

nuagenetworks

# Revolutionizing Datacenter Networking

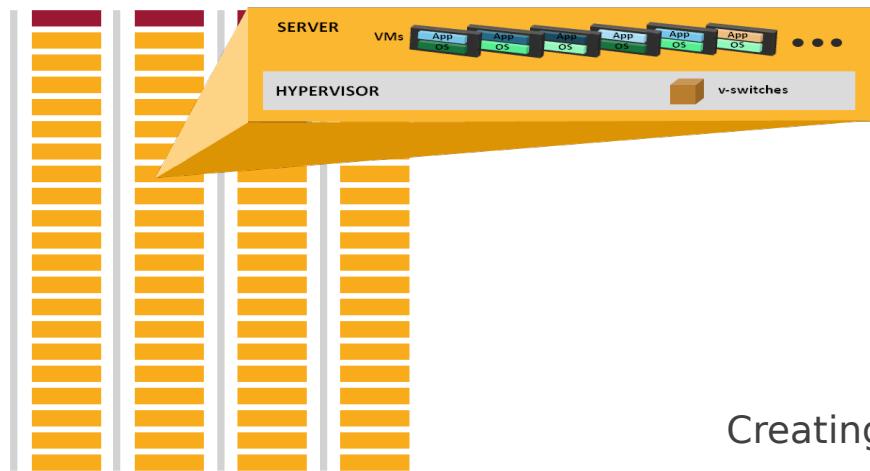
Sami Kinnunen  
Alcatel-Lucent

# Agenda

- Problem Statement
- Nuage Virtualized Services Platform Overview
  - Overview
  - Managing Physical Assets
- Conclusion



# Server Virtualization: Is it enough?



**IT - DONE**

4 weeks



2 min



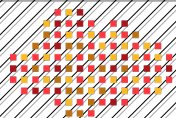
**Network - ??**

2 weeks

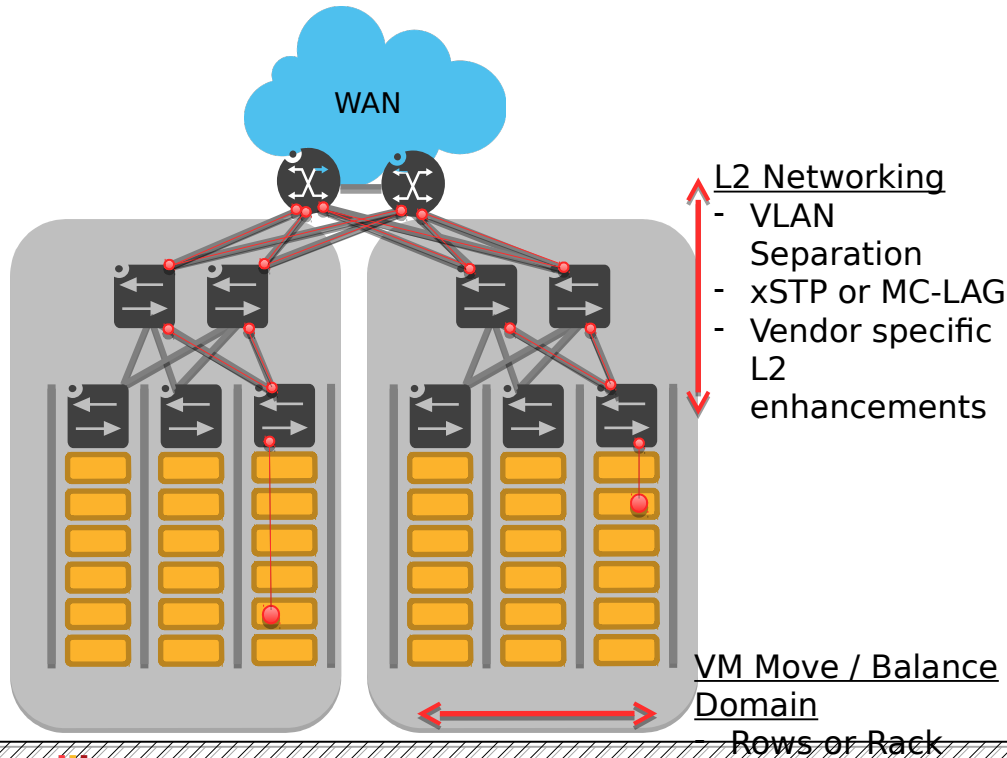


2 min

Creating new virtual machines takes little time, but  
The underlying network, as it stands, takes a lot of time...



