CloudRange™ Solution

Transforming Operator Network Architecture to Web-Scale,Telco Cloud

Mobile operators are under pressure to meet capacity demand while containing costs and launching new offerings in mobile services markets. They now compete with web-scale companies like Amazon, Facebook, and Google that offer similar, even more innovative services at a far lower cost base with agile development environments that speed time to market. Web-scale model companies, like Facebook, have the ability to innovate through continuous development and integration, creating a "fail fast" culture. They have a global reach with minimal infrastructure, and massive scale with little overhead, resulting in very high revenue per employee. Case in point: Netflix has an average revenue per employee of $1.9M compared to AT&T's $638K.[i] Operators can't carry on business as usual and expect to compete with web-scale rivals, while preparing for a 5G future. Besides not having the speed and agility of their web-scale competitors, operators are watching OTT services steal the majority of subscribers' mobile engagement.

KEY BENEFITS

- Web-scale, telco cloud environment enables new services and revenues
- Automation – CloudRange™ framework includes analytics-based closed loop monitoring
- Faster start up time and portability with containerized deployment
- Multi-Vendor Play – eases deployment and interoperability
- DevOps Ready – follows microservice architecture; eases CI/CD
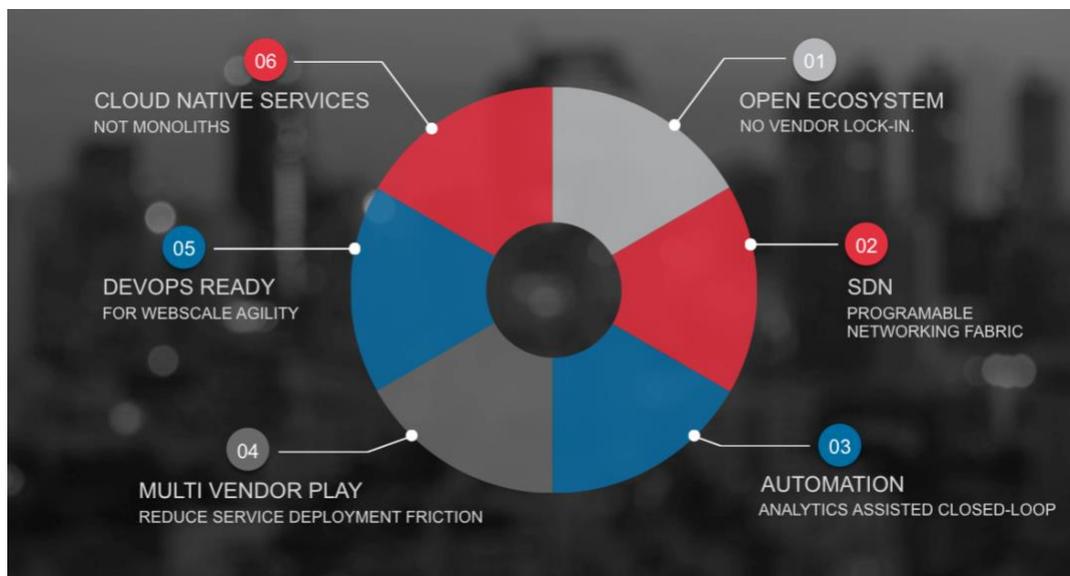- Cloud Native – deployed with variants of OpenStack and VMWare

Figure 1: Building Blocks of the Mavenir CloudRange™ Telco Cloud Solution

Surviving in the 5G Era

To survive and compete in the 5G era, mobile operators need new ways to build networks and deliver services today that are cost-effective, flexible, and agile. Moving forward, operator networks will serve not just human subscribers, but machines as well. With 5G densification and the growth of the Internet of Things (IoT), there will be new use cases that involve varied degrees of latency, throughput, and availability requirements. A single monolithic network simply will not be the best fit for these use cases. Operators need to shift their network architecture to a web-scale cloud model that is founded on dramatic savings in capex and opex, distributed computing architectures that foster new service models, standard open interfaces, and rapid innovation – in other words, a true telco cloud.

Mavenir CloudRange™ – Transforming Network Economics with Scalability, Efficiency, and Automation

Mavenir CloudRange™ is built with a telco cloud, web-scale architecture that offers operators the industry's first and only end-to-end, software only, NFV (Network Functions Virtualization) and Orchestration platform. CloudRange™ enables CSPs to realize additional revenue streams by launching and scaling new services more broadly, rapidly, and efficiently, while reducing capex and opex with automation, making today's networks efficient, agile, and prepared for future growth and the advent of 5G and IoT.

