

GOODBYE
STATUS
QUO.

HELLO
BROCADE.

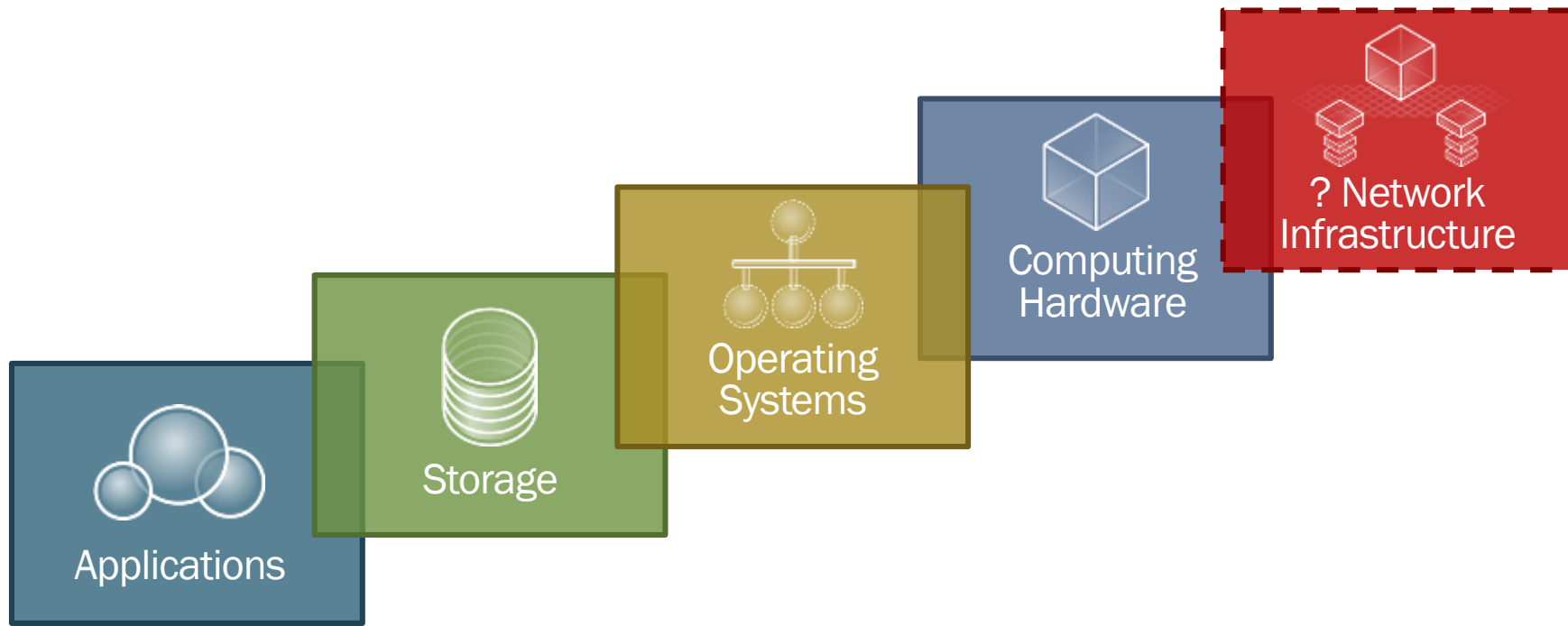
Veränderte Anforderungen durch
Cloud Transformation und
Virtualisierung



