uni systems

Uni Cloud

Best practices to enable secure client enterprise Cloud services for Financial Institutes

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Infrastructure needs to become more dynamic …

Mobility Infrastructure + **Facilities Infrastructure** + **Production Infrastructure** + **Technology Infrastructure** + **Communications Infrastructure**

… to free budget for new investment and speed deployment of new capabilities.

The Change Is Coming Fast

- Private & Hybrid clouds & Public clouds transforming how we think about IT
- As a service
- The impact to businesses will be considerable
- Exploit new economics with confidence
- Clear and logical pathway
- Preserve existing investment in applications and information
- Each step delivers immediate value, and builds for the next

Most important cloud changing perspectives

- Resource Management – enables organizations to build agile, responsive data center infrastructures
- Pay per Use – organizations pay only for the computing resources they are using and not more
- Centralized Sharing – resources can dynamically be rented to application owners in the organization
- Shorten Deployment Times in extending services – in developing and testing new applications - the cloud platform can be up and running in hours not months.
- Reduce IT Costs – defer capital and operational expenses
- Disaster recovery planning – cloud computing is viewed as a successful recovery solution to store critical information in another location

Cloud Computing banking challenges

- In the financial industry compliance and security concerns continue to constrain the industry growth. In the last few years, private clouds offering complete control over data and security are the most widespread option for financial organizations.

- On the other hand, public and hybrid clouds are still a limited choice, offering less information and visibility on the data and security measures implemented in the cloud environment. Because of today's perceived lack of control, banks that wish to move forward with public cloud computing are advised to test the model on smaller projects and less sensitive data.

- For the highly regulated financial services industry to adopt and implement cloud computing solutions with confidence there are two important aspects to be clarified, besides being more transparent in their security measures. They must build a regulatory guidance associated with cloud technologies and thoroughly see the implied changes in risk management.

The type of cloud a financial institution selects depends on its intended use

- Data storage — Cloud services can help with growing storage needs by storing data in a dedicated, secure data center environment. Many our financial customers see the benefit in this by turning a traditional capital expense into an operational one.

- Primary needs — Public or hybrid clouds can be used for access to test or for applications that do not contain sensitive customer data, such as website hosting or operating systems, that aren't susceptible to regulations. This is beneficial because it gives the bank the ability to offload IT support of their basic tasks and focus on development of critical systems. It's also a viable option for cost savings

- Data-sensitive environments — A private cloud can be used for a bank's production environment that houses critical customer data, which is susceptible to regulations. With a private cloud (successfully utilized by banks for many years) the infrastructure is fully dedicated

Selecting a third-party cloud computing partner

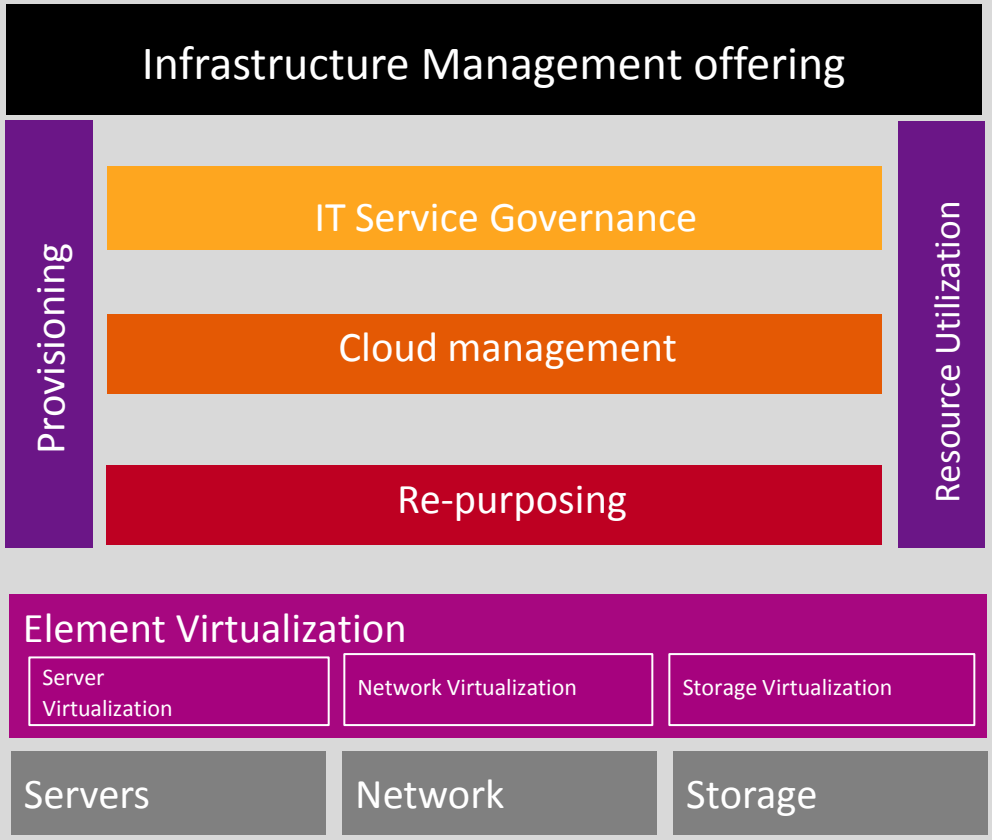
- Experience with banking customers is key. A tenured, reliable cloud computing provider will be able to provide customer references to prove the company's experience working within the financial industry and its associated regulations.

- The provider should have secure data centers that have been through formalized audits.

- Enterprise class equipment backed by major vendors. Ask about the equipment inside of the data centers. It should be manufactured by companies that have a reputation for quality and reliability. Around-the-clock support. If there is a problem, it needs to be resolved quickly. Make sure that the provider offers 24/7 support with solid response times and service level agreements.

- Security at all levels. In addition to ensuring that the data center is secure, the network components must be considered as well.

Uni Systems Datacenter Transformation Offering



Uni Systems Cloud Architecture

End-Points & Offices

MULTI-TENANT SaaA / DaaS

Window Based DaaS & SaaS

- Virtualization Farm 1 — Data Store, AppCenter
- Virtualization Farm N — Data Store, AppCenter

IaaS & PaaS Solutions

- Test & Dev aaS
- Desktop aaS
- On Demand Apps
- Cloud Backup
- Monitoring aaS

WEB SaaA

- CRM aaS
- HCM aaS
- E-invoicing
- Payroll aaS

Back Office Servers

- ERP V1
- ERP V2
- ERP V3
- CRM V1
- Messaging Platform
- RDBMS Farm

White Label SaaA

- CITRIX go-to-meeting
- CITRIX go-to-training
- CITRIX go-to-webinar
- Microsoft Office 365
- 3rd part CSP

Virtual Provisioning

- Provisioning Services
- Power & Capacity mgnt.
- Server Virtulization
- Uni Systems Cloud Portal

Provisioning

- Application Provisioning
- Storage Provisioning

Physical Provisioning
Unattended Installations
Physical Installations and Updates

Network Infrastructure & Remote Access

- CITRIX NetScaler
- Uni Systems Cloud Portal
- CITRIX Branch Repeater
- Vyatta Virtual Firewalling
- CITRIX Access Gateway
- Cloud Backup

