Cisco Cloud Architecture for the Microsoft Cloud Platform

Building Multi-Tenant Service Provider Clouds and Driving a Profitable Joint GTM
Today’s presenters

Tom Williams
Director
Cloud Business Development
Cisco Systems

Andrew Vaz
Sr. Director
Cloud and Network Solutions
Cisco Systems

Alex Lee
Data Center Architect
Microsoft Enterprise Services
Cisco and Microsoft’s lead scale-up architecture

On-Premises

- ACI enabled private cloud integrated solutions
- Microsoft private cloud with UCS Integrated infrastructures
- Service provider managed Edge Cloud

Service Provider

- Cisco Cloud Architecture for Microsoft Cloud Platform

Hyper Scale Clouds

- Cisco ACI and Intelligent Networking
  - Cisco services available on Microsoft Azure

Stateless = “Scale Out” Systems of Innovation

Stateful = “Scale Up” Systems of Record/ Differentiation

- Single Server
- Many Applications

- Server
- Hypervisor

- Online Content
- Gaming
- Mobile
- IoT
- eCommerce

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Large Scale-up Opportunities for Service Providers

- **$24B by 2016¹** Hosted Private Cloud Market
- **$13.5B by 2018²** Hosted Unified Communication and Collaboration Market
- **$39.9B³** Expected DBaaS Market
- **$1.7B in 2018⁴** Workspace as a Service Market
- **$19.7B in 2018⁵** SaaS CRM Market
- **$1.7B⁶** Expected DaaS Market

Customers can include:

- SMB
- Enterprises
- Governments
- Others

³ Microsoft Internal Analysis, 2012
## Cloud spending over next two years

**Managed Services**

<table>
<thead>
<tr>
<th>Service</th>
<th>% of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backup and recovery</td>
<td>68%</td>
</tr>
<tr>
<td>Disaster Recovery/Site Recovery</td>
<td>54%</td>
</tr>
<tr>
<td>Application development tools &amp; platforms</td>
<td>47%</td>
</tr>
<tr>
<td>Mobile Services</td>
<td>47%</td>
</tr>
<tr>
<td>Premium 24x7 support services</td>
<td>45%</td>
</tr>
<tr>
<td>Archiving</td>
<td>44%</td>
</tr>
<tr>
<td>End to End Application management including monitoring and configuration</td>
<td>42%</td>
</tr>
<tr>
<td>Capacity Planning</td>
<td>37%</td>
</tr>
<tr>
<td>CDN/Media Streaming</td>
<td>23%</td>
</tr>
<tr>
<td>None</td>
<td>5%</td>
</tr>
</tbody>
</table>

n = 1619

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**Application Hosting**

<table>
<thead>
<tr>
<th>Service</th>
<th>% of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Database</td>
<td>57%</td>
</tr>
<tr>
<td>Email</td>
<td>54%</td>
</tr>
<tr>
<td>Business application: includes ERP, CRM, industry-specific applications</td>
<td>49%</td>
</tr>
<tr>
<td>Virtual Desktop Hosting/VDI</td>
<td>45%</td>
</tr>
<tr>
<td>Personal Productivity - Docs, Spreadsheet, Presentation</td>
<td>43%</td>
</tr>
<tr>
<td>Analytics: Includes Business Intellegince, Data mining, Big Data</td>
<td>41%</td>
</tr>
<tr>
<td>Ecommerce Website Hosting and advanced functionality</td>
<td>39%</td>
</tr>
<tr>
<td>Unified Communicatons (Voice, Chat, Video, Conferencing)</td>
<td>38%</td>
</tr>
<tr>
<td>Collaborative applications such as workgroup, IM</td>
<td>36%</td>
</tr>
<tr>
<td>Media Streaming</td>
<td>30%</td>
</tr>
<tr>
<td>None</td>
<td>4%</td>
</tr>
</tbody>
</table>

n = 1619

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M1. Which of the following managed services - if any - will comprise a significant portion of your Managed Services spending with hosting & cloud providers over the next two years?

A1. Which of the following hosted applications- if any - will comprise a significant portion of your Applications Hosting spending with hosting & cloud providers over the next two years?

