

Virtual Network Assurance

Customer Presentation

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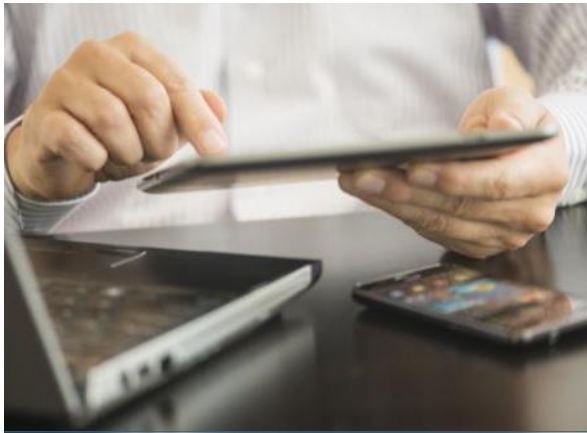
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A Short Video - SDN Assurance for the App Economy

SDN NFV Assurance



welcome to the Application Economy



90%

By 2019, video will make up 90% of all internet traffic¹

26B

By 2020, there will be 26 billion internet connected devices²

213M

213 million packets per second achieved in recent NFV performance tests³

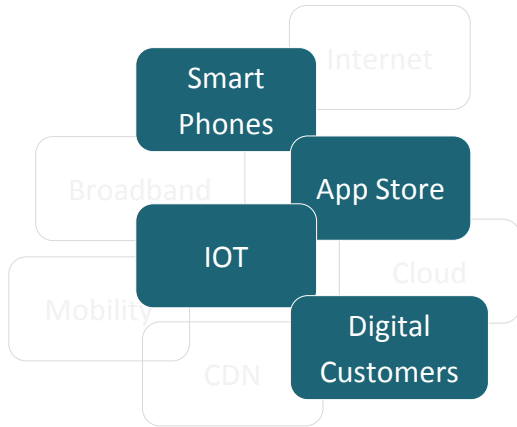
¹ Cisco Visual Network Index: Forecast and Methodology, 2014-2019 White Paper, 27 May 2015, http://www.cisco.com/c/en/us/solutions/collateral/service-provider/ip-ngn-ip-next-generation-network/white_paper_c11-481360.html

² Gartner: IoT and SDN Spark the Network Transformation Into a Universal Utility, 06 March 2015, <http://www.gartner.com/document/3000917>

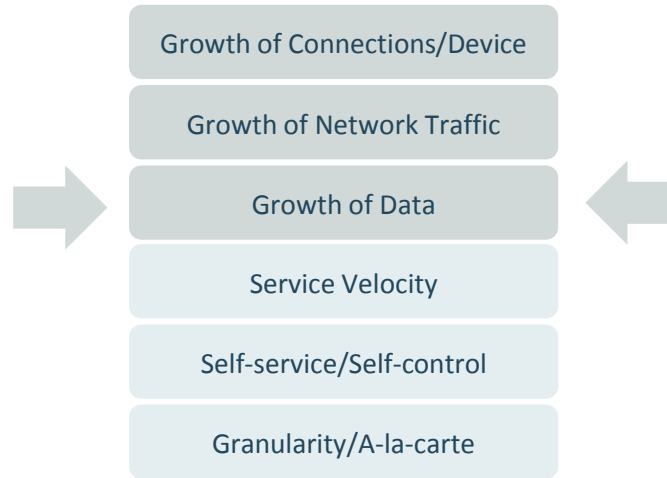
³ Red Hat Satack: Scaling NFV to 213 Million Packets per Second with Red Hat Enterprise Linux, Open Stack, and DPDK, 19 Aug 2015, <http://redhatsackblog.redhat.com/2015/08/19/scaling-nfv-to-213-million-packets-per-second-with-red-hat-enterprise-linux-openstack-and-dpdk/>