Mavenir CloudRange™ moves operators to a cloud business model that eliminates vendor lock-in, while promoting an open ecosystem that utilizes COTS for compute, storage, and network infrastructure. The solution supports all major SDN players, with VNFs that are stateless and packaged with aggregators and load balancers.

CloudRange™ VNFs have functional decomposition and data layer–based statelessness to support a microservices architecture. The CloudRange™ Solution provides dynamic elasticity, self-healing VNFs, and end-to-end service assurance, including analytics, closed loop monitoring, full life cycle management, and service orchestration. With web-scale agility, CloudRange™ is DevOps ready, empowering operators with agile service deployment and maintenance for faster time-to-market.

Solution Description: Mavenir CloudRange™ Solution

The Mavenir CloudRange™ Solution consists of stateless VNFs, load balancers, portable aggregators, SDN, OpenStack, IMS applications, and a centralized management system with analytics, all on COTS hardware.
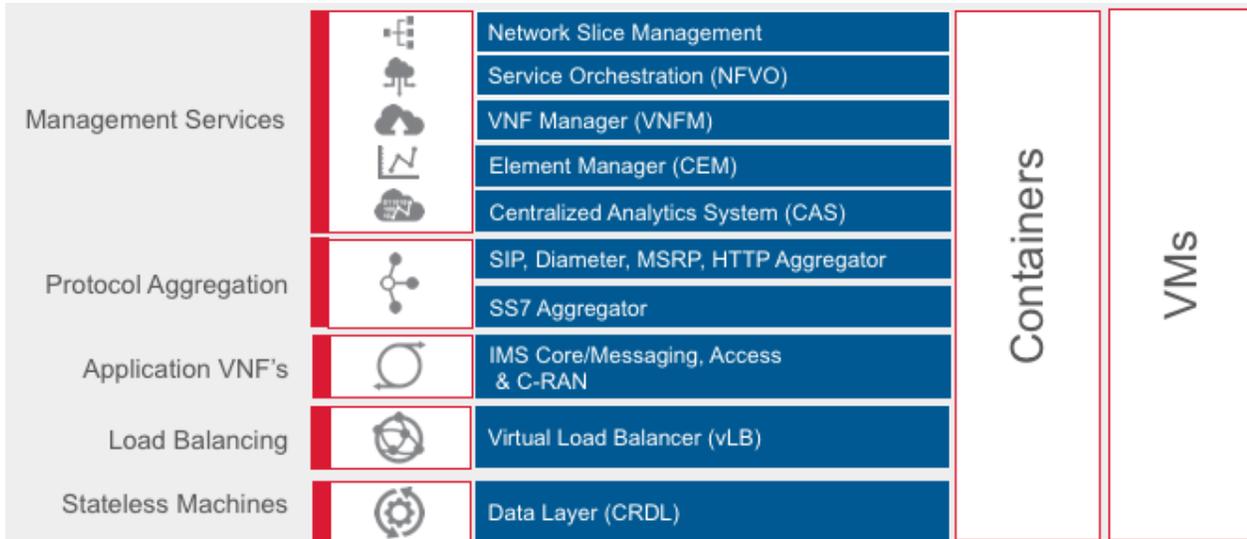
Figure 2: Elements of the Mavenir CloudRange™ Solution

CloudRange™ utilizes an ETSI NFV compliant architecture, with unique features such as an LVN (Logical Virtual Node) that features a grouping and scaling of small application VNFs, and reusable infrastructure VNFs. The use of small, stateless VNFs enables faster and simpler scaling, with network simplification and efficiency, creating a true telco cloud environment. Mavenir provides the end-to-end solution including the IMS application VNFs (S/I-CSCF, TAS, MaaP, RCS, SBC, and EPC) with supporting VNFs (protocol aware intelligent load balancers and aggregators), as well as a complete MANO solution and COTS-based NFV-SDN infrastructure. The solution can also work with a range of third-party VIMs (Virtualized Infrastructure Managers) and NFV-MANO components, accommodating service providers' strategies and needs.

Summary

The Mavenir CloudRange™ Platform allows CSPs to realize additional revenue streams by launching and scaling new services more broadly, rapidly, and efficiently, while at the same time reducing opex and capex with automation, making networks programmable for future 5G services.

CloudRange™ is built with a telco cloud, web-scale architecture, transforming the network economics for mobile operators with scalability, efficiency, and automation. The platform provides an innovative framework which enables Web-Scale deployments that deliver the benefits of network simplification and infrastructure evolution today, while future-proofing the network in anticipation of 5G.

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[i] Financials and Metrics, Craft.co, 2018