Amdocs Specifies Intel® Select Solutions for uCPE for NaaS Offering

Amdocs NFV powered by ONAP combined with Intel® Select Solutions for uCPE provide the orchestration and compute platform that make up the foundation of high-performance network as a service (NaaS) offerings.

Introduction

Network as a service (NaaS) offerings are the next evolution of network functions virtualization (NFV)-based services, allowing communications service providers (CommSPs) to offer enterprise customers a self-service catalog of network services. These services can include firewalls, IP routing, SD-WAN, and others. Automated orchestration is required to deliver the service agility for NaaS while minimizing capital expenses (CAPEX) through hosting multiple services on a single server, and reducing operating expenses (OPEX) through remote service lifecycle management. To help CommSPs deliver the service, Intel® Network Builders ecosystem partner Amdocs has developed a complete orchestration and NFV infrastructure solution running on Intel® Select Solutions for uCPE servers.

The Challenge

Many CommSPs initially began deploying NFV-based network functionality in their back-end network to improve network agility and reduce costs. These virtualized services replace fixed-function network appliances with software-based services running on Intel-powered commercial off-the-shelf (COTS) servers. In these deployments, virtualization provides network agility, simplified lifecycle management, and the potential for reduced operational costs.

Recently, CommSPs have started to roll out VNF-based services, most notably software-defined WAN (SD-WAN) services, which are popular because they allow branch offices to support both legacy WAN services and broadband internet access for more secure access to cloud services.

The next phase of this evolution is network as a service (NaaS), which lets CommSPs offer a catalog of virtualized network services. For example, the enterprise could choose from routing, SD-WAN, firewall, load balancing, and other services for its branch offices or headquarters facilities.

NaaS is enabled by advanced orchestration capabilities that provide benefits on top of the legacy network agility and potential for cost reduction. When orchestration is combined with a self-service portal, enterprises can focus on deploying the functionality they need and not on hardware specification or physical installations. They also get very quick deployment with more customization options.

The other key component of the NaaS infrastructure is the universal customer premises equipment (uCPE) server, which provides a single platform with the compute, storage, and networking capacity needed to serve the full range of networking services.

NaaS Foundation: Amdocs NFV Powered by ONAP

Amdocs' modular and programmable NaaS solution enables service providers to rapidly design, deploy, and monetize on-demand NaaS offerings for their enterprise customers, combining virtualized network infrastructure and services with cloud and business applications. It automates, orchestrates, and simplifies the design, ordering, and management of both network services and value-added services for accelerated time to market, increased efficiency, and a transformed customer experience.

The Amdocs NaaS offering includes Amdocs NFV powered by Linux Foundation's Open Networking Automation Platform (ONAP), which is a modular and integrated infrastructure solution that facilitates the design, orchestration, and operation of NaaS offerings.

Amdocs NFV powered by ONAP is a network automation platform for the design, creation, orchestration, monitoring, and lifecycle management operation of network and cloud services. It enables a CommSP to harness NFV, software defined networking (SDN), and cloud technologies and to benefit from agility, flexibility, rapid time to market, and operational efficiencies.

Amdocs NFV powered by ONAP provides end-to-end service life cycle management automation, continuous service monitoring, and fulfillment by interacting with multiple network and cloud infrastructures and ensuring resources are properly allocated to a large variety of network functions across multiple network domains. The platform ensures end-to-end services and network traffic by orchestrating network service-related operational activities, policy management, administrative operations, and assurance.

Self-Service Portal and VNF Marketplace for On-Demand Virtual Network Services

Amdocs NaaS solution also includes a self-service portal and VNF marketplace that enables service providers to offer their enterprise customers choice, scalability, visibility, and control through ease of access to on-demand connectivity services and a personalized digital marketplace.

The self-service portal is a key capability that enables enterprises to connect or update a branch office as well as to order and co-manage virtual network services that they can choose from the VNF marketplace. Users can order VNF-based network services and instantiate them on their premises, in the service provider's cloud, or on public clouds instead of calling the service provider sales department or waiting for a technician to arrive to the site.

The self-service portal is integrated with the CommSP's customer management and ordering system as well as with a catalog of the available VNFs for each enterprise. For service billing, CommSPs have the choice of using the Amdocs business support system (BSS) or utilizing a third-party BSS via open APIs.

Amdocs Open Network Partner Program

An important component to NaaS offerings is access to VNFs, and that is facilitated through the Amdocs Open Network Partner Program, an ecosystem that brings together infrastructure and VNF vendors to collaborate and fulfill a wide range of multivendor NFV use cases, helping service providers accelerate their NFV adoption. Amdocs also offers a portfolio of expert services for VNF onboarding, testing, and use case validation, helping VNF vendors to accelerate time to market.

