

CASE STUDY

# K-12 District-Level Distributed Analytics with Qlik and AWS

How IPC Global helped Berks County Intermediate Unit centralize data governance and power school improvement decisions across Pennsylvania

**3**

EC2 Servers Deployed

**PA**

Statewide Coverage

**CSI**

School Improvement Focus

**AWS**

Cloud-Hosted & Secure

## ABOUT BCIU

Berks County Intermediate Unit (BCIU) provides high-quality resources, innovative services, and responsible leadership to enrich the educational and social services needs of children, families, schools, and the greater community of Berks County, Pennsylvania. BCIU delivers programs and services to public school districts, nonpublic schools, and human service organizations, and serves as the liaison between schools and the Pennsylvania Department of Education.

## THE CHALLENGE

Michael Imburgia, Statewide School Improvement Dashboard Manager for BCIU, supports schools designated as Comprehensive Support and Improvement (CSI) institutions throughout Pennsylvania. CSI designation follows a rigorous three-step process:

### STEP 1 — Preliminary Designation

Schools are initially categorized based on academic achievement and academic growth — specifically, the percentage of students scoring proficient or advanced on state assessments in English language arts and mathematics, combined with PVAAS-reported Average Growth Index scores over two years.

### STEP 2 — Final Designation

Schools from Step 1 are further evaluated on additional academic and non-academic indicators, including high school graduation rates, English learner proficiency, regular attendance, and career readiness. Schools falling below state-designated thresholds on these indicators receive a final CSI designation.

## STEP 3 — Additional High School Designation

Per ESSA requirements, Pennsylvania also designates any public high school failing to graduate one-third or more of its students, regardless of Title I status, based on four- and five-year adjusted cohort graduation rates.

Previously, Michael relied on disaggregated data sources and a combination of labor-intensive tools susceptible to human error. Managing CSI tracking and reporting across an entire state demanded a more scalable, accurate, and centralized approach.

### THE SOLUTION

In 2019, IPC Global partnered with BCIU to develop a series of intuitive Qlik Sense dashboards leveraging the Qlik associative engine for data discovery and automating the transformation of raw data into the Key Performance Indicators the organization needed. The platform was hosted on AWS, making the solution highly scalable and secure.

IPC Global rapidly deployed three servers on AWS EC2 — Qlik Sense, Domain Controller, and OpenVPN — with EBS volumes attached and disaster recovery snapshots backed up to S3, all running within a secure Virtual Private Cloud (VPC). The architecture also included Application Load Balancers (ALB) and a Web Application Firewall (WAF) for enterprise-grade reliability and protection.

### RESULTS

Michael now uses the combined power of AWS and Qlik Sense to enforce a centralized data governance strategy, greatly simplifying internal data processes and enhancing end-user analytic capabilities across the state. Business outcomes that were previously impossible are now within reach.

*“Having all of this run on AWS, while automating data cleaning and the implementation of business rules... there is no doubt we’re going to be able to make better-informed decisions more quickly as an organization.”*

— Michael Imburgia, Statewide School Improvement Dashboard Manager, BCIU

#### TECHNOLOGY STACK

Qlik Sense Enterprise | AWS EC2 / S3 / VPC | ALB & WAF | OpenVPN  
| EBS + DR Snapshots