



NEC ExpressCluster X

Next Generation Continuity Solution for Exchange Email Server

Microsoft®
Exchange Server 2003

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Introduction

How much has email changed the way the world does business? Consider this: in 2003, 80% of corporate end users found email more valuable for business than the old standby known as the telephone. In addition, 74% of users stated that email would be harder to be without than phone usage. Today, if your email system goes down, it can bring your business to a halt.

In the middle of all of this messaging lies the mechanism that gets email from point A to point B – the email server. For most businesses, the MS Exchange email server handles all of a company's email needs. With email emerging as one of the critical services to business success, reliability and recovery are more vital than ever.

This paper will discuss how to minimize disruption of this critical service in the event of hardware, software, and site failures.

MS Exchange: The Dominant Email Server

From Word® to PowerPoint® to Outlook®, MS's products have become almost synonymous with business, making it no surprise that the MS Exchange email server continues to dominate the corporate messaging market with a 57% market share. According to a recent study by the Radicati Group, Microsoft® (MS) Exchange's hold on the email server industry will continue, with user numbers for both the Standard Edition and the Enterprise Edition projected to nearly double by the year 2010.

With so many businesses running on MS Exchange, its availability and recovery capabilities are a concern to any company's system administrator. Email system continuity is an issue for any business, regardless of size; after all, if communications come to a halt or data is lost, operations cease and revenues falter, especially in today's email-centric business world.

*Meta Group, Inc. "Senior Executive Panel Survey." Survey, April 22, 2003
2Radicati Group, "Messaging Software Market Share Study." Survey, 2005.*



Email System Risks

With so many businesses running on MS Exchange, its availability and recovery capabilities are a concern to any company's system administrator.

Like any technology, email servers are vulnerable to risk. However, the potential pitfalls of downed email servers are more than just minor annoyances – vital communication may be dropped and critical data may be lost, leading to delayed operations, mixed messages, and other issues that bring business – and revenue – to its knees.

Email has become the primary communication tool of many businesses, especially when sending messages across time zones and through international borders. That alone heightens the risks involved with server downtime; those risks are pushed even further when one analyzes the logistics involved with email. Whether planned or unplanned, many different factors gather to take email systems down.

Causes of Unplanned Downtime

To steal a famous saying, email is the cookie jar and everyone has their fingers in it, pushing and pulling to get inside. Many things make email vulnerable – the complex configuration and administration required for creating remote access across many machines, the large corruptible databases, the distributed and decentralized

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model employed by many businesses, and the intricate integration with third-party applications. Each of these grabs on to email servers and applications, demanding resources and causing instability – and that's not even including the threat of viruses.

These issues merely represent the internal workings of an email server and email applications. The outside world makes things even worse. The unplanned downtime minefield includes risks tied to catastrophic hard drive failure, damaged hardware from power surges and natural phenomena, network problems, and site failures.

Causes of Planned Downtime

Planned downtime is often necessary to keep any email system healthy. From hardware/software upgrades to testing to equipment moves, IT departments plan to keep downtime to a minimum. However, all the analysis in the world can only minimize the invasive impacts of planned downtime – it cannot eliminate the inherent problem.

Recovery and Continuity

A company's email system is constantly dodging bullets and avoiding traps, but eventually, its luck will run out and the system will go down – and when it fails, unplanned outages average almost an entire business day, with over 25% of outages lasting more than two days.

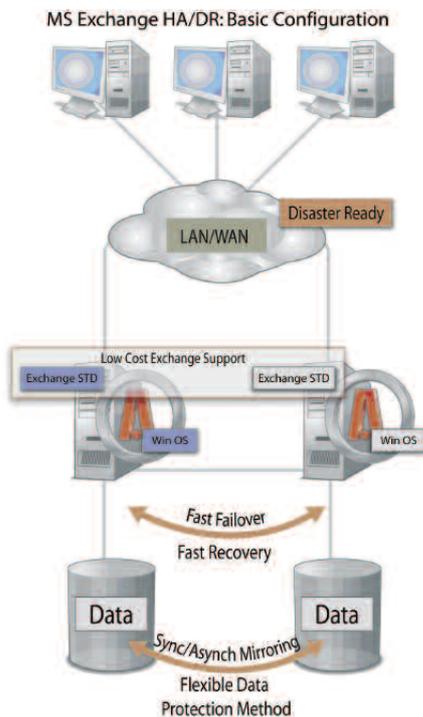
NEC EXPRESSCLUSTER X



Most smaller organizations (small- and mid-sized businesses and enterprise branch offices) have limited IT resources and approach problems with a reactive, rather than proactive strategy. The ideal methodology of preventative maintenance comes in the form of an email continuity solution. Unfortunately, for the businesses running MS Exchange Standard Edition, their options are limited. Standard Edition has limited capabilities when utilizing a backup server, meaning that there is always risk for data loss. Some continuity options exist for Standard Edition, but they can be cumbersome (alternative email programs) or difficult to maintain (backup systems outside of the email server). A new, better solution is needed.

Easy Management

When businesses begin to outgrow the capabilities of MS Exchange Standard Edition, the logical solution is to migrate to Exchange's Enterprise Edition. Enterprise Edition offers greater volume capacity; however, an upgrade to Enterprise Edition can lead to significant migration-related downtime. A single solution that offers compatibility with Exchange Standard and Enterprise Edition can significantly reduce migration risks and cost of ownership.



