Solution Overview

DELL EMC VALIDATED SYSTEM FOR MICROSOFT EXCHANGE

Making email workloads affordable, highly scalable and easier to deploy for Microsoft Exchange 2016

ESSENTIALS

The Dell EMC Validated System for Microsoft Exchange helps customers save, speed and scale:

- SAVE: Lower cost of ownership through optimized storage design and efficient system management
- SPEED: Faster time to value by shortening the design cycle and configuration time
- SCALE: Future-ready system with exceptional scalability, flexible to address varying business needs

ON-PREMISES EMAIL PREVAILS DUE TO PERCEIVED BENEFITS.

While email infrastructures have been moving to the cloud at an estimated annual rate of about five percent, approximately 80% of Microsoft® Exchange mailboxes remained on-premises[1] due to critical enterprise benefits such as IT governance and security.[2]

A majority of the companies choosing to stay on-premises are within large organizations with over 1,000 employees[3]. These companies usually have a more complex messaging environment, sending large volumes of sensitive and confidential information every day. These businesses find that complete data control, security and reliability are best served through an on-premises solution.[4]

WHY UPGRADE TO MICROSOFT EXCHANGE 2016?

Microsoft Exchange Server 2016 presents compelling reasons to upgrade[5], particularly organizations still using Exchange Server 2010. These organizations are missing out on software and hardware consolidation efficiencies, as well as collaboration, search, security and e-discovery features available in Exchange Server 2013 and 2016. For organizations still using Exchange Server 2013, the move to Exchange Server 2016 delivers additional benefits such as:

- Simplified architecture down to two server roles and a consolidated mailbox server
- Enhanced support for hybrid configuration allowing the flexibility to scale in the future with minimal disruption.
- Enriched email and collaboration features within search and inbox
- Improved security and compliance features

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Several automated systems are available to ease the tedious implementation of email workloads. While the Microsoft Exchange Calculator is an excellent sizing tool, IT experts still take an extra step in detailing infrastructure. The Dell EMC Validated Systems for Microsoft Exchange addresses these concerns by providing a pre-tested, comprehensive system designed for specific email workloads.

These validated systems are dynamically configured using the Dell EMC System Builder tool and can be implemented as is, or used as a starting point for a custom design. The resulting system can be implemented by the customer, Dell EMC or a Dell EMC channel partner, with full service and support provided by Dell EMC.

Using a single source provider helps reduce risk and avoid problems with interoperability, hidden costs, skill gaps, schedule delays and service quality. Dell EMC Validated System for Microsoft Exchange is a high density, high efficiency, and highly scalable system pre-validated for easier planning and deployment, available to address use cases in medium and large organizations.

This system followed Microsoft Exchange best practices using Exchange LoadGen and Jetstress for testing and validation[6].

SAVE: LOWER COST OF OWNERSHIP THROUGH OPTIMIZED STORAGE DESIGN AND EFFICIENT SYSTEM MANAGEMENT

Growing demand for secure large-size mailboxes is one of the main reasons customers keep on-premises Exchange solutions. This, however, usually equates to expensive storage costs, as well as higher costs for power, cooling and systems management. The Dell Validated System for Exchange is designed to address these concerns.

The Dell EMC PowerEdge R730xd is tailored for application performance, mixing high-speed 1.8-inch SSDs and low-cost, high-capacity 3.5-inch hard drives in a single hybrid chassis. Deploying the R730xd reduces the hardware footprint associated with administration and energy costs, with its high density infrastructure. Designed with a superior range of storage configurability, it supports up to 16 NL-SAS disk drives with 128TB maximum capacity, allowing for sizable storage support within a highly dense platform.

Other PowerEdge R730xd benefits for Exchange implementations include:

- Full scale-out capacity with a versatile multi-terabyte footprint
- Flash-capable configurations which enables fast data access for faster application performance
- Comprehensive storage options and the capability to enable larger and more efficient databases

The Dell EMC Validated System for Microsoft Exchange also includes Dell EMC OpenManage Essentials, which simplifies and automates critical server lifecycle management tasks, making IT operations more efficient and Dell EMC servers more productive, reliable and cost-effective[7].

SPEED: FASTER TIME TO VALUE WITH LESS RISK

Built-in Dell EMC engineering expertise ensures that the Dell EMC Validated System for Exchange is tested against production-like workloads to demonstrate suitability. This pre-engineering work reduces the time customers spend planning, deploying and testing your Exchange 2016 solution.

Accelerated resolution and reduced troubleshooting time can be achieved with the integration of Dell EMC SupportAssist and OpenManage Essentials software. This integration provides automated issue detection and notification, predictive issue detection and automated case creation and proactive contact from Dell EMC technical support.[8]

Dell Remote Access Controller (iDRAC) with Lifecycle Controller is embedded in the PowerEdge R730xd enables intelligent, automated control of servers, storage and networking modules. Based on a study conducted by Principled Technologies, there is a 99% reduction vs. manual configuration with Dell EMC Zero-Touch Auto Configuration feature[9].

