



Objective

Simplify storage for virtualized infrastructure and achieve off-site data protection in cloud

Approach

Deploy HPE Nimble Storage Adaptive Flash Arrays for virtualized education and business applications with seamless replication to HPE Cloud Volumes

IT matters

- Achieved 15-minute recovery point for critical data
- Ensured nearly instant data recovery from snapshots
- Secured entire VMs and their data in cloud

Business matters

- Provided business continuity for 20 schools
- Protected critical operational data against natural disasters
- Simplified system administration to spend more time on innovation

HPE Nimble Storage delivers performance and data protection for Carteret County Schools

HPE Cloud Volumes ensure recovery for schools on hurricane-prone coast



HPE Nimble Storage flash arrays with HPE Cloud Volumes provide Carteret County Public Schools with high-performance storage and off-site data protection all in one easy-to-manage solution to support diverse educational initiatives and ensure recovery in the event of site outages due to severe weather.

Coastal communities dot the United States east and west. But very few jut so prominently into the face of a notorious hurricane zone. Yet, on the extreme eastern end of North Carolina known as the Crystal Coast, you'll find Carteret County with a public school system serving about 8,500 students across 20 locations.

Like any modern school system, Carteret County Public Schools relies heavily on IT services for everything from payroll and human resources to instructional technology for teachers and online learning for students. As Wes Rinehart, wide area network engineer for Carteret County Public Schools, can attest, IT is continually challenged to support new types of curriculum and educational initiatives.



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– Wes Rinehart, Wide Area Network Engineer, Carteret County Public Schools

“We maintain a close relationship with our curriculum teams to help them deliver the kinds of instructional programs that best prepare students for succeeding in our county after graduation. An instructional focus of our county is mathematics and engineering, due to the heavy concentration of marine sciences, military, and aerospace here.”

The challenge for Rinehart and his colleagues is that a complex infrastructure can quickly stretch their small IT team thin. “We have to reduce complexity wherever we can, and be smart about the way we work,” Rinehart says.

To that end, Carteret County Public Schools transformed its IT infrastructure over the

last several years from a primarily physical environment to a highly virtualized one. Instead of using local servers at each site, the school system consolidated servers into a clustered Microsoft® Hyper-V virtualized environment in its production data center. With more data centralized in one location, Rinehart recognized the need for enterprise storage that could deliver reliable performance and high availability.

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Enterprise-grade cloud storage keeps data safe from hurricanes

Rinehart deployed two **HPE Nimble Storage** Adaptive Flash Arrays, one in a primary data center on the coast and the other in a secondary data center farther inland. He takes full advantage of HPE Nimble Storage snapshotting capabilities for rapid recovery of virtual machines (VMs) and data, with various recovery points based on the criticality of that data. For example, financial data is snapped every 15 minutes while a less-critical instructional application may only be snapped once daily. As added protection, Rinehart also replicates snapshots between the two HPE Nimble Storage appliances. But given the school district's proximity to the ocean and the seasonal threat of hurricanes, he needed greater assurance that the most critical data was fully protected.

"Severe weather and flooding are our biggest threats for data loss," Rinehart acknowledges. "Having a cloud-ready storage platform was key, so we had a way to back up our data offsite."

Previously, Rinehart used a subscription-based cloud backup solution, but it was not designed for virtual environments. By adding HPE Cloud Volumes, he had a cloud backup solution ideally suited for backing up entire VMs, as well as all their data, to a secure, enterprise-grade cloud storage environment.

"We just point to Cloud Volumes as the replication target from within the Nimble solution," Rinehart notes. "It's completely seamless and gives us peace of mind that if we were hit with a disaster, we could recover our most critical data."



Customer at a glance

Solution

Adaptive flash storage to run educational programs and administrative workloads for coastal school district

Hardware

HPE Nimble Storage Adaptive Flash Arrays

Cloud services

- HPE InfoSight
- HPE Cloud Volumes



Simplified storage with more flexibility

With the HPE Nimble Storage flash arrays and **HPE Cloud Volumes**, Rinehart has high-performance storage and off-site data protection all in one easy-to-manage solution.

“Storage performance is important,” he affirms, “because with all our data in one basket, any bottlenecks would affect everyone from the business office to the classrooms. The Nimble arrays deliver all the performance we need with no problems.”

Rinehart also points out that managing and provisioning storage resources is much easier with Nimble, which is vital when responding to new requests from all administrative and curriculum teams. “We spend much less time planning resources for any given VM. We’ve abstracted everything about server builds to pools of processing

power and storage. We have plenty of available resources, so we can build what we need and let the technology decide where to put it. It just gives us a lot more flexibility.”

With **HPE InfoSight**, Rinehart doesn’t worry that he’ll run into any unexpected capacity issues. That’s because HPE InfoSight is continuously monitoring the VMs and storage environment, and provides him with insights into growth trends and system health. Then, if necessary, he is only one call away from expert support.

“HPE InfoSight is a good tool for me to get lots of information before talking to a support engineer,” Rinehart says. “When I do call, the Nimble support has been very responsive. I don’t have to jump through a bunch of tiers to get somebody who knows what they’re talking about. That really helps me get the answers I need and get more time back in the day to focus on the needs of the schools.”



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