flow Control (PFC)	PFC-WD
PFC Watermark	Asymetric PFC	WRED	Ingress ACL-based Mirroring (ERSPAN)	Egress Port Shaping (port, queue)
		Port Rate Limiting		

SECURITY FEATURES

Ingress/Egress ACL Permit/Deny	COPP	TACACS+	RADIUS

Supported Platform

1G	10G	25G
Enterprise Management Switch	ToR, Leaf Switch	ToR, Leaf Switch

100G	400G
Spine Switch / Spine Switch (P4 Programmable)	Super Spine Switch

* For detailed information, please visit Edgecore website.

Where does Edgecore Solutions Deployed

Edgecore Open Network Solutions are deployed in the Data centers, Enterprises, Campuses and Retail stores. Edgecore allows customers to leverage existing open networking solutions and focus on what they do best, such as creating network applications or integrating networking elements into a more complex system.

Use Case	Speed of Switch	Applied Features	Edgecore Models
Data Center	10G/25G/100G	Clos (ToR/leaf/spine) architecture EVPN/VxLAN, SAG, MCLAG	DCS201/DCS202/DCS208 (10G) DCS203 (25G) DCS204/DCS500/DCS501 (100G) DCS800 Series (100G, P4 Programmable)
Enterprise	1G/10G	Company network - Manage data plane of servers - Provide management network data path for the management of servers VLAN, LACP, MCLAG	EPS200 Series (1G) DCS201/DCS202/DCS208 (10G)
Retail / Enterprise	1G (with PoE)	Connect to company WAN for remote management PoE network with Wi-Fi, VoIP phone Management VRF, NAT, LACP	EPS200 Series (1G)
High Performance Computing	100G/400G	Full mesh EVPN/VxLAN, SAG, RDMA, telemetry Programmable fabric	DCS204/DCS500/DCS501 (100G) DCS240/DCS510/DCS520 (400G) DCS810 (400G, P4 Programmable)

Data Center Spine-and-Leaf Solution

With east-west traffic growing, operators need low-latency, optimized traffic flows to increase network performance. A spine-leaf network architecture makes sure that traffic must cross the same number of devices to get to the next destination. This approach provides load balancing, the overall traffic becomes predictable and IT managers obtain a greater control over the network.

In a spine-and-leaf topology, every leaf switch is connected to the spine switches in a mesh topology. The spine switches are the backbone of the network and are responsible for interconnecting all leaf switches. Packets are allocated randomly in the entire network, so traffic is evenly distributed among the top-of-rack switches. If any top-of-rack switch fails, packets are distributed to other switches for processing

In addition, a spine-leaf architecture provides better scalability. If operators need to expand the capacity to serve more subscribers, additional switches can easily be added to the topology. This not only increases the total bandwidth, but also reduces the OPEX of network expansion by optimizing the process of scaling the network.

Edgecore offers cutting-edge solutions, including switch hardware (with choice of different silicon designs) and operating system SONiC to fully support spine-leaf architecture – from 1G management switching up through 10G and 25G top-of-rack or leaf layers, and then 100G and 400G for spine or super-spine layers.

