THE MODERN DATA CENTER
MODERNIZE YOUR DATA PROTECTION

NAWFAL SAOUD

Regional Sales Manager NWCA (North, West & Central Africa)

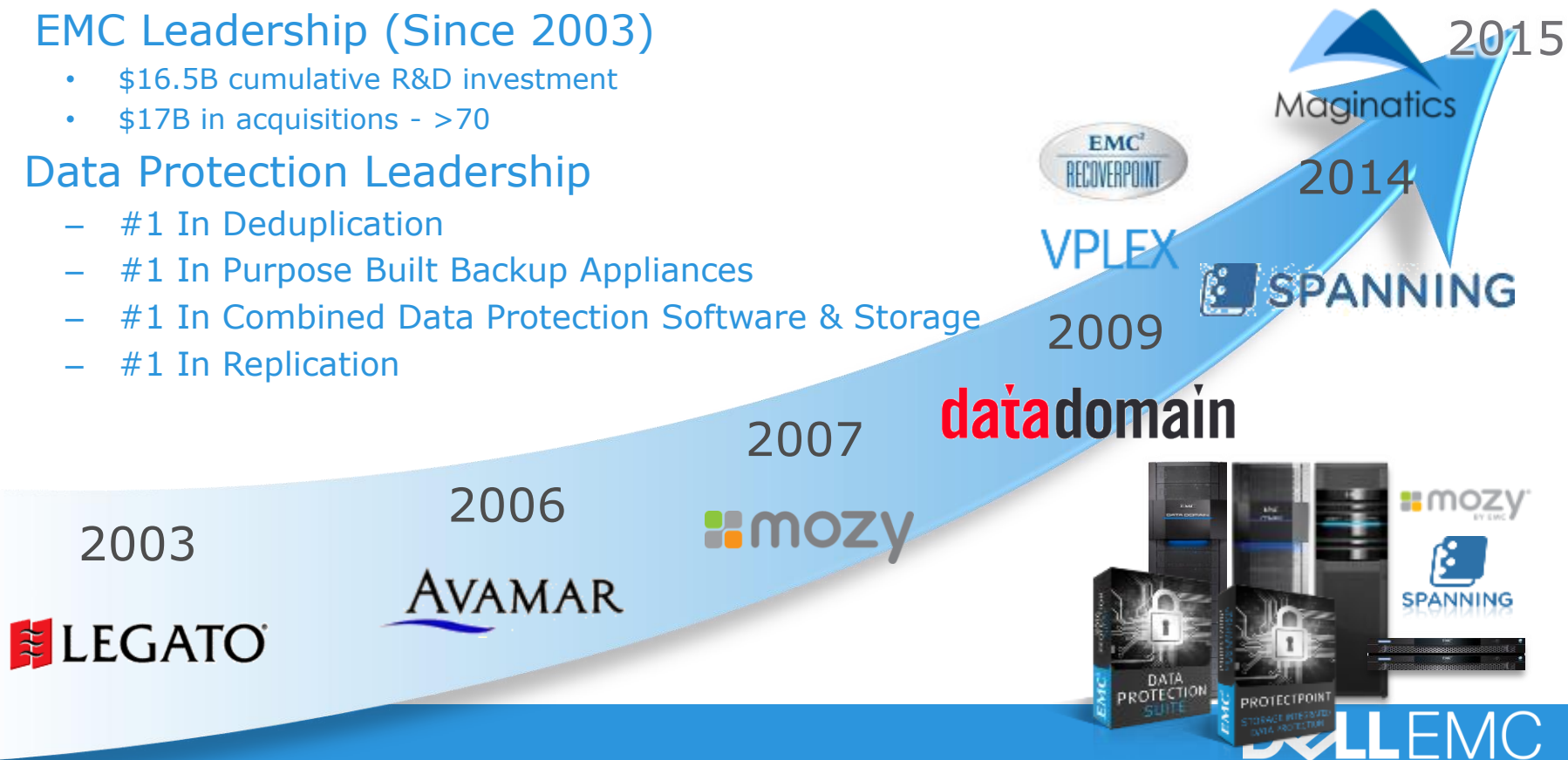EMC Data Protection Solutions Division

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DATA PROTECTION AND AVAILABILITY

