The New New Healthcare

How things are changing for healthcare and why it matters to you

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Healthcare in the Cloud
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Healthcare Principal

SAP Healthcare Point of View

- **Patient centric engagement model**
- **Operating efficiency and effectiveness**
- **Payment reform a reality**
- **Data driven enterprise**

- **236,000 Customers**
- **64,000 Employees**
- **25 Industries**
- **130 Countries**
- **11,500+ Partners**

SAP

- **Value realization for EMR**

- **Fact based decision-making**

- **Real time**

SAP

—

- **HR with SuccessFactors**

- **Upstream – Downstream Ariba**

- **Suite on HANA**

- **Healthcare apps**
- **Proven security**
- **Flexible platform**

- **Handles big data with ease**

- **Lightning fast**

- **Next generation technology**

SAP

- **Market leader in cloud applications**
- **Dramatically lower cost structure**
- **Safe, secure, higher user satisfaction**

SAP

Healthcare Cloud
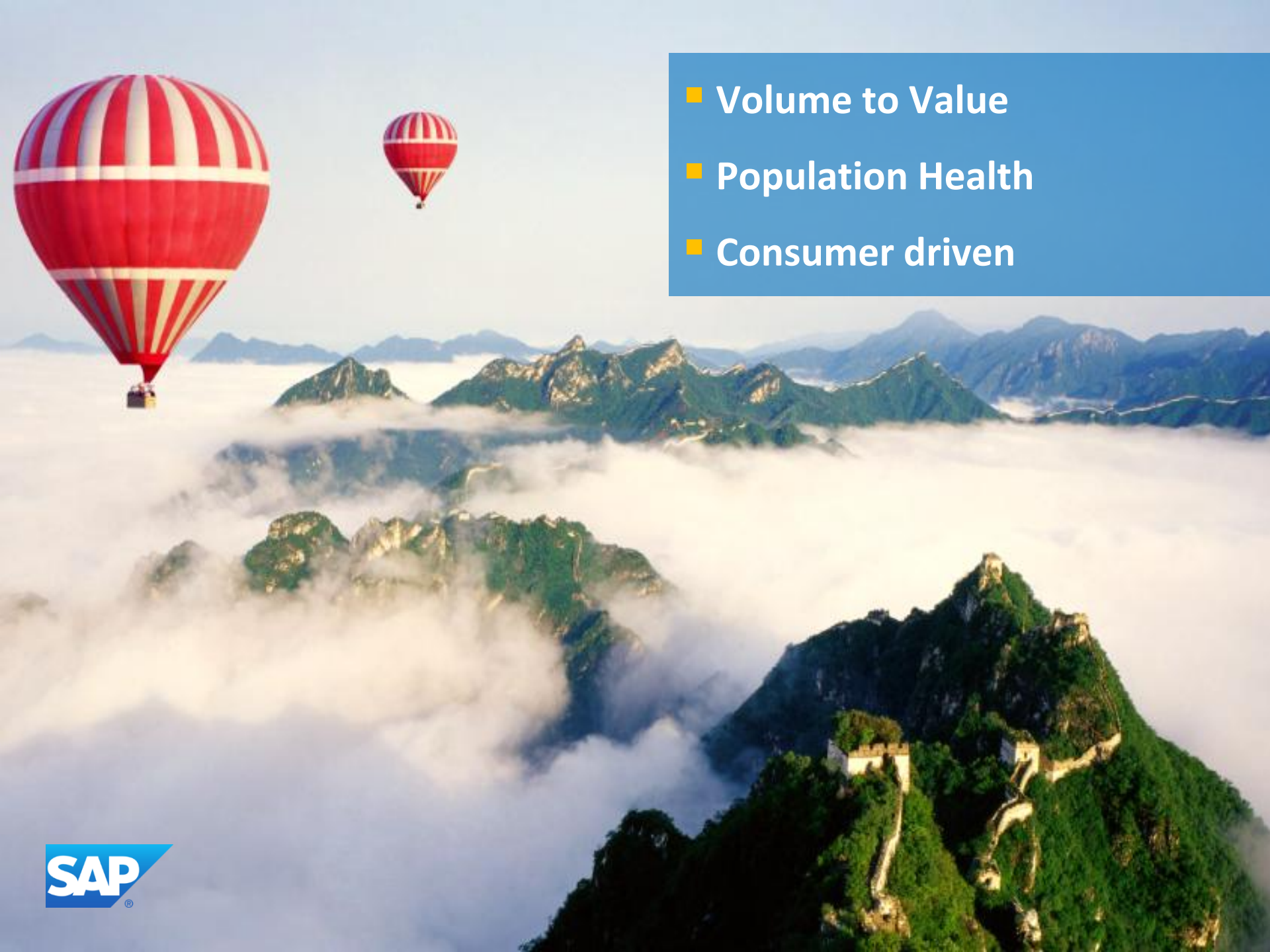
Human Capital Management

