SOLUTION BRIEF

Keysight + Edgecore

Networks Enable Pervasive Visibility for Web-Scale Data Centers

Data center design is quickly evolving to efficiently support the ever-increasing demands for compute infrastructure worldwide. Innovations in rack-scale design, software defined networking (SDN), and infrastructure orchestration are defining the new “software defined data center” (SDDC). We ‘ve seen the rise of web scale or “hyperscale” data centers powering massive public cloud services, and are now seeing forms of data centers from network edge appliances to flexible data center solutions. As architects and operators adopt these technologies, entirely new applications in areas such as AR/VR, IoT, and Smart Cites will emerge to fuel industry growth and innovation.

Software defined data centers (SDDC) are built on the premise that you can separate software from hardware to create an architecture that, because it is predominantly based in software independent of hardware, it is both scalable on-demand and cost-effective. Though different types of data centers put this in practice, and for different purposes, they all define and use core building blocks, sometimes as small as a single rack, that includes the compute, storage and networking required to deliver data center services. These individual blocks can be used independently or thousands can be connected together to deliver global platform offerings and web services for 1B+ users. Hardware abstracted as software running on underlay infrastructure architected for scalability, performance and redundancy makes this both possible and cost-effective.

But, as any data center grows, software defined or not, securing the data center and seeing exactly what is happening in the physical and virtual networks becomes increasingly difficult. Organizations with web scale require a solution that operates like the building blocks with software abstracted from the hardware, that can provide Top of Rack visibility for a single unit and be able to scale to thousands of racks with software defined visibility to ensure security, forensics and monitoring tools have access to full breadth of network traffic. Moreover, they need something cost-effective – ideally using the same bare metal hardware both as a production switch or as a network packet broker to provide network visibility.

KEYSIGHT TECHNOLOGIES

Keysight and Edgecore Are Partnering to Provide Organizations a Cost-Effective, Scalable Solution

Keysight's Vision Edge OS is a network visibility software solution that transforms select Edgecore switches into network packet brokers, providing rack and data center level visibility. NPBs aggregate, filter, and load-balance out-of-band monitoring packet data to seamlessly and efficiently deliver packet data to security, forensics, and performance management tools. The Vision Edge OS and Edgecore solution offers complete access to network packets for real-time visibility, insight, and security into high density hyperscale, microscale and SDDC networks, even as they expand.

Edgecore Networks, Leadership in Open Networking

Together with its technology and integration partners, Edgecore Networks delivers leading open networks solutions for cloud data center, telecommunications and enterprise customers. Edgecore, as a leader in the OCP Networking Project, offers full set of open switches based on its approved design contributions. The 10GbE TOR switch, which was the first switch ever approved by OCP, a cost-optimized 40GbE switch, and two 100GbE switches based on switch silicon from different vendors allowing network operators to increase capacity with infrastructures based on 25G and 100G. Edgecore switches support the broadest set of commercial and open source software choices in the industry, providing customers with alternatives to meet their specific requirements.

Keysight's Vision Edge OS



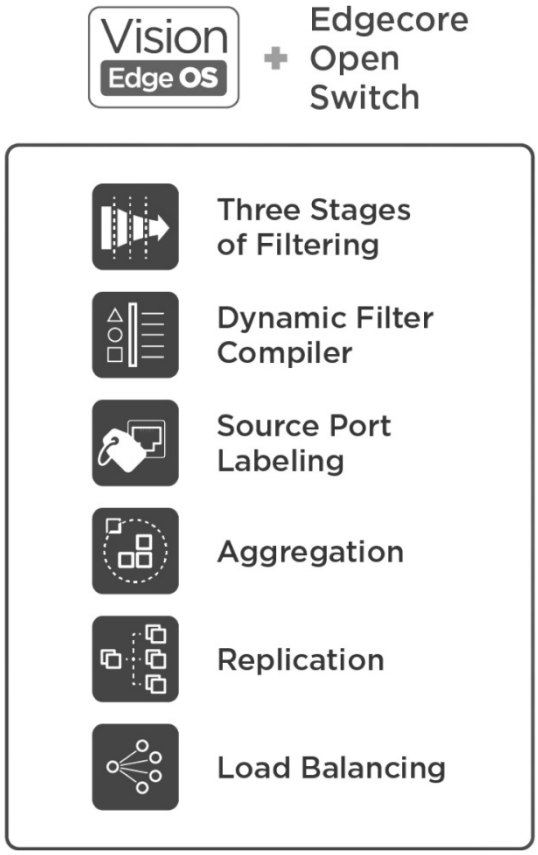
By using Keysight's Vision Edge OS software and Edgecore hardware, organizations can leverage the economics of a SDDC, without compromising data center visibility or security. Vision Edge OS is easy to download and install on certified Edgecore open networking switches. The resulting software-hardware combination creates an NPB that is equivalent in quality and performance as an Keysight Vision NPB and includes a rich feature-set:

- Setup, configure and re-configure visibility easily with Keysight's drag-and-drop interface that has a natural network to security and monitoring tools layout.
- Simplify logic with three-stages of filtering: ingress, dynamic and egress; naturally providing a built-in capability for AND/OR logic and simplifying configuration of complex Boolean filtering rules.
- Let patented dynamic filter compiler technology automatically resolve rules when configuring and re-configuring, so you do not risk inadvertently dropping packets.
- Use source port labeling (VLAN tagging) to track network traffic.
- Aggregate, replicate and load-balance your network traffic for monitoring.