- EMC Leadership (Since 2003)
  - $16.5B cumulative R&D investment
  - $17B in acquisitions - >70

- Data Protection Leadership
  – #1 In Deduplication
  – #1 In Purpose Built Backup Appliances
  – #1 In Combined Data Protection Software & Storage
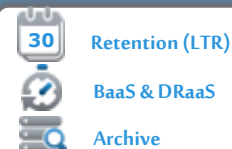 – #1 In Replication

2015

Maginatics

2014

EMC² RECOVERPOINT

VPLEX

SPANNING

2009

datadomain

2007

mozy

2006

AVAMAR

2003

LEGATO®

mozy
BY EMC

SPANNING

DATA PROTECTION SUITE

PROTECTPOINT
STORAGE INTEGRATED DATA PROTECTION

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PROTECTING ALL CONSUMPTION MODELS

On Premise

Microsoft
SAP ORACLE

Virtual

vmware
Microsoft Hyper-V

Hybrid

30 Retention (LTR)

BaaS & DRaaS

Archive

Born In The Cloud

Google apps
salesforce.com
Microsoft Office 365

EMC Data Protection

Data Protection Services

Availability	Compliance	Recovery	Security

Data Management Services

Platform Integration	Policy-based Automation	Catalog	Monitoring	Analytics

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On-Premise Storage
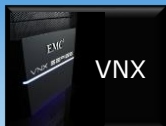
VMAX   VNX   DD   XIO   3rd Party

Cloud Storage

ECS   EMC² Partner Clouds   3rd Party Clouds

D∆LL EMC

DATA PROTECTION SOLUTIONS

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EMC DATA DOMAIN

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Systèmes Data Domain

Stockage de protection pour les données de sauvegarde et d'archivage

Sources de données

- Bases de données
- Serveurs de messagerie
- Machines virtuelles
- Serveurs et partages de fichiers
- Applications d'entreprise
- Gestion de contenu

Sauvegarde

Archivage

Exemples d'utilisation : sauvegarde

Base de données
Mainframe
IBM i
Big Data

VMware
NAS
Bureaux distants/succursales

Exemples d'utilisation : archivage

Fichier
E-mail
Big Data

Gestion de contenu
Hiérarchisation du stockage
Base de données

Réseau

Réplication sur WAN

Reprise après sinistre, rétention à long terme

Sur site ou dans le Cloud

EMC²
DATA DOMAIN

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BROAD ECOSYSTEM

USE WITH ANY APPLICATION AND LEVERAGE THE CLOUD OF YOUR CHOICE
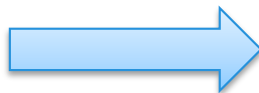
Elastic Cloud Storage

Long-term Retention

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Data Domain Systems

Small Enterprise/ROBO – Midsize Enterprise

Data Domain Virtual Edition

Speed (DD Boost): 4.2 TB/hr (16TB), 16.92 TB/hr (96 TB)

sable capacity: .5 TB – 96 TB, Logical capacity: Up to 4.8 PB

Large Enterprise
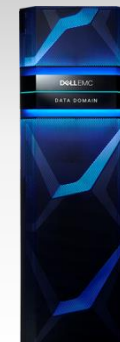
Midsize Enterprise

Small Enterprise /ROBO

DD2200

		DD6300	DD6800	DD9300	DD9800
Speed (DD Boost)	4.7 TB/hr	24 TB/hr	32 TB/hr	41 TB/hr	68 TB/hr
Speed (other)	3.8 TB/hr	8.5 TB/hr	14 TB/hr	20 TB/hr	31 TB/hr
Logical capacity	40–860 TB	1.8–8.9 PB	2.8–14.4 PB[1] 8.4–43.2 PB[2]	7.2–36 PB[1] 21.6–108 PB[2]	10–50 PB[1] 30–150 PB[2]
Usable capacity	Up to 17.2 TB	Up to 178 TB	Up to 288 TB[1] Up to 864 TB[2]	Up to 720 TB[1] Up to 2.16 PB[2]	Up to 1 PB[1] Up to 3 PB[2]