Biggest challenge in business today – bridging the gap between strategy and results. SuccessFactor's Business Execution suite can improve execution through your most important asset: People

Sourcing, Procurement, Settlement

Enable the efficient discovery, negotiation and management of supplier relationships with the Ariba Network and Ariba solutions for buying, selling, and managing cash

- **Volume to Value**
- **Population Health**
- **Consumer driven**

2013 issues for Healthcare Providers

Consumer apps
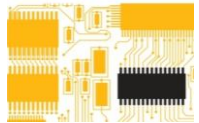
In-Memory Computing

Mobility

Business Analytics

Administrative Mandates (ICD10 , HIPAA, 5010 & MU2)

Bend the Cost Curve "Medical Spend"

Care Management and Clinical Informatics

Payer/Provider Interoperability

Uncertainty in Healthcare reimbursement environment

Health Information Exchanges & Electronic Medical Records

Enabling New Provider Payment & Delivery Systems

Impact of Healthcare Consumerism

Healthcare Reform Implications:
Cost is top of mind concern for Healthcare

Healthcare Reform Implementation (n = 472) [1]	
Reduce operating costs	76%
Alignment of provider and payor incentives	63%
Align with physicians more closely	60%
Regulatory/legislative uncertainty affecting strategic planning	52%
Develop information system integrated with primary care physicians	47%
Study avoidable readmissions to avoid penalties	46%
Hire one or more primary care physicians	41%
Obtain funding from the American Recovery and Reinvestment Act for electronic records	29%
Study avoidable infections to avoid penalties	25%

Source: American College of Healthcare Executives (ACHE), 2012

Healthcare Case Study – UAB Health System

- University of Alabama at Birmingham & UAB Health System located in Birmingham, Alabama
- One of the largest Academic Medical Centers in the US: 1,132 beds
- Largest employer in the State of Alabama; 18,000 employees
- Multiple Entities

Healthcare Case Study – UAB Health System

Challenge

- No connection between employee goals and UAB Strategy
- Highly Manual Process
- Medical Center and Physician Group Practice disconnected
- Different workflows and reward mechanisms
- Looking for unified platform and approach

Solution

- Internal campaign:

"Reaching for Excellence"

- SuccessFactors for:

  Performance & Goals
  Workforce Analytics
  Employee Central

- Delivered securely as a service from the SuccessFactors Cloud

Result

- Unified HR Strategy
- Accountability and Ownership across the entire organization
- From on prem servers to SuccessFactors Cloud servers
- Always most current version of the software release
- Single line of code worldwide

Healthcare Case Study – Large IDN

- Largest integrated delivery network in the US
- $50.6 Billion in 2012
- 9 million covered lives
- 173,000 employees
- 16,600 physicians

Healthcare Case Study – Large IDN

Challenge

- Significant investment in development of local physician offices
- No centralized way to acquire indirect purchasing needs
- Construction costs too high, impacting capital allocations

Solution

- Ariba indirect sourcing
- Construction materials for office finish out
- Equipped outpatient physician offices with furniture and fixtures

Result

- Cloud based sourcing & procurement
- $4.5 billion over the Ariba network
- 400+ suppliers
- 300+ catalogs enabled
- Always most current version of the software release

