Mphasis
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The Next Applied

Lowering Risk and Driving Innovation in the Public Sector Through Automation on AWS

Learn how public sector organizations engage with Stelligent to overcome institutional, resource, and security challenges and transform their IT footprint on AWS. Using the power of automation on AWS, public sector organizations can meet and exceed user needs and expectations and set new standards of excellence.

Using Automation to Deliver Services Faster, More Reliably, and More Securely for Less

Government, education, and nonprofit organizations, often referred to as the public sector, form the backbone of our world. Without the services of a government, chaos prevails. Without educational institutions, innovation stops and curiosity wanes. In a world without nonprofits, watchdogs and good samaritans lose a powerful tool for fighting injustice and corruption.

Public sector organizations serve us, protect us, and enrich our lives through observable and indirect means. As individuals rely on digital channels to communicate and conduct activities (both well-intentioned and nefarious), public sector organizations must adapt to the changing pace of interaction to stay one step ahead and anticipate challenges and needs that may alter the lives of those they serve.

In pursuing sensitive and consequential missions, public sector organizations must adhere to strict data and IT infrastructure compliance and regulatory standards. Many public sector organizations face institutional hurdles and resource constraints that both stifle innovation and challenge an organization's ability to keep up. Many organizations struggle to move quickly and modernize while also maintaining increasingly stringent security and compliance standards.

Given the barriers they face, how are many public sector organizations able to do more with less, stay ahead of an everevolving technological landscape, increase security posture, and put more time toward the needs of those whom they serve?

They are taking advantage of cloud computing, specifically Amazon Web Services (AWS) and the power of automation.

Forward-Thinking Public Sector Organizations Turn to AWS

AWS helps governments, educators, and nonprofits around the world advance their missions through technology. Tens of thousands of public sector customers around the world, including the Department of Veteran Affairs, The Department of Justice, Europol, FINRA, NASA JPL, the New York Public Library, and the UK Ministry of Justice trust AWS to run business-critical applications and digitally transform.

With security as its top priority and a focus on always working from the customer backward, AWS enables the public sector to experiment often, fail quickly, and drive superior outcomes for constituents and end users. AWS offers over 125 fully featured services for compute, storage, databases, networking, analytics, machine learning and artificial intelligence (AI), Internet of Things (IoT), mobile, security, hybrid, virtual and augmented reality (VR and AR), media, and application development, deployment, and management from 54 Availability Zones (AZs) across 18 geographic Regions worldwide.

The AWS footprint includes the AWS GovCloud (US) Region, an AWS Region designed to address specific regulatory and compliance requirements of US government agencies at the federal, state, and local level, as well as contractors, educational institutions, and other US customers that run sensitive workloads in the cloud. It also includes the recently-launched AWS Secret Region, which can operate workloads up to the Secret U.S. security classification level. AWS remains the only cloud service provider with accredited regions to address the full range of U.S. Department of Defense (DoD) data classifications, including Unclassified, Sensitive (CUI), Secret, and Top Secret.

In addition to the broad and deep offerings AWS provides the public sector, AWS also engages with tens of thousands of Consulting and Technology Partners worldwide who offer value-added services and/ or solutions on AWS. Of the thousands of consulting firms who work with AWS, only a select handful, including Stelligent, meet the high bar to qualify as a Premier AWS Consulting Partner.

Stelligent Helps Organizations Across the Public Sector Achieve Software Delivery Speed, Security, and Repeatability

Automation, education, security, and increased agility are all at the heart of each Stelligent customer engagement.

A typical Stelligent engineer has an average of 10+ years of coding experience and is hands-on implementing AWS solutions for customers every day. Stelligent has a combination of development and operations-focused engineers, with experience in creating software for users and applying that expertise from development through operations. Every Stelligent engineer has earned at least one AWS Certification, while many have earned multiple Associate and Professional Certifications. Stelligent's 45+ highly-trained engineers hold 70+ AWS Certifications in total.

The experts at Stelligent have helped public sector organizations embrace automation and build continuous delivery pipelines to:

- Achieve greater resiliency and fault tolerance for business-critical applications

- Reduce time and complexity for baseline infrastructure changes

- Improve security posture

- Strengthen application compliance and governance standards

- Increase visibility into environments

- Lower IT infrastructure costs

- Increase software delivery speed and repeatability both internally and externally

- Improve code quality, operational control, and audit capabilities

Let's take a look at some Stelligent public sector engagements to learn more.

Case Study: A US Federal Agency

One US federal agency responsible for providing a particular set of services to individuals for the US built a cohesive suite of applications to help provide information to users and allow users to explore their operations and leverage intelligent search engines. Many of the services the agency provides are complex, and the agency sought to take advantage of infrastructure and application automation on AWS to simplify the end user experience and drive more value to both internal and external system users.

The agency approached Stelligent for help, and after evaluating the agency's requirements and needs, Stelligent proposed building one-click Continuous Delivery (CD) pipelines for each application. Stelligent built a secure, resilient, and agile CD pipeline for the agency using many AWS services including Amazon Elastic Compute Cloud (Amazon EC2), AWS CloudFormation, Auto Scaling, Elastic Load Balancing, AWS Identity and Access Management (IAM), Amazon DynamoDB, Amazon Relational Database Service (RDS), Amazon Simple Storage Service (Amazon S3), Amazon Virtual Private Cloud (VPC), ElastiCache, and Amazon Simple Queue Service (Amazon SQS), as well as third-party applications and solutions from Chef, NGINX, Jenkins, Packer, Ruby, Bash, Elastic Search, and Cucumber. Stelligent has also helped the team deliver business value through applications deployed in a microservices architecture leveraging Amazon EC2 Container Service (Amazon ECS). By taking advantage of AWS and automation, the agency can save costs, ensure code quality, and move approved code into production automatically in less than 20 minutes.