**THE WORLD HAS CHANGED.
BUT THE NETWORK HASN'T.**

Networking Is Next

Virtualizations march continues



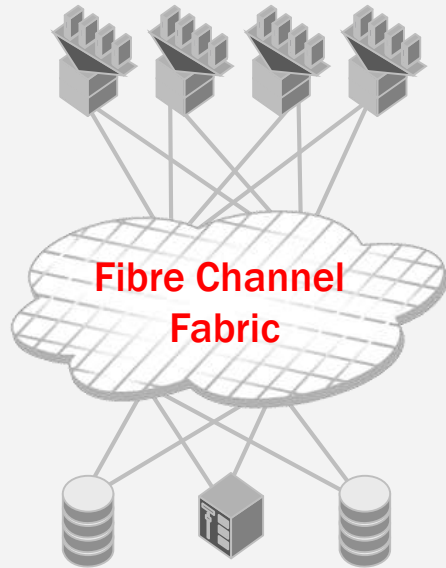
IP STORAGE OVER ETHERNET FABRIC





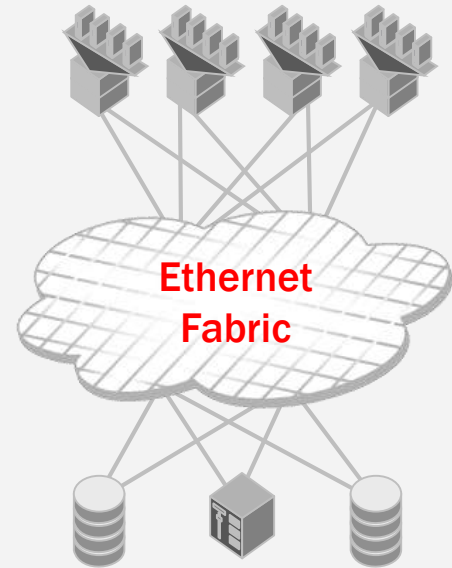
The Network Matters

FOR PERFORMANCE, HIGH SERVICE LEVEL SHARED STORAGE



Fibre Channel Storage

Proven
Top Performance
Reliability and Availability
Seamless Scalability
Efficient



IP Storage

FC Switches and VCS/VDX from Brocade

Scale-Out or dedicated IP Storage: Purpose-Built Network



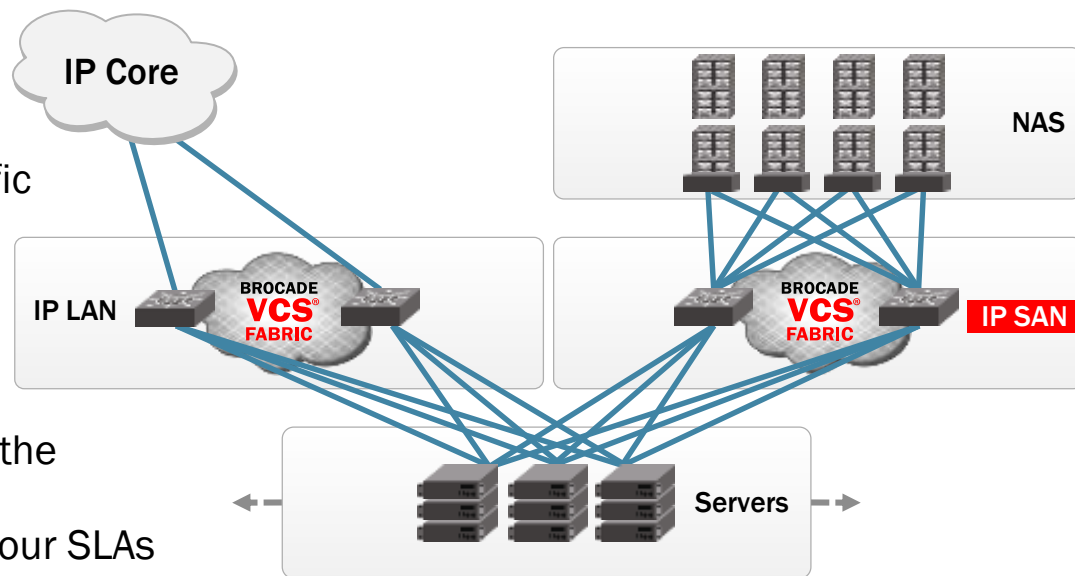
Big Data, Hadoop, SAP HANA, VDI or Vmware Virtual SAN.....

Drivers

- Performance
- Service-level agreements
- Servers driving 100% of NAS traffic

Key Value Propositions

- All of the benefits of VCS fabrics
- Controlled environment
- No unexpected workload surges
- Provision, monitor, and evolve as the solution requires
- Dramatically reduce the risks to your SLAs



