



Shared Private Cloud Environment Helps Lead Positive Change

Bay Area Community College Consortium partners with VMware IT Academy to provide an ICT lab facility shared by thousands of college students

VMWARE IT ACADEMY—BUILDING IT EXPERTISE IN THE DIGITAL FUTURE

The VMware IT Academy Program provides students with the skills and education needed to succeed in a software-defined future. IT Academy creates a collaborative relationship with approved academic institutions around the world and provides them with software content, labs, and course materials developed by VMware. This enables their students to become knowledgeable on VMware technology and equipped with technical skills so they can obtain VMware certifications and jump-start their careers.

“Since launching our program, lab time spent in VMware-supported classes has grown from 23,000 hours in 2015 to nearly 80,000 hours in 2018. Our colleges are funded according to how many students participate in our programs—and the massive growth in VMware-supported class and lab attendance helps sustain our *NETLAB+ program*.”

RICHARD GROTEGUT
REGIONAL DIRECTOR INDUSTRY
ENGAGEMENT, BAY AREA REGION,
IT AND COMPUTER SCIENCE
POWERED BY CALIFORNIA
COMMUNITY COLLEGES

A “shared” educational experience

In 2015, the Bay Area Community College Consortium (BACCC) devised a plan for establishing a remotely shared information and communication technologies (ICT) lab for students who needed hands-on skills to prepare for employment in the IT sector. The proposal included numerous critical elements:

- Secure government funding
- Identify a host college
- Ensure the host college was amenable to sharing the environment with other colleges in the California Bay Area
- Set up a VMware®-enabled data center to host the ICT lab
- Hire a VMware administrator who could manage and maintain the virtualized data center and network

After securing CTE enhancement funds and funds from the Strong Workforce Program, the BACCC took its first step toward development of a *NETLAB+* program in California. NETLAB+ is a comprehensive remote access training solution (scheduling engine, web pages, lab exercises, class management, equipment automation, etc.) developed and offered to academic institutions by *NDG*.

Hosted at *Cabrillo College* and enabled by the VMware product suite, the NETLAB+ private cloud environment enables faculty and students to access ICT labs remotely, 24x7, using any mobile device they prefer.

VMware software—the critical element of success

The NETLAB+ program in California is successful for many reasons—not the least being its partnership with the VMware IT Academy. By aligning with the virtualization leader and participating in the VMware Software Licensing Program, the BACCC receives the VMware ESXi™ hypervisor, VMware vCenter®, and VMware Workstation Pro™ at no charge, with only a nominal subscription fee. In addition, the courses and content provided by the VMware IT Academy align with the NETLAB+ environment, which is shared among 28 community colleges in the Bay Area.

“Without VMware and its virtualization technology, the NETLAB+ program in California would not exist. The VMware ESXi hypervisor enables students to practice the skills they are taught in the classroom on their own PCs at home. The VMware IT Academy helped us create a private cloud-based program that is growing more popular all the time. In fact, usage is doubling every year.”

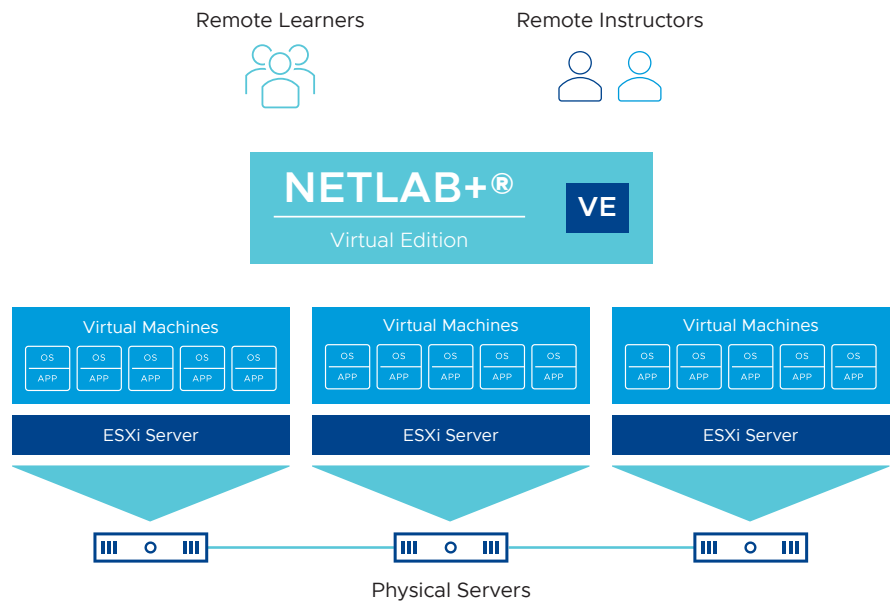
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The success of the NETLAB+ program in the Bay Area can also be attributed to the six colleges in the program that already ran their own data centers. These six colleges agreed to dismantle their equipment, move it to Cabrillo College, purchase any additional equipment required, and then build a new virtualization-ready data center. With the fully virtualized NETLAB+ system, these colleges benefit from:

- Shared management and maintenance, performed at the host location at Cabrillo College
- More fully utilized system resources, with equipment no longer sitting idle
- Shared costs across all six colleges—including the cost of one full-time administrator who is VMware certified

How the program works

NETLAB+ provides web-based services that automate the VMware software so learners can access it via the Internet using whatever device they prefer, from any location. The VMware ESXi hypervisor turns each physical server in the NETLAB+ data center into hundreds or thousands of virtual machines (VMs), with each VM serving one learner at a time.



