

Watchung Hills Regional High School



Watchung Hills Regional High School Uses Atlantis Software and VDI to Help Every Student Succeed

An easy to deploy VDI solution enables computer based testing and delivers high speed desktops to any device.



Watchung Hills Regional High School is a regional public high school and school district serving students in portions of Somerset and Morris Counties in New Jersey, United States. The district is located about 30 miles west of Manhattan. As of the 2014-2015

school year, the school had an enrollment of 2,200 students and 150 teachers.

Challenges for Watchung Hills Regional High School

Watchung Hills High School has for many years fostered the use of technology at the school, establishing a policy for supporting student-owned devices and providing high quality WiFi connections.

When Watchung was chosen as a beta site for the PARCC online testing regimen (see inset), IT developed a plan to deploy a desktop solution that preserved the device independence already in place while ensuring that they could support the very specific browser and security requirements of the PARCC technology standards. VDI came highly recommended as the best approach to supporting the PARCC testing but also to standardize desktop deployment, support endpoint choice and offer teachers, administrators, and students the software they needed on demand.

Watchung started in 2012 with 10 VDI users, then expanded to 100 users within 6 months to prove in the technology. They deployed 30 thin clients in the library which became so popular that no-one used the older PCs. With functional testing completed, IT turned to how to scale the VDI solution. However, once the deployment expanded beyond 100 users, they started to see performance degradation.

Andy Bohl, their IT Manager, explained the issues they were facing, "We were facing serious issues with disk IO performance. We also ran out of space on our storage array after adding a second shelf so we knew we were not going to be able to scale to 1,000 users with the existing environment."

The Partnership for Assessment of Readiness for College and Careers (PARCC) is a group of states working together to develop a set of student assessments. These computer-based K-12 tests give teachers, schools, students, and parents better information whether students are on track in their learning and for success after high school, and tools to help teachers customize learning to meet student needs.

INDUSTRY: EDUCATION

Business Drivers

- Fulfill requirements for PARCC computer-based testing
- Support BYO endpoint policy
- Deploy VDI within existing IT budget.
- Reduce operating costs over the long term.

Challenges

- Storage IO bottlenecks halted VDI deployment
- No shelf space or budget to grow storage capacity.
- Ability to respond quickly and effectively to configuration change requirements

Atlantis Benefits

- Runs in RAM, providing very high performance and essentially unlimited storage IOPS
- Software only solution, running on the existing server infrastructure, avoiding the need to upgrade attached storage.
- Very easy to validate, install and deploy
- Reduces storage consumption for VMware Linked Clones image management.

Solution Benefits

- Provides a standardized platform to meet PARCC browser requirements
- Allows easy, low cost scalability to 1,000 VDI desktops and beyond
- Provides the ability to respond instantly to configuration change requirements
- Increases end user Windows desktop experience using any endpoint

Solution Components

- Atlantis ILIO Stateless
- VMware View with Linked Clones
- NetApp FAS 3220 AE
- VMware ESXi 5.1
- 16 x Cisco UCS B-series blades – with 120gb RAM

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Many districts have already leveraged virtualization products ... to improve services and reduce costs in their data centers. Deploying a virtual desktop infrastructure (VDI) can have similar benefits and is a great solution for PARCC assessments as well as faculty and administration workstations.

– NEW JERSEY School Boards Association
School Leader Magazine
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Watchung Hills Regional High School Solves Performance and Capacity Issues Using Atlantis

However, he was able to find a solution to resolve both performance and capacity issues by using Atlantis Computing. “We compared Atlantis with other traditional storage vendors but they would not scale as easily. With Atlantis, we were able to expand to 1,000 desktops without any additional hardware.”

Adobe CS5 and the full Office suite (10 apps in total) came up in 53 seconds on the Atlantis enabled virtual desktop, faster than launching CS5 on its own on a physical PC. On the original SAN, a total of 1,100 IOPS was available to all the VDI desktops, so that only a few IOPS would be available to each of the 1000 users, not enough for even a minimal user experience. With Atlantis software, there was a total of 592,000 IOPS available across all ILIO storage (16 ESXi servers).

