Limitless Learning

Using Technology to Remove Barriers to Better Learning

Sept 2017

14,000

Acquired Customers in SLED Using our Digital Workspace (Application & Desktop) Virtualization Products since 2013

2,500

Prospective Customers in our pipeline we're ready to serve in next 9 months

1M

Devices in our global pipeline
To support Win 10 migration alone

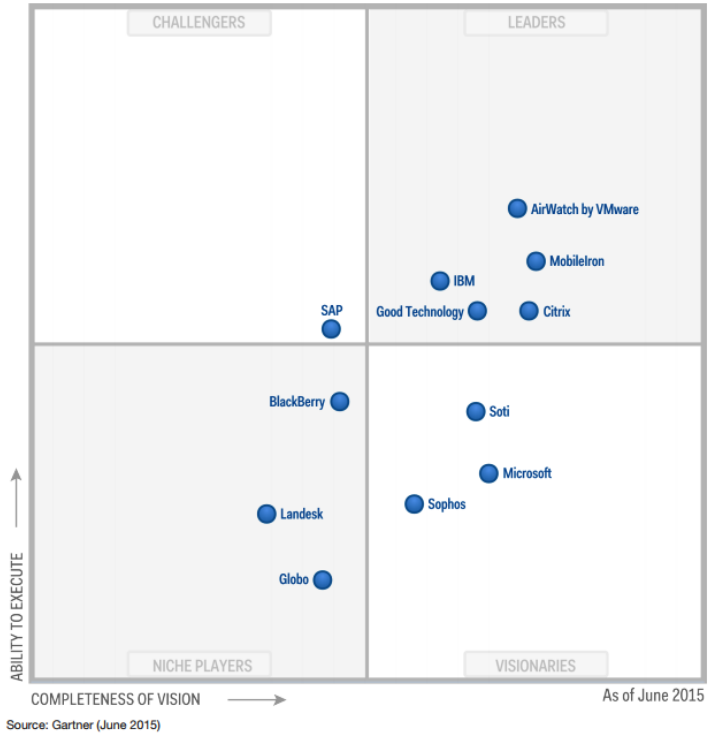
Top Academic Institutions Trust VMware

5 of the 5
Nationally Ranked Universities

Thought Leaders Recognize VMware / AirWatch Leadership

Gartner

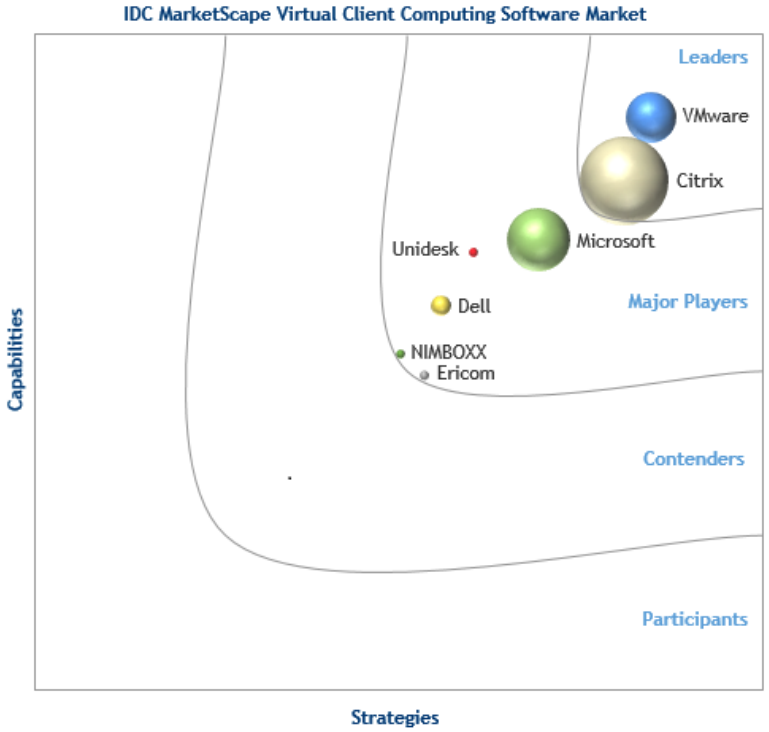
AirWatch by VMware



Gartner Enterprise Mobility Management Magic Quadrant

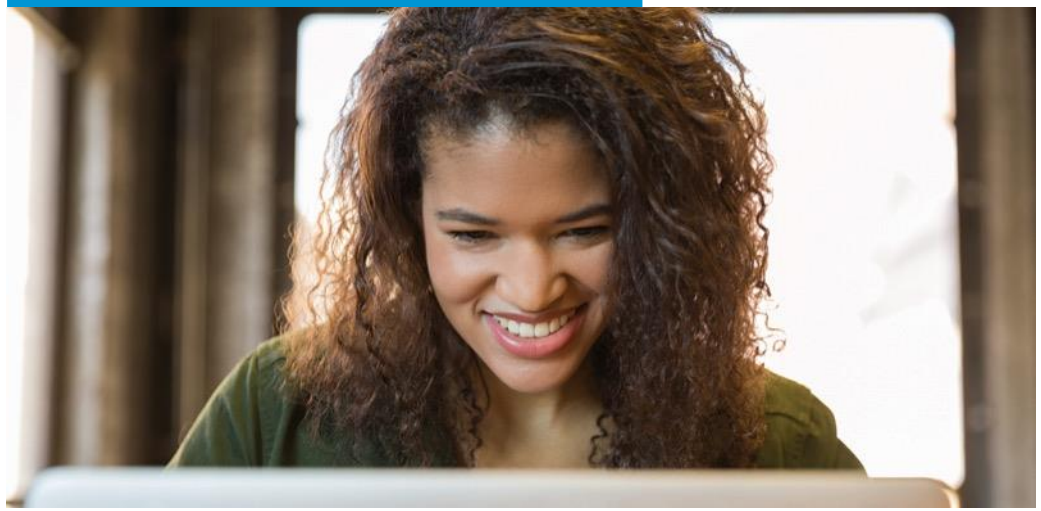
IDC
Analyze the Future

VMware Horizon



A Higher Education Snap Shot

EDUCATION



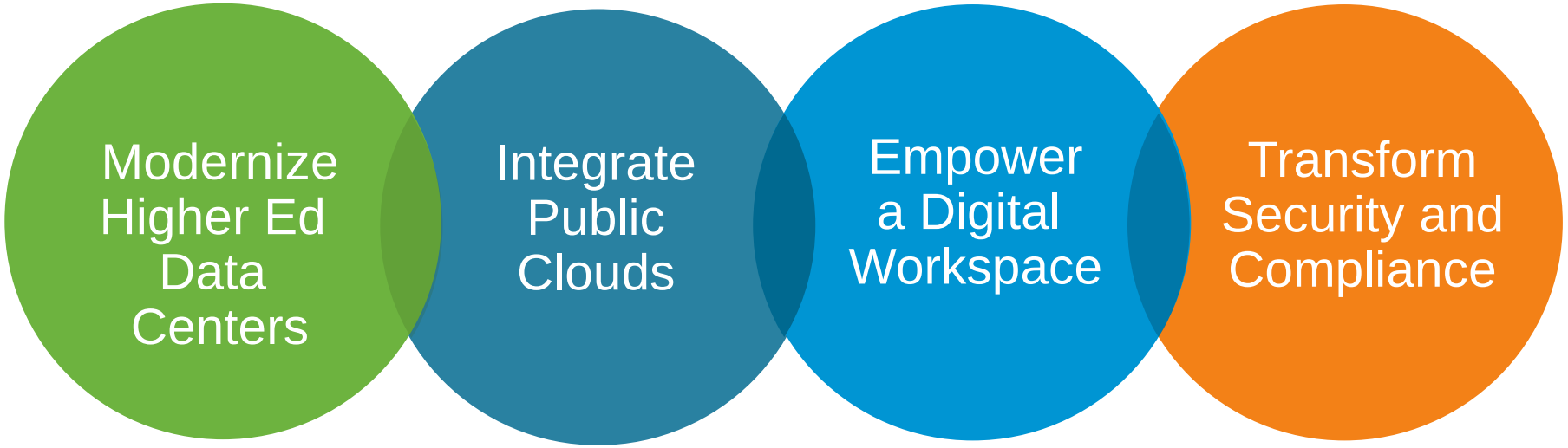
- Teaching is changing to foster deeper learning
- Student demographics are changing
- There is growing competition for talent from traditional and non-traditional education providers

TECHNOLOGY

- IT infrastructure and workflows are in silos
- The cloud introduces new possibilities
- Data security remains top of mind

Forces Driving Digital Transformation in Higher Education

4 FORCES IMPACTING HIGHER EDUCATION



BUSINESS OUTCOMES

Grow revenue, drive efficiency, and reduce cost and complexity

+

Attract students and enable new learning models

+

Safeguard personal and institutional data

TOGETHER WE CAN…

REDUCE COST AND COMPLEXITY AND IMPROVE EFFICIENCY

- Reduced deployment times for new apps from **months to days**.
- Consolidated **500 physical servers into 80** that run 1,000s of virtual machine workloads.
- Delayed spend of **$136k** on blades, **$500k-$1M each** on new network equipment, and new power/cooling systems.

