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Driving Standards in the Efficient Enterprise

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Agenda

Situation: Complexity driving OPEX

Virtual Integrated System: Path to simplification

Service Profiles: Standardization enabling Open, Capable,
                              Affordable Solutions
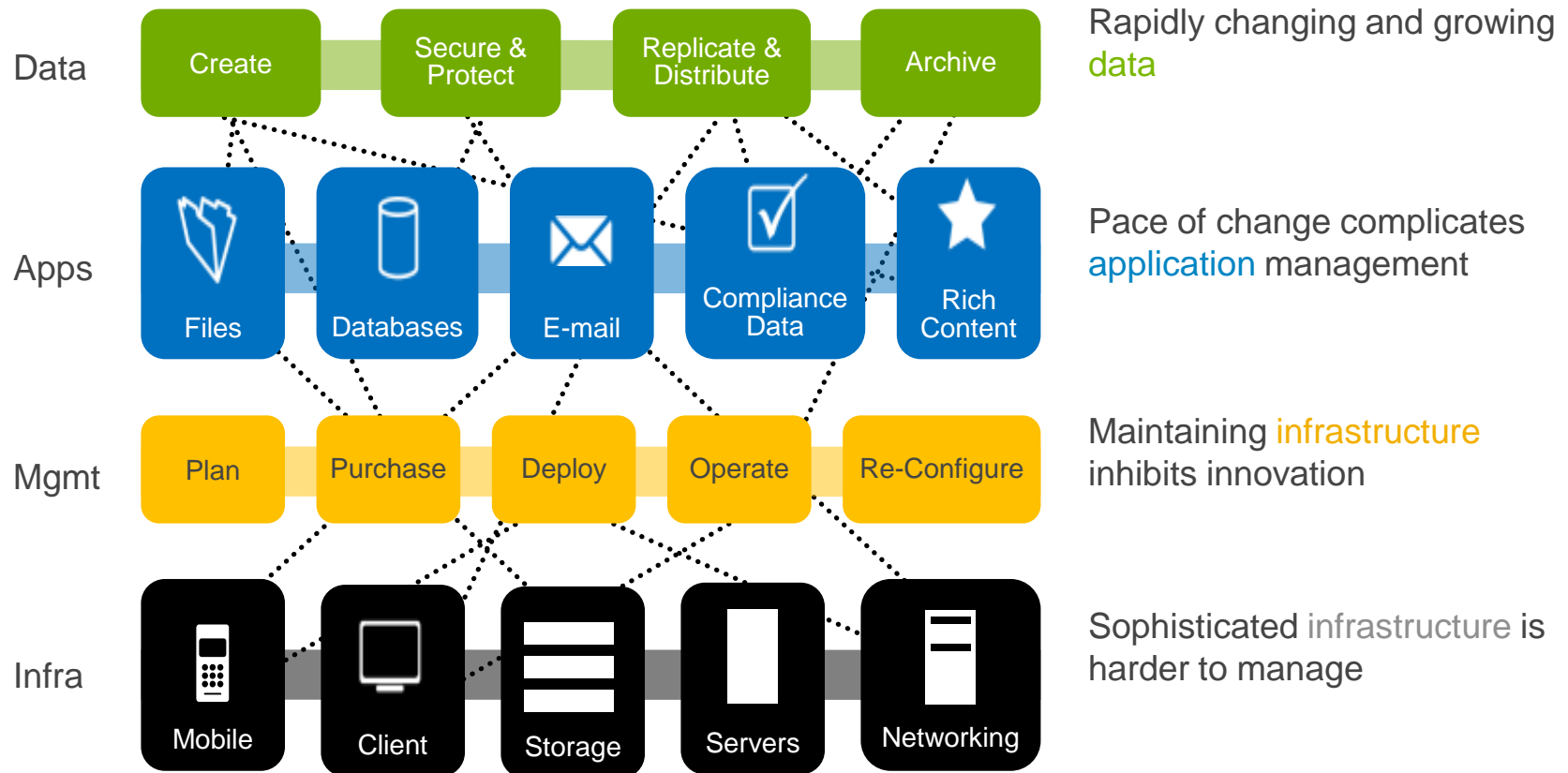
Calls to Action

