Brief History of Enterprise Mobility

Existing Stuff
YOUR ASSETS ARE ON A PC TODAY

IT Owned
IT Managed
Domain Joined

YOU HAVE 50–500 APPS

90% ON-PREMISE
70% WEB

25% WINDOWS
5% NATIVE

90% CIFS

50% SHAREPOINT
YOUR END USERS WANT ...

Easy Access to:
- All their Apps
- All their Data
- From Any Device
- From Anywhere
CURRENT SOLUTIONS ARE INSUFFICIENT

Applications

- Apps Delivered with XenApp
- Poor UX
- Does not apply to all applications

Devices

- Devices Managed by MDM or ESD
- Trust the Device
- Cannot lock down personal devices
- Does not solve the apps and data problem

Desktops

- Virtualize the PC with VDI
- Trust Nothing
- Poor UX
- High Total Cost of Ownership ~ $800/user/year

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TWO PROBLEMS

What should IT do about existing assets?

How does IT build new apps?
TWO SOLUTIONS IN THE LAST FOUR YEARS

Virtual Desktop Infrastructure (VDI) 2009-2011

Mobile Device Management (MDM) 2011-2013
VDI (2009–2011)

- Virtualize the Windows Desktop in the Data Center
- No need to manage the end point
- Stream pixels onto any device – thin client, etc.
- XenDesktop went from $5m quarterly revenue to $200m quarterly revenue in 6 quarters
- Today
  - #1 XenDesktop (Citrix) - $1B
  - #2 VMware View (VMware) – $0.4B
VDI HAS TWO MAJOR ISSUES

Poor User Experience
- Every app is treated as a remote Windows App

High TCO
- Expensive storage required because of IOPS requirements of Windows OS

All problems are because we are running Windows Desktop OS in the data center!
WAIT, THERE ARE EVEN MORE PROBLEMS

1. Windows is less than 15% of available devices. Why invest more $?
2. Remote Windows Experience for all Applications
3. Laws of Physics for latency cannot be changed
4. Challenges with multi-media
5. Challenges with collaboration tools like Lync
6. Expensive Storage Required, including SSD
7. Immature layering technology to reduce costs of storage
8. Inability to run standard anti-virus software
9. Boot storm issues
10. Cost of end points – thin clients
MDM (2011–2013)

- Apply PC Management philosophy to mobile devices
  - Cannot be applied to vast majority of personal devices

- Acquisitions
  - Citrix acquires Zenprise ($350m) – Oct 2012
  - IBM acquires Fiberlink ($100m) – Oct 2013
  - VMware acquires Air-watch ($1.5B) – Jan 2014
  - Good acquires Boxtone (<$100m) – Mar 2014

- MobileIron
  - Revenues: $20m (2011), $50m (2012), $100m (2013)
  - $800m market capitalization
MDM is heavy handed

- End Users Own Devices; IT cannot lock down their personal device

MDM also has issues

MDM does not help you deliver core business applications and data
IT Requirements: Spectrum of Trust

End Users want a simple way to work

I want seamless access to
- All my Apps
- All my Data
- From Any Device
- From Anywhere
- Single Sign-On
Workspace is a trusted space for Enterprise Apps & Data on a managed or un-managed device.
MARKET DYNAMICS

ESD
Manage Windows PC
(BMC, Microsoft, IBM)

MDM/EMM

Workspace
(Citrix, VMW, Workspot)

Windows Apps: Microsoft, Teradici

Data Sync: Box, ShareFile, egnyte

ID Management/SSO: Okta, Ping, etc.

VPN: Cisco, Juniper, F5, Netscaler, SonicWall

VDI
(Citrix, VMW)
CITRIX/VMW HAVE THE RIGHT ASSETS
VERTICALLY INTEGRATED STACK IS AN ISSUE

Customer needs all three solutions for Workspace

- High Friction
- Slow Customer Adoption
CITRIX – COMPLETE & COMPLEX SOLN

Receiver

VPN

SSO

XenApp

Windows Apps

Existing Infrastructure

New Infrastructure Needed
CITRIX needs NEW BOXES for SECURE WEB APPS

- Receiver
- NetScaler
- App Controller
- XenApp

Existing Infrastructure
New Infrastructure Needed

Windows Apps
Web Apps
ONE more for CIFS/SHAREPOINT

Receiver

NetScaler

App Controller

ShareFile

XenApp

Windows Apps

Web Apps

CIFS SharePoint

Existing Infrastructure

New Infrastructure Needed
... AND ONE MORE FOR NATIVE APPS

Receiver

NetScaler

App Controller

XenMobile

ShareFile

XenApp

Windows Apps

Web Apps

CIFS
SharePoint

Native Apps

Existing Infrastructure

New Infrastructure Needed
WORKSPOT VS. CITRIX
SIMPLE VS. COMPLEX

Existing Infrastructure

New Infrastructure Needed
WORKSPOT IS SIMPLEST SOLUTION

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<th>VMware</th>
<th>Citrix</th>
<th>MobileIron</th>
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- Air-watch has a cloud based MDM solution, but needs on-premise for everything else
- VMW needs to integrate assets from Air-watch and View
3-5x FASTER TIME TO VALUE

