

INTERCONNECTING MULTICLOUD WITH VMX

Julie Zhao
Senior Product Manager

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AGENDA



Introduction & Overview



Telco Cloud



Enterprise Multicloud

NFV ADOPTION DRIVERS



TELCO CLOUD

- Rapid Service Enablement
- Flexible & Scale-out Deployment
- CAPEX & OPEX Reduction



SP & Enterprise

MULTICLOUD

- Seamless Extension into Cloud
- Multicloud Secure Interconnect
- Virtual POP in Public Cloud

VMX FAST-GROWING GLOBAL PRESENCE

"...a carrier-grade virtual router with a full feature set, not a stripped down MX. Having Junos OS run on both the physical and virtual MX ensures consistent operations."

**Dr. Ray Mota, CEO and principal analyst,
ACG Research**

"We are very excited about Korea's first commercial launch of a carrier-grade NFV-based router. As a leader of the 5G era, LG U+ plans to expand NFV adoption in close cooperation with Juniper."

Jae-ho Choi, GM, Transport Platform Development, LG U+



"Juniper's vMX leverages OTS hardware and supports open APIs, reinforcing programming tools such as Ruby, Python, Ansible, Puppet and Chef. This will allow us to spend less time manipulating the platform and more time creating innovative solutions with our clients."

Frank Jadevaia, president, Intercloud Systems"

VMX EVOLUTION

Cloud Agnostic Automation

Virtual RR
Virtual PE

Virtual BNG

Multicloud
Interconnect

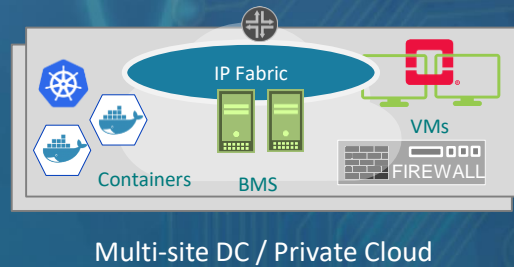
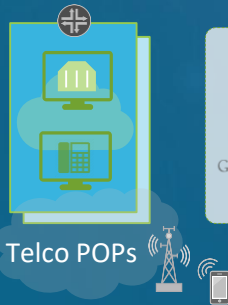
vMX
Appliance

