Modernize Your IT with FlexPod

NetApp & Schneider Electric
Hyper-distribution of Applications and Data

- **30M** New devices connected every week by 2018
- **277X** Data created by IoE devices v. end-user
- **180B** Mobile apps downloaded in 2015
- **78%** Workloads processed in Cloud DCs by 2018
- **5TB+** Data per person by 2020
- **500B** Things connected by 2020

*Hyper-distribution of Applications and Data*
Digital and Data are the Heart of Transformation

Digital adoption is accelerating:
95% of Fortune 1000 expects to undertake an IoT/IIoE project by 2017 (The Economist)

Digital technologies are maturing:
Wearables, connected vehicles among use cases no longer “ahead of their time”

Digital disruption could displace nearly 40% of incumbents by industry (over next five years)
Technology, media & entertainment, retail, and financial services are already being disrupted by digitization over the past few years.*

Digital business models are changing the nature of competition
“Combinatorial disruption” recombinates traditional means of delivering customer value. Apple, Uber, Tesla, and others have used this approach to launch competitive threats across industry lines.

Digital value increasingly comes from consumers, not just B2B
Examples: telehealth, pay-as-you-drive insurance, wearables

*IMD Global Center for Digital Business Transformation, 2015

Most value comes from cross-industry disruption

Value Created: 62%
Value Migrated: 38%
New Capabilities Needed

**OPTIMIZED APPLICATIONS**
Better performance drives higher productivity, faster decision-making and opportunities for growth

**POLICY-BASED INFRASTRUCTURE**
Align the infrastructure to the need of the application and improve IT alignment with business objectives

**SUPPORT FOR ANY CLOUD STRATEGY**
Seamlessly adopt cloud technologies while maintaining security and control

**COMPUTE AND STORAGE AT THE EDGE**
Deploy powerful solutions easily at remote locations where computing is needed

**DEPLOY WITH SIMPLICITY**
Reduce deployment time from days to minutes with enhanced management capabilities and automation
Cusp of Transformation

TRADITIONAL DATA CENTER
- CONSOLIDATION
- VIRTUALIZATION

CLOUD-READY DATA CENTER
- HYBRID CLOUDS
- IT as a Service
  - IaaS
  - PaaS
  - SaaS
  - XaaS
- Flexible Consumption Models

We are here

POLICY DRIVEN AUTOMATION

EFFICIENCY | SIMPLICITY | SPEED | DIGITAL EXPERIENCES
---|---|---|---
2000 | 2010 | 2015 | The Next 5+ Years

Adoption Curve

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FlexPod Converged Infrastructure

Prevalidated flexible, unified platform

- Cisco Unified Computing System™
  - Programmable infrastructure
  - Unified management

- Cisco Nexus® switches
  - Unified fabric

- NetApp® FAS with clustered Data ONTAP®
  - Unified storage
  - Intelligent data management

- Centralized management with automation
## The Flexpod Portfolio

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<th>FlexPod® Express</th>
<th>FlexPod Datacenter</th>
<th>FlexPod Select</th>
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<td>Departmental deployments</td>
<td>Massively scalable, all virtual</td>
<td>Application purposed</td>
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<td>and VAR velocity</td>
<td></td>
<td>Target: Specific application</td>
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<td><strong>Target:</strong> Primarily MSB, remote, and departmental deployments</td>
<td><strong>Target:</strong> Enterprise/service provider</td>
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- **FlexPod® Express**
  - Entry-level: Cisco UCS, Nexus, and NetApp® FAS
  - Distinct Architectures

- **FlexPod Datacenter**
  - Cisco UCS, Nexus, and FAS/AFF
  - Distinct Architectures

- **FlexPod Select**
  - NetApp E-Series and FAS
  - Distinct Architectures

**Targets**:
- **FlexPod® Express**: Primarily MSB, remote, and departmental deployments
- **FlexPod Datacenter**: Enterprise/service provider
- **FlexPod Select**: Specific application deployments in the enterprise
FlexPod Solution Portfolio

Consistent Architecture – Expanding Usage Models
A Foundational Platform for Hybrid Cloud