[1] Total capacity on Active Tier only
[2] Total capacity with DD Cloud Tier software for long-term retention

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Database Protection

Application Host → **DDBOOST** → **Local Data Domain Appliance** → **DD Replication** → **Offsite Data Domain Appliance**

Enterprise Applications

ORACLE® DATABASE

IBM DB2

SAP®

Microsoft® SQL Server®

SAP® HANA

- **Advanced integration with leading backup, enterprise and big data applications**

- **Speeds backups by up to 50%**

- **Client-side deduplication reduces resource utilization by up to 99%**

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Mission Critical Database Protection

SAN Connectivity

Local VMAX or XtremIO

ProtectPoint

Local Data Domain Appliance

Application Host

Enterprise Applications

ORACLE DATABASE

SAP

File system

IBM DB2

Microsoft SQL Server

Exchange Server

Integrates primary and protection storage to:

✓ **Enable 20x faster backup and 10x faster recovery**

✓ **Eliminate impact on application**

✓ **Reduce cost and complexity**

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Introducing
VCE Data Protection APPLIANCE

Best of breed in a
SINGLE BOX

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Cyber Crime gets Sophisticated

Are you staying ahead of the evolution?

Traditional Threats		Emerging Threats	
Cyber **Theft**	Denial of Service **Attacks**	Cyber **Extortion**	Cyber **Destruction**

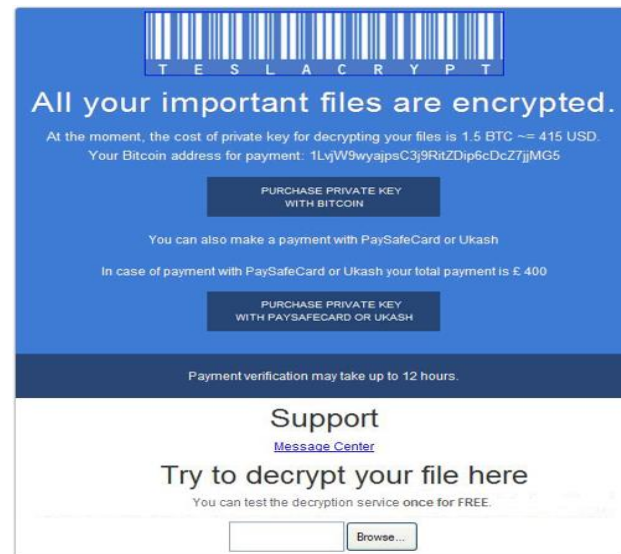Isolated Recovery Solutions Protect Against these Classes of Attacks

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Ransomware: Locker or Crypto

Reveton [2012]

Crilock / CryptoLocker (2013)

TeslaCrypt (2015)

WHAT IS ISOLATED RECOVERY?

WHAT DOES IT PROTECT AGAINST?

Characteristics:

- Provides a Fail-Safe Copy of Data that is:
  - Isolated
  - Off-Net – No Connections
  - Cannot be directly accessed
- Multiple Roll-Back Points Maintained

How:

- Periodic Copies of Critical Data
- Systems are Isolated
- Data is Periodically Validated

What does it protect against?