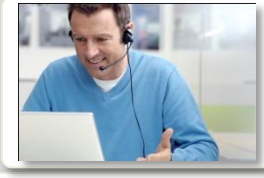
Active Directory Parent Forest

DNS
VLAN
DHCP

Dashboard & Management

- Citrix Delivery Services Console
- Smart Auditor Console
- User Experience Monitoring
- Applications Performance Monitoring
- Cloud Backup & Storage Management
- Virtualization Manager
- Bandwidth Management
- Security Management
- SLA Management

State of the art DC Facilities



Personnel

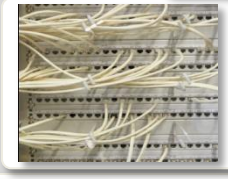
- 24 X 7 Availability
- Certifications & Expertise
- Background Clearance Checks

Security

- Physical Security
- CCTV
- Access Control System

Fire Detection / Suppression

- Fire Suppression Type FM200
- 2 Types of Fire Detection Sensors



Network Infrastructure

- Redundant Connectivity
- Redundant Routing/Switching Fabric.

Redundant Power

- N+1 Uninterruptable Power Systems
- N+1 Redundant Generator System
- N+2 Cooling

Building Construction

- Raised Floors
- Redundant Cabling
- BMS
- Environmental Control

Uni Systems Data Center Facilities

- Redundant Power
- N+1 Uninterruptable Power Systems
- N+1 Redundant Generator System
- Ability to handle high density power requirements
- N+2 Cooling
- Multi-Layer Security
- 24x7 On-Site Staffing to Assist with Remote Hands or Installation
- Access to Multiple Carriers
- Environmental Control
- File Detection
- Fire Suppression
- Building Management System
- CCTV
- Access Control
- Physical Security

- ISO 9001:2008
- ISO/SEC 27001/2005
- Cabling TIA 568B

Flexible Cloud Offerings

IaaS

- Test & Development environment as a Service (UNI | WORKPLACE)
- Monitoring as a Service (UNI | ROOT)
- Backup & Business Continuity as a Service (UNI | VAULT)
- Desktop as a Service (UNI | DESKTOP)
- Cloud on demand apps (UNI | APPS)
- Cloud on boarding (UNI | ON-BOARD)
- Unisystems next generation Hybrid Enterprise Cloud Storage (TBD)

SaaS

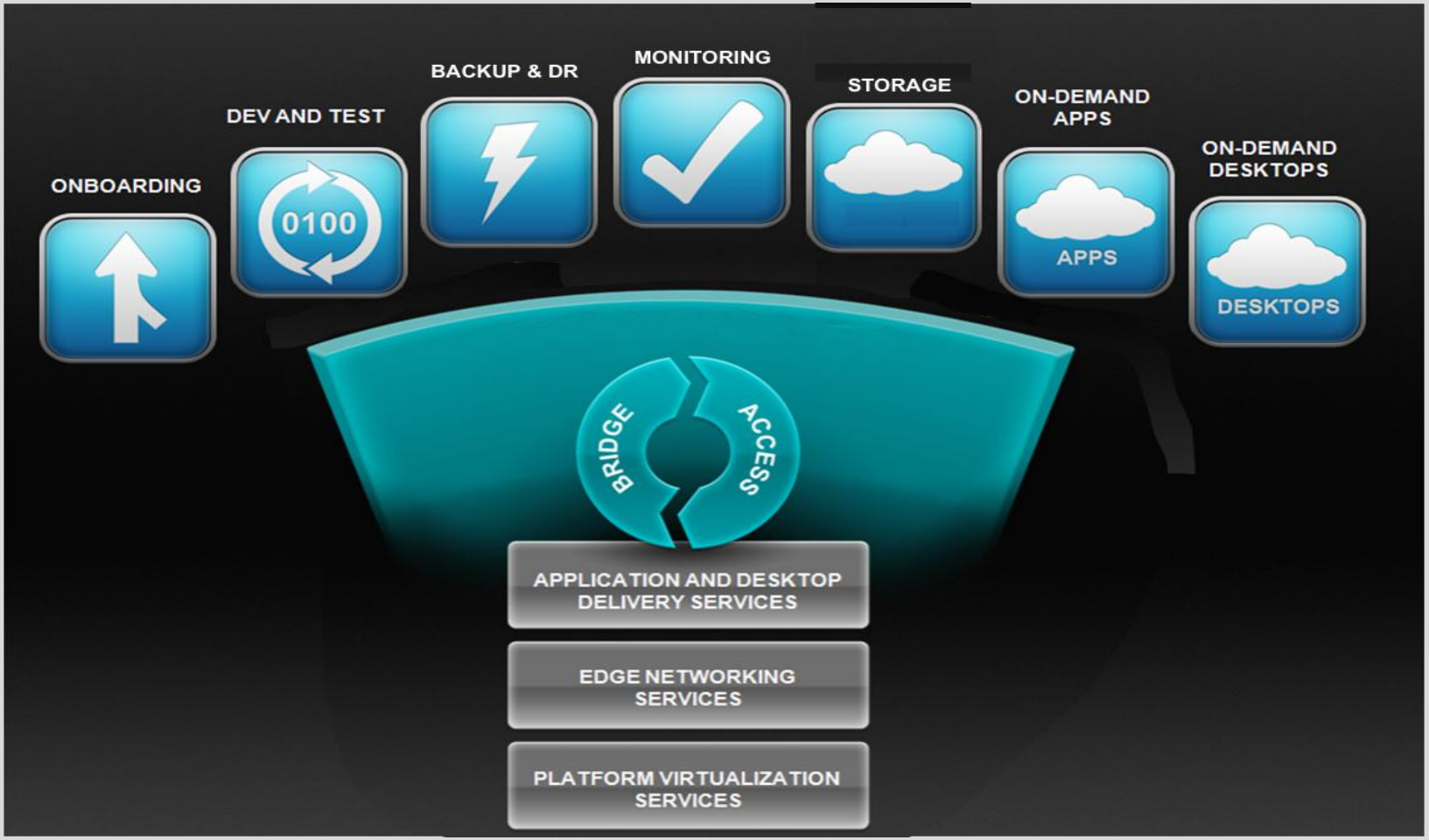
- Payroll as a Service
- e-Invoicing
- CRM as a Service
- HCM as a Service

PaaS

- RDBMS as a Service
- Middleware as a Service

UNI | CLOUD

Enterprise Hybrid cloud Services Portfolio



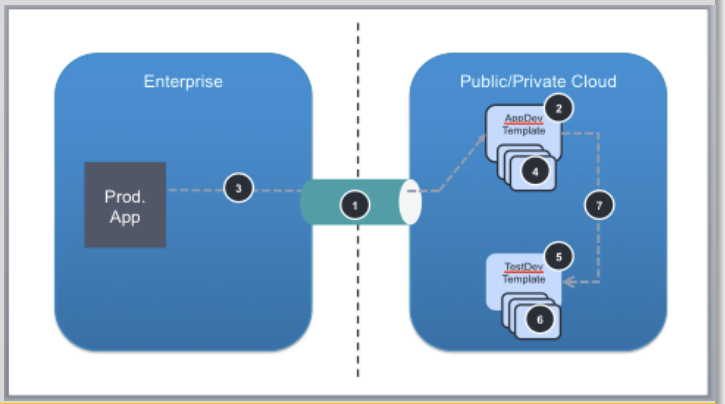
Uni Systems Cloud Architecture Advantages