Virtual POP

2015

2016

2017+



Remote
Branch Office

VMX DEPLOYMENT MODELS



COTS

Telco Cloud

Public Cloud

Juniper Appliance

Use Cases

- Internet Gateway
- Contrail Cloud Gateway

- Virtual PE
- Virtual BNG
- Virtual RR

- Multicloud Interconnect
- Transit VPC
- Virtual POP

- Small MX
- Managed CPE

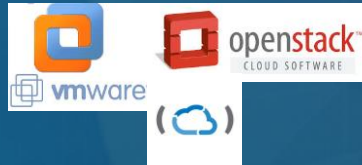
Customer Segment

- Service Provider

- Service Provider
- **100G+ Throughput**

- Enterprise Service Provider
- **High Perf IPSec**

- Enterprise Service Provider

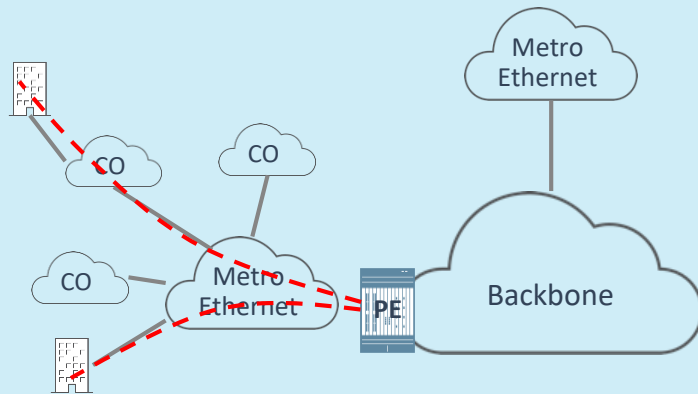




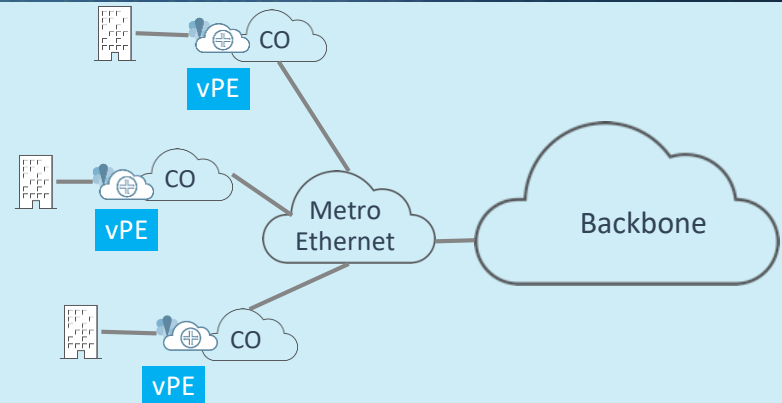
TELCO USE CASES

VIRTUAL PROVIDER EDGE

Current mode of Operation



New mode of Operation



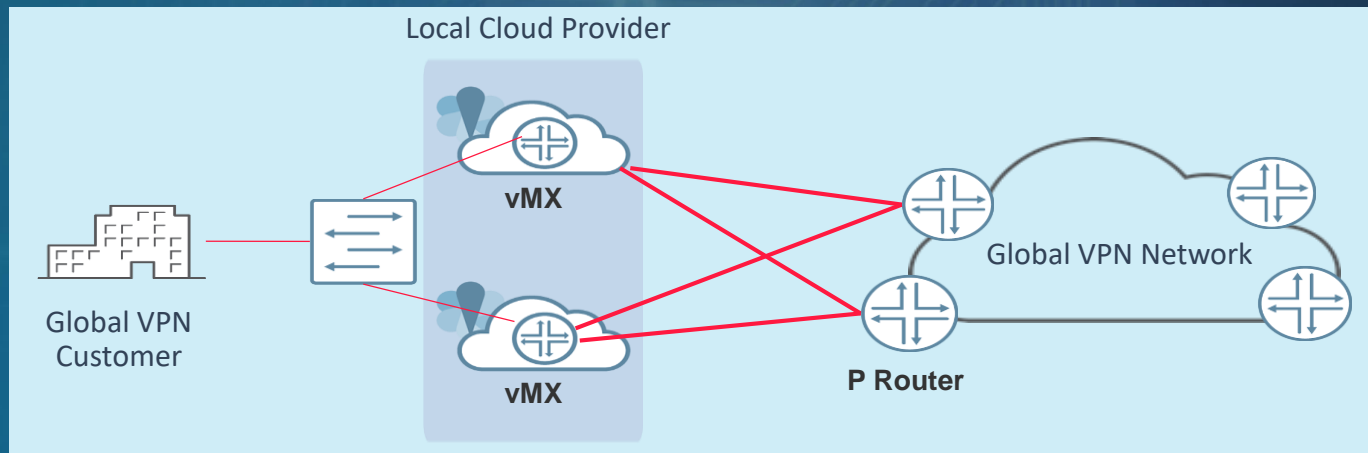