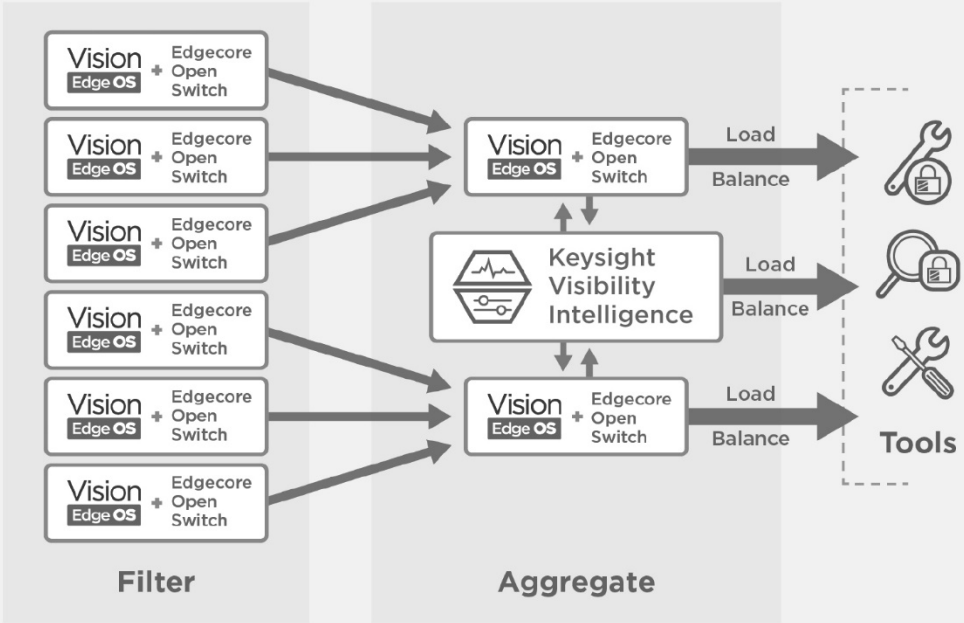
Additional capabilities can be added to Vision Edge OS, to further enhance its capabilities. Vision Edge OS is capable of working other Keysight NPBs, seamless, as part of a multi-tier visibility architecture. With the ability to filter, aggregate and load-balance monitoring data, Vision Edge OS on an open switch, can be leveraged and multiple levels within an architecture to ensure the greatest efficiency.

Open switches running Vision Edge OS can seamlessly integrate with Keysight's turnkey Vision ONE and Vision 7300 network packet brokers so organizations, service providers and operators get a powerful visibility engine that delivers the right traffic to the right security and monitoring tools, while enabling customers to leverage Keysight's advanced visibility intelligence features such as deduplication, packet trimming, application filtering, SSL decryption and encryption and more.

Vision Edge OS delivers control, coverage, and performance to protect and improve crucial networking, data center, and cloud business assets on open networking switches, delivering a powerful solution for enterprises, cloud and telecom service providers who are leveraging SDDC technologies.



Complete Visibility Architecture



Keysight Continues to Drive Innovations in Network Visibility

Keysight Visibility Solutions provide real-time, end-to-end visibility, insight, and security into physical, virtual, SDN, and NFV networks, delivering the control, coverage and performance in a seamless fashion to help protect and improve crucial networking, data center, and cloud business assets. The company offers a wide range of advanced network visibility solutions, including network packet brokers to help ensure every security and monitoring tool sees exactly the data it needs, as well as a real-time application and threat intelligence subscription, network Taps, and bypass switches that help maximize resiliency and minimize downtime during deployment.

For More Information and How to Order

Keysight	Edgecore Networks
www.keysight.com/us/en/contact.html	www.edge-core.com

About Edgecore Networks

Edgecore Networks Corporation is a wholly owned subsidiary of Accton Technology Corporation, the leading network ODM. Edgecore Networks delivers wired and wireless networking products and solutions through channel partners and system integrators worldwide for the Data Center, Service Provider, Enterprise and SMB customers. Edgecore Networks is the leader in open networking providing a full line of open Wi-Fi access points and 1GbE, 10GbE, 25GbE, 40GbE, 50GbE and 100GbE OCP-ACCEPTED switches that offer choice of NOS and SDN software for data center, telecommunications and enterprise networks. For more information, visit www.edge-core.com.

About Keysight

Keysight provides testing, visibility, and security solutions, strengthening physical and virtual network elements for enterprises, governments, service providers, and network equipment manufacturers.

Learn more at: www.keysight.com

For more information on Keysight Technologies' products, applications or services, please contact your local Keysight office. The complete list is available at: www.keysight.com/find/contactus

KEYSIGHT TECHNOLOGIES

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