Virtual Network Function Configuration

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NFV Basics

• Cloud computing technology used in the network function context
• Replace existing dedicated hardware boxes, so as to improve reusability and flexibility

• Resources: Physical Machines, Virtual Machines, Physical Routers/Switches, Virtual Router/Switches, Network Resources

• On-going NFV work in ETSI
  – MANO
  – SWA
  – INF
  – REL
  – SEC
  – ...

The problems of NFV Configuration
History

• NFV service template was presented at IETF 87
  – Draft-song-appsawg-service-template-00
  – Different than the Aggregated Service Discovery effort in IETF
Lack of Remote Provisioning

• Components selection
  – Which components for selection, parent component and child component
  – User interface, Software vendor interface for components description

• Resource allocation for VNF
  – # of replicas, etc.
  – Operating System requirement
  – CPU, bandwidth (VNF level, not VM level), etc
  – Automatic scale-out/scale-in demand
Lack of Remote Dynamic Configuration

• Service configuration
  – User defined service parameters
  – Control on when to apply, which VNFs to apply... via the controller
  – Controller is agnostic of the service logic, so as to reduce complexity

• Service graph/forwarding graph
  – Chaining of network functions (virtual/physical)
  – Forwarding graph w.r.t the link layer entities
  – Service graph with only service entities
Standardization Space

• Remote provisioning and configuration protocol
  – Remote provisioning protocol
    • User interface, vendor interface
  – Controller is agnostic of the service parameters?

• Related data models
  – Description
  – Monitoring
  – Policies: automatic scale-out/scale-in, and etc.
  – Language: JSON/YANG?
Thanks!
Next Step

• How many people believe this is the work that IETF should work on?
• How many people are interested in this work?
• How many people would like to write drafts?