- Open and Modular
- Several Multi-tenant options
- Several Multi-tier storage options
- High user density per server
- Massive horizontal scale
- Autonomic provisioning
- End-to-end visibility
- Elasticity
- High Definition Experience over Internet
- Device independence (Any, Any, Any)
- Provides a personal, secure, scalable and high performance solution for Multi-tenant SaaS and DaaS

UNI | WORKPLACE

Test & Development environment as a Service

- Establish transparent bridge and access between enterprise and cloud
- Create development lab templates
- Migrate application and data into lab template.
- Self-service development lab instance check-in/check-out
- Enable test teams to create isolated instances of the test lab template via self service
- Promotion of app from dev lab to test lab
- Promotion of app from test lab into staging/production



UNI | ROOT

Monitoring as a Service

- A single pane of glass for a complete end-to-end service view
- Automatic baselines of KPIs to enable administrators plan service rollouts efficiently
- **Correlation of performance across silos and layers to pinpoint the root-cause of problems automatically**
- Deep “inside view” of each virtual machine: Without requiring agents in each virtual machine, this unique capability provides details of top applications using resources inside the VM.
- Track and correlate configuration changes with performance changes
- Extensive web-based historical reports

UNI | ROOT

Monitoring as a Service

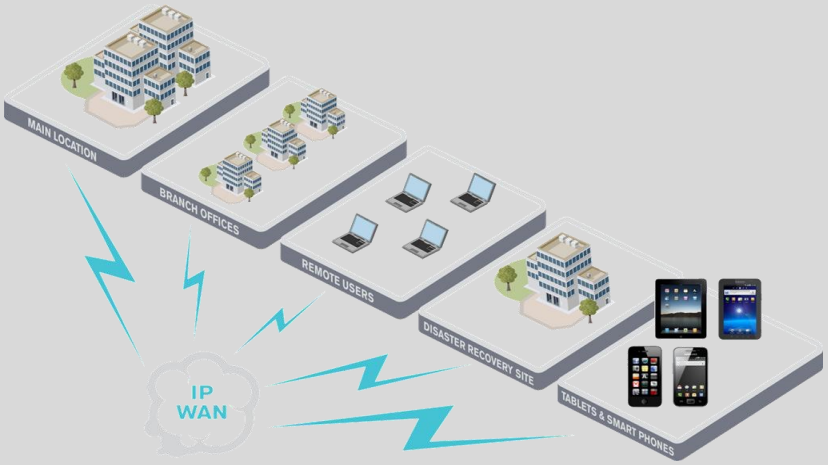
- 100% web-based communication
- Uni-directional communication
- Firewall-friendly architecture
- Does not involve business-sensitive information
- Secure, authenticated web-based access to the monitoring console
- Personalized views and role-based access
- Secure storage and no direct access to configuration data

- You do not have to provision hardware and software for the monitoring system.
- The set up of the monitoring is hassle-free
- For a nominal fee, Unisystems infrastructure experts are available to help you audit the performance of your infrastructure and deliver a performance report
- You can turn on/off the service as required

UNI | VAULT

Backup & Business Continuity as a Service

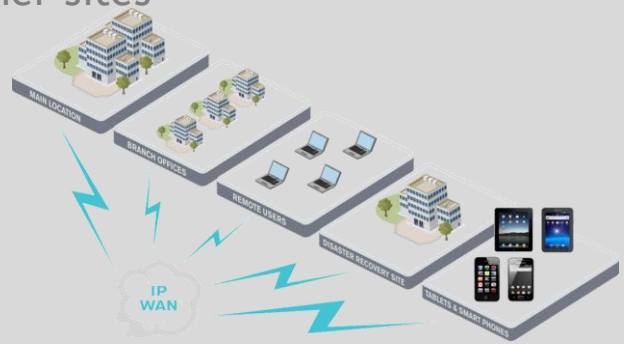
- Hybrid on-site and off-site backup: backup data is stored locally at the customer premises while an additional copy is stored at a customer's remote site or at Unisystems Data Centre.
- Offsite backup: backup data is stored only at a customer's remote site or at Unisystems Data Centre.
- Onsite Backup: backup data is kept at the customer site only.
- Managed Service with BCP as a Service



UNI | VAULT

Backup & Business Continuity as a Service

- With Uni Vault, a company pays only for the capacity consumed, on a term basis.
- Fast and non-intrusive operation since - agentless architecture.
- Disk-based backup solution delivering 100 percent successful restores.
- Data at-rest and in-flight AES 256-bit encryption secures data from being compromised.
- Efficient use of storage, LAN and WAN resources leveraging compression, delta blocking and single instancing technologies.
- Protection for a company's main site and remote offices.
- Trusted Gartner referenced cloud backup platform which operates for more than 26 years on over 400.000 protected customer sites



UNI | DESKTOP

Desktop as a Service

- Personal desktops no longer reside on a specific piece of localized hardware (i.e. a desktop PC or laptop) but are instead hosted by Unisystems Dynamic Services and delivered to enterprises

- End-users remotely access their individual desktops from any terminal with an internet connection. As such, Hosted Desktops are far more mobile yet more secure than traditional PCs.

CITRIX PARTNER Service Provider

UNI | DESKTOP

Desktop as a Service

- Cost and CapEx Reduction
- Connect Anywhere
- No Management or IT Experience Necessary
- Increased Computing Power
- Reliability and Uptime
- Security
- Scalability – Desktops on Demand
- Free yourself from desktop
- Simple, easy migration
- Dynamic IT

CITRIX® PARTNER Service Provider

UNI | APPS

Cloud on demand apps

Fitting Delivery of Desktop Apps to the Cloud

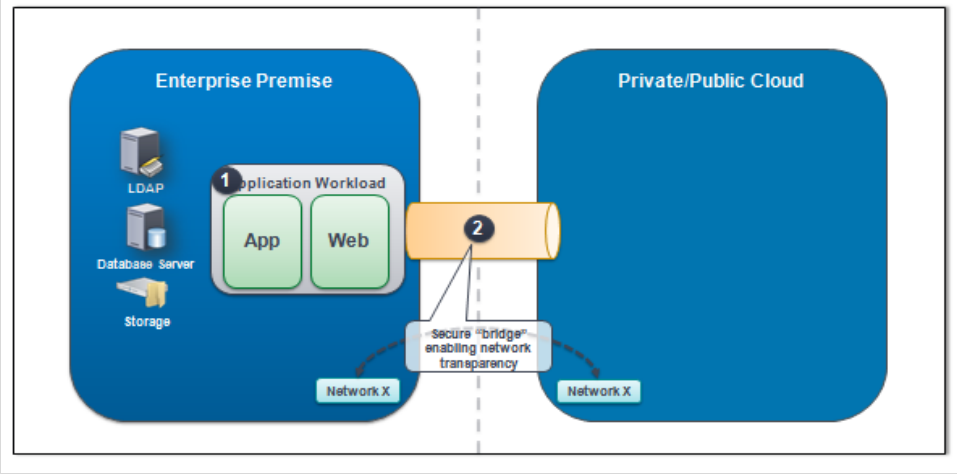
- On-demand application delivery from the cloud not only addresses the shortcomings of traditional techniques and tools, but also accounts for a wide range of other important enterprise objectives as well.
- Enabled by Citrix® XenApp, this ideal combination of capabilities is based on managing applications in the datacenter and delivering them as an on-demand service to users anywhere using virtually any device including PCs, Macs, Linux, thin clients and smartphones.