SONiC

SUPER SPINE 64x400G
DCS520

SPINE 100G/400G
DCS200/500/800 SERIES

**LEAF/ToR
25G/100G/400G**
DCS200 SERIES
COMPUTE+STORAGE
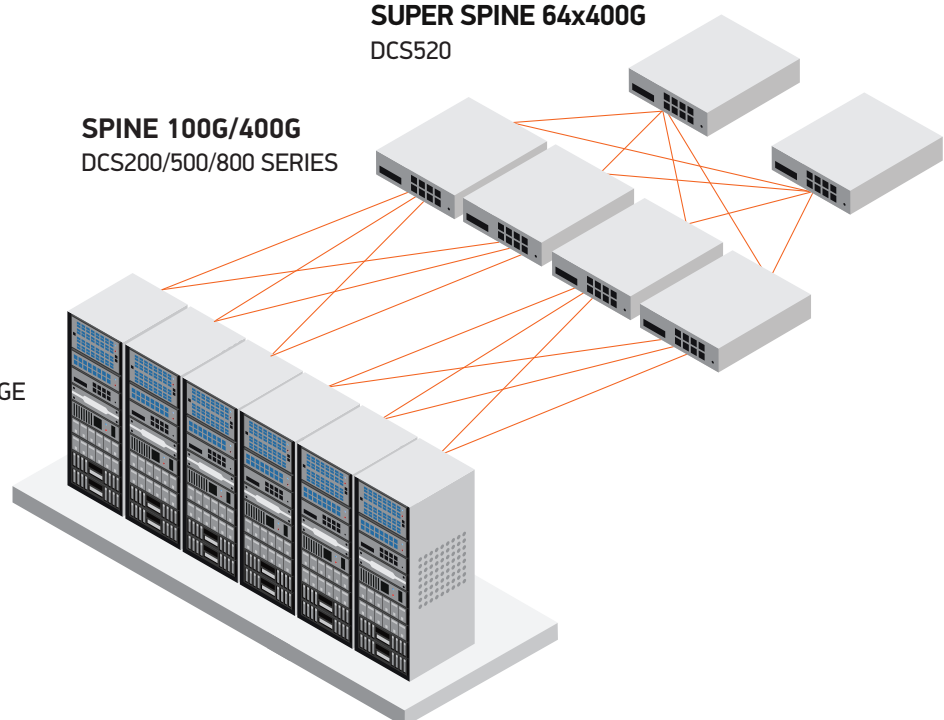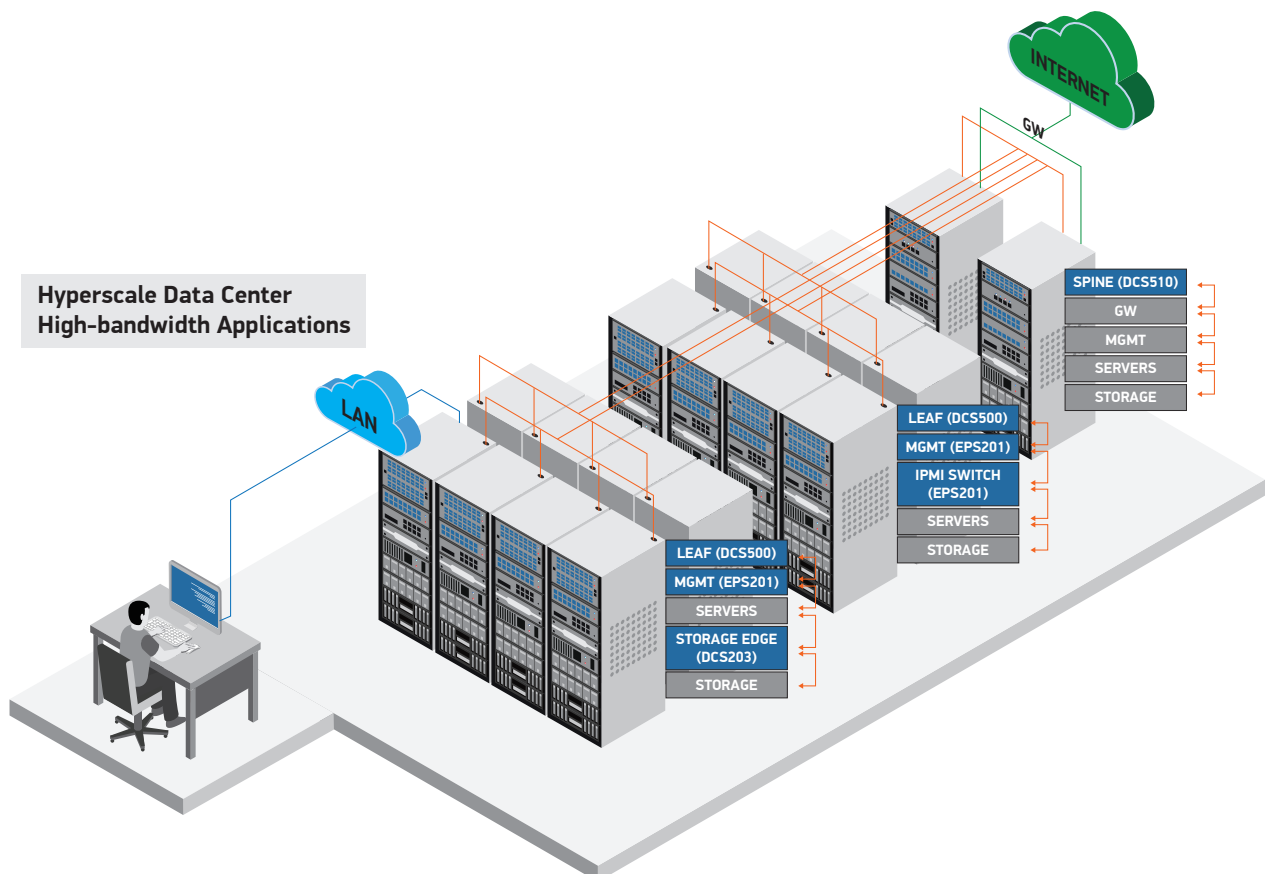
Edge-corE® NETWORKS

