What's the Impact of Virtualization to ALTO?
draft-fu-alto-nfv-usecase-00

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Introduction

• NFV: Network Function Virtualization
  – Operation
    • *leverages standard IT virtualization technology to consolidate many network equipment types onto industry standard high volume servers, switches and storage*
  – Advantages
    • Decoupling software from hardware
    • Flexible network function deployment
    • Dynamic operation
  – Architecture
    • NFV Management and Orchestration (NFV M&O)
    • VNF, virtual network function
    • NFVI, NFV-Infrastructure

Figure 1: NFV Architecture in Brief
NFV and ALTO

- ALTO: Application Layer Traffic Optimization
  - *provide guidance to applications that have to select one or several hosts from a set of candidates capable of providing a desired resource.*

- NFV M&O as a Dynamic Network Info provider to ALTO
Impact of Virtualized Endpoints to ALTO Selection

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<td><strong>Performance</strong></td>
<td>Performance degrade given the same physical resource</td>
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<td><strong>Portability</strong></td>
<td>mobility and network location of the service points</td>
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<td><strong>Elasticity</strong></td>
<td>The ALTO discovery and selection process will be impacted to reflect such dynamic information.</td>
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<td><strong>Resilience</strong></td>
<td>The NFV M&amp;O will manage the metrics such as packet loss rate, latency, delay variation of flows, maximum time to detect and recover from faults</td>
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<td><strong>Energy efficient</strong></td>
<td>NFV could potentially deliver up to 50% energy saving compared with</td>
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<td><strong>Service assurance</strong></td>
<td>High availability (99.999%) is still challenging for VNFs</td>
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<td><strong>Endpoint Cost</strong></td>
<td>vNF tries to lower Capex</td>
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Next Step

• Comments are welcome

• Interested partners are welcome

• Thanks for your attention