Intelligent vE-CPE services

vE-CPE improves Edge Network

The network security appliances always are built with custom ASIC, proprietary hardware integrated software in boxes. The management and flexibility are constrained by fixed-functions. Services provider is hard to deploy services, upgrade and immigrate on present customer premises equipment (CPE). Attribute to above reasons, the network structure and management are more and more complexity. SDN/NFV is going to transform network architecture, to get improved centralized management, provisioning, lower OPEX/CAPEX, higher flexibility, efficiency and scalability for future.

For lower scale data forwarding, a switch can be realized on a x86 platform. Obviously, the Enterprise CPEs certainly be a right option to be transformed by SDN/NFV technology.

Virtual Enterprise CPE (vE-CPE) solution aims to small-middle business that provisioned/configured remotely based on SDN/NEV architecture. Key benefits of vE-CPE include:

1. Reduce service chain with an integrated virtual network functions (VNFs) that providing routing, VPN, firewall, etc.

2. Provide simply services as IDS, Anti-spam, IPS through in the same box.

3. Lower hardware and operation cost but high efficient, performance ability.

vE-CPE services and architecture

Since vE-CPE based on SDN/NFV technology, so that network services are software-defined. The network service providers might be from Telco, Public/Private cloud, or Data center. High security and comprehensive functions of networking have developed and implemented by 3rd party software vendors and still optimizing in open-networking area. There are examples of vE-CPE network services include:

1. Enhanced Smart vRouter to deliver MPLS and Ethernet WAN services.

2. Security functions as Firewall, IPS, DLP, VPN and VoIP services.

3. Virtual IoT gateway, Load balancer services.

In IoT gateway application which needs high security functions and compact designed in many smart applications, vE-CPE solution is a suitable product for constructing an intelligent IoT gateway service. As figure 1, vE-CPE solution in enterprise case for reference. vE-CPE services provisioned from Zero Touch Provisioning (ZTP) servers, and the SDN/NFV built in Telco Cloud site. SDN controller and ZTP manage the edge networks and data forwarding. Through OVS with DPDK technology, the 3rd party VNFs can be running efficiency and low latency with high security at the same time.

Figure 1. Intelligent IoT network services
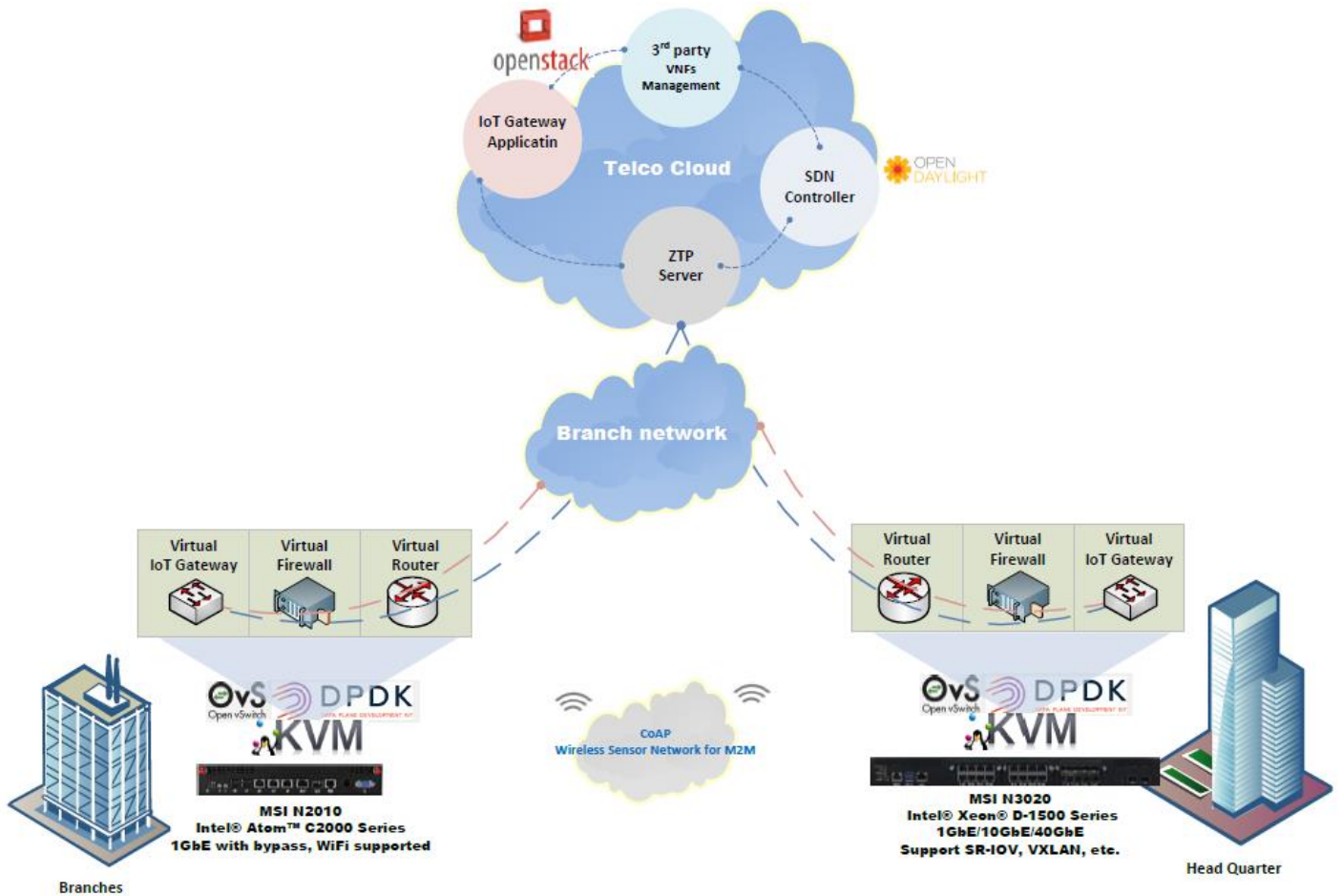
MSI vE-CPE solution

vE-CPE focus on lower forwarding switch and delivers high performance network services on x86 platform. MSI has series of network security products for this application. Generally, an edge network usually adopts low power consumption and compact designed box for easily installation and unlimited location.

For higher scale forwarding/computing demand, N3020 has dual 10GbE ports integrated network with Intel® Xeon® D-1500 series platform. For lower forwarding demand, MSI provides N2000, N2010 and N2020 which can provide compact designed box and high cores with low power consumption for vE-CPE solution.

Summary

MSI vE-CPE solutions is based on Intel® ONP reference to help Telco and Enterprise to step in this new network architecture era. Moreover, vE-CPE allows IT to cut down the operation cost and less time to market in order for saving money and creating revenue. vE-CPE is an overwhelming trend for Telco and Enterprise to realize agile and flexible network edge and simplified significantly devices/functions management.

Quotation: Intel® Open Network Platform Release 2.0 vE-CPE Performance Test Report

N3020　　**N2000**　　**N2010**　　**N2020**

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