- Cyber Destruction
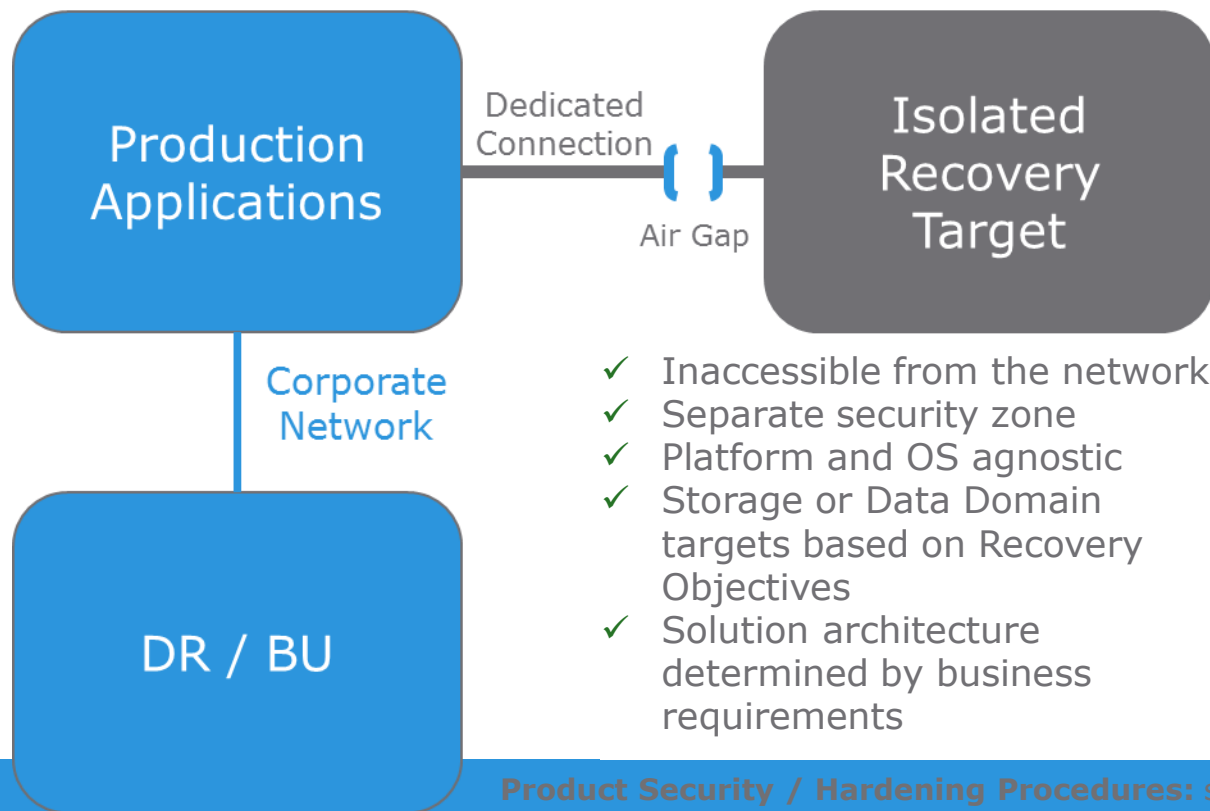- Data Hostage – Ransomware
- Records Manipulation

BECAUSE YOU NEED TO THINK LIKE A HACKER!!!

http://www.emc.com/microsites/isolated-recovery-solution/index.htm

ISOLATED RECOVERY SOLUTION – OVERVIEW

NEW WORLD -- ISOLATED RECOVERY SOLUTIONS

Production Applications

Dedicated Connection

Air Gap

Isolated Recovery Target

Corporate Network

DR / BU

✓ Inaccessible from the network
✓ Separate security zone
✓ Platform and OS agnostic
✓ Storage or Data Domain targets based on Recovery Objectives
✓ Solution architecture determined by business requirements

1 **Planning and Design:**
- Business Critical Applications
- Recovery Requirements
- Local or Remote Copy

2 **Isolation - Replication:**
- Network Isolation/Air Gap
- Dedicated Network Link
- Enable-replicate-disable link
- Automated and Scripted

