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OpenFlow to the Home

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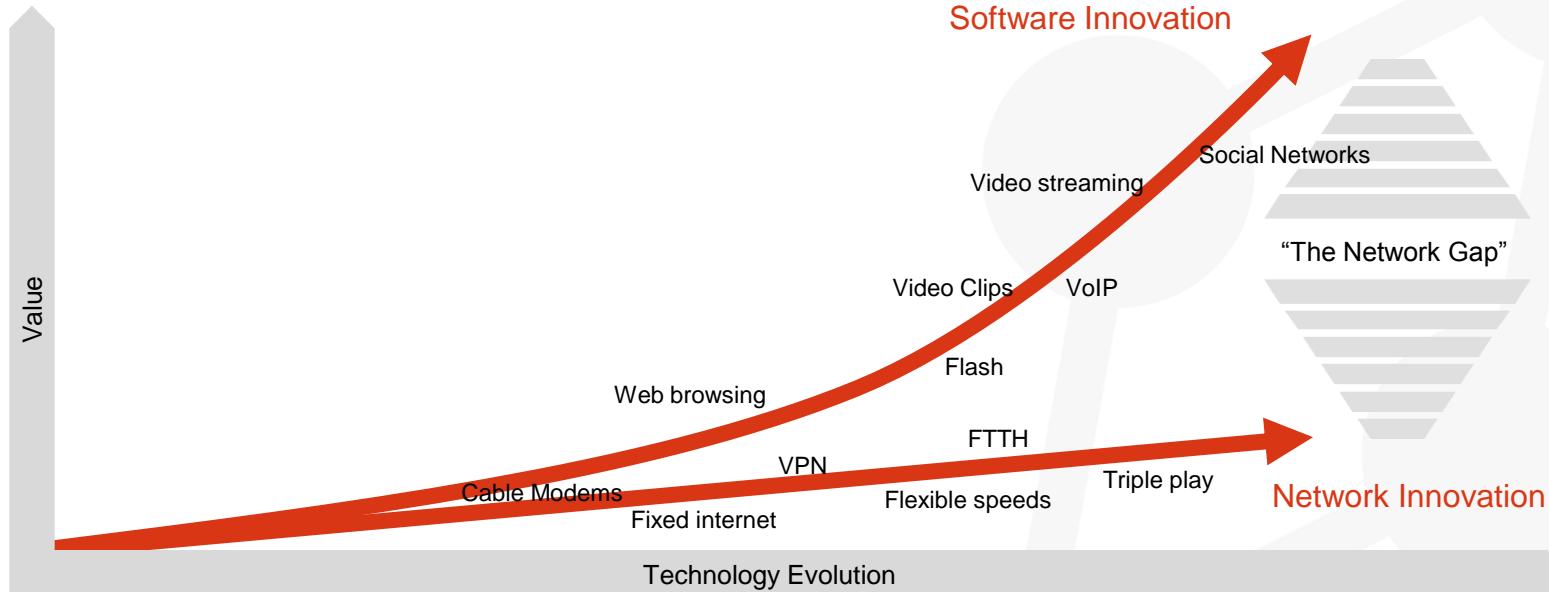
Is Networking a Single Vendor Play?

ORCHESTRATION	Controller	Openstack	Tivoli	Tail-f
MANAGEMENT/ AUTOMATION	Subscriber	Service	Accounting	API
SERVICES	Web	VoIP	Video	TV streaming
DISTRIBUTION/ AGGREGATION	CMTS	FTTx	Wireless/WiFi	Social Networking
CPE	Modem	Virtual CPE	Mobile Device	



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The Network GAP





Three Reasons For The Network Gap

1.

Closed Systems



2.

