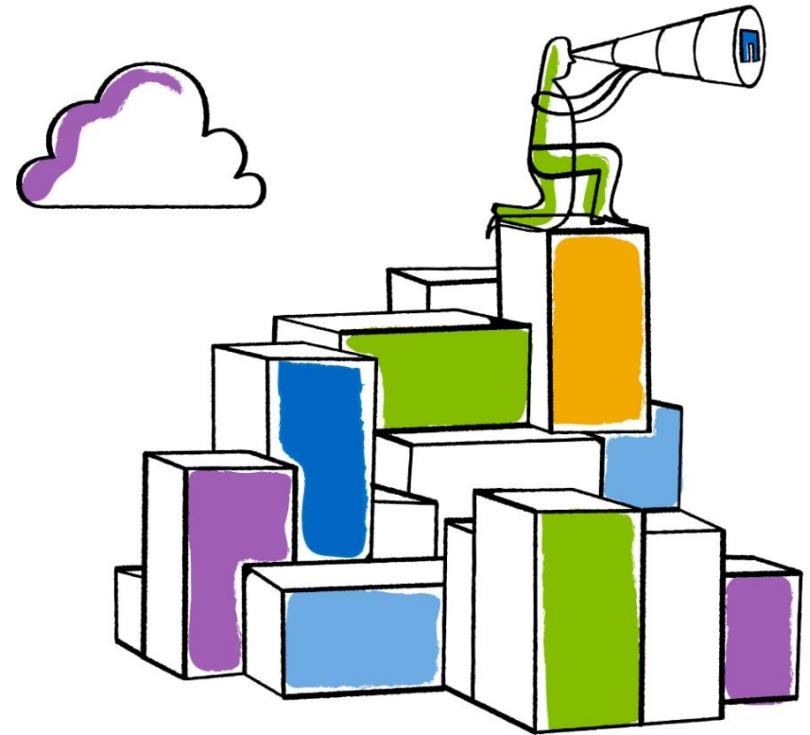


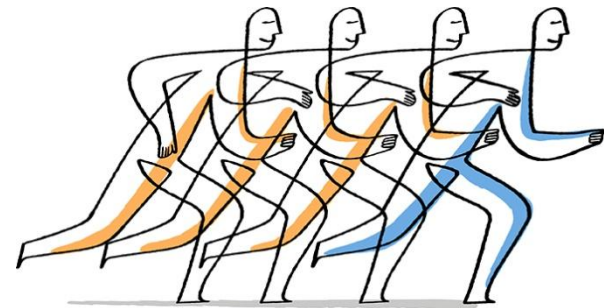
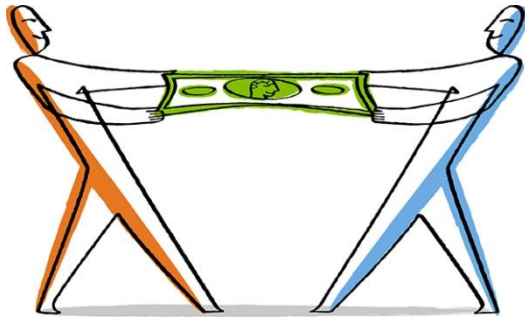


FlexPod™ Data Center Solution

Presented by:
Bernd Dultinger
Date:
December 1st 2011

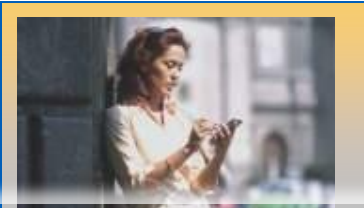


Go further, faster



Budgets go further... and business goes faster

Data Centers are at a Critical Juncture



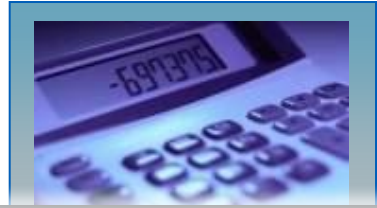
Empowered
User



Realtime
Information

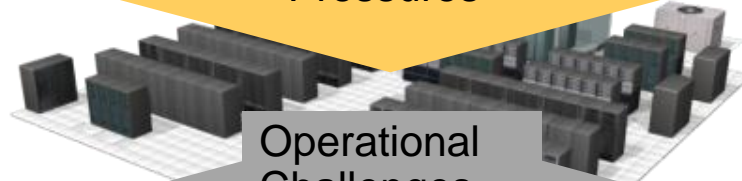


Collaborative
Applications



Economic
Uncertainty

New Business
Pressures



Operational
Challenges



Energy
Consumption



Asset
Utilization



Complex
Provisioning



Integrity and
Availability



We're Entering a New Era



Performance

Efficiency

Scale

1990's

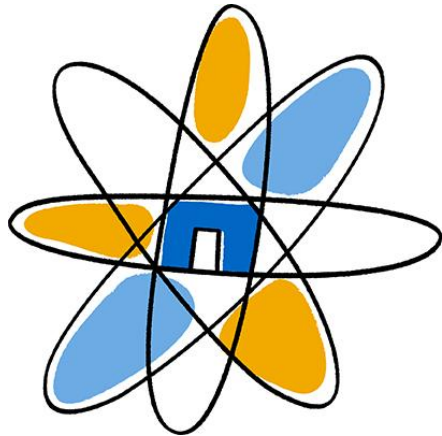
2000's

2010's



Okay, but how?

