



OPENFLOW IMPLEMENTATION FOR DATA CENTER BLADE SERVER SWITCH

THE CLIENT

The client is a leading supplier of Ethernet, IP, and Application Switches for blade server systems globally. The client's product is an enterprise-class and full-featured data-center switch that delivers line-rate, high-bandwidth switching, filtering, and traffic queuing without delaying data.

BUSINESS NEED

With Software defined networking and OpenFlow gaining momentum, the client wanted to design and implement OpenFlow stack in few of their switch firmware. OpenFlow is a booming networking technology that offers new ways for users to control their networks and which can ultimately transform the very economics of hyperscale data centers.

TECHNOLOGY USED

- OS: Linux
- OpenFlow releases: 1.0, 1.1, 1.2 and 1.3
- Interoperability Testing: Stanford Controller and Commercial Controllers
- Team size: 30

BUSINESS BENEFITS

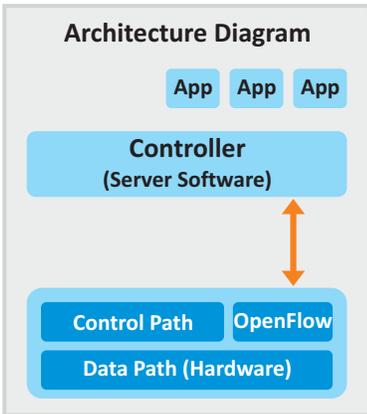
- Reduce time to market with proven processes and methodologies
- Achieve their overall objective at a lower cost and with guaranteed support from a proven technology vendor
- Design maintainable and supportable products and ensure ease of upgrades in the future

SOLUTION DELIVERED

ALLEN Calsoft Labs' multi-site team of 10 engineers (US & India) started the engagement in 2010. ALLEN Calsoft Labs provided the end-to-end support for OpenFlow protocol 1.0 implementation including testing and later went on to support for 1.1, 1.2 and some features of 1.3 releases. The implementation was successfully tested with Stanford controller (Open Source) and a customer specific controller.

ALLEN Calsoft Labs' solution supports OpenFlow Hybrid Mode (OHM) as well as Multiple instances. With Hybrid mode support, the switch can work in either OpenFlow only mode or Hybrid mode (OpenFlow + Legacy) and can switchover from OpenFlow to Hybrid on switch reboot. This feature will help in optimal switch resource usage as in many scenarios OpenFlow will use only partial set of switch ports and the unused ports can be used for legacy switching.

ALLEN Calsoft Labs' OpenFlow solution enabled the switch vendor to provide standard hooks for controlling the network traffic, without exposing the complexities of the underlying physical network devices and protocols. Using OpenFlow, network traffic can be controlled by a remote server called controller. The controller can make decision on how to handle the packets. For example, it can drop the packet, or it can add a flow entry directing the switch/router on how to forward similar packets in the future.



ABOUT ALLEN CALSOFT LABS

ALLEN Calsoft Labs is a next gen digital transformation, enterprise IT and product engineering services provider. The company enables clients innovate, integrate, and transform their business by leveraging disruptive technologies like mobility, big data, analytics, cloud, IoT and software-defined networking (SDN/NFV). ALLEN Calsoft Labs provides concept to market offerings for industry verticals like education, healthcare, networking & telecom, hi- tech, ISV and retail. Headquartered in Bangalore, India, the company has offices in US, Europe and Singapore. ALLEN Calsoft Labs is a part of ALLEN group, a leader in technology consulting and engineering services.

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