Today's IT environments are not able to adapt to rapid changes in demand

Data

| Create | Secure & Protect | Replicate & Distribute | Archive |

Rapidly changing and growing data

Apps

| Files | Databases | E-mail | Compliance Data | Rich Content |

Pace of change complicates application management

Mgmt

| Plan | Purchase | Deploy | Operate | Re-Configure |

Maintaining infrastructure inhibits innovation

Infra

| Mobile | Client | Storage | Servers | Networking |

Sophisticated infrastructure is harder to manage

Achieving a flexible and dynamic IT environment demands a dual approach

Revolutionary

- Platform based
- Application oriented

Intelligent Infrastructure

Simplified Infrastructure Management

Streamlined Application and Workload Management

Intelligent Data Management

Evolutionary

- Virtualization based
- Infrastructure oriented

DELL'S
VIRTUAL INTEGRATED SYSTEM

ENABLING WORKLOAD DRIVEN AUTOMATION

Dell's Virtual Integrated System

Harnessing key technology innovations to radically reduce operational costs in today's enterprise

VIS Delivery Center

Accelerate delivery of strategic IT services with groundbreaking new capabilities

+ Drag-&-drop image creation
+ Self-service workload deployment
+ Advanced monitoring

VIS Integration Suites

Integration of the most common infrastructure activities into VM Managers

+ Monitor and manage hardware
+ Configure hardware for hypervisor
+ Basic hardware diagnostics
+ Multiple Hypervisors

VIS Infrastructure

Rapid resource deployment, optimized operations, and planning

+ Advanced Infrastructure Mgmt
+ Task Automation and Mgmt integration w/ VMM consoles
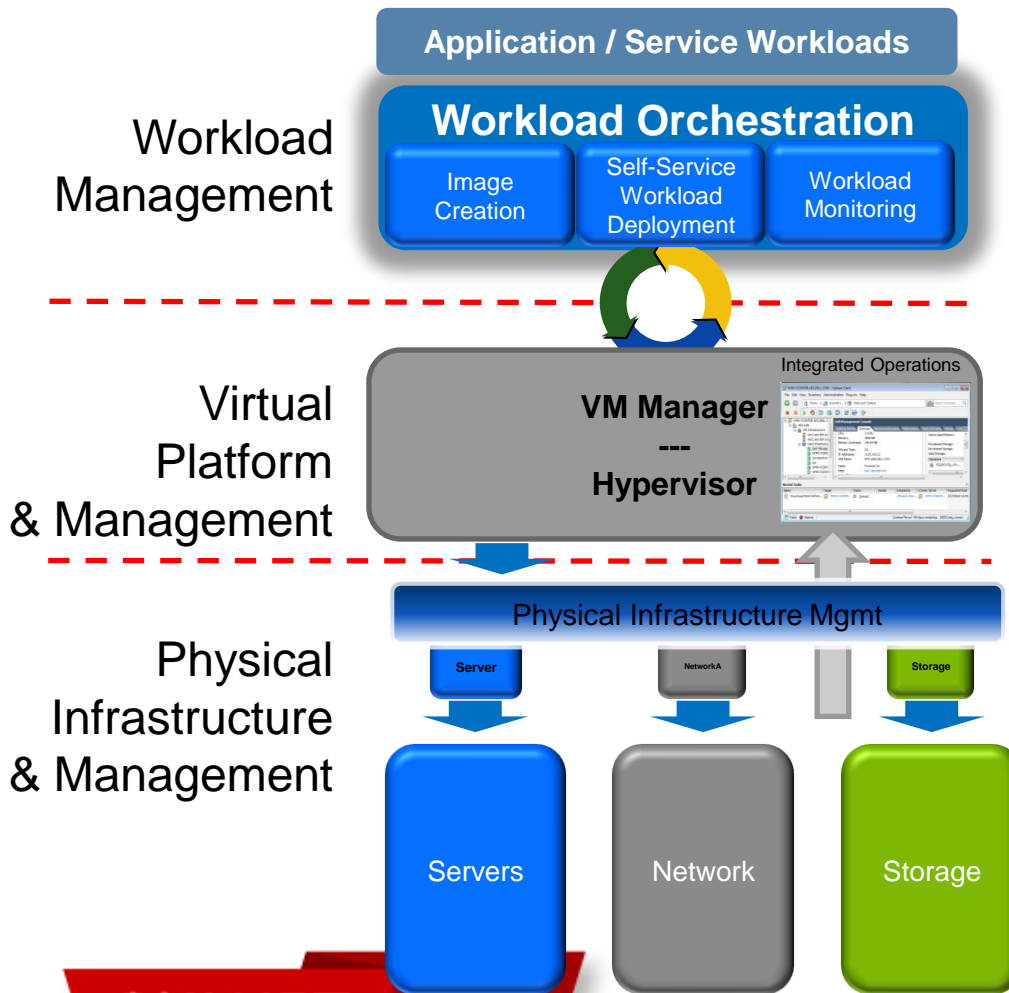+ Virtualized, intelligent, infrastructure

