VIPR SOFTWARE-DEFINED STORAGE

Virtualize Everything. Compromise Nothing.
# Traditional View Of The Data Center

<table>
<thead>
<tr>
<th>MESSAGING</th>
<th>ERP/CRM</th>
<th>DATABASE</th>
<th>MISSION CRITICAL</th>
<th>BIG DATA</th>
<th>HPC</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="MESSAGING Icon" /></td>
<td><img src="image2.png" alt="ERP/CRM Icon" /></td>
<td><img src="image3.png" alt="DATABASE Icon" /></td>
<td><img src="image4.png" alt="MISSION CRITICAL Icon" /></td>
<td><img src="image5.png" alt="BIG DATA Icon" /></td>
<td><img src="image6.png" alt="HPC Icon" /></td>
</tr>
</tbody>
</table>

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The Software-Defined Data Center

MESSAGING  ERP/CRM  DATABASE  MISSION CRITICAL  BIG DATA  HPC

VIRTUAL DATA CENTER  VIRTUAL DATA CENTER  VIRTUAL DATA CENTER  VIRTUAL DATA CENTER  VIRTUAL DATA CENTER

SOFTWARE-DEFINED DATA CENTER SERVICES

ABSTRACT. POOL. AUTOMATE.

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Exponential Data Growth

New Access Methods

High Demands for Availability & Agility

Storage Is At The Center Of An IT Transformation

RETHINK

How Storage Is Delivered And Managed
EMC ViPR Software-Defined Storage

Virtualize Everything. Compromise Nothing.
SIMPLE

- Storage Virtualization
- Automate Storage
- Centralize Management
The EMC ViPR Controller
Virtualize, Automate, & Centralize Storage
Discover and Register Arrays
ViPR Virtualizes Physical Storage

Discover & Register
- Configure the physical infrastructure by adding storage systems, SAN switches, and hosts.

Define Virtual Storage Arrays
- Create and edit virtual storage arrays to be used as templates for self-service provisioning.

Configure Virtual Storage Pools
- Create and edit virtual storage pools to be used as templates for self-service provisioning.

DISCOVERY

VMAX 40K
VNX 7500
3rd Party
Define Arrays and Configure Pools
ViPR Automates Storage Provisioning
Deliver Storage Via Catalog of Services

ViPR Provides Self-Service Access

Service Catalog

- Block Storage For VMware VDI
- Block Storage For MS Exchange
- Block Storage For Oracle Databases
- File Storage For Hadoop MapReduce
- File Storage For Windows Home Dirs
- File Storage For SourceOne Archive
Centralize Management

ViPR Monitoring & Reporting Across Physical & Virtual Environments
Integrates With VMware
Software-Defined Storage For The Software-Defined Data Center

Virtual Storage Pools
- VDI
- Exchange
- Database
- Hadoop
- Home Directory
- Archive

SDDC SLA
VMware Software-Defined Data Center
SDDC Policies
Before ViPR

With ViPR Controller

Select Storage Service

Build & Deploy Apps

Understand The Business

Define Storage Services

Monitor SLA Delivery

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Enable Third-party Development Of Adapters For Non-EMC Arrays

Integrate With Cloud Stacks And VMware
Integrate Third-Party Storage
ViPR Storage Adaptors Provide a Plug-and-Play Storage Environment

- Integrate Additional Storage
- Use & Extend Unique Physical Array Features

ViPR Controller

VMAX  VNX  Isilon  3rd Party  Commodity
Integrated with VMWare & SDDC
Works With OpenStack & Microsoft
Open APIs Enable Anyone To Build Rich Data Services
New Capabilities Delivered Through Object Data Services
“Write Once, Run Everywhere” Data Services Model
SUPPORT FOR EXISTING STANDARDS
A Programmable Platform
Infrastructure & Application Software Vendors Will Add Value!
Global Data Services: File and Block

EMC ViPR Platform

ViPR Data Services

ViPR Controller

Provisioning
Self-Service
Reporting
Automation

VMAX
VNX
Isilon
3rd Party
Commodity
New Applications, New Architecture

The Basics...

Native Amazon S3 API
Globally Distributed Architecture
Self-Provisioning & Managing
Built For Service Providers
Enterprise Ready

Commodity Compute
Commodity Storage
Global Data Services: Object
Objects Can Now Leverage File Storage
Global Data Services: HDFS
Scale Hadoop Analytics Beyond Appliances

EMC ViPR Platform

ViPR Data Services

ViPR Controller

Provisioning Self-Service Reporting Automation

BLOCK FILE OBJECT HDFS

VMAX VNX Isilon 3rd Party Commodity

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ViPR Abstracts Storage Infrastructure

Globally Distributed Data
Accessible By Any Device
Move The Applications
EMC ViPR Software Defined Storage
Virtualize Everything. Compromise Nothing.
COMPUTE

NETWORK

STORAGE
GET
STARTED
ViPR Resources

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- Facebook
  www.facebook.com/EMCITMgmt
- ECN Community
EMC CAN HELP YOU LEAD YOUR TRANSFORMATION