

What is Hyperconvergence?

As school storage and backup requirements have grown exponentially, separating storage networks and servers can impede an infrastructure's evolution while adding unneeded complexity.

With ever more demanding workloads taxing K-12 infrastructures, schools and districts need powerful data centers now more than ever to handle virtual learning, new technology integrations, data analytics, and more.

Perhaps this is why many K-12 IT departments are embracing hyperconvergence (or HCI) to streamline IT services and data management.

A traditional data center is composed of siloed servers and storage arrays that separate systems such as data computing, storage, and networking processes. Hyperconverged infrastructure centralizes these systems so that schools spend less time and resources maintaining data centers and more time making better—and safer—use of their data.

Hyperconverged Infrastructure 101

By 2011, close to 72% of organizations claimed at least 25% of their data centers were virtual. Today, organizations tend to spend 70 to 80 percent of their total budget on operations alone.

Hyperconverged infrastructure is the fastest-growing category in data center infrastructure. The reasons for this are clear: HCI technology eliminates silos, simplifies management, and enables scalability: three benefits that organizations need to support their digital transformation initiatives.

In education, HCI can free K-12 IT teams to be more flexible in shifting infrastructure to meet evolving needs while scaling to incorporate new classroom technologies and security strategies. HCI also allows school IT to mix and match their data storage solutions for further flexibility, efficiency, and cost savings.

IT teams need to simplify IT infrastructure and reduce costs dramatically without sacrificing performance or availability. HCI offers easy-to-manage school services, cloud-like economy, choice in hardware, the ability to scale compute and storage separately, improved infrastructure utilization and performance, and added capacity.



1. Visit the [Data Lab at the National Center for Education Statistics](#) to get a sense of the sheer amount of aggregated data about a wide variety of education topics.

Digital Transformation

A necessary first step toward digital transformation is the reduction of redundancy in the IT shop. By eliminating overlapping workflows, organizations can instead turn their attention to value-added, strategic initiatives that help school districts achieve their goals. Getting rid of redundancy also helps to enable automation — a key feature of digital transformation.

By placing storage and compute within a single cluster, hyperconverged infrastructure eliminates the need for external storage arrays. That's especially appealing because these arrays are frequently complex and require specialized skills to manage and maintain.

Once a school is managing its data center workflows via a single platform, administrators can make changes on the fly. Implementing a new application, for example, becomes much less complicated and time-consuming, because school IT will have already built out processes for automatically provisioning virtual machines. This contrasts with the old way of doing things, which involved multiple independent ticketing requests that typically took weeks to be approved and completed.

Tipping the Scale

Most—if not all— hyperconverged infrastructure solutions provide an easy extension or “pathway” to the public cloud.

This “near-instant” flexibility of HCI also allows for IT to be more effective in “charging back” to the school. Traditionally, IT would have to buy data center resources all at once, while making a best-guess estimate at how the resource needs would scale three or four years out. With HCI's single

point of management, IT leaders can scale as needed and know exactly what to “charge back” to the school.

Adding nodes to an HCI cluster typically takes a day. That one day is important because it introduces a level of built-in governance and prevents the sort of inefficient sprawl that sometimes accompanies public cloud investments as someone has to approve the purchase, someone has to sign a check, and someone has to accept delivery and install the equipment.

This tiny bit of friction helps ensure that schools are thoughtful in their investments while still providing the simplicity and speed required to fuel fast-moving digital transformation efforts.

Simply Powerful

Bringing all of a school's infrastructure processes together is the principal advantage of hyperconvergence. IT teams can be up and running almost instantly and deployment of applications is fast and simple, thanks to automation. To put it simply, hyperconvergence can save schools money due to ease of deployment and management through the simplification of datacenter operations and the ability to extend to the public cloud.

HCI solutions from CDW-G

Learn more about HCI best practices and solutions to accelerate your district's transformation from [CDW-G](#).