

# MICROSOFT EXCHANGE 2010: ZERO-DATA-LOSS VIRTUALIZATION AND REPLICATION

EMC, Brocade, Dell, and Microsoft: a best-in-class approach for the highest availability of virtualized Exchange 2010 deployments

## ESSENTIALS

EMC, Brocade, Dell, and Microsoft joint testing assures:

- Rigorous architecture testing for reduced risk and accelerated deployment of your virtualized environment
- Confident virtualization to lower costs and provide the business agile IT services
- Centralized infrastructure operations—including storage, backup, replication, and archiving—for massive efficiency gains

### Feature Highlight

EMC's Replication Enabler for Microsoft Exchange Server 2010 is a free software utility that integrates EMC RecoverPoint synchronous remote replication and EMC MirrorView™/Synchronous (MirrorView/S) replication with the Exchange Server 2010 data availability group (DAG) architecture. EMC is the only company to provide a synchronous remote replication solution for Exchange 2010 DAG.

## VIRTUALIZATION IS BECOMING THE NORM

More and more IT organizations are realizing the benefits of virtualization. They're reducing costs and providing more agile service to the business. But with business-critical applications like Microsoft® Exchange, it makes sense to go slowly and seek out proven architectures with tested best practices.

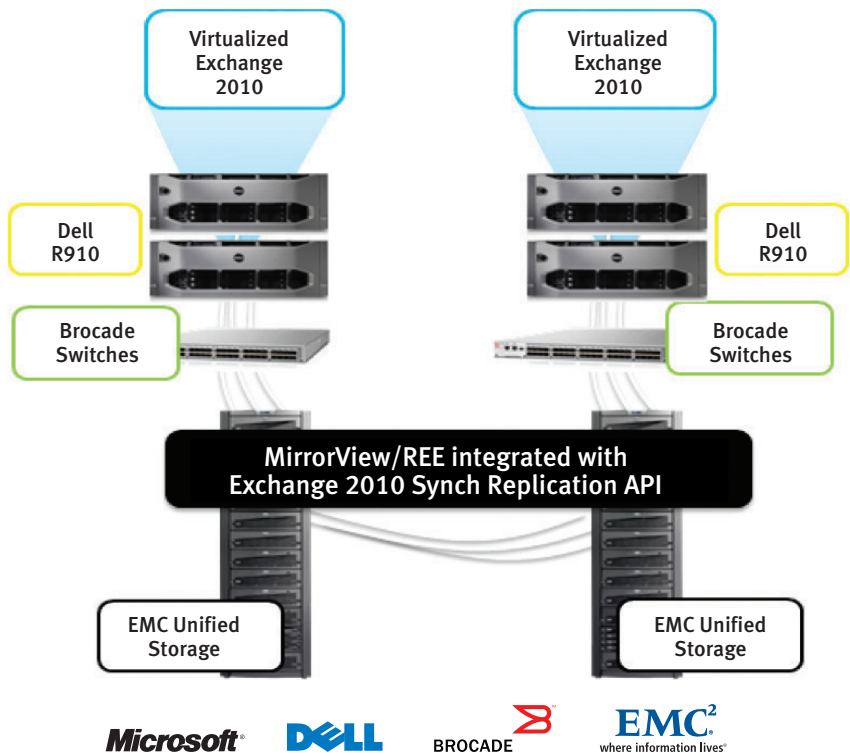
## REDUCING RISK AND ACCELERATING DEPLOYMENT THROUGH JOINT TESTING

In May of 2010, EMC, Brocade, and Dell participated in the Microsoft Exchange 2010 Tested Solutions Program to provide the assurance you need to confidently virtualize your Microsoft Exchange environment. Brocade and EMC® engineers, working together with Microsoft engineers from the Exchange Product Team, successfully validated an advanced, virtualized solution for Exchange 2010.

## EXTENDING EXCHANGE 2010 NATIVE CAPABILITIES BEYOND THE BASICS

Tested in Microsoft's Enterprise Engineering Center (EEC), this solution demonstrates unique integration points that extend the capabilities of traditional deployments of Microsoft Exchange 2010. By leveraging Dell's virtualization-aware servers, we can take utilization and provisioning to a new level for Exchange 2010. By leveraging Brocade networking components, we provide application load-balancing maximum uptime over the high-speed connectivity to the Exchange virtual machines.

