

# Cape Cod Academy meets the BYOD challenge with HP Networking solutions

Academy triples wireless bandwidth, expands coverage by 20% and personalizes education

CAPE COD  
ACADEMY

**“Cape Cod Academy is redefining pre-K through 12 education on Cape Cod. BYOD is an important aspect as it speaks to how students learn. Flexibility is key. We are creating an expanded learning environment where our teachers and students can work with the technology they know best.”**

—Phillip P. Petru, Head of School, Cape Cod Academy

**HP customer case study**  
College preparatory academy enables personal technology for the sake of learning

**Industry**  
K-12 Education

## Objective

Dramatically increase wireless bandwidth to meet the challenge of a sudden mobile device boom

## Approach

Enhance current HP-based network with the flexibility to accommodate a bring-your-own-device initiative

## Technology improvements

- Triples wireless network capacity
- Increases wireless coverage area by 20%
- Enables up to five mobile devices per student
- Builds on existing network core to deliver improved service levels to staff and students

## Business outcomes

- Provides flexibility and choice that enables mobile learning
- Allows for increased teacher-student interaction time during classes
- Delivers educational environment beyond the classroom
- Offers capacity to meet current and future bandwidth challenges

## Education at the edge of tomorrow

How does technology really change the way people learn? It's one thing to type lecture notes on a laptop instead of writing them by hand in a spiral-bound notebook. But what if technology could enable students to collaborate on writing their own textbooks? What if students spent their classroom time working on assignments and their homework time attending lectures?

That's the brave new world educators and students at Cape Cod Academy are stepping into. It's a reimagining of educational resources and a restructuring of when, how and where learning takes place. While teaching can occur anywhere on campus, at the heart of every Cape Cod Academy learning experience lies a trusted relationship that makes deeper understanding possible. Established in 1976, Cape Cod Academy is an independent day school in Massachusetts.

Several years ago, school leaders took their first steps to a truly technology-enabled campus by standardizing networking with HP. With HP 5400 zl Switch Series at its core, and 10-gigabit links to HP 3500 yl Switch Series at the edge, Cape Cod Academy brought its network under control and opened up a world of possibilities for its students and staff.



All was fine, with the new network supporting computer labs, laptops, wireless devices, and enabling a comprehensive website for student-teacher communication and the school's student information system. But change was on the horizon again: The mobile device revolution was just around the corner, and nobody could have predicted the challenges or the opportunities that came with it.

## The mobile revolution comes to campus

"We thought we had been thinking ahead when we built the network the first time," recalls Phillip Petru, head of school at Cape Cod Academy. "We thought we were going to have plenty of bandwidth."

Initially, this was true. But the explosion in mobile technology came quickly. "At the beginning of last school year, less than a quarter of our students were bringing their own wireless devices," Petru says. "After the holiday break, that number increased dramatically. When the students came back in January, half of our grade 7-12 students were suddenly showing up to school with wireless devices—some of them with multiple devices."

Within a day, the network was flooded with traffic. The school's network had the capacity for 255 possible devices, but it wasn't near enough. "We were faced with double that traffic with almost no warning. We were getting complaints that people couldn't get onto the network," Petru says.

## Bring on BYOD

Thrust into the midst of the bring-your-own-device (BYOD) world, the school embraced change and took up the challenge. "We considered Cisco, Aruba Networks and Ruckus Wireless, but when it came down to it, we chose to continue with wireless solutions from HP," explains Mary Beth Bergh, director of technology at Cape Cod Academy.

To design the new wireless network, the school's leadership turned to Unified Networking Solutions, an HP partner who has been a technology advisor to Cape Cod Academy for the past six years and is now the school's managed service provider for network, servers, storage, and endpoints. The team deployed an HP MSM765 Premium Mobility Controller, HP MSM460 Access Points and HP Indoor-Outdoor Dual-Band MIMO Antennas before the start of the new school year.

## Securing the guest network

Unified Networking Solutions is no stranger to campus-wide deployments of HP Networking solutions. With a specialty in educational environments in the Cape Cod area, the team at Unified knows the importance of building flexible and secure networks to support learning. "We saw what Unified Networking Solutions and HP had done at another private school, and knew that was the direction we wanted to take," Petru recalls.

To secure the BYOD deployment, the team configured a separate wireless guest network using HP Identity Driven Manager Software Series (IDM) to centrally define policy-based network access rights. "The design gives students on the guest network access to the Internet as well as their own school-related files and on-campus print services while keeping the school's internal network off limits," explains Howard Cathcart, director of engineering for Unified Networking Solutions.