As a result of the VDI implementation, Watchung Hills High School is performing the standardized PARCC testing without a hitch while at the same time enabling students and teachers to access secure, fast Windows desktops from any type of device at school, at home or on public WiFi. No further storage hardware was required and software delivery and migration is done instantly.

The Architecture: VMware View and Atlantis

The deployment hardware consisted of 16 Cisco UCS B-series blade servers running VMware View virtual desktop pools on the VMware vSphere hypervisor and a NetApp array with 2 storage shelves.

View was deployed using linked clones to manage their OS/App images. Adobe CS, Microsoft Office and web browsers were on the base image with the remainder of the apps streamed into the environment. For Watchung’s standard golden image, linked clones required a full copy consuming 70GB each time it was used, and deltas normally consumed 9GB per cloned desktop VM. With Atlantis Computing HyperDup™ technology, extreme deduplication capabilities are used to reduce storage consumption by a minimum of 86%. As a result Watchung was able to support 70 virtual desktops per server with only 136GB of disk capacity.



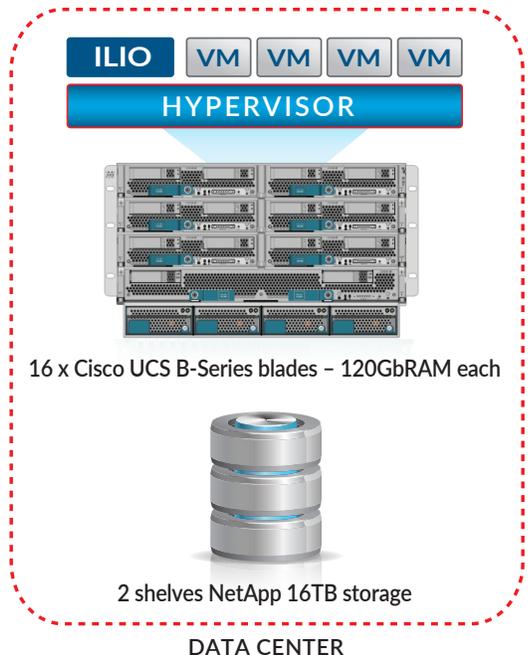
Watchung Hills was one of the few schools to use VDI for PARCC testing and we had the least amount of complaints of all schools.

– ANDY BOHL
IT Manager, Watchung Hills Regional High School



Once we installed Atlantis, we had the performance we wanted to expand to 1,000 desktops without any additional hardware.

– BRIAN BAYACHEK
Director of Information Technology, Watchung Hills Regional High School



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I have recommended this solution to other schools given our experience with the rollout as well as to IT contacts I have in the private sector.

– BRIAN BAYACHEK
Director of Information
Technology, Watchung Hills
Regional High School



The Atlantis Solution

Atlantis provides a 100% software solution, simplifying the deployment of storage in a VDI environment. For Watchung Hills Regional High School, Atlantis software represented a key component of the overall VDI solution and included the following benefits:

- 1. Scalability** – Atlantis storage optimization enabled Watchung Hills to run up to 1,000 concurrent virtual desktops using existing attached storage, avoiding the need to purchase and deploy additional storage. Atlantis software also enhanced their deployment of Linked Clones, minimizing the storage capacity required to sustain and deploy their desktop images.
- 2. Performance** – With faster-than-PC performance, near-instant application launch, and super-fast login times, the end user experience was improved significantly over existing traditional PCs. The high school can now offer a standard, high performance desktop to any of their 2500+ students and staff on any device from any location.
- 3. Management** – Atlantis software with VMware Horizon enabled rollout of new Windows 7 desktops to support Watchung’s standardized student testing environment and provided the ability to respond instantly to configuration change requirements without dealing with hundreds of individual PCs.



In the future, I am interested in exploring Atlantis USX to help our other virtualized environments. Instead of buying more storage arrays, we would look at refreshing servers with USX in mind and use direct attached storage.

– ANDY BOHL
IT Manager, Watchung
Hills Regional High School



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