IP Storage: Scale-Out NAS and Clustered Storage



Front-end File Access via CIFS/SMB or NFS

Clustered

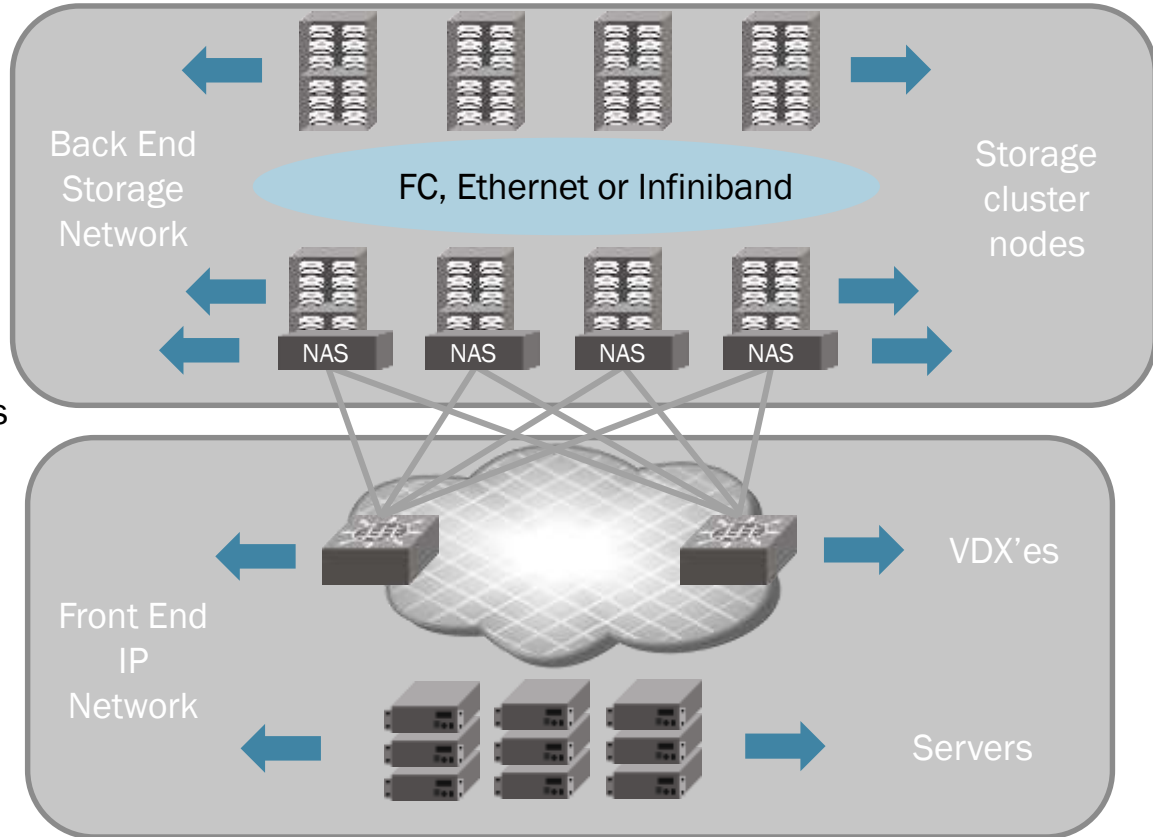
- Single logical entity
- Optimized for East/West traffic
- One or more namespaces
- Appliance/gateway/server model

Seamless

- Scale-out not limited by pair of NAS heads
- Can support a single name space

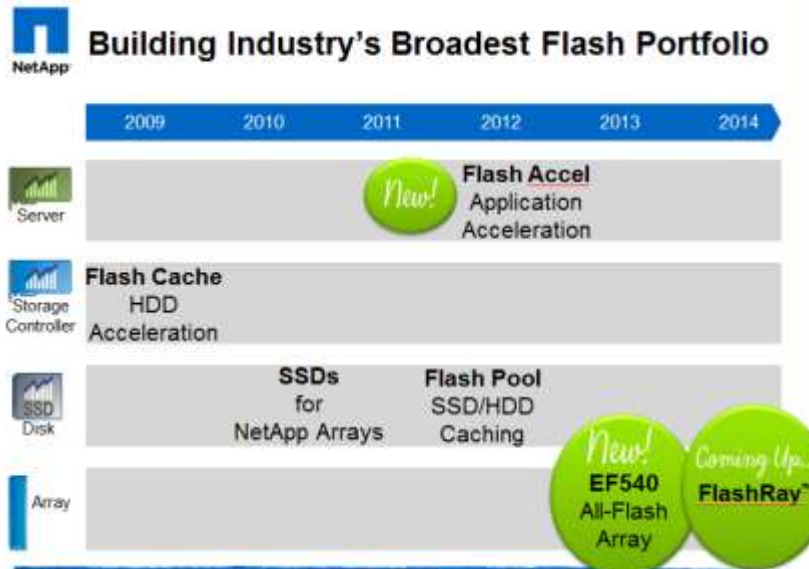
Network Requirements

- Management Simplification
- NAS traffic protection
- Reliable network transport w/o hot spots
- Adding capacity non-disruptively
- Multipath access for predictability
- Multi-Tenancy important for providers



Brocade Fabrics enhance NetApp Flash story

With Flash – Are you solving the I/O bottleneck problem or just moving it?



