

The stages of datacenter transformation

Stage 1:

Server Virtualization



Consolidation phase based around cost savings

Stage 2:

Distributed Virtualization



Scale out virtualization for high availability

Stage 3:

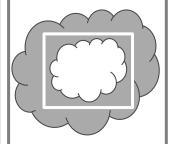
Private Cloud & Convergence



Self-service provisioning, automation and charge back

Stage 4:

Hybrid Cloud



Bursting to public cloud on-demand

Stage 5:

Public Cloud



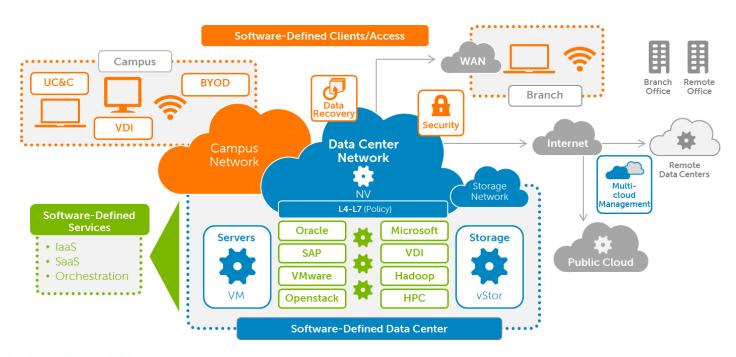
Off premise hosting or out sourcing

Source: Phil Dawson " - Gartner Datacenter 2013



The Software Defined Enterprise

Open Networking enables agility at a new level



Imagine - "Androidification" of networking

Standard orchestration and automation tools

Optional 3rd party SDN / NVO controller

Any networking OS

Open standard hardware

Merchant silicon



Standard orchestration and automation tools

Optional 3rd party SDN / NVO controller

Virtual services Power and traffic optimization app

Performance monitoring opt app

Security app

Open network platform OS

Ocumulus networks

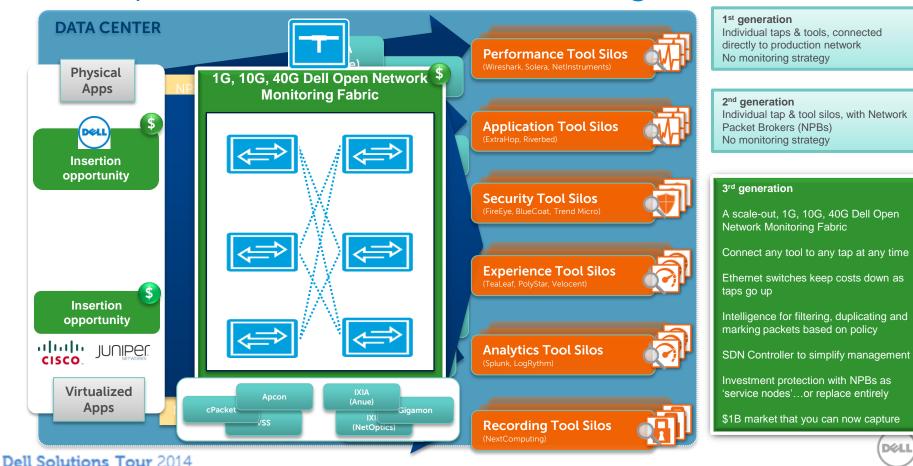
String Switch

Open standard hardware

Merchant silicon



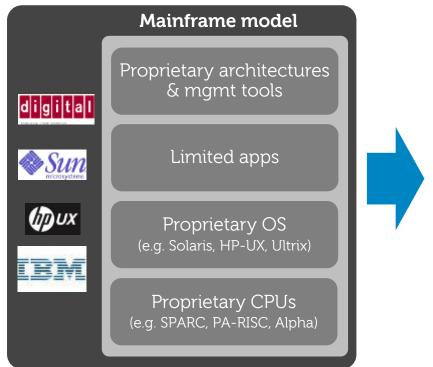
Dell Open Network fabric – Defining SDN

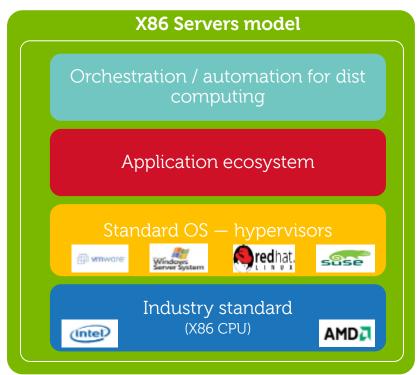


DELI

Compute paradigm shift

How the disaggregated server model changed the landscape





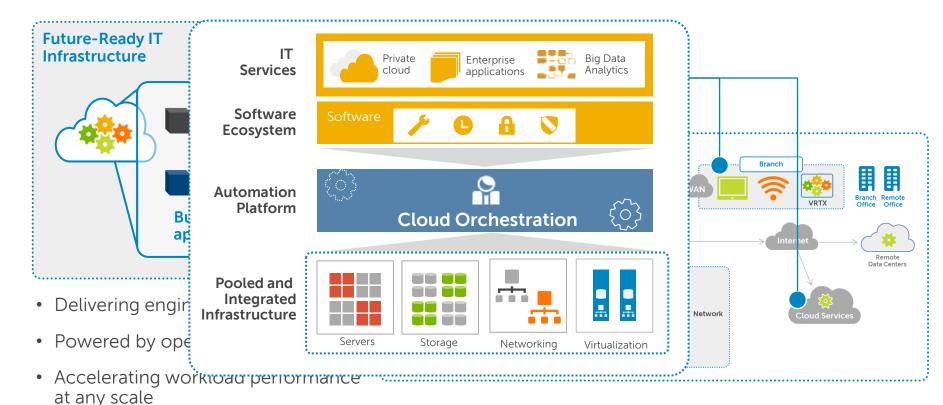






The Datacentre of the future: Here today

Any workload, anywhere





Principle Tenets for Private Cloud

Simplify operations

And amplify IT productivity

Unify and automate management without compromising domain-level control across physical & virtual infrastructure

Complete & integrated infrastructure

provided without tradeoffs

Adopt holistic **infrastructure innovations** that integrate into your existing data center architectures

Improve reliability

With better infrastructure & insights

Ensure **performance**, **availability & quality** with pre-engineered design & more complete infrastructure visibility