By leveraging virtual storage and software from EMC, we provide Exchange 2010 with space-efficient snapshot copies and a powerful synchronous replication option—the industry's first and only method that swaps out log-shipping for block-based replication of Exchange 2010 Database Availability Groups. This end-to-end stack represents a best-of-breed approach for companies that want the highest availability for virtualized Exchange 2010 deployments.



## TESTED COMPONENTS AND ARCHITECTURE

| Components Tested in Microsoft EEC Labs |  |
|---|--|
| <b>Microsoft</b>                        | <ul style="list-style-type: none"> <li>• Microsoft Exchange Server 2010: 20,000 mailboxes</li> <li>• Microsoft Windows 2008 R2 Hyper-V™: Virtual datacenter server consolidation, 32 VMs on four physical hosts</li> </ul>   |
| <b>Brocade</b>                          | End-to-end Brocade network solution: <ul style="list-style-type: none"> <li>• Brocade 300 SAN switches</li> <li>• Brocade 825 Dual Port 8 Gb FC HBA</li> <li>• Network Load Balancers—The Brocade ServerIron ADX</li> <li>• Brocade ServerIron ADX Application Loadbalances with Microsoft Exchange Server 2010</li> <li>• Brocade FastIron GS Ethernet switches</li> <li>• Brocade NetIron routers</li> </ul> |
| <b>Dell</b>                             | <ul style="list-style-type: none"> <li>• PowerEdge R910 Servers: High performance and reliability for today's and tomorrow's virtualized datacenters</li> </ul>  |
| <b>EMC</b>                              | <ul style="list-style-type: none"> <li>• Replication Enabler for Exchange 2010: Synchronous Replication for Exchange 2010 DAG</li> <li>• EMC Unified Storage array: Intelligent disk storage array for Exchange mailbox servers</li> </ul>   |

### Joint testing reduces deployment risk

The testing performed by Microsoft, Brocade, Dell, and EMC definitively demonstrated a very low-risk solution. By leveraging these best practices and lessons learned, you can significantly reduce the chance that components won't operate as planned, or that they have the wrong driver levels, or that the network or storage wasn't set up correctly.

When testing, not only did the test team build the environment, the engineers also pushed it to its limits by stressing out the configuration with I/O workload generators. They also ran a series of failover scenarios to see how the environment would perform. After ironing out many of these complex integration points, the three companies were well satisfied with test results and published their joint findings.

## VIRTUALIZATION SOLUTION BENEFITS—VALIDATED THROUGH THE MICROSOFT EXCHANGE 2010 TESTED SOLUTIONS PROGRAM

|                | Before Virtualization  | After Virtualization  |
|----------------|--|---|
| <b>Servers</b> | Deployed in a physical fashion, customers find themselves in a cycle of: <ol style="list-style-type: none"> <li>1. Increasing workloads/data</li> <li>2. Adding servers to satisfy growth</li> <li>3. Adding people to manage complex solutions</li> </ol> | Dell R910 servers deployed with Microsoft Windows® Server 2008 R2 with Hyper-V enables faster provisioning and centralized management—which leads to increased efficiency and lower operational costs.  |
| <b>Network</b> | Each server has its own independent network—so setup, configuration, and maintenance can become challenging.   | The Brocade ServerIron ADX provides application load balancing and the Netron MLX provides maximum uptime over the high-speed connectivity to the Exchange virtual machines. This combination provides improved management and optimizes performance and utilization across all server resources for reseeding, failovers, and failbacks. |
| <b>Storage</b> | Over-provisioned, direct-attached configurations must be maintained separately. Storage allocation, backup, replication, and archiving are all configured independently.   | Storage area networks (SANs) enable you to pool your storage—and centralize all infrastructure operations (storage, backup, replication, and archiving) for massive efficiency gains. Advanced replication integration provides snapshot cloning and synchronous replication capabilities.  |

### THE RESULT: YOU CAN VIRTUALIZE AND REPLICATE MICROSOFT EXCHANGE 2010 WITH CONFIDENCE

The synergies created by the Microsoft, Brocade, Dell, and EMC joint testing provide the assurance you need to move forward with virtualization in your environment—and to feel confident about reducing risk and accelerating deployment with a rigorously tested architecture.

#### CONTACT US

For more information, visit [www.EMC.com](http://www.EMC.com), [www.microsoft.com](http://www.microsoft.com), [www.dell.com](http://www.dell.com), and [www.brocade.com](http://www.brocade.com).

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