MedAssets and Ariba partner for complete GPO solution

April 8, 2013
MedAssets Enters into Strategic Partnership with Ariba

ATLANTA--(BUSINESS WIRE)-- **MedAssets, Inc.** (NASDAQ: MDAS) today announced a multi-year strategic partnership with Ariba, an SAP company, that significantly expands MedAssets industry-leading supply chain management and outsourced procurement capabilities. The partnership offers healthcare providers and suppliers the industry's most comprehensive electronic commerce platform, including requisition to purchase order transmission, shipment notification, invoice transmission and reconciliation workflow automation, expense posting, supplier payment and early-pay discount solutions. Through this partnership, healthcare providers will be able to conduct fully automated e-commerce with the nearly one million companies connected to the Ariba Network through the MedAssets eCommerce Exchange.

What doe this mean for healthcare organizations?

- The combination of MedAssets' technology-enabled services with Ariba's cloud-based applications and business network will deliver unparalleled cost management

- Providers will be able to eliminate up to 100 percent of paper invoices received from suppliers using Ariba's "smart invoicing application",

- Automatically validate supplier-initiated electronic invoices through a provider-managed rules engine and post them directly to their accounting system for

- True touchless processing.

Summary

- Healthcare organizations faced with deep and sustained cost pressures from Medicare, as well as developing outcomes of PPACA

- Largest controllable expense is salaries, first place typically reviewed

- Installation of on premise HRIS systems expensive to maintain and upgrade

- Cloud based HR seen as source of major savings

- Supply costs are the second largest variable expense

That really sums it up.

"Prediction is very hard, especially about the future"

-- Yogi Berra

SaaS in Healthcare

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lumenate

Quick Intro

- Lumenate Introduction
  - Who we are…
  - What we do…

What is SaaS

- Software as a Service
- The delivery of an application/interface that is "in the cloud"

Example of SaaS Architectures

- *eClinicalWorks* Delivering Clinical Solutions

- lifeIMAGE Making Images Accessible

- lumenate MediCloud – Meditech Based

Deep Dive What Makes a Cloud SaaS vs Others

- You don't deal with the infrastructure – OS down
- You connect directly to the application, not the infrastructure
- All services such as backup, DR, patching are part of the cloud offering

Case Study

- Regional Hospital Needed to Meet Meaningful Use 2 and upgrade Electronic Health Records application
- Current System was self hosted and antiquated
- Cost to replace infrastructure, train staff, develop Disaster Recovery site, and upgrade application was greater then $700,000
- Option to move to Lumenate MediCloud Meditech Based Platform was at $15,000 per month
- Solved majority of issues, BUT there was a cost…

Is HealthCare Ready for SaaS

- Security and Compliance?
- Cost?
- Consumerization of IT
- Doctors/Clinicians….
- Is There Trust?

Questions

VERISTOR

HP 3PAR	Partner of the Year 2008, 2009, 2010, & 2011
veeam	ProPartner of the Year, 2010
Dell	SE Region Partner of the Year, 2010 & 2012
CRN TECH ELITE 250	2011 & 2012
vmware	First to Market with DR to the Cloud, 2011; Rising Star, 2008
Inc. 5000	2006 (#36), 2007, 2008, 2009, 2010, & 2011
SPECTRA	Top Ten Partner of the Year, 2011
CRN SOLUTION PROVIDER 500	2009, 2010, 2011, & 2012
NEXSAN	#1 Revenue Producer Americas, 2010
CRN FAST GROWTH 100	2007, 2008, 2009, & 2010
commvault	Acceleration Award, 2010
Best Practices IN STORAGE	2007

vmware PARTNER
PROFESSIONAL SERVICE PROVIDER

vmware PARTNER
PREMIER

- Founded in 2001, with over 600+ customers throughout the Southeast US

- Advanced Datacenter Solutions with a heavy focus on virtualization

- Cloud Services Specialized in Business Continuity & Disaster Recovery with facilities based in Atlanta & Denver