BROCADE SOLUTIONS

Dynamic Storage Environments Demand Predictable Performance that Easily Scales to Meet Data Growth

DATA CENTER

HIGHLIGHTS

- Scales storage and enables data mobility without disrupting operations for increased application availability
- Maximizes application workloads for high availability and efficient performance
- Enables live data movement without application disruption or latency
- Rapidly deploys and redeploys resources and provisions data-intensive applications as business and IT needs evolve
- Simplifies management of scale-out NAS environments to ease administrative and resource requirements
- Delivers consistent and predictable performance for mission-critical, on-demand applications

As data centers move to a shared dynamic infrastructure with multiple applications sharing storage and networking resources, IT organizations are challenged to support the uptime required by mission-critical applications, while also delivering the flexibility to scale and support evolving business needs. The ability to scale the data infrastructure – storage and networking – to add the right amount of performance and capacity without disrupting application availability is vital to ensuring business continuity. However, on-demand applications can introduce performance spikes, increasing the stress on data center network and storage resources. This contributes to increased latency, inconsistent performance, and creates the risk of application outages in an environment that demands predictability and consistency.

THE BROCADE VCS SOLUTION AND NETAPP CLUSTERED DATA ONTAP SOLUTION

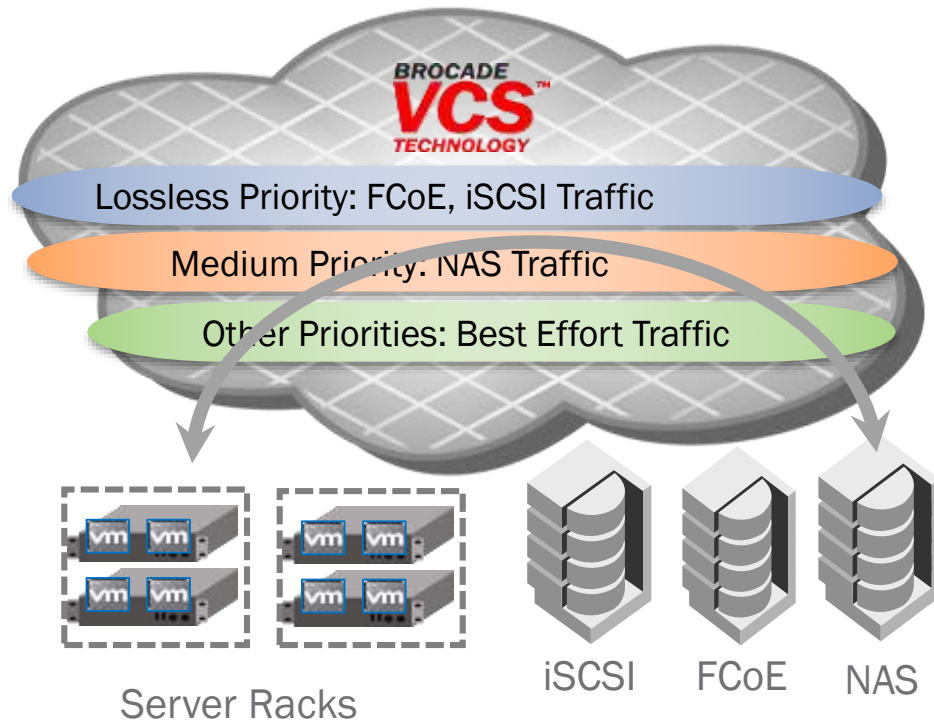
Together, Brocade and NetApp deliver a data center storage infrastructure offering the performance and predictability that today's dynamic data center environment demands. With the ability to scale while supporting a pay-as-you-grow approach, Brocade and NetApp provide a proven data infrastructure that enables organizations to manage data growth and investments without sacrificing performance or availability. Resources can be rapidly deployed and redeployed, and data-intensive applications can be rapidly provisioned in response to evolving business and IT needs.

