ALTEN Calsoft Labs has been in the forefront of the SDN and NFV evolution supporting both network equipment manufacturers and telecom operators in design, development, testing and deployment of SDN and NFV solutions.

ALTEN Calsoft Labs has the distinction of having delivered a few of the industry’s first commercially deployed SDN platforms, Virtual CPE solutions, Cloud VPN Gateways and other Virtual Network Functions (VNFs). Over the past 5 years, we have been offering product engineering and systems integration services to NEMs, VNF providers and SDN platform vendors.

**ALTEN Calsoft Labs NFV Service Offerings**

ALTEN Calsoft Labs’ offers product engineering and systems integration services to build, deploy, manage and orchestrate high performance Virtual Network Functions.

**VNF Development**

- Architect, design and develop VNFs
- Intel® DPDK based VNF optimization
- Support for different virtualization architectures (LXC/Para/Full Virtualization)
- Support for different virtual environments (VMware/KVM/Xen)

**VNF Management & Orchestration**

- Design and develop FCAPS & VNF lifecycle management framework
- Develop VNF packages and Service lifecycle management features
- Integrate and Test with 3rd party NFV orchestrators or legacy NMS/OSS

**Benchmarking and Performance Tuning**

- Benchmarking VNF performance in Enterprise/Telco environments
- Performance improvements with Intel® DPDK based optimization
- Fast path optimization using offloading techniques

**VNF Porting & Testing**

- Porting from custom silicon to COTS x86 platform
- Migration of VNFs to a different Hypervisor/OS environment
- VNF testing using industry leading test tools/equipment

**Partners**

![Wind](image1.png) ![Intel](image2.png) ![Ixia](image3.png) ![Qosmos](image4.png) ![Quortus](image5.png) ![Red Hat](image6.png)
ALTEN Calsoft Labs NFV Solution Accelerators

ALTEN Calsoft Labs offers high performance Intel® DPDK optimized VNF frameworks to accelerate time-to-market for NFV solutions. Our framework includes well defined interfaces for integration with ETSI MANO compliant NFV orchestrators.

**Virtual CPE**
Delivers core CPE functionalities such as stateful firewall, L3 Routing, multicast, QoS, VLAN with 802.1Q and 802.1ad (Q-in-Q) etc.

**Virtual WLAN Controller**
Based on the “central control, distributed forwarding” model for lightweight management, control and authentication

**Cloud VPN Gateway**
Highly scalable carrier grade IPsec VPN Gateway solution on industry standard x86 servers

**Virtual EPC**
Fully featured virtualized core network for voice and packet data on 4G LTE, 3G UMTS and GSM networks

Software Defined Networking

Since 2010, ALTEN Calsoft Labs’ SDN CoE has been offering product engineering support to several established NEMs and new SDN Controller & Application vendors in:

- OpenFlow 1.3, AD-SAL and MD-SAL plugin development on OpenDaylight
- SDN Controller extensions and feature enhancements
- Element Adapter development for SDN deployment in a multi-vendor network environment
- SDN applications for specifying, provisioning, managing & tearing down E2E services
- SDN Controller and SDN Application integration with legacy NMS/OSS and NFV orchestrators
- SDN solution deployment and operations support (as professional services partner to NEMs)