3 **Validation of Data:**
- Trusted Copies and Versioning
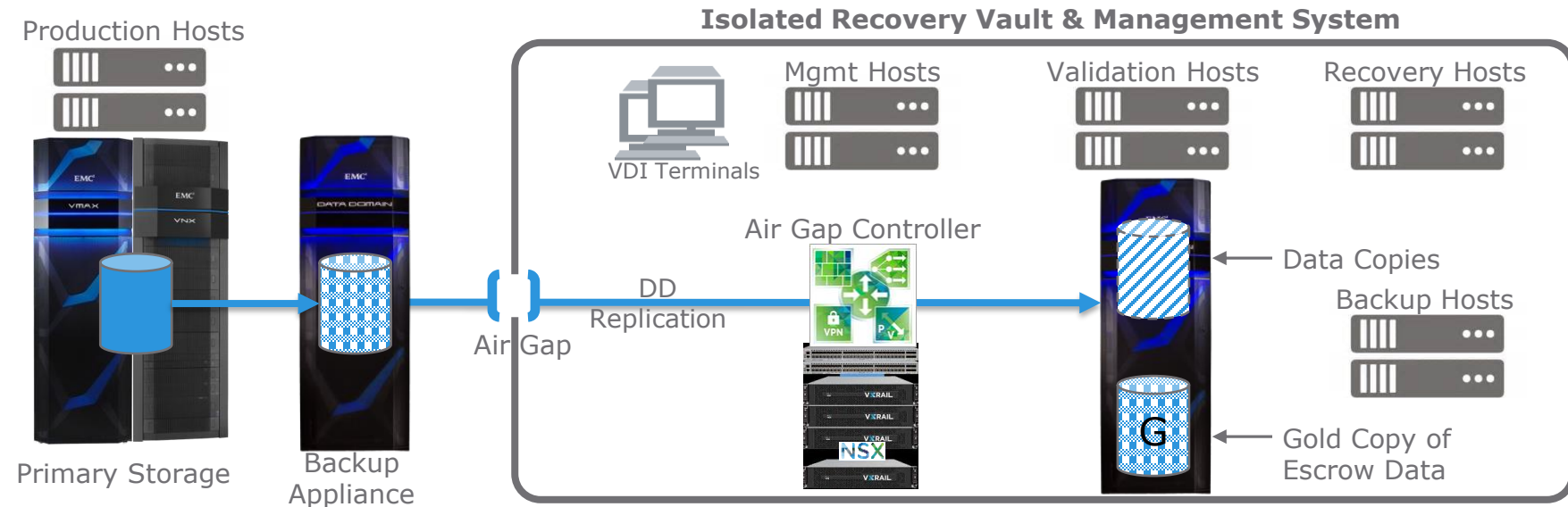- Validate Copy After Replication
- Customer Tools Used to Validate

4 **Restore and Recovery:**
- Standard Restore Processes
- Scripted and Automated

Product Security / Hardening Procedures: support.emc.com

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Isolated Recovery Vault Manager

Isolated Recovery Vault & Management System

Production Hosts

Primary Storage

Backup Appliance

Air Gap

DD Replication

VDI Terminals

Mgmt Hosts

Air Gap Controller

Validation Hosts

Recovery Hosts

Data Copies

Backup Hosts

Gold Copy of Escrow Data

1. IR Vault Management System Manages the Activities within the Isolated Recovery Vault
2. VDI Terminals provide Terminal Windows during recovery processes
3. Management Hosts Manage the functions in the IR Vault
4. Air Gap Controller controls the Firewall and opening and closing of the Air Gap
5. NSX hosts the firewall and manages segmentation policies for the phases of operation in the IR Vault
6. Validation Hosts verify and validate data copied into the IR Vault
7. Recovery Hosts cleanse/rebuild data and copy back to production
8. Backup Hosts restores the backup catalog and rehydrates backup images

ISOLATED RECOVERY SOLUTION
ADVISORY & IMPLEMENTATION SERVICES – OVERVIEW

Educate & Assess

Design & Build

Assess

- Business Application Protection Requirements
- Compliance Policies Requirements
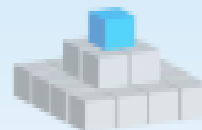- Application Readiness & Requirements
- Application Dependencies

Plan

- IRS Architecture & High-Level Design
- Technology Recommendations
- Implementation Plan & Timeline
- IRS Validation Test Design

Implement

- Program Managed Implementation
- Technology Deployment & Hardening
- IRS Processes & Procedures
- IRS Run Books

Validate

- Compliance Ready Test Reports
- Facilitated IRS Table Top Exercises
- IRS Process Training
- Proctored IRS Test