- VMware Premier Partner with competencies in Infrastructure / Desktop Virtualization & Business Continuity

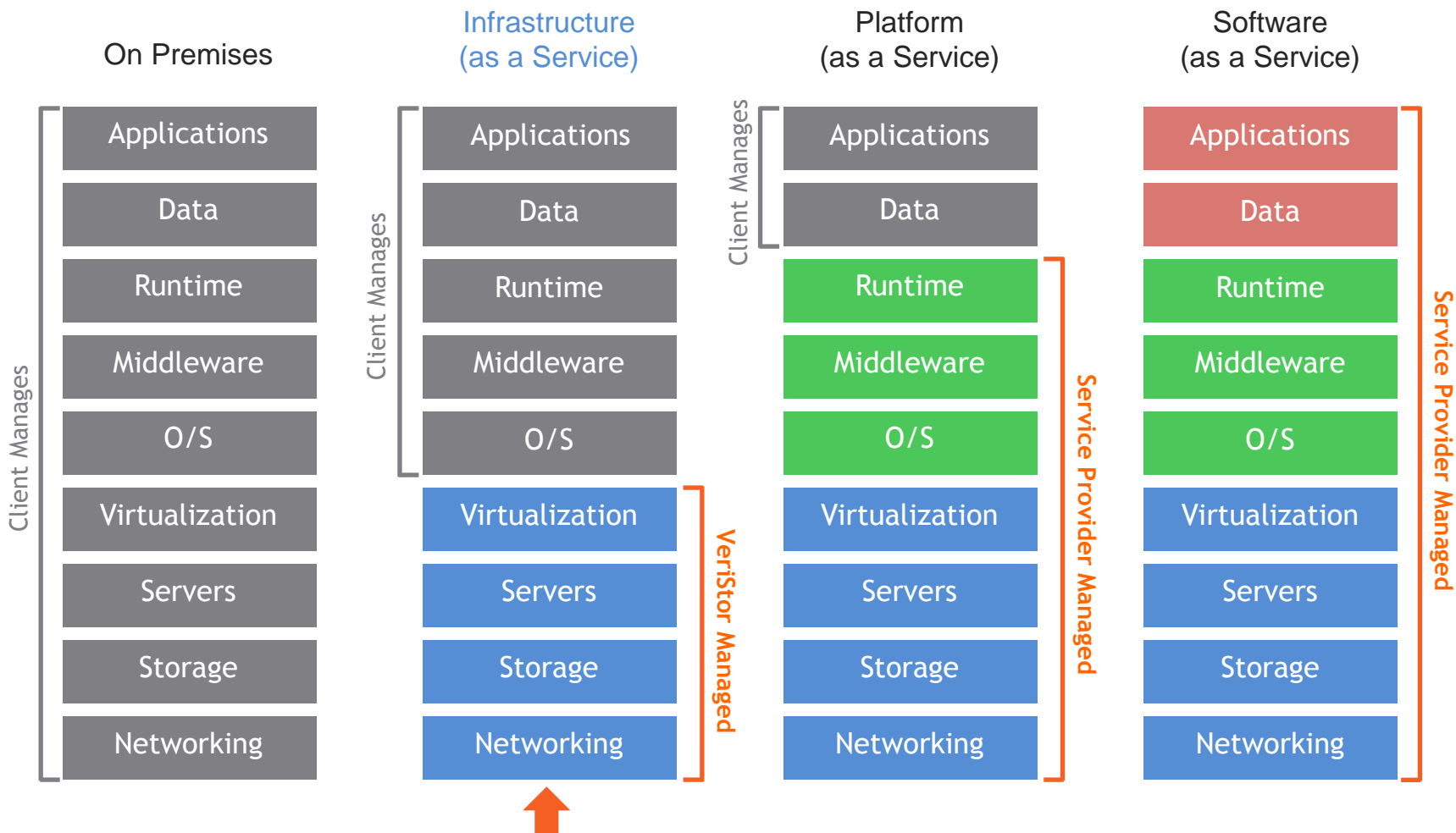- 5-year seat on the VMware Partner Advisory Council (PAC) & Partner Technical Advisory Board (PTAB)

Agenda

- Current Trends

- Case Study Profile

- Cloud Continuity Service Design

- Key Take-Aways

What We Are: Public Cloud IaaS / RaaS

Current Trends

- Gartner predicts that by 2014 more than 30% of all mid-size companies will utilize the cloud for achieving true BC/DR.

