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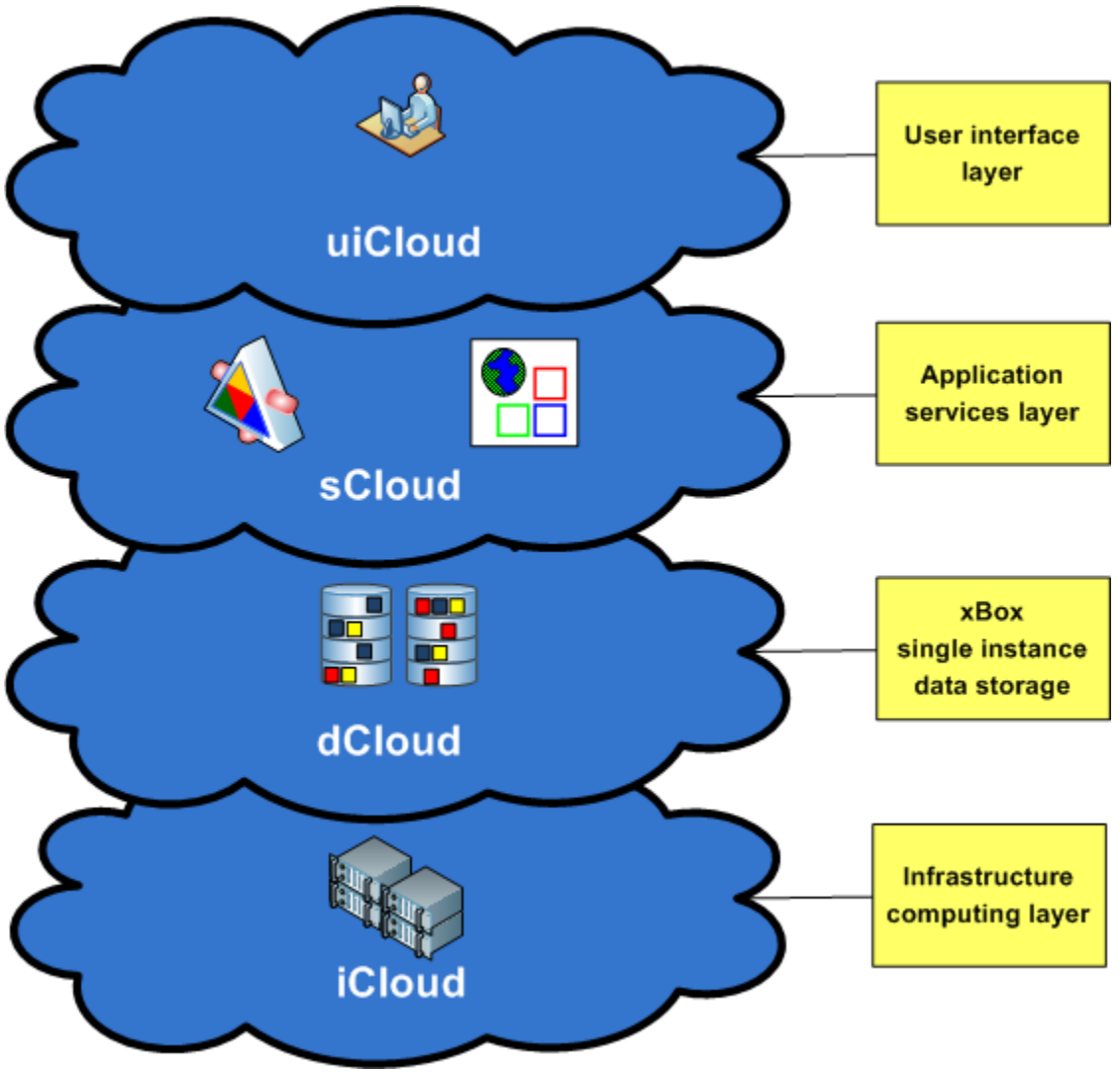
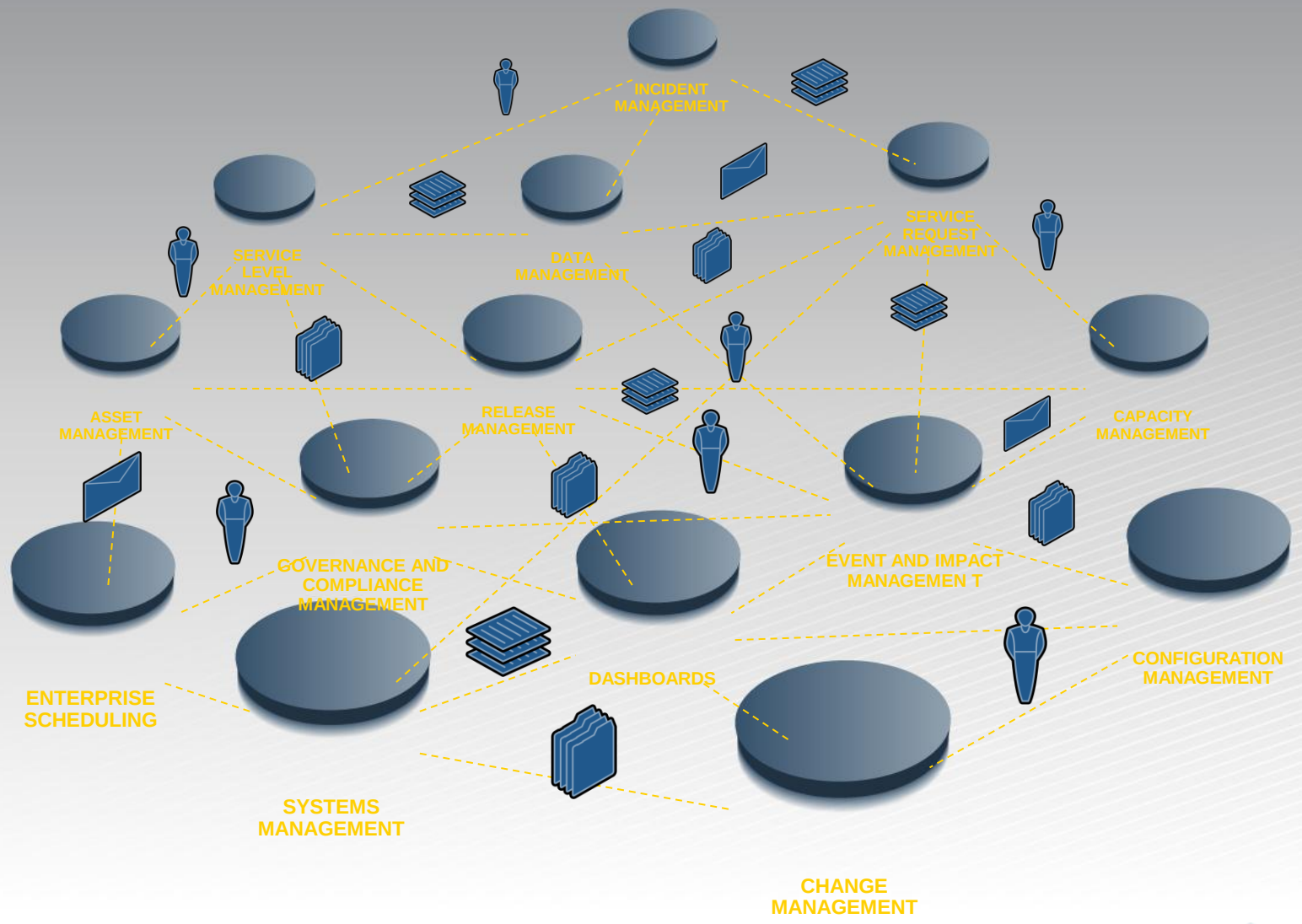
People, Process, Technology
Transforming the Enterprise Desktop
To An
Enterprise Virtual Desktop

