Splunk & AWS

Gain real-time insights from your data at scale

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Agenda

- Current Splunk ingestion landscape for AWS
- Current challenges
- New Solution
- Demo
- Q&A
Splunk Cloud Available Worldwide
Splunk Portfolio of AWS Solutions

**End-to-End AWS Visibility**
- Splunk App for AWS
- Available on Splunk Enterprise, Splunk Cloud and Splunk Light

**AWS Integrations**
- AWS Lambda, IoT, Kinesis, EMR, EC2 Container Service

**Self-deployed AMIs or SaaS on AWS Marketplace**
- AMI on AWS Marketplace
- SaaS Contract Billed through Marketplace
- Insights for AWS Cloud Monitoring
- AMI on AWS Marketplace

**AWS-based SaaS**
- Benefits of Splunk Enterprise as SaaS
Current Splunk GDI Landscape for AWS
Challenges

- Reliability, scalability and fault tolerance
- Management overhead of data collection nodes
- Delayed event delivery due to poll based ingestion
- API throttling with poll based data ingestion
Need for New Solution
Amazon Kinesis

**Kinesis Streams**
Stores data as a continuous replayable stream for custom applications

**Kinesis Firehose**
Load streaming data into Amazon S3, Amazon Redshift, and Amazon Elasticsearch Service

**Kinesis Analytics**
Analyze data streams using standard SQL queries
Current State of Kinesis Firehose

Ingest

Kinesis Agent
Kinesis Streams
CloudWatch Logs
CloudWatch Events
AWS IoT

Transform

Amazon S3
Amazon Redshift
Amazon Elasticsearch

Deliver
Our Answers to Challenges

- Reliability, scalability and fault tolerance challenges
  - Extremely reliable with underlying infrastructure operating in three different AZs
  - Extremely durable with three copies of same data in three different AZs
  - Temporarily holds and buffers data to absorb back pressure
  - Data backup to Amazon S3 upon failure

- Management overhead of data collection nodes in existing solution
  - Serverless with no resource provision or management overhead

- Delayed event delivery due to poll based ingestion
  - Push delivery with configurable buffer size and interval

- API throttling with poll based data ingestion
  - Horizontally scalable with no limit
Kinesis Firehose Advantages

Why should I use Kinesis Firehose versus other ingestion mechanisms for Splunk?
Why Kinesis Firehose

- Fully managed service with serverless architecture
- Bypass the need for setting up and managing heavy weight forwarder
- Extremely scalable and reliable
- Well integrated with various data sources
- Easy to use with no programming requirement
- Ability to transform raw data prior to sending it to Splunk
- Super low cost - $0.029 per GB of data ingested
Serverless and Scalable

- Supports native balancing to indexing tier
- Supports Splunk Cloud and Splunk Enterprise
Serverless and Scalable

- Supports ELB and third party load balancers
Supports delivery acknowledgment. Un-acknowledged events can be persisted to S3 and re-ingested via alternative delivery mechanism.

Un-delivered and un-acknowledged events can be ingested from S3 bucket using poll based mechanism (Splunk add-on for AWS)
Un-delivered and un-acknowledged events can be ingested from S3 using lambda for full push-based architecture.

Lambda can be configured to push data to a failover HEC endpoint.
Cross Account Delivery

- Consolidate VPC flow data from multiple account into one Firehose delivery stream
- Ability to route events to different indexes based on Lambda conditions
Kinesis Firehose Use Case

When should I use Kinesis Firehose versus other ingestion mechanisms for Splunk?
Supported Kinesis Firehose Data Sources
Here is a list of AWS Services supported by Kinesis Firehose

▶ AWS CloudWatch Logs
  - VPC Flow Logs
  - AWS Lambda Logs

▶ CloudWatch Events
  - AWS API Call Events (CloudTrail), Auto Scaling Events, AWS CodeBuild Events, AWS CodeCommit Events, AWS CodeDeploy Events, AWS CodePipeline Events, AWS Console Sign-in Events, Amazon EBS Events, Amazon EC2 Events, Amazon EC2 System Manager Events, Amazon EC2 System Manager Configuration Compliance Events, Amazon EC2 Maintenance Window Events, Amazon ECS Events, Amazon EMR Events, Amazon GameLift Event
  - AWS Health Events, AWS KMS Events, Amazon Macie Events, Scