Cisco's Desktop Virtualization and Desktops-as-a-Service (DaaS) solutions and what it means for your Business

Ben Smit
-Global Business Manager Cloud Go-To-Market-
Agenda

- Introduction
- Market update
- Cisco’s solution
- Examples
- Conclusions and Next Steps
- Resources
The Workspace Used to Look Like This:

Now It Looks Like This:
Customers Have Diverse Priorities

**Business**
- Growth
- Agility
- Risk Management

**IT**
- Business Enablement
- Security
- TCO Management

**Users**
- Anywhere, Any Device
- Full Functionality
- Collaborative Workspaces
Customers Are Moving to Desktop Virtualization

59 million new virtual desktop users between 2013-2016\(^1\) (Gartner)

77% of global IT decision makers “implementing or expanding application or desktop virtualization”\(^2\) (Forrester)

45% of global enterprise IT decision makers considering “Cloud hosted/Desktops-as-a-Service”\(^2\) (Forrester)

84.6% 5-year CAGR for workspace as a service software between 2011 and 2016\(^3\) (IDC)

63% plan to use both on-premises and cloud-based desktop virtualization (VDI and DaaS)\(^4\) (ESG)
There is a lot going on around Desktops-as-a-Service

- VMware acquires Desktone (DaaS pioneer) – Oct 2013
- AWS announces DaaS on Cloud called “Workspaces” – Nov 2013
- VMware announces vCHS DaaS – March 2014
- Citrix to launch Avalon (Citrix’ DaaS architecture) – Apr 2014

Recent Analyst / Bloggers:
- VMWare, Citrix, Microsoft Desktops-as-a-Service solutions will make 2014 “The Year of DaaS”
  – Brian Madden (blogger)
- “The DaaS floodgates are open thanks to Amazon Workspaces”
  – Gartner’s Gunnar Berger

Announcement of Cisco DaaS with VMware & Citrix – Dec 17th 2013
Compelling reasons for DaaS

- Windows 7 (8) migration has started
- New Mobile Devices / BYOD
- Security
- Disaster Recovery
- Tighter IT budgets $$
- Cost and complexity of VDI
Cisco DaaS Strategy

- Expanding reach for virtual desktop solutions by complementing existing investment in VDI (VXI) with new as-a-Service models
- SPs delivering Virtual Desktop-as-a-Service, Data-as-a-Service, Applications-as-a-Service
- Cisco is partnering with leading vendors in this space; - Vmware (Desktone) and Citrix

Cisco is committed to continued solution investment in both VDI/VXI and Desktop-as-a-Service
Cisco Desktop Virtualization

- Enterprise Focused
- Customer Premises-Based and Managed
- Customer Data Center and Staff
- CapEx and OpEx
Cisco Desktop Virtualization Portfolio

- **Cisco Desktop Virtualization (On-Premises)**
  - Cisco DV Solution with Citrix XenDesktop
  - Cisco DV Solution with VMware Horizon View

- **Cisco Desktop as a Service Solution**
  - (Cloud-Based, Cloud Provider Delivered)
  - Cisco DaaS Solution with Citrix
  - Cisco DaaS Solution with Desktone by VMware

- **Enterprise Focused**
  - Customer Premises-Based and Managed
  - Customer Data Center and Staff
  - CapEx and OpEx

- **Cloud Provider Focused**
  - Cloud Provider Hosted and Managed
  - Cloud Provider Data Center and Staff
  - Subscription-Based OpEx
Desktop Virtualization Can Be Challenging

**Costly**
- High start-up costs (CapEx)
- Ongoing expenses for hardware, software, people skills (OpEx)

**Complex**
- Complicated to design, build, manage, and maintain

**Constant**
- Hard to deliver 24x7, global performance
- It takes a service provider-class operation to achieve
DaaS Value Propositions

For Enterprises
- Improved security
- Business continuity
- Better data recovery and backup
- Easier deployment
- Access desktop from multiple devices (BYOD)
- Repurpose PCs and laptops
- Self provisioning
- Reduced IT desktop operations
- Predictable OpEx model

For Cloud Providers
- Additional customer offering in high-growth market
- Leverage datacenter investments
- Increase network utilization
- Sell additional services and desktop add-ons
- Offer multiple offerings from the same infrastructure
- Self provisioning by customer
- Customer “stickiness”
Relevant to a Broad Set of Customers

