

## New Trier High School

### EMC speeds the upgrade process and optimizes the performance and reliability of an 800 seat Microsoft Exchange 2007 environment



New Trier High School, which encompasses two campuses in Winnetka and Northfield, Illinois, provides a comprehensive and vibrant educational environment for a student body of approximately 4,200 students. The school offers a broad range of academic, athletic, drama, and music programs, and is home to more than 100 extracurricular clubs that cover a wide variety of student interests from chess to climbing.

During the 2006/2007 winter break, New Trier High School's IT team replaced the existing e-mail messaging service for staff, faculty, and student teachers to leverage the extensive features and functionality of Microsoft Exchange technology. Supported by a Dell server with direct-attached storage, the deployment of the school's Microsoft Exchange 2003 environment was an interim step that preceded the planned migration to a new and more expansive Microsoft Exchange 2007 environment six months later.

Today, this state-of-the-art Microsoft Exchange 2007 environment, which incorporates clustered Dell servers, a centralized EMC® CLARiiON® CX3 UltraScale™ storage system, and EMC SnapView™ and EMC Replication Manager software, can fully accommodate the faculty's and staff's growing use of the messaging environment, provide superior fault tolerance, and significantly shorten backup windows and recovery time.

Engaged to help correctly size and configure this new Exchange 2007 environment to meet current and future needs, EMC Global Services Microsoft Practice carried out a performance assessment of the existing Exchange environment. At its conclusion, component recommendations and a combination of EMC and Microsoft configuration and deployment best practices helped facilitate a rapid and successful implementation.

"Working with EMC accelerated our deployment and reduced our risk," says Jeremy Boscaccy, network manager and Microsoft Exchange administrator. "EMC had fully tested and documented the recommended end-to-end solution and everything worked as planned. We were up and running without any technical problems within three days."

#### A rapid rise in usage accelerates upgrade plans

When Microsoft Exchange 2003 was deployed, the school's faculty had home and remote access to their messaging service for the first time. Accomplished via Outlook Web Access (OWA), as well as through Remote Procedure Call (RPC) or HTTP on tablets, this extended access, along with other advanced capabilities such as the ability to incorporate Smartphones with Windows Mobile 5.0 into the system for administrations, led to a rapid ramp-up in usage.

"With all the new capabilities available to our users, we knew we were going to outgrow our single server Exchange infrastructure fairly quickly," says Boscaccy. "We began conversations with Dell, our server vendor, to discuss migration plans and our interest in using clustered Dell servers and EMC centralized storage to support a new Exchange 2007 environment."

A long-time partner of both Dell and Microsoft, EMC soon became involved in the planning process. The EMC Microsoft Practice team was brought in to help analyze the current Exchange environment, which at the time of engagement, was already nearing capacity and beginning to experience performance issues due to increasingly heavy traffic.

An assessment of the Exchange environment began with a few days of information gathering which included a read/write analysis. This was followed by recommendations for specific hardware and software components and guidance on sizing the solution based on a thorough review of the data.

“We really leveraged EMC’s knowledge of Exchange 2003 and 2007 to help us build a solution that would enable us to better handle the traffic and ensure high availability,” says Boscaccy. “EMC listened to what our needs were, did all the analysis up front, and then put together a great plan right-sized for our needs.”

The school’s requirement to migrate its 800 Exchange accounts within a very tight timeframe as non-disruptively as possible was also carefully orchestrated into the plan. As a result, EMC was able to coordinate the resources necessary to quickly install the hardware and facilitate a complete migration to Exchange 2007 within a three-day period.

“We were doing so many other things at the time that we just didn’t have the resources necessary to get the job done in the timeframe we required,” says Boscaccy. “With the help of the EMC, we were able to start the migration on a Thursday night and finish it that Friday afternoon without a single user being disrupted.”

### **High performance, business continuity, and rapid backup and recovery**

Equipped with a little over a terabyte of capacity, a new EMC CLARiiON CX3 series networked storage system now supports two clustered Dell servers running Exchange 2007.