The case for SDN

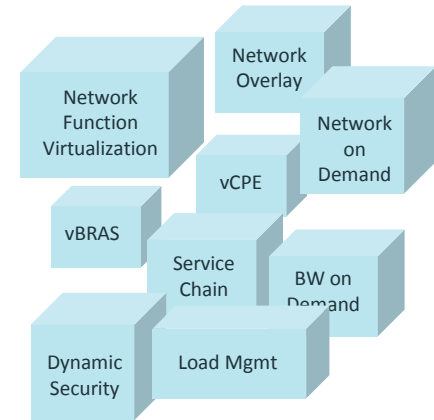
The Application Economy



The Network



Software Defined Networking



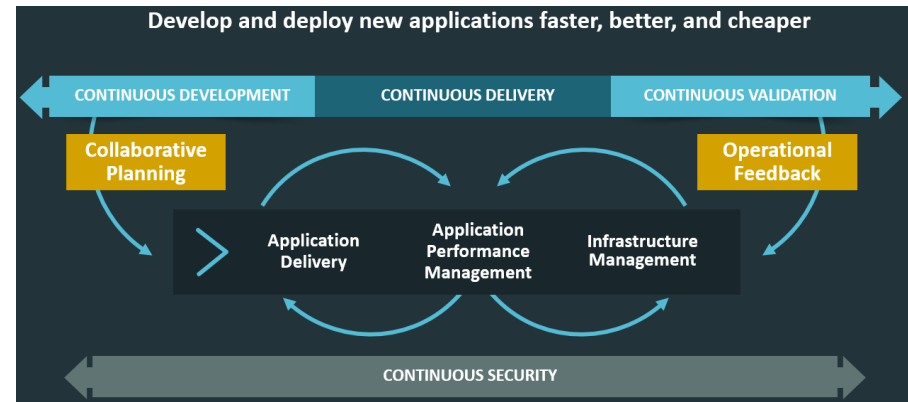
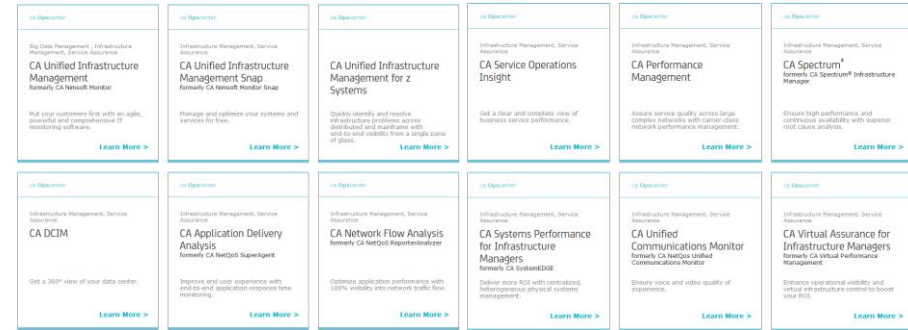
SDN requires you to hand over the keys to the kingdom

Can you afford to lose control of your network?