ENABLED BY VMWARE:
SDDC: server, network, & Desktop virtualization, cloud management, automation and operations

vmware

University of New Hampshire

TOGETHER WE CAN…

INTEGRATE PUBLIC CLOUDS

- **Extended secure public cloud services** (Cumulus) to internal and external clients.
- Enabled it's **easy to use** cloud offering to grow without adding any new staff.
- Allowed clients to manage their own networking with **self service capabilities**.
- Provided an outstanding model of the **sharing of resources and knowledge.**

ENABLED BY VMWARE: SDDC Approach
Server and network virtualization, cloud management, automation, and operations

UNIVERSITÉ LAVAL

vmware

TOGETHER WE CAN…

CHANGE STUDENT EXPERIENCES

- **Improved learning** as students, faculty and staff can now access resources at any time, from any place, on any device.
- **Boosted digital equality** has leveled the playing field for remote students who have access to the same software as other students.
- Provided a **consistent experience** to every student with a single point of access to any resource from any device.

ENABLED BY VMWARE:
Digital backpack for all users, identity federation, virtual desktop and application infrastructure, user environment management

vmware

Western Carolina University

TOGETHER WE CAN…

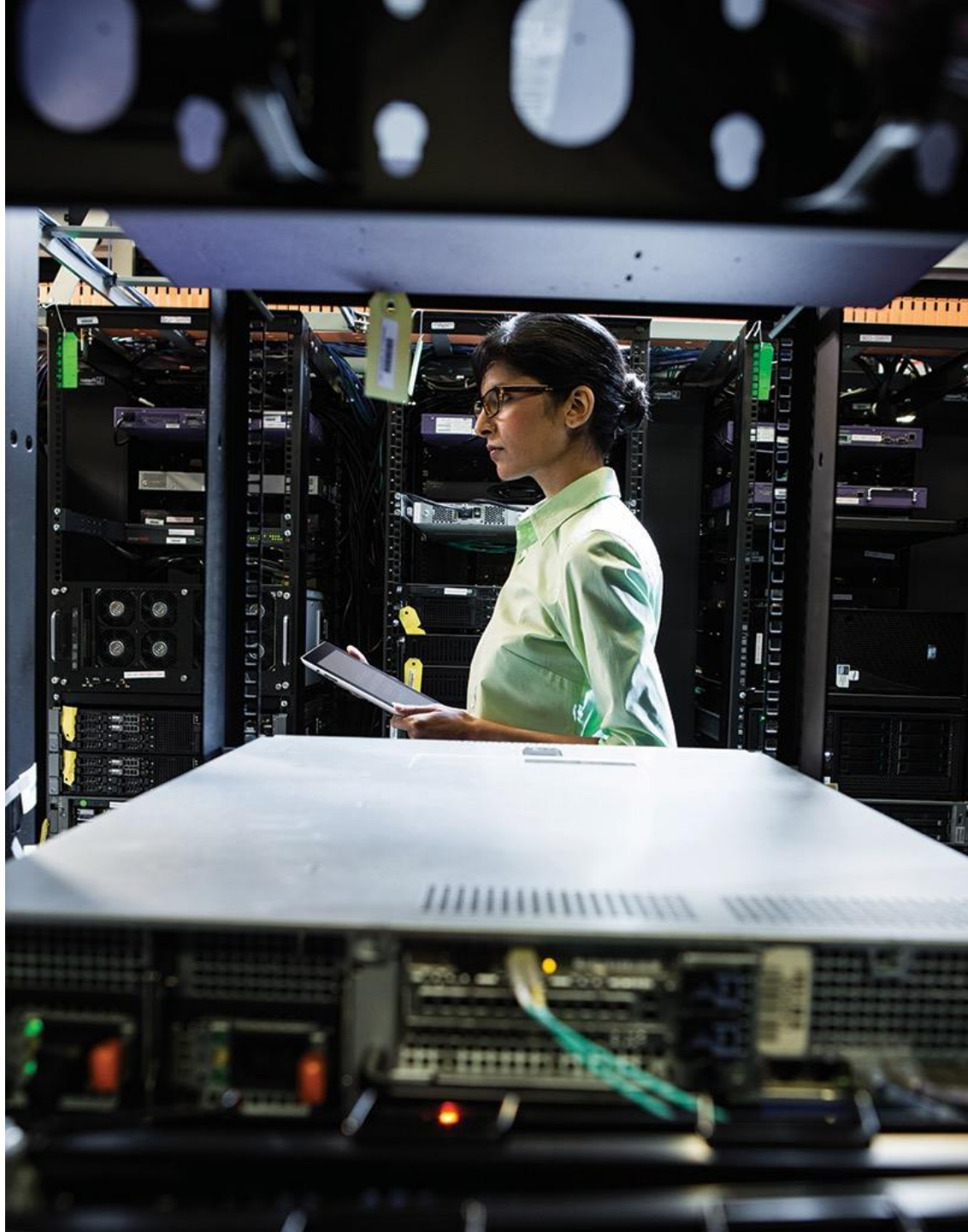
TRANSFORM SECURITY

- **Automated the secure delivery** of full-stack, scalable and high performing multitier apps.
- Provided consistent, automated infrastructure provisioning, greatly **lowering compliance breach risks.**
- Reduced virtual machine deployment from 3 weeks to 20 minutes with confidence it is fully **compliant with HIPAA** and **FERPA regulations**.