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Source: 451 Research, Microsoft Commissioned Study – Beyond Infrastructure: Cloud 2.0 Signifies New Opportunities for Cloud Service Providers, June 2015
Your customers need cloud services that are…

**Deployed on demand**
New services and enterprise applications provided at DevOps speed

**Workload tuned**
Environments optimized through an application-centric approach

**Cloud connected**
Hybrid cloud solutions enabled with ease for their use
Delivering cloud services in today’s marketplace

Opportunities and Challenges

- Global-ready solutions
- Hybrid cloud readiness
- Cloud service performance
- As a service monetization
- Speed to market

Building Solutions from the Ground Up Can Be Complicated, Costly, and Risky

- Financial: Large initial investments might not result in increased revenue or reduced costs.
- Service Disruption: Lack of integration between components may lead to system downtime.
- Operational: Technologies not optimized to work together require more resources to integrate, manage, and support.
What If you could…

- Deliver complete cloud services with confidence
- Release and sell new services faster
- Increase the profitability from your investment
- Enhance go-to-market efforts
Cisco and Microsoft are making it happen

Deep level of engagement

Joint Product and Solution Engineering

Alignment around customer success
Cisco Cloud Architecture for the Microsoft Cloud Platform: An integrated solution for cloud providers

Greater Flexibility and Confidence

Jointly engineered, tested, & validated SDN-based cloud solution with full lifecycle management

Faster Time to Value

Rapid new service deployment via prebuilt service templates provisioned in minutes

Increased Profit Potential

Combined go-to-market partnership with Cisco & Microsoft to grow your profitability
Cisco Cloud Architecture for the Microsoft Cloud Platform

Solution Components

Software
- Microsoft System Center
  - Operations Manager
  - Orchestrator
  - Virtual Machine Manager

Integration and Automation
- Windows Server 2012 R2 with Hyper-V
  - Power Tools for Computing and Storage
  - Windows Azure Pack & CNAP
  - Resource Providers for Network & Services

Infrastructure
- Cisco UCS®
  - Cisco UCS Manager
- Power Tools for Computing and Storage
  - Physical and Virtual
  - Security and Services
  - Cisco Nexus® Family
  - WAN Gateway

Validated Services
- Disaster Recovery as a Service
- Database as a Service
- Backup as a Service
- Hosted Private Cloud

Custom
- Managed Edge Cloud
- Productivity and UC as a Service
- CRM as a Service
- Application Modernization
- Cloud Storage as a Service
- Cloud Reseller
- Desktop Hosting

Services Vision
- Increased Profit Potential
- Greater Flexibility and Confidence
- Faster Time to Value

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A Lifecycle Approach to Policy Management
Integration of Cisco APIC with Microsoft Windows Azure Pack

Cisco Application Centric Cloud Infrastructure

Cloud Service Portals Hyper-Automation Orchestrated Workloads
Centralized Policy Mgmt. RESTful Open APIs, Open Standards, Stateless Policy Model Ideal for DevOps
Library of Application Profiles & Cloud Service Profiles
Industry-Leading 10/40/100-Gbps Programmable Fabric with Hardware Based SDN
Infrastructure Endpoints – Physical & Virtual
Committed to helping you build and go to market

Design
- Products
- Architecture
- Consulting
- Ecosystem

Build and Operate
- Implementation
- Validation
- Offer Services
- Operation

Market and Sell
- Training
- Enablement
- Rewards
- Support

Cisco Market Development Funds
Microsoft Business Incentive Funds (BIF)

Microsoft and Cisco help you realize the superior performance and economics of Cisco® Cloud Architecture for the Microsoft Cloud Platform and reduce the risk of going to market
What you gain with Cisco Cloud Architecture for the Microsoft Cloud Platform

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reduced Risk and Faster Time to Market</strong></td>
<td>Reduce risk and speed deployment through Cisco and Microsoft validated profiles, designs, and consulting services</td>
</tr>
<tr>
<td><strong>Dramatically Lower TCO</strong></td>
<td>Deep technical integration between Cisco and Microsoft stacks to automate delivery of cloud services and common IT tasks</td>
</tr>
<tr>
<td><strong>Deliver a better cloud offering</strong></td>
<td>Tailor your infrastructure and network fabric to the workloads you deliver with Application and SDN-Centric Architecture</td>
</tr>
<tr>
<td><strong>More Profitable Services</strong></td>
<td>IaaS, SaaS, and PaaS platform jointly engineered to facilitate rapid adoption of application services</td>
</tr>
<tr>
<td><strong>Increased Demand</strong></td>
<td>Use both Cisco and Microsoft go-to-market programs to address scale-up services in market transition to as-a-service IT</td>
</tr>
<tr>
<td><strong>Simplified Support</strong></td>
<td>Cisco and Microsoft solution provides a simplified support model compared to a complex multivendor support model</td>
</tr>
<tr>
<td><strong>Investment Protection</strong></td>
<td>Cisco ACI™ lifecycle approach to system development, improvement, support, and service delivery</td>
</tr>
</tbody>
</table>
Validated Services

Available at Launch

- Database as a Service
- Disaster Recovery as a Service
- Backup as a Service
Disaster Recovery as a Service

**DRaaS Components**
- WAP SQL Resource Provider
- Hyper-V Replica (HVR)
- Azure Site Recovery (ASR)
- Azure Subscription

**Design Resources**
- MCS BC/DR Offering

**Implementation Resources**
- CCA Foundation Implementation Guide
- CCA Zinc Container Implementation Guide
- CCA DRaaS Implementation Guide

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**In-Cloud DRaaS**
Protect workloads running within the Service Provider Cloud.