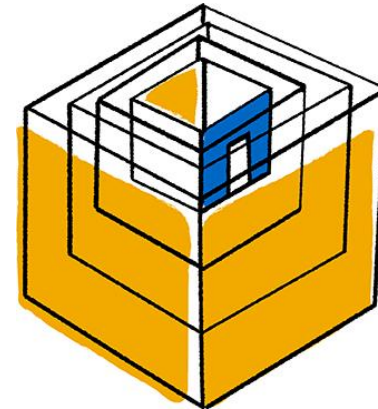
Efficiency



Data ONTAP

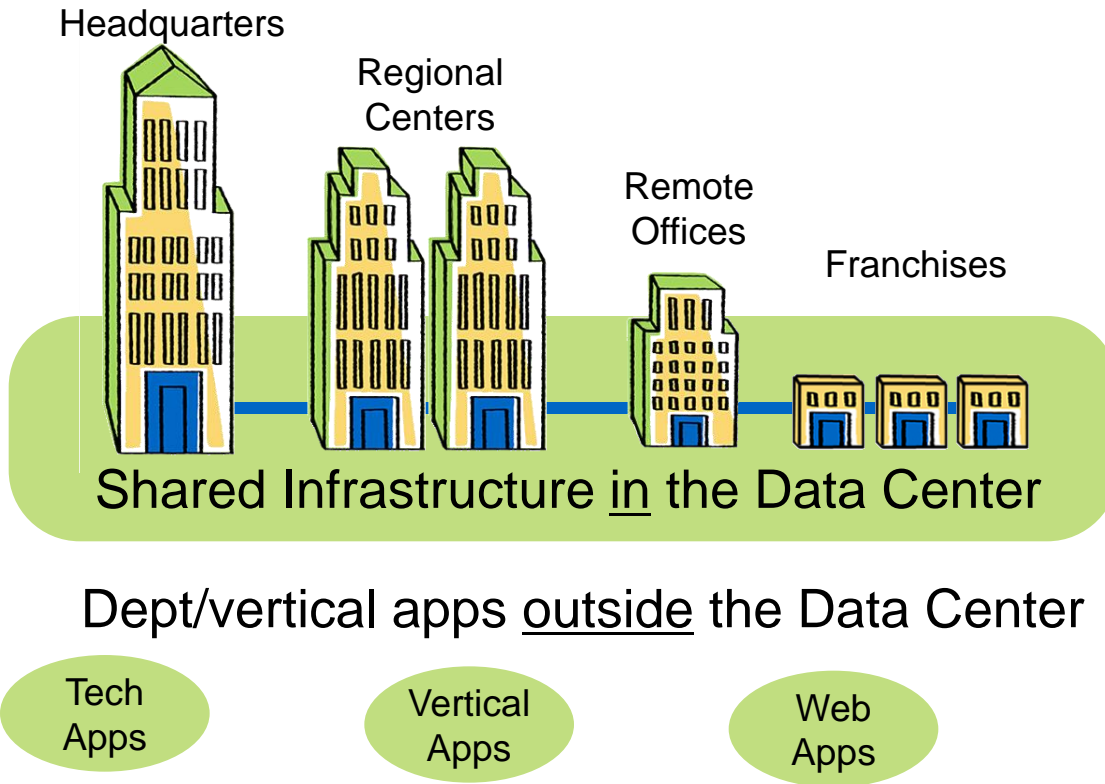
The world's most efficient storage operating system

Flexibility



Unified Architecture

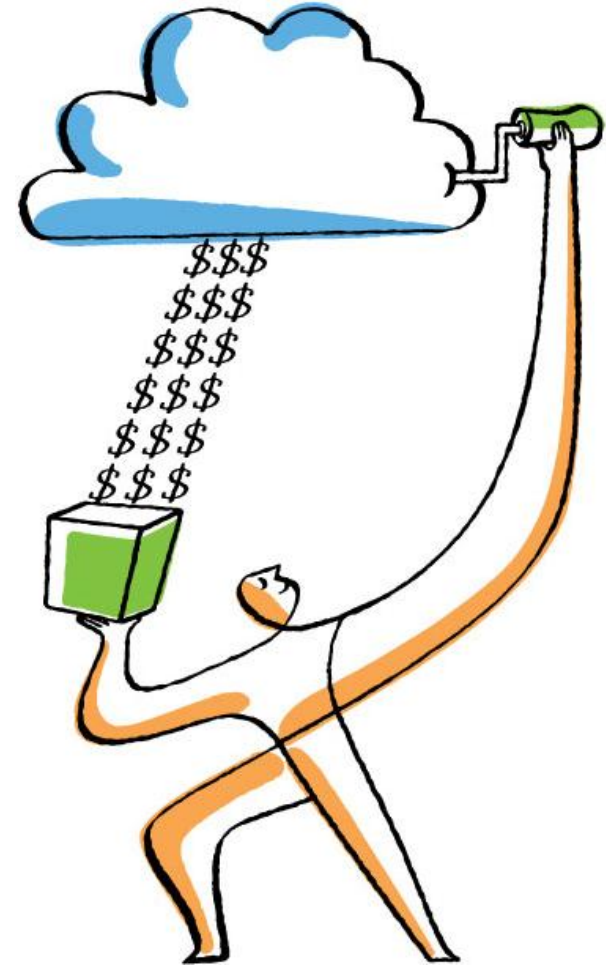
The world's most flexible storage architecture



Optimized for
Data Management:

Data ONTAP

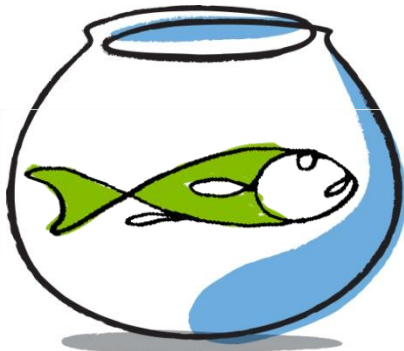
Storage at Scale



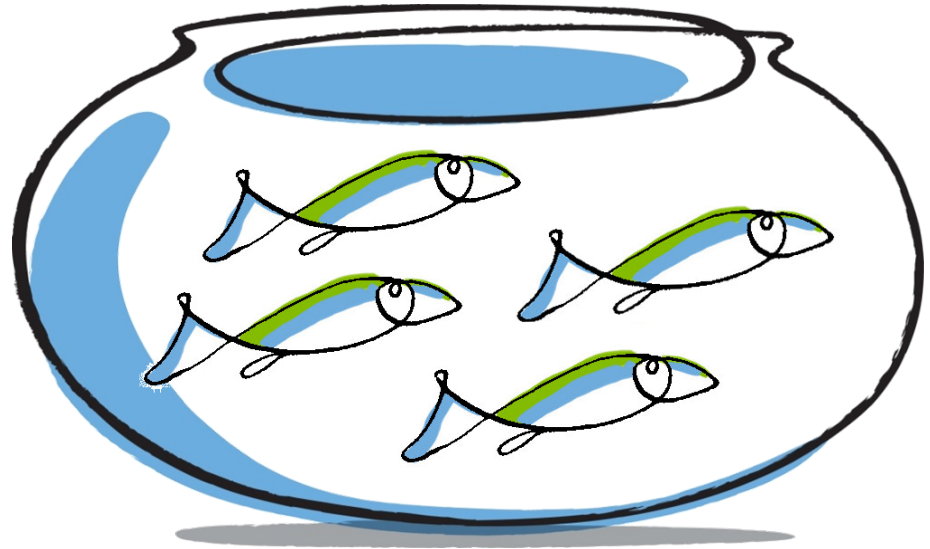
Scale Means Reimagining Storage



workload



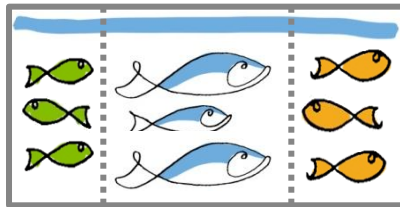
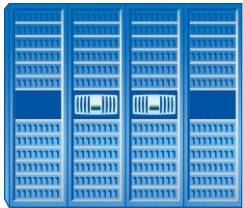
storage



