

SUCCESS STORY



AGGREGATION & ANALYTIC INSIGHTS OF SYSTEM METRICS & APPLICATION LOGS

PROJECT OVERVIEW

Indium supported the client in transferring and scaling up their system monitoring metrics and application logs console to ELK Stack on AWS to speed up the processing time and to give better insights into the System Monitoring Metrics and Application Log Data.

BUSINESS

Devops & Cloud

DOMAIN

Financial Services

KEY HIGHLIGHTS

- The transition of System Metrics and App Logs to ELK Stack resulted in a 99.99%-time savings.
- Due to System Monitoring Metrics' real-time accessibility, problems can be identified and fixed quickly.

ABOUT CLIENT

The Client is a US-based Financial Services Organization that provides comprehensive investment and advisory services to individuals, corporations, and financial institutions. Their offerings include investment options such as mutual funds, equity funds, exchange traded funds etc., and consultation for education savings, retirement planning, charitable giving, tax planning, vacation planning, cash management and many more.

BUSINESS CHALLENGE

The existing CloudWatch tool required constant manual refresh to get information on System Metrics and Application Log Data. This method was time consuming and lowering the team's productivity. Thus, the team wanted an alternative method to automate the above process and get quicker insights into the system metrics and log data.

BUSINESS REQUIREMENTS

- Transfer application logs and system metrics from Kubernetes and CloudWatch respectively to ELK as it is highly responsive and can handle multi-tenancy.
- For app logs create Dashboards after Grok parse the log data from one format to the other while for system metrics create dashboards in CloudWatch inside Kibana.
- Resolve the datatype mismatch issue when transferring the data from Kubernetes to ELK.

SOLUTIONS

- Indium leveraged Fluent Bit daemon-set log processor of Kubernetes to collect logs from every POD on every node of the cluster and transfer & centralize those logs in ELK stack.
- Created system metrics stream in Amazon S3 owing to its high scalability, data availability, security, and performance. To read the metrics data from S3, Indium developed a lambda function and leveraged it to trigger data from S3 and transfer it to ELK.

- Indium helped the client in overcoming the datatype issue of Ingress-NGINX controller for Kubernetes that serves as a load balancer, by modifying the Fluent Bit to route logs to separate Logstash Index. This removed the Kubernetes datatype issue.
- Created various dashboards to visualize user activities for various applications and zones, container insights to visualize node specific metrics, and load balancer insights consisting of target group metrics.

BUSINESS IMPACT

- Manual refreshing to get each metric used to take at least 30 min. With ELK stack, the time taken to get the metrics is reduced by 99.99%
- Dashboard creation helps the client to get an at-a-glance view of key system metrics within seconds of applying the filters.
- Real-time visualization of system monitoring metrics will help in identifying the actual time of incident occurrence, reporting time, and the resolution time. This will help the client to improve their response methods and deal with recurring problems efficiently

TOOLS



Amazon S3



kubernetes



kibana



AWS Lambda



elasticsearch



fluentbit

NGINX

ABOUT INDIUM

Indium is a Digital Engineering Services leader and Full Spectrum Integrator that helps customers embrace and navigate the Cloud-native world with Certainty. With deep expertise across Applications, Data & Analytics, AI, DevOps, Security and Digital Assurance we “Make technology work” and accelerate business value, while adding scale and velocity to customer’s digital journey on AWS.



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