Hyperscale Data Center

Application Scenarios

Fast, scalable, and flexible design

Edgecore cloud data center solutions leverage an SDN fabric, which is easy to set up and provision, so the network has the ability to scale as a business expands. Centralized management eliminates box-by-box network management, providing fast, scalable, and flexible designs that meet customer needs as a business grows.

SYSTEM REQUIREMENTS

- Dynamic scalability of the networking infrastructure as business grows;
- Quick set-up and easy-management system;
- Reduce CAPEX and OPEX;
- Retain agility and avoid the threat of vendor lock-in.

Hyperscale Data Center High-bandwidth Applications

INTERNET
GW

SPINE (DCS510)
GW
MGMT
SERVERS
STORAGE

LEAF (DCS500)
MGMT (EPS201)
IPMI SWITCH (EPS201)
SERVERS
STORAGE

LAN

LEAF (DCS500)
MGMT (EPS201)
SERVERS
STORAGE EDGE (DCS203)
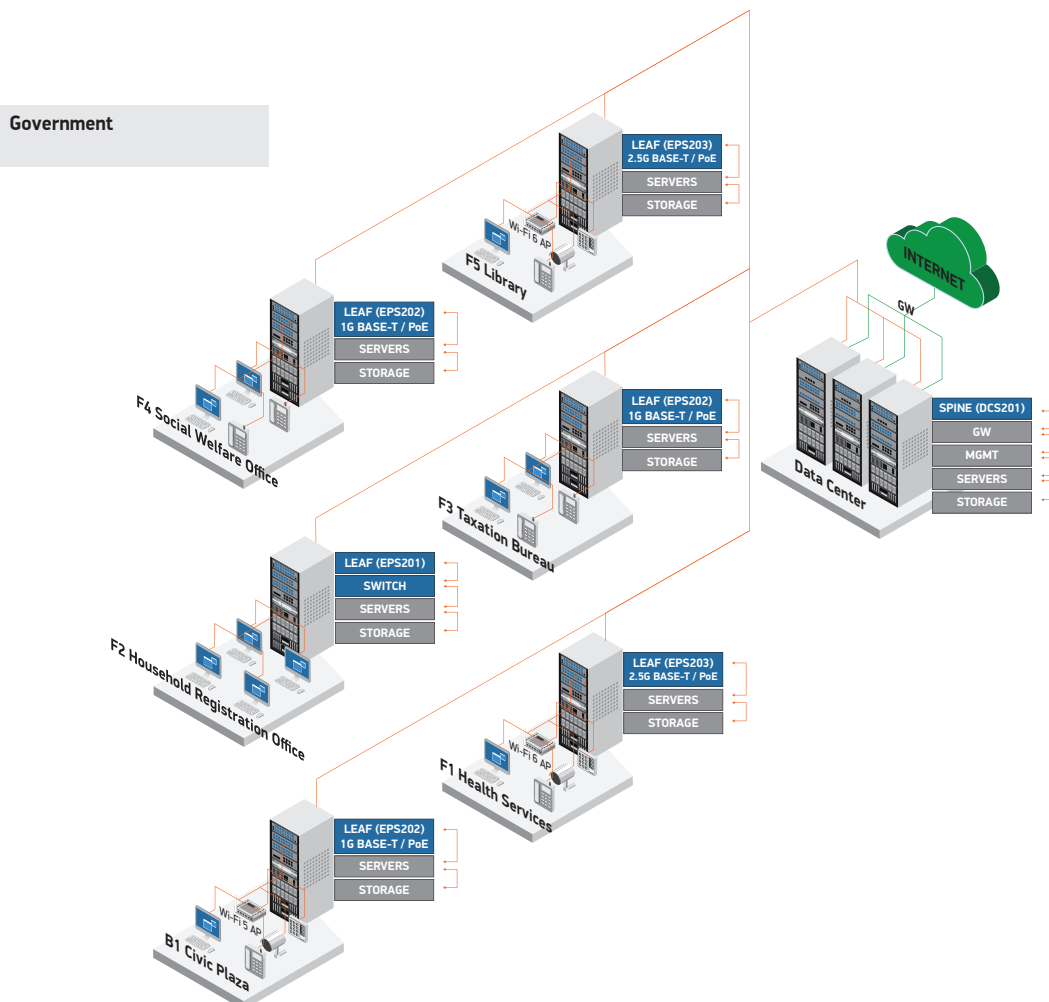STORAGE