Limited Capabilities

CPE, CMTS

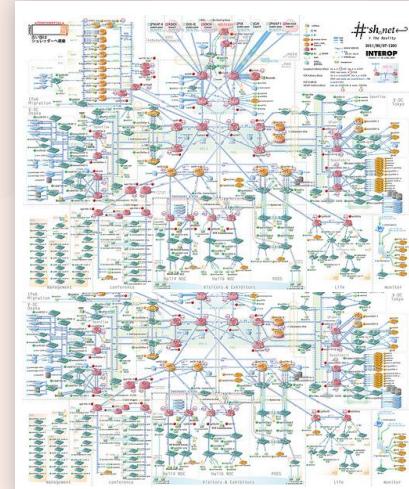
Channel scale,
SD/HD(2k)/
UHD(4k/8k)

Service providers
lock-in

Service
disruption/restoration

3.

Intertia





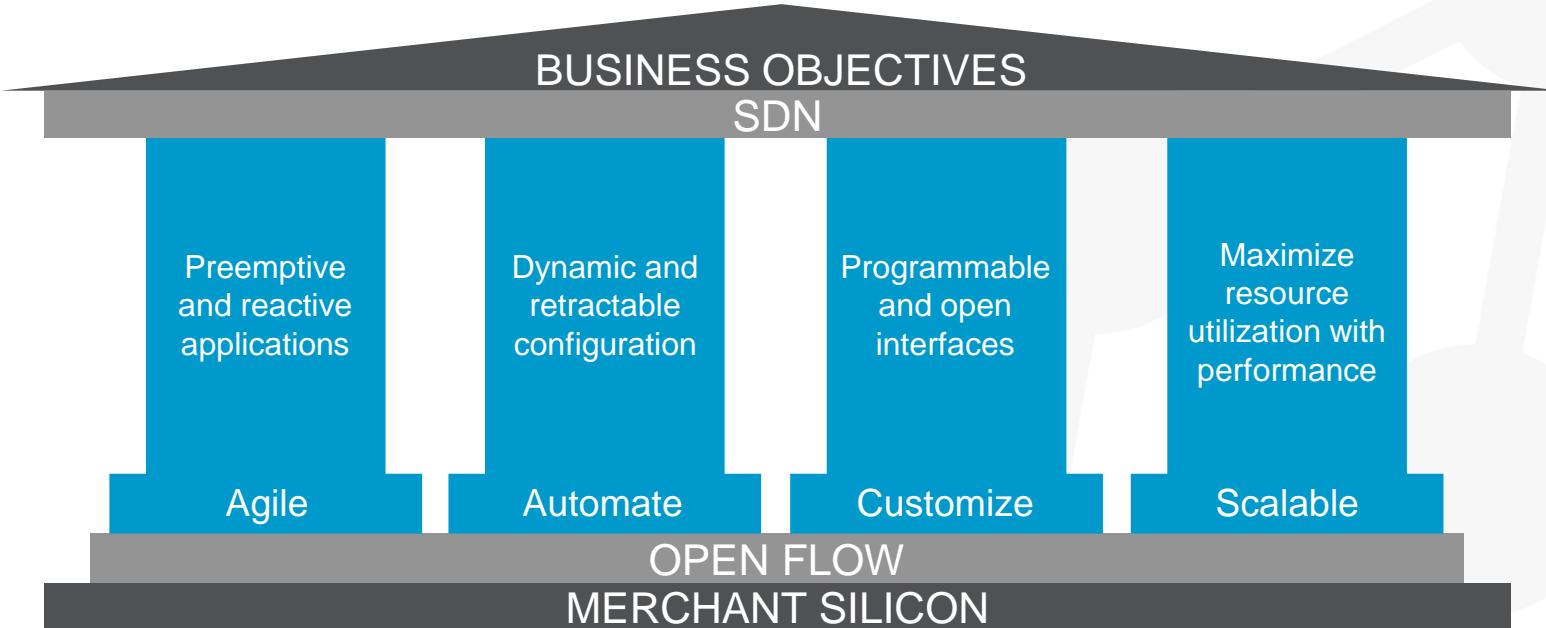
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OpenFlow Closes the Gap