- **<100 Employees**
  Desktop Replacement and Management

- **100 – 1000 Employees**
  Reducing TCO, Improving Security

- **1000+ Employees**
  Reducing TCO, Improving Security, BYOD
## Cisco DaaS User Workgroup Categories

<table>
<thead>
<tr>
<th>Task Workers</th>
<th>Remote Workers</th>
<th>Knowledge Workers</th>
<th>Guest Workers</th>
<th>Mobile Workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factory worker</td>
<td>Offshore workers</td>
<td>Finance</td>
<td>University computer lab</td>
<td>Sales</td>
</tr>
<tr>
<td>Retail clerk</td>
<td>Outsourcers, contractors</td>
<td>Operations</td>
<td>Training center</td>
<td>Executives</td>
</tr>
<tr>
<td>Bank teller</td>
<td>Branch offices</td>
<td>Marketing</td>
<td></td>
<td>Field service</td>
</tr>
<tr>
<td>Call center</td>
<td>Teleworkers</td>
<td>Administration</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Requirements

<table>
<thead>
<tr>
<th>Task Workers</th>
<th>Remote Workers</th>
<th>Knowledge Workers</th>
<th>Guest Workers</th>
<th>Mobile Workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple</td>
<td>Secured access and control</td>
<td>Rich PC experience</td>
<td>Rich PC experience</td>
<td>Offline access</td>
</tr>
<tr>
<td>Locked down</td>
<td>Location and device flexibility</td>
<td>Personal</td>
<td>Secure</td>
<td></td>
</tr>
<tr>
<td>Limited application</td>
<td>Diverse applications and users</td>
<td>Diverse applications and users</td>
<td>Diverse applications and users</td>
<td></td>
</tr>
</tbody>
</table>

**Footer:**

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Cisco Public
Packaging example 1

* No MSFT licensing costs included
## Packaging Example 2

<table>
<thead>
<tr>
<th>Tipo de Desktop</th>
<th>Recursos Computacionais</th>
<th>Imagem base</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiosque</td>
<td>• 1 vCPU</td>
<td>• Sistema Operativo (Licenciamento adicional)</td>
</tr>
<tr>
<td></td>
<td>• 1 GB RAM</td>
<td>• Updates</td>
</tr>
<tr>
<td></td>
<td>• 2 GB de Disco</td>
<td>• Free Software</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Adobe Reader</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Adobe Flash Player</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Cute PDF</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Java</td>
</tr>
<tr>
<td>Mensalidade – Desde € 17,00</td>
<td></td>
<td>• ShockWave</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Silverlight</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Instantant Messaging Services:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Sapo Messenger</td>
</tr>
<tr>
<td>Standard</td>
<td>• 1 vCPU</td>
<td>• Browser</td>
</tr>
<tr>
<td></td>
<td>• 1,5 / 2 GB RAM</td>
<td>• Internet Explorer</td>
</tr>
<tr>
<td></td>
<td>• 20 GB de Disco</td>
<td>• Mozilla Firefox</td>
</tr>
<tr>
<td>Mensalidade – Desde € 20,00</td>
<td></td>
<td>• Google Chrome</td>
</tr>
<tr>
<td>Admin - Power</td>
<td>• 1 vCPU</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 3GB RAM</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 40 GB de Disco</td>
<td></td>
</tr>
<tr>
<td>Mensalidade – Desde € 31,00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Packaging Example 3

### DaaS package 1

<table>
<thead>
<tr>
<th>Description</th>
<th>Price / Month/ User</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shared Desktop</strong> (Windows Server 2008 R2 based desktop sessions)</td>
<td>$24*</td>
</tr>
<tr>
<td><strong>Hard Disk</strong> (Default storage capacity for server image)</td>
<td>40</td>
</tr>
<tr>
<td><strong>Bandwidth</strong> (Bandwidth for each desktop, aggregated for the customer)</td>
<td>150Kbps</td>
</tr>
<tr>
<td><strong>Application Publishing</strong> (Publish applications from each desktop (RDP Only))</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Microsoft Licensing</strong> (Uses Service Provider License Agreement (SPLA) to provide the needed RDS SAL for each Shared Desktop along with any MS Office, Project, etc. and available with Commercial or Academic pricing)</td>
<td>Yes, Yes, Yes</td>
</tr>
</tbody>
</table>