**Remote DRaaS**
Protect workloads running in the tenants’ on-premises datacenters

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**Azure Site Recovery (ASR)**
Hyper-V to Hyper-V protection
DR as a plan or add-on property on VM clouds
SMA runbooks to ease configuration
Replication and failover health monitoring (SCOM)
Orchestrated recovery w/ scripted/manual actions.
Failover modes: test, unplanned, planned

**Hyper-V Replication (HVR)**
Built into Windows Server 2012 R2 Hyper-V. Reduces costs.
Configurable replication frequencies of 30 sec, 5 min, 15 min.
Secure replication across network using certificates.
Agnostic of network, server and storage
Simple configuration and management – either through Hyper-V Manager, PowerShell, or with Azure Site Recovery
Backup as a Service

**In-Cloud BaaS**
Backup-as-a-Service for IaaS customers with management and data storage at the primary cloud datacenter and a copy on the provider site.

**Key Functionality**
- Backup and recovery of workloads within the provider cloud
- Backup and Recovery functionality at the application, file, and VM level
- Replication of backup data to a remote datacenter for recovery against data corruption due to user error, malware, etc.

**Remote BaaS with Local Data Retention**
Backup-as-a-Service with remote management over the wire and data storage on the customer site and a copy on the provider site.

**Key Functionality**
- Backup and Recovery service for production physical and virtual servers from a customer datacenter to a CSP datacenter along with local recovery capabilities
- Backup and Recovery functionality at the application, file, and VM level

**Remote BaaS without Local Data Retention**
Backup-as-a-Service with remote management over the wire and data storage on the provider site.

**Key Functionality**
- Backup and Recovery service for production servers from a customer data center to a CCA-based CSP datacenter
- Backup and Recovery functionality at the application, file, and VM level
- Secure backup storage capacity in the cloud

**BaaS Components**
- Commvault Simpana

**Implementation Resources**
- CCA Foundation Implementation Guide
- CCA Zinc Container Implementation Guide
- CCA BaaS Implementation Guide
Database as a Service

**Dedicated SQL**
A managed service offering.
Secure, single-tenant instance SQL fabric(s) on a shared compute fabric.
Tenant boundary is the SQL server/farm.
Tenants receive a connection string and SQL identity.
Allows 100% dedicated resourcing at the VM level.

**Shared SQL**
A managed service offering.
Secure, multi-tenant SQL fabric(s) on shared compute fabric.
Tenant boundary is the SQL contained DB.
Tenants receive a connection string and SQL identity.
Resource Governor available to back SLAs. (req. SQL2014 ENT)

**Bring your own SQL**
Tenants create VMs on your compute fabric.
Tenants deploy the OS.
Tenants install and license SQL.
Cloud Service Provider is responsible for uptime of the underlying compute, storage, and network fabric.
Essentially a use case for IaaS/VMaaS.

**DBaaS Components**
- WAP SQL Resource Provider
- SQL 2012/2014, STD/ENT

**Design Resources**
- Service Provider Reference Architecture (SPRA)
- SPRA – Database Hosting

**Implementation Resources**
- CCA Foundation Implementation Guide
- CCA Zinc Container Implementation Guide
- CCA DBaaS Implementation Guide
- PDT Extender for SQL 2014

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**Applications**
- Data
- Database
- Runtime
- Middleware
- OS
- VMs
- Servers
- Storage
- Networking

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- Custom Services
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- Cloud Storage as a Service

Custom

Services Vision

- Greater Flexibility and Confidence
- Faster Time to Value
- Increased Profit Potential

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Get started with Cisco Cloud Architecture for the Microsoft Cloud Platform

Cloud Design Workshop

Attend a workshop to discuss the overall approach and architectural considerations, as well as business considerations in the design.

Business Case

We will work with you to build the economics and the case for building out your cloud offerings and for monetizing IP services on your deployment.

Pilot and POC Deployment

After the business case has been built and approved, we will work with you to deploy the proof-of-concept environment and build out to service delivery.
For more information

Visit:

www.cisco.com/go/ccamcp
www.microsoft.com/hosting

and contact your Cisco and Microsoft account representatives
Thank you.