Government

Application Scenarios

Looking for the best and most cost-efficient equipment

Edgecore cloud data center solutions reduce network maintenance costs while ensuring the network structure is ready for next-generation technologies, such as software-defined networks (SDNs). Newly deployed data centers are fully backward compatible with remaining legacy networking infrastructure, bringing redundancy, high capacity, and low latency.

SYSTEM REQUIREMENTS

- High-speed switching capacity, handling a large number of users
- Ensure backbone compatibility and smooth bandwidth;
- Comprehensive security and strict control over system information security;
- Simple and user-friendly interface for configuration and management;

Government

F5 Library — LEAF (EPS203) 2.5G BASE-T / PoE — SERVERS / STORAGE — Wi-Fi 6 AP

F4 Social Welfare Office — LEAF (EPS202) 1G BASE-T / PoE — SERVERS / STORAGE

F3 Taxation Bureau — LEAF (EPS202) 1G BASE-T / PoE — SERVERS / STORAGE

F2 Household Registration Office — LEAF (EPS201) — SWITCH / SERVERS / STORAGE

F1 Health Services — LEAF (EPS203) 2.5G BASE-T / PoE — SERVERS / STORAGE — Wi-Fi 6 AP

B1 Civic Plaza — LEAF (EPS202) 1G BASE-T / PoE — SERVERS / STORAGE — Wi-Fi 5 AP

INTERNET — GW

Data Center — SPINE (DCS201) — GW / MGMT / SERVERS / STORAGE

Education

Application Scenarios

High-convergence time and flexibility of effective network routing management

Edgecore cloud data center solutions leveraging SDN concepts, provides the high-convergence time and flexibility of effective network routing management, enabling a speedy delivery to students. It also reduces the operating complexity of IT staff by allowing them to centrally manage and monitor the entire campus network. An open cloud data center builds a scalable and economical solution that addresses current and future needs of the campus network structure, providing students with an uninterrupted learning experience.

