



Replatforming Legacy Applications to Take Advantage of the AWS Cloud



A major stock exchange turned to Stelligent for help re-architecting and optimizing legacy applications to run on AWS and drive agility. Learn how Stelligent embedded with the company's engineering team and evaluated thousands of lines of code to rewrite and replatform 11 business-critical applications on AWS.

For Stock Brokers, It's All About Speed, Security, and Reliability

Information is the life blood of the stock market. For stock exchanges, having the ability to provide up-to-date information of a large scale and in real-time is critical to the success of buyers and sellers and the health of the market. As stock exchanges seek to streamline internal processes, ingest more and more data sources, deliver information to end users faster, and build a more robust disaster recovery footprint, they've increasingly turned to digitalization and the many benefits of running applications on Amazon Web Services (AWS).

However, many financial services companies, including stock exchanges, have built applications initially designed to run on legacy infrastructure. And while many legacy applications can move to AWS with little or no re-architecting, they aren't designed to take advantage of the many benefits cloud-native services and cloud-optimized applications bring to end users. For one major stock exchange, the mission to replace and improve existing applications by moving them to AWS proved a mighty challenge given the current state of its legacy applications. Luckily, the experts at Stelligent, an AWS Premier Consulting Partner and AWS DevOps and Financial Services Competency Partner, were able to help the stock exchange rewrite and replatform 11 applications on AWS.

Rewriting and Replatforming Applications on AWS with the Help of Stelligent

Legacy code can prove challenging to modify, iterate, and track changes for consistently and efficiently, particularly when its initial creation can date back decades and code authors no longer work for the company. The stock exchange, whose legacy code dated back to 1996, didn't have the in-house expertise or institutional knowledge to turn to for a deep understanding of its legacy application code, limiting the exchange's ability to reproduce builds and deployments of its workloads.

The exchange sought to move its on-premises disaster recovery (DR) environments, specifically its messaging and queuing workloads powering the delivery of change to the rest of its business applications, to AWS to improve scalability as well as remove development bottlenecks. Having already engaged with the AWS Professional Services team to create a Kafka cluster of brokers and build out a framework to sit on top of Kafka and handle message publishing and subscribing, the team knew some workloads could run on AWS in the current state. But they

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- Focusing on the long-tail, Stelligent surveyed 19 post-trading workloads and did a full archeological dig on 11 workloads of various sizes
- Following the full archeological application dig, Stelligent re-wrote the applications to support Kafka while running on AWS by adding shims, re-working pieces of the application code to enable the application to run as needed on AWS
- After re-working the applications to run on AWS, Stelligent helped the team deploy the applications to Amazon Elastic Compute Cloud (Amazon EC2) Instances



also understood some workloads would need to be re-architected to run on and take advantage of AWS.

The exchange needed to conduct an archeological dig of millions of lines of code to understand the current state of all workloads and introduce necessary changes to optimize applications on AWS and requested AWS Professional Services' help in identifying an AWS Consulting Partner with application transformation expertise. Already very familiar with Stelligent's deep expertise in digital transformation and automation best practices, the ProServe team reached out to Stelligent about the customer's pain points and seeking to help the customer re-architect its applications for AWS.

Once brought into the engagement, Stelligent took the following steps:

1. The team embedded with the stock exchange's development team to review all of its applications together, discuss strategy for application re-platforming on AWS, and examined the capabilities of the exchange's current framework for integration
2. Stelligent then explained different options for implementation
3. Focusing on the long-tail, Stelligent surveyed 19 post-trading workloads and did a full archeological dig on 11 workloads of various sizes
4. Following the full archeological application dig, Stelligent re-wrote the applications to support Kafka while running on AWS by adding shims, re-working pieces of the application code to enable the application to run as needed on AWS
5. After re-working the applications to run on AWS, Stelligent helped the team deploy the applications to Amazon Elastic Compute Cloud (Amazon EC2) Instances

Within four months, the 11 workloads were modified and redeployed to run optimally on AWS.

Having the Experts Roll Up Their Sleeves to Drive Application Transformation

By working closely with the exchange's development team throughout the engagement, the Stelligent team brought their deep expertise in software engineering to successfully evaluate the exchange's legacy code and help the company better understand its environment. With Stelligent's help, the exchange quickly learned valuable information about its legacy code and what it does, and how to approach re-architecting applications for AWS effectively and efficiently.



About Stelligent

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 customers 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.