Elements of Abstraction in the Enterprise Hybrid Cloud

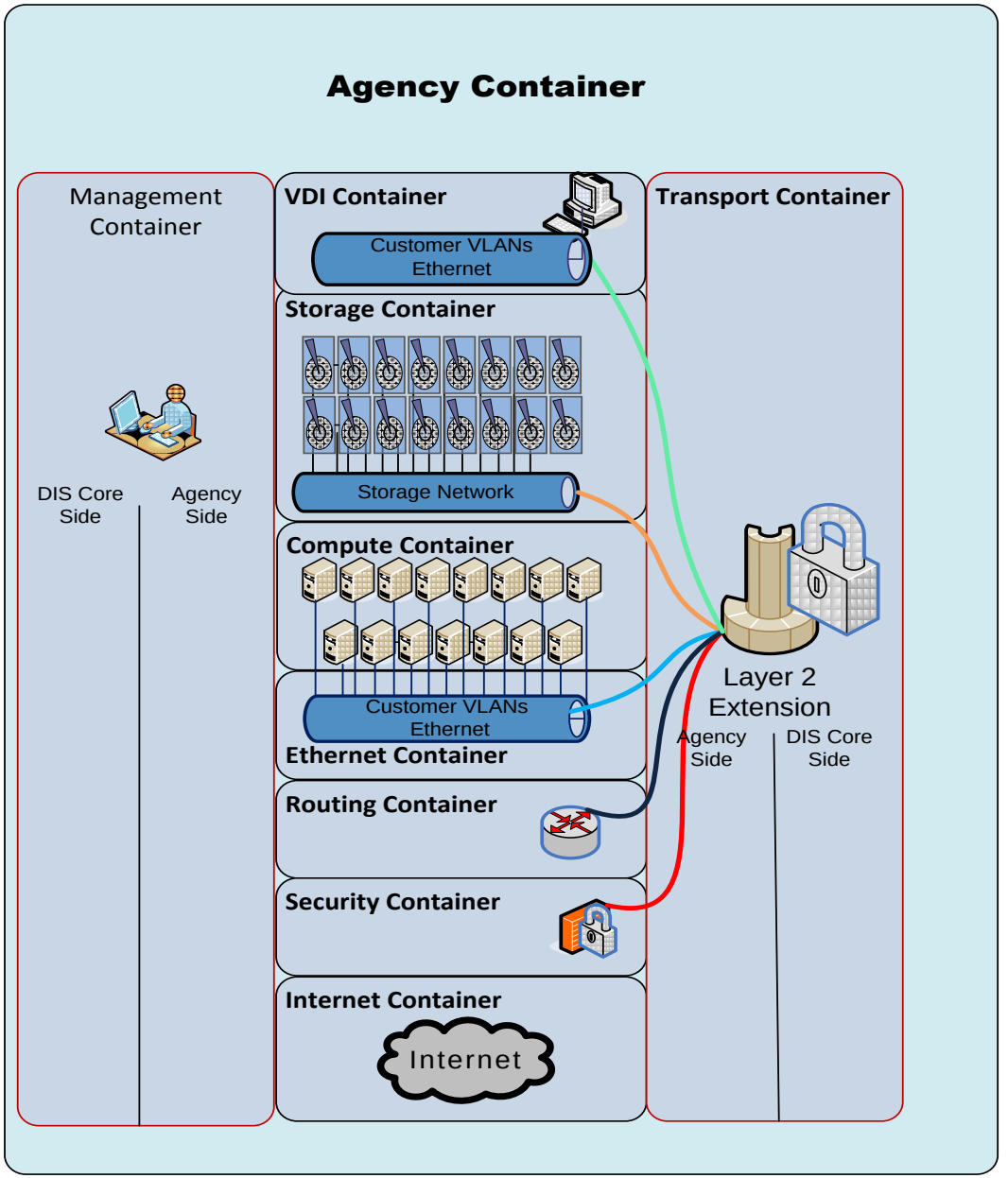


Management Elements of IT Infrastructure

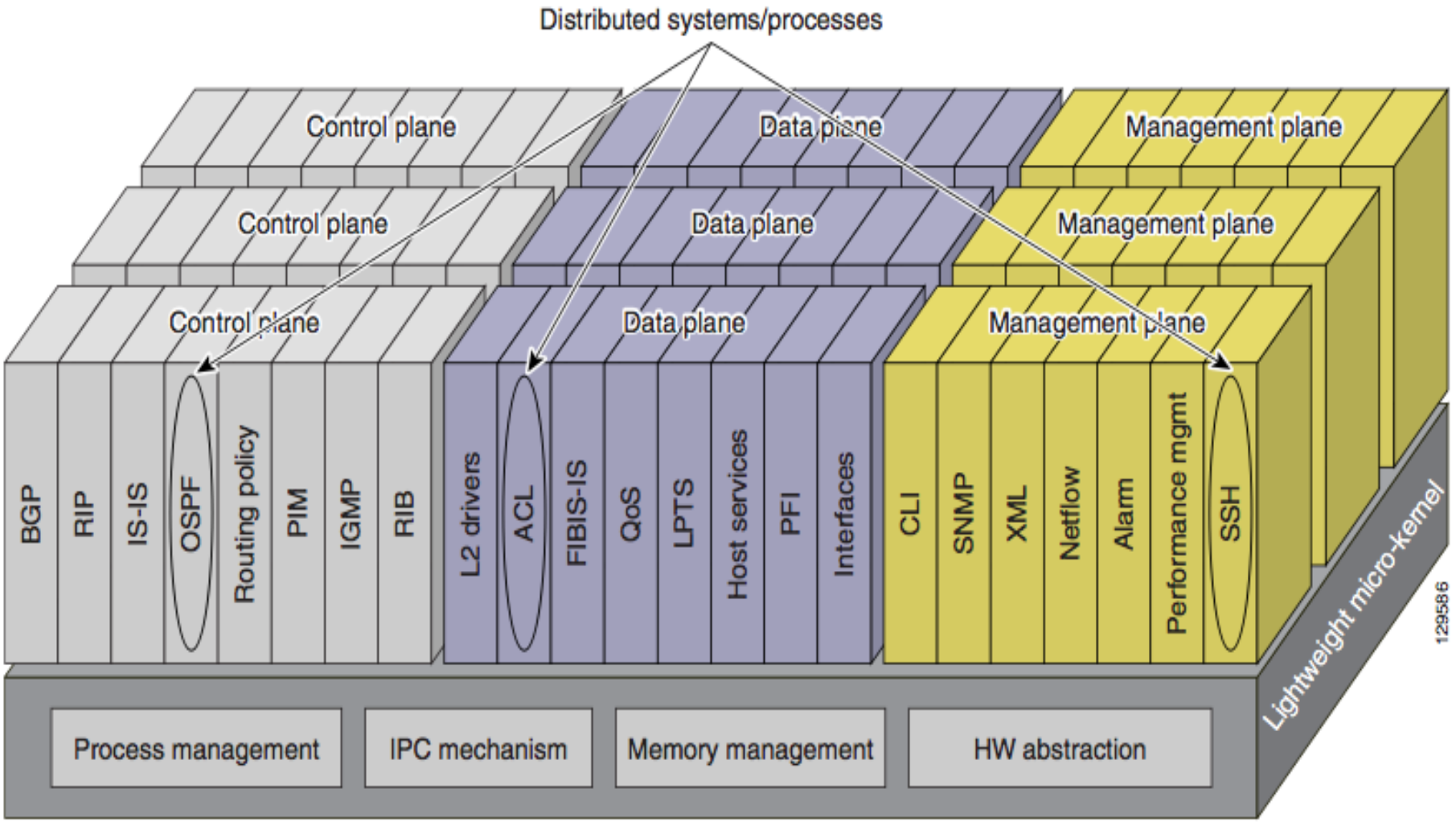


Functional Common Management

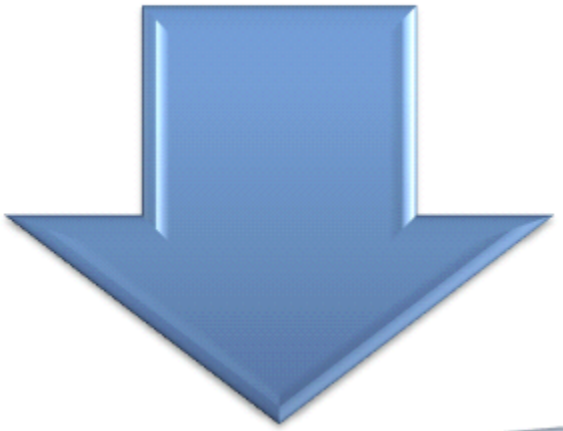
Holistic virtualization thru abstraction layers.



Evolution of the networking the environment on a hypervisor



IT Requirements



- Manage disparate desktop images easily
- Manage explosion in multitude of devices
- Provide secure, continuous access to desktops, apps
- Manage Legacy, Win32 and Web apps
- Low management costs

User Requirements

- Personalized Desktops that follow them
- Flexible access anywhere using multiple devices
- Desktop Biz Continuity & Disaster Recovery
- Legacy, Win32, Web apps work well together
- Rich Application Interface

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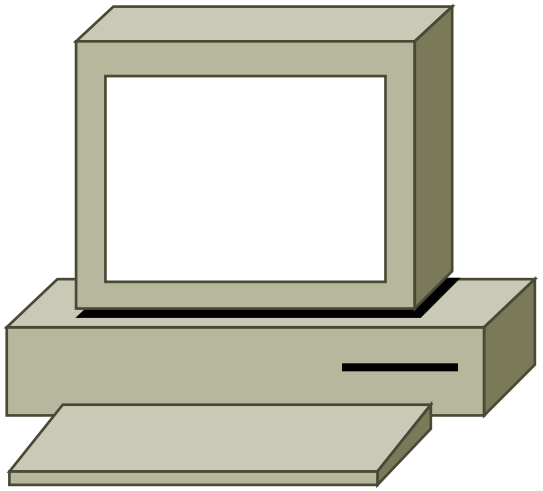
Components of the Enterprise Desktop