SYSTEM REQUIREMENTS

- Deliver a high-speed network to link all campus buildings;
- Expand the delivery of services, and decrease IT managers' maintenance efforts;
- Support a rapidly evolving campus environment and a multitude of access devices with a powerful, resilient, and agile network;
- Centralized management, monitoring, and troubleshooting across the network.
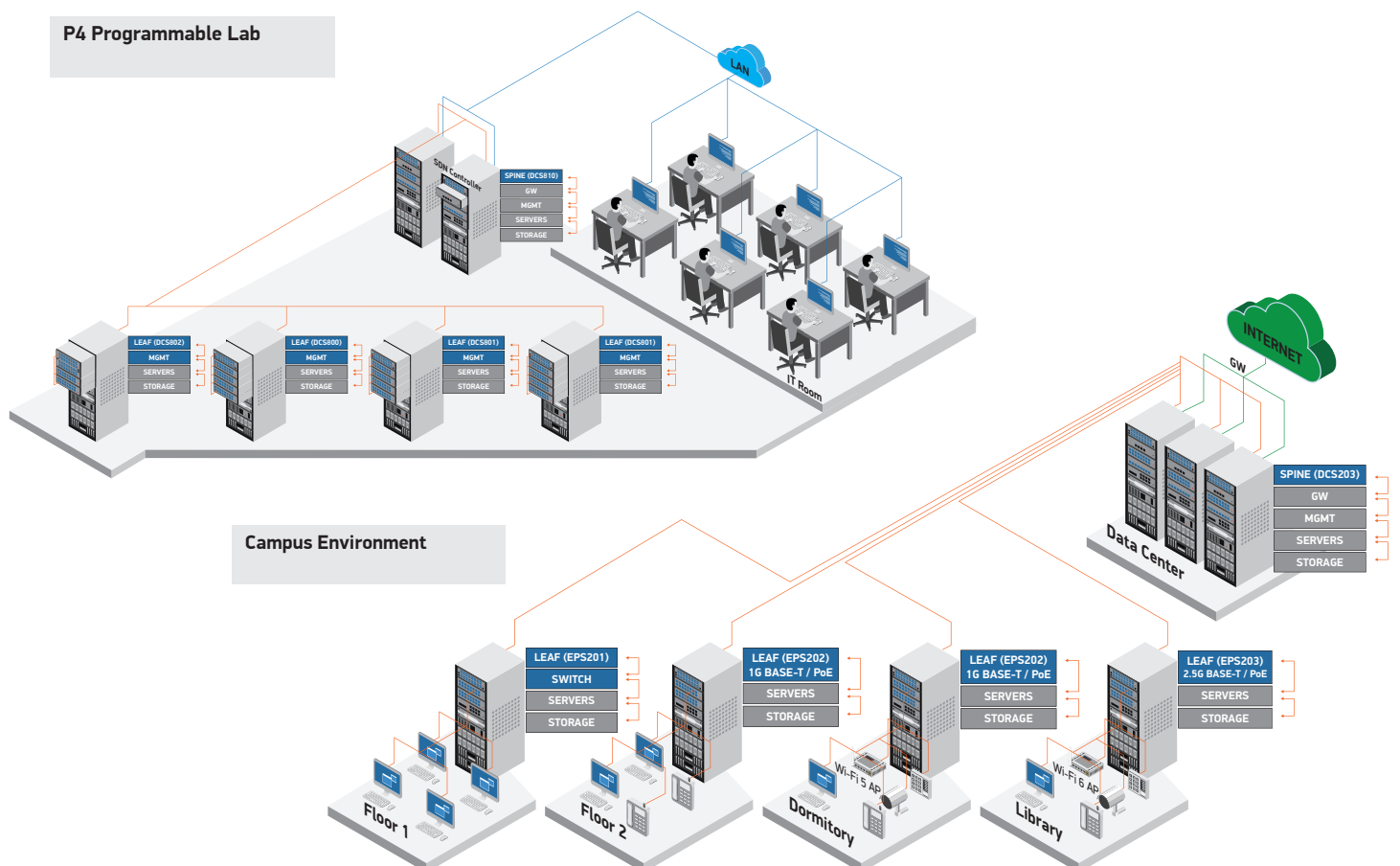
Enterprise

Application Scenarios

Enterprise infrastructure for hyperscale networks

Edgecore cloud data center solutions support enterprise infrastructure for hyperscale networks with flexible deployment and automation capabilities, which maximizes operation efficiency and meets scalability and growing requirements. Enterprises are able to configure all switches at the same time, and all devices are exactly the same number of segments away from each other, providing a predictable and consistent amount of latency. When adding a new rack with TOR switches there is no need to check/upgrade centralized firewalls and load balancers.