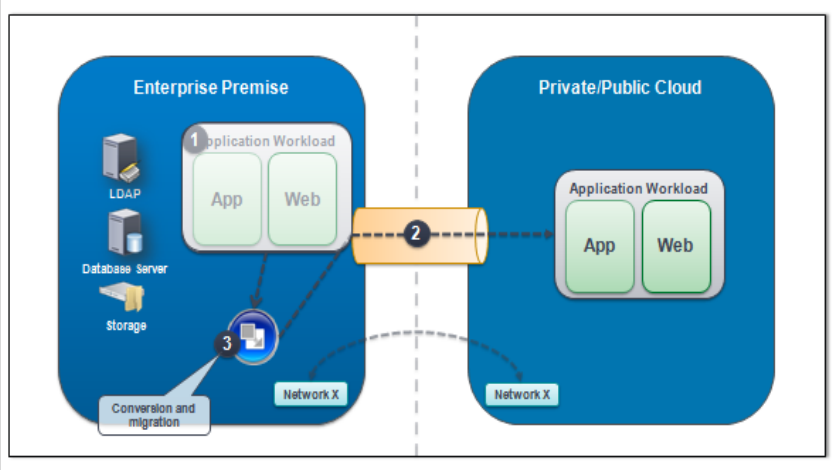
CITRIX® PARTNER Service Provider

Enterprise customers want to leverage low-cost compute in the cloud, while keeping their data and directory services in a secure, on-premise location.

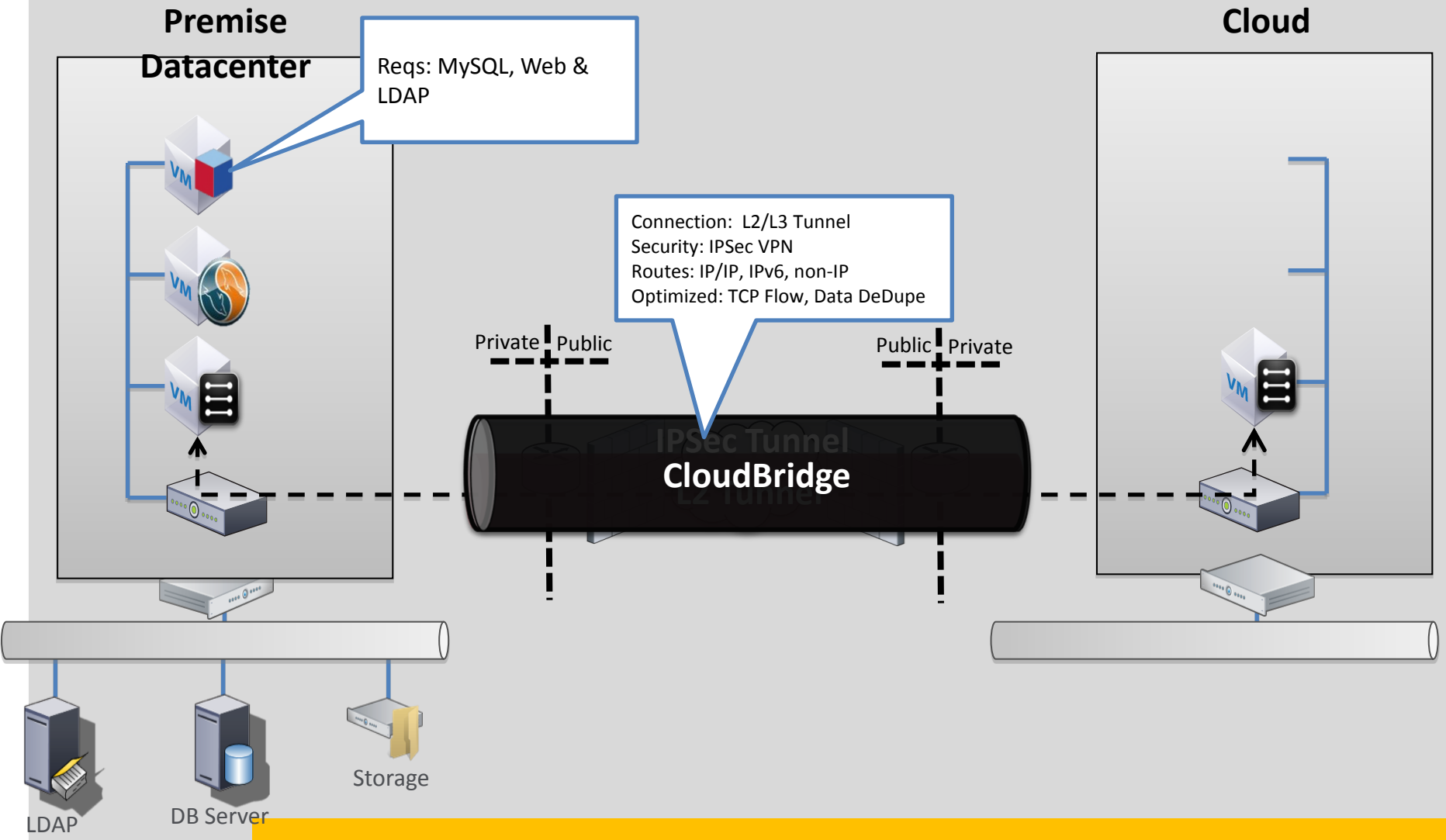
UNI | ONBOARD
Cloud on boarding

- Define an application workload
- Establish a transparent bridge and access between the cloud and premise datacenter
- Migrate application workloads to the cloud
- Support virtualization heterogeneity
- Enable seamless access to resources remaining in the enterprise data center

