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Getting past Ideation;

Crossing the SDN/NFV Deployment Chasm

Initiation -> Ideation -> Implementation?

NFV white paper published in October 2012 successfully **initiated** the SDN/NFV industry and led to the formation for ETSI NFV ISG. Ever since the industry has been in the **ideation** phase with countless PoCs to cite for. However, the industry still has not achieved any scale deployments of SDN/NFV. We are in 2016 and market reality is that our industry is struggling to get past ideation. Achieving real world SDN/NFV **implementations** globally, at scale remains a key challenge. Our presentation will critically examine the key challenges SDN/NFV industry needs to tackle in order to break the deployment barrier. The presentation will closely explore the critical role of vendor neutral **Systems Integrator** (SI) in order to bring scale and speed to SDN/NFV led Network Transformation.

In order to truly reap the benefits of innovating networks at the speed-of-software, building multi-vendor open solutions are a necessity. However, such solutions cannot sacrifice telecom grade quality, reliability, 5NINES high availability, SLAs and more. Vendor neutral Systems Integrators are essential to realizing such multi-vendor open solutions and to simultaneously address key challenges that must be met to cross the deployment chasm. Challenges range from:

- Plugging critical gaps to integrate open source solutions with existing infrastructure (no greenfield)
- Achieving Multi-party VNFs testing, certification and onboarding at web scale
- Automating closed loop control for MANO functions like fault management, SLA management
- Integrating RA (Release Automation) and APM (Application Performance Monitoring) tools for DevOps
- Managing Hybrid Vi-PHY (Virtual and Physical) networks
- Transitioning with the already deployed BSS/OSS stack
- Building visualization and analytics solution to operate and optimize virtualized infrastructure
- Developing Support, Service & SLA solutions for a decoupled, multi-vendor VNF & NFVI infrastructure
- Bringing virtualization skillsets and new processes for DevOps

and more…

The presentation will share Tech Mahindra's numerous real world case studies from various SDN/NFV projects involving multi-vendor products and developing deployment grade solutions. Presentation will highlight key challenges that were addressed during the course of these projects.

CSPs (Communication Service Providers), vendors and open source communities will all benefit from better understanding the key challenges that are inhibiting scale SDN/NFV deployments. Developing deeper insights into these challenges will help them to meaningfully engage with SIs to address these challenges and to achieve common goal. All interested parties will significantly benefit seeing their technologies and solutions move from ideation to implementations, from labs to field.

The **Open Source Networking ecosystem** is spurring unprecedented innovation in networking and is bringing new paradigm to networking. These ecosystems would like to see CSPs adopt their solutions and deploy these technologies in real world networks. Nevertheless Telecom networks are inherently different from Cloud and there are hurdles that must be crossed. Telecom networks are hierarchical in nature, they are complex, they have lot of legacy gear (and protocols) and there are hardly any greenfield SDN/NFV opportunities. In order to deploy open source networking solutions in telecom network many times gaps have to plugged, corner cases have to be addressed and they have to be integrated with existing Networking and BSS/OSS infrastructure. Such activities are usually not the focus area for the Open Source ecosystem and still these gaps have to be plugged for solutions to be deployed in real world telecom networks. Open Source Networking ecosystem will greatly benefit by understanding the involved challenges, by examining real world case studies to develop deeper insights and how such challenges can be addressed by collaborating with SIs.

Tech Mahindra is the leading Telecom SI and is making strategic investments in SDN and NFV. Among various things Tech Mahindra invested in the award winning TM Forum's SDN/NFV Catalyst: "Recover Frist, Resolve Next – Towards Closed Loop Control for Hybrid Networks". This Catalyst project was targeted towards automating Fault Management and SLA Management for Hybrid Networks comprising of EPC PNFs and VNFs. Tech Mahindra has developed a rich suite of SDN applications on ODL SDN controller including a Smart City application demonstrating compelling use case of IoT+SDN. Tech Mahindra along with its strategic partners has setup a comprehensive SDN/NFV Reference Lab for integration, testing and certification. Tech Mahindra has whole heartedly embraced Open Networking and continues to make contributions to Open Innovation. As an example Tech Mahindra is making strategic contributions to CORD program and contributing open source to Quagga. Tech Mahindra is pairing company's deep rooted Telecom pedigree with its strong IT/Cloud domain expertise to bring the best-in-class capabilities for SDN/NFV solutions. We would be truly delighted to share our rich experiences in SDN and NFV with CSPs, vendors and Open Networking ecosystem at ONS.

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ABOUT TECH MAHINDRA:

Tech Mahindra represents the connected world, offering innovative and customer-centric information technology services and solutions, enabling Enterprises, Associates and the Society to Rise™. We are a USD 3.9 billion company with 105,200+ professionals across 90 countries, helping over 788 global customers including Fortune 500 companies. Our innovation platforms and reusable assets connect across a number of technologies to deliver tangible business value to our stakeholders. Tech Mahindra is also amongst the Fab 50 companies in Asia as per the Forbes 2014 List.

We are part of the USD 16.9 billion Mahindra Group that employs more than 200,000 people in over 100 countries. The Group operates in the key industries that drive economic growth, enjoying a leadership position in tractors, utility vehicles, information technology, after-market and vacation ownership.

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Speaker Bio

Manish Singh

Vice President of Product Management for SDN & NFV

Manish is a well-respected industry leader with over 20 years of experience and specializes in Wireless Networks. For three consecutive years, he served on the Executive Board of Small Cell Forum. Manish is a Thought Leader with an excellent mix of technology depth and business acumen.

Before joining Tech Mahindra, Manish served as Radisys' CTO where he spearheaded the company's strategic initiatives in SDN/NFV and VoLTE (Voice-over-LTE). Prior to Radisys, Manish was the VP of Product Management at Continuous Computing, where he led the company's spectacular growth in Small Cells and DPI. During the course of his career Manish held various Management and Architect positions at Intel, Trillium Digital Systems and C-DOT.

Manish holds an MS degree from I.I.Sc. Bangalore.

Manish is a prolific speaker who has delivered numerous industry keynotes including at MWC, IEEE NFV Congress, CTIA, Small Cell Congress, Intel Networks Builder, Broadband Forum and more. Manish is an articulate technical author whose numerous papers and articles have been published in leading media outlets. Manish co-authored book: "Internet Networks: Wired, Wireless & Optical Technologies".

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