Virtual Provider Edge

- Agile Service Deployment
- Pay As You Grow
- CAPEX Reduction

Deployment Consideration

- 100G @256bytes Throughput
- Physical MX Feature Parity

NETWORK GATEWAY



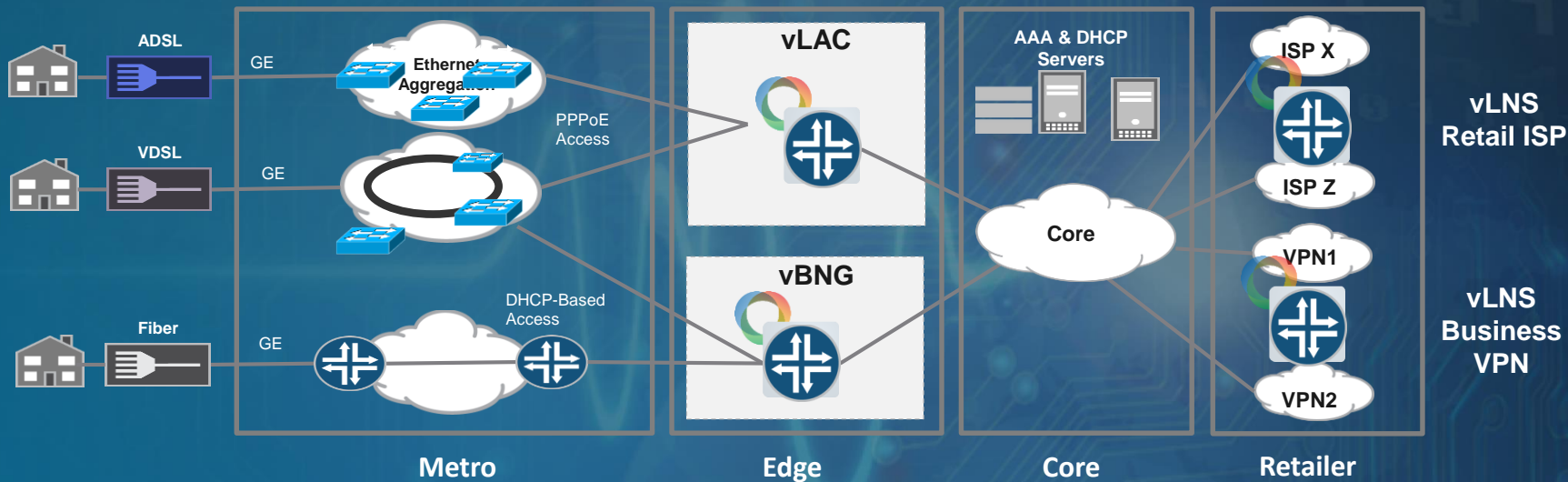
Network Gateway

- Flexible Deployment
- Pay As You Grow
- CAPEX Reduction

Deployment Consideration

- Secure with IPSec
- Interop with Physical Network Function

DISTRIBUTED VBNG & VLNS



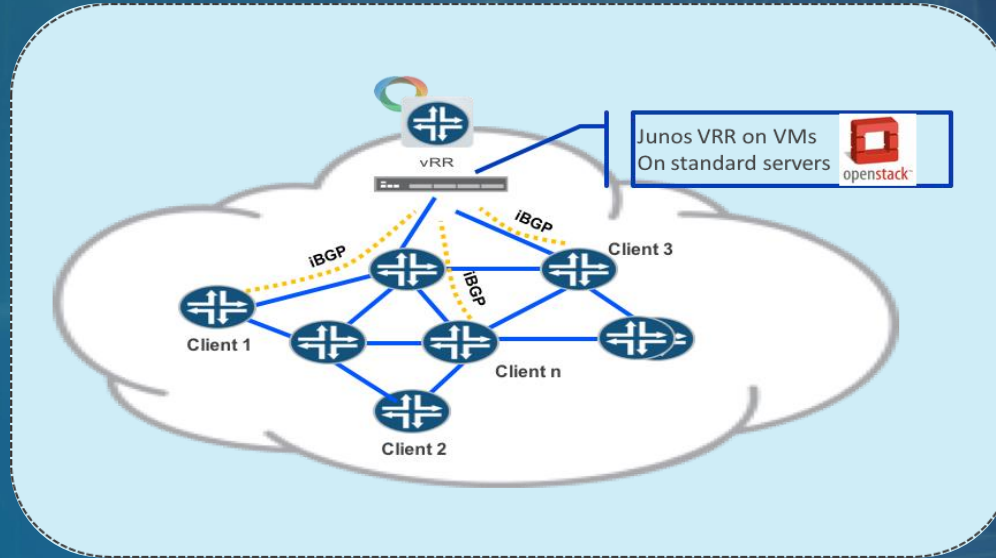
Distributed vBNG & vLNS

- Faster Time To Market
- IT Integration cost Reduction
- CAPEX Reduction

Deployment Consideration

- vBNG for just in time provisioning in small CO
- vLNS for optimized instances with dynamic capacity management