Virtual Integrated System Architecture

Workload Management

- Application / Service Workloads
- **Workload Orchestration**
  - Image Creation
  - Self-Service Workload Deployment
  - Workload Monitoring

Virtual Platform & Management

- Integrated Operations
- **VM Manager**
- **---**
- **Hypervisor**

Physical Infrastructure & Management

- Physical Infrastructure Mgmt
  - Server
  - NetworkA
  - Storage
- Servers
- Network
- Storage

Key Tenets

- **Service Profile** driven with open definition of logical resources & SLAs
- **Unified point of control** for physical (re)allocation
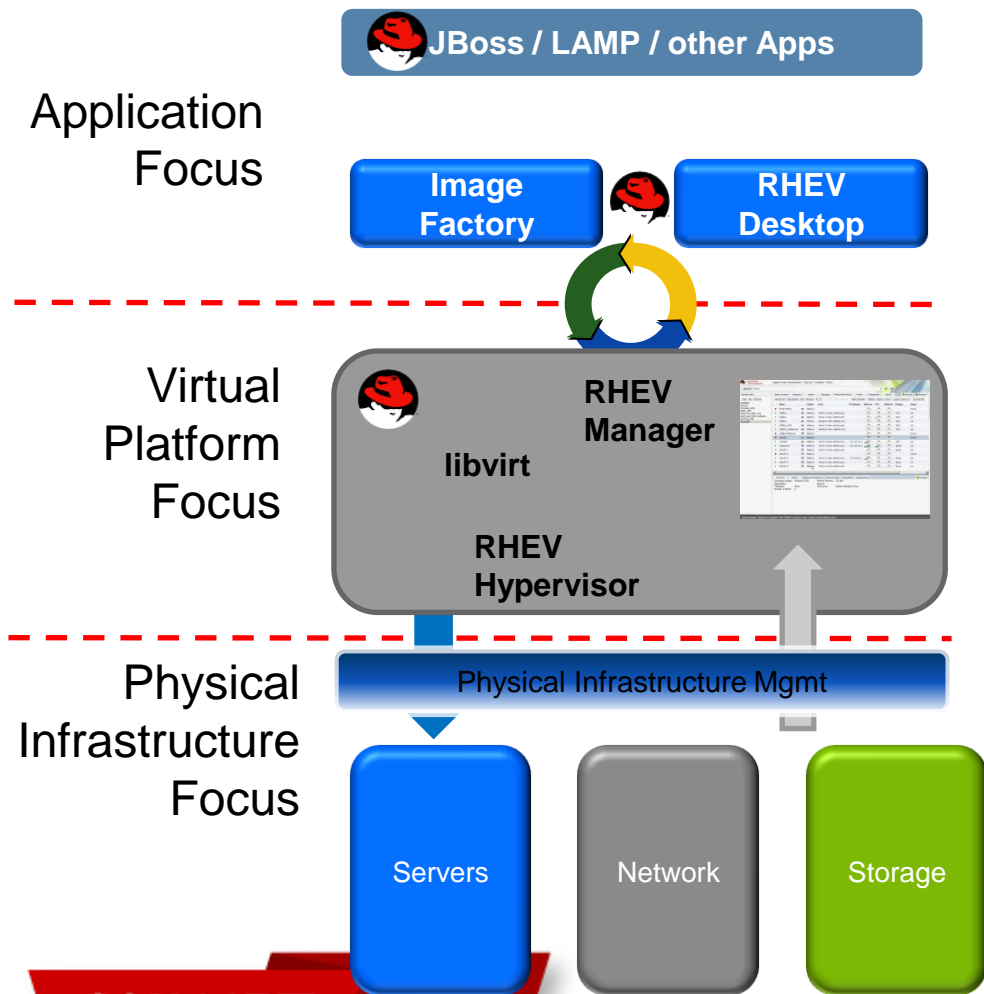- **Intelligent, Stateless End Points** w/ profile aware embedded mgmt

