



**davenport**group



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# Re-imagining Data Center Infrastructure In Higher Education

*Davenport Group works with North Carolina's Nash Community College to implement data center infrastructure that provides students with critical access to technology.*

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Source: Nash CC News

## Re-imagining Infrastructure at North Carolina's Nash Community College

"Today's average student is no longer the 18-year-old whose parents drive her up to "State U" in a minivan stuffed with boxes. Instead, the "new normal" student may be a 24-year-old returning veteran, a 36-year-old single mother, a part-time student juggling work and college, or the first-generation college student. The faces we picture as our college hopefuls can't be limited by race, age, income, zip code, disability, or any other factor."

**Ted Mitchell**

Under Secretary, U.S. Department of Education, quote Philadelphia Inquirer, August 22, 2016

Constant change. Fast pace. Holding it together. More options equal more possibilities to be perfectly content—right? In technology, choices can lead to making great decisions, but choices can also lead to chaos and confusion. Technology continues to be used in increasingly strategic and innovative ways to expand access, particularly in higher education as two-year and four-year institutions seek to improve student learning outcomes and provide greater institutional effectiveness.

Located about an hour northeast of Raleigh, Nash Community College (NCC) in Rocky Mount, NC, has built a reputation as a local training provider. For over 50 years, thousands of North Carolinians have studied at NCC seeking associate degrees or continuing education for the credentials and licenses in their respective fields. Over the last 10 years, NCC and Nash County, NC, have developed a successful information technology roadmap and have found that it is critical to all IT to meet organizational challenges and capitalize on organizational opportunities.

Working towards meeting these needs, NCC has cultivated an information technology plan to provide the framework from a technology-based perspective for meeting the college's mission to offer "quality instruction, support, services, technology, work force development, research, and community partnerships ... by addressing the needs of individuals, communities, and organizations."



## Technology in a Modern Higher Education Context

How best to identify the systems and services that contribute to fulfilling the college's goals, plus being responsive to the changing educational and training needs of the institution, higher education leaders and decision makers have come to rely on IT departments' resources to know what's important and where to focus in their IT planning and management activities.

Because everything changes so quickly, determining which solution is the right one demands a comprehensive approach.

“When Davenport Group was first introduced to NCC the customer was in a state of needing to upgrade their data center infrastructure with a limited budget and resources,” says Davenport Group Account Executive, Molly McPherson. “During the initial process of determining which solution would provide the required upgrades while providing a positive ROI, Davenport Group and NCC worked closely together to design the Dell EMC servers, Dell EMC storage, and Dell EMC backup solution. We found collectively that the recommended solution checked all of the boxes for NCC, and by leveraging Dell Financial Services we were able to meet their financial requirements.”

Knowing what's important begins on the ground level with a healthy IT infrastructure. Running institutional IT systems and protecting the critical data in a way that complies with applicable laws and regulations; and enables teaching, learning, and research, allows the seamless operation of learning and administrative functions, and significantly reduces institutional risk.



Source: Nash Community College



"The College has an infrastructure plan which has been in place for a number of years," says IT Director of NCC, Jonathan Vester. However, due to the cost of implementing a solution that would meet the current and known expansion needs it was always cost prohibitive. The known expansion I speak of is a part of the statewide upgrades to the student information system and enterprise resource planning (ERP) to manage day-to-day business activities and enable the flow of data between them."

### Considering Higher Education's Influencing Issues:

- Budget for technology
- Bandwidth needs
- Student accessibility
- Security

To guard against falling behind, it's necessary to see the signs that the IT infrastructure is no longer meeting end-user needs. The IT department at NCC seeks to anticipate and gauge the performance capabilities of the infrastructure. This has been something Jonathan and his team have learned over the years. From a wireless infrastructure overhaul across campus to the college's flourishing English Studio and Math Tank initiatives to state-of-the-art equipment deployments in student lounges, college officials say they are looking to prepare students with the access and skills they need to be successful, giving them an edge when it comes to the employment market.

"Our previous infrastructure included several VMware servers, physical individual storage and application servers, and a magnetic tape backup system for both the storage/application servers as well as the campus ERP. We knew we needed to be able to assure that our new solution did not bring any complications to our users, and that if there ever was a need to use the DR solution that the public confidence would not be compromised. This also is applicable to the need to make sure our data was secured and encrypted."

