Pivoting to Continuous Modernization in Higher Education

Rather than rely on full-scale modernization initiatives every five or 10 years, campuses should take an ongoing, modular approach to updating their IT systems.

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COLLEGES AND UNIVERSITIES THAT lack modern hardware and software are more vulnerable to cybersecurity risks and less able to take advantage of the latest technology. During the pandemic, faculty, staff and students shifted to working and learning from home, but their institution's IT infrastructure wasn't necessarily ready to support that remote work securely. At the same time, nefarious individuals took advantage of the situation to launch attacks in greater numbers.

Now more than ever, the need for modernization is clear – and it's time to change the paradigm to constant, continuous modernization. Instead of investing millions of dollars every five or 10 years, institutions should consider putting a line item in their budgets every year to fund ongoing modernization.

As a powerful side benefit, institutions will start to develop a culture of change. When a curveball like a global pandemic hits, they will be able to adapt, and because they have been updating their networks all along, they will avoid attacks that exploit unpatched systems.

The Central Elements of IT Modernization

Continuous modernization involves making small changes and regularly deploying those changes under a methodology called continuous integration/continuous deployment (CI/CD). Users try out new features, and developers get immediate validation and testing throughout the entire process, which results in targeted and ongoing improvements.

Another key element is automation. When rote tasks such as spinning up virtual machines, configuring networks or resolving users' help tickets are automated, IT administrators can focus on more complex activities, such as improving processes or incorporating new technologies.

In addition, containerization makes it easy to migrate applications and workloads back and forth from on-premises systems to the cloud as needed. Red Hat OpenShift Container Platform helps IT administrators create modular application workloads, which is a key element of modernization because it enables institutions to update components rather than an entire system.

The Importance of a Standard Operating Environment

It's not uncommon for campuses to be running versions of Red Hat Enterprise Linux (RHEL) that are more than 10 years old. It's usually

because they've come to depend on software that is no longer supported by the publisher, which means the software hasn't been updated in years and can't be considered secure. It's time to find a new tool so that all elements of the IT system can be brought up-to-date. Under continuous modernization, administrators are always identifying the oldest technologies in their data centers and targeting them for update as soon as possible – and that is key to enabling broader digital transformation initiatives.

In IT, we also stress the importance of a standard operating environment. The fewer tools there are in an environment, the easier it is to manage. Red Hat Ansible fits into that concept. It is a simple, straightforward automation tool that we bought several years ago with the goal of helping people manage their RHEL networks. The tool turned out to be even more flexible than we expected. IT administrators began using it to manage a broader segment of IT, including systems that weren't running RHEL.

Ansible can automate a wide variety of platforms and network devices, and it can integrate with ticketing and monitoring systems. When all the members of the IT team are using Ansible, they can work together more effectively and easily automate complex workflows that cut across IT silos.

Institutions need to be flexible enough to deal with the next curveball. The only way to accomplish that is to move away from discrete initiatives and make modernization part of daily activities.

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