# Traditional Datacenter Design

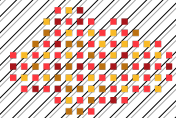


## Configuration

- vSwitch
- VLAN's in the network
- WAN Router
- Firewall

## Results in:

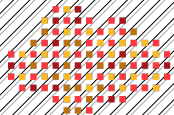
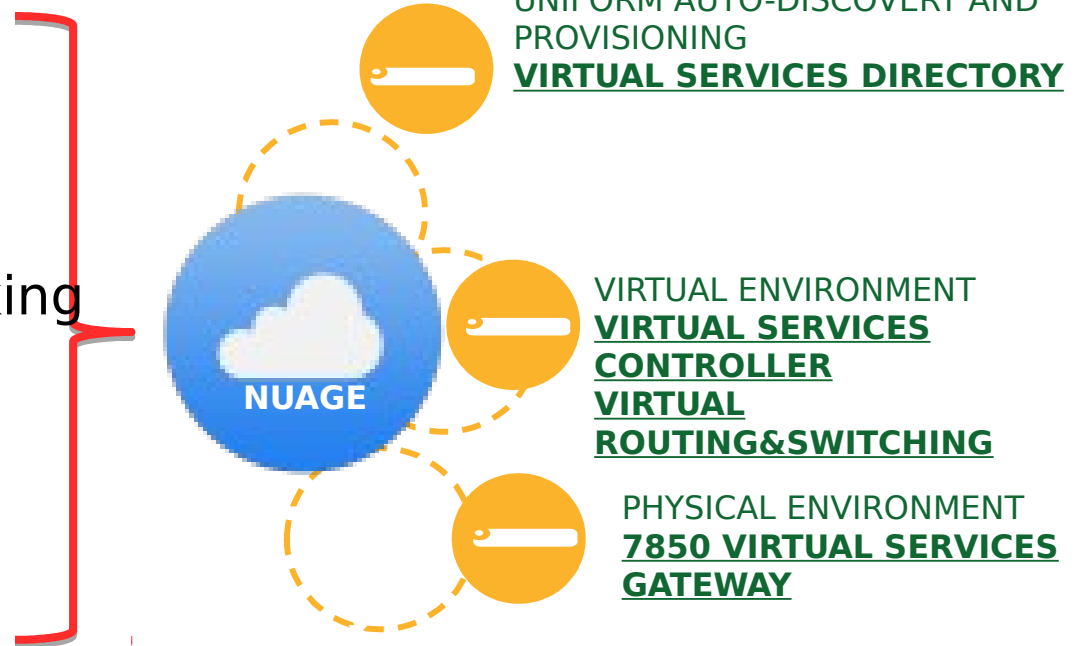
- Asset isolation
- Complex compute migrations
- Cumbersome Configuration
- Vendor lock within the DC
- Constrained growth / moves within a POD





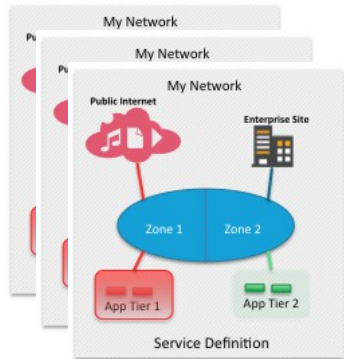
# Nuage Networks Solution

- 1 Differentiated Cloud Proposition
- 2 Simplified DC Networking
- 3 Integrates physical and virtualized DC Environment