Brocade VCS® Fabric technology, delivered on Brocade VDX® switches, is designed to enable the highest levels of Ethernet fabric

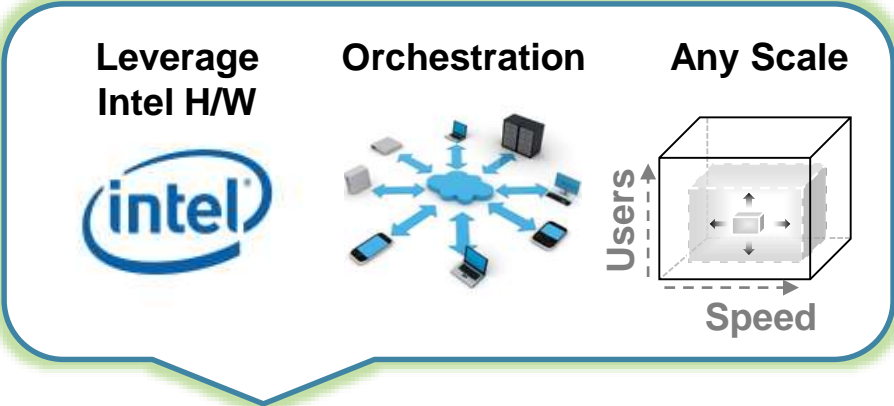


IP Storage: NAS Auto-QoS

Automation NAS Traffic Prioritization



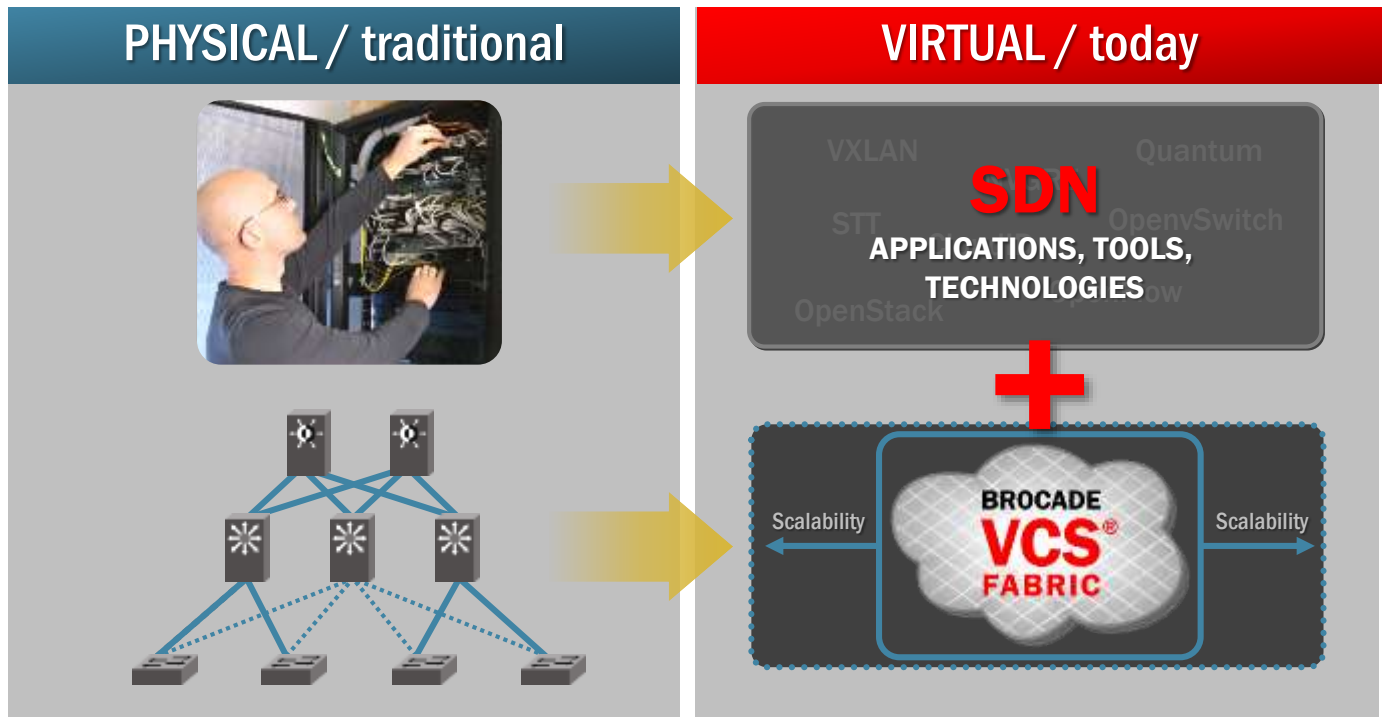
- All the nodes in the fabric will auto prioritize NAS Storage traffic over other traffic types (NFS, SMB/CIFS)
- Ability to monitor IP Storage traffic through ACL Counters
- Functionality:
- Specify the IP addresses of the NAS nodes
- All the traffic destined to and originated from NAS node will be prioritized in the Fabric