Workshop Format

Various Delivery Models

Advisory Service

Implementation Service

Purpose Built Backup Appliances
Q2 2016 Open Systems + Mainframe Revenue

EMC
61.8%

- EMC
- Veritas
- IBM
- HPE
- Dell

MARKET LEADER

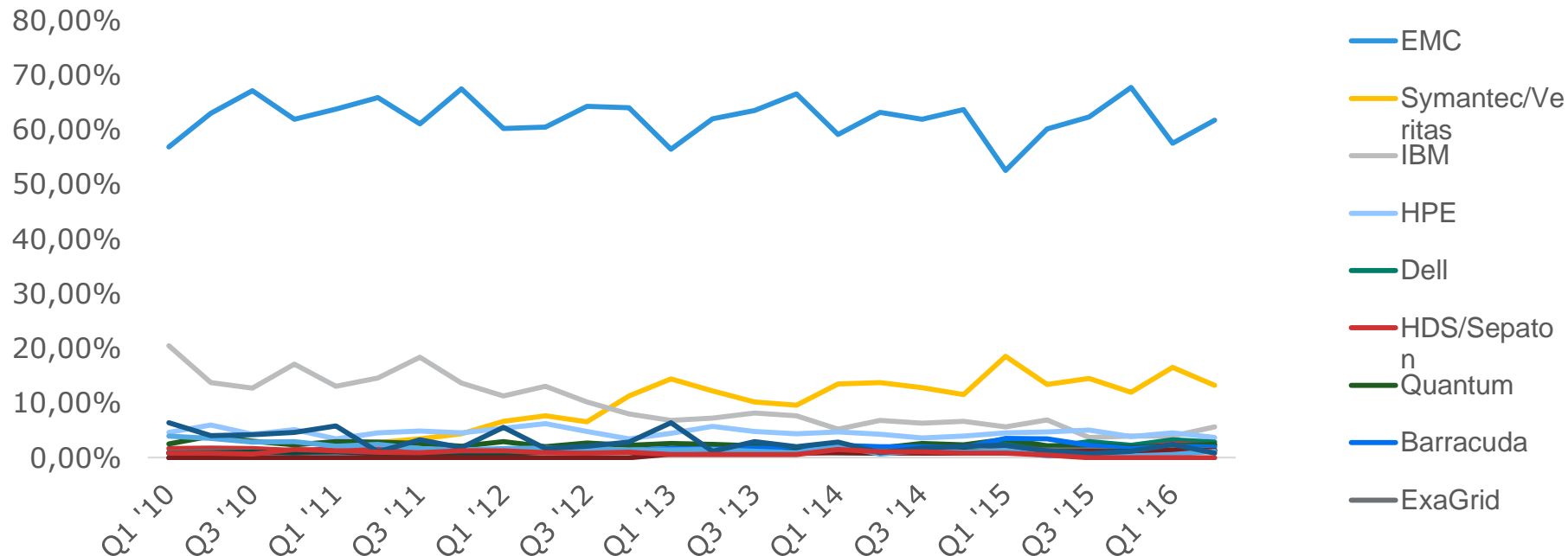PROTECTION STORAGE
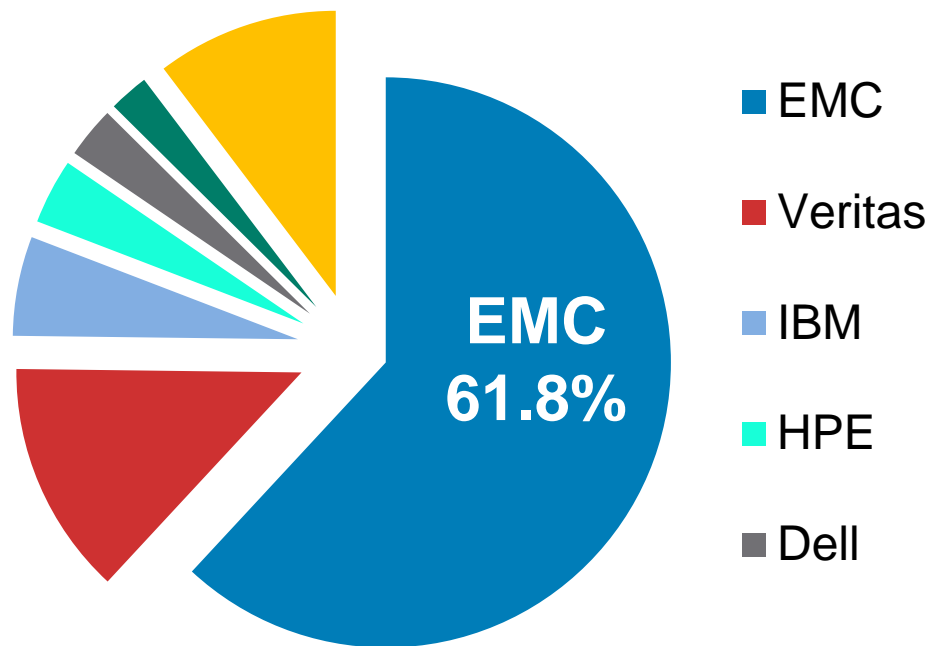
Q2 2016 Total Market