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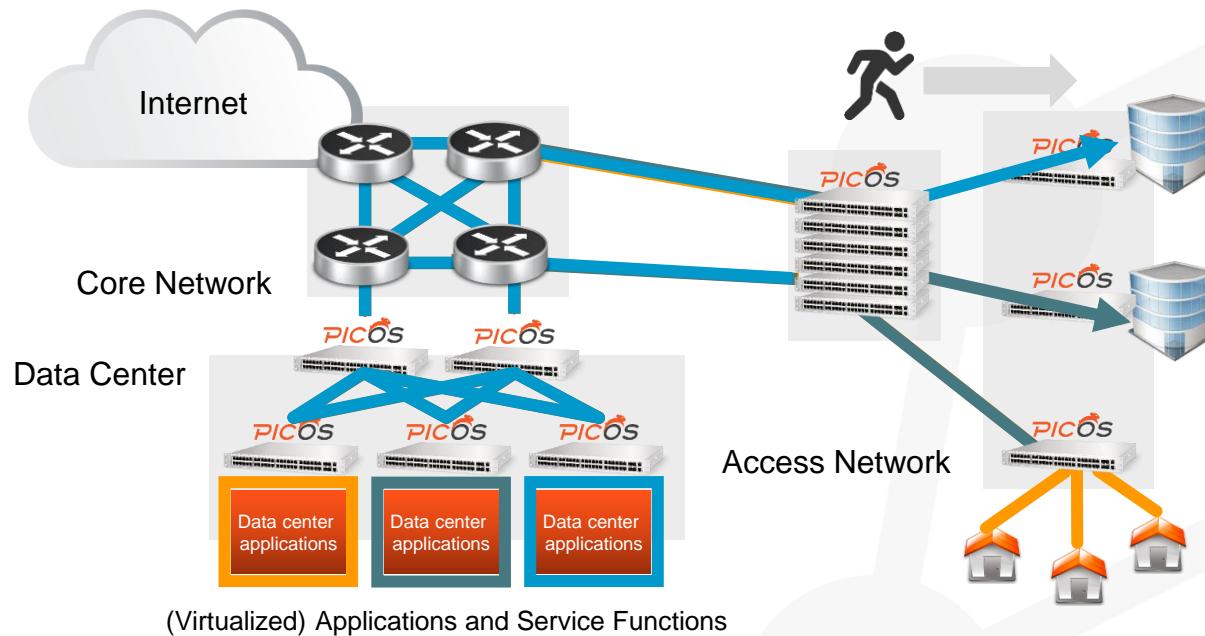
OpenFlow Enables Innovation





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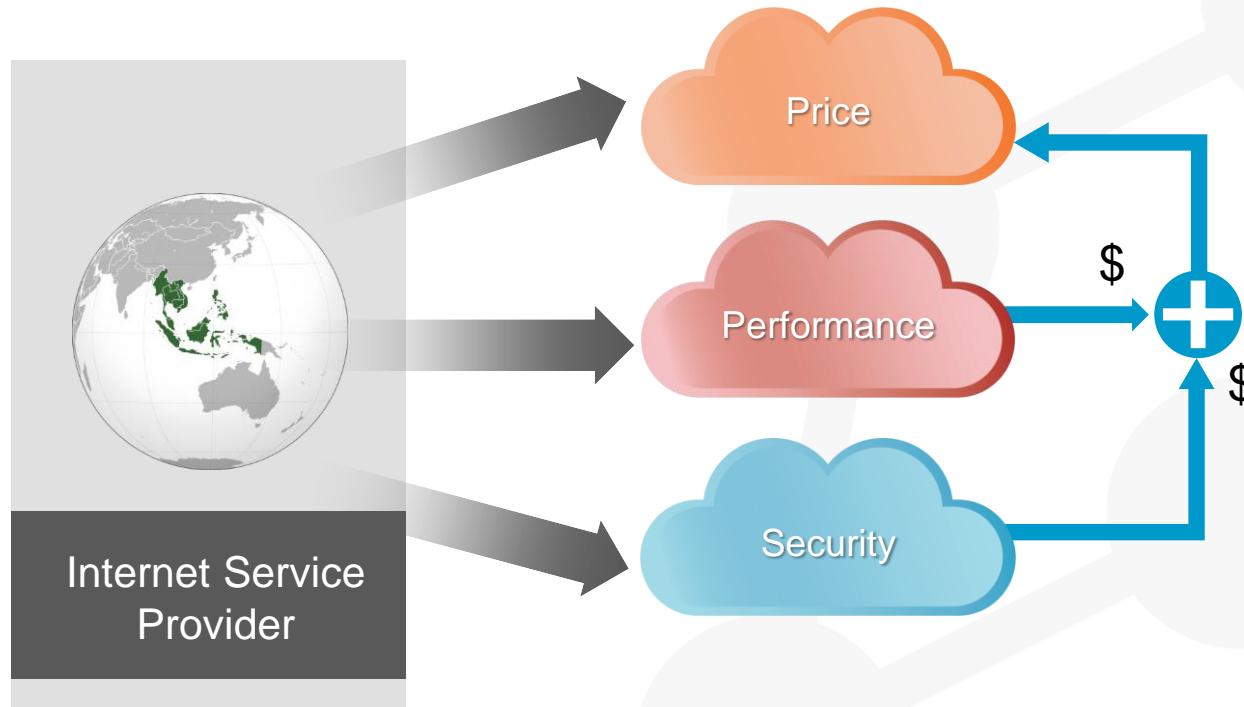
Case 1: Internet Access





