Washington Schools Implement Desktop Virtualization Solution

Richland School District upgrades technology, increases efficiency, and reduces costs with VDI.

EXECUTIVE SUMMARY

RICHLAND SCHOOL DISTRICT

- Education, K-12
- Richland, Washington
- 1400 Employees

CHALLENGE

- Cost-effectively upgrade and update 4500 computers across 15 schools
- Reduce downtime associated with maintenance, repairs, and upgrades
- Implement flexible solution that can scale to meet future capacity and technology demands

SOLUTION

- Leveraged Cisco desktop virtualization solution for Citrix XenDesktop, using Unified Computing System platform

RESULTS

- Substantial time and cost savings achieved during maintenance and technology refresh cycles
- Improved technology for students, with flexibility to easily add functionality and capacity as needed
- Green benefits from reduced power consumption

Challenge

The Richland School District serves the cities of Richland and West Richland, in the southeast region of the state of Washington, with nine elementary schools, three middle schools, and three high schools. The district enrolls 11,000 students and has 1400 employees.

With the district's 4500 PCs and laptops, technology is embedded in everything that the Richland students do. For example, library resources and databases are web-based, and all the secondary students have email accounts. Technology is an integral part of learning today, and Richland wants to provide its students with the best platform that it can. As Mike Leseberg, executive director of information technology for Richland SD says, "Classrooms don't operate the way they used to; kids have different learning styles and require different techniques. We have to meet their needs to be successful and keep them engaged."

In the summer of 2010, however, about 825 of the schools' computers were on Windows 2000 and coming to end of life. Although many large businesses refresh PCs every few years, the school district's budget meant that it was on a five-year refresh cycle, and some of its PCs were actually eight years old. Richland needed a mechanism to efficiently and cost-effectively migrate and support refresh cycles that included frequent upgrades and updates. It sought a solution that would provide students with access to superior technology while lowering costs and streamlining implementation and maintenance, without compromising on security. It also required a stable platform that would meet students' needs today yet easily expand in the future.

Solution

Richland implemented a Cisco desktop virtualization solution with Citrix XenDesktop using the Cisco Unified Computing System™ (UCS), in conjunction with an EMC storage area network and VMware virtualized servers. This solution enables Richland to deliver desktops and applications as on-demand services, tailored to the needs of their users. The Cisco® open architecture let Richland choose the elements that made the most sense for its implementation. As Leseberg says, "We have different vendors on both sides. It's an advantage to us, because we wanted the best hardware and software solutions. We appreciated the flexibility of the Cisco solution in terms of integration."

Performance was a key factor in Richland's decision to use Cisco. "We look at staff and students as our customers, and we want to provide them with quality service all the time," says Leseberg. "As we started to look at vendors for the desktop virtualization, Cisco's was unique in that they built theirs around RAM, which is the main driver behind desktop virtualization, because you need that RAM to have a good client experience. With other vendors, there was a trade-off between RAM and bus speed, and we didn't think it was a worthwhile trade-off. This is not an issue with the Cisco UCS. We can go from 8 GB to 16 GB DIMMs and still maintain the bus speed."

Ease of implementation was another important consideration. According to Curtis Webb, network engineer for Richland SD, "The service profiles that Cisco offers makes implementation easier. Cisco is the only one that detaches the actual physical hardware from the blade servers. So we can move from one server to the other with no downtime. Installation and management with Cisco is second to none."

Results

Richland students left school in June. When they came back in August, the IT team already had 350 virtual desktops up and running. The end-user experience is identical to what it was before; the only noticeable difference to students is that the boxes sitting on their desks are smaller.

"When we migrate to Windows 7, we don't have to physically touch the machines and re-image. One day the students will shut down with Windows XP Pro, and the next day, they will boot up with Windows 7. And if a device goes bad, we can recycle it while putting a new one back in its place within a few minutes, as long as it takes to plug in."

— Mike Leseberg, Executive Director of Information Technology, Richland School District

Now, students can have access to the latest technology, and upgrades and updates happen quickly and efficiently. As Leseberg says, "When we migrate to Windows 7, we don't have to physically touch the machines and re-image. One day the students will shut down with Windows XP Pro, and the next day they will boot up with Windows 7. And if a device goes bad, we can recycle it while putting a new one back in its place within a few minutes, as long as it takes to plug in."

The cost savings associated with desktop virtualization are also substantial. "With six of us to support 4500 systems and more than 11,000 students and staff, the Cisco solution has allowed us to do a lot more with a lot less," says Webb.

"We put the average cost for a new PC at around $800," says Leseberg. "With 4500 computers, it becomes very expensive to refresh machines every five years. But with virtualization, our cost is less than $300 per machine, and the life expectancy is 7-10 years, because there are no moving parts in the devices."

One of the most exciting aspects of Richland's desktop virtualization is the flexibility that it provides to adapt to changing environments. For example, the district now has the ability to securely add desktop functionality to any end point on the network, including personal devices such as smart phones and tablets. As Webb points out, "Any device with a browser can be a desktop. We haven't allowed that in the past because of security reasons, but now those are just additional devices we can distribute resources to. And we can control what happens with those devices while they are on our network."

Richland is realizing green benefits from desktop virtualization as well. According to Leseberg, power consumption has dropped sharply, as the devices run on about 10 watts of energy. And with no fans, because there is little heat, the machines are very quiet. So quiet, in fact, that a Richland principal walked into the computer lab one day and thought all the computers were turned off.

PRODUCT LIST

VDI

- Cisco Unified Computing System
- Cisco 5108 Blade Server Chassis
- Cisco UCS 6120XP 20-point Fabric Interconnect
- Cisco UCS B250 M2 Blade Servers
- Cisco UCS B200 M2 Blade Servers
- Citrix VDI implementation with XenDesktop from Citrix
- VMware Virtualized Servers
- EMC NX4 Storage Area Network

For More Information

To find out more about Cisco desktop virtualization solutions, go to: http://www.cisco.com/go/vdi