SYSTEM REQUIREMENTS

- Transform a complex network design to an easy-to-configure structure;
- Reduce the Total Cost of Ownership (TCO);
- Deliver a reliable and high-quality network for business;
- Easy to replicate and scale the network infrastructure.
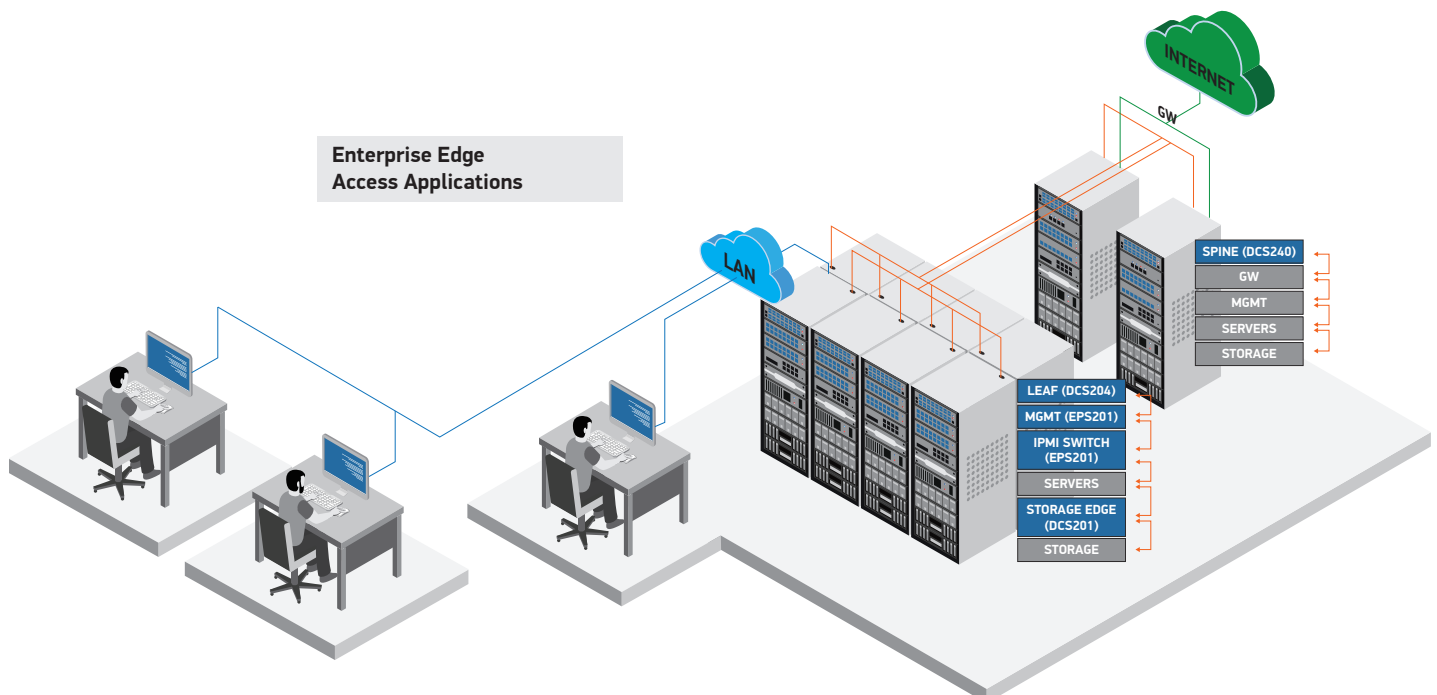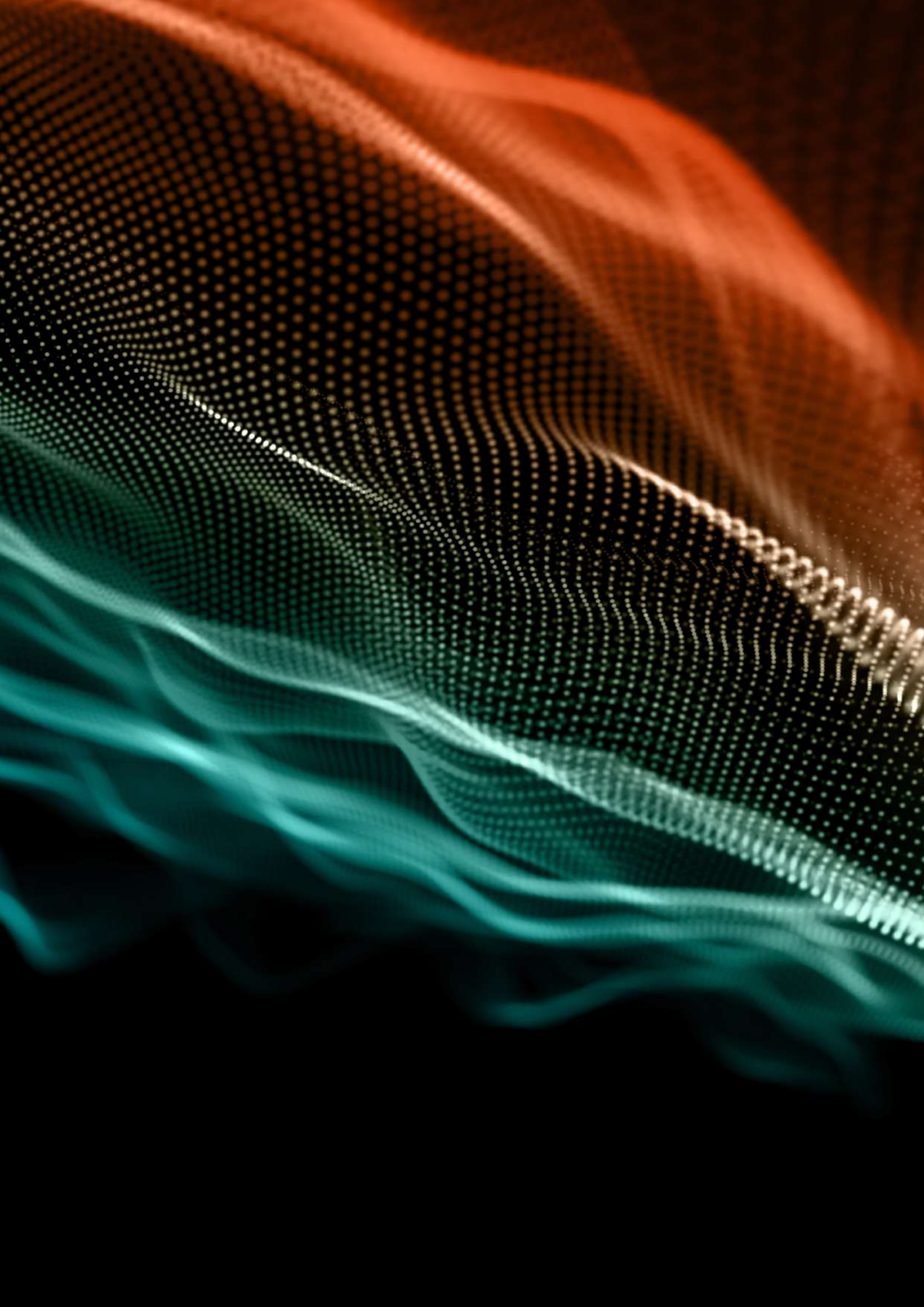
Product Overview