VIRTUAL ROUTE REFLECTOR



Virtual Route Reflector

- Ease of Deployment
- CAPEX & OPEX Reduction

Deployment Consideration

- Same JUNOS BGP Feature Stack
- Scale & Performance

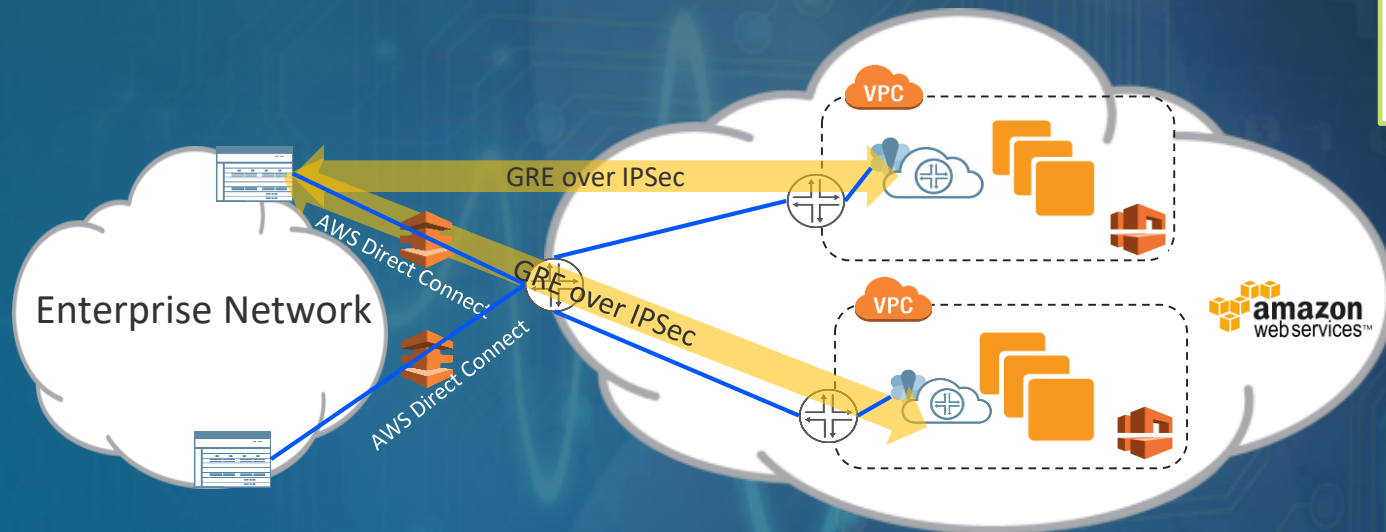


MULTICLOUD INTERCONNECT