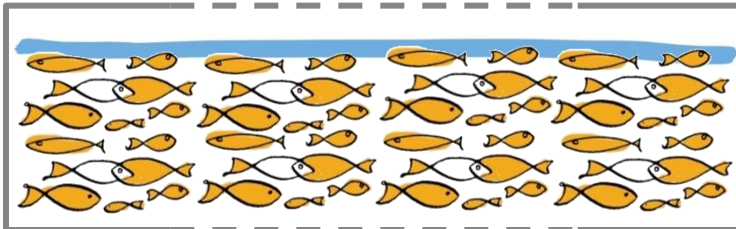
networked storage

Today

Shared Virtualized Storage

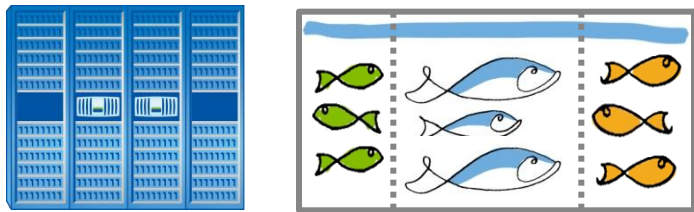


Scale-Out NAS

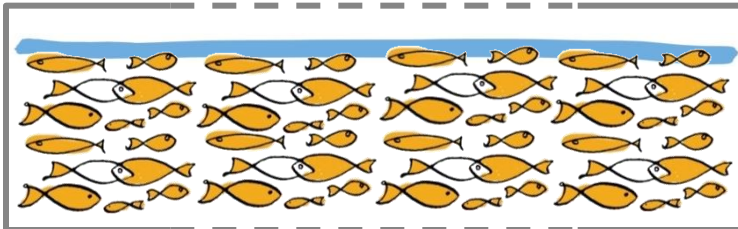


Today

Shared Virtualized Storage

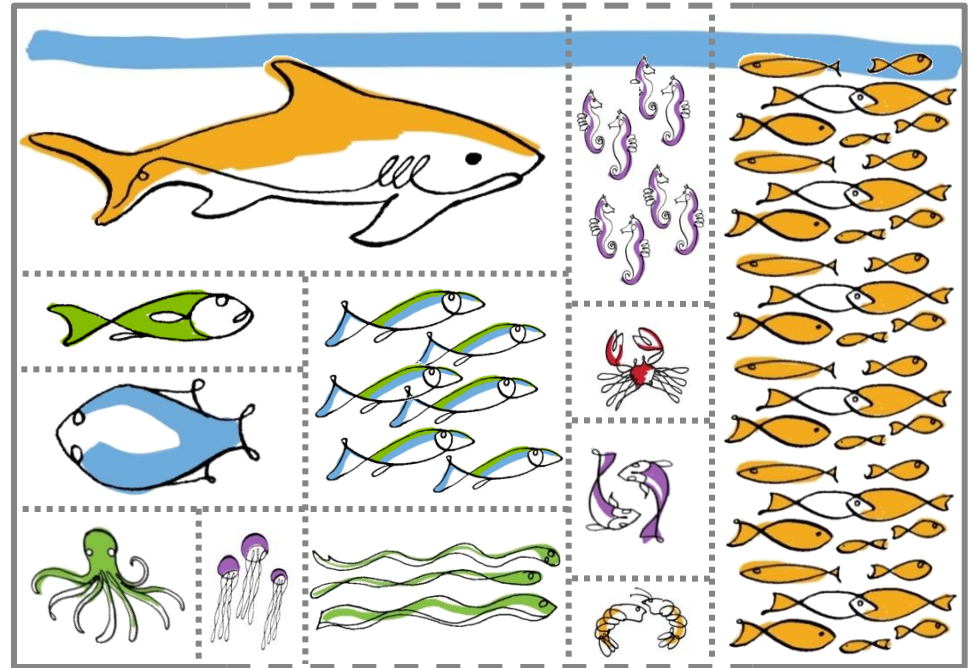


Scale-Out NAS

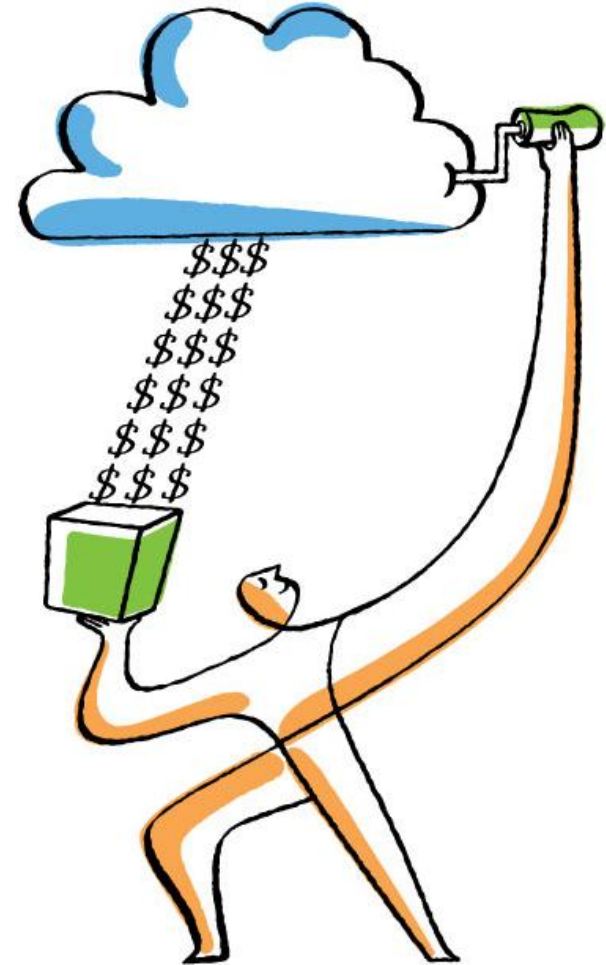


Future

Unified Architecture at Scale

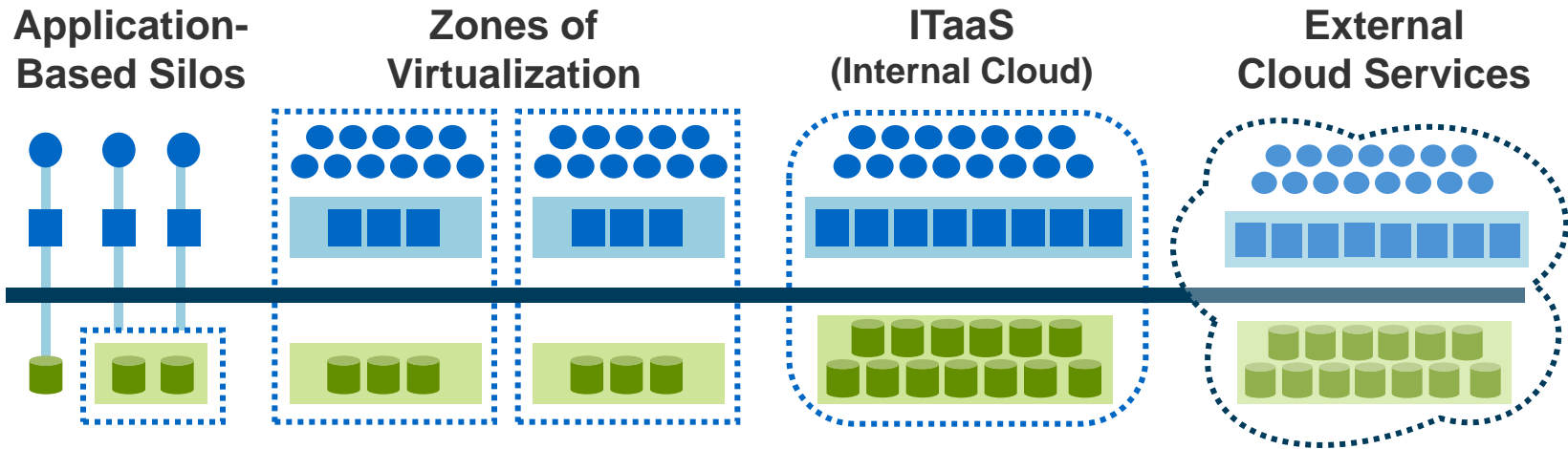


Managing at Scale

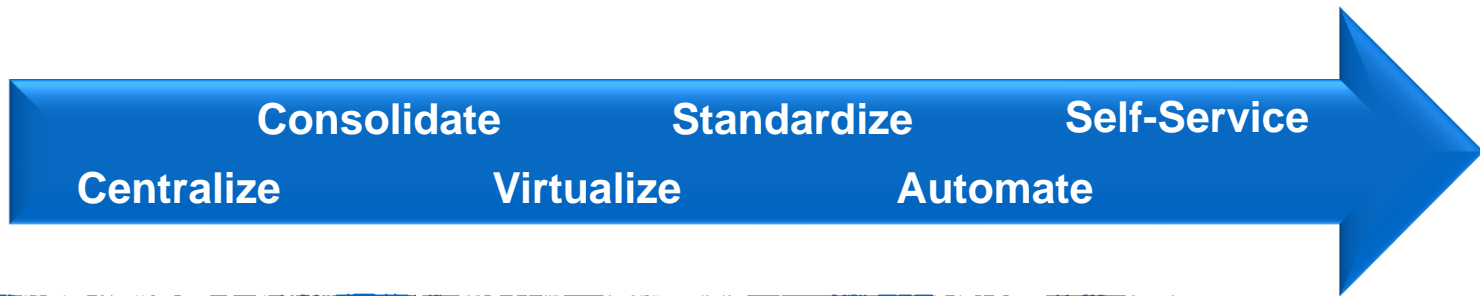




Greater Efficiencies on Your Path to the Cloud



- Where are you on this journey?





