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Running Red Hat Products at Red Hat

J Nick Otto
Director, Red Hat
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presented by



Agenda

Infrastructure Overview

Virtualization Strategy and Implementation

Server and Storage Standards

Data Replication Strategy

Middleware Standards

Configuration and Build Management

Systems Monitoring and Administration

Other Tools and the Desktop

Management Considerations

Infrastructure Overview: Red Hat's Footprint

65+ offices, 80+ labs, 2 DCs, in 29 countries

1,500+ managed servers

300+ TB of managed storage

500+ core network devices,
15,000+ network endpoints

12 call centers

Over 2 million emails per day

3,500+ User Accounts



Infrastructure Overview: IT Operations Structure

Help Desk / Service Desk

Regional Infrastructure Management Leads

Corporate Infrastructure Services

Database Administration/Support

Enterprise Information Security

Data Networking and Voice Services

ITIL Process Management

Business Continuity and Disaster Recovery Planning

Production Virtualization

RHEV Deployment

3 Key platforms currently RHEV managed hosts

Web & Services stack, Knowledge Base, Mail Relays

10 Physical Machines, 24 Virtual hosts

Foundation for future VM hosting

Plan for future deployments

Monitor and stabilize mixed environments

Evaluate applications for Virtual Hosting

Development Virtualization

Supporting 200-300 volatile virtual machines

Utilizing both Xen and KVM

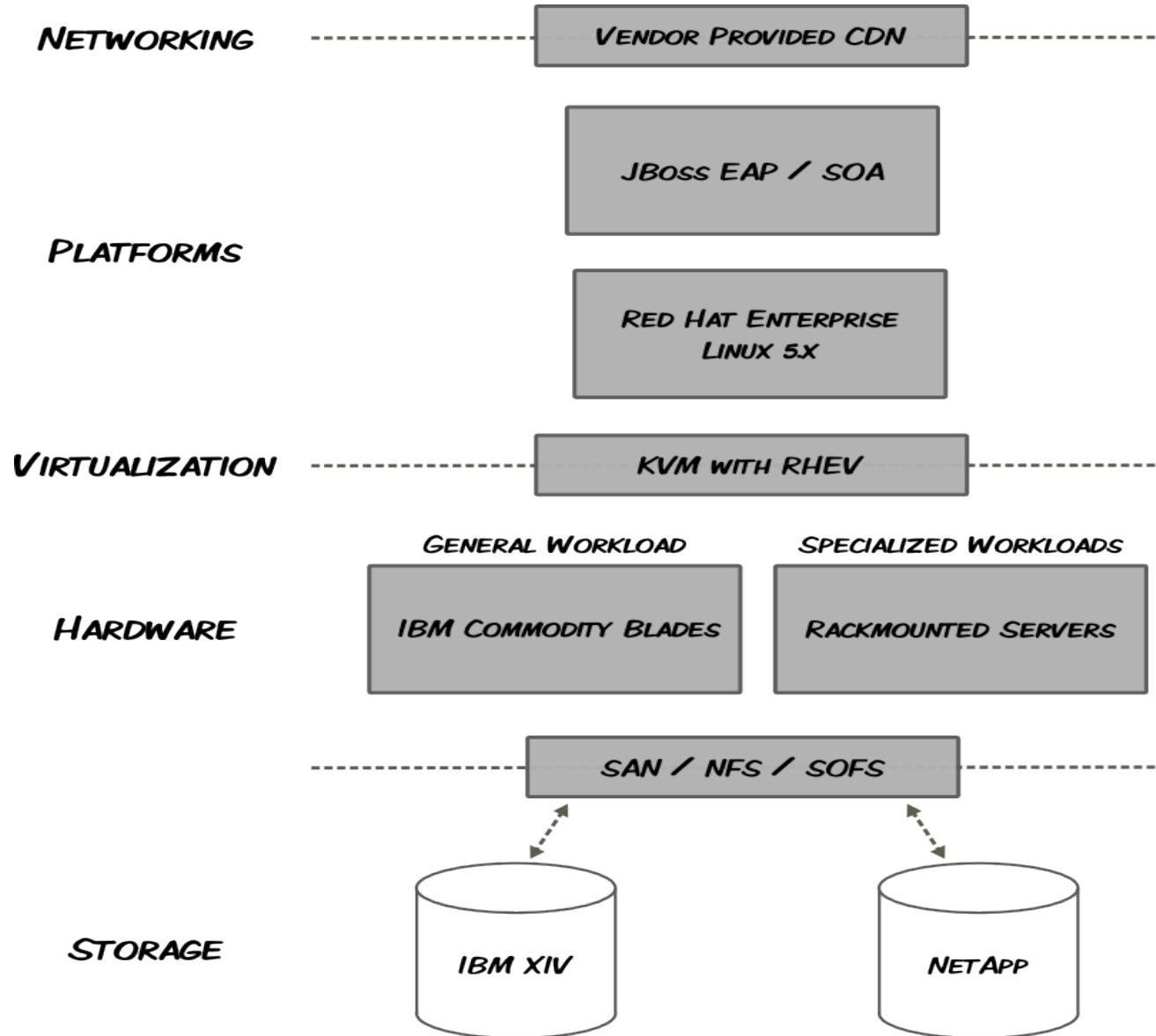
Migrating to KVM has been very successful

Rapid provisioning capabilities

Organization wide standards around config, build, deploy

Moving to Datacenter to support 1000+ VMs

Infrastructure Architecture



DB Data Replication

MySQL Replication – v 5.1.30

3 Major Master-to-Master environments

ESB, Internal and External Clearspace environs

2 Major Master-to-Slave Environments

Customer Service Portal – JBoss

Issue Tracker – RHEL support app

Why MySQL Replication

Ease of configuration

Ease of failover, recovery and re-sync

Ease of management and upgrade

Middleware Structure

Migrating from a proprietary / community mix to a JBoss stack

Processes all of Red Hat's indirect/channel orders

Utilizes both JBoss EAP and JBoss SOA platforms

Leverages core JBoss technology to provide fault tolerance and high availability

Has delivered a significant performance improvement

Configuration Management

Development environments are configured as closely as possible to production environments

Common configuration management platform (Puppet), enabling all environments to share configuration information

Systems configurations are also managed with Puppet.

Side effect of supporting DR through rapid, automated, reproduction of given machine

Build Management

Continuous Integration strategy, leveraging a set of open source tools to completely automate the process of compiling, testing, and deploying code

Hudson: used to orchestrate the invocation of each step of the build process

Maven: build multi-tool, w/plugins to get code into RPMs

Func: orchestrates the deployment of code into a clustered infrastructure

Systems Monitoring

Munin and Cacti for statistic collection

Nagios as our standard alerting system

Utilize JMX access in JBoss to bridge into our monitoring infrastructure

Other Tools and the Desktop

Mail and Calendaring

Blogs and Wikis

Chat

Mobility

Desktop

RHEL, Fedora, (and others)

OpenOffice

CSB / Backups

Management Considerations

The use of mainly open source tools / products changes the way you think about and plan for managing IT.

Financial Implications

Risks

Staff management / Training / Retention

Outsourcing / Vendor Management

Ongoing Application Maintenance and Support

QUESTIONS?

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