### DaaS package 2

<table>
<thead>
<tr>
<th>Description</th>
<th>Price / Month / User</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Virtual Desktop</strong> (Windows 7 or XP client based desktop)</td>
<td>$38*</td>
</tr>
<tr>
<td><strong>CPU Cores</strong> (Higher provides better performance)</td>
<td>1</td>
</tr>
<tr>
<td><strong>Memory</strong> (Higher provides better performance)</td>
<td>2</td>
</tr>
<tr>
<td><strong>Virtual Hard Disk</strong> (Default storage capacity for desktop image)</td>
<td>25</td>
</tr>
<tr>
<td><strong>Bandwidth</strong> (Desktop bandwidth aggregated for the customer)</td>
<td>150Kbps</td>
</tr>
<tr>
<td><strong>Application Publishing</strong> (Publish applications from each desktop (RDP Only))</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Microsoft Licensing</strong> (Uses the customer's volume license agreement with Microsoft and each endpoint device needs either a VDA license or Windows Desktops covered under SA)</td>
<td>Yes, Yes, Yes</td>
</tr>
<tr>
<td><strong>Upgrades</strong> (Additional storage per desktop and additional bandwidth per customer are available)</td>
<td></td>
</tr>
</tbody>
</table>
DaaS Provides Additional Opportunities

<table>
<thead>
<tr>
<th>Unified Communications</th>
</tr>
</thead>
<tbody>
<tr>
<td>SaaS/Virtualized Apps (SFDC, Webex)</td>
</tr>
<tr>
<td>WebContent Filtering (ScanSafe)</td>
</tr>
<tr>
<td>Anti-Virus Management</td>
</tr>
<tr>
<td>Patch Management/Desktop Management</td>
</tr>
<tr>
<td>Extra Storage</td>
</tr>
<tr>
<td>Extra RAM/Extra CPU</td>
</tr>
<tr>
<td>Bandwidth Optimization (WAAS)</td>
</tr>
</tbody>
</table>

“The additional services tied to [DaaS] offerings could potentially be as valuable as 5–6x every dollar earned for a virtual desktop or an application.”\(^1\)(IDC)
Cisco DaaS Provides Flexibility, Performance, Scale, and Security

- Can support all DaaS deployment model:
  - Citrix or Desktone by VMware; Storage options
  - Service Profiles simplify virtual desktop provisioning
  - 252 virtual desktops on a single UCS B200 M3 blade*
  - Single pane of glass management for up to 10,000 hosts
  - 29% more responsive Hosted Shared Desktops with VM-FEX**

* Ivy Bridge CPU single blade testing, VMware Horizon View 5.2 on ESX 5.5
**Principled Technologies whitepaper – Citrix XenApp
UCS Central provides single pane of glass management of up to 10,000 hosts. Seamless operational governance for over 2.5M hosted virtual desktops.
Deployment models explained

- Hosted Shared Desktops
- Hosted Server VDI (Server OS)
- Hosted VDI (Client OS)
- Application Virtualization Delivery

User 1

Data
Applications
Windows Server
VM

Data
Applications
Windows Server
VM

Data
Applications
Windows 7 or 8
VM

Data
Applications
Windows Server
VM
Cisco DaaS Solution Pillars

Unified Data Center

Citrix or Desktone by VMware

Cisco Validated Designs

Cisco Powered Program
Cisco Desktop Virtualization Portfolio – in words

- Comprehensive portfolio that provides all desktop virtualization deployment models
- Cisco UCS uniquely positioned for DaaS with scale out fabric and network isolation architectures
- Proven Cisco validated designs and advanced services
- Cloud providers can leverage DaaS to deliver additional applications and value added services
- Cisco Powered Program provides commercial terms, go-to-market support, and industry acknowledged certification programs offering customer assurance

VXME software
Cisco Validated Design (CVD)

- Validated with data center architecture including UCS, storage, and virtualization
- Pre-tested, ready to deploy
- Reduce complexity
- Reduce risk
- Accelerate time-to-market

Design Zone link for DaaS CVD
Cisco DaaS Solutions Architecture

Supporting All Four DaaS Deployment Models

- Hosted Shared Desktops
- Hosted Server VDI (Server OS)
- Hosted VDI (Client OS)
- Application Virtualization Delivery

Unified Computing Systems

Management Framework
- Portal & Catalog Services
- Application Orchestration
- Broker Framework
- Active Directory
- UCS Director
- UCS Central
- UCS Manager