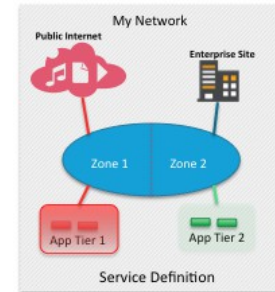
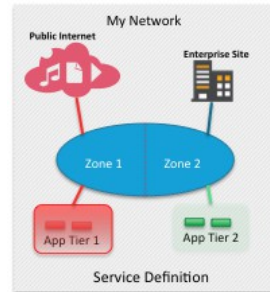
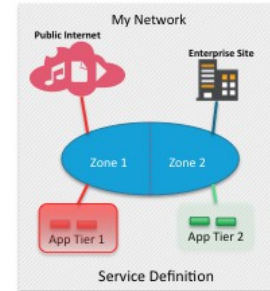
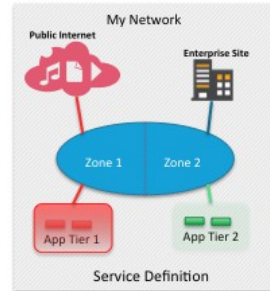
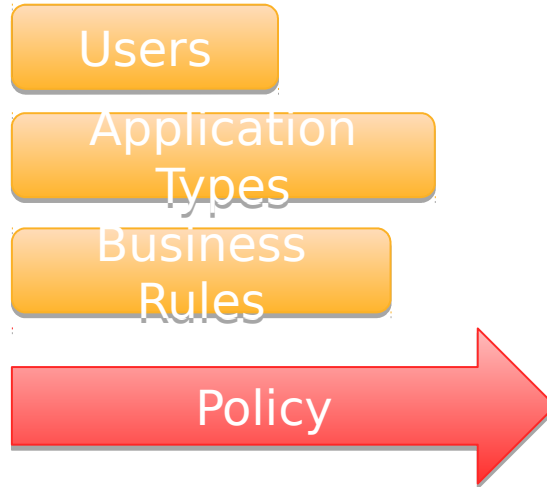


# Policy Based View

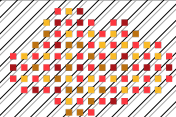
## Design once, use multiple times



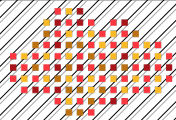
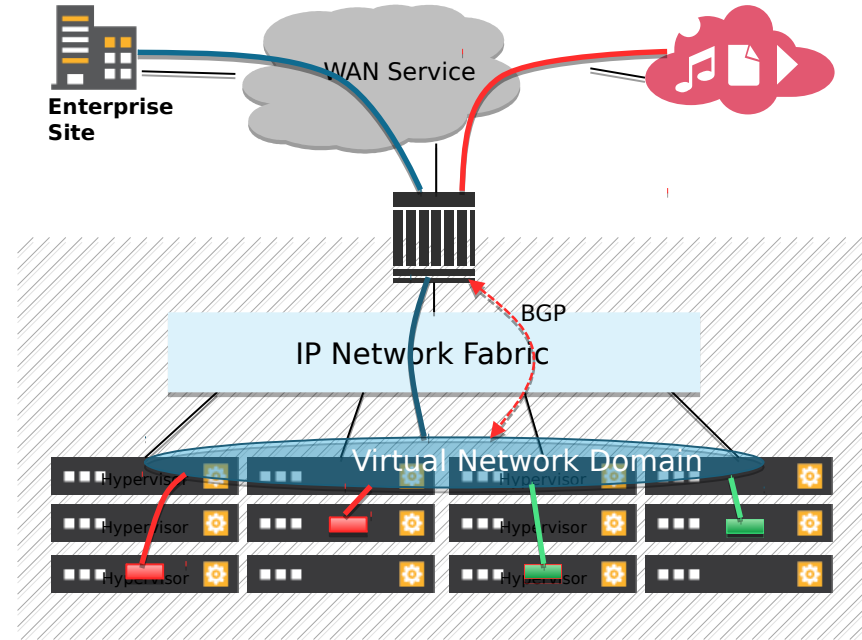
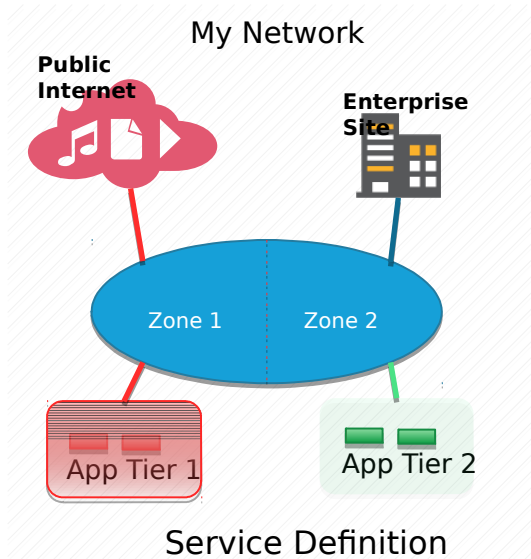
Network Templates



