



VortiQa Applications Software

VortiQa Open Network (ON) Director Software

Commercial-grade, OpenFlow™ protocol-compliant control plane software

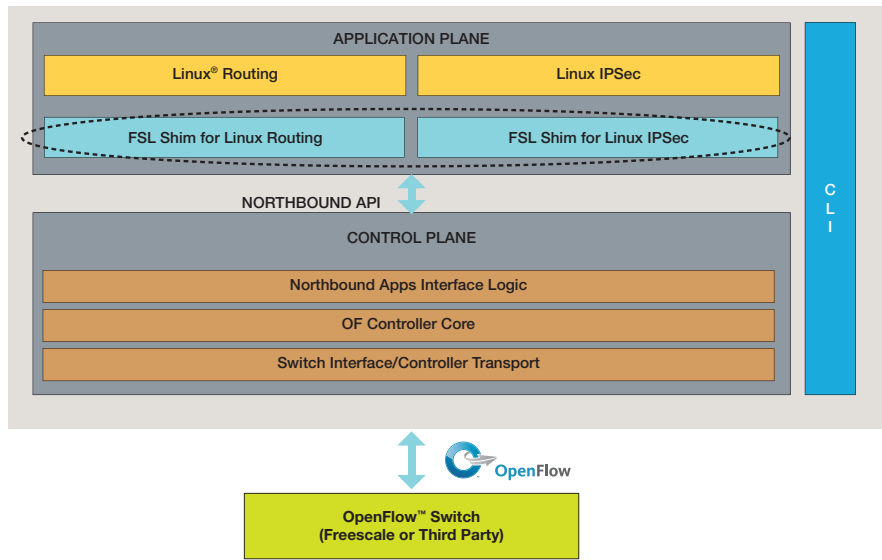
Overview

The demands on network infrastructure are becoming challenging because of market drivers such as virtualization, big data, cloud-based services, pervasive computing and the Internet of Things (IoT). In order to address these challenges in a cost-effective manner, the networks must get smarter, more secure, scalable, and easily manageable and interoperable.

The software-defined networking (SDN) paradigm aims at network deployment and configuration management agility, dynamic scaling of networks, network interoperability and open innovation by separating application, control and data forwarding planes. Open Networking Foundation's OpenFlow protocol is a widely accepted SDN protocol that defines the interaction between data plane and control plane functions.

Freescale has been a prominent thought leader in bringing out advanced communications platforms and solutions. VortiQa open network (ON) director software, along with commercial support and services, augments Freescale's advanced communications solutions portfolio. Freescale's VortiQa ON director software is OpenFlow version 1.3.x compliant and has extensions to support Layer 3 and above protocol functions such as IPsec VPN and policy based routing in addition to Layer 2 and Layer 3 data forwarding.

VortiQa Open Network Switch Software Block Diagram





Key Benefits

VortiQa ON director software, with its commercial-grade quality, enables customers to incorporate OpenFlow SDN control plane and application functions in their advanced networking designs based on Freescale QorIQ communication processors in cost-effective and timely manner. This product interoperates with third-party OpenFlow-compliant switches as per the OpenFlow v1.3.x specification. Customers can build their applications by utilizing VortiQa ON director software northbound (NB) API implemented in C language. Additionally, the product is pre-integrated with selective popular Linux® networking functions so that customers can utilize them in their designs.

The product is built on Freescale enablement software, Linux SDK, and runs in user space. The product is easily portable across multiple Freescale QorIQ communications processors with moderate effort, enabling customers to re-use their software investment across a range of their product lines (e.g., low-end with optimized memory footprint to very high-end designs with large capacity of flows and IPsec tunnels and very high-connection setup and tunnel setup rates, depending on the underlying Freescale QorIQ communication processor used).

Freescale offers commercial support and services around the product to jump-start customer designs, ultimately offering further time-to-market and time-to-revenue advantages.

Key Features

- OpenFlow 1.3.x support
- C language-based embedded controller optimized memory foot print and CPU bandwidth
- C language-based OpenFlow NB API's (v1.3.x and Freescale extensions)
- Linux name space support (mapping to OF switch data path)
- C language-based network function API: routing and IPsec VPN
- Zero copy buffers between applications and controller
- Generic transport plug-ins—support for UDP and TCP
- Interoperable with OpenFlow 1.3.x-compliant third-party switches and Freescale VortiQa open network (ON) switch software
- Freescale extensions to enable Layer 3 and above applications—routing and IPsec VPN, interoperable with Freescale VortiQa ON switch software

Application Integration

- OpenFlow IP forwarding—IPv4 unicast and multicast forwarding
- OpenFlow policy-based routing (PBR)
- Integration of open source routing protocols—Quagga and XORP
- OpenFlow IPsec extension, interoperable with Freescale VortiQa ON switch software
- Integration of open source IKE application—strongSwan

Product Form

Product Form

VortiQa ON director software is developed using the highly portable ANSI C programming language and is optimized to deliver the highest performance on Freescale's QorIQ communications processors.

The product is delivered after proving it works on selected QorIQ processor and software development kits (SDK), so that customers can jump-start integration on target platforms based on the QorIQ processor used and SDK with moderate effort. The standard VortiQa ON director software package is delivered in source code form. It can be integrated in the customer environment in process/library form to run in Linux OS user space environment.

Pricing and Availability

VortiQa ON director software is currently generally available. Please contact your local Freescale representative for pricing.



For more information, visit freescale.com/VortiQa

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