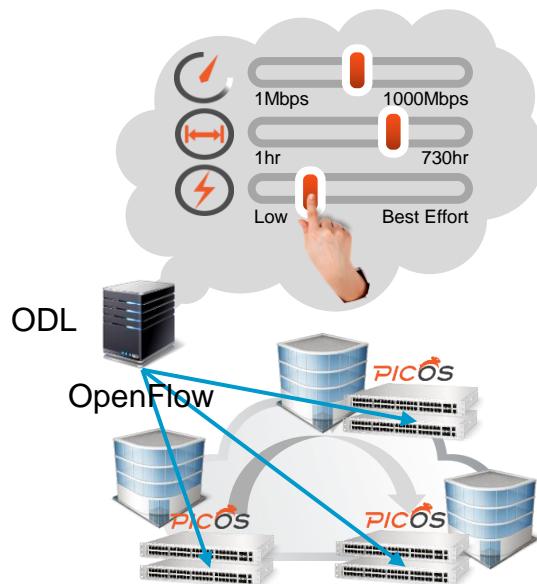
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Network as a Service (NaaS)





Solution: OpenFlow Cloud “Brokering”



Features	Benefits
Agility	Enables seamless cloud burst and migration
Customization	Policies derived from a customer portal, slider bars drive requests to the controller
Scalability	OpenFlow 1.4 (bundle messages, eviction/vacancy events, multiple controllers) ODL integration with Openstack Overlay / tenant segmentation (MPLS / L2oGRE)