ENABLED BY VMWARE:
Server virtualization, Network micro-segmentation, network and security policy automation, application virtualization

THE UNIVERSITY of NEW MEXICO

vmware



Empower
the Digital
Workspace
vmware

Empower the Digital Workspace

"85% of 1500 college-bound student respondents (Australia, India, Singapore, U.K., U.S.) claimed that an institution's capabilities, such as classroom technology integration and availability of online learning options, were key determinants in their selections."

— Accenture Survey, NMC Horizon Report, 2016

Change in Higher Ed

Technology is Leading the Way.

Anytime, anywhere, any app access from any device.

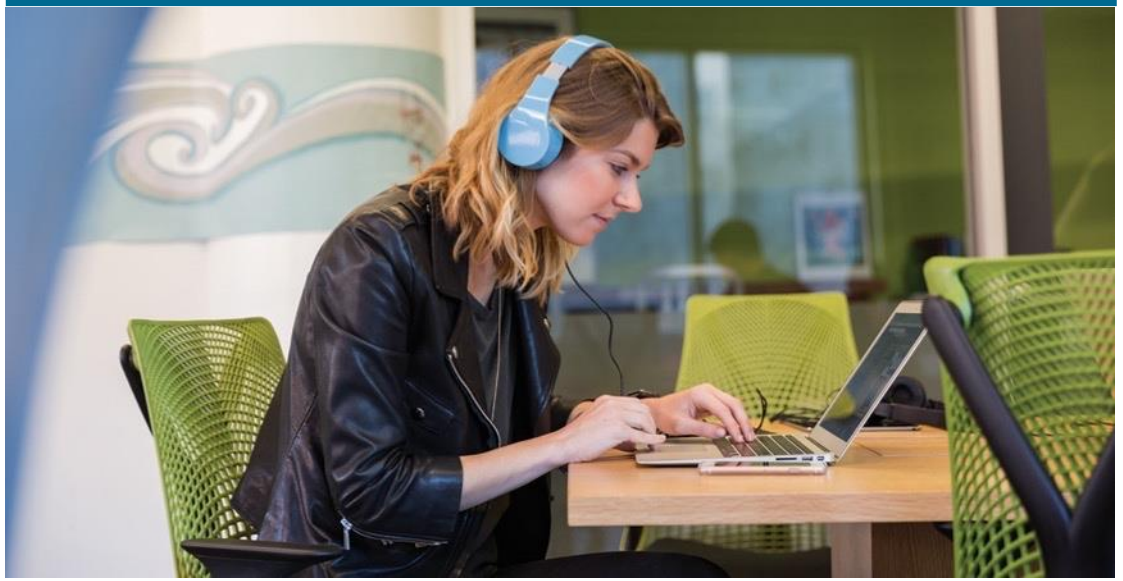
IDENTITY

GPU

BYOD

Higher Education IT is Transforming.

Support for new models of teaching and learning.