Zone 1
- Tenant 1
- Broker & Provisioning Services

Zone 2
- Tenant 2
- Broker & Provisioning Services

Zone 3
- Tenant 1
- Tenant 2
- Broker & Provisioning Services

Unified Fabric & Resilient Network

Storage

UCS Manager
Cisco Desktop Virtualization Performance

252
VMware Horizon View Windows 7 desktops on a single B200 M3 Blade Server

50%
Lower cost storage per View desktop and…

16x
Less power consumed per desktop

29%
More responsive Citrix XenApp sessions with…

53%
better CPU

5,000
Citrix XenDesktop users booted

- Citrix 5,000 Mixed-Workload Solution: [http://cs.co/9008jC8K](http://cs.co/9008jC8K)
Network Containers for Multi-Tenancy

- Per-tenant segmentation of traffic on physical and virtual infrastructure
- Value added application services on a per tenant basis (e.g. Firewall, SLB)
- Seamless extension of tenants within and across DCs via OTV, LISP, MPLS
Cisco Powered

The Industry Standard for Cloud and Managed Services

**Enterprise Benefits:**
- Built and delivered on proven, Cisco validated architectures
- Providers meet strict qualifications for delivering Cisco Powered services
- Every service is third-party audited

**Cloud Provider Benefits:**
- Partner training and sales enablement
- Cisco generated end user awareness, demand generation, and marketing resources
- Cisco sales commission on partner cloud services sales
- Cisco Capital programs
Cisco DaaS Services

Plan

DaaS Discovery Workshop
DaaS Strategy Service
Accelerate Time to Value

Prepare

DaaS Assessment Service
Pre-Production Pilot Service
Worldwide Expertise Worldwide Presence

Deploy

Planning, Design, Implementation Service
Proven Delivery Capability
Delivering Unique Cisco Insight
Cisco DaaS Solutions Advantages for Cloud Providers

Integrated, Tested, Validated, and Optimized

Flexibility, Scale, Performance, and Security

Service Readiness, Operations, and Support

Commercial Terms

Go-to-Market Support
“Cisco gives us the scalability, performance, and efficiency to deploy and expand desktop as a service rapidly for our customers, no matter where those end users are located.”

Tim Burke, President and Chief Executive Officer

“Cisco management makes deployment incredibly easy with high levels of automation for the virtual environment. We can add additional capacity in hours or scale out hundreds of desktops in minutes.”

Rick Chapman, Co-Founder and CTO
Cloud Providers and Cisco DaaS Solutions

Summary

1) DaaS represents a significant opportunity and key offer for Cloud Providers in a fast-growing market

2) Supports multiple use cases and provides a range of ongoing revenue and upsell opportunities

3) Cisco offers proven, comprehensive solutions with best in class technology partners

4) Cisco DaaS Solutions helps Cloud Providers achieve time-to-market and economically scale their business
<table>
<thead>
<tr>
<th>WorkSpaces Bundle</th>
<th>Hardware Resources</th>
<th>Applications</th>
<th>Monthly Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>1 vCPU, 3.75 GiB Memory, 50 GB User Storage</td>
<td>Utilities (Adobe Reader, Internet Explorer 9, Firefox, 7-Zip, Adobe Flash)</td>
<td>$35</td>
</tr>
<tr>
<td>Performance</td>
<td>2 vCPU, 7.5 GiB Memory, 100 GB User Storage</td>
<td>Utilities (Adobe Reader, Internet Explorer 9, Firefox, 7-Zip, Adobe Flash)</td>
<td>$60</td>
</tr>
<tr>
<td>Performance Plus</td>
<td>2 vCPU, 7.5 GiB Memory, 100 GB User Storage</td>
<td>Microsoft Office Professional 2010, Trend Micro Worry-Free Business Security Services, Utilities (Adobe Reader, Internet Explorer 9, Firefox, 7-Zip, Adobe Flash)</td>
<td>$75</td>
</tr>
</tbody>
</table>
## Horizon DaaS on vCHS

<table>
<thead>
<tr>
<th>Payment terms</th>
<th>Billed monthly, annually or prepaid for the life of the term</th>
</tr>
</thead>
</table>
| Required      | Standard or Advanced Starter Pack (minimum order quantity of 50)  
|               | Standard: $35/desktop/month MSRP  
|               | Advanced: $50/desktop/month MSRP |
| Add-ons       | • Hard Disk Storage  
|               | • Gold Pattern Template Storage |
| Included at no additional Cost | • Public IP address  
|               | • Disk I/O  
|               | • VPN  
|               | • Microsoft SPLA license for Windows Server desktops  
|               | • VMware Horizon View client software  
|               | • 2x30 GB of Gold Pattern Storage  
|               | • Service Level Agreement on availability 99.9%  
|               | • Production level support |