- DRI (Disaster Recovery Institute) reports show 25% of businesses already using cloud for DR and 35% to use cloud for DR within 2013.

- Continued growth & investment in Information Technology

- Shorter RTO's required to stay operational and avoid extended loss of revenue & services

- Increased frequency of severe weather & other events that can cause site outages

Case Study Profile: Atlanta Women's Health Group

- Largest OB/GYN practice in the Southeast with over 100,000 patients and 460 employees

- Over 30 locations throughout the Metro Atlanta & North Georgia area servicing over 250,000 visits annually.

- EMR System based on GE Centricity

- Fully virtualized infrastructure on VMware vSphere & Dell Servers, Storage, & Networking products

Recover Your Infrastructure.

Cloud Continuity | VMworld 2011 Award Winner

- **"On-demand"** payment model with support for array or host replication options

- Hosted in SSAE-16 / PCI-Level1 certified datacenters

- **Redundant** high-performance VMware vCloud compute & storage resources built for VMware vSphere

- Unique virtualized network & security providing dedicated IP, routing, firewall, VPN & data-encryption services

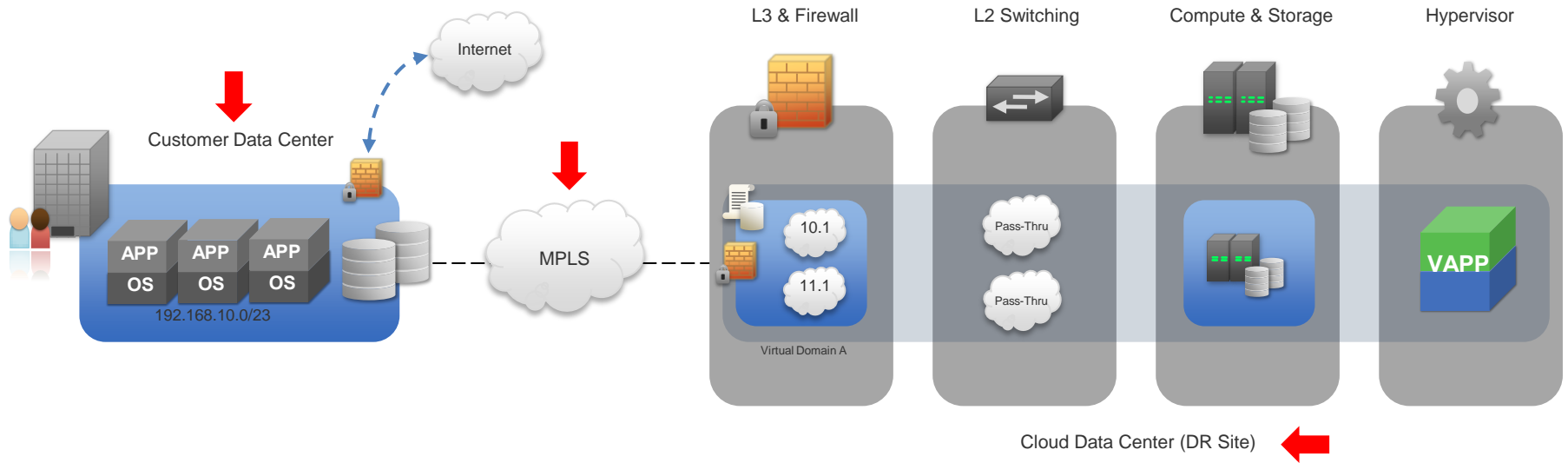- Manual or VMware SRM Automated Recovery options to fit a variety of RTO's