Case 2: Smart Cities and Homes

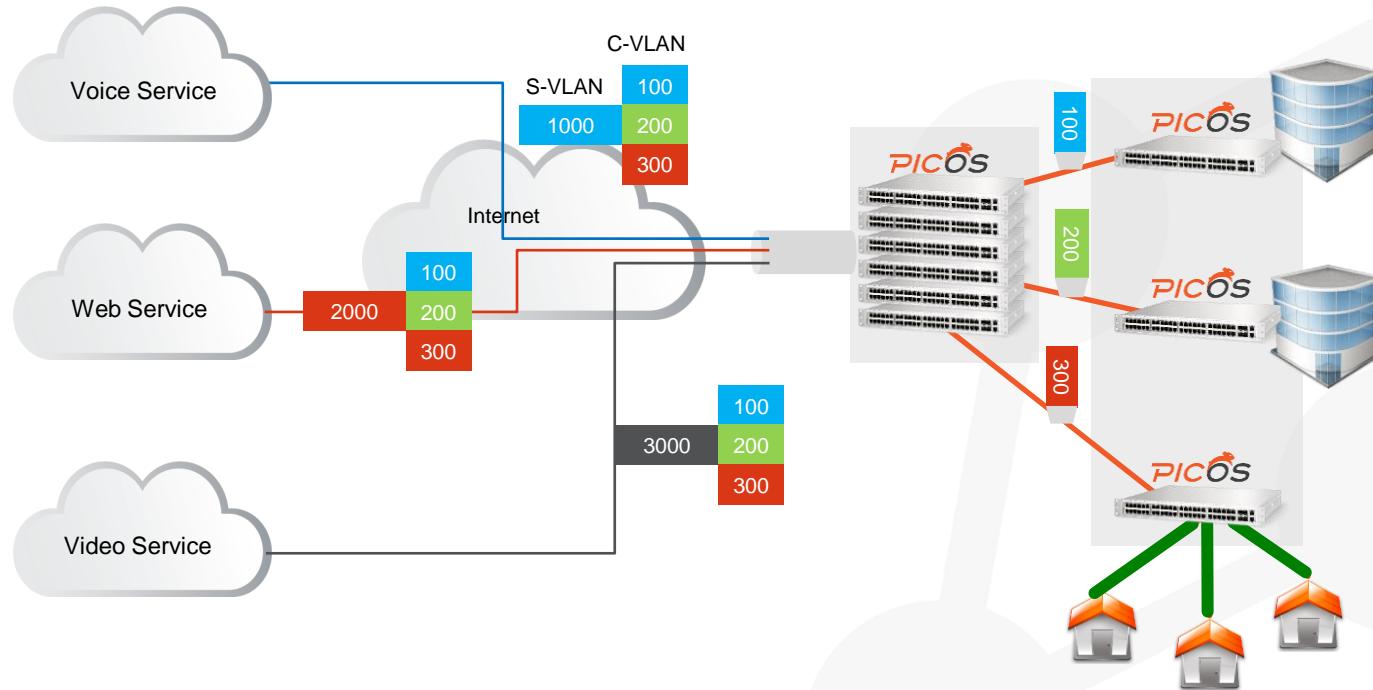
- Regional SP delivering mobile and broadband access
- Key drivers:
 - FTTx – to the home and small business
 - Carriers (Municipalities and Local) exploring new methods to reduce the 'digital divide' and provide high speed content and services
 - Consumers utilizing 'Application Store' model for content and bandwidth services at home





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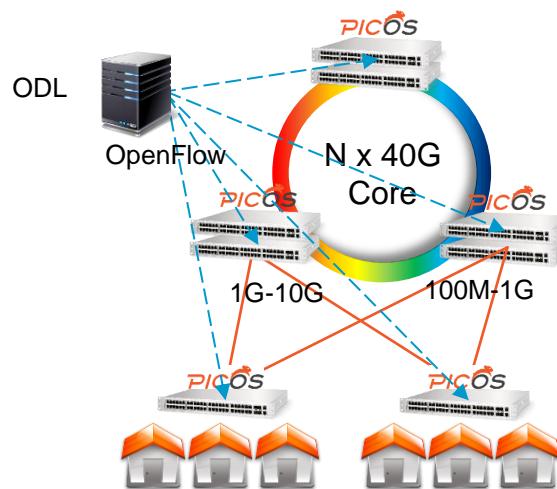
Dynamic Service Provisioning





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Solution: Openflow Service Delivery Gateway



Features	Benefits
Agility	vCPEs offer advanced firewall services in addition to dynamic VPNs offering DRaaS
Scalability	Bandwidth is guaranteed as part of an SDN access network 100M to 1G 1G to 10G
Automation	Service redundancy OpenFlow 1.4 and legacy integration ODL integration



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Benefits Realized

Service

Cloud burst and migration

Consumer controlled service subscription

Multi-tenant aware segmentation

Service availability

Improvement

Simplify and accelerate deployment of cloud services

Policy driven customization of service bundles

Scalable solutions using standard segmentation techniques

Resilient service instances



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Networking “Made to Order”



No Lock-in

OpenFlow

SDN Stitching

“When standard networking can’t get the job done, PicOS delivers the flexibility and control to get you there”



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Thank You
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