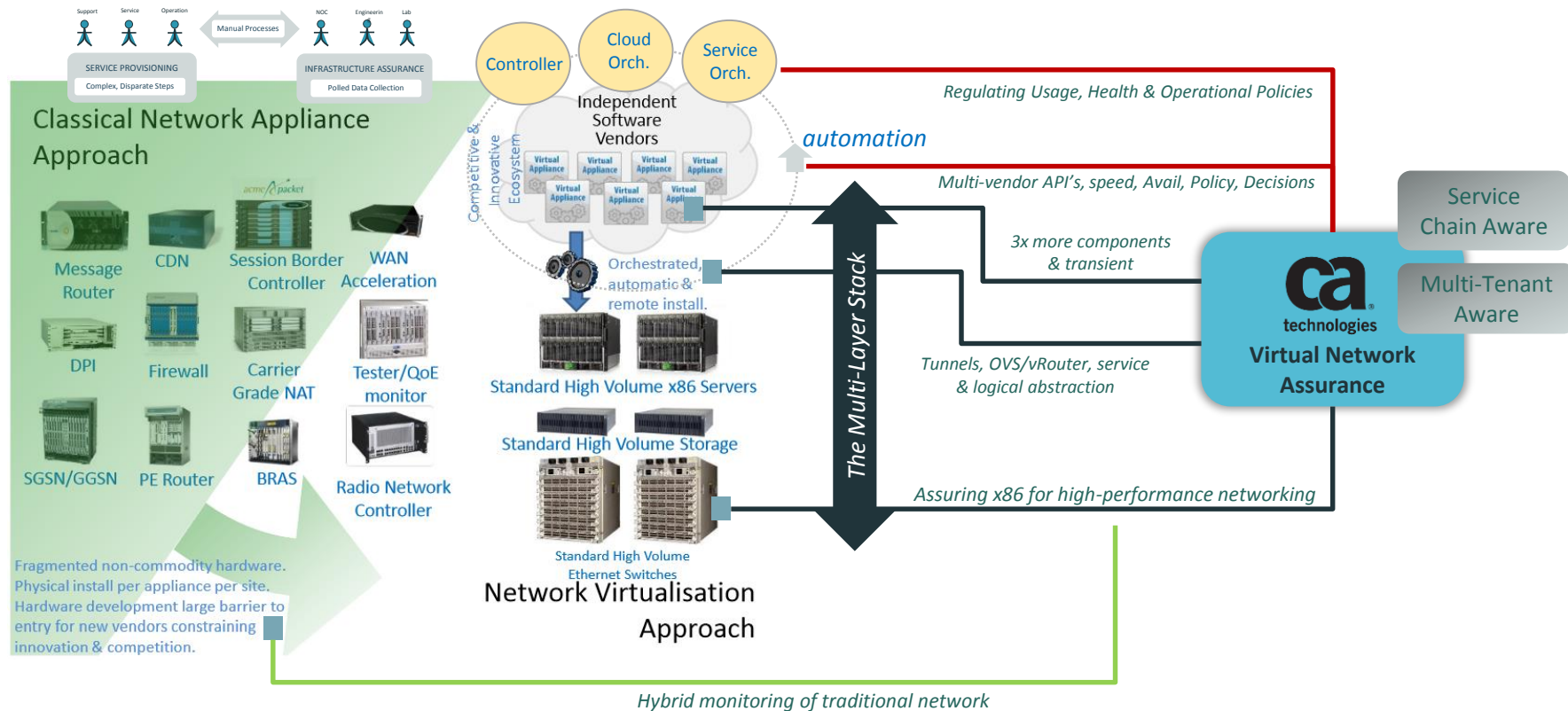


Management Needs For SDN/NFV Assurance

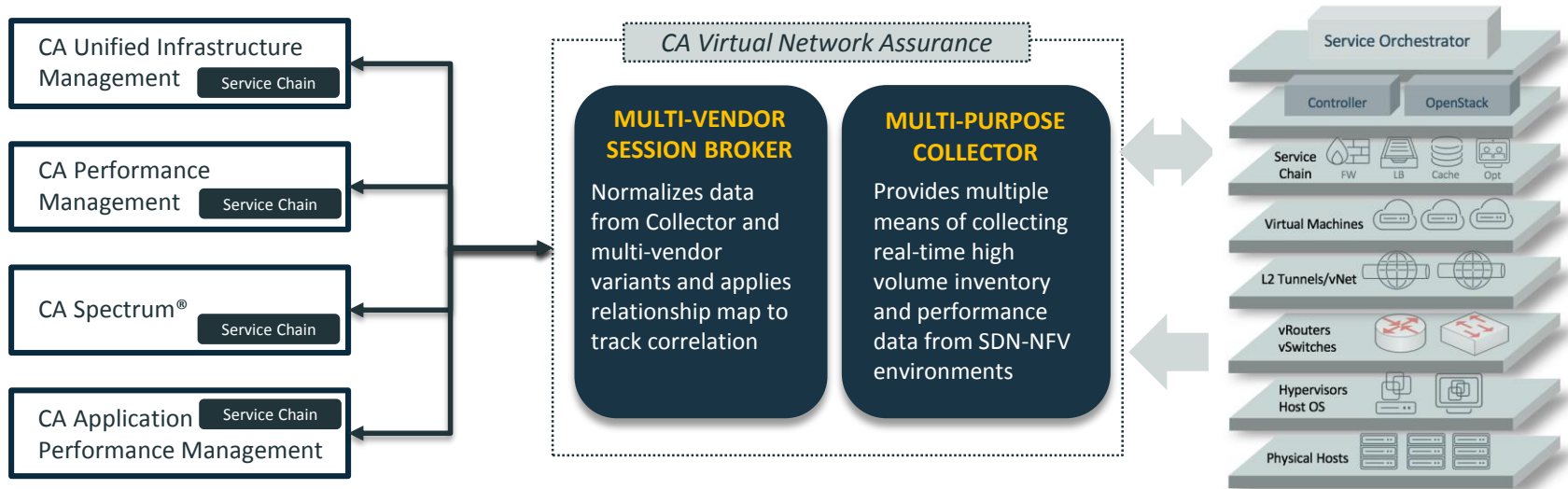
- Evolving Existing Tools
 - Inadequate focus on “assurance”
 - The relationship to the underlay
 - Service Chain and Tenant context
- Beyond Infrastructure Management
 - Driving policy/decisions into Automation
 - Integrating Analytics, Security, and DevOps...