L3 & Firewall

L2 Switching

Compute & Storage

Hypervisor

Internet

Customer Data Center

APP
OS

APP
OS

APP
OS

192.168.10.0/23

MPLS

10.1

11.1

Virtual Domain A

Pass-Thru

Pass-Thru

VAPP

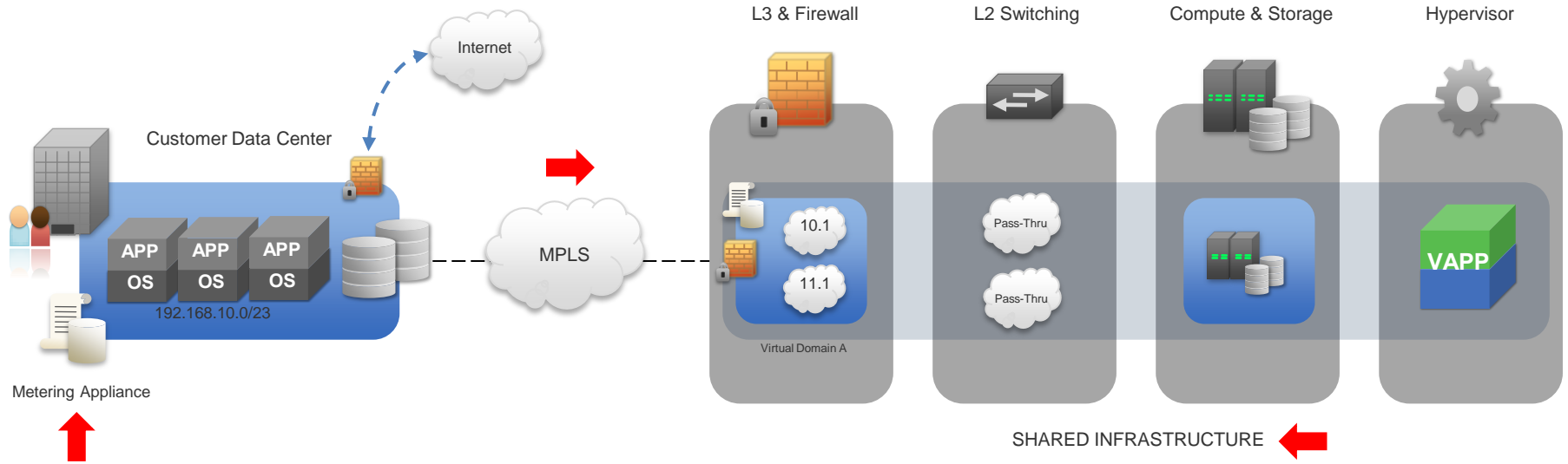Cloud Data Center (DR Site)