FlexPod™ Data Center Solution—the Most Efficient Journey to the Cloud



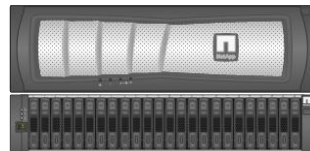
Cisco® UCS B-Series Blade Servers and UCS Manager



Cisco Nexus® Family Switches



NetApp® FAS 10GE and FCoE

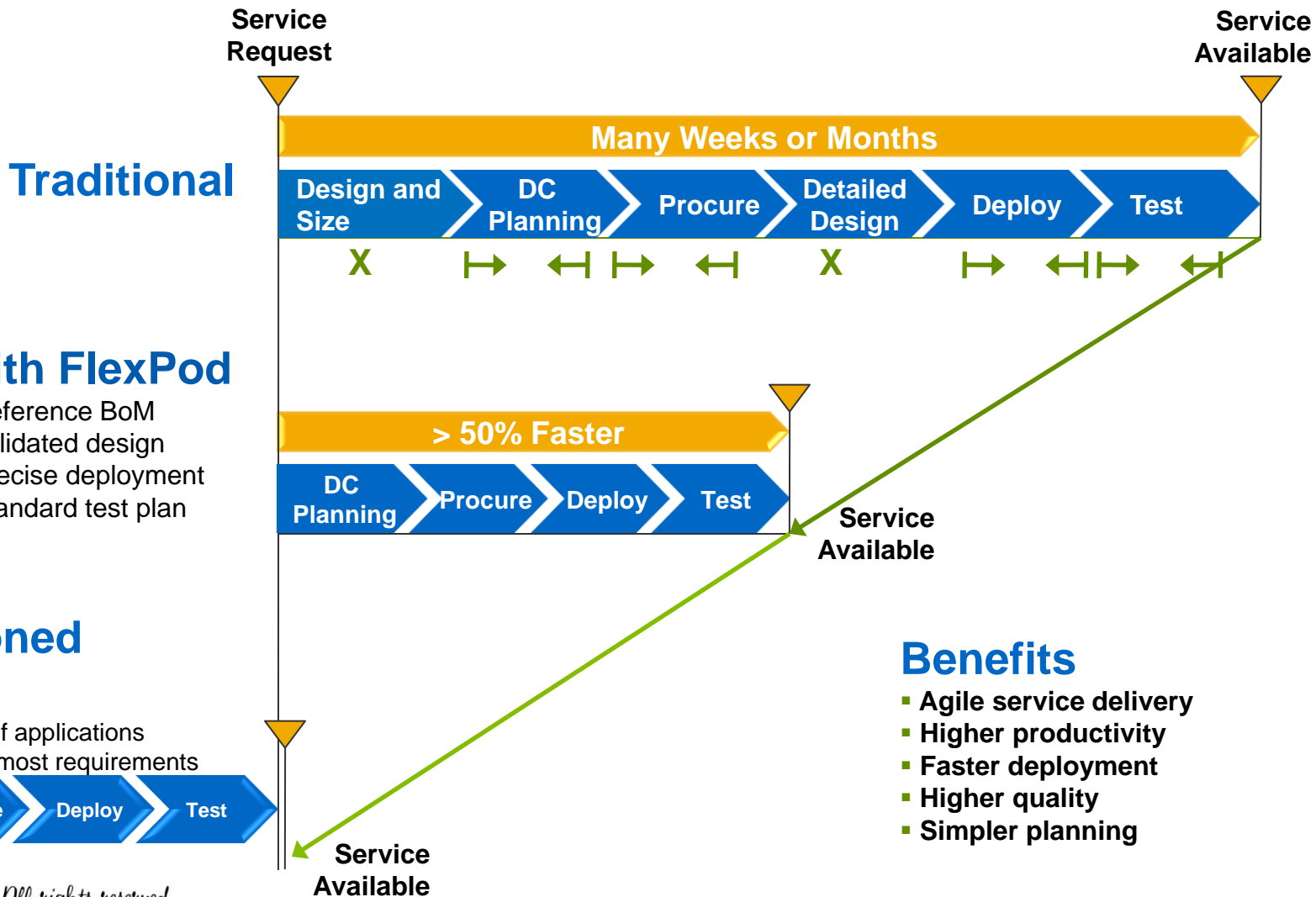


- Standard, prevalidated, best-in-class infrastructure building blocks
- Flexible: One platform scales to fit many environments and mixed workloads
 - Add applications and workload
 - Scale up and out
- Simplified management and repeatable deployments
- Design and sizing guides
- Services: Facilitate deployment of different environments