- CPU
- Memory
- Network Connection
- Disk IO
  - Capable of supporting 1500 IOP's
  - Massive amounts of Disk Storage

Challenges to the Model:

- High Opex Cost to Support infrastructure in the edge.
- Refresh cycles are costly and are time consuming.
- Local disk backup's solutions are expensive and error pron.

Elements of VDI Nirvana:

- Zero support cost of the edge
- Transformation of support infrastructure support teams
- Solving the hardware chalenges

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VDI Assessment Tools

- **Application and Workload Insights**
  What applications and workloads do I have in my datacenter environment? Which ones would thrive in a virtualized environment? Which ones will have problems if virtualized?

  User Insights
  Which user environments could be successfully virtualized?

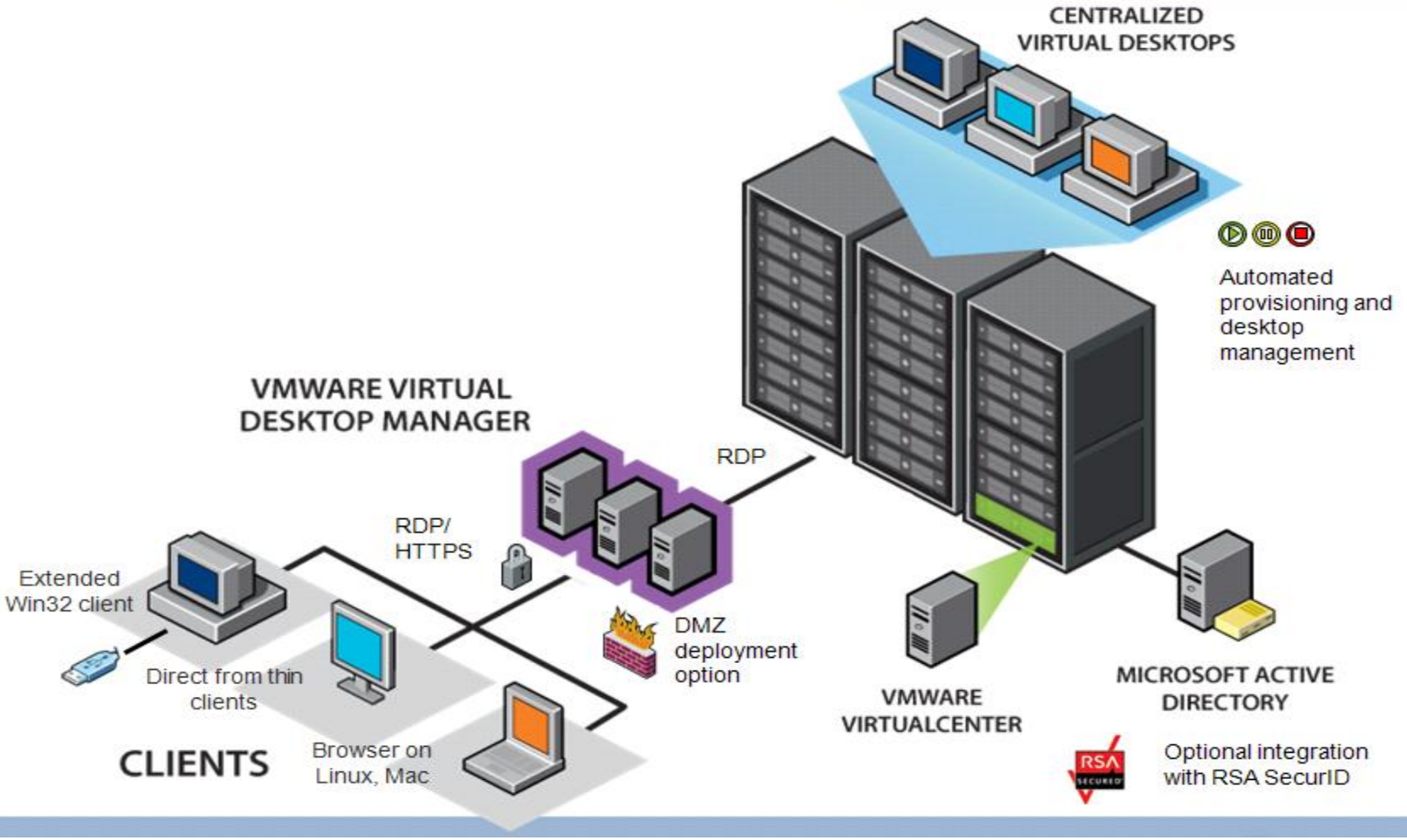
  Capacity
  How much CPU, memory and I/O am I currently consuming in my datacenter and environment? How can I define the virtual machines based on the resources available, taking into account the resource requirements by workload, user need, time of day, geography and other factors?

