ACCELERATING VMWARE HANDS-ON LABS WITH EMC XTREMIO

Joseph Dieckhans
Infrastructure Manager
VMware

Vikram Belapurkar
Solutions Marketing Manager
EMC XtremIO
VIRTUALIZATION: REALITY CHECK

The Promise

• 10x lower footprint
• Breakthrough performance and lower TCO
• Fully virtualized data center
• Simpler management

The Reality

Complexity grows with scale

Siloed storage management

Partial virtualization

Tier 1 workloads largely physical

Infrastructure sprawl

Flash Memory Summit 2015
Thousands of VMs = I/O blender

Provisioning & Cloning new VMs

VMotion Operations
STORAGE REQUIREMENTS FOR PRIVATE CLOUD

Consistent performance

Self Service Automation

Datacenter service (replication, backup, disaster recovery)

Monitor / Manage

Data-services (snapshots, cloning, compression, de-duplication)

Storage Optimized for all workloads

Private Cloud

Flash Memory Summit 2015
VMware’s private cloud

Dedicated global team running with VMware IT as a customer with a “Cloud First” policy

75+ person worldwide team with solid experience and part of VMware R&D

24x7 monitoring and global support with VMware certified engineers

220,000 VM Units
Over 220,000 VM Units deployed globally

Current availability maintained at 99.9%

VMware’s Private Cloud

Agile  Global  Support  Geo  Management

Flash Memory Summit 2015
Major Cloud Tenants

VMware’s Private Cloud

Technical Marketing
Hands-on-Labs
For customers

Corporate IT
App teams
Moving all IT
Test/Dev

GSS – Training
Reference
Environments
and Customer
Reproduction

Management Business Unit
Functional and scale testing
of our management products

Education
Extended labs and
Self-paced training

TechOps
Aggregating smaller
cloud environments for
various R&D/product
team for Testing
purposes

Field Ops
VMware Customer
Labs, PSO, etc.

Agile
Global
Support
Geo
Management

Flash Memory Summit 2015
SIMPLE AGILE HIGH-PERFORMANCE CLOUD

Provision
1000s of VMs instantaneously

Ensure
performance at scale

Respond
rapidly

Build an
Agile Data Center

Simplify infrastructure

Flash Memory Summit 2015
XTREMIO: STORAGE REINVENTED

SCALE-OUT
Consistent & predictable
Inherently balanced

DATA SERVICES
Inline all the time
- Thin Provisioning
- Deduplication
- Compression
- Flash Data Protection
- Encryption
- Writeable Snapshots

COPY DATA MANAGEMENT
Instant & high performance
Writable
No capacity overhead

APPLICATION & ECOSYSTEM
Integration & automation

Flash Memory Summit 2015
XTREMIO IN-MEMORY METADATA

Granular metadata distributed across controllers in a shared memory fabric

PERFORMANCE
Consistent & predictable

AMAZING
Metadata heavy operations

REMOTE DIRECT MEMORY ACCESS FABRIC

Flash Memory Summit 2015
SIMPLE, EFFICIENT VM LIFE CYCLE

- Instantly provision 1000s of VMs
- Metadata only operation; no disc IOs
- No storage sprawl

Flash Memory Summit 2015
CONSISTENT PERFORMANCE, ALL THE TIME, AT ANY SCALE

XtremIO Cluster

Fingerprint-based uniform data distribution

Linear scale-out IOPs and capacity

eMLC Flash Media

• True scale-out architecture for mixed-workloads
• Uniform resource utilization
• Performance at any scale
• No tuning or optimization
**SIMPLIFIED INFRASTRUCTURE & LOWER TCO**

**LOW STORAGE FOOTPRINT**
- Global de-duplication
- Inline compression
- Space-efficient copies

**INVALUABLE CAPABILITIES**
- Simple setup and deployment
- No tuning required
- Multi-cluster management ver
- Open RESTful APIs
- Scalable high-performance replication and DR
- VCE VBLOCK, EMC VSPEX

**SIMPLIFIED MANAGEMENT & MONITORING**
- VSI plugin
- EMC Storage Integrator for Microsoft
- EMC Storage Analytics
- ViPR software defined storage
- VMware vRealize

Flash Memory Summit 2015
VMWORLD HANDS ON LABS: THE RESULTS
VMWARE HANDS ON LABS - THE RESULTS

500+ concurrent users, 4,100 VMs
Short vApp life
High VM churn rate
<500us avg latency

100% SLA
Direct VM Console interaction
Nested Workloads

LAB Count: 10,000+
VMs Provisioned over 4 days: 100,000+

Flash Memory Summit 2015