MULTICLOUD INTERCONNECT



CloudFormation



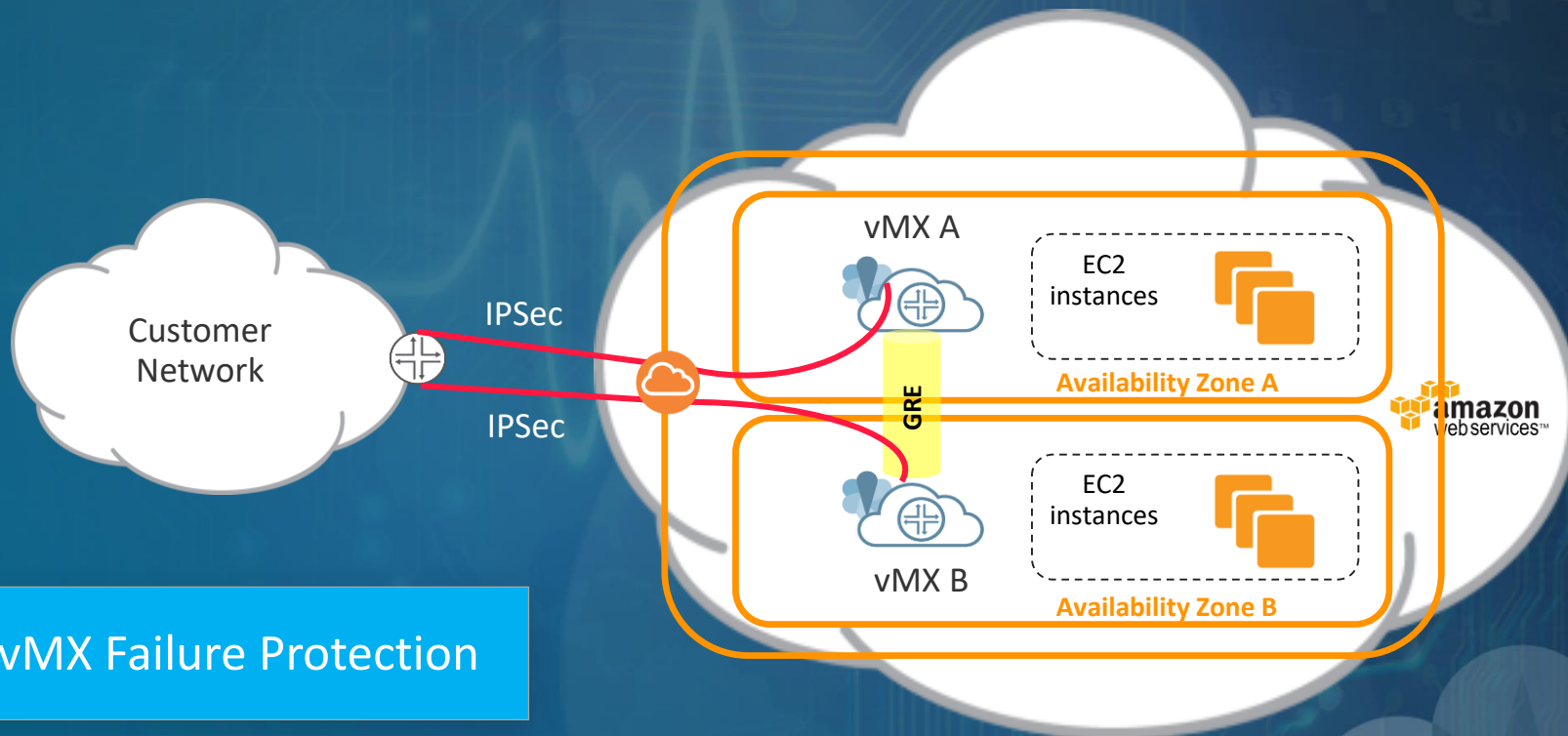
Multicloud Interconnect

- Deployment Consistency with exiting Network

Deployment Consideration

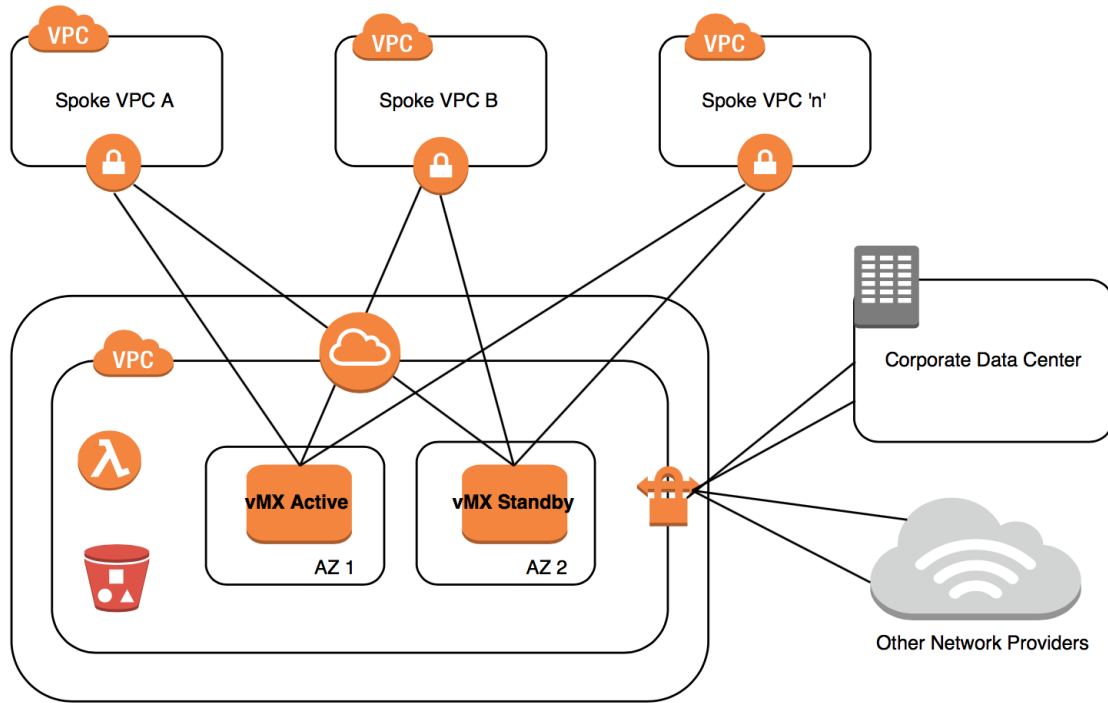