Maximize value

with pre-integrated solutions, or take a more tailored, customised approach Leverage **flexible infrastructure delivery models** that align to your specific need



What is driving the adoption of Private Cloud?

80%



25X 68%



240

Smartphone users

work an average

hours per year³

of 240 more

BYOD, mobility & VDI

Virtualization

80% server virtualization by 2016⁴

80%

Cloud

80% of cloud initiatives will be private and hybrid by 2014¹

Data center traffic

25X more bandwidth (I/O) per rack needed by 2015¹

Operating costs

In 2012, 68% of server-related spend was on management²







Do you have these problems?



Struggling Process, outdated communications and information management tools, inefficient IT service delivery



What if you could....

- Give users self-service & capacity on-demand
- Connect people & applications, on-premise and in the cloud
- Gain faster data insights
- Automate & innovate

- Provision applications at the speed of cloud
- Ensure up-time & access
- Simplify management & mobility for workloads
- Track and manage application lifecycles

- Simplify deployment of physical & virtual environments
- Pool heterogeneous resources
- Grow as you need, scale when YOU want.





Empower your workforce & engage your customers



Optimize application delivery



Deliver service-centric IT



Better outcomes start in your Datacentre

Evolve towards a fully automated service-centric data center

The **Optimized Enterprise** Management Virtualization Storage Private cloud **VMware** IT in silos Microsoft Mobile workforce Enterprise workloads **OpenStack** Infrastructure-IT servicecentric data center centric data center **Business view** IT is maintained • IT as an innovation engine • IT provides infrastructure • IT is a service provider • IT is a cost center • IT is a growth accelerator **Characteristics** Rigid Flastic Siloed Converged Versatile Custom Fragmented Streamlined Unpredictable Reliable Manual Automated