How Red Hat Enterprise Virtualization components might fit into the VIS architecture

JBoss / LAMP / other Apps

Application Focus

Image Factory

RHEV Desktop

Virtual Platform Focus

RHEV Manager

libvirt

RHEV Hypervisor

Opportunity for third-party components to round out product offerings

Physical Infrastructure Focus

Physical Infrastructure Mgmt

Servers

Network

Storage

SERVICE PROFILES

ENABLING WORKLOAD DRIVEN AUTOMATION

Service Profiles: Definition and Usage

A description of the capabilities and requirements

- Of a service required by a business

- Of a workload to be run as a Virtual Machine

- Of datacenter policies for services and infrastructure

- Mappable to physical resources in a datacenter or cloud

Defined by application supplier(s), IT business function, IT operations admin, …

Used by deployment and orchestration components

Not the same as a CIM profile from DMTF

Example Service Profiles

Application Connectivity Requirements:
• Public Connection: Virtual NIC 2
• Security Domain = public internet
• Protocols: inbound HTTP on port 80, HTTPS on port 443
• Protocols: outbound HTTP, HTTPS, Kerberos

Application Approximate I/O Requirements:
• Network
•   Input: 800 bytes per transaction
•   Output: 42000 bytes per transaction
• Database
•   Reads: 4 exchanges, 20000 bytes per transaction
•   Writes: 0 exchanges, 0 bytes per transaction

Business Data Security Requirements:
• Data at Rest: Not Encrypted
• Data in Flight: Encrypted

Business Data Geographical Requirements:
• Data Location: US only

Apps, business, or I/T policies specify information in Service Profiles.