Application Networks



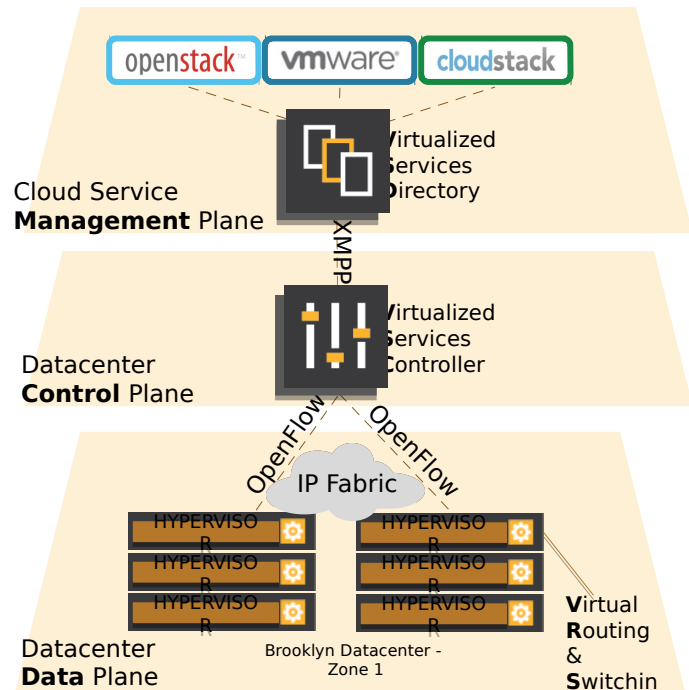
# Distributed Virtual Routing & Switching





# Cloud Service Network Instantiation with Nuage

## Reference view of datacenter and logical layers



**Nuage Networks**  
**Virtualized Services Platform (VSP)**



**Virtualized Services**  
**Directory (VSD)**



**Virtualized Services**  
**Controller (VSC)**



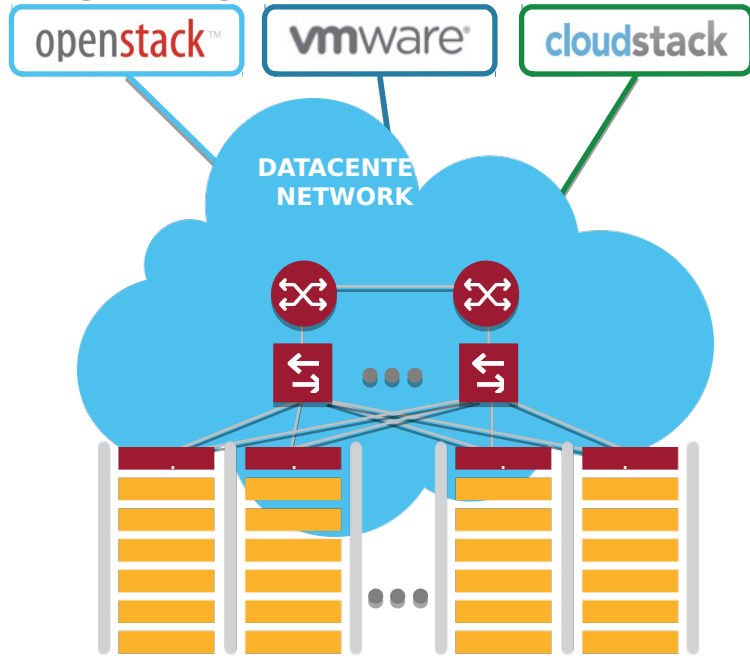
**Virtual Routing &**  
**Switching (VRS)**



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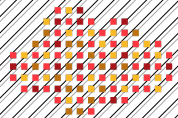
# Nuage Networks Virtualizes any Datacenter Network