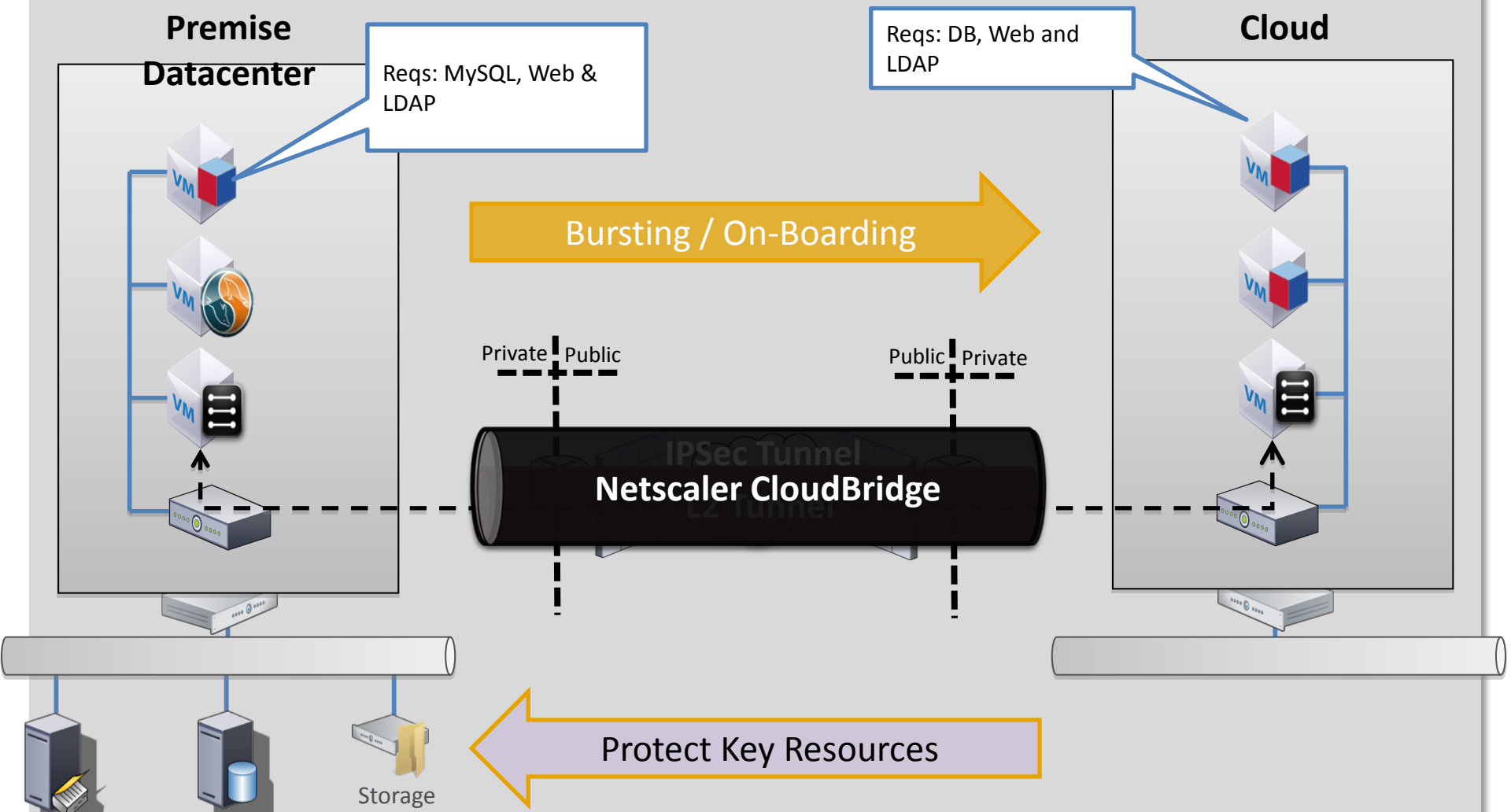




Overflow and Cloud Bursting

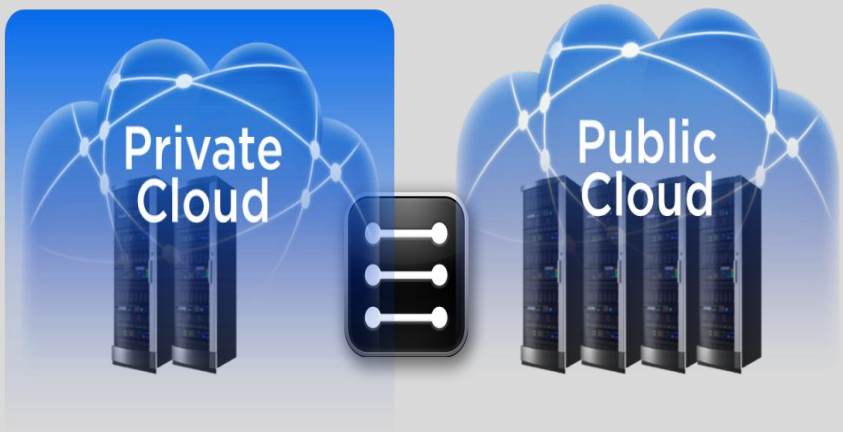


Overflow and Cloud Bursting



CloudBridge – Why to use it

- Cloud Bursting
- Development
- QA / Testing
- Staging Environments
- Disaster Recovery
- Business Continuity
- Enterprise CDN



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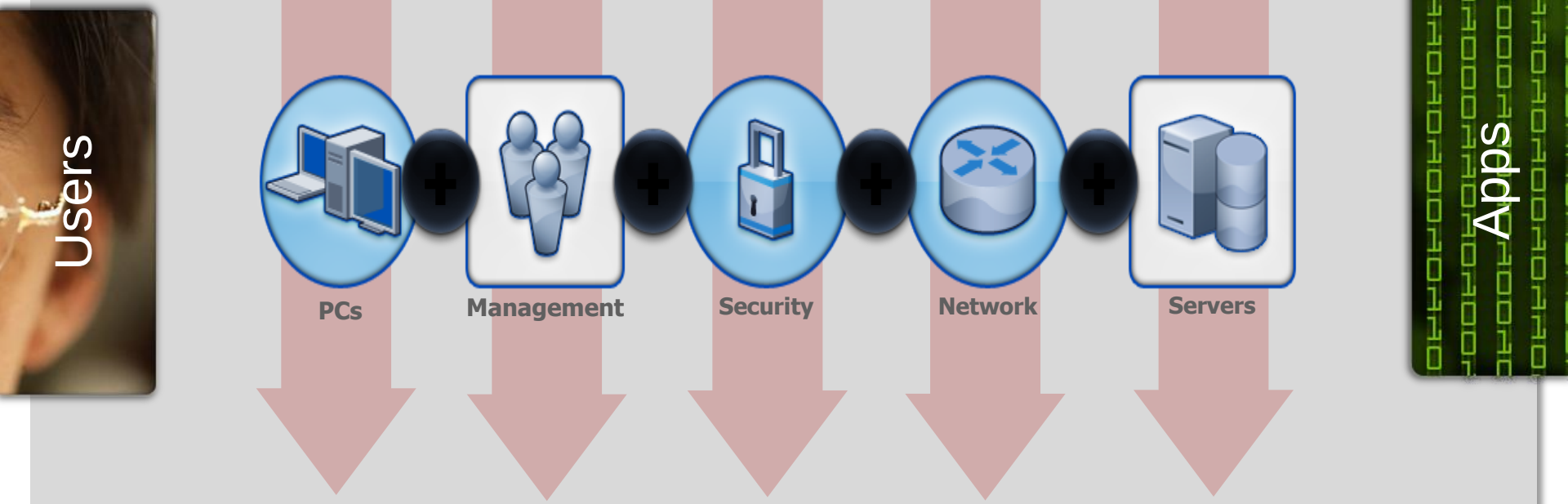
Private Cloud Virtual Client Services