- Deployment automation with CloudFormation
- Seamless extension into the cloud

VMX HIGH AVAILABILITY IN AWS



VMX Failure Protection

MULTICLOUD INTERCONNECT

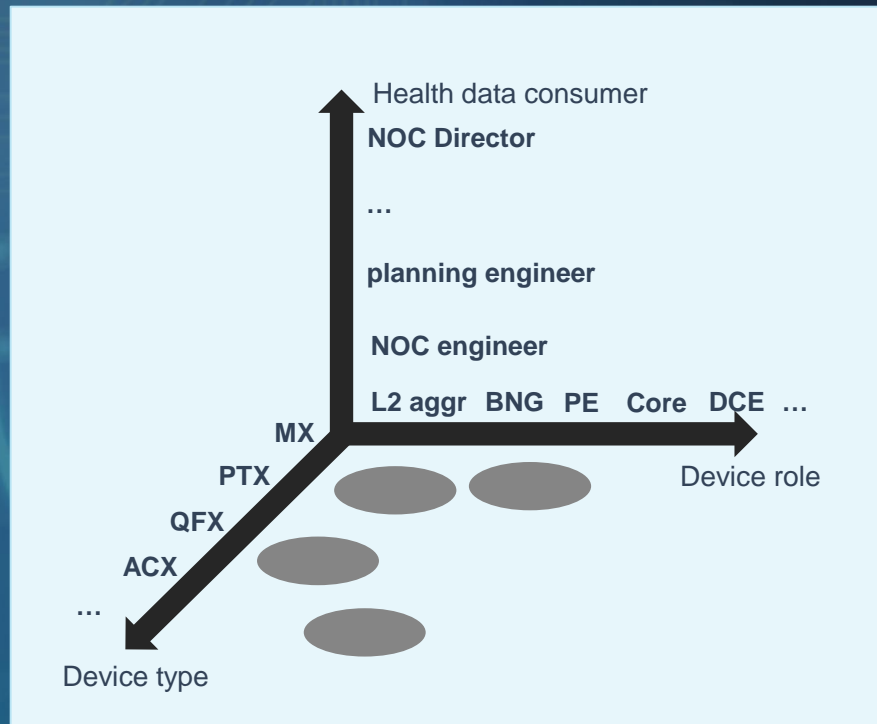
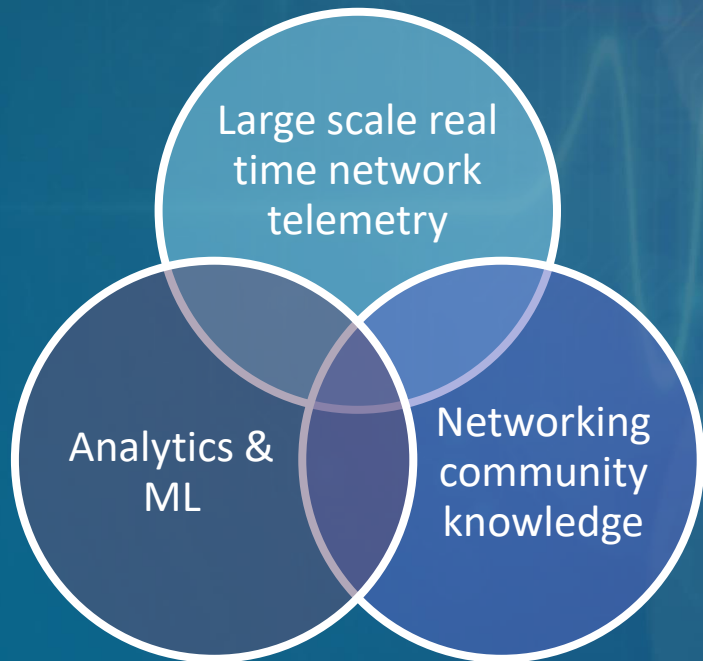


