



Seamless Data Migration and Infrastructure Enhancement for First Rate with AWS Solutions





About the Customer

First Rate is a US-based fast-growing, innovative financial technology and service provider in the wealth management industry. Their purpose is to build technology to serve each unique marketplace, and our client has been an expert in the field for over 30 years. Our client creates innovative solutions and services that are designed in a unique way to meet each firm's individual needs. The organization processes over 1 billion returns daily for more than 450k accounts across the globe and has an Asset Under Management (AUM) of more than 1.5 trillion.

Our client is a firm believer in community growth and holds business to the highest of standards. They deliver critical reporting, trust accounting, or portfolio management systems to eliminate uncertainty. They bring lively investment stories into existence by translating complex data into a comprehensive vision with the help of customization tools for individual requirements.

The Need

The client requested continuous monitoring and support for their infrastructure. As their business expanded, they needed help with server and application management, because their average response time of a web server was 1.03 seconds. They were also looking for highly reliable, available and secure storage solutions which required migrating about 3TB data from on-premises to AWS cloud. This proved to be a challenge as it had to be migrated to AWS via the internet. Other challenges included backup and restoring in case the tapes or disks were lost. Aspire systems implemented continuous AWS cloud support, monitoring, and services which increased the customer base and client satisfaction with time.



Aspire's Solution

Aspire experts formed our own support team and collaborated with the contractor of the client. We evaluated every minor issue at the root, whenever one arose, and it was thoroughly researched, documented and best possible solutions were derived. Our team sent them over to the client's side to sort out the issues quickly, giving the client a reduced turnaround time.

Since we were about to migrate about 3TB data through AWS via internet was a challenge, we proposed AWS snowball as a solution. By transferring the data with snowball, the migration became fast, simple, more secure and took only one-fifth of the cost of transferring data via high-speed internet. We were able to migrate two applications from an on-premises data center to AWS in a span of a mere 8 weeks. This also helped the client easily auto-scale their operations and reduce the low time by 40%. Downtime for the production cut over was dropped to only 15 minutes as static data migration of approximately 5TB was made possible with the AWS snowball solution.

With our expertise in proactive monitoring, storage and knowledge management, we have been able to assist the client in taking a step forward towards the digital transformation of their business. Aspire has also been elemental in its growth with the support of 3-tier security architecture, firewall management and ongoing patching and maintenance on a regular basis.

Governance and Security with AWS

Security Assessment and Patching: We have enabled the AWS Inspector and Guard Duty for enhanced vulnerability assessment. We also performed monthly patches based on the assessment reports for our windows & Ubuntu servers by raising a request with the recorded findings and procuring the customer's approval.



Identity and Access Management (IAM): Implemented least-privilege access for IAM users and roles based on specific requirements and user roles. Each user was defined with a custom policy, and we have attached a policy that ensures users are logged in with MFA.

Auditing and Compliance: Enabled AWS Cloud Trail to log and monitor API calls across AWS accounts, facilitating auditing and forensic analysis. Employed AWS Config to monitor compliance with AWS best practices to make sure that all the services in the workload are securely configured.

Proactive Monitoring and log configurations: Deployed AWS Cloud Watch alarm for SMS Quota alerts. Leveraged New Relic for real-time metrics, application logs, alerts to gain comprehensive visibility into system performance. CloudWatch alarms are configured for a set of predefined KPIs like the CPU utilization, unhealthy hosts and the notifications are sent to the email using SNS. We have enabled cloud trail logs and VPC flow logs that are stored and rotated in S3 buckets. The logs are fetched when the time arises for the purpose of audit and investigation. To investigate any kind of errors in requests and responses, we logged Application Load Balancer access logs and rotated in s3.

Cloud Cost Optimization with regular audits: Planned quarterly cost analyses were performed to identify spending patterns and optimize cloud expenditure. By purchasing the reserved instance based on the analysis and renewing the same annually, we helped the client save a significant amount on their use of computers.





AWS Services Leveraged

Backup and Encryption: Automated daily EC2 backups with AMIs, utilizing Lambda functions to clean up old AMIs, retaining only those from the past 30 days. We backed up our MSSQL every 4 hours and stored them in s3. Additionally, we have enabled weekly backups for the same and stored them in S3 as well.

Data Encryption: Ensured all storage services like the EBS volumes and encrypted S3 buckets using customer-managed keys in AWS Key Management Service (KMS).

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1. **Compute:** EC2
 2. **Governance:** IAM, Cloud Trail
 3. **Monitoring:** New Relic, SNS, Cloud watch
 4. **Automation:** Lambda Functions
 5. **Security:** VPC, Secret manager, AWS Inspector, Guard duty, Config, KMS keys, Certificate manager, and Trusted Adviser
 6. **Storage:** s3 and EBS Volume

Best Practices Followed

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1. . Data protection and key management
 2. Network, application and governance security with 3-tier architecture
 3. Patching, maintenance and firewall management.
 4. Encrypted storage transfer



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For more info contact: info@aspire.com or visit www.aspiresys.com

USA

+ 1 630 368 0970

SINGAPORE

+65 3163 3050

INDIA

+91 44 6740 4000

BELGIUM

+ 32 3 204 1942

NETHERLANDS

+ 31 (0)30 800 92 16

POLAND

+48 58 732 77 71

MEXICO

+52 222 980 0115