  Migration
  What is the best path to go from traditional to a virtualized environment without disrupting operations? What are the costs associated?

  Management
  How do I manage the resulting physical and virtual servers I have in the datacenter?

VDI - Solutions

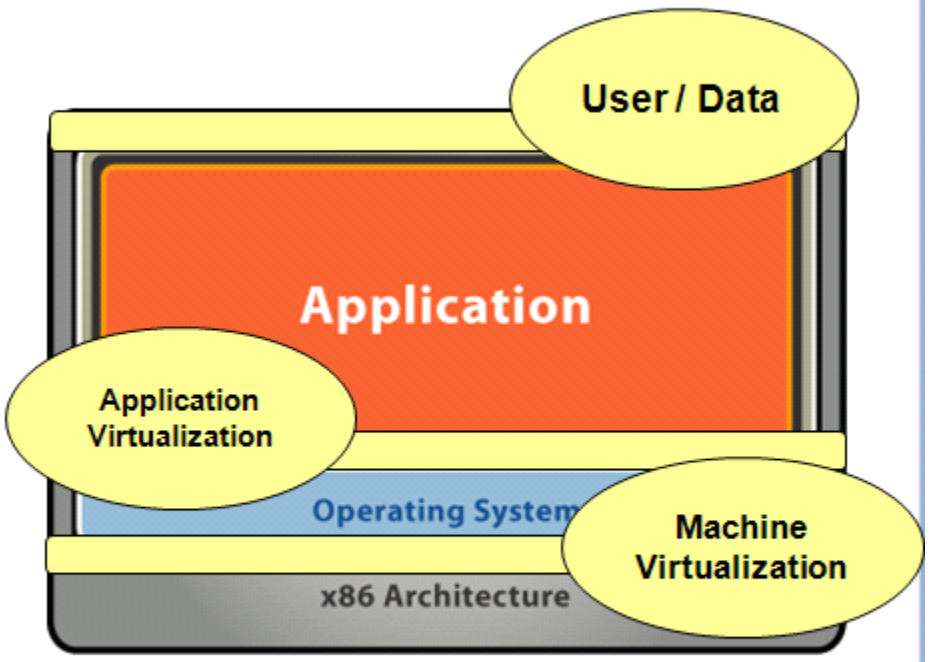
VMware VDI Solution Overview



Layers of the Technology Stack

Virtualization enables Isolation, encapsulation, and mobility

- Run different operating systems side by side
- Run legacy Win32 apps next to web 2.0 applications
- Move OS, apps, desktop to different devices
- Separate user data and settings into a universally accessible VM



Disk Clones

Lowering Overall Storage Costs

Manage 1000s of desktops

Streamline Desktop Management

- Quick Provisioning
- Simplified updating, patching and upgrading while retaining user settings
- Guarantee updates applied to every desktop

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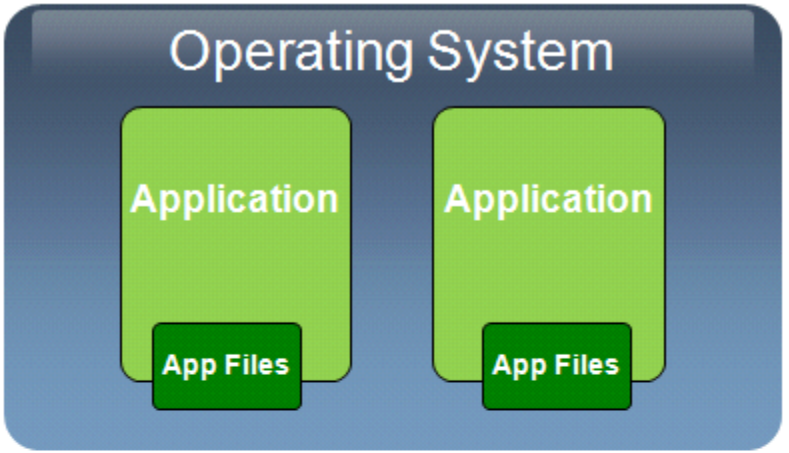
Application Abstraction