SCALE: ENABLING A FUTURE-READY SYSTEM WITH EXCEPTIONAL SCALABILITY, FLEXIBLE TO ADDRESS VARYING BUSINESS NEEDS

Another consideration in email system design is the ability to scale based on business needs. The global solutions engineering team developed a building block approach using a server and storage pod design.

As an organization grows, additional mailboxes can be accommodated simply by adding one or more PowerEdge pod designs without re-architecting the original solution. The pod designs balance low-cost internal storage and a high compute capacity performance required of Exchange.[10]

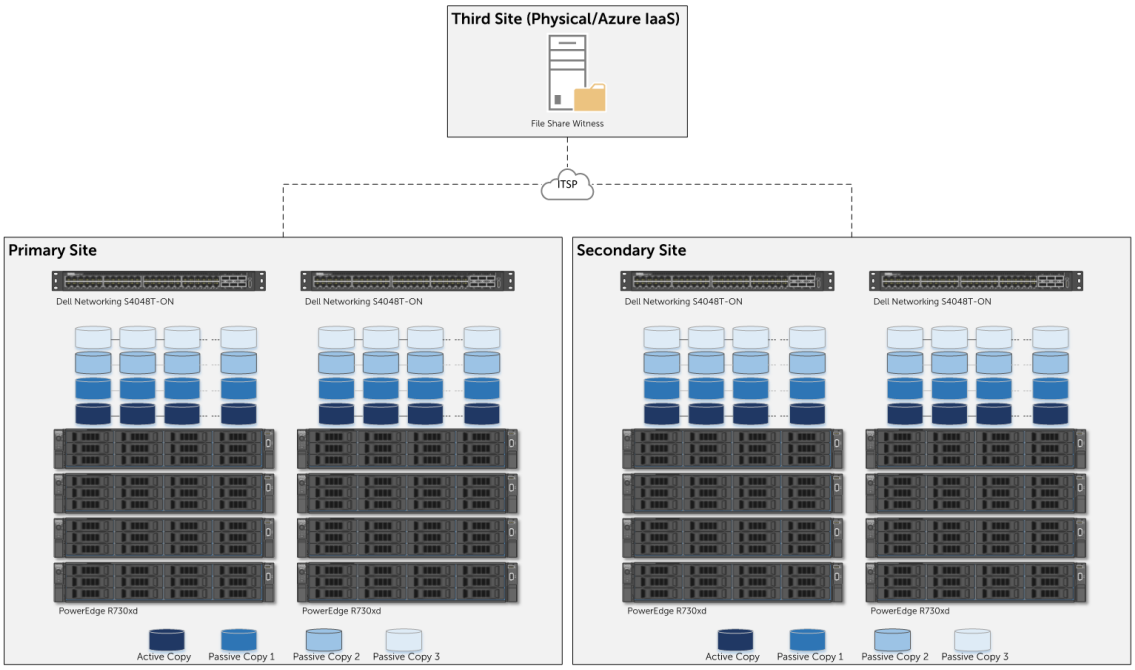
A SAMPLE IMPLEMENTATION FOR DELL EMC VALIDATED SYSTEM FOR MICROSOFT EXCHANGE FOR A 10,000 MAILBOX IMPLEMENTATION ON MICROSOFT EXCHANGE SERVER 2016

CUSTOMER PROFILE:

- Large organization with up to 10,000 employees
- Two or three primary data centers and a back-up data center within the continent
- 20GB mailbox size/150 emails sent and received per day
- Average mailbox size: 100KB

ARCHITECTURE DIAGRAM:

MICROSOFT EXCHANGE 2016 DATABASE AVAILABILITY GROUP (ACTIVE-ACTIVE)



BILL OF MATERIALS:

Custom Servers	Dell EMC PowerEdge R730xd rack server
Storage	Attached 7.2K hard disk drive (HDD) / MD Series
Management Layer	Dell EMC OpenManage Essentials
Operations System	Microsoft Windows Server 2012-R2/2016
Networking	Dell EMC Networking SC4048T-ON
Services (Optional)	Dell EMC ProDeploy, Dell EMC ProSupport, Application support and consulting

1,2,3,4 The Radicati Group Inc. “The Radicati Group Inc. “Microsoft Office 365 Exchange Server and Outlook Market Analysis 2015-2019.” Published June 2015

5 Microsoft TechNet: What’s new in Exchange 2016

6 Microsoft TechNet: Exchange Solution Reviewed Program (ESRP) – Storage

7,8 Dell OpenManage Essentials

9 A Principled Technologies Report “10 A Principled Technologies Report “ Simplifying systems management with Dell OpenManage on 13G Dell PowerEdge servers,”commissioned by Dell, testing Dell’s 13th generation R730 with Enterprise-level Dell systems management

10 Dell TechCenter: PowerEdge R730xd 10,000 Mailbox Resiliency Microsoft Exchange 2016 Storage Solution

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