Interconnect Cloud & Existing Networks

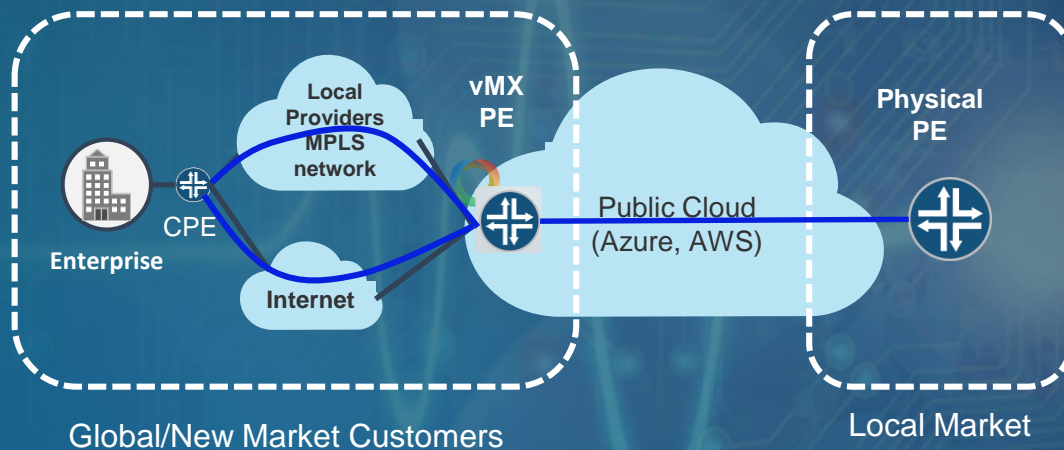
End to End Automation

Network Insights with AppFormix HealthBot

NETWORK INSIGHTS WITH APPFORMIX HEALTHBOT



CLOUD VIRTUAL POP



Cloud Virtual POP

- Fast Service Deployment
- CAPEX reduction by leveraging Public Cloud Infrastructure

Deployment Consideration

- Deployment automation leveraging Public Cloud eco-system
- Tunneling required

ONLINE RESOURCES

<https://www.juniper.net/us/en/products-services/routing/mx-series/vmx/>

<https://www.juniper.net/us/en/dm/free-vmx-trial/>

<https://www.juniper.net/us/en/products-services/routing/mx-series/mx150/>



Q&A