# Huawei PoC: vCPE for the Enterprise

In the Enterprise CPE use case, a service provider uses a NFV + SDN central office (CO) solution to meet its enterprise customer's on-demand service needs by on-the-fly provisioning of virtual enterprise CPEs (vCPE) in its COs and corresponding network services in the provider's SDN core, without adding physical network appliances. The vCPEs perform various network functions such as firewall (FW), Network Address Translation (NAT), Deep Packet Inspection (DPI), etc. as requested by the customers, and the SDN provider core provides the network service required by the vCPEs.

The NFV+SDN solution demo shown at ONS 2015 is based on an infrastructure that integrates NFV infrastructure with a ONOS controlled SDN provider core. This integrated infrastructure provides seamless L2/L3 connectivity (under policy) between customer's private virtual networks at different CO locations, over the provider core. A unified orchestrator is used to perform end-to-end operations with global views of services, which maximize programmability and operational efficiency. This solution uses open source system components ONOS and Openstack for SDN and NFV infrastructure, and a few vendor components for the unified orchestration and OSS.
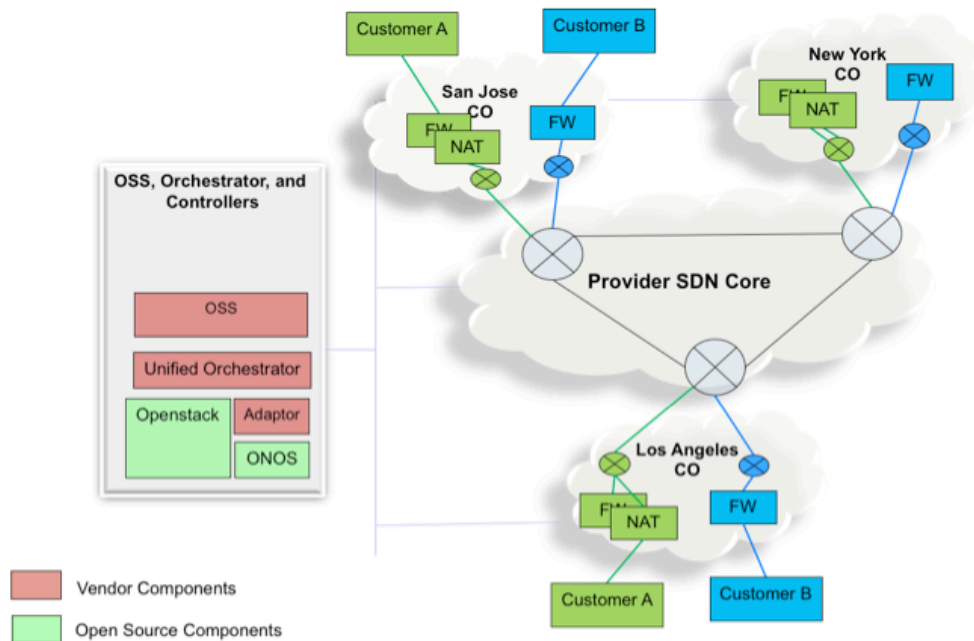
The diagram above shows a scenario where on-demand functions FW and NAT, as well as customized virtual and core network services are provisioned for customer A and Customer B.