1 Primary Data Center facility running all mission-critical services & applications

2 Secured WAN connection for connectivity between the primary Data Center and the Cloud Data Center

3 Cloud Data Center facility running on-demand capacity based resources for failover and recovery

L3 & Firewall

L2 Switching

Compute & Storage

Hypervisor

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Customer Data Center

APP OS   APP OS   APP OS

192.168.10.0/23

Metering Appliance

MPLS

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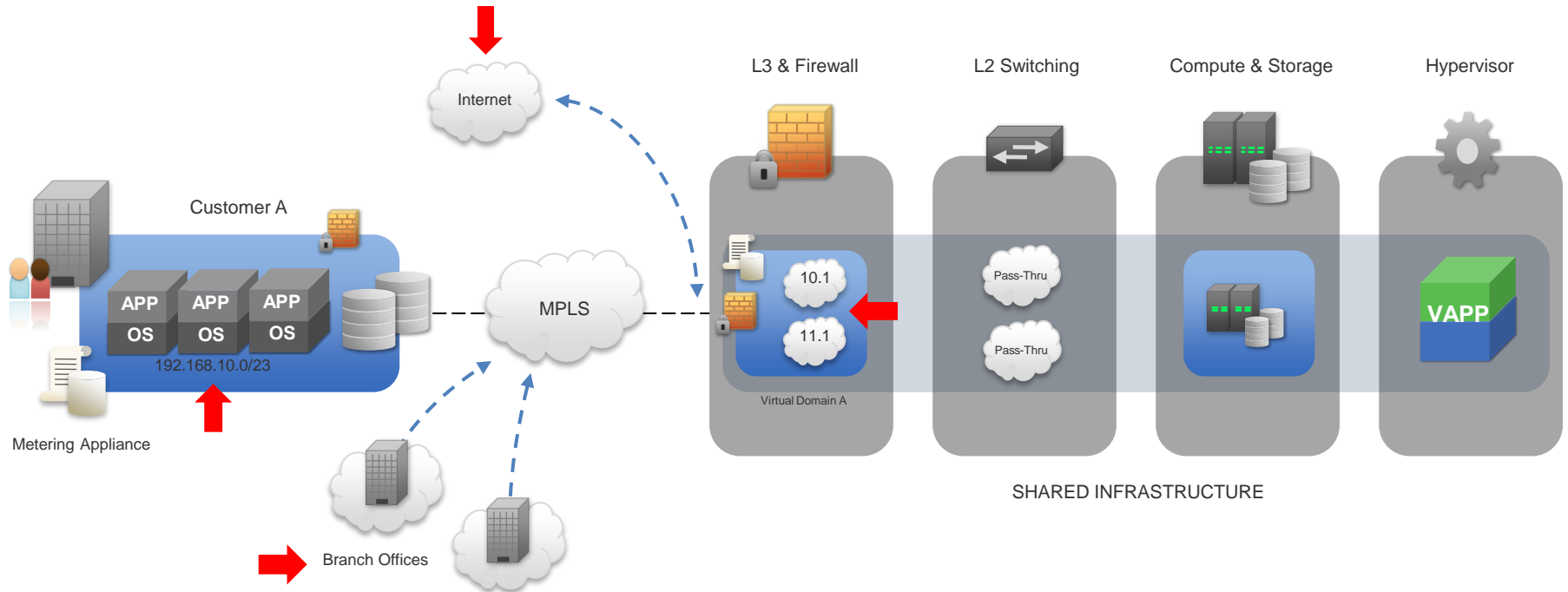VAPP

SHARED INFRASTRUCTURE

1 CPU, RAM and other resources are tracked via a managed on-premise virtual appliance

2 Virtual & Physical server data is replicated to a VeriStor Cloud Facility using array or software based replication methods.