Pooled Infrastructure

Technology - consumable on your terms

Cloud Management

Automation +
Orchestration +
Unified Resource Management =

Cloud Enablement

Compute Infrastructure

Converged or Distributed

Compute + Capacity +

Networking =

Virtualized Resource Pool

Combined Benefits

- Transform IT from a cost center to a center for innovation
- Increase IT velocity
- Shift budget from maintenance to mission success
- Gain critical data insights faster
- Realize agility via unified IT Service management



Dell Cloud Strategy

Build cloud environments

Manage single and multicloud environments

Deliver cloud services

Cloud broker | Cloud management provider



- Governance, access, and security controls
- Performance monitoring
- Application services
- Provisioning & management
- Cloud brokerage



Public cloud ecosystem Software as a service Vertical cloud Managed private cloud **Off** premises

Dell cloud consulting and application services



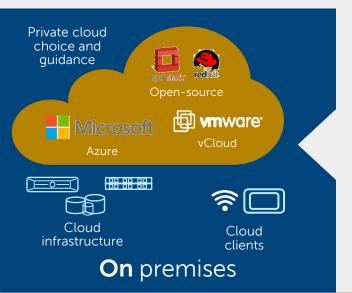
Dell Cloud Portfolio

Build cloud environments

Manage single and multicloud environments

Deliver cloud services

Cloud broker | Cloud management provider



Cloud management

- Dell Cloud Manager
- •Foglight, SecureWorks

Cloud integration

•Dell Boomi



Public Cloud Partners

Amazon, Google, Microsoft,...

Hosted Cloud

- Dell Cloud on Demand
- Dell Cloud Dedicated

Vertical Specialization

- Dell Cloud Clinical Archive
- Dell Government Cloud
- Dell Workspace as a Service

Off premises

Dell cloud consulting and application services



Enabling Applications in the Software Defined DC

Optimized delivery through Software Defined Solutions



- Built to Scale & adapt
- Agile app platform What
- Financial efficiency
- Max resource utilization



App & data availability

- Cloud on your terms
- Private, public, hybrid
- Capacity on demand
- Connect with the world



Virtualization **Ready**



Application **Aware**



'Any cloud' **Capable**



- Pooled & Scalable Infrastructure resource
- Open Managment tootsOW □Φ
- Leading Software options
- Infrastructure Platform integration

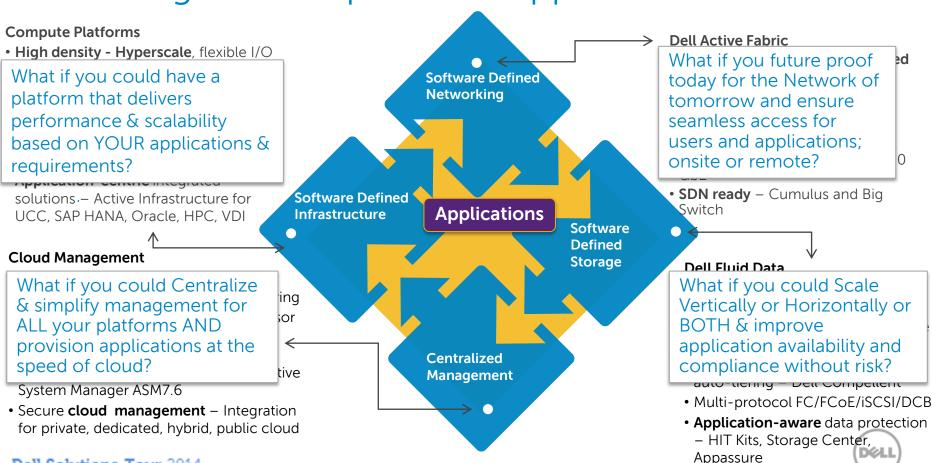
- Flexible, dynamic workload provisioning
- WAPPAWAR Data Protection
 - Integrated appliances based on Reference Architecture

- Microsoft, Openstack & Vmware cloud solutions
- Dell cloud Manager
- 3rd party integration
- Orchestration , self-service