SDN Requirements for Service Assurance



CA SDN & NFV Assurance Solution



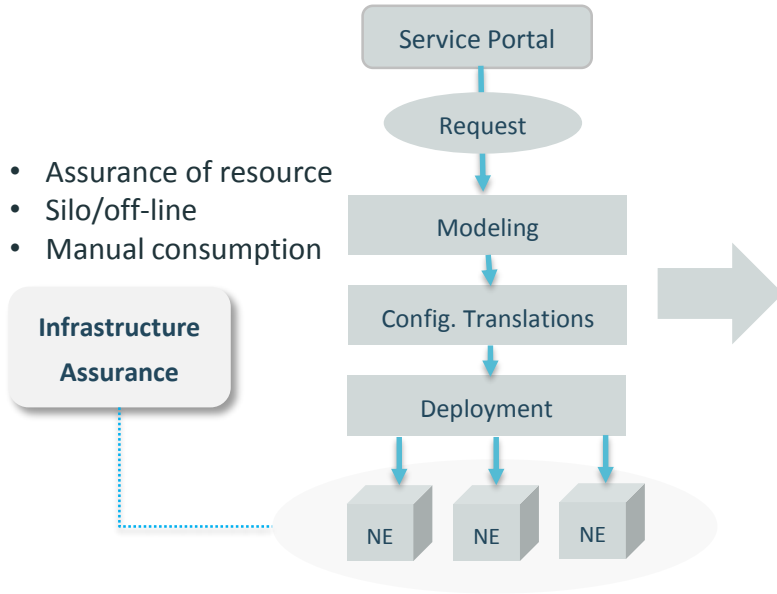
Traditional Infrastructure Assurance systems are protected and applied to a hybrid environment

A software gateway that bridges traditional infrastructure assurance to the new SDN and NFV environments

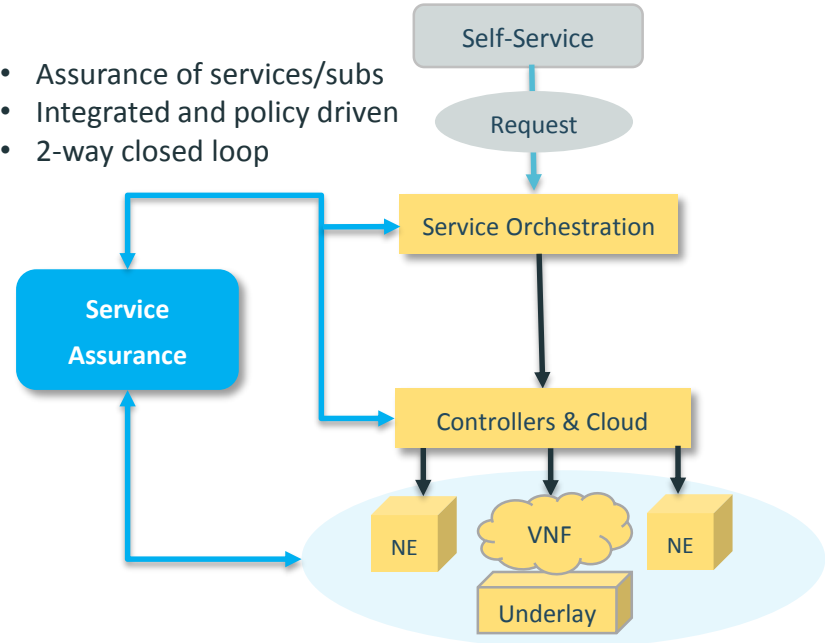
Comprehensive monitoring and assuring the new layers and the new network automation components

The Transformation to SDN Service Assurance

- Assurance of resource
- Silo/off-line
- Manual consumption



- Assurance of services/subs
- Integrated and policy driven
- 2-way closed loop



SDN 1.0 & 1.1+ Features

SDN&NFV Gateway

- Openstack Data Collection based on Ceilometer (Overlay Performance)
- OpenDaylight and Openstack API support (Inventory, Service Chain, Subscribers/Tenants, VNF lifecycle)
- Multi-vendor System Certification (Contrail, NSX)
- Compatible with CA Performance Manager, Spectrum, and UIM