Large-Scale Desktop Transformation with Citrix Technologies

Visionary concept for Thin Branch

- On-demand enterprise:
  - Virtualization of the Datacenter resources and Secure access to private information over any kind of networks using any type of devices.
- Access infrastructure:
  - A core business system because it solves a major business problem: right information, securely, easily, instantly to every one, whenever, wherever.
- Key Business benefits:
  - Improved operational efficiency
  - Cost reduction
  - Security

Conventional Approach



Challenges

Workforce Mobility

Business Continuity

Security & Compliance

Mergers & Acquisitions

Desktop Transformation

Device Centric		People Centric
Desktop = device	→	Desktop = service
Corporate PC	→	Any type of device
Image & deploy	→	Self-service experience
Limited access	→	Dynamic access
Fixed costs	→	Usage-based costs

Partners

Desktop & Application Delivery	CITRIX, AppSense, Microsoft, WYSE, Xceedium
IT Infrastructure	CITRIX, ORACLE, Cisco Partner Silver Certified, Microsoft Gold Certified Partner, hp, Symantec, NetApp, ca, EMC², IBM, UNISYS, FUJITSU, APC by Schneider Electric, vmware

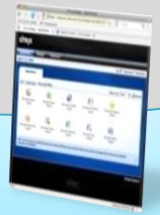
Receiving server hosted applications

2. User peripherals are mapped

User Device

User Audio, Printer, Drive and other peripherals

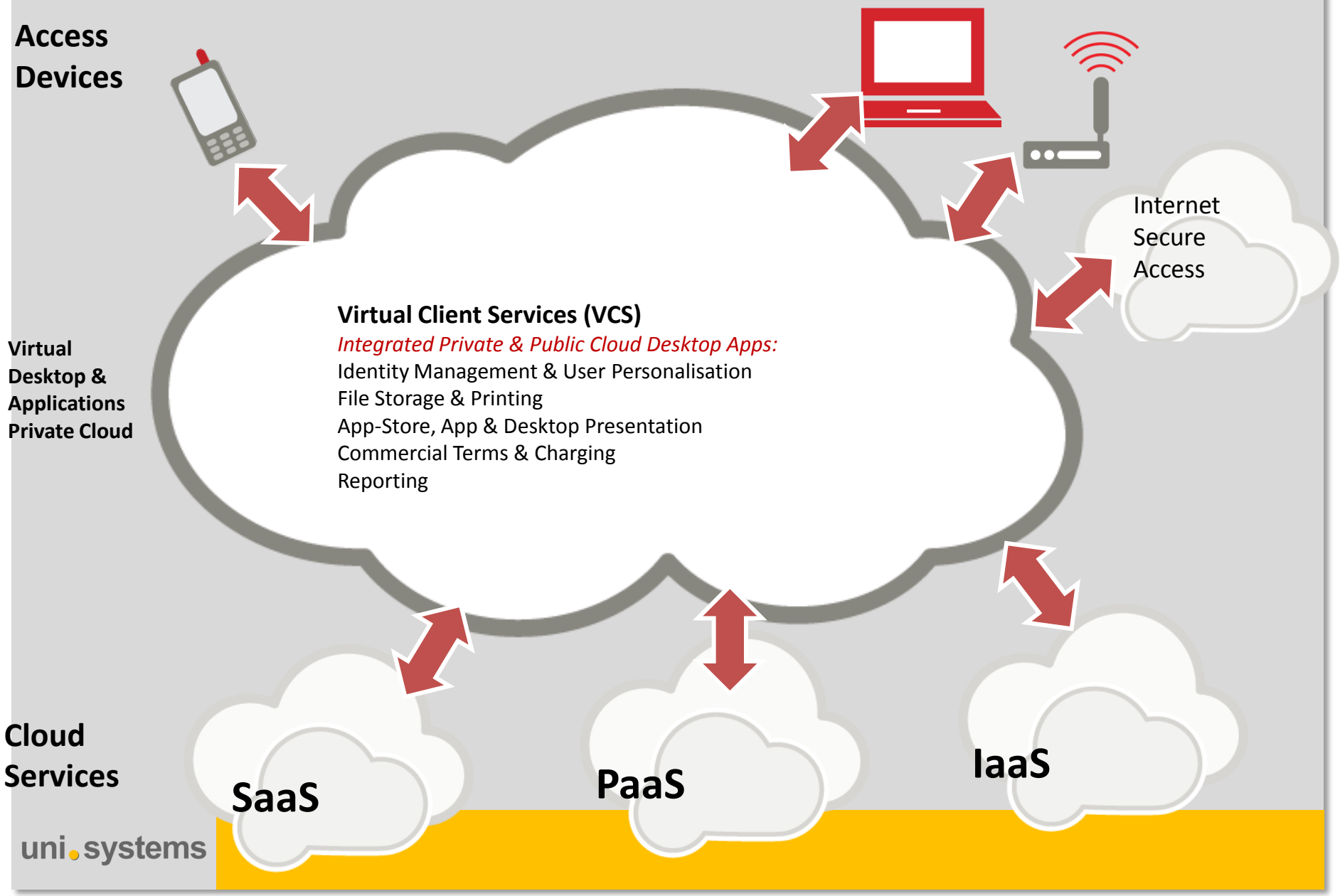
1. User logs on, receives app list and clicks to open app.



Server Farm

3. Client objects all work as normal and seamlessly.

Virtual Client Services Private Cloud



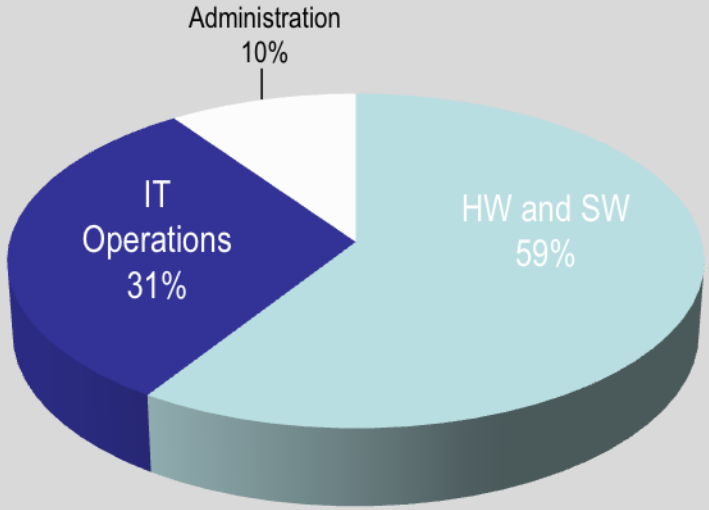
Example

Achieves Strong Return on Investment (Gartner model)

Major Benefits of Application & Desktop delivery to a big Bank	
Improves User Productivity Significantly	Extends the Life of Custom Applications
Faster, efficient and zero cost application deployment	Allows Consolidation/Centralization of Remote Office Servers
Extends the Life of Client Hardware and of OS	Centralizes and Simplifies Application Administration
Reduces Testing Complexity for Enterprise Applications	Enhances Security Model to Protect the IT Environment
Energy cost saving	Centralization backup
Mobility	Efficient WAN network usage
Business Continuity of all users	Less helpdesk effort (self service password resets, shadowing, etc)

