California School District gives Datrium an 'A' in VDI scalability and management ease

CORONA-NORCO UNIFIED SCHOOL DISTRICT CASE STUDY

Corona-Norco
Unified School District

Education
www.cnusd.k12.ca.us/

Challenge
Login storms every 45 minutes with class changes

CPU- and disk-intensive CAD and gaming desktops

An environment that needs to scale performance to tens of thousands of virtual desktops without pricey, disruptive array hardware upgrades

Results
- Nearly 3x better performance than the district's array-based storage solution
- Maintains both fast boot times during frequent boot storms and responsive CAD and gaming desktops, even as the number of desktops grows to tens of thousands
- A much more scalable option for the district with improved IOPs, latency and cost
- Zero storage management; all administration happens at the VM level in vCenter

> "Datrium delivers a higher amount of I/O performance, and we saw total stack latency significantly improve to just over 1ms. We're now averaging nearly 3x better performance on Datrium than on our other array-based storage solution"

Brian Troudy
Director, Network and Infrastructure

Company Challenge

Increasing VDI Demands

Corona-Norco has embraced virtual desktop infrastructure (VDI) as a path to 1-to-1 computer access for students cost effectively. "Our goal is to move every student session into the VDI environment as a BYOD strategy, a data security strategy, and a strategy to reduce our CAPEX and OPEX costs," says Brian Troudy, Director, Network and Infrastructure.

But in a school environment, VDI presents unique challenges. Students sign in and out of sessions every 45 minutes all day, requiring a server and storage infrastructure sufficient to handle those frequent "login storms" as well as CPU- and disk-intensive use such as 3D CAD animation and game development. Given that, the district's IT team was unsure its incumbent storage array solution could scale to meet the demand within budget.

Results

VDI Infrastructure that Gets Faster As It Grows

Corona-Norco deployed the Datrium Automatrix platform as part of its strategy for maintaining performance and controlling cost as it expands VDI. With the district's previous array-based storage solution, Corona-Norco would have to buy new controllers, processors and RAM to maintain performance as it added VMs. Instead with Datrium's approach, I/O speed is at the server level, so adding servers actually increases performance.

When the district brought in Datrium DVX, it immediately performed better than the incumbent storage array solution in the two areas most critical to Corona-Norco: latency and IOPs. These metrics translate directly to critical objectives for the school district: instant access to desktops on-demand and responsive CAD and gaming applications within each desktop. By maintaining both fast login times during frequent login storms as well as application responsiveness, even as the number of desktops grows to tens of thousands, the district ensures the best possible experience for its students.

"As we scale VDI from hundreds to tens of thousands of desktops in the near future, the fact that we can scale performance and keep latency low as we grow is huge for us. It means we won't have massive data center storage upgrades every 3-4 years."

Brian Troudy
Director, Network and Infrastructure

"Datrium delivers a higher amount of I/O performance, and we saw total stack latency significantly improve to just over 1ms," Troudy says. "We're averaging nearly 3x better virtual desktop performance on Datrium than on our other storage solution which translates to the best possible experience for our students."

The cost per terabyte and cost per performance provided Corona-Norco a significant advantage over its array-based solution – giving the district a more viable desktop scaling strategy. Adding to the CAPEX advantage for Automatrix, the solution also delivered more effective capacity with deduplication and compression by default on both solid state and spinning media.

"As we scale VDI from hundreds to tens of thousands in the near future, the fact that we can scale performance and keep latency low as we grow is huge for us," Troudy says. "It means we won't have massive data center upgrades at the storage array level every 3-4 years."

Hands-Off Management
According to Troudy, Corona-Norco's data center operations team no longer manages storage because with Automatrix the team performs administration per VM within vCenter. Datrium DVX integration with Horizon View Composer (VCAI) offloads the creation of clones, accelerating provisioning and desktop refresh time without the need for storage rebalancing or VM-to-Volume mapping. Managing virtual desktop performance and capacity is easier and takes less time versus array-based approaches which carry the overhead of managing storage artifacts like LUNs and Volumes.

"We no longer manage storage. Instead we are able to focus on what's important—the virtual desktops themselves," Troudy says. "When we're looking at troubleshooting or isolating issues, Automatrix removes a lot of the complexity because we're dealing with a converged platform with visibility right down to the VM."

Beyond the solution itself, Troudy values the people at Datrium for their willingness to see any challenges through to resolution. "They are more than willing to work through the entire stack if needed to isolate and resolve whatever the issue is," Troudy says.

About Corona-Norco Unified School District
Among California's largest districts, Corona-Norco Unified School District serves 54,000 students across 51 schools in Riverside County.

Learn more about Datrium **www.datrium.com**

Datrium