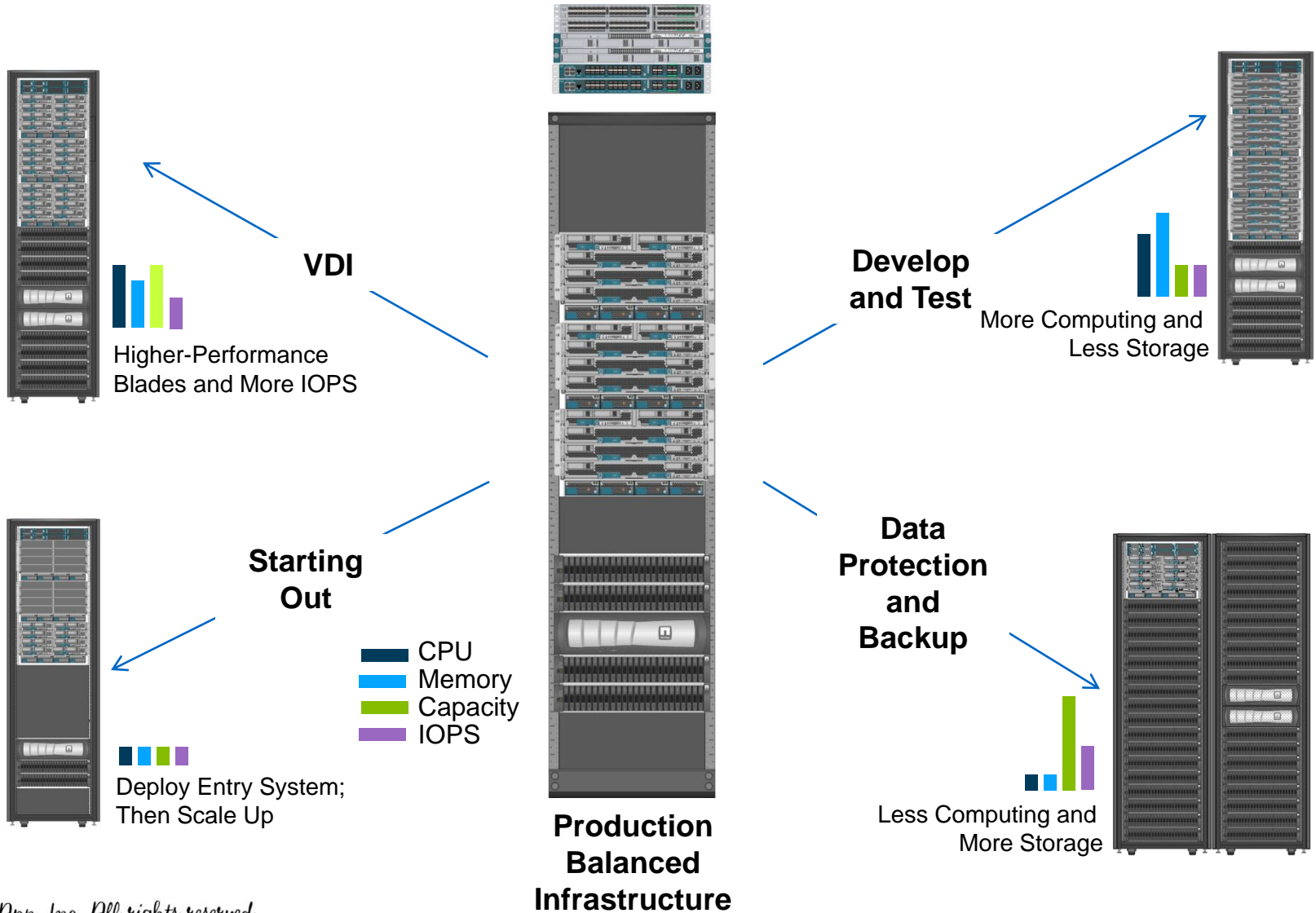
FlexPod™

IT Accelerating the Business

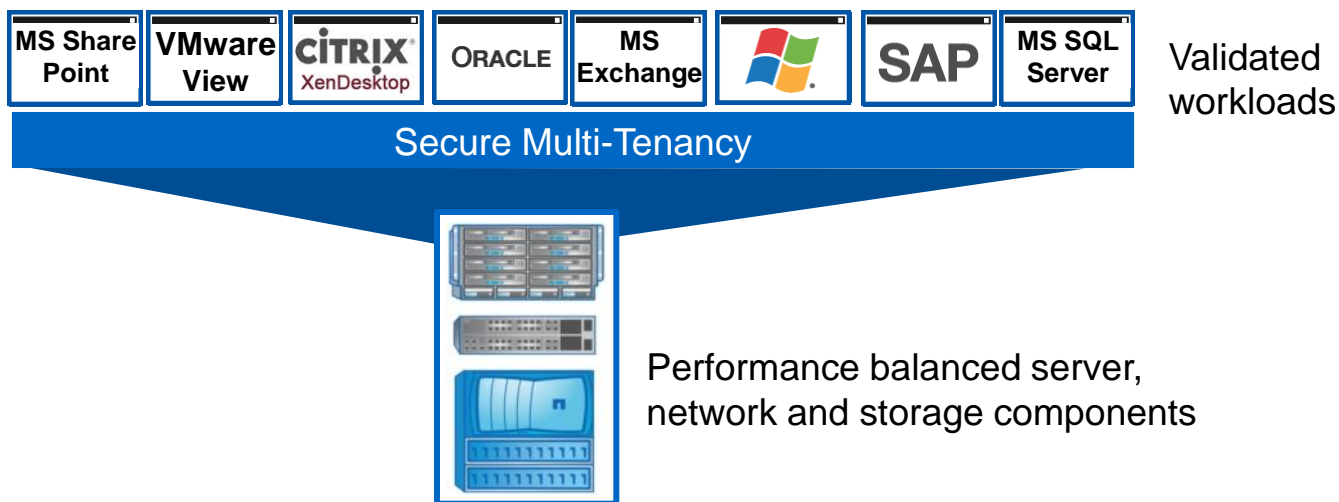




Flex with Confidence Validated Infrastructure



- FlexPod™ data center solutions
 - VMware® (Exchange, SQL Server, SharePoint, View)
 - **New:** SAP® Applications
 - **New:** Citrix XenDesktop
- **New:** NetApp® Hyper-V™ Cloud Fast Track with Cisco