Software Networking

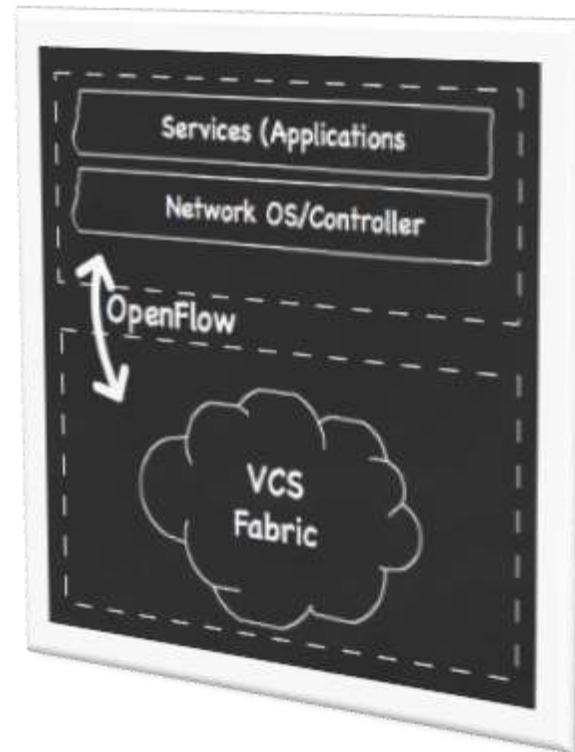


Ethernet Fabrics Enabling NFV & SDN



Software Defined Networking – 3 Areas

- **openFlow**
 - Separation of control and data plane
 - Control Plane – agnostic to the underlying hardware
 - Network Programmability, automation
- **Hardware in Software (Nfv)**
 - Virtualization of networking components
 - Commodity hardware x86
 - Cost, flexibility, agility, automation
- **Integration with higher-order Orchestration platforms**
 - OpenStack, CloudStack, vCloud Director



Cloud Service Delivery Today



I need 2 VMs with 1G Hz,
2 Gig byte memory and
minimum latency.

You are #12 on the list and
you have an estimated
waiting time of 1 to 2
business days.

