



## CASE STUDY

# Next-Generation Cybersecurity Lab Platform Migrated to AWS by CDW

Suffolk County Community College (SCCC) develops and Implements their next-generation Cybersecurity Lab with AWS and CDW

October 26, 2019

## The Challenge

SCCC is a pioneer in IT security education with their Cybersecurity and Information Assurance degree program. The program focuses on applying security analysis tools to produce effective solutions for cybersecurity scenarios across a variety of platforms. SCCC complements extensive classroom education with hands-on experience in their Cybersecurity Lab.

SCCC had historically hosted their Cybersecurity Lab in an on-premises environment. Although this solution had served them well, much of the hardware was becoming end-of-life. In addition, this curriculum was becoming increasingly popular. SCCC was faced with a choice: refresh and expand their on-premises footprint or seek a more flexible and cost-effective solution.

For the SCCC staff, the choice was obvious. They would move their Lab environment to AWS. This decision presented many immediate challenges. As a historically on-premises organization, their AWS skill set was limited. In addition, many of their talented IT coworkers were also instructors, which limited their bandwidth to tackle a project of this scope and complexity. SCCC also wished to increase focus on strategic initiatives by relieving their staff of on-going maintenance.

“Rearchitecting our Cybersecurity and Information Assurance curriculum in AWS has not only increased accessibility but has also saved our organization money compared to our legacy, on-premises environment.”

Pete Maritato, Academic Chair of Engineer Science & Industrial Technology

### Customer Overview

SCCC is an academic institution of 27,000+ students across three campuses and two downtown centers. It is the largest community college in New York.

### The Challenge

SCCC wished to modernize their on-premises Cybersecurity Lab. They intended to leverage AWS to create a flexible, cost-effective lab environment but lacked the technical resources to develop and manage this next-generation environment. Additionally, the application required significant re-architecture in order to accommodate the migration.

### The Solution

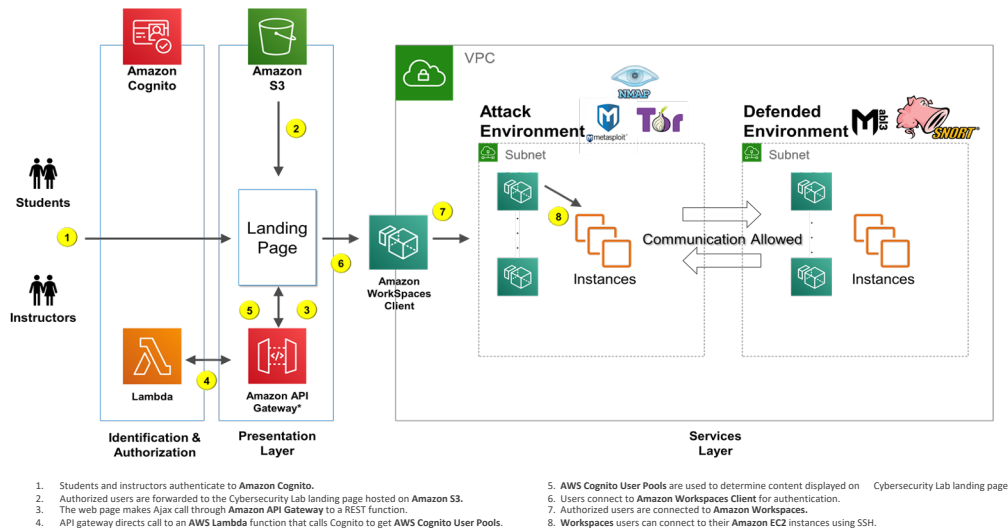
SCCC partnered with CDW to launch a secure, scalable Cybersecurity Lab leveraging CDW's AWS Managed Services for ongoing management. The lab leverages AWS services such as: CloudFormation, Amazon Cognito and Amazon Workspaces. Also used CloudFront, S3 and several EC2 instances, Lambda Functions, CloudWatch, VPC was also designed and implemented by CDW

### The Benefits

Partnering with CDW and AWS has enabled SCCC to focus on developing additional curriculum instead of building and managing their cybersecurity lab environment. Most importantly, SCCC has realized annual savings in excess of 75% while simultaneously improving student and faculty experience and growing class size. These cost savings have enabled SCCC to achieve its goal of providing each student's Cybersecurity Lab for the same cost as a textbook.

# The Solution

SCCC's Cybersecurity Lab enables students to simulate cyberattacks and defensive strategies in a controlled environment. SCCC leverages a variety of tools such as Metasploit, Snort and Nmap to create these scenarios. Based on SCCC's design criteria, CDW developed an architecture leveraging several AWS services to facilitate the creation of Cybersecurity environments and enable classroom on-boarding and automation. In addition, CDW provided our AWS Managed Services to ensure consistency and availability of Cybersecurity Lab. These services included:



## AWS CloudFormation

AWS CloudFormation was leveraged to allow rapid deployment of AWS Virtual Private Clouds (VPCs), IAM Groups and Amazon EC2 instances. Focusing on Infrastructure as Code enabled SCCC to rapidly deploy and scale their virtual classrooms.

## Amazon S3

Amazon S3 was leveraged to host the Lab's landing page. S3 automatically scales up to meet growing demand while providing 99.99% availability.

## AWS Lambda

AWS Lambda was leveraged to start/stop the Classroom labs as per the schedules. Lambda was used to monitor the users (students, instructors), classroom lab usage, and generate reports to restrict services overuse.

## Amazon Cognito

Amazon Cognito allowed SCCC to leverage their existing on-premises Active Directory as an Identity Provider and provide access to relevant AWS services via Cognito Federated Identities.

## Amazon WorkSpaces

Amazon WorkSpaces is a managed, secure cloud desktop service. WorkSpaces will enable the creation of individualized attack and defensive environments for each student. In addition, WorkSpaces provided a consistent experience regardless of device.

# Benefits

SCCC has realized a reduction of over 75% in the operational expenses of their Cybersecurity Lab compared to hosting it in their on-premises datacenter. Expense reductions are driven by decreased staffing costs for on-premises monitoring and support. SCCC's goal to decrease the cost of deploying the Lab environment so that a student's Lab costs no more than a textbook has been realized. Controlling costs is also expected to further decrease SCCC's reliance on grants. Additionally, SCCC has been able to avoid a costly refresh of on-premises equipment while positioning their organization for rapid expansion. Finally, by leveraging CDW's AWS Managed and Professional Services, SCCC has enabled their IT staff to focus on developing next-generation cybersecurity curriculum.

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