ACCELERATING STORAGE TRANSFORMATION: VMAX AND VPLEX
Your Data Center

Your Service Provider
Introducing The VMAX Family

- **VMAX 40K**
  - Hyper Scale
  - New

- **VMAX 20K**
  - Enterprise Apps
  - New

- **VMAX 10K**
  - Fully Virtualized
  - New
The New VMAX Family

VMAX 10K
- 2.4 GHz Xeon Westmere
- 8 CPU Cores Per Engine
- Up To 128GB Global Memory
- Dual Virtual Matrix Interface
- PCIe Gen2 Interconnects

VMAX 20K
- 2.3 GHz Xeon Harperton
- 16 CPU Cores Per Engine
- Up to 128GB Global Memory
- Dual Virtual Matrix Interface
- PCIe Gen1 Interconnects

VMAX 40K
- 2.8 GHz Xeon Westmere
- 24 CPU Cores Per Engine
- Up to 256GB Global Memory
- Quad Virtual Matrix Interface
- PCIe Gen2 Interconnects
VMAX 40K – A Class By Itself

Unprecedented Scale

3X More Performance
2X More Capacity
2X More Memory
#1 In High Bandwidth Apps

VMAX 40K vs VSP, DS8000, Full System Configs, Maximum Sustainable RRH Bandwidth 128K Blocks

MAX SUSTAINED GB/S

New

IBM

16 GB/s

HITACHI DATA SYSTEMS

17 GB/s

VMAX 40K

52 GB/s

3X Better Performance
VMAX 40K High Density And Scale

33% More Drives

33% Less Space

35% Less Weight

27% Less Power

New
VMAX 40K Distance Separation

- Engine Bay Separation: 11.8 ft / 3.6 m
- Distance Separation: 82 ft / 25 m

New
New 2.5” Enterprise MLC Flash Drives

88% Lower
$/GB Over 4 Years

20% Lower
$/GB vs SLC FLASH

Same Performance,
Durability, Reliability
New VMAX Software Capabilities

Federated Tiered Storage

Unisphere For VMAX

Fast VP IBM i & System z

Recoverpoint Integration

Fast VP Aware SRDF Tiering

FLM CLUSTER Support
Common Look Across Management Tools

Prosphere

Visualize  Analyze  Optimize

Unisphere Management Family

NEW!

FUTURE

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FAST VP
32+ Million Run
Hours Over 18 Month

- Financial
- Tech
- Services
- TME
- Health
- Retail
- Govt
- MFG
- Energy
- Trans
FAST VP

- Columbia Sportswear Company®: 40% Lower TCO
- Callaway® Golf: 64% Faster Response Time
- E*TRADE®: 56% Lower Cost per Array
- L3: 2X More Utilization
- Lilly: 40% Lower Storage Cost
- MOEN®: 80% Of Data On SATA Tier
- Raymond James®: 25% Faster Response Time
- Navitaire™: 90% IOPS On EFD
- Heritage Auctions: 2X More VM Utilization

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FAST VP

32+ Million Run

Hours Over 18 Months

Drive Savings

Energy Savings

Time Saving

2.3M Drives

7M iPADS

13M Hours
FAST VP

32+ Million Run Hours Over 18 Months

$1.5 BILLION

Total Savings
Extending FAST To System z And IBM i

HSM + FAST VP
Extending FAST To System z And IBM i

2X Faster
Response Time

90% IOPS
On Flash Drives

Exclusive Capability For IBM i
12X More Performance

VMAX, VSP, DS8000 Full Systems with Best Practice Configurations, based on OLTP-2 Workload
FAST VP And VFCache

12X More Application Transactions

VFCache + FAST VP

Relative Transaction Performance

TPC-C simulated workload

Run Time
VMAX Smarter Than The Competition

Response Time (Log Scale)

VMAX 10K 1 Engine FAST VP vs 3Par V400 2 Node Adaptive Optimization, Same Drive Configurations, OLTP2 Workload

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FAST Small

$/IOP
Optimized

$/TB
Optimized

Future

Maximize
IO Density

Maximize
TB Efficiency

Pool Level Compression

$\sim 2:1$
Compress
Your Data Center

Your Service Provider

POWERFUL
TRUSTED
SMART
VMAX Service Provider

Start Up To Service Delivery In Minutes

Future

Multi Tenant Management
Policy Based Provisioning
Tenant Level Metering
Automated Billing & Reporting
VBLOCK Series 700LX With VMAX

3X Lower Cost Per User

ANKAL COST PER USER

$1,304

Traditional Servers

$422

VCE

71 Hours

SERVER DOWNTIME PER YEAR

Traditional Servers

51 Minutes

Source: IDC 2012, The Business Value Of VCE Vblock Infrastructure Platform ROI Study In Conjunction With VCE
Your Data Center

Dissolve Distance

Your Service Provider
75+ PB Deployed With Active/Active

Over 4 Million Run Hours
Over 40 Supported Platforms
Over 5-9S System Uptime
Always On Availability

Active/Active Data Centers

Online Migrations

Implemented Private Cloud

Migrated 250 Live Systems

Multi Vendor Migrations

Less Management

70% More Utilization

15% More Efficiency

83%
Two Great Technologies...

VPLEX

Access Anywhere

Recoverpoint

Protect Everywhere
AccessAnywhere™ ProtectEverywhere™

Any Application
Any Storage
Any Location
Any Point In Time

Your Choice
AccessAnywhere™ ProtectEverywhere™
New VPLEX Software Capabilities

- Recoverpoint Integration
- Oracle & VCE Certification
- Unisphere For VPLEX
- 40% More Performance
RAPIDPath – Distance Dissolver

Network Multi-Path For I/O Optimization

Relative Performance

Host Based Mobility

5X Faster Mobility

VPLEX

30X Faster Mobility

VPLEX + RAPIDPath

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IT TRANSFORMERS
Mainframe
EMC’s Commitment To Mainframe

Over $1 Billion In Mainframe R&D

- 21 CPUs
- 380 LPARs
- 42,200 MIPS
- 7 Parallel Sysplex Configs
- First And Only Vendor To License GDPS
- 1,000,000+ Mainframe DASD Devices
EMC and IBM Extend Interoperability Licensing Agreement for IBM z Mainframe System Storage Interfaces

HOPKINTON, Mass and ARMONK, N.Y. - February 28, 2011
EMC Corporation and IBM Corporation today announced the extension of a technology licensing agreement that enables customers to install and utilize EMC and IBM products in heterogeneous IBM zEnterprise mainframe server environments.
Trusted For Mission Critical Applications

EMC Geographically Dispersed Disaster Restart (GDDR)
Automation Of Restart Processes

EMC SRDF/Star
Advanced Disaster Restart Protection For Multi-Site SRDF Configurations

EMC GDDR AutoSwap
Transparently Moves Workloads Between Storage Subsystems

EMC Consistency Groups Technology
Ensures Information Consistency

EMC SRDF/S And SRDF/A
From The Number One Remote Replication Product Family

EMC TimeFinder Family
Local Array-Based Replication For Backups And Application Testing

Built On EMC’s Industry-Leading Technology
Extending FAST To System z And IBM i

HSM + FAST VP