Hardware: Intel® Select Solutions for uCPE

Amdocs has optimized its NaaS solutions for operation on Intel Select Solutions for uCPE, which are performance-verified uCPE solutions based on a workload-optimized reference design developed by Intel. Each Intel Select Solution for uCPE is verified to meet established reference benchmarks, which gives enterprise NaaS buyers the benefit of predictable performance. Each server vendor can also add value added features that differentiate their server, giving CommSPs a range of solutions for different applications.

Intel Select Solutions for uCPE are based on the performance of Intel® Xeon® D-2100 processors that are designed for applications at the edge of communication service provider networks. The Intel Xeon processor D-2100 product family uses the Intel Xeon Scalable processor architecture and is designed for low power consumption and high-density solutions. Integrated 10 GbE Intel® Ethernet adapters are built into the CPUs to meet high-throughput uCPE connectivity requirements.

INGREDIENT	INTEL® SELECT SOLUTIONS FOR UCPE BASE CONFIGURATION HARDWARE	INTEL® SELECT SOLUTIONS FOR UCPE PLUS CONFIGURATION HARDWARE
PROCESSOR	Intel® Xeon® D-2123IT processor, 4 core, 2.2 GHz, 60 W, or higher SKU	Intel® Xeon® D-2177NT processor, 14 core, 1.9 GHz, 105 W, or higher SKU
MEMORY	16 GB DDR4 2133 MHz, 4 * 4 GB (16 GB Total) Minimum all 4 memory channels populated (1 DPC) to achieve 16 GB (i.e., 4 * 4 GB RDIMM)	64 GB DDR4 2667 MHz, 4 * 16 GB (64 GB Total) Minimum all 4 memory channels populated (1 DPC) to achieve 64 GB (i.e., 4 * 16 GB RDIMM)
NICS	2 x 10 GbE integrated Ethernet ports	4 x 10 GbE integrated Ethernet ports
INTEL® QAT	Integrated Intel® QuickAssist Technology,[1] or an Intel® QuickAssist Adapter 8970 PCIe* add-in card,[1] or equivalent Intel® C627 Series Chipset QAT Enabled PCIe add-in card[1]	Integrated Intel® QuickAssist Technology, or an Intel® QuickAssist Adapter 8970 PCIe* add-in card, or equivalent Intel® C62x Series Chipset QAT Enabled PCIe add-in card
STORAGE	Intel® SSD Data Center S3110 256 GB 2.5" internal solid state drive (SATA or M.2)	Intel® SSD Data Center S3110 512 GB 2.5" internal solid state drive (SATA or M.2)

Table 1. Intel® Select Solutions for uCPE hardware configurations

There are two Intel Select Solutions for uCPE configurations. Both feature Intel® QuickAssist Technology (Intel® QAT) for acceleration of encryption/decryption and compression workloads.

- Intel Select Solutions for uCPE base configuration: Utilizes a four-core or greater Intel Xeon D-2123IT processor (or higher SKU) with 16 GB of RAM, two 10 GbE network ports, and 256 GB SSD storage drive. The configuration targets value-based solutions with at least two virtual machines in a small-to-medium-sized business environment.

- Intel Select Solutions for uCPE plus configuration: This design utilizes a 14-core Intel Xeon D-2177NT processor (or higher SKU) with 64 GB of RAM, four 10 GbE ports, and 512 GB SSD storage drive. The configuration is designed to maximize virtual machine density.

Conclusion

Through its orchestration and digital marketplace software, Amdocs offers the service design, orchestration, self-service portal, and service operating capabilities needed to automate and manage next-generation NaaS offerings. With powerful uCPE servers verified as Intel Select Solutions, CommSPs can turn to Amdocs and Intel for a complete foundation for a solution that will transform their business with new high-value services.

About Amdocs

Amdocs is a leading software and services provider to communications and media companies of all sizes, accelerating the industry's dynamic and continuous digital transformation. With a rich set of innovative solutions, long-term business relationships with 350 communications and media providers, and technology and distribution ties to 600 content creators, Amdocs delivers business improvements to drive growth. Amdocs and its 25,000 employees serve customers in over 85 countries. Listed on the NASDAQ Global Select Market, Amdocs had revenue of $4.0 billion in fiscal 2018.

About Intel® Network Builders

Intel Network Builders is an ecosystem of infrastructure, software, and technology vendors coming together with communications service providers and end users to accelerate the adoption of solutions based on network functions virtualization (NFV) and software defined networking (SDN) in telecommunications and data center networks. The program offers technical support, matchmaking, and co-marketing opportunities to help facilitate joint collaboration through to the trial and deployment of NFV and SDN solutions. Learn more at http://networkbuilders.intel.com.

Learn More

Intel Select Solutions for uCPE web page: https://builders.intel.com/intelselectsolutions/intelselectsolutionsforucpe

Intel Xeon D processor family: http://www.intel.com/xeond

Intel Select Solutions are supported by the Intel Builders Program: https://builders.intel.com

Amdocs comprehensive NaaS solution: https://www.amdocs.com/naas