The Solution: NEC ExpressCluster X

NEC ExpressCluster X (read ExpressCluster 10) is the next generation integrated application and data recovery solution. The design focuses on delivering a practical system continuity solution to any situation with an emphasis on easy usability and intuitive interaction. ExpressCluster X utilizes intelligent, real-time synchronization to protect data and keep businesses running. Versatile and affordable, ExpressCluster X puts system continuity assurance within reach even for businesses on a budget, and supports a variety of scenarios, including email systems running MS Exchange.

ExpressCluster X provides near-instant system recovery, minimizing email communication interruption and preventing critical loss of email data. Capable of email system protection and recovery over wide area networks spanning hundreds of miles, ExpressCluster X offers IT departments a simpler solution by combining both data and application protection into a single streamlined package.

NEC's ExpressCluster X was designed to address the key problem areas facing MS Exchange users with either Standard or Enterprise Edition:

Integrated Application and Data Protection

By offering recovery and reliability coverage for both aspects of email servers, ExpressCluster X offers a simple solution to a complex problem.

IT departments no longer have to train staff on using multiple programs or lose valuable time trying to integrate different third party solutions into their MS Exchange-based server. It helps system administrators streamline configuration and setup time by integrating both application and data protection capabilities into a single package. Both the application and data sides of ExpressCluster X feature a similar interface that is easy to learn and even easier to use, making stacks of different manuals a thing of the past.



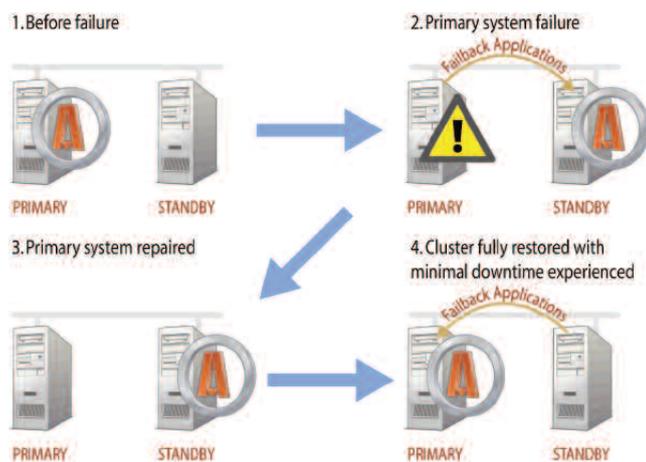
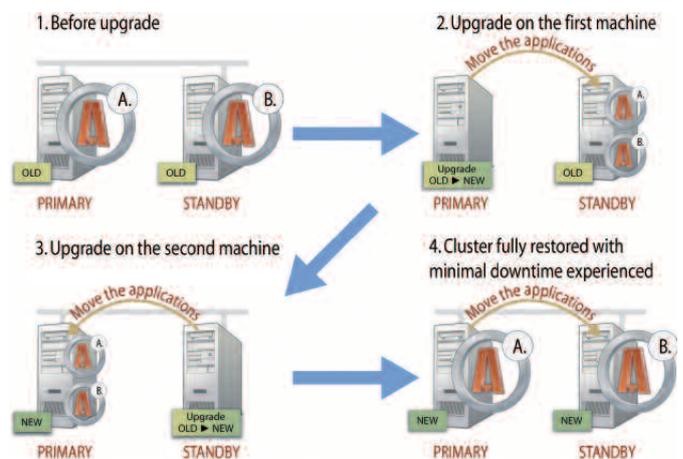
Total Downtime Mitigation

ExpressCluster X offers a complete solution to mitigate both unplanned downtime and planned downtime.

In unplanned downtime scenario, it quickly detects unexpected primary system failure then initiates fast recovery of application and data on the standby server.

In planned downtime scenario, ExpressCluster X enables users to quickly migrate active application and data workload from one server to another prior to start of maintenance activities so critical business service disruption due to hardware, software, and/or site maintenance can be drastically reduced.

With ExpressCluster X, the complexity and inconvenience associated with off-hour maintenance window arrangement becomes a thing of the past.



Support for Both Standard and Enterprise Editions

While the majority of businesses still use MS Exchange Standard Edition, there comes a time when business growth forces IT departments to migrate over to Enterprise Edition. For Standard Edition users, ExpressCluster X provides complete Exchange email system continuity without requiring a costly upgrade to Enterprise Edition. For Enterprise Edition users, ExpressCluster X provides comprehensive protection with simplified deployment and maintenance compared to conventional Enterprise Edition clustering solutions.



Synchronous/Asynchronous Data Mirroring Support

ExpressCluster X gives Standard Edition users the option to utilize synchronous data mirroring for complete data protection.

By copying data to the backup server in real time, synchronous data mirroring ensures that the live server and backup server always match, virtually guaranteeing full recoverability and zero data loss. Depending on a customer's available network infrastructure and data protection requirements, system administrators can choose to accept some data loss risks and use asynchronous data mirroring for minimal network operational costs.

Economical Email Continuity

From a functional point of view, MS® Exchange Standard Edition and Enterprise Edition are essentially the same. However, businesses using Standard Edition are left vulnerable to data loss and continuity problems. ExpressCluster X provides clustering capabilities without forcing costly upgrades to Enterprise Edition while also providing compatibility for any future Enterprise Edition plans.

The Clear Leader for Exchange Email System Continuity

Since ExpressCluster X supports both MS Exchange Standard Edition and Enterprise Edition, system administrators can decide on the best use of their resources with synchronous and asynchronous data mirroring. Intuitive, efficient, and affordable, ExpressCluster X is the most complete and versatile Exchange continuity solution and the clear choice for businesses seeking a combination of functionality and flexibility.

To learn more about NEC ExpressCluster X please visit us on www.nec-computers.com

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