CA Performance Management

- Virtual Overlay Life Cycle Monitoring
- Overlay utilization of underlay resources
- Integrated multi-layer metadata and service and logical abstraction

SPECTRUM

- Overlay-Underlay Topology View and logical association
- Multi-layer Fault Isolation based on service or physical failures
- Integrated multi-layer metadata and service and logical abstraction

UIM

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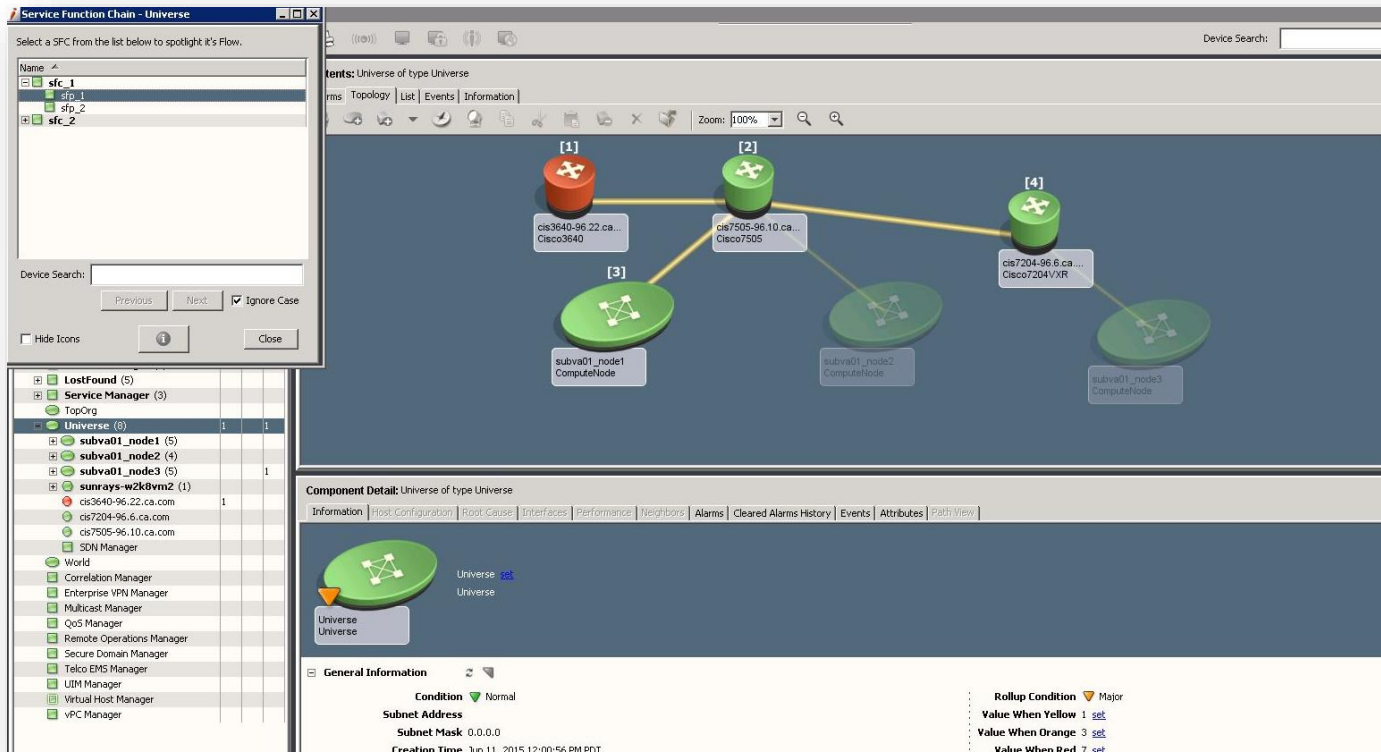
Spectrum Support for SDN/NFV – Core Use Cases