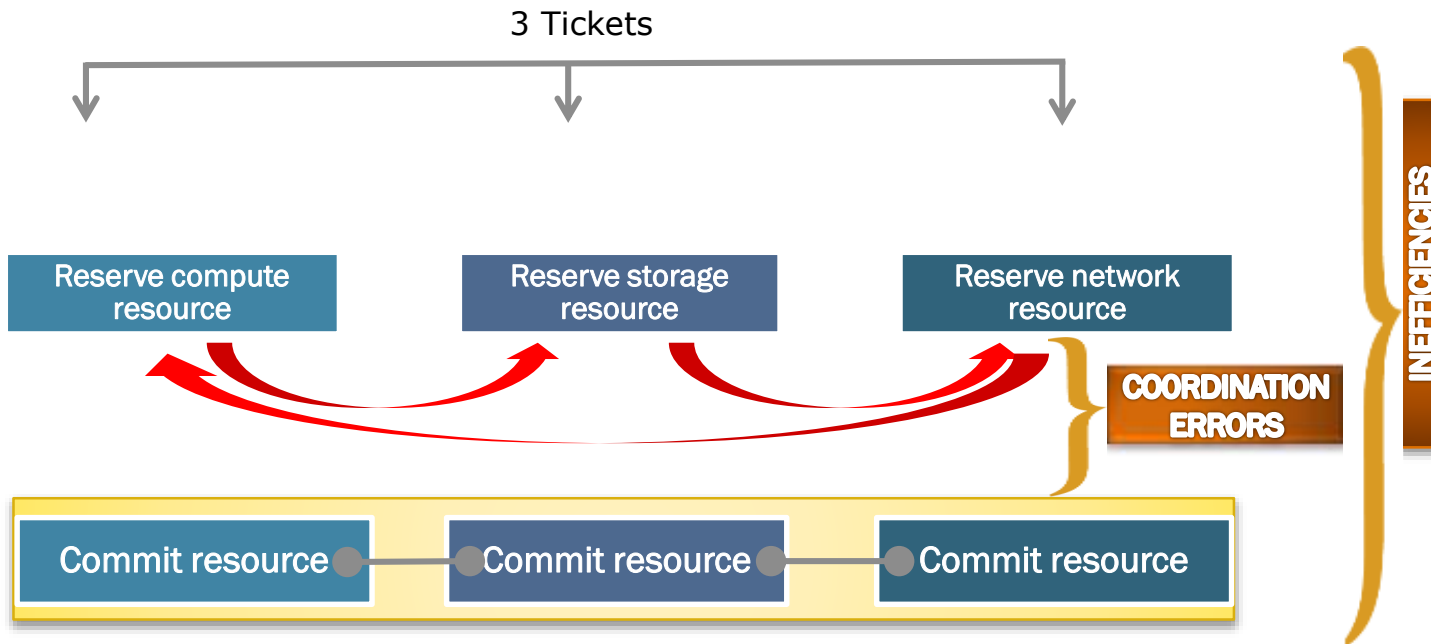


Joe

Server Admin

Storage Admin

Network Admin



OpenStack Orchestration and Automation



Susie
Engineering Dept



Bob
Solution Architect



Kay
IT admin

Designs the tenant architecture

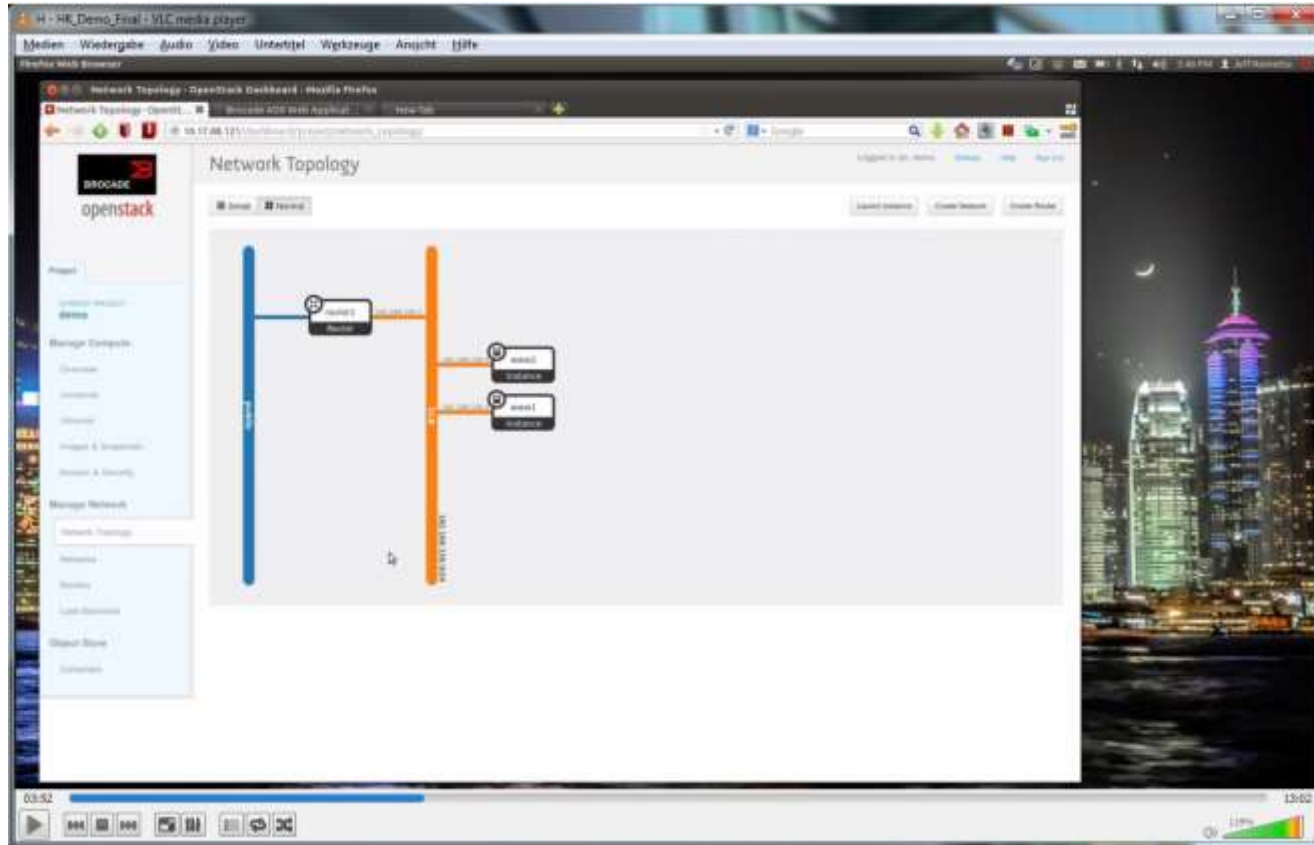
- Characterizes solution components
- Defines sizing/SLA parameters/Security parameters
- Creates solution catalog template(s)