NetApp®

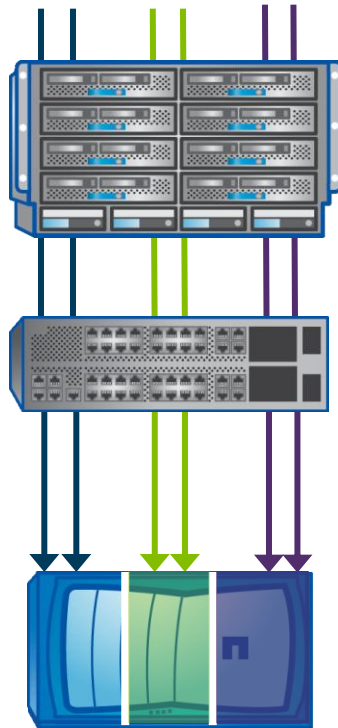
Secure Multi-tenancy

Build on FlexPod to Securely Isolate Shared Resources



vmware®

vmware®



ERP HR CRM

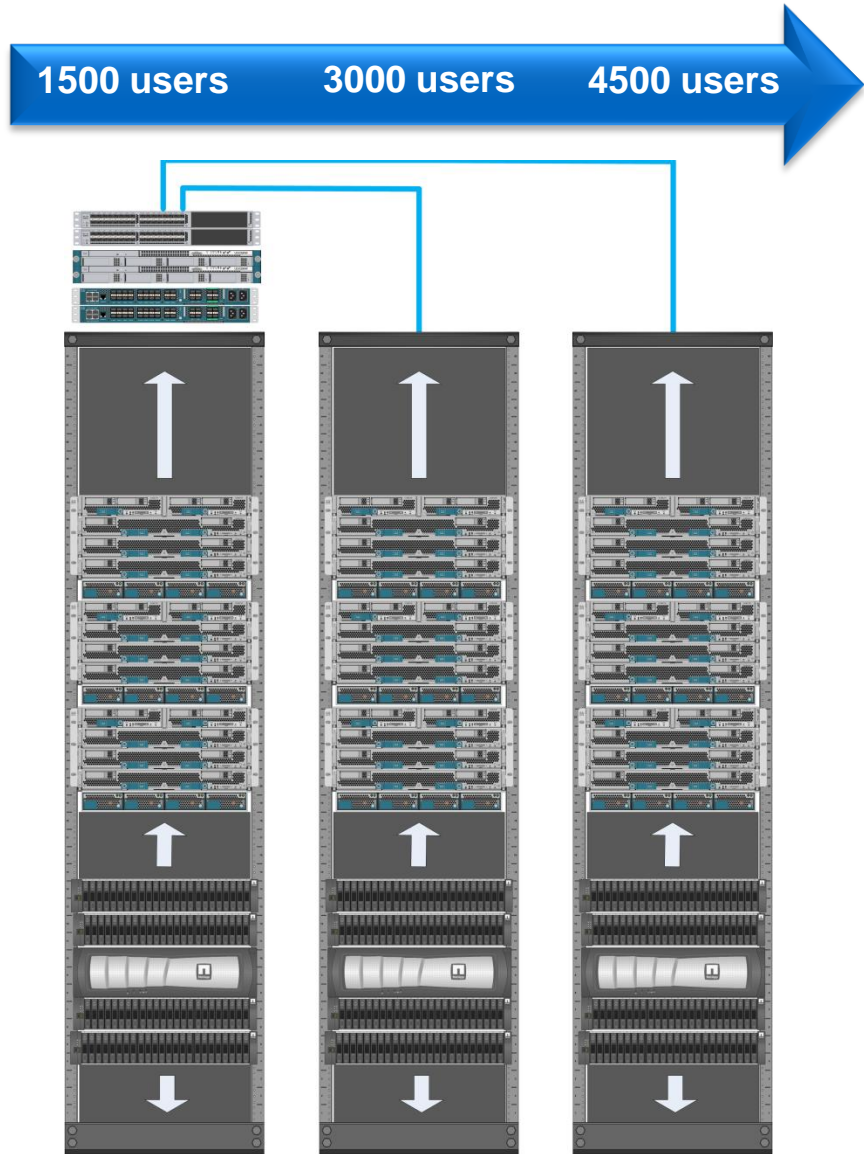


NetApp™

- Industry's only end-to-end solution
- Consistent QoS at each layer
- Manage each resource pool independently
- Reduce risk and cost while boosting IT agility
- Cisco Validated Design

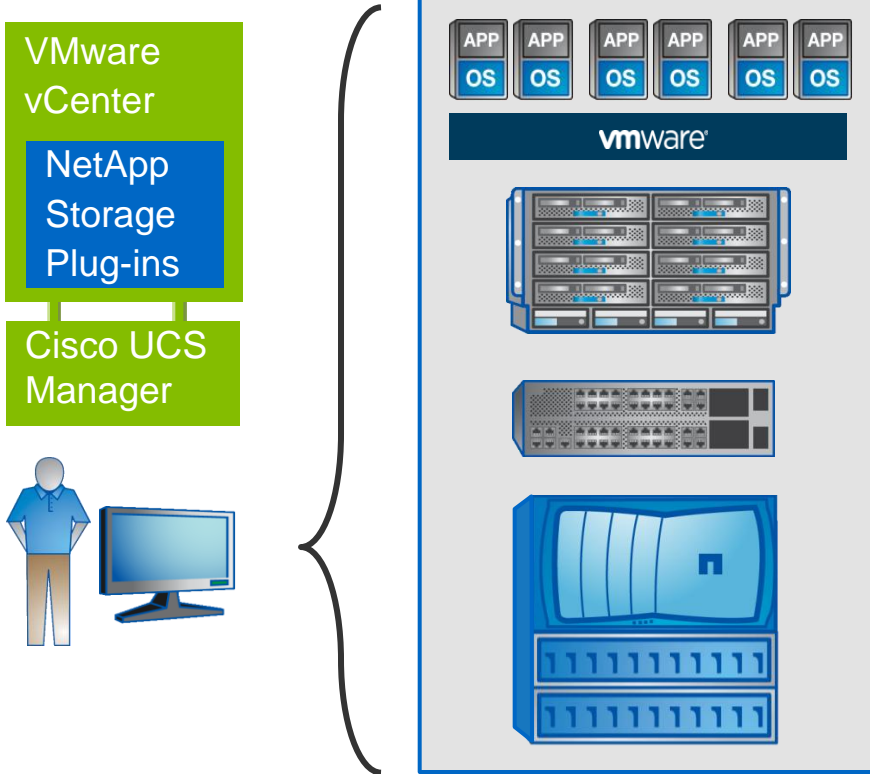
Resource Pool Settings	Platinum Tenant	Gold Tenant	Silver Tenant
Reservation	Reserved	Reserved	No reservation
Limits	Unlimited	Limited	Limited
Shares	High	Medium	Low
Expandable Reservation	Enabled	Disabled	Disabled