Compute Virtualization Environment of Choice

Datacenter Networking Hardware of Choice

Server & Hypervisor Environment of Choice

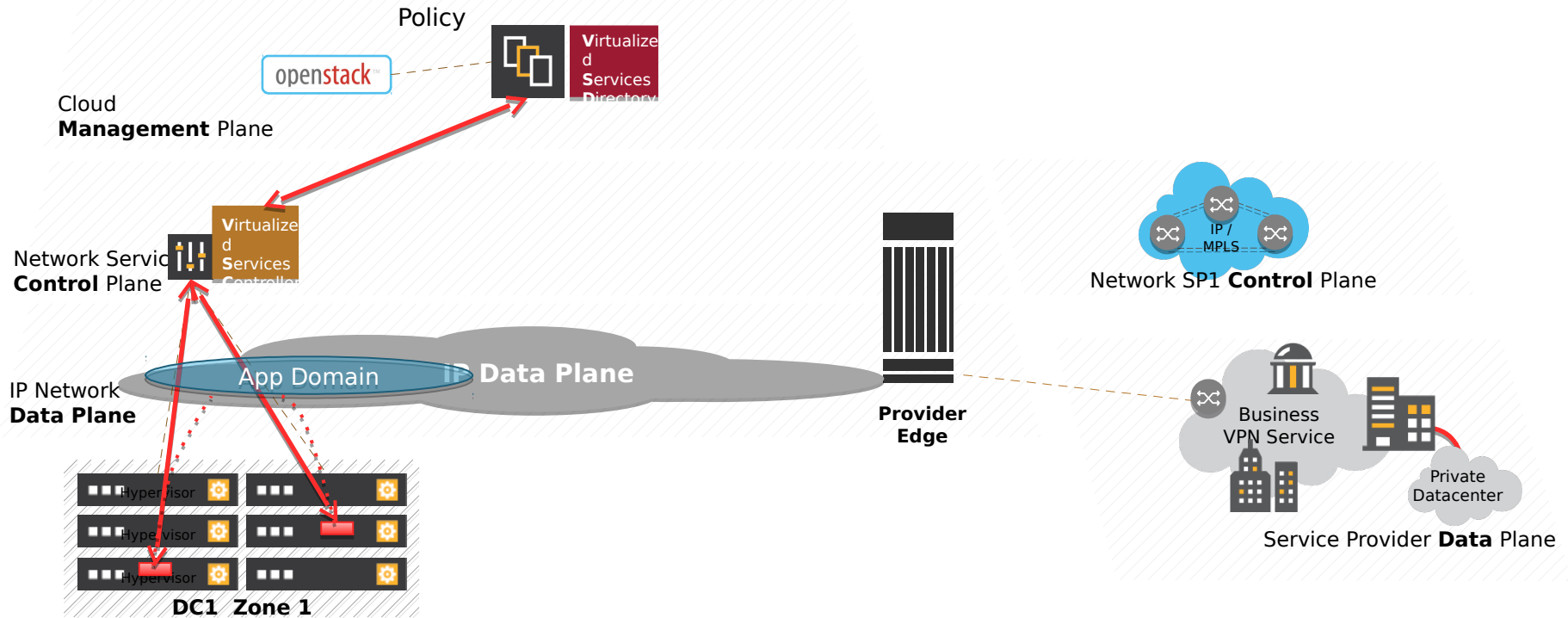


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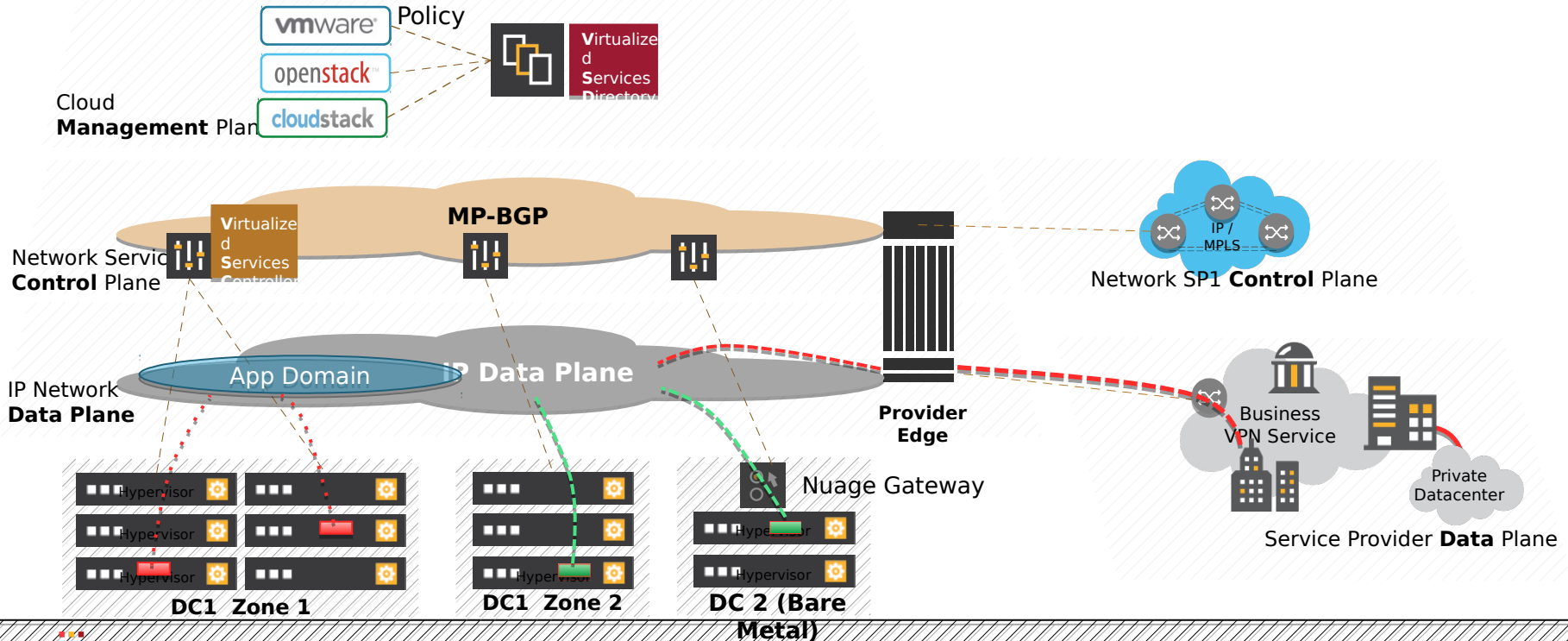