Powering Cloud Optimized Applications

Dell Solutions Tour 2014



Active System Manager

Unify environments, leverage existing investments, comprehensive integration





Get up & running quickly

- Quickly discover: auto-inventory available resources
- Pool resources: allocate on demand

Define



Capture best practices

 Design templates & orchestration rules: use out-of-box templates or create your own; define workload lifecycle

Deploy



Rapidly deliver high quality workloads

 Deploy workloads: On-demand provisioning of workloads through defined templates

Maintain



Evolve workloads as needs change

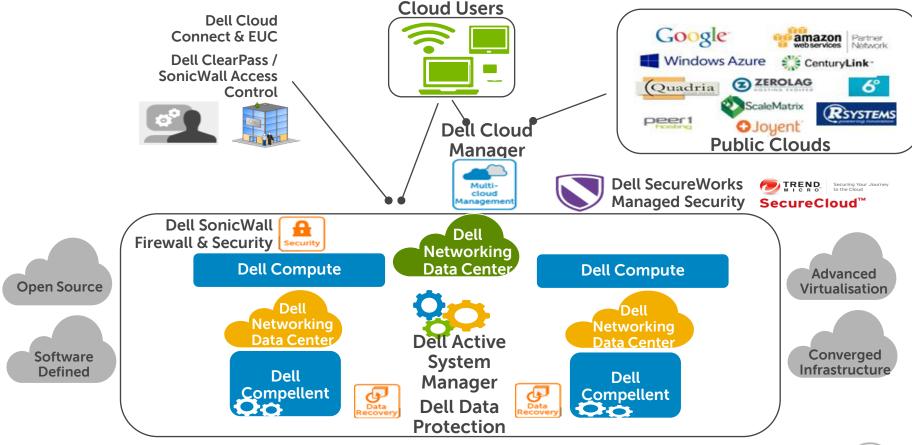
- Scale workloads: add or remove resources from workloads
- Manage lifecycle: update or release resources as needed

Automation . Centralization . Accuracy• Efficiency . Adaptability • Strengthen IT service quality

The Software Defined Enterprise



Dell Software Defined Infrastructure Platform





Data center consulting expertise

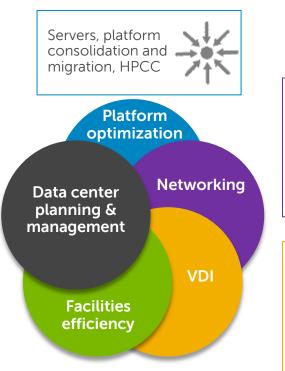
Proven to unlock efficiency



Strategy, capacity planning and performance mgmt., data center consolidation and migration, operations



Capacity, efficiency, reliability optimization, site selection, design and commissioning, energy management





Optimization, performance tuning, capacity planning



Virtual desktop consulting and hosted VDI as a service



Why partner with Dell?

- Compute on your terms no matter your size or scale
- Management choice, simplicity & integration
- Intelligent infrastructure building blocks
- Heterogeneous support
- Flexible deployment options
- Simple & efficient workload manipulation
- Key innovations that trend with customers and industry inflection points
- End to end from desktop to datacenter to cloud

Dell Services

- Infrastructure Consulting
- Application modernization
- Deployment
- Support services
- Cloud services

Dell Infrastructure

- Servers
- Storage
- Networking
- Modular Datacenter

Dell Software

- Workload & Resource management (Active System Manager)
- Performance & Availability mgmt (Foglight, Spotlight)
- Data Protection (vRanger, AppAssure, HIT kits)
- Security & Governance (Quest, SonicWALL)
- Windows Server Management
- Connectors & Integrations (Vmware, Microsoft, 3rd party)



Next steps

Today - meet with Dell Enterprise subject matter experts in the expo

Learn more by attending future events and workshops. Search www.dell.com/events for upcoming events in your area.

Schedule a post-event Whiteboard Session to address your specific requirements. Contact your account team for details.

Discover how Dell Solution Centers can help your business. Discover more: www.dell.com/solutioncenters.com



The power to do more