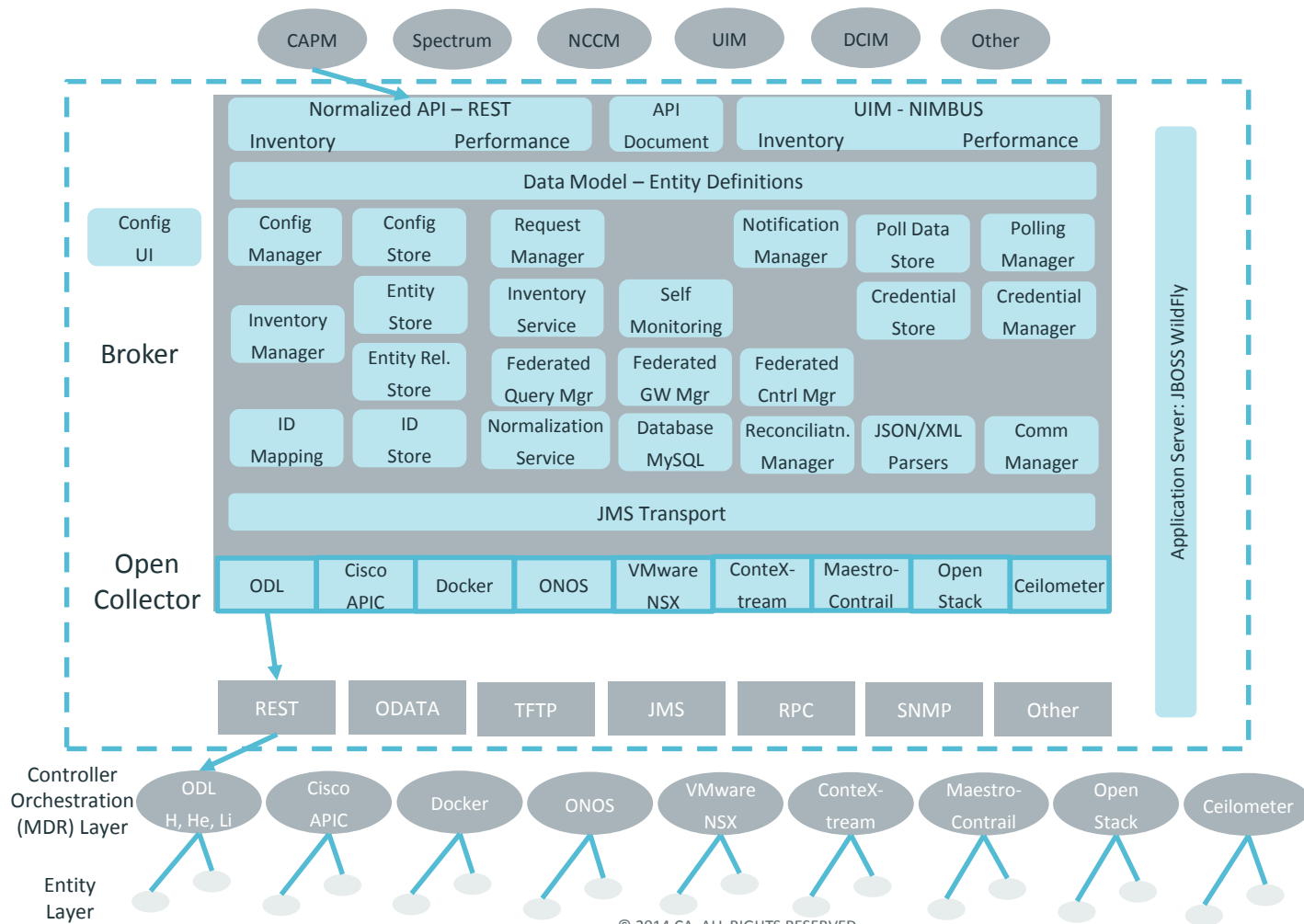
- Topology for Virtual Overlay
 - Showcase the service chain, the virtual topology in Spectrum
 - Also show the individual virtual elements and their status
 - Use the Spectrum tried and tested discovery and modelling capabilities
 - Visual representation vis-à-vis the other elements in the IT infrastructure
 - All this from the same console, Spectrum OneClick
- How does the virtual overlay map to the physical infrastructure
 - The most critical part for understanding and triaging problems
 - Holistic topology of the virtual environment with the mapping to the physical infrastructure, the compute nodes
 - Will help visually see the services and their physical dependencies
 - Facilitate identifying bottleneck and then take appropriate actions on those

Spectrum Support for SDN/NFV – Core Use Cases

- Fault isolation
 - What Spectrum does best, pin point the problem(s), minimize the number of actionable alarms
 - Use relationships and information acquired through implementation of UC1 & UC2
 - Which VM, which tunnel, which logical and/or physical entity is affected
 - In lieu of that, which users/subscribers are affected

Key Spectrum Service Function Chain View







Q & A