Publishes and manages the tenant architecture

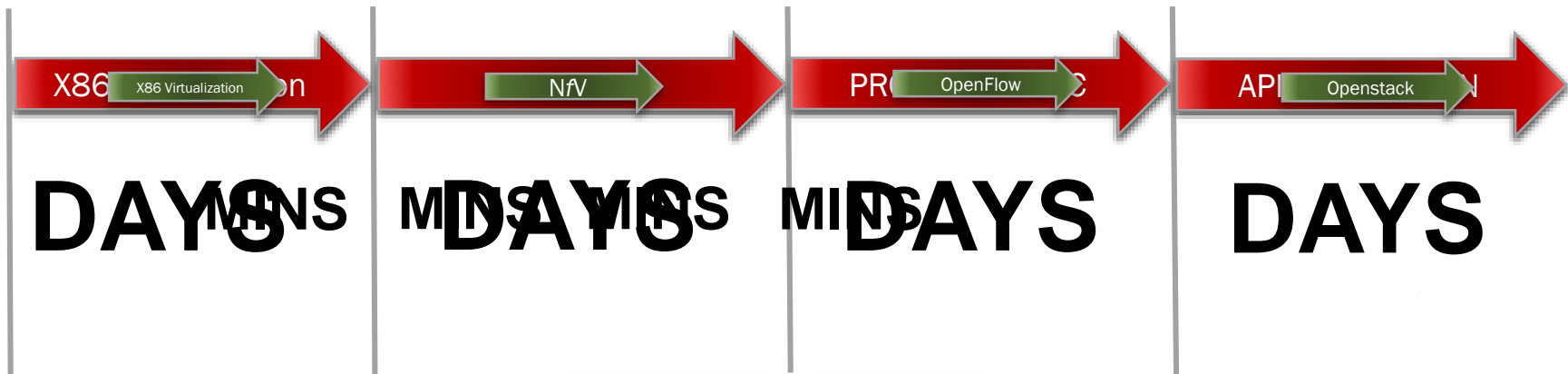
- Deploys the overall HW/SW resources.
- Monitors and maintains
- Publishes the template

- **Makes a few clicks using the system's self-service portal**
- **Waits two minutes and the requested cloud infrastructure resources are ready**

OpenStack Orchestration and Automation



SOFTWARIZED DATA CENTER ENTER



Finden Sie uns im Netz



www.software-defined-network.com

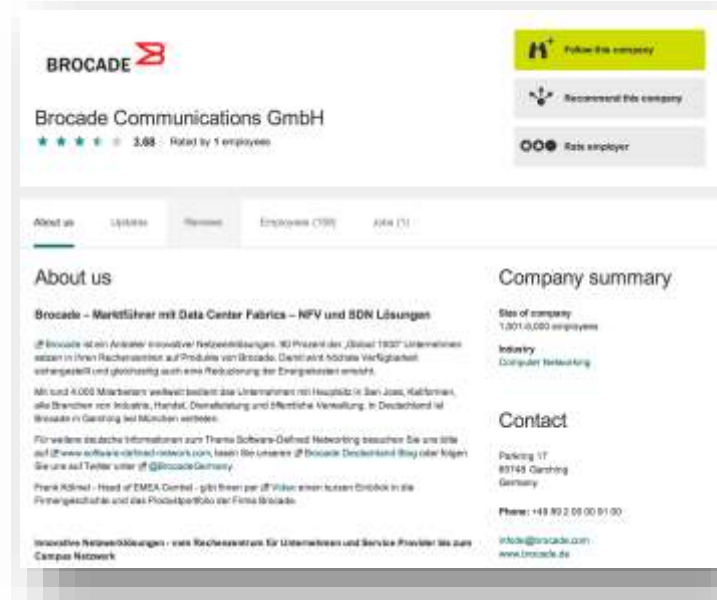


<http://community.brocade.com/BrocadeDeutschlandBlog>

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<https://www.xing.com/companies/brocadecomunicationsgmbh>



**IT'S TIME TO SAY GOODBYE
TO THE STATUS QUO.**

GOODBYE
STATUS
QUO.

HELLO
BROCADE.

... und weiter geht es mit

Mieten statt kaufen – BNS Brocade Network Subscription
Thomas Büntig (Brocade)