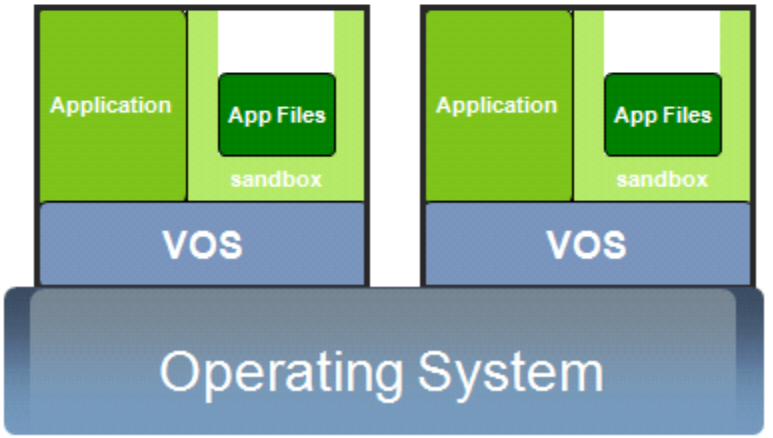
Features

- Decouples applications & data from OS
- Agent-less architecture
- Wide platform and application support
- Plugs into existing Application Management tools



Benefits

- Reduces Storage Costs
- Minimizes desktop images to be managed
- Streamlines application patch updates
- Allows multiple versions of applications to be used



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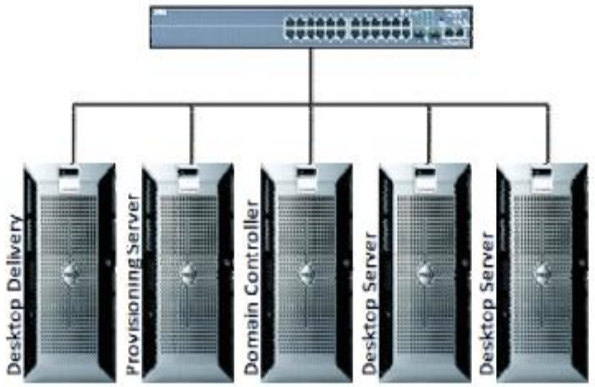
Application Streaming

- Computer **application streaming** is a form of on-demand software distribution.
- The basic concept of **application streaming** has its foundation in the way modern computer programming languages and operating systems produce and run application code. Only specific parts of a computer program need to be available at any instance for the end user to perform a particular function. This means that a program need not be fully installed on a client computer, but parts of it can be delivered over a low bandwidth network as and when they are required.
- Application streaming is usually combined with application virtualization, so that applications are not installed in the traditional sense.

Elements of a Hybrid VDI Solutions

XenDesktop Clients



XenDesktop Servers

Virtual Machine Configuration

	Domain Controller (DC)	Desktop Delivery Controller (DDC)	Provisioning Server (PVS)	Desktop Server (DS)	Database Server (optional)
Description	AD, DNS, DHCP	Connection broker	Streams OS to VMs	Hosts virtual desktops	For farm data stores
Virtual Machines	1	1	1	2	1
Virtual CPUs	1	1	2	2 per VM	1
Virtual Memory	1 GB	2 GB	4 GB*	16 GB per VM	4
Virtual Interfaces	1	2	4	4 per VM	8
Virtual Disk Capacity	20 GB	20 GB	200 GB**	250 GB***	10 GB