Extending resources with innovation and partnership

Secure Compute/Networking

Data Center/Private Cloud

Secure Data

Provider Clouds

Scale

Easily expand and connect resources
- Policy Based Configuration
- NetApp Cloud OnTap

Secure

Extension of Private Cloud security
- Cisco Intercloud Fabric
- NetApp Data Fabric

Control

Consistent management across clouds
- Cisco UCS Director
- NetApp OnCommand
Integrate Flash, Disk and Cloud: “F2D2C”

• Investment protection

• Ecosystem integration

• ROI-driven

• Integrate Flash, Disk and Cloud: “F2D2C”

• Flexibility and Agility as well as security
Open Platform with Broad Support
Business Workloads

- **Cisco**
  - Application Centric Infrastructure, Nexus Data Center Switches, Secure Enclaves, VMDC
- **NetApp**
  - SnapProtect, MetroCluster
- **Microsoft**
  - Private Cloud, Exchange, SQL Server, SharePoint, Hyper-V
- **Oracle**
  - Oracle RAC, JD Edwards, Oracle Linux, Oracle VM Server
- **SAP**
  - Applications and HANA
- **VMware**
  - vSphere, Horizon View
- **Red Hat**
  - Enterprise Linux, OpenStack
- **Citrix**
  - (XenDesktop, XenServer)
- **Cloudera**
  - Hadoop
- **Hortonworks**
  - Data Platform

**Secure Separation**

| Hyper-V | Red Hat KVM | Oracle® VM | Citrix Xen | VMware vSphere |

**Secure Multi-Tenancy**

- Validated workloads
- Security options
- Bare-metal OS
BUILDING MANAGEMENT SYSTEM
Device & System level INFRASTRUCTURE MANAGEMENT

Efficient ROOM COOLING
Integrated SECURITY MONITORING

RACK with Cabling & Air Management Accessories

Scalable IN-ROOM UPS

Intelligent IN-ROW COOLING
FlexPod® made Data Centre ready
‘Value Plus’ for FlexPod® from Schneider Electric enables The Cloud

Power Schematic

- Equipment in the rack is fed by two power supplies for redundancy. If one supply were to fail, the system would continue to work on the other.

- Large Site / Building or Data Centre based UPS

StruXureWare for Data Centres suite enables real-time monitoring, analytics, prediction, and optimization of the FlexPod architecture.
Leveraging Cisco EnergyWise

- Allows aggregation of small loads into larger “virtual” loads
- Aggregate by building zone, by department, by device type, by person etc
- Devices may be part of multiple types of aggregations

- Devices can now be controlled in the same context as other energy loads
  - e.g. “Turn on zone 1”
    - Enable lighting, heating and cooling in zone
    - Enable access control in zone
    - Enable IT devices in zone
    - Measure all energy usage in zone
  - Alternatively:
    - “Set back production areas”
    - “Turn on doctor's office”
    - “Report energy usage of printer fleet”
FlexPod with Schneider Electric

• Extend Converged Infrastructure into the Physical Infrastructure Life-Support Layer

• Enable the connection on out to Facilities to help deliver Smarter Buildings via Schneider Electric StruxureWare integration with Cisco Energywise

• Turns a smart stack into a smart solution

• Use our partnership to help customers ‘know what they don’t know & manage what they can’t see’

• Together we make powerful tools which enable full visibility, control and automation

• Growth is going to come from converged infrastructure double digit over 3 years
## Unrivalled Advantage

| Performance | • Up to 20X AFF storage performance  
• 208% faster SQL response times  
• 100+ world record benchmarks  
• 20% improved operational productivity by SE StruxureWare Software (DCIM) |
| Economics | • 76% ROI in just 17 months*  
• Flash performance at the price of disk |
| Agility | • 83% faster provisioning with ACI + UCS  
• Data throughput improved by 40%, accelerated new deployments by 40% |
| Energy Efficiency | • Approx 3.5Mwh per annum saving by FlexPod Express with Schneider Electric NetShelter CX Rack  
• 30% carbon emission reduction managed by SE StruxureWare Software (DCIM) |

* Source: Forrester TEI
Designed for Innovation

Unified

Highly Customizable

Easy to Deploy and Operate
Thank You

CISCO

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