

Supporting K-12 education with hyperconverged infrastructure



Licking Area Computer Association | Size: 17 employees | Industry: Education services | Location: Newark, Ohio

The Licking Area Computer Association (LACA) is a non-profit K-12 consortium that is owned and operated by 20 member school districts in Ohio. As one of the state's 18 regional Information Technology Centers (ITCs), LACA provides a range of communications and technology services to member school districts in six Ohio counties. For more information, visit laca.org.

Challenges

- Migrate to a new IT architecture without disrupting business operations
- Improve data center scalability
- Automate and accelerate systems provisioning and maintenance

Solutions

- All-in-one hyperconverged infrastructure
- Native solid state storage

Results

- Completed rapid deployment in a live production environment with zero downtime
- Reduced the complexity of server provisioning, speeding up deployments from minutes to seconds
- Downsized hardware footprint from two racks to 4U

For more information

- [Cisco HyperFlex™ Hyperconverged Infrastructure platform](#)



Challenge: Building an agile, scalable infrastructure

Just as the needs of K-12 education have changed dramatically over the past three decades, so too have the services LACA provides its member schools. The non-profit consortium's original mission in 1982 was to provide payroll and accounting software to school treasurers. Today, LACA delivers a wide range of services—including Internet access, email, accounting and payroll, teacher gradebooks, student administrative software, special education software, state reporting, library resources, video distance learning, hosted servers, offsite backup services, wireless, IP telephones, and IP security cameras—to some 10,000 teachers, administrators, and staff members.

But there were growing pains along the way. After LACA's former blade server architecture had reached its limits, the consortium's IT staff found themselves adding capacity on an ad hoc basis and dealing with a variety of setbacks and workarounds.

"Response times were getting slower and slower. We were experiencing timeouts when going into our domain to get requests that we had set up," says Joe Alexander, director of technology at LACA. "One solution that helped for a while was acquiring a network-attached storage appliance, which we populated with solid state drives. But we were adding more and more gear to our racks. It wasn't the kind of solution we wanted over the long term."

Firmware updates were another sore point, as each update seemingly generated new problems.

"In one instance, we lost our SAN completely," Alexander says. "Every time we did an update, I had to go through each server individually to make sure everything was working as it was supposed to. It consumed a lot of time that I could have spent better elsewhere."

LACA needed a new infrastructure that would be easier to manage and scale, with the power and flexibility required to support its growing user base and portfolio of services. With Cisco core switches and firewalls already in its data center and an enthusiastic endorsement from another ITC that had recently adopted Cisco HyperFlex hyperconverged infrastructure platform, the decision was easy.

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Joe Alexander
Director of Technology, LACA



Rapid, hassle-free deployment

Adopting Cisco HyperFlex—which combines software-defined computing, storage, and networking in a single platform—enabled LACA to free up valuable data center space. One full rack of gear has been reduced to just four units. And Alexander says deployment was fast and without service disruption.

“We got HyperFlex up and running while our old system was still operational, and we migrated over as time permitted,” he explains. “It went quickly—I’d say 20 to 30 minutes per node. When you do something like this, it’s typically pretty scary because you’re migrating everything. But I was honestly amazed how problem-free it was.”

The fast and painless deployment was a preview of the efficiency gains and time savings HyperFlex has delivered ever since. According to Alexander, systems provisioning and maintenance are significantly faster and easier than they were with LACA’s former blade architecture.

“Normally we set up an individual server for each service that we provide to our districts,” says Alexander. “In the past, it would take 10 to 15 minutes to deploy a new server from a template. With HyperFlex, it takes about 30 seconds.”

Server upgrades are much quicker too. What used to take several days—working on each blade individually, waiting for processes to finish, troubleshooting problems—now happens in hours.

“I don’t have to waste my time making sure this process or that process gets completed anymore,” Alexander says. “I can set it in the morning, literally while we’re running full production, and HyperFlex completes the process in a couple of hours.”

Because HyperFlex contains native solid state storage, LACA has been able to eliminate the external storage it was using as a workaround for scalability and SQL latency issues.

“I don’t have to set up a separate network interface controller just to connect to the storage array. It’s about 40 percent quicker on this alone,” says Alexander, noting the instantaneous response users now enjoy when posting SQL queries to the system.

New servers on demand

One of the services LACA provides its school districts is additional servers upon request. But the time and difficulty involved often dissuaded such requests. Now that LACA’s end users have experienced the new system, many want additional servers. Alexander says he added about 20 last year.

“When I was wondering who’d be the best choice for our new core infrastructure, I remember thinking, ‘I’ve never had issues with any of our Cisco switches, so maybe we should try them,’” Alexander recalls. “I’m really glad we did.”

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Product

• Cisco HyperFlex

