



SUCCESS STORY

Education



### SOUTHEASTERN LOUISIANA UNIVERSITY PROBLEM SOLVED

Southeastern Louisiana University moved to NetApp® EF-Series all-flash array to deliver faster access to educational applications through its virtual desktop environment.

## Ready for the Future of Academic Computing

To meet its virtualization goals and improve students' and educators' computing experiences, Southeastern Louisiana University implemented NetApp flash-based storage solution, allowing for shorter login times for students, support time saved for IT staff, and cost and space savings for the university.

Another NetApp  
solution delivered by:



Up to  
**6x**  
faster user logins

Client computing  
support by IT staff  
reduced by more than  
**30%**

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# IMMEDIATE ACCESS FOR STUDENTS

## LOGIN TIME



## APPLICATION LOAD TIME



With notable alumni in the fields of music, politics, and media broadcasting to name a few, Southeastern Louisiana University (Southeastern) has been a driving force in the educational, economic, and cultural development of southeast Louisiana since 1925. Southeastern combines a small-town feel and close-knit educational community with modern technology, serving more than 14,000 students with 43 undergraduate and 18 graduate degree programs.

## CHALLENGE

### Maximizing virtual desktop performance

Virtual desktop infrastructure (VDI) is the future for Southeastern for several reasons: enhancing student learning experiences, classroom flexibility, IT efficiency, and data security. However, as the university

began equipping its student computing labs and library with virtual desktops deployed on the university's existing IT infrastructure, scalability became an issue, and performance for core educational applications began to degrade.

"There was no way for us to expand our legacy SAN to handle the load as we quickly went from 100 to 800 virtual desktops," says Chet Young, VMware administrator at Southeastern. "On a good day, it took users a minute and a half just to log into their desktops. On a bad day it could take more than ten minutes, which cut into the time for learning in our labs."

The university needed to enhance its infrastructure to achieve its virtualization goals, while adhering to a strict IT budget. "We had to demonstrate that providing an

excellent user experience with virtual desktops was still more cost effective in the long run than replacing and maintaining traditional PCs," says Ray DeJean, client connectivity leader at Southeastern Louisiana University.

## SOLUTION

### Flash storage for microsecond response times

The university turned to NetApp partner CMA Technology Solutions for advice. Together, the teams evaluated several flash-based storage solutions and ultimately selected a NetApp all-flash EF560 system in a Fibre Channel SAN configuration.

"We chose the NetApp EF-Series because of NetApp's longstanding reputation for quality and the solution's attractive pricing," says DeJean. "Some of the other flash


storage vendors are very new to the market and offered solutions for a single environment, which made us nervous. This was not the case with NetApp technology, which we knew would deliver the flexibility we needed for the university.”

The university deployed the NetApp system in less than a day. “It was so easy to get the NetApp EF-Series up and running,” says Young. “We did benchmark testing using VMware I/O Analyzer and found that the NetApp EF-Series gave us a tenfold increase in available IOPS compared with our legacy SAN. Random writes went from 14,991 IOPS on our IBM DS3524 disk SAN, to 144,070 IOPS on the NetApp EF560 SSD SAN.”

All VMware Horizon virtual desktops are now hosted on the NetApp EF-Series array, resulting in micro-second response times for VDI workloads, and ultra-low latency during peak periods. Servers that were previously hamstrung by storage bottlenecks began performing at peak efficiency, with CPUs working to their full potential. “The NetApp EF-Series is so fast that we no longer have I/O problems. Now we need faster CPUs in our servers!” says DeJean.

## **BUSINESS BENEFITS**

### **More time for learning**

With the NetApp EF-Series providing sixfold faster user logins and robust virtual desktop performance, Southeastern is improving student computing experiences across campus. Previously, it would take over 3 minutes to login, sometimes up to 10 minutes during heavy I/O load. Now logins take around 15 to 20 seconds.  Students have immediate access to applications at the beginning of every class, reclaiming time for learning every day. Even resource-intensive statistical and mathematical applications and programming environments are responsive and easy to work with.

“Before, students had to wait from 60 to 90 seconds for Microsoft Visual Studio to load, and compiling code was often a lengthy process,” says Matt Gill, systems administrator at Southeastern. “Now, all of that happens in around 15 seconds.”

### **A more efficient, cost-effective solution**


The university saved nearly half a rack of space in its data center by deploying a dense, high-performance solution for VDI. As the environment scales, Southeastern

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Client Connectivity Leader,  
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can add NetApp EF-Series arrays in modular, 2U building blocks to expand to hundreds of terabytes if needed. With combined savings in power and cooling and administration time, the university is reducing costs while maintaining high performance for virtual desktops.

“We’re saving time and reducing stress,” says Young. “Nobody complains about performance anymore, and we’ve already reduced the IT staff time required to support client computing by more than 30%.” 

**A better foundation for growth**  
By moving virtual desktops to the NetApp EF-Series, the university

can expand its VDI environment while still providing excellent performance for demanding academic applications. In fact, the university has been so pleased with the results that the VDI initiative will extend to faculty and staff as other workloads move to all-flash storage.

“The NetApp EF-Series gives us great performance for virtual desktops, which has restored valuable time for learning to our students and educators,” says DeJean. “Going forward, we will only be buying flash storage for its density, performance, cost savings, and management benefits.”

**LEARN MORE**

[www.netapp.com/us/products/storage-systems/ef-series](http://www.netapp.com/us/products/storage-systems/ef-series)

## SOLUTION COMPONENTS

### NETAPP PRODUCTS

NetApp all-flash EF560 System

NetApp SANtricity® operating system

### ENVIRONMENT

Applications: Microsoft Office, Microsoft Visual Studio, MATLAB, SPSS

Server virtualization: VMware vSphere 5.5

Desktop virtualization: VMware Horizon View 6.2

### PROTOCOL

FC-SAN

### PARTNER

CMA Technology Solutions

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