

Meeting Exchange Service Levels with IBM System Storage™ DS3000, DS4000 and DS5000 series



DS5000 Solutions Guide

Business Challenge

In today's ultra-competitive, global business environment, email has emerged as one of the most critical business applications required for success. Drivers of email growth include text messages, graphics, attachments, mobile devices and voice messaging that demand a flexible platform that can scale with the business. Email is used both internally and externally to conduct business, frequently after work hours. When email is unavailable, business can virtually come to a halt.

Keeping email running around the clock is now a critical priority for many businesses. Downtime cannot be tolerated for more than a few

minutes. It is no longer sufficient just to eliminate backup windows for email—recovery windows must be reduced as well.

Ironically, while the need for higher availability of email has escalated, the potential causes of email downtime have increased (e.g., lack of skilled email administrators, operator errors, data corruption, relentless email growth, etc.), compounding the daily challenges of keeping email highly available.

The challenge for IT is to provide exchange and storage administrators with the knowledge, tools and guidance needed to work more collaboratively in order to optimize Exchange performance and availability and minimize associated costs.

Storage Solution Description

IBM DS3000, DS4000 and DS5000 series disk systems provide outstanding near-linear performance that scales with Exchange. This performance is demonstrated by the independent SPC (Storage Performance Council) benchmarks as well as the Microsoft Exchange Jetstress tests. Applications such as Exchange need high-performance block-level storage in order to meet or exceed IT service levels.

Data Protection for Exchange Servers is enabled by the high-availability DS3000, DS4000 and DS5000 architecture including features like redundant components, multiple RAID levels and dynamic provisioning capabilities. In addition, IBM offers hot backup and recovery solutions that work with most data protection software including Symantec, Tivoli and others. These solutions utilize the Microsoft VSS architecture that enables nondisruptive disk-to-disk backups in order to eliminate backup windows.

Total cost of ownership (TCO) can be reduced with a DS3000, DS4000 or DS5000 series solution - software is licensed per system not by capacity or tier, software maintenance is included with the disk system, and hot backup solutions work with your existing backup and recovery software.

IBM has developed a number of white papers and a storage sizing tool to simplify the process of implementing and optimizing Exchange Servers that are stored on DS3000, DS4000 and DS5000 System Storage.

Solution Deliverable	Key Deliverable Benefits
Best Practices Whitepaper	
IBM System Storage™ DS5000 55,000 Mailbox Exchange Server 2007 Storage Solution	<ul style="list-style-type: none"> • Improve storage purchasing decisions • Best practices for implementing Exchange 2007 • Microsoft Exchange Solution Reviewed Program (ESRP) configuration and Jetstress test
IBM System Storage™ DS4000 Solution	<ul style="list-style-type: none"> • Improve storage purchasing decisions • Best practices for implementing Exchange 2003 • Microsoft Exchange Solution Reviewed Program (ESRP) configuration and Jetstress test
IBM System Storage™ DS4800 12000 mailbox Exchange Server 2003 Storage Solution	<ul style="list-style-type: none"> • Improve storage purchasing decisions • Best practices for implementing Exchange 2003 • Microsoft Exchange Solution Reviewed Program (ESRP) configuration and Jetstress test
IBM System Storage™ DS4700 8000 Mailbox Exchange Server 2007 Storage Solution	<ul style="list-style-type: none"> • Improve storage purchasing decisions • Best practices for implementing Exchange 2003 • Microsoft Exchange Solution Reviewed Program (ESRP) configuration and Jetstress test
IBM System Storage™ DS4800 8000 Mailbox Exchange Server 2007 Storage Solution	<ul style="list-style-type: none"> • Improve storage purchasing decisions • Best practices for implementing Exchange 2003 • Microsoft Exchange Solution Reviewed Program (ESRP) configuration and Jetstress test
IBM System Storage™ DS4700 8000 Mailbox Exchange Server 2007 Local Continuous Replication Storage Solution	<ul style="list-style-type: none"> • Improve storage purchasing decisions • Best practices for implementing Exchange 2007 database (storage) redundancy • Microsoft Exchange Solution Reviewed Program (ESRP) configuration and Jetstress test
Storage Optimization for Microsoft Exchange 2007 on IBM Disk Systems	<ul style="list-style-type: none"> • Simplifies Exchange 2007 Implementation • Cookbook approach to installing Exchange • A quick and easy way to provision storage for Exchange
Storage Optimization for Microsoft Exchange 2003 on IBM Disk Systems	<ul style="list-style-type: none"> • Simplifies Exchange 2003 Implementation • Cookbook approach to installing Exchange • A quick and easy way to provision storage for Exchange
Microsoft Exchange Consolidation and Exchange 2003 Upgrade guide	<ul style="list-style-type: none"> • Implementing Exchange Consolidation • Eliminating expensive Exchange silos • Mitigate risk for complex migrations and upgrades
Hot Backup for Exchange 2003 using NetBackup	<ul style="list-style-type: none"> • Best Practices for implementing hot (disk-to-disk) backup for Exchange • Installation and configuration guidebook • Eliminate traditional backup windows and recover Exchange faster
Sizing Tool	
Exchange 2003 Sizing Tool	<ul style="list-style-type: none"> • Easy to use • Predict the size of disk system needed for your Exchange implantation or migration • Utilize what-if scenarios based on growth, size, users, etc.

Business Value

These solutions, in conjunction with IBM DS3000, DS4000 and DS5000 series disk systems, are designed to help solve the business challenge of meeting or exceeding Exchange performance and availability while minimizing associated costs. When used conscientiously, they may—

- Increase the performance of Exchange Server, boosting employee productivity and expanding support for business
- Improve the recovery and availability of these Exchange installations, providing higher service levels that can lead to greater business success
- Reduce server acquisition costs and ongoing costs for maintenance, floor space, power and cooling by minimizing the number of CPUs and amount of memory required
- Enhance the productivity of IT staff involved with storage and Exchange
- Eliminate traditional backup windows and recover Exchange faster resulting in improved IT service levels and increased business productivity
- Lower overall costs required to deliver exceptional IT services associated with Exchange Servers

The SPC and Jetstress tests have demonstrated the exceptional performance scalability of the IBM DS4000 and DS 5000 series disk systems for Exchange workloads.

Therefore, when Exchange is stored on DS3000, DS4000 or DS5000 series,

the following additional benefits may be realized—

- Minimize the number of disk systems required, even as your capacity and performance needs increase, cutting acquisition costs and ongoing costs for maintenance, floor space, power and cooling
- Minimize storage acquisition costs even further by implementing a “pay-as-you-grow” strategy that leverages IBM DS3000, DS4000 and DS5000 series modularity and their scalable architecture
- Protect your storage investments through proven scalability and tiered storage intermix (both Fibre Channel and SATA drives are supported within the same disk system)
- Achieve unsurpassed storage performance from the SPC (Storage Performance Council) benchmark leader for modular storage
- Realize new levels of Exchange Server availability with dynamic expansion of physical capacity, dynamic migration of RAID levels, and dynamic segment sizing
- Offload servers from data replication tasks with integrated FlashCopy, VolumeCopy and Enhanced Remote Mirror capabilities
- Maximize your storage price/performance while lowering your total cost of storage ownership

Resources

The white papers mentioned above may be downloaded at <http://www-03.ibm.com/systems/storage/solutions/isv/index.html> or by contacting your IBM representative.



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