

# WHAT DIFFERENTIATES VMAX<sup>3</sup>

## The Enterprise Data Services Platform

### Business Scalability

- Flash Optimized Architecture
- Drive Down Costs with FAST

### Dynamic Virtual Matrix

- Allocates Cores Between Front And Back-End Operations
- Enables Hyper-scale though Ubiquitous Multi-Threading

### Extreme Availability

- 6x9's Application Data Availability
- Upgrade Non-disruptively, Isolate Fault & Validate Data Integrity

### Industry's 1<sup>st</sup> Storage Hypervisor

- HYPERMAX OS Delivers Mission-critical App & Data Services
- Increase Performance and Lower Latency with Less External Hardware

### Service Level Objective Automation

- 1-Click Service Level Delivery
- Analyzes, Enforces, Remediate, & Optimizes to Achieve Objectives

### Extended Data Services

- FAST.X Extends SLOs to Additional EMC and 3<sup>rd</sup> Party Arrays
- Embedded XtremIO as the Low Latency Compressed Flash Tier

### World's Best Service and Support

- TSIA Hall of Fame Award Winner
- Providing Global Logistics & Support

EMC® has redefined the all new VMAX3® to be the world's first Enterprise Data Services Platform, which allows IT departments to solve business challenges around being able to Automate, Modernize and Converge their data center. VMAX3 was designed as a data services platform that specifically addresses the new requirements of the modern data center while continuing to deliver the reliability and availability our customers have relied on for years. With VMAX3, the industry's leading tier 1 array has evolved into a thin hardware platform with complete set of rich software data services servicing internal and now external block storage. VMAX data services are delivered by a highly resilient, agile hardware platform that offers global cache, CPU (processing) flexibility, performance and HA at scale able to meet the most demanding enterprise or hybrid cloud infrastructures. The redefined HYPERMAX OS is the industry's first open platform for efficiently delivering mission-critical application & data services. The evolution of FAST to FAST.X extends VMAX3 data services to the virtualized external arrays, including other EMC and 3rd party arrays. VMAX3 is the Enterprise Data Service Platform for both 2nd and 3rd generation mission critical applications whether they are on- or off-premises.



## BUSINESS SCALABILITY

VMAX3 and its multi-core, scale out are the epitome of enterprise architectures, powerful by design. Optimized for flash, the VMAX3 family delivers the performance of an all flash array with economics of a hybrid array. As a flash-optimized hybrid array, the VMAX3 eliminates bottlenecks delivering the highest performance and the lowest latency for read-intense OLTP applications. And, EMC Fully Automated Storage Tiering (FAST) technology utilizes high-capacity NL-SAS to further drive down costs for storing inactive or less-critical data. VMAX3 reaches unrivaled performance levels, with powerful compute cores processing your data, delivering consistent response times for optimal application performance. The VMAX3 architecture is enterprise scale-out at its best, active-active everything for any data to utilize any path. The power to deliver from the first SSD to the last drive.

# REDEFINE

SOLUTION SHEET

EMC<sup>2</sup>

## DYNAMIC VIRTUAL MATRIX



Policy Based Service Level  
Objective Provisioning &  
Automation

The Dynamic Virtual Matrix is architected for agility and efficiency at scale. Hundreds of CPU cores and ports with terabytes of cache are pooled and allocated by the system on-demand. Resources are dynamically apportioned to host access, data services, and storage resources to meet application service levels. Fully redundant along with fully shared resources within an engine and across multiple engines. Each storage processor is connected to the Virtual Matrix and pools all system resources, including CPU, memory, disks, and host channels, to be dynamically accessed and shared by any application. The Dynamic Virtual Matrix enables hyper-scale though ubiquitous multi-threading allowing VMAX3 architecture to scale to millions of volumes

## UNRIVALED AVAILABILITY



The availability architected into VMAX3 enables fault isolation, full data integrity validation, and non-disruptive upgrades. VMAX3 delivers 6 x 9's application data availability for mission critical environments. In addition, EMC TimeFinder® and EMC SRDF® software are the most powerful and trusted applications for local and remote storage replication available in the industry. And now with SRDF/Metro, VMAX3 provides the ability for concurrent LUN and storage group access across metro distances, for active-active datacenters.

## INDUSTRY'S 1ST STORAGE HYPERVISOR



FAST.X Extends VMAX3 Data  
Services



HYPERMAX OS is the industry's first storage and hypervisor converged operating system. It combines industry-leading high availability, I/O management, quality of service, data integrity validation, storage tiering and data security with an open application platform. HYPERMAX features the first real-time, non-disruptable storage hypervisor that manages and protects embedded services, within the high availability framework of VMAX3. There is no longer need to run data services external to the array. The embedded storage hypervisor reduces external hardware and networking requirements, delivering higher levels of availability with dramatically lower latency.

EMC Corporation was named to TSIA 2013 to the elite status as a four-time Hall of Fame Lifetime Achievement Award winner.

<http://www.tsia.com/services-excellence/star-awards/hall-of-fame.html>



[store.emc.com/vmax](http://store.emc.com/vmax)

## SERVICE LEVEL OBJECTIVE AUTOMATION

The VMAX3 family delivers unmatched ease of provisioning for your specific service level objectives. In fact, you are just a click away from provisioning storage to meet these different service levels: diamond, platinum, gold, silver, and bronze. These VMAX3 service levels are tightly integrated with EMC's advanced FAST™ software to optimize agility and array performance across all drive types in the system. EMC automated tiering technology delivers the performance of an all flash array at much lower prices. FAST will analyze, enforce, remediate, & optimize to achieve service level objectives so storage administrators can focus on more meaningful tasks. Now with FAST Hinting, VMAX3 can proactively respond to the forecasted performance needs of databases and applications, making sure an SLO policy is not impacted by anticipated bursty activity.

## FAST.X EXTENDS VMAX3 DATA SERVICES

FAST.X for VMAX3 evolves and extends storage tiering and Service-level management to other storage platforms and to the cloud. FAST.X integration with XtremIO extends service level management and zero data loss SRDF replication to the industry's leading all flash array. In addition, FAST.X integration with EMC CloudArray connects VMAX3 to cloud storage that looks and performs like local storage, adding a new storage tier that can scale up to 10x the CloudArray physical footprint. A dot-next revolution to tiering and storage virtualization delivered by the enterprise data services platform—VMAX3.

## WORLD'S BEST SERVICE AND SUPPORT

EMC Services has earned awards for "Innovation in Enabling Customer Success" and "Innovation in Product Supportability" from Technology Services Industry Association (TSIA) and attained their highest level recognition as a four time Hall of Fame award recipient.

## CONTACT US

To learn more about how EMC products, services, and solutions can help solve your business and IT challenges, [contact](#) your local representative or authorized reseller—or visit the [EMC Store](#).

EMC2, EMC, the EMC logo, FAST, SRDF, TimeFinder, VMAX and VMAX3 are registered trademarks or trademarks of EMC Corporation in the United States and other countries. All other trademarks used herein are the property of their respective owners. © Copyright 2014 EMC Corporation. All rights reserved. Published in the USA. 4/15 Handout H13218.2

EMC believes the information in this document is accurate as of its publication date. The information is subject to change without notice.