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**Jeremy Boscaccy, Network Manager and Microsoft Exchange Administrator**

“Performance has been phenomenal with no degradation since deployment,” says Boscaccy. “With our two-node cluster in place we don’t worry about downtime either, and we can now implement the latest patches and stay on top of security without effecting the entire environment.”

The replacement for time-consuming tape backup and recovery processes, EMC SnapView and EMC Replication Manager have also been implemented to provide automated replication functionality for fast recovery and easier backup of the new Microsoft Exchange 2007 environment. Every hour, EMC SnapView automatically and non-disruptively creates a clone of the environment and then EMC Replication Manager backs up the clone. A tape copy is then made from these backups and stored offsite.

Together these integrated EMC solutions have shortened New Trier High School’s backup window to under an hour and enabled the IT team to eliminate the previous 1:00 to 5:00 a.m. backup window.

“We’ve been monitoring evening usage of the system and we know our users are on until about 11:30 or 12:00 at night, which in the past meant we only had a four or five hour backup window,” says Boscaccy. “With SnapView and Replication Manager functionality, we no longer have to run our backups in the middle of the night. We can run them at any time without concern that they will impact the production environment and our users.”

In addition, recovery of the Exchange environment from backup can now be achieved in as little as a few hours as opposed to the previous two-day timeframe. Accidentally deleted or lost files can also be quickly retrieved during the day with a minimum of effort.

### **Comprehensive education, training, and support**

At all stages of the planning and implementation process, the EMC Microsoft Practice team facilitated knowledge transfer through various documentation materials and training. Vouchers have also been provided to enable New Trier High School’s IT team to take advantage of EMC’s classroom instruction.

At the beginning of the project, New Trier High School's IT team was able to learn more when EMC's pre-sales team proposed details in a document they delivered called *Exchange Rapid Performance Analysis and Recommendation*. Since the proposed solution was an EMC Proven™ solution, the thorough testing and validation process also provided technical documentation. Documentation supplied to New Trier throughout the project included the *EMC Reference Architecture Guide* which identifies performance characteristics to look for and where to find them, and EMC's best-practices documentation, which offers guidance on how to manage and maintain the environment. During the implementation process EMC technicians were also helpful in offering informal onsite training.

"We were very involved with what the EMC team was doing so that we would be able to effectively manage our new Exchange environment once it was implemented," says Boscaccy. "A school environment is a dynamic one, so we wanted to be able to keep up with all the adds, moves, and modifications necessary and ensure the system was working optimally. The reference materials and best-practices documentation EMC has provided have been very helpful, and we know if we have any additional questions we can always call EMC and ask."

### Future plans for storage expansion, e-mail archiving, and server virtualization

Based on the success of the Dell and EMC-supported Exchange 2007 environment, the school recently purchased another two terabytes of drive space so that additional servers could be attached to support other applications such as the school's Microsoft SQL Server environment as well as file shares for internal usage.

In addition, ways to facilitate compliance with a new federal law that now mandates the archiving of all inbound and outbound Internet-based e-mails are also being explored with EMC and involve using the school's EMC CLARiiON storage system to house e-mail archives.

VMware® server virtualization technology is also being considered as a time and cost-efficient approach for consolidating some of the school's 54 physical servers onto virtual machines.

"With VMware we hope to be able to free up floor space and cut down on the actual physical infrastructure we have here," says Boscaccy. "We have individual servers that, for example, are just used for web applications. If we can take those and put them all into a virtualized environment on one system, that's at least four or five servers that we can immediately decommission."

### A successful outcome for users and IT staff

Considered one of New Trier High School's most mission-critical environments, faculty and staff count on the non-stop availability and extended messaging service capabilities of Microsoft Exchange 2007 to maintain both internal and external calendars and facilitate daily communications within the school and between parents and students.

For New Trier High School's IT team, the rapid deployment and stability of the new Exchange 2007 solution, along with the means for simplified management including streamlined backup, faster recoverability, and easy scalability have deemed the solution an operational success as well.

"We have been very happy with the tight integration between Dell, EMC, and Microsoft," concludes Boscaccy. "Best practices were very complementary and everything was a great success. We're looking forward to taking what we've done and expanding it so that we can provide that same level of service to our other applications."



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