$871.1M

Source: IDC Worldwide Quarterly Purpose Built Backup Appliance Tracker – Q2 2016

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Purpose Built Backup Appliances

Q1 2010 - Q2 2016 Quarterly Revenue (Open Systems + Mainframe)

Legend: EMC, Symantec/Veritas, IBM, HPE, Dell, HDS/Sepaton, Quantum, Barracuda, ExaGrid

D&LL EMC

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Purpose Built Backup Appliances

Source:
Gartner Magic Quadrant for Deduplication Backup Target Appliance

Source: Gartner MQ for Deduplication Backup Target Appliance – September 2015

GARTNER MAGIC QUADRANT

FOR ENTERPRISE BACKUP SOFTWARE AND INTEGRATED APPLIANCES

Source:
Gartner Magic Quadrant for
Enterprise Backup Software and
Integrated Appliances

Figure 1. Magic Quadrant for Enterprise Backup Software and Integrated Appliances
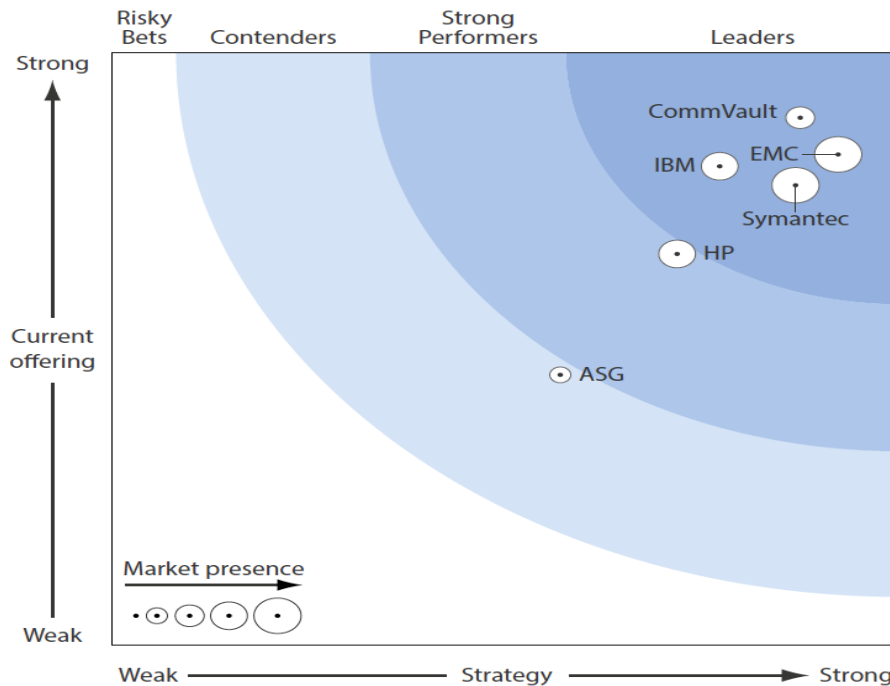
Source: Gartner (June 2014)

Forrester Wave

ENTERPRIS BACKUP AND RECOVERY SOFTWARE

Source:
The Forrester Wave™: Enterprise
Backup
And Recovery Software, Q3 2015

Rachel Dines

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