XenDesktop Virtual Machines

Stratus Avance Software

2 Physical Servers

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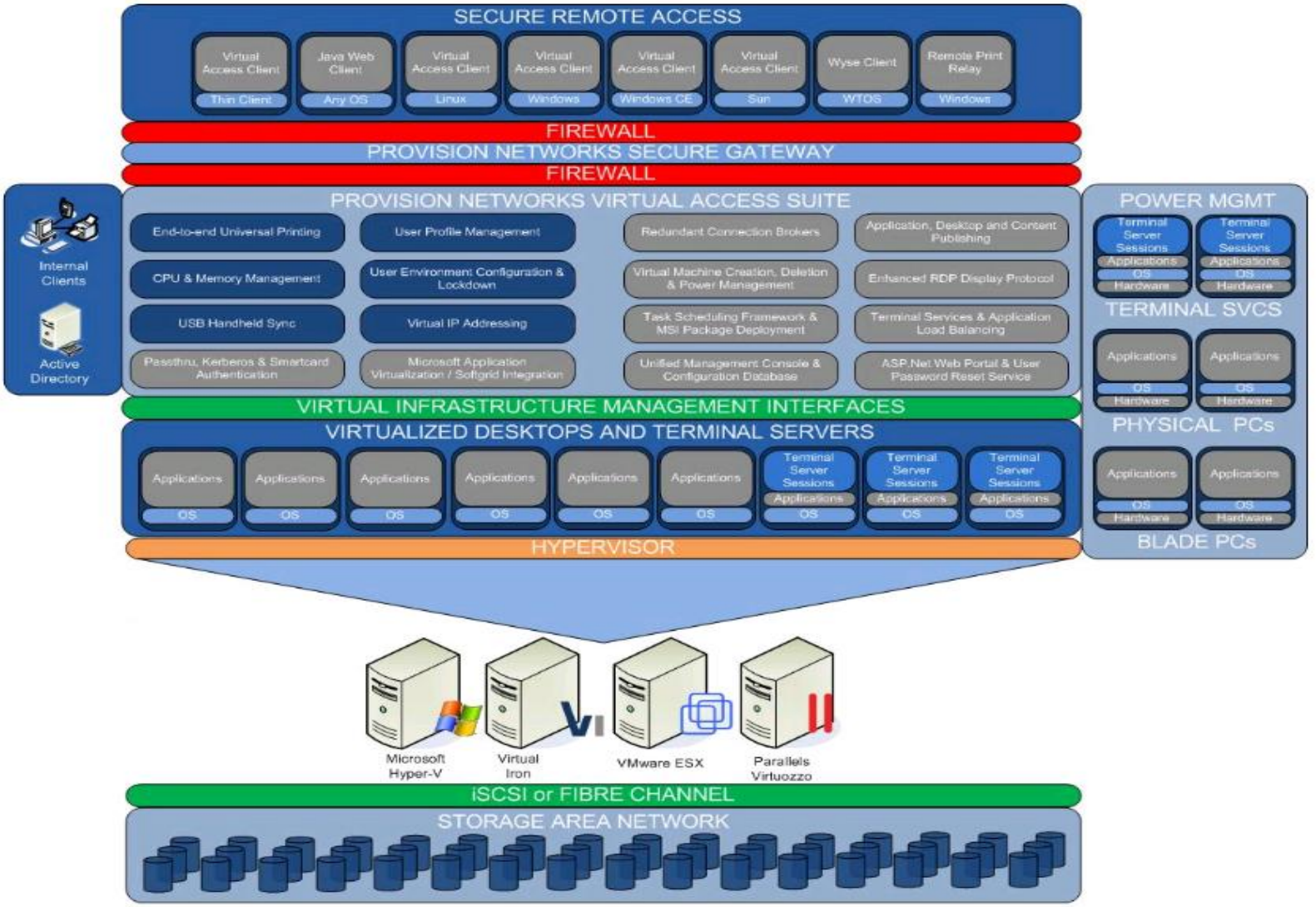
Transformation and Management tools



Types of Endpoints

Zero Clients vs. Thin Clients - Comparing VDI Endpoint Choices

The key driver for companies adopting VDI is the promise of radically lowering the Total Cost of Ownership (TCO) while still delivering a complete Windows-based desktop computing environment. One decision that will greatly influence the success of delivering TCO savings from any VDI deployment is your choice of the endpoint or client device architecture.

The technical whitepaper covers:

- VDI endpoint technologies and architectures
- Five key factors in choosing an VDI endpoint
- Impact on productivity, costs, security, and energy use from endpoints
- Strengths and weaknesses of thin clients and zero clients

It also provides the criteria needed to understand whether a vendor's offerings are truly zero clients or simply masquerading as zero while not delivering the benefits you need.

Results from VDI Solutions

Results

- 12,000 desktops deployed
- TCO cut by 46%
- Software deployment time reduced from 3 months to few hours
- Only 3 Support Staff
- 20,000 desktops to be deployed by end of **2010**

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- Questions / Answers

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