- **Scale out with standard and proven configurations**
 - Predictable and highly efficient
 - Capacity and performance
 - Floor space, power, and cooling
 - Or scale up within a FlexPod
- **Benefits**
 - Reduce effort for architecture, design, deployment, and testing
 - Reduce infrastructure deployment cycle time by up to 50%
 - Manage resource pools, not individual systems
 - Storage, computing, and networking





Centralized Management with FlexPod™



VMware® vCenter™

- Automated workflows
- Scalable, extensible platform

Cisco® UCS Platform

- Embedded unified management
- Integrated with VMware vCenter

NetApp OnCommand®

- Manager suite: Automate, analyze, and control
- Integration with VMware vCenter Server
- Enables server administrators to perform storage tasks

Extensible Open Management





NetApp®

FlexPod™ Unique Features

■ Unified Architecture

- A single unified multiprotocol storage architecture vs. multiple incompatible systems that scales up or out without any architectural changes
- Pre-validated architecture with agility to add SMT and vShield Zones on top of FlexPod and run four applications simultaneously
- “One wire strategy” based on 10 GbE and FCoE

■ Efficiencies

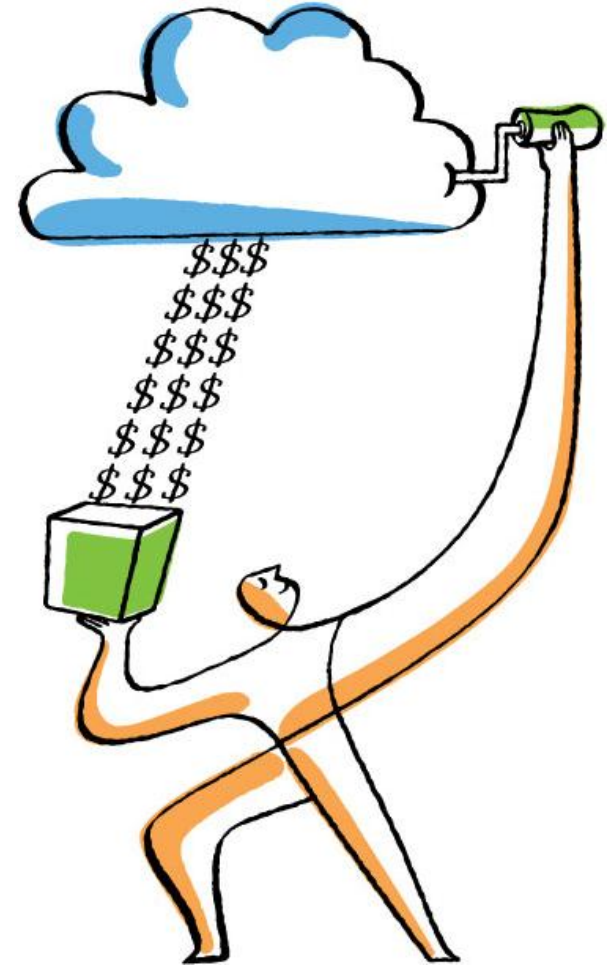
- Built-in efficiencies such as dedupe and thin-provisioning features that help lower cost and increase ROI; Rapid cloning technology deploys thousands of virtual machines within minutes
- **MultiStore** capabilities to manage and secure enterprise storage for multi-tenant infrastructure
- Additional efficiencies with Snapshot, Flash Cache and FlexClone at array level
- 50% storage savings guarantee for VMware

■ Investment Protection

- Integrates with current equipment – no new CAPEX
- Scale with faster controllers with existing storage trays