Case Study: A Health & Life Sciences Organization

One large healthcare organization's mission is to make available to all users, free of charge, a series of software specifications and open-source software modules that deliver an oncology-extended Electronic Health Record (EHR) capability. Having dealt with inefficient operational processes and a lack of agility when seeking to set up environments and deliver new updates to users, the organization turned to Stelligent for help creating a solution to deliver software efficiently and manage internal systems operations more effectively.

After thoughtfully engaging with over 100 stakeholders across the organization, Stelligent recommended leveraging AWS and migrated the organization's entire suite to the cloud.

Its goal in moving the organization to AWS was to help reduce operational costs and increase efficiency, as all resources are available on-demand and can be spun up or down as needed. Stelligent then helped the organization securely automate its software delivery processes for test and development environments and build a one-click continuous delivery pipeline. The team took advantage of many AWS services and third-party tools to build a continuous delivery operations pipeline in AWS, including Amazon EC2, Amazon S3, Amazon EBS, Jenkins, JIRA Studio, Ant, Ivy, Tomcat, Puppet, QTP, and PostgreSQL. Taking advantage of the power of automation on AWS, the organization has removed common operational bottlenecks and can rapidly deliver software to users and team members.

Case Study: An Education Provider

One of the world's largest and most diverse education providers sought Stelligent's help to architect a highly resilient, scalable, and secure application delivery platform on AWS. The organization had migrated the majority of its application workloads to AWS in a 'lift-and-shift' manner but continued to face cost, resiliency, operational, and inefficiency challenges delivering applications to users. The organization approached Stelligent for its help building a solution where every application component, including infrastructure and deployment mechanisms, could be codified and maintained in a version control system, replacing an ad-hoc manual release process with a single, automated path to production.

To create a resilient application delivery platform, Stelligent codified all components of the baseline infrastructure using AWS CloudFormation. The architecture adheres to AWS recommended best practices and NIST 800-53 standards. Stelligent used many AWS services to power the platform, including Amazon ECS and Docker, Auto Scaling, AWS Key Management Service (KMS), AWS Identity and Access Management (IAM), and third-party tooling from AWS Technology Partner HashiCorp. The resulting solution allows the organization to push features through various testing stages until they are production-ready in a fully automated fashion. The organization can now deliver new features to production as dictated by business decisions, rather than technical constraints.

Case Study: A Health & Life Sciences Organization

With a mission to transform healthcare by improving medical record coding and addressing challenges with fee-for-service payment models, one global science company needed to find a way to continuously deliver solutions to end users at a fast pace and respond quickly to market demands. The organization sought to enable self-service capabilities for its engineering teams and built a Continuous Delivery (CD) platform on AWS using AWS CodePipeline and Jenkins, as well as AWS CloudFormation and AWS CodeDeploy. Seeking to implement additional governance and security capabilities without slowing down the pace of delivery and innovation its engineering team enjoyed, the organization engaged Stelligent to enhance its CD platform on AWS.

Stelligent updated the tools in use to create pipelines and replaced imperative scripts with declarative AWS CloudFormation templates. Stelligent also chose to use AWS Service Catalog to enable the organization's team to create pipelines in a self-service manner leveraging approved AWS CloudFormation templates while maintaining the principle of least privilege for security. The CloudFormation templates used by Service Catalog to provision pipelines create team-specific AWS Identity and Access Management (IAM) roles, allowing teams to maintain the autonomy of their resources in the AWS account while limiting the ability to impact other teams' resources or access additional application data.

Change the World, One Application at a Time

What could your organization achieve if it could automatically deliver solutions to end users securely, rapidly, and at scale? How much time could your team put toward innovation if they no longer needed to focus time, budget, and resources maintaining infrastructure and manually updating applications? For the public sector, breaking free of traditional IT constraints by moving to AWS and automating software delivery doesn't just drive internal efficiencies. It improves the lives of citizens around the world by bringing forth new tools and services previously out of reach.

Do you want to better the world by taking advantage of automation on AWS?
Engage the experts at Stelligent and explore what's possible.
1.888.924.4539 | info@stelligent.com | stelligent.com

ABOUT MPHASIS STELLIGENT

Mphasis Stelligent, a professional services and consulting firm with deep expertise in DevOps automation services on Amazon Web Services (AWS), enables security-conscious enterprises to focus on developing software users love by leveraging automation on AWS. Our goal is to work closely with customers to develop fundamentally secure infrastructure automation code, deployment pipelines, and feedback mechanisms for faster, more consistent software and infrastructure deployments. By embedding with our customer's engineering teams, we empower customers through education and knowledge transfer of our expertise while developing the automation to make them self-sufficient on AWS. As a Premier AWS Consulting Partner, AWS Public Sector Partner, and AWS DevOps and Financial Services Competency holder, we use our demonstrated expertise to help customers benefit from continuous AWS innovation.

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Consulting Partner

DevOps Competency

Financial Services Competency

Public Sector Partner

For more information, contact us at: info@stelligent.com

11710 Plaza America Drive
Suite 2000
Reston, VA 20190-4743
Tel.: +1 888 924 4539

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