A full spectrum of bandwidth devices, including choice of different silicon design – from 1G data center management switching up through 10G and 25G top-of-rack or leaf switches, and then 100G and 400G for spine or super-spine layers.
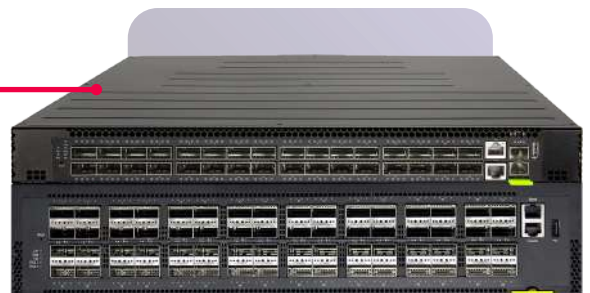
400G Super-Spine Switch

For Hyperscale Datacenters, High-bandwidth Applications

SEE MORE »

100G Spine Switch

For Clos (ToR/leaf/spine) Architecture or Programmable Fabric

SEE MORE »

25G/10G Leaf or Top-of-Rack Switch

For Enterprise Edge/Access Applications

SEE MORE »

1G and Multi-rate Data Center and Campus Edge

With Options for High Power PoE, and Multi-Rate Ethernet Switches

SEE MORE »

Edge-corE®
NETWORKS

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