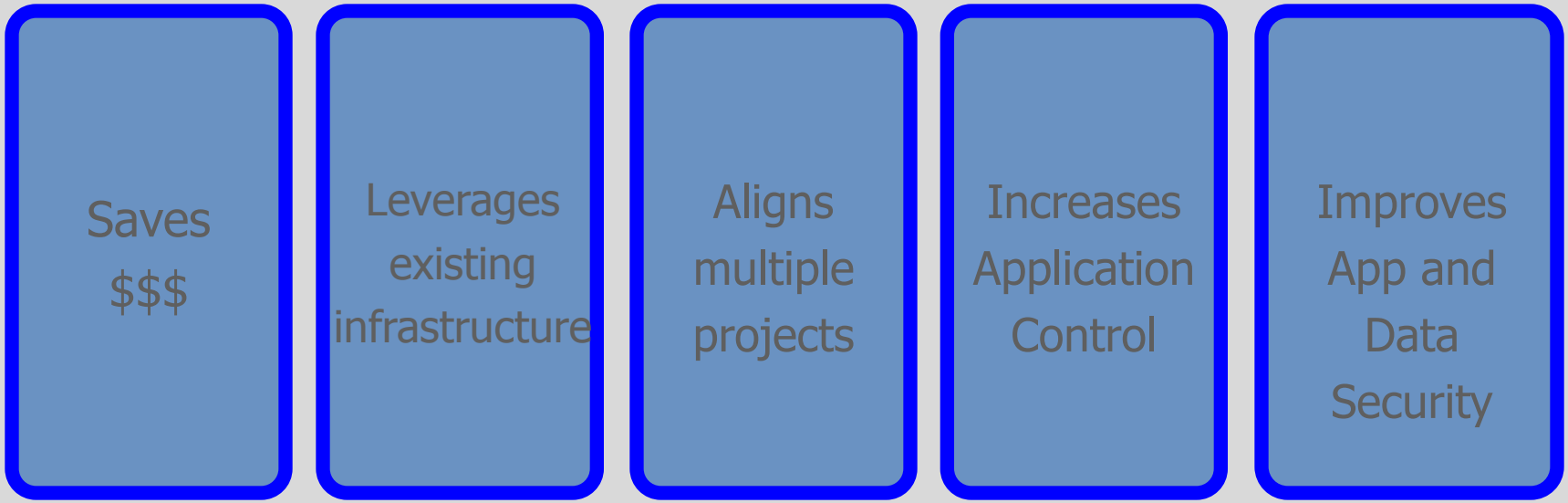
Key Costs Impacting Traditional PCs

- IT Operations - Support, Security and Management
- Administration – User and IT Training, Disposal
- Hardware and Software
- End User Costs (not shown) - Fixing issues



Source: Gartner

Justify it



Proven with over 200.000 customers and 70 M desktops worldwide
More than 1000 customers in Greece & Balkans and 60.000 desktops

Success Stories

- CCHBC
- NBG (more than 300 Applications, Remote Access, Wan Optimization)
- OTE
- Cyprus Bank (190 Applications, 2400 users)
- Eurobank (BCP, ESSO)
- Alpha Bank
- ING
- National Insurance company
- Etc. (more than 1000 customers, 62K users)

GENIKI Bank

Application Delivery to the branch level

- Branches : more than 140
- Users : 2200
- Citrix Application servers : more than 50
- Applications : More than 110

Benefits

- Centralized Application Delivery
- Secure Application Access
- Simplified Information Access
- Considerable cost reduction in Application Management and Deployment
- Eliminations in faults in Application deployment resulting in multiple helpdesk assistance requests

Cosmote

Application deployment made easy between two different countries

- Users : more than 6000
- Citrix Application servers : more than 80
- Applications : More than 180
- Remote Access
- 4 countries

Benefits

- Centralized Application Delivery
- Secure Application Access
- Cost Reductions
- Significant reductions in WAN bandwidth usage

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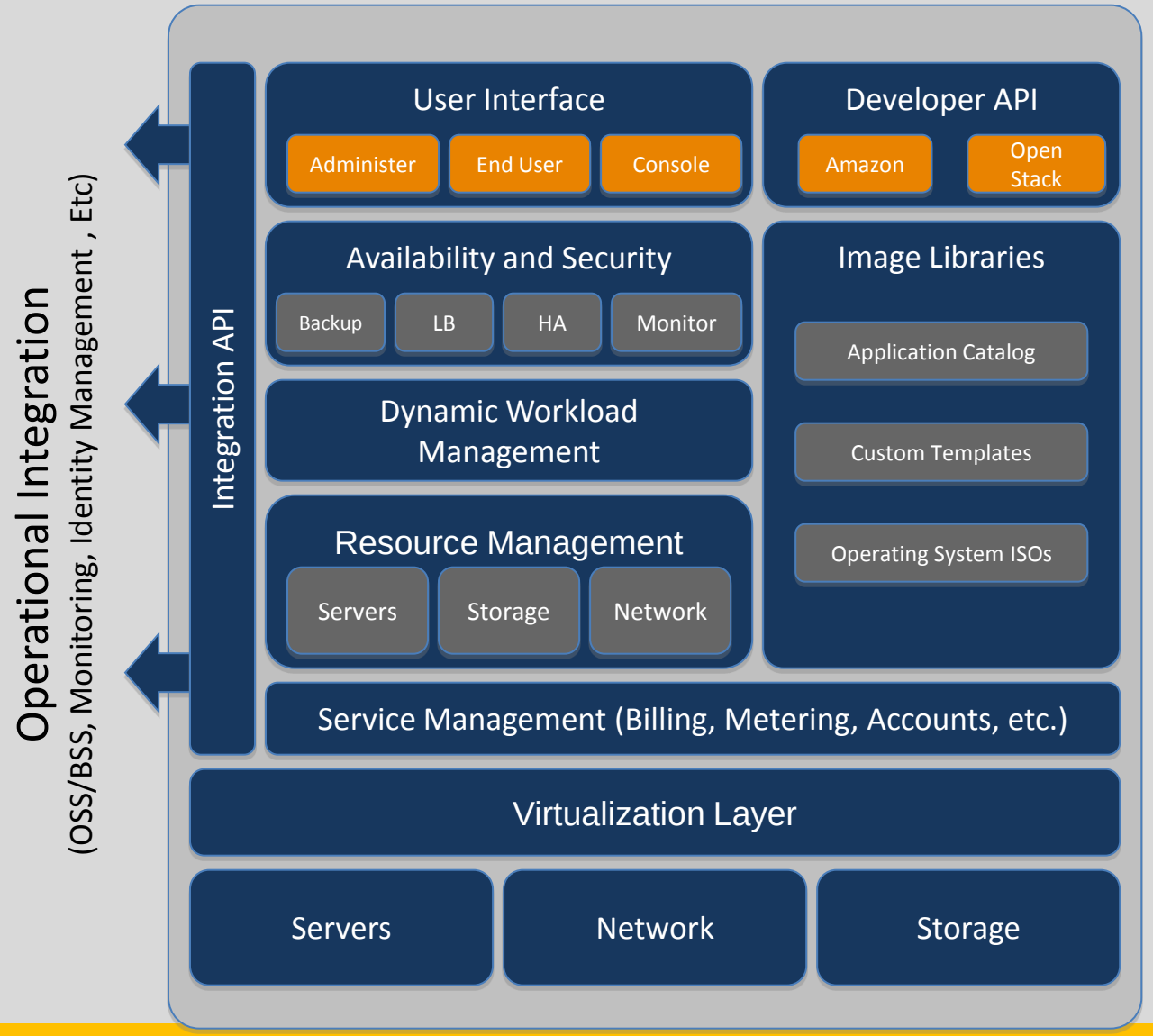
Hosting apps and desktops in the cloud