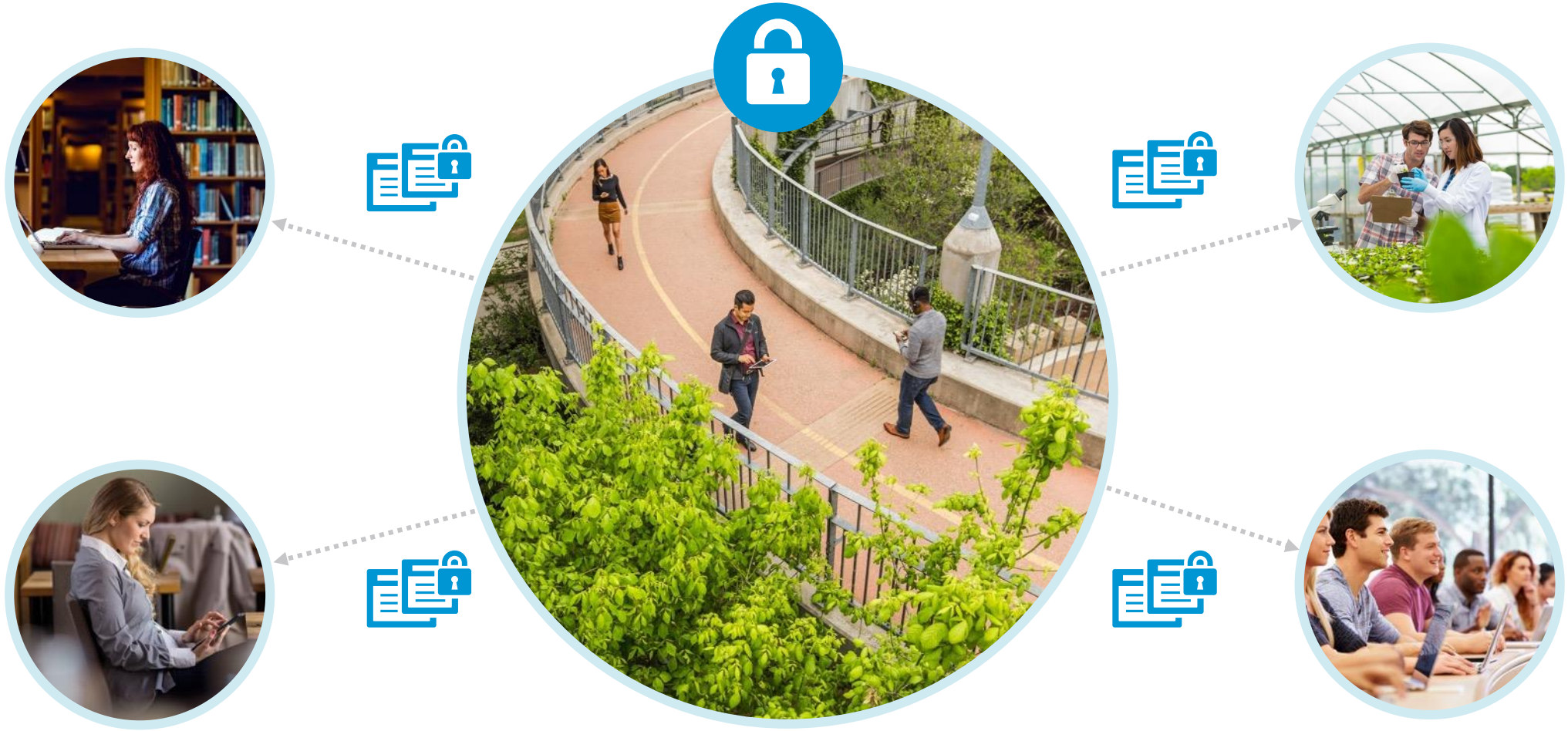


- Remote Lab Access
- Apps Everywhere
- Anywhere Learning
- Digital Equity

- Blended or Flipped Classroom
- Accommodate Learning Styles
- Collaboration

Empower the Digital Workspace

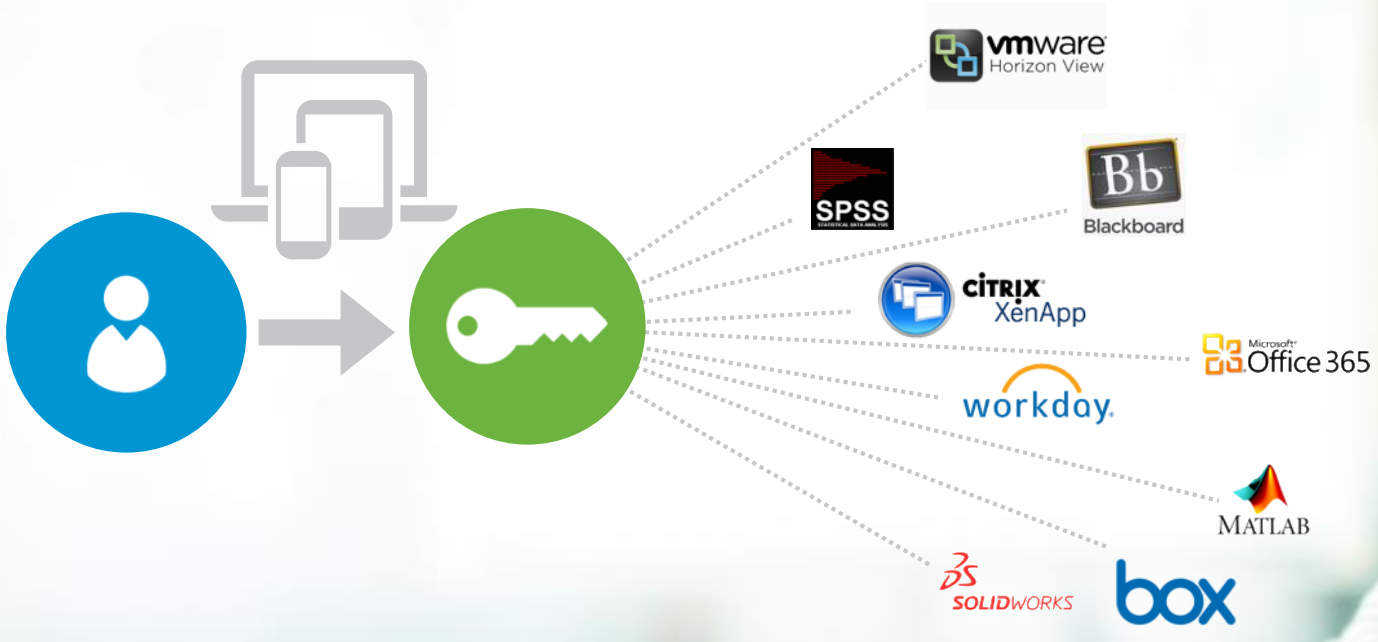
Mobilizing Higher Education



Empower the Digital Workspace

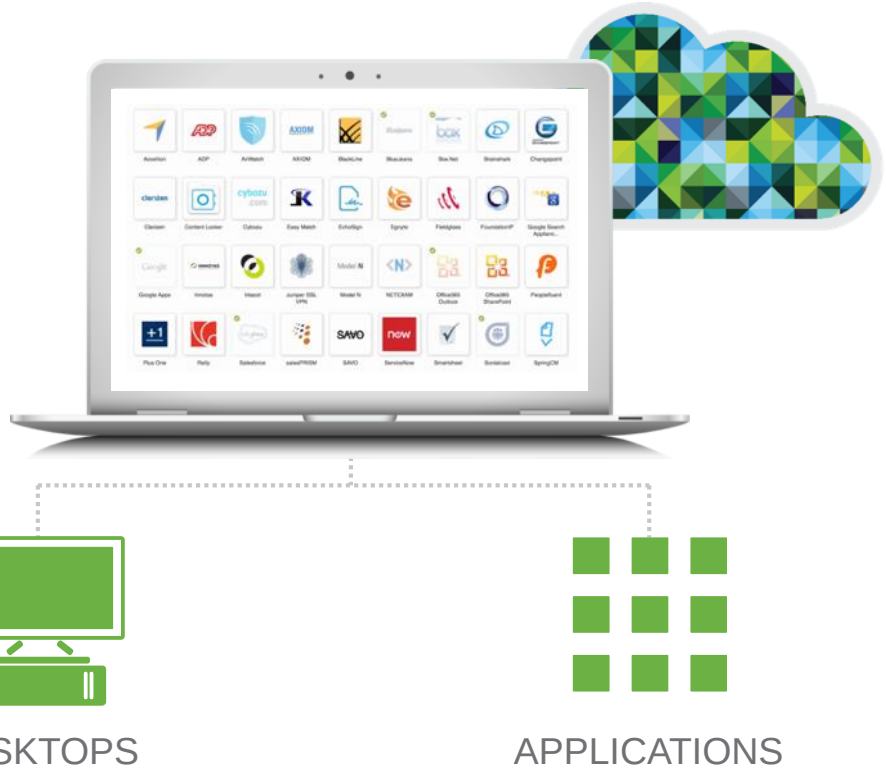
VMware Secure Digital Backpack

Identity Is The New Perimeter



Desktops and Apps From a Single Platform

Efficiently and cost-effectively deliver, manage, and monitor virtual desktops and published apps as well as web, SaaS, and native apps for highly diverse groups of campus end users.