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# Nuage Networks VSP: Putting It All Together



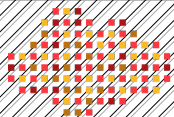
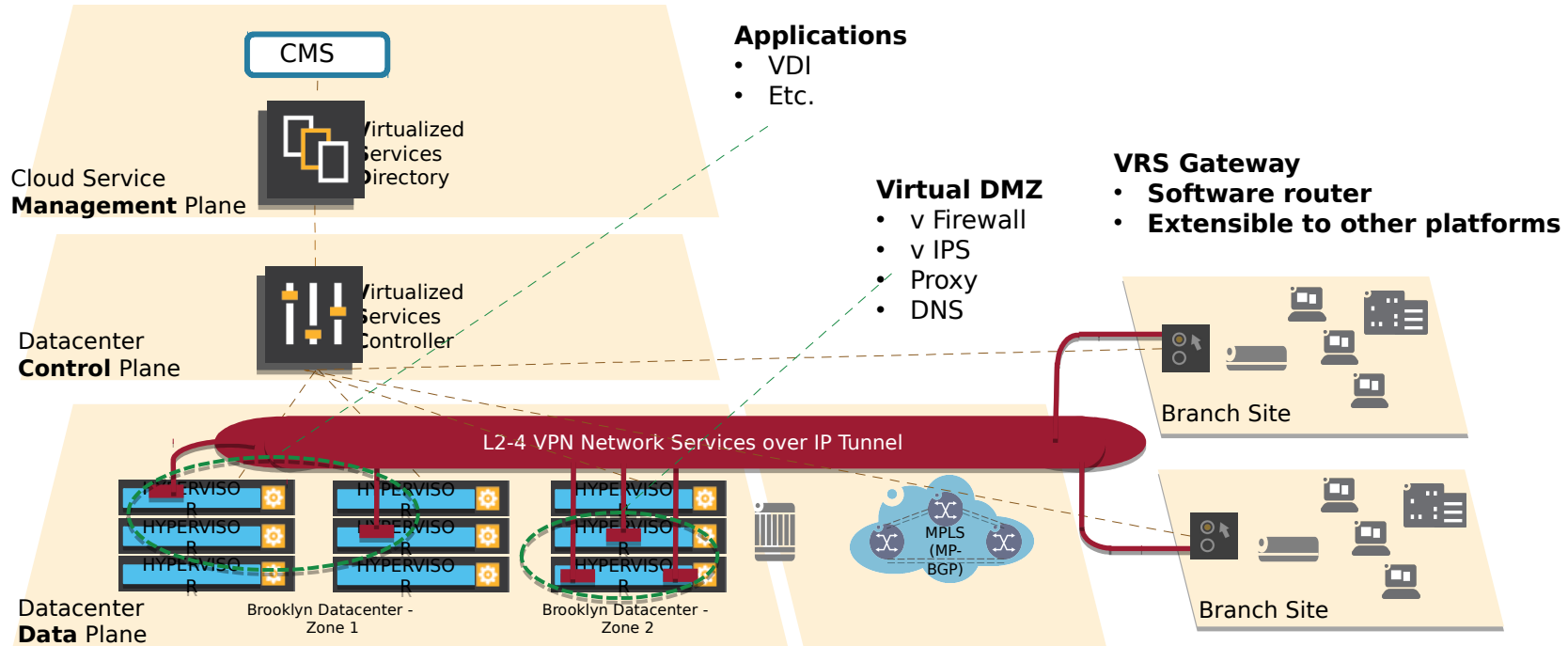
# Nuage VSP: Putting It All Together