This way, each learner has a private learning environment that can be scheduled for use at any time. Students can use their personal learning environments to not only practice configuring VMware software, but also practice additional skills, such as cybersecurity and ethical hacking.

“NETLAB+ software is valued by colleges and schools because it is designed to run on top of VMware vCenter. Using VMware vCenter, we can create a robust user experience where learners can complete multiple labs, practice numerous skills, and extend their knowledge base—all from the same virtual environment. With VMware-based NETLAB+, learners can easily use the browser-based platform, see a visual representation of the physical environment, schedule time to bring a VM online, and so much more.”

RICHARD WEEKS
PRESIDENT
NETWORK DEVELOPMENT GROUP

80,000

hours of VMware class lab time logged in 2018

Saving other colleges up to

\$225,000

each year by using the shared system, rather than building their own

Each time a student clicks on a lab exercise, the VMware Workstation software launches, which in turn works with NETLAB+ to present the lab to the student in a web browser. Students from anywhere in the country (or beyond) can access NETLAB+ from their browsers, enabling them to learn how to use a wide range of VMware products and complete all the hands-on labs for each course.

Students who learn how to configure VMware in a NETLAB+ hands-on lab can apply that skill to configure the software on their own PCs at home. In addition, instructors can use the NETLAB+ environment to:

- Use VMware vSphere® (ESXi hypervisor and vCenter) to teach undergraduate students
- Train instructors at other colleges how to design high-speed networks
- Teach other instructors how to present the course materials
- Complete research to develop new labs

NETLAB+ program highlights:

- 23,000 hours of VMware class lab time logged in 2015
- 80,000 hours of VMware class lab time logged in 2018
- Offering certifications not only in VMware, but also in Red Hat, Cisco, Microsoft, and many other technologies—all using the same VMware-based environment
- [Partnering with 28 Bay Area colleges](#)
- 6,743 total student accounts
- 179,635 total lab hours completed by students
- Saving other colleges up to \$225,000 each year by using the shared system, rather than building their own
- Enabling other colleges to deliver VMware IT Academy training and certification to students, without the enormous expense of setting up and supporting their own data centers

WHAT NETLAB+ GRADUATES HAVE TO SAY

“NETLAB+ allowed me to practice and familiarize myself with real equipment. It was a great starting tool to jumpstart an IT career.”

BORIS BOSNACOVICH
SENIOR NETWORK ENGINEER
KIS (KEEP IT SIMPLE),
OHLONE COLLEGE

“NETLAB+ gave me the tools and troubleshooting experience that I still use in my current job.”

SUZETTE JANA BANA
SENIOR SUPPORT ENGINEER II
LIVEACTION INC., OHLONE COLLEGE

Extending the benefits

Participating in the NETLAB+ program in California enables students to engage at the leading edge of digital transformation. By completing a wide variety of hands-on labs remotely, students can master the technologies they need to work in IT, cybersecurity, and other ICP areas. And for students who continue their studies at a four-year university, VMware skills become increasingly important for conducting research and achieving advanced degrees.

This highly flexible program is designed to accommodate an ever-growing number of schools and students. To ensure this important program remains available, Bay Area college presidents have committed to providing funding on an on-going basis.

“The IT sector is the top employment sector in the Bay Area, so we know our students are getting hired. All we have to do is look on LinkedIn, and we see thousands of our students have been employed in the area of virtualization. After all, we are in the Silicon Valley, which is the technology heart of the United States.”

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REGIONAL DIRECTOR, INDUSTRY ENGAGEMENT, BAY AREA REGION, IT AND COMPUTER SCIENCE, POWERED
BY CALIFORNIA COMMUNITY COLLEGES

VMware's “best-kept secret”

The VMware IT Academy has been operating on a global level for many years. Up until now, it's been VMware's best-kept secret. With the growing success of the IT Academy program at organizations such as the BACCC, more people are talking about the value of the IT Academy.

- Proven educational program for training students and trainers
- Offering complete curriculum, as well as setting up hands-on labs, at minimal cost
- Fueling broader technology labs to be delivered to students; for example, one VMware license on a laptop can run Red Hat Linux, enabling students to learn that technology, too
- Providing local program support to institutions, offering training to instructors at other area institutions
- Educating and empowering tomorrow's digital leaders and entrepreneurs with the digital skills required for today's jobs

Learn more

Discover more about how VMware IT Academy students can lead in the digital future by visiting [vmware.com/company/research/it-academy.html](https://www.vmware.com/company/research/it-academy.html).