Deliver Applications

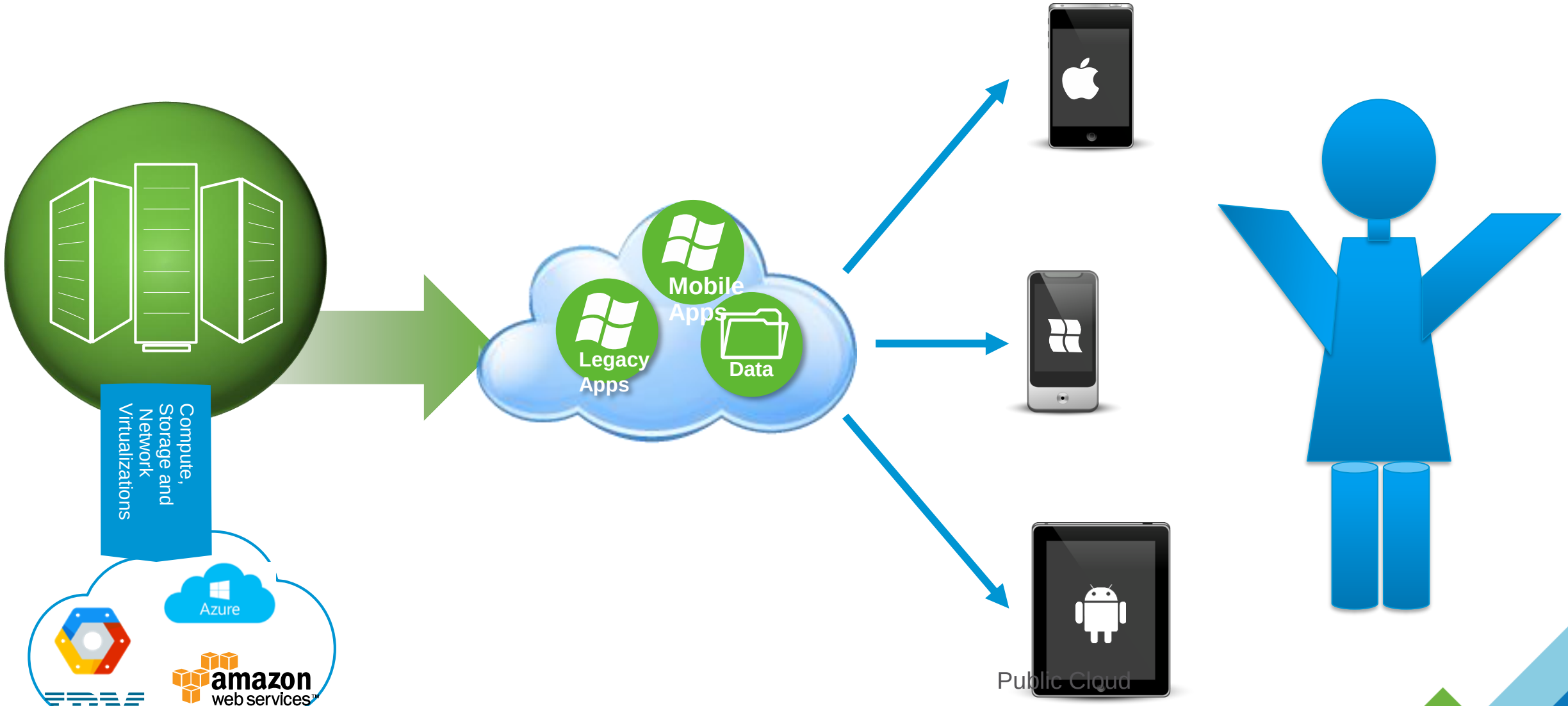
Manage Applications

Support for Windows, Linux, iOS, OSX, Android, Chrome

Exceptional User Experience

- Support for 3D Graphics (NVIDIA)
- Adaptive and Contextual User Experience
- Unified Workspace with Easy Access to All Apps and Desktops
- Familiar and Intuitive With Complete PC Features

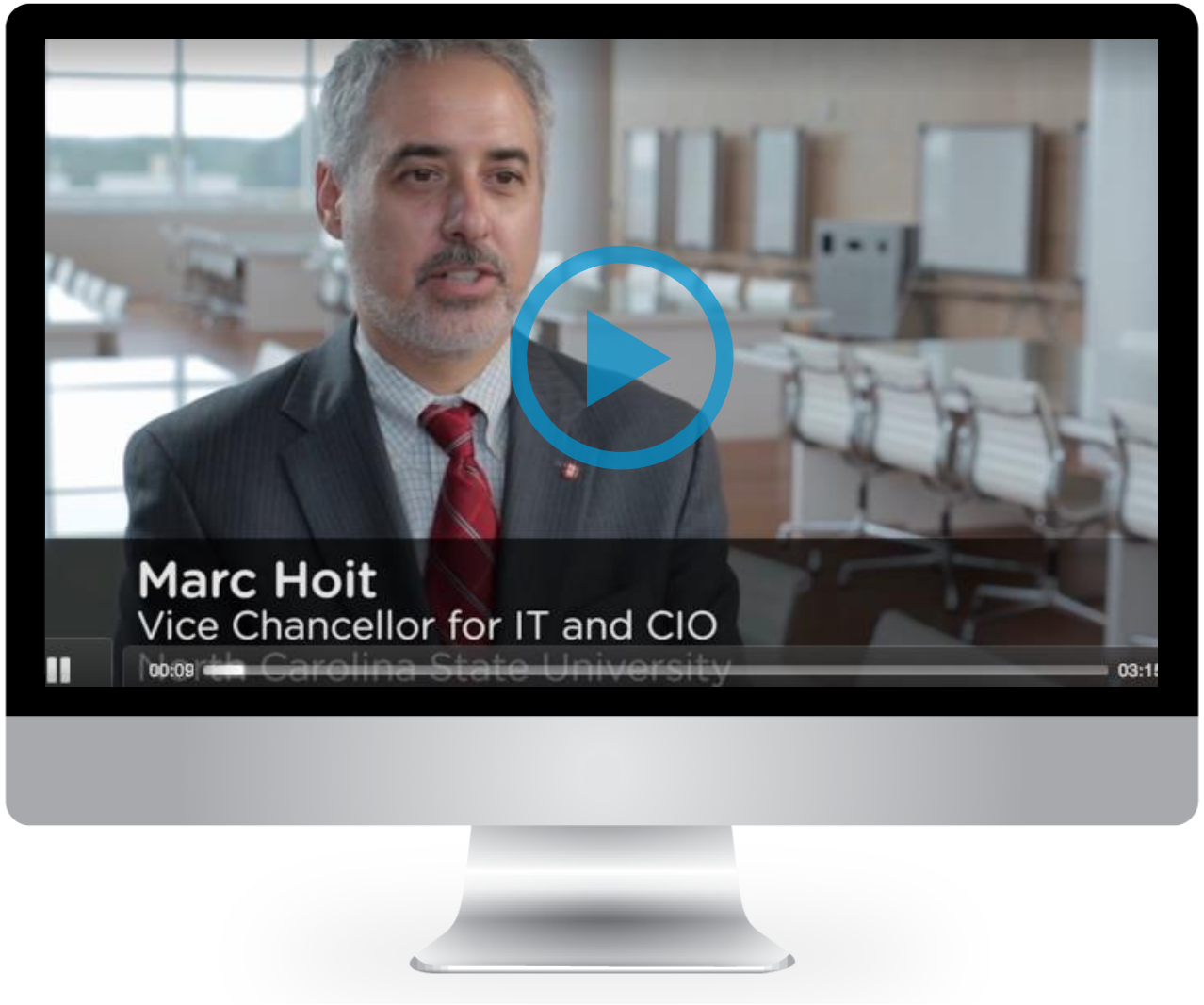
Deployment Options for the Student is Key



Four Customers Driving Digital Learning Experiences

North Carolina State University	University of Massachusetts, Lowell	Duke University	Florida Atlantic University
Many devices, one workspace for all students	High-performance computing from anywhere	Control over the information that matters	Increased ROI

A Customer's Perspective



"Bring your own (BYO) anything is what we advocate. Students and faculty now have three to three and a half connected devices on NC State University's network and we provide services to meet their needs—from identity and access management to provisioning on demand."