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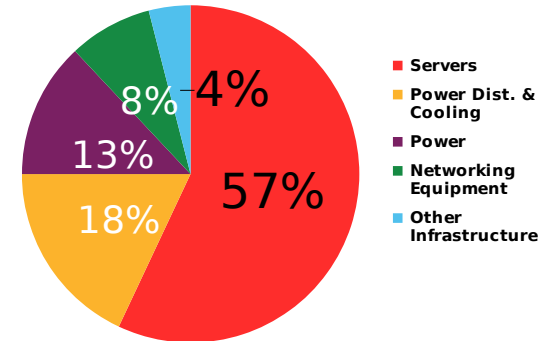
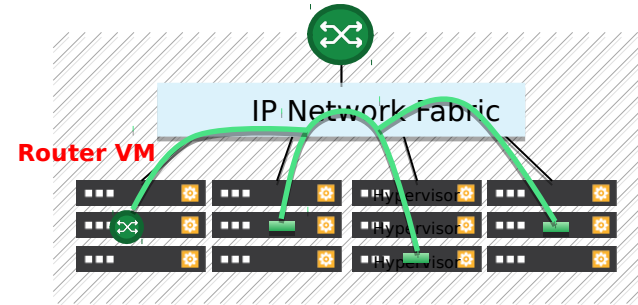
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# Extension of the Virtual Network to the Branch



# Nuage Networks VSP Business gain

- Become As Efficient As Possible
  - Automated Network Configuration
    - Reducing Network configuration management
    - Increasing service agility (= faster service activation)
  - Improved Efficiency in the Datacenter Network of 40%
    - Due to its fully distributed L2-4 NV approach
  - Enabling White label networking hardware
- Adds Value on Top of infrastructure
  - Enables Hybrid Cloud Service Models
  - Allows Advanced Multi Tier Enterprise Applications Virtualization
  - Allows advanced Monitoring/Analytics
- Enables a new type of VPNs: Software-Defined VPNs



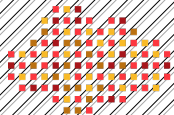
Reference: James Hamilton, Amazon Architect  
Note: 3 yr server yr infrastructure amortization

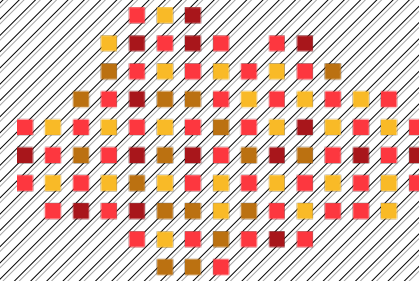


# Differentiators

## Nuage Networks VSP

<b>Within one datacenter (partial or full)</b>	<b>Across multiple datacenters</b>
<b>Manual</b>	<b>Seamless, Automated</b>
<b>L2 with L3/L4 support</b>	<b>Integrated L2-L4</b>
<b>Proprietary</b>	<b>Open/Standards based (BGP)</b>
<b>EMS-Based Provisioning (decoupled)</b>	<b>Linked to the application, with w/ detailed analytics</b>
<b>Hardware OR Software</b>	<b>Hardware AND Software, geared to physical and virtual environments</b>





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**Thank You**