CloudStack Architecture



Published Desktops

Hosted VDI Services

Cloud Desktops

Desktops as a Service

Hosted Shared Desktops

Remote Desktop Services

DaaS - Desktop as a Service

- Complete hosted experience
- Any device, anywhere
- Integrated SaaS apps

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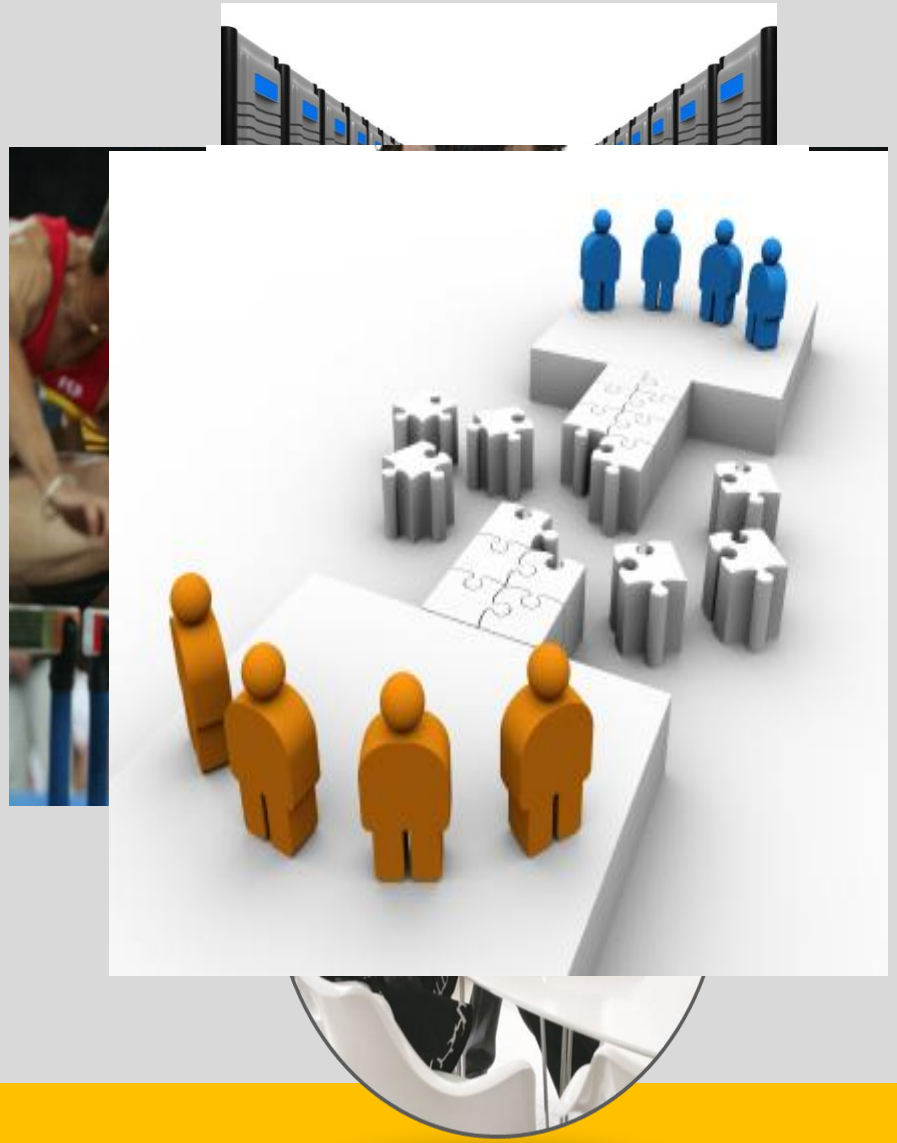
Primary business drivers

- Moving CAPEX to OPEX
- Disaster recovery
- Business agility
- Seasonal workloads
- Cost of on-boarding
- Time to productivity



Desktop-as-a-Service: the answer to your BYOD prayers?

- The prediction by many industry leaders about the rise of Bring Your Own Device (BYOD) appears to be coming to fruition with an ever increasing variety of iPads, smart phones and other portable devices requiring access to corporate networks.

- What comes as a bit of a surprise, however, is the much-accelerated rate at which it is happening in businesses of all sizes around the world. Employees are no longer seeking the tools to work from anywhere, they're expecting them.

- As a result there is increasing pressure on IT departments to provide remote access and consistent work connectivity for employees across the organization, regardless of device and location.

- While BYOD is increasingly important for employee satisfaction, it poses significant IT challenges in terms of security risks, productivity loss, support issues and cost.

Consumerization

Consumerization of IT services

- BYOD has been a catalyst for change amongst decision makers, with corporations taking a fresh look at virtual desktops solutions such as Desktop-as-a-Service (DaaS). The push comes as smartphones, tablets and laptops with mobile connectivity become more readily available to consumers at economic prices.

- Employees want the flexibility to work off the devices they're most comfortable and accustomed to using. IT departments are in turn being forced to deal with this

- Due to wider availability of Cloud -based applications, virtual desktops are now more attractive than ever before. They also ease the concerns of the "consumerisation" of technology in the workplace by allowing IT departments to retain total control of corporate data and applications which never leave the confines of the data centre.

DaaS and Business Continuity benefits

- It is interesting that the business case for Cloud-based services and applications is often focused on financial return and investment (ROI) rather than the full value which extends beyond cost savings. The true value is realised through business transformation and increased employee efficiency and satisfaction.

- In fact, the benefits of DaaS and Cloud-based virtual desktops flow from IT department's right down to end users, providing a variety of individual employees with the freedom to work anywhere, on any device, and with the same experiences they would have in the office

- Business continuity at the employee level is often overlooked by corporations, either because of the costs associated or because it's just not part of a natural business continuity plan. However, with DaaS and virtual desktops, business continuity at employee level is almost instantaneous.

Now is the time to consider DaaS

- The crux of the matter is that BYOD is here to stay and becoming more prevalent by the day. Gartner predicts that by 2014, 90 percent of organisations will support corporate applications on personal devices.

- With Cloud based virtual desktop and DaaS, employees' applications and data are hosted not on their device's hard drive, but on virtualised servers or simply, in the Cloud . Corporations can therefore rest assured their corporate data is not as easily lost or stolen because so little is actually housed on a physical device outside the four walls of the office.

- It is this perfect storm of technology advances, cultural shifts, and business needs coming together that make 2013 the time to consider DaaS. It is the right solution for your business to provide employees flexibility and choice, while significantly reducing corporate costs, reducing the time to carry out time consuming, tedious support tasks, and protecting corporate assets.

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