The IT Department's exceptional responses are part of NCC's goals in meeting challenges and student outcomes facing higher education institutions. For several years, the College was challenged to find a network server storage, virtualization, and backup/disaster recovery solution that was a balance between what would meet the current and emerging needs without exceeding the constraints of a very limited IT budget. The institution had become reliant on purchasing extended maintenance warranties on servers and backup solutions that were beyond their reliable duty cycles to stay within budget. This management method only maintains the technology and limits future growth.

"The College spent untold hours each month working through legacy support issues when we could have been expanding our services," says Jonathan. "We engaged Davenport Group not only as a hardware partner, but as a trusted source for enterprise resource planning that could guide us through the many options for modernizing our data center."



## Mastering Changes is What NCC Does Best

For over 50 years NCC has been serving students in the region. At its founding in 1967, "Determined community leaders forged ahead and laid the groundwork for Nash Technical Institute [now Nash Community College]. This was a time when some technical institutes drew opposition from other colleges, skeptics, and nay-sayers," said William S. Carver, II, Ed.D, President of NCC. "I can recall being told 'war stories' by early presidents who had to overcome huge obstacles to get community colleges operational."

NCC has significantly expanded student enrollment and campus buildings, with graduates making an impact on the economic prosperity of the community. The College is part of a statewide network of 58 public community colleges, within a system that enrolls over 780,000 students annually and is the third largest community college system in the nation.

Keeping up with the changes that naturally evolve from managing IT infrastructure is no simple task. However, student engagement and achievement has increased as a result of the college's efforts. The mission of the College is to provide adults in the Nash County service area with quality and convenient learning opportunities consistent with identified student and community needs. The computer systems of Nash Community College make possible a high degree of productivity and efficiency in administrative and instructional areas.

### Goals at a Glance:

- Advance a student-centered environment that provides effective technology as a tool for success.
- Reinforce secure information technology systems to improve the college's performance and provide technology training and professional development opportunities for the community.
- Enhance collaboration and support teaching, learning, and increase administrative efficiency.



## Agile Approach for Success

As part of NCC's goals to deliver comprehensive programs of study focused on educational effectiveness and maximum student achievement, the college responds to the evolving dynamic of student learning needs by providing consistent, campus-wide use of technology.

The number of users, devices and applications in today's network-enabled learning environment creates challenges that didn't exist a few years ago.

IT departments ensure that a multitude of devices can all concurrently access one another and provide the bandwidth to accommodate rapid growth in data; deliver low bit error rates to support streaming multimedia applications that demand continuous connectivity; push the right applications to the right people; and provision, remediate, and manage user and device credentials for a huge, diverse population. Drawing students from 10 counties, NCC's college revenue is \$31 million with expenses approximately equal. Over \$2 million in annual financial aid is offered to students.

"I think the success of this project has demonstrated the value having a partner like Davenport Group brings to the table," Jonathan says. "We can focus on our needs from a user perspective, and Davenport Group is able to translate those needs to business requirements that can be scoped into a workable project plan by the sales team. The technical team is top-notch and is noticeably engaged onsite with us as the client, as well as when you contact them after the fact. The only challenge we had with working with Davenport Group was not wanting to let them leave the campus at the end of the project--they really were a great team to work with."

As a comprehensive community college, ninety-nine academic programs are offered, many of which lead to a degree, diploma, or certificate. Included are two-year technical and college transfer programs which give the students the knowledge and expertise required for challenging careers or successful transfer to four-year colleges or universities. Vocational, occupational, business, and industry related programs are offered which prepare students for jobs and provide a skilled workforce for the area. Approximately 12,000 North Carolinians participated in the host of diverse programs at NCC during the 2017-2018 school year.

Additionally, the College offers Adult Basic Education, High School Equivalency, and Adult High School to meet the diverse needs of the citizenry in Nash County and the surrounding area.

"From day one, we have seen a dramatic decrease in the necessary downtime required to backup our entire data center -- from four hours to 10 minutes. Davenport Group's technical team is top-notch and is noticeably engaged onsite with us as the client, as well as when you contact them after the fact. The only challenge we had with working with Davenport was not wanting to let them leave the campus at the end of the project - they really were a great team to work with."

**Jonathan Vester**

IT Director, Nash Community College  
Rocky Mount, NC