3 Shared compute, storage & network resources are reserved based on local metered usage

L3 & Firewall

L2 Switching

Compute & Storage

Hypervisor

Internet

Customer A

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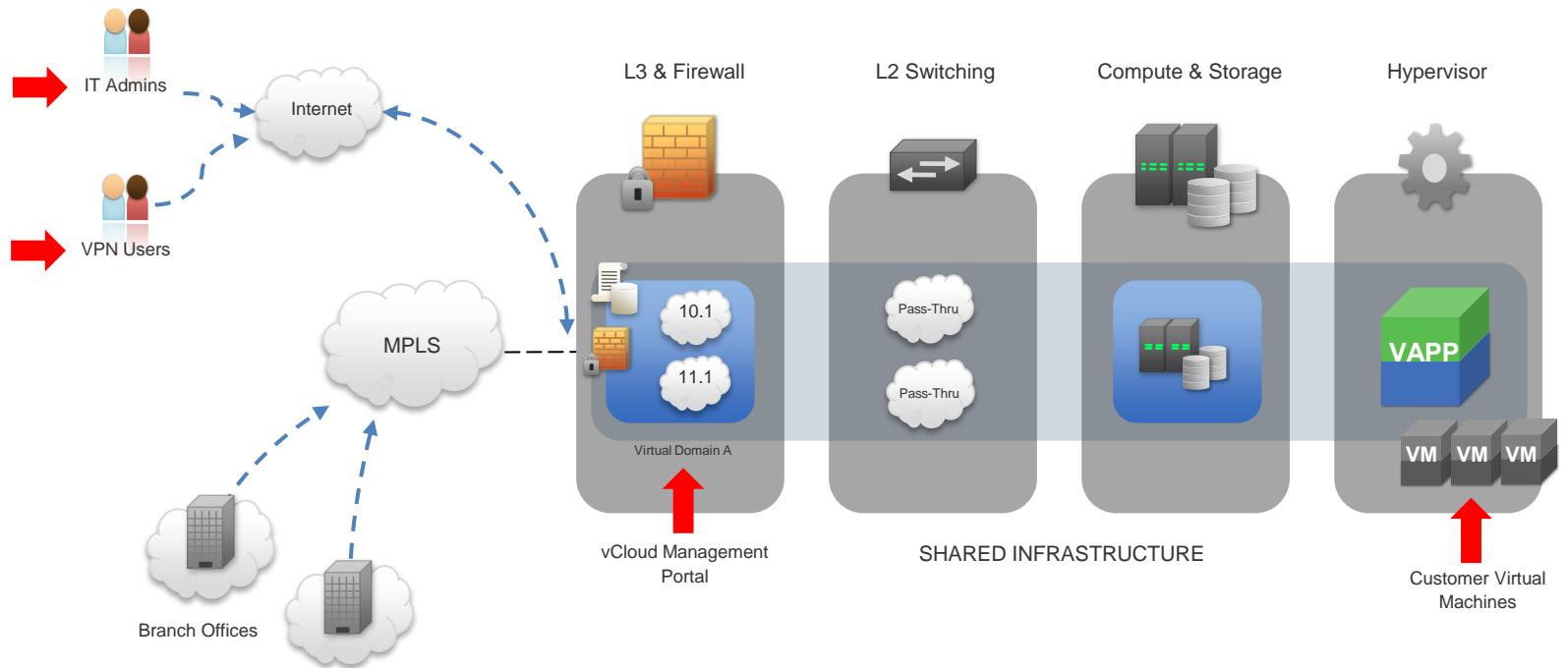VAPP

SHARED INFRASTRUCTURE

Branch Offices

1 Trusted LAN subnets and VLAN's are mirrored at the VeriStor Cloud Facility and isolated within the customer Virtual Domain

2 Internet facing services are failed-over with dedicated secondary public IP addresses with all Firewall security policies pre-configured

3 Branch Office connectivity is maintained through support for BGP routing services or secondary IPSEC VPN tunnels

Accomplishments

- Achieve 1-hour RTO with complete failover of all mission-critical systems including AD, Exchange, SQL, Centricity, and more

- Achieve a 3-hour RPO of all data using Dell Equallogic storage replication and a 100Mbps MPLS connection

- Eliminated all CAPEX costs including yearly maintenance renewals and hardware "refresh" cycles for maintaining and growing their own secondary "hot" site

- Reduced OPEX costs by using a fully-managed cloud-based DR service

Primary Infrastructure

- 3 host ESXi cluster

- 30-35 Virtual Machines

- 15GHz CPU / 150GB RAM

- 5TB iSCSI Shared Storage

- vSphere Enterprise Plus

- 100% virtualized, including Tier-1 mission-critical applications

On-Premise DR	
Hardware	$75,000
Software	$35,000
Facilities	$2,000/month
Operations	$2,000/month
$350,000 | 60 month	

Cost Benefits

- 50-60% reduction in overall IT costs

- Resource based consumption

- Eliminates costly "refresh" cycles

- Reduces storage costs through SRM vSphere Replication

- Affordable RTO's through SRM fail-over/fail-back automation

Cloud DR (DRaaS)	
Standby Fee	$2,500
Failover Fee	$4,500
$150,000 | 60 month	

$158,000 | 60 month

(Includes 4 months of failover)

Key Take-Aways

- Continue to virtualize physical workloads, including mission-critical Tier-1 applications to simplify the requirements for replication and DR.

- Understand the business requirements around DR, including the RTO/RPO and risk impact to the business in the event of an outage.

- Cloud based Recovery Services (RaaS) can significantly reduce complexity and cost to achieve true "hot" standby recovery services with minimal RTO's and RPO's