Dr. Marc Hoit
Vice Chancellor for IT and CIO

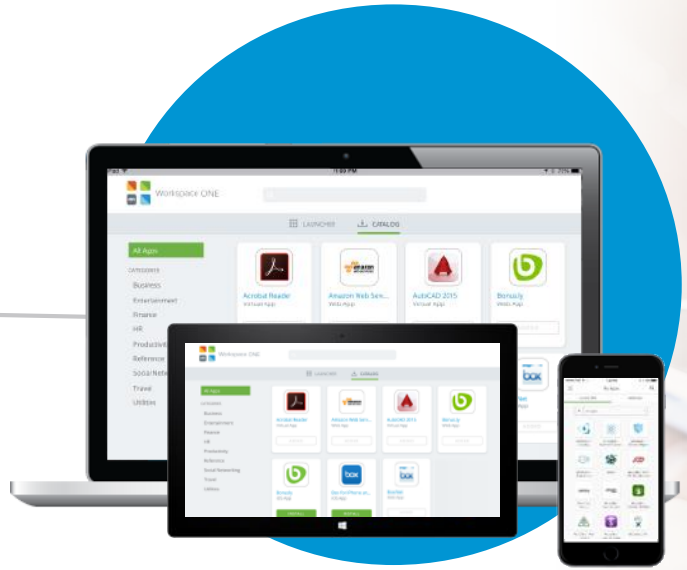
NC STATE UNIVERSITY

Automating the VMware Secure Digital Backpack

Banner® by Ellucian

Colleague® by Ellucian

VMware Ellucian Connector



VMware Secure Digital Backpack

Empower the Digital Workspace

ESSENTIAL IT CAPABILITIES

DELIVER ANY APP – through a digital backpack that stays up to date as classes are added/dropped

CONSISTENT EXPERIENCE – regardless of device used for access to learning environments.

REMOTE ACCESS – to computer labs and online learning resources

ESSENTIAL OUTCOMES

REMOVE BARRIERS – to better learning by getting technology out of the way. Level the playing field

ATTRACT TALENT – offer better student experiences and better tools for research, and work

SUPPORT NEW TEACHING MODELS – such as flipped classrooms and blended learning environments

New Windows 10 PC Management Features for Next-Gen PCLM

Deploy	**Windows 10 Provisioning Service** for devices ensuring instant productivity
Configure	New use cases for hands free management of **Dell BIOS**
Apps	**Peer Distribution** of software for scale, infrastructure reduction and speed
Patch	**Windows Update Analytics & Automation** powered by **Workspace ONE Intelligence**
Admin	**GPO and app migration** from ConfigMgr/SCCM to AirWatch

Mitigates risks; drives productivity and cost savings.