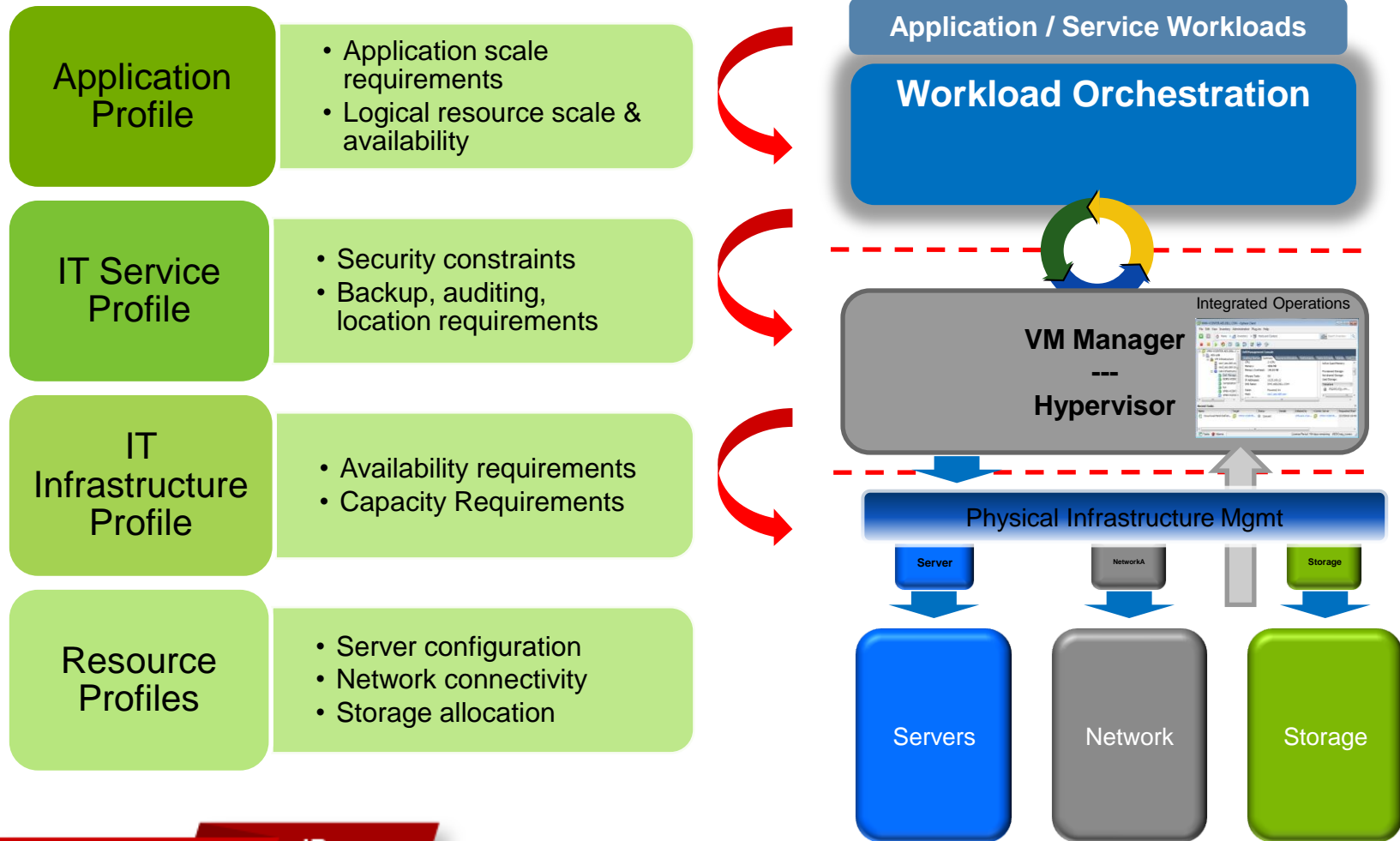Resource managers consume, enact, and enforce policies as specified.

Profile Utilization Through the Ecosystem

Application Profile
- Application scale requirements
- Logical resource scale & availability

IT Service Profile
- Security constraints
- Backup, auditing, location requirements

IT Infrastructure Profile
- Availability requirements
- Capacity Requirements

Resource Profiles
- Server configuration
- Network connectivity
- Storage allocation

Application / Service Workloads

Workload Orchestration

Integrated Operations

VM Manager

Hypervisor

Physical Infrastructure Mgmt

Server   NetworkA   Storage

Servers   Network   Storage

Implement & Standardize in Parallel

Open Virtualization Format in DMTF

> An open standard for packaging and distributing virtual appliances or more generally software to be run in virtual machines.

> A starting place for installation; insufficient for capacity and operations.

OVF evolution can be the basis for service profile

> Extensions needed

>> Resource requirements for intelligent configuration and/or placement

>> Network connectivity and security requirements

>> Fail-over and disaster recovery scenarios

Dell seeking partners to work implementations parallel with standards

Call to Action

Help define Service Profiles that are meaningful for your environment

Help develop open, capable, affordable components that leverage Service Profiles for interoperability

For more information: Matt_Domsch@dell.com

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