



## Scalable, Resilient Web Application

### The “Never Slow, Never Down” solution

#### About Idaho Independent Assessment Services

The Idaho Department of Health and Welfare (IIAS), Division of Medicaid, has contracted with a leading healthcare company to provide Independent Assessment Services. Together they provide services for youth empowerment, and for children and adults with developmental disabilities.

#### THE CHALLENGE

IIAS had developed a web-based application which had quickly become critical for the daily operations for hundreds of employees. The application was previously hosted in a data center on dedicated servers, but the application frequently suffered from poor performance and occasional outages. IIAS needed a scalable solution that was never slow and never down. Furthermore, due to the sensitive nature of the health information contained in the application, it was paramount that the application be protected from security breaches. Finally, the migration from the current servers to the new infrastructure had to be completed with almost zero downtime.

#### THE SOLUTION

IIAS worked with Privo to migrate the application to AWS with less than 1 hour of downtime. The new architecture employs a 3-tier design to maximize performance and security. In the “Public” tier, a pool of Application Load Balancers (ALB) receive requests and distribute them to a pool of IIS servers in the “Private Tier”. These web servers only accept traffic from the ALB. The web servers in turn communicate with database servers in the “Data” tier which are completely isolated from the Internet. The ALB, web servers, and database are monitored 24x7 and self-heal in response to failures. In the event of an outage, the application can fail over to a pilot-light disaster recovery site--maintained in another AWS region--in a matter of minutes.

## THE BENEFITS

### Performance

By separating the web servers from the database Privo was able to add multiple web servers to improve performance. Furthermore, it is a simple matter to scale the size of the database server. Privo added a “Read Replica” database server to further increase performance. The result is a stunning 10x reduction in average latency!

### Seamless Migration

Privo was able to perform the migration without any disruptions to the department’s non-stop operations. Privo created a “dev” and “staging” VPC where the application was tested extensively before live deployment. Privo synced the database to AWS during the testing phase so only had to perform a quick, partial sync during the final cutover.

### Reliability

The site has had zero downtime since the migration. Application performance and server health is monitored 24x7 using CloudWatch and New Relic. There is no single point of failure now and even a regional AWS failure would not cause a significant disruption in the availability of the application.

“The most remarkable thing about the migration to AWS is no one talks about the application performance any more! We can focus instead on helping Idahoans live happier, healthier lives.”

- Maria Casiano  
Program Director

## ABOUT PRIVO AND AWS

Privo is an AWS Premier Consulting Partner with offices near Boston and San Francisco that helps government agencies, non-profit organizations, and educational institutions, and educational technology companies migrate, optimize, monitor, and manage their AWS workloads. Privo brings a strong focus on security, compliance, reliability, and cost optimization to help public sector organizations tap into the transformational power of AWS.

AWS is paving the way for innovation and supporting world-changing projects in government, education and nonprofit organizations. Contact Privo at [sales@privoit.com](mailto:sales@privoit.com) to learn more.