Discovery  Pilot  Buy  Production

Workspot in Production in less than 90 days

Discovery  POC  Buy  Training  Infrastructure  Pilot  Production
5–10x LOWER TCO

**Workspot**
$120-$144/user/year

- VPN
- SSO
- Terminal Server
- Windows Apps
- Web Apps
- CIFS
- SharePoint
- Native Apps

**Citrix**
$500-$1000/user/year

- VPN
- SSO
- Receiver
- XenApp
- Windows Apps
- XenMobile
- Native Apps
- Netscaler
- ShareFile
- Storage Zones

*Existing Infrastructure*  *New Infrastructure Needed*
USE CASE DRIVES SOLUTION

Workspace 55%

VDI 15%

MDM 15%

MDM + Workspace 15%
Brief History of Enterprise Mobility

New Stuff
MILLIONS OF CONSUMER APPS

3M+

Apps in the App Store & Google Play
BUT FEW ENTERPRISE MOBILE APPS

5%

Companies that have deployed apps or data to mobile devices
## Why Aren’t There More Enterprise Mobile Apps?

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<th>B2C Apps</th>
<th>B2E Apps</th>
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<tr>
<td>- Individual Choice</td>
<td>- Company Choice</td>
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<tr>
<td>- Easy to Replace</td>
<td>- Difficult to Replace</td>
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<tr>
<td>- Top-Line Impact</td>
<td>- Significant investment in back-office logic</td>
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<tr>
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<td>- Significant investment in business process integration</td>
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<td>- Change Management</td>
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TWO DIFFERENT TYPES OF B2E APPS

ISV
- Box, Workday, Salesforce, and others

CUSTOM
- Internally built
- Captures custom business processes
ISV APPS

- Leverage OS support to securely deliver and control behavior of ISV apps

- No Application Wrapping
  - Changes the application behavior; needs to be re-tested by customer
  - Who is responsible for problems with wrapped app? ISV? Wrapping Vendor? Customer?
  - Difficult to port across platforms
How does IT build new custom apps?
HTML5 OR NATIVE?

- Have to Build HTML(5) Applications for the Web
- Cross-Platform Application Development is Expensive
  - Tools
  - Training
  - Development
  - Resources
  - Testing
By 2015, more than 95% of new enterprise mobile apps will be either mobile Web or hybrid rather than native.

By 2016, most Web content management systems and portal platforms will offer API management to meet mobile app demands.

Through 2016, Java or .NET platforms will be used for 90% of Web development inside and 10% outside the enterprise.

Through 2016, Google will influence the evolution of the Web more than any other vendor, and vice versa.

While there is still room for pure native mobile apps and mobile Web apps, use of these models will continue its dramatic decline. Enterprises want mobile apps that access device peripherals and can be distributed by app stores, but want to avoid the complexity and cost of creating and maintaining many pure native apps. This will push enterprises almost exclusively toward hybrid mobile apps for mobile-centric scenarios, and to a unified Web channel using responsive design for scenarios with a broader scope.
MAJORITY OF APPS LIKELY TO BE HTML5
TOOLS FOR NATIVE APPLICATIONS

OS Tools
- Apple
- Google
- Microsoft

Cross-Platform
- SAP
- Appcelerator
- Kony
- Antenna
Native Applications
- Provisioning and De-provisioning
- SDK for VPN, SSO, Events, REUX
TOOLS FOR HTML5/HYBRID APPLICATIONS

Cross-Platform
- Adobe PhoneGap
- Sencha
- jQuery Mobile
WORKSPOT FOR HTML5 APPLICATIONS

Significantly Simpler to Build/Deploy/Monitor
- Provisioning and De-Provisioning
- Seamless VPN/SSO
- Leverage Adaptive Auth
- Events stream
- REUX Measurement
- Availability & Performance Alerts
✔ Deliver ISV Native Apps (OS Security)

✔ Custom Native Apps (Procurement, Timesheet, etc.)

✔ Native Email (OS Security)

✔ Custom Windows Apps

✔ Custom Web (Procurement, Timesheet, etc.)

✔ Packaged Web (SAP, Siebel, etc.)

✔ Custom HTML5 (Procurement, Timesheet, etc.)

✔ Packaged HTML5 (Office 365, Salesforce, etc.)

✔ Workspot Apps (Network Drive)