Reduced Costs
silo-less management at reduced TCO

Improved Security
real-time compliance on any network

Productive User, IT
self-service features for peak user and IT experience

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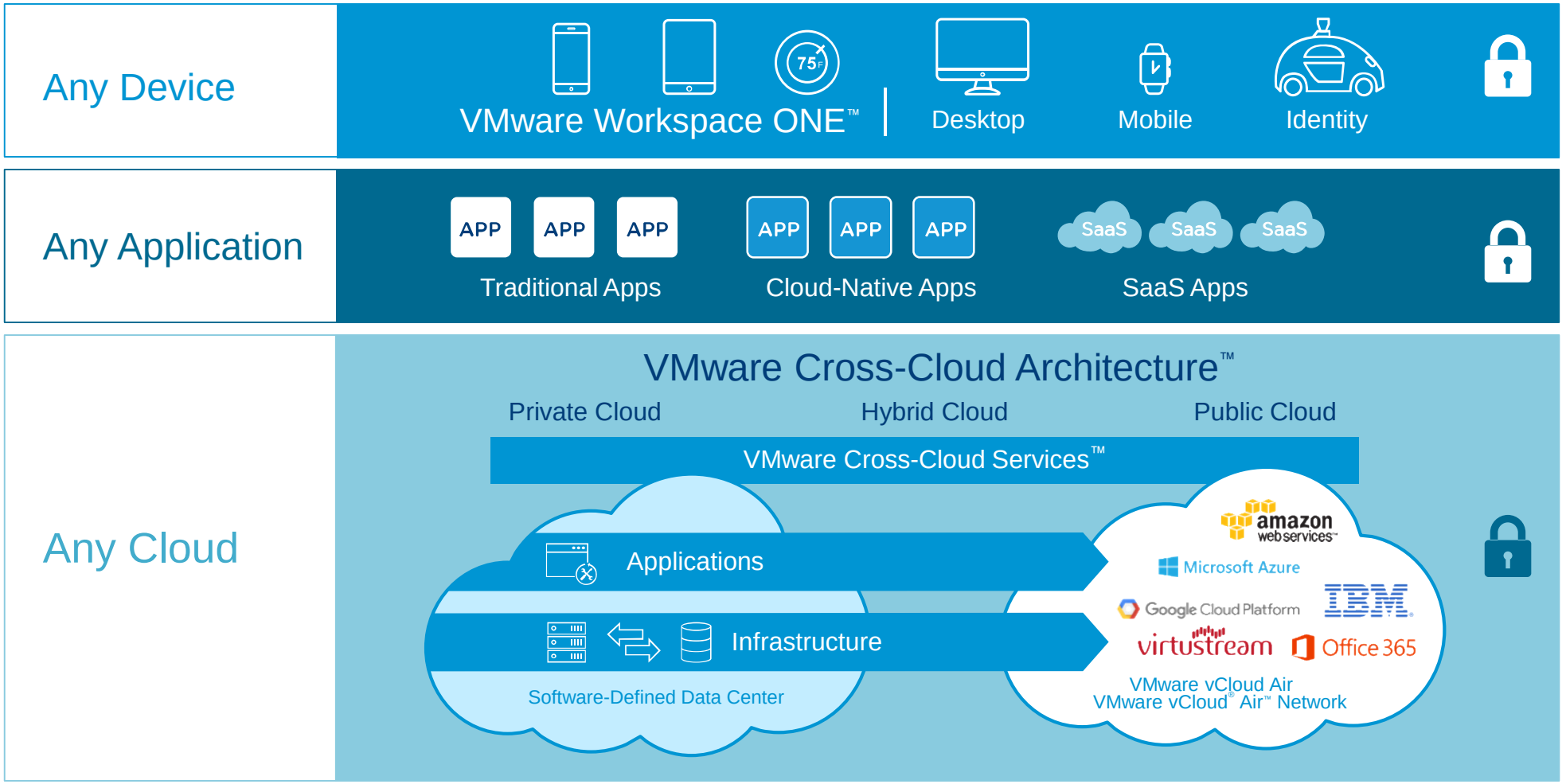
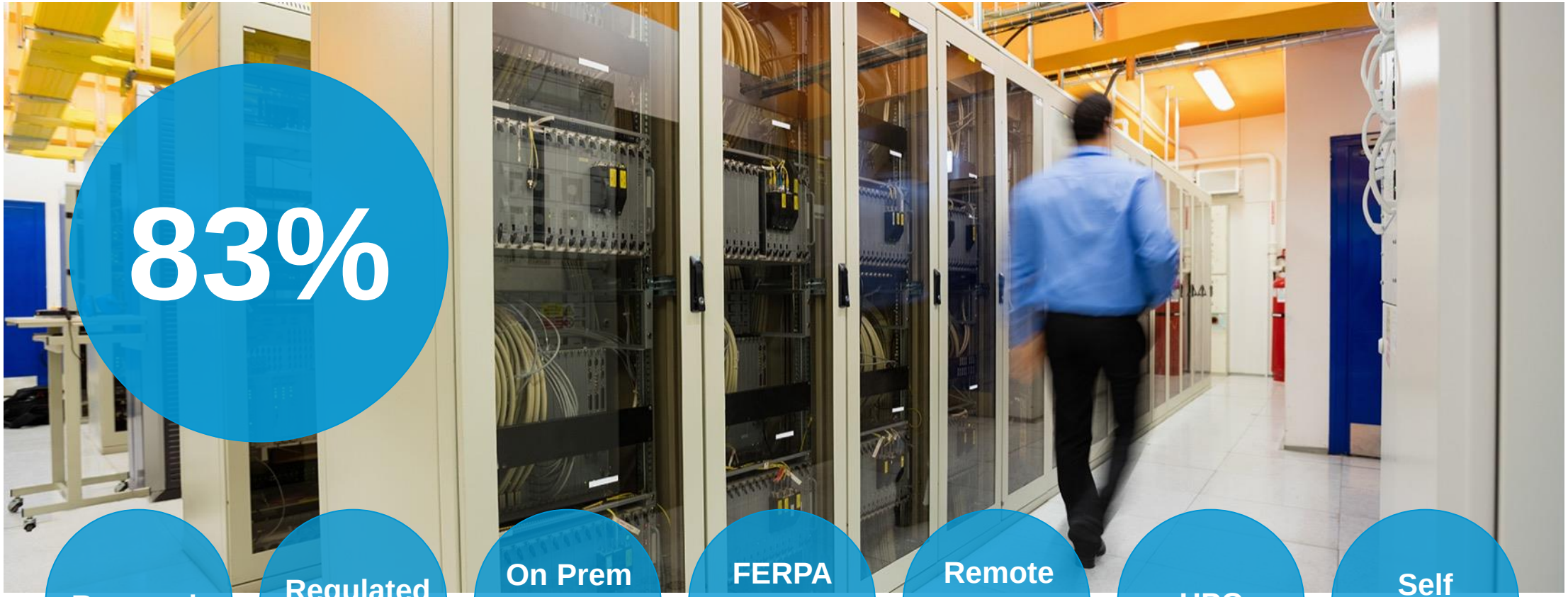
Transform Security and Compliance

Transforming Higher Education IT with VMware



Modernizing Higher Ed Data Centers

Evolving the data center to support education initiatives



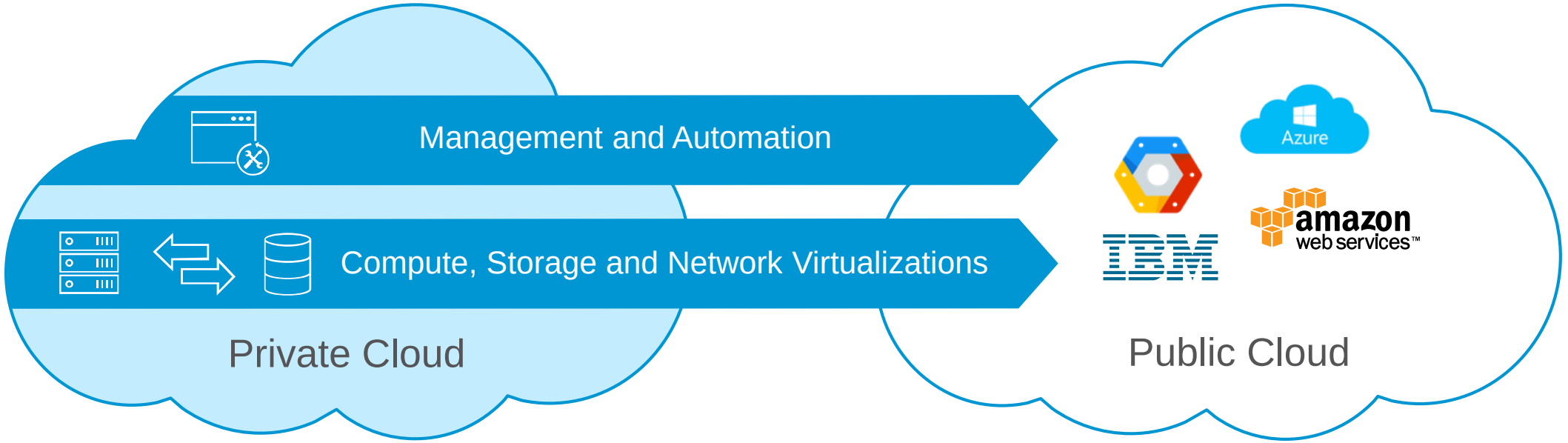
Integrate Public Clouds

The Landscape is Changing. Speed, Scale, and Agility Matter.