For a student on campus, the guest network becomes available on their mobile device and an authentication screen is presented when the user first activates a web browser. To proceed, the student must enter his or her student username and password.

## Tripling wireless capacity

The solution triples the logon capacity of its previous wireless solution while increasing network robustness and physical range by approximately 20%. More importantly, it's a solution that meets the needs of the school's technology-enabled students.

"BYOD is really exciting because it speaks to how kids learn," explains Petru. "Flexibility is key. We're not telling everybody, 'hey, you have to use this particular laptop if you're going to be on our network.' We're creating a place where our students can bring and use the technology they're already familiar with."

In some cases that might mean multiple pieces of technology. "Our HP wireless upgrade actually provides enough bandwidth for each student and faculty member to have multiple wireless devices available at any given moment," Bergh says. "Some students are really great at taking notes on a smartphone, some prefer to do that on a laptop or tablet computer. By giving them the choice, we're preparing them for the real world. We're also trying to prepare the school for the expected growth and change in the number and type of wireless devices."

Whether collaborating over the network on a wiki-based textbook, or using a smartphone to take a photo of an assignment instead of writing it down, the HP wireless solution has given Cape Cod Academy students choices that integrate technology into their own personal learning style.

It's also giving students the option of watching classroom lectures at home and using class time with the instructor to ask questions and complete assignments. "Video streaming with our HP network is really letting us experiment with a 'flipped classroom' where the time spent with the instructor can really become more valuable to the students," Petru relates. "It's a really exciting concept, and another example of how technology is changing the way we think about education."

## About Cape Cod Academy

Cape Cod Academy, an independent day school in Massachusetts, is committed to redefining pre K-12 education on Cape Cod. At the heart of every Cape Cod Academy learning experience lies a trusted relationship that makes deeper understanding possible. Cape Cod Academy is a valuable resource for all those raising and educating children on the Cape.

## About Unified Networking Solutions

Unified Networking Solutions, Inc. provides best practice IT solutions and 24/7 IT support to SMBs, enterprise, government, as well as both public and private educational organizations. The Unified team plans, designs, procures, implements, and maintains any IT project, from desktop refreshes to server virtualization projects, storage upgrades, networking deployments, wireless expansions, or private cloud designs.

## Infrastructure for the future

The network is bookended by servers and storage from HP in the data center and HP desktops and laptops at the endpoint. With communication, administration, and educational applications being delivered via HP ProLiant DL380 Servers and HP P2000 MSA Dual Controller storage systems, and accessed by HP Compaq 8200 Elite and 6400 series PCs and HP 8460p EliteBooks, the campus is kept in touch and online with the help of HP technology.

It's an infrastructure that school leaders can trust as the campus takes new steps into the future while shrinking their IT infrastructure footprint today. Since deploying ProLiant servers and virtualization software from VMware, the school has consolidated 10 physical servers down to just two. Besides saving on power and cooling, the HP Converged Infrastructure is giving the school the power and flexibility to embark on a new project for the secure delivery of desktops next year. The virtual desktop infrastructure (VDI) deployment will further simplify endpoint maintenance and security at the school, allowing for a seamless technology experience across the campus.

For now, it's enough to know that the school's systems are doing what they can to prepare students for the technology-enabled world they'll experience in the universities and jobs in which they eventually find themselves. "HP is helping us take education beyond the classroom, and we feel good knowing that we're partnered with a company that is going to be around in a volatile market," Petru explains. "If we need parts or service from HP in 15 years, I know we'll be able to get them."

## Customer solution at a glance

### Hardware:

- HP 5400 zL Switch Series
- HP 3500 yL Switch Series
- HP MSM765 zL Premium Mobility Controller
- HP MSM460 Access Points
- HP Indoor-Outdoor Dual-Band MIMO Antennas
- HP ProLiant DL380 Servers
- HP P2000 G3 FC MSA Dual Controller Storage System
- HP Compaq 8200 Elite PC
- HP Compaq 6400 PC
- HP EliteBook 8440p and 8460p Notebook PCs

### Software:

- HP PCM+ Network Management Platform
- HP Identity Driven Manager (IDM) Software Series

### Operating Systems:

- Microsoft Windows Server 2008R2

### Network Protocol:

- TCP/IP



## Get connected

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