Alliance Support Model and Deployment



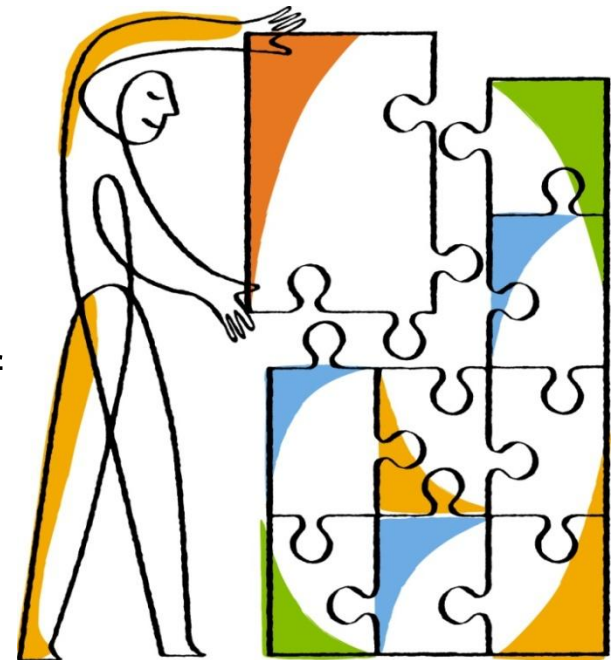


Alliance Support Model



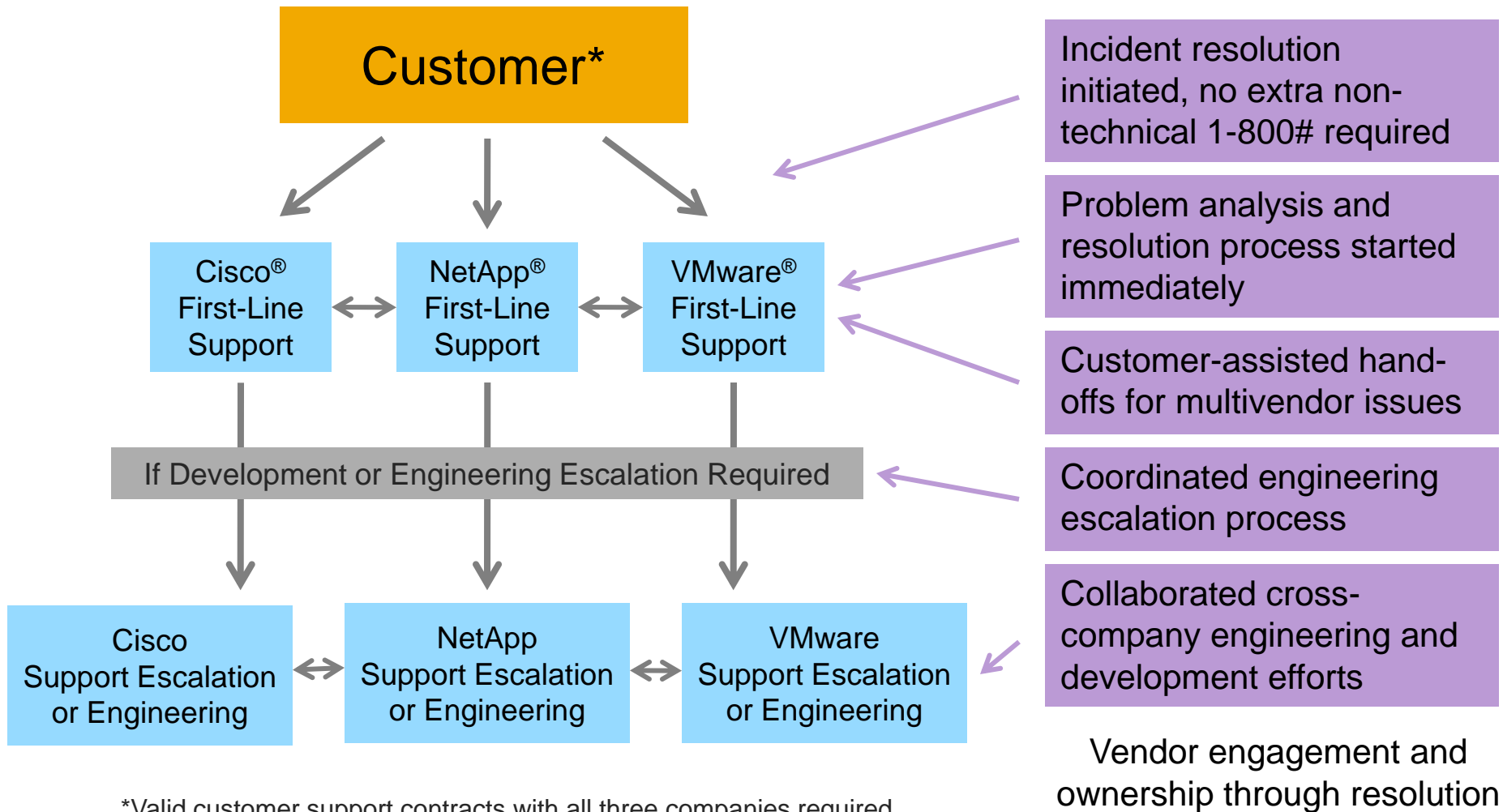
Building on Years of Cooperative Support Excellence to Create a More Efficient, Flexible, and Scalable Support Solution

- NetApp[®], Cisco[®], and VMware have years of team experience providing support
- Expanded and enhanced support resolution process
- Focused on the most efficient method for resolving customer issues
- Support available across a full spectrum of support products, new and old
- More than a single-solution cooperative support model: scales and grows
- Unified Support Lab





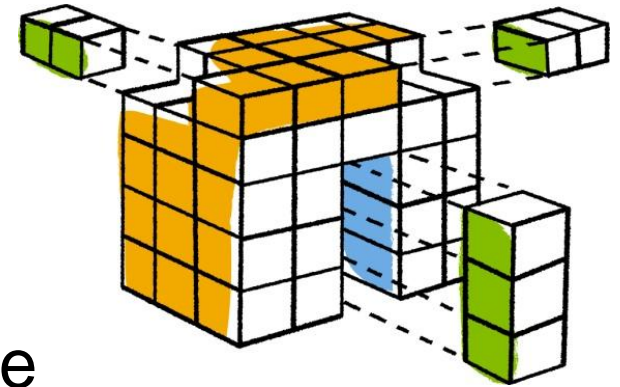
Alliance Support Model Process



*Valid customer support contracts with all three companies required



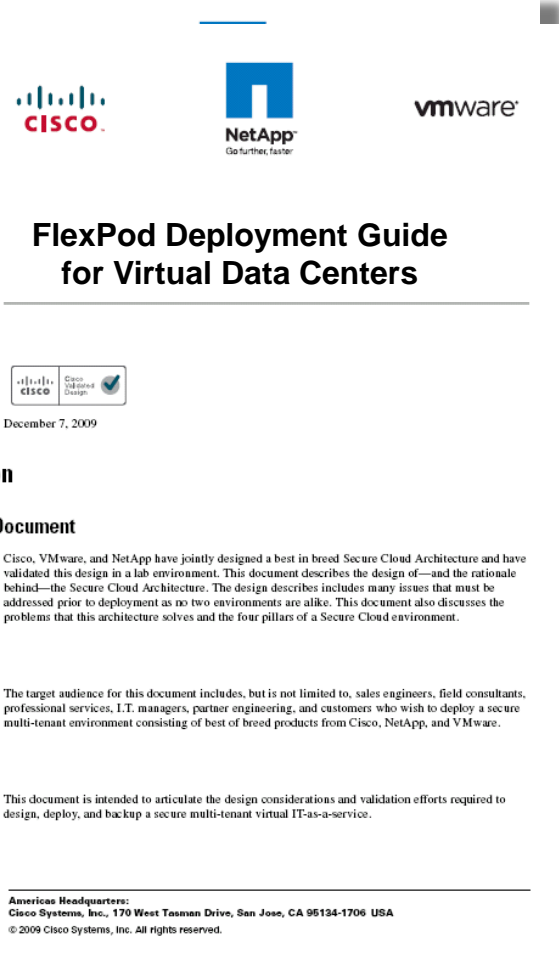
Unified Support Lab



- Partnership between NetApp, Cisco, and VMware
- Each partner invested product and support engineering expertise
- Ability to “mix and match” available product components to reproduce complex customer environments
- Available to each vendor’s support teams via Secure Access Portal
- Hosted in NetApp Technical Support Center Research Triangle Park, North Carolina



FlexPod™ Deployment Collateral



- **Cisco® Validated Design Guide**
- **Deployment Guide**
 - Step-by-step instructions for repeatable high-quality infrastructure deployment
- **Solutions Guide**
 - Design and resources available to use FlexPod for wide range of environments
 - Secure multi-tenancy
 - VMware View and SAP
 - Microsoft Exchange
 - Development and testing

Executive Summary





Executive Summary



Lower Risk

Greater Efficiencies

Flexible IT

Lower risk with simplified, prevalidated, shared architecture

Flexible IT scalable to meet both today's needs and tomorrow's

Reduced TCO and better efficiency

Certified data center specialty partners and cooperative support

For more information, visit www.netapp.com/flexpod/

Thank you