- Cloud-Native
- PaaS
- Distance Learning
- SaaS
- Internationalization of Education
- Remote Students
- DR, HA
- Hosted SIS or ERP
- Research
- Makerspaces
- Online Learning
- Dev, Test, QA

The New End State: Hybrid Cloud

Integrate Private & Public Clouds
with a Common Operational Model



Modernize the Platform

- Modernize Infrastructure through a software-defined approach
- Automate IT with a comprehensive cloud management platform

Transformative Initiatives Supported by VMware

4 FORCES IMPACTING HIGHER EDUCATION

Modernize Higher Ed Data Centers

HCI and Cloud Foundation

- VxRail, OEM vSAN Ready Nodes
- vSphere, vSAN, NSX,

Monitoring and Automation

- vRealize Suite
- Care System Analytics

Integrate Public Clouds

Cross-Cloud Platform

- 4000 vCAN Partners
- Amazon Web Services
- IBM SoftLayer
- Azure virtual desktops/apps

Empower a Digital Workspace

Secure Digital Backpack

- Workspace ONE and VMware Connector for Ellucian
- Horizon
- Identity Manager
- AirWatch

Transform Security and Compliance

Datacenter Security

- NSX
- Network Insight

End Point Security

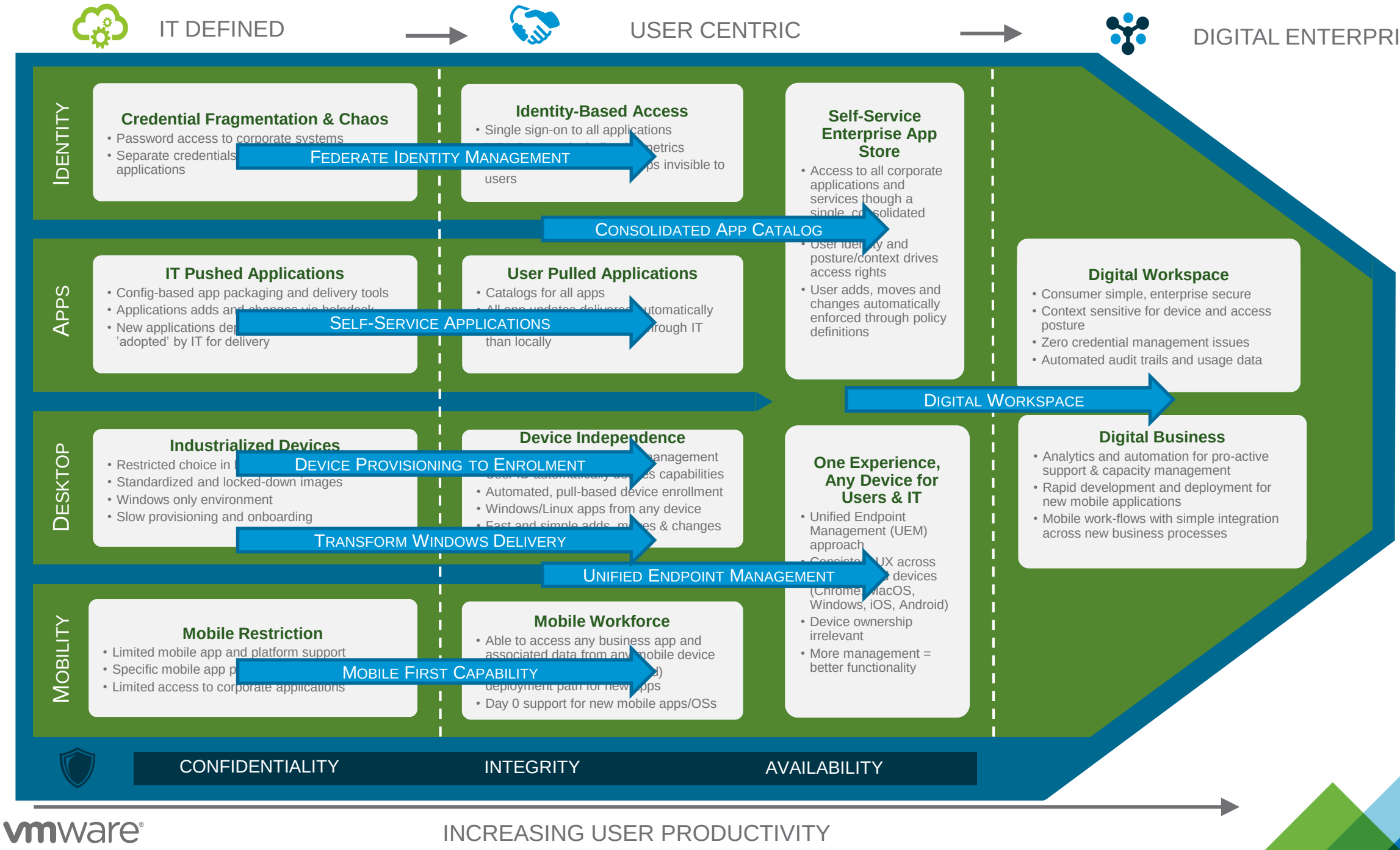
- NSX Micro-segmentation
- AirWatch

Mobile Devices

- AirWatch

Where Might You Begin?

IT DEFINED
USER CENTRIC
DIGITAL ENTERPRISE
IDENTITY
Credential Fragmentation & Chaos
• Password access to corporate systems
• Separate credentials for line of business applications
Identity-Based Access
• Single sign-on to all applications
• MFA Support, including biometrics
• Credentials for individual apps invisible to users
Self-Service Enterprise App Store
• Access to all corporate applications and services though a single, consolidated App Store
• User identity and posture/context drives access rights
• User adds, moves and changes automatically enforced through policy definitions
APPS
IT Pushed Applications
• Config-based app packaging and delivery tools
• Applications adds and changes via helpdesk
• New applications deployed by LOB and then 'adopted' by IT for delivery
User Pulled Applications
• Catalogs for all apps
• All app updates delivered automatically
• Faster to deploy new apps through IT than locally
Digital Workspace
• Consumer simple, enterprise secure
• Context sensitive for device and access posture
• Zero credential management issues
• Automated audit trails and usage data
DESKTOP
Industrialized Devices
• Restricted choice in hardware
• Standardized and locked-down images
• Windows only environment
• Slow provisioning and onboarding
Device Independence
• User, not device is 'unit' of management
• User ID automatically defines capabilities
• Automated, pull-based device enrollment
• Windows/Linux apps from any device
• Fast and simple adds, moves & changes
One Experience, Any Device for Users & IT
• Unified Endpoint Management (UEM) approach
• Consistent UX across platforms and devices (Chrome, MacOS, Windows, iOS, Android)
• Device ownership irrelevant
• More management = better functionality
Digital Business
• Analytics and automation for pro-active support & capacity management
• Rapid development and deployment for new mobile applications
• Mobile work-flows with simple integration across new business processes
MOBILITY
Mobile Restriction
• Limited mobile app and platform support
• Specific mobile app packaging process
• Limited access to corporate applications
Mobile Workforce
• Able to access any business app and associated data from any mobile device
• Simple (non-packaging-based) deployment path for new apps
• Day 0 support for new mobile apps/OSs
CONFIDENTIALITY
INTEGRITY
AVAILABILITY
INCREASING USER PRODUCTIVITY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“Make Time to Innovate.”

— College Transformed: Alana Dunagan, Christensen Institute Feb, 2017

“We may not be big enough to change the world, but we are big enough to show that the world can be changed.”

— ASU President Michael Crow

“It’s time to stop thinking of higher education as an experience people take part in once during their young lives…and begin thinking of it as a platform for life-long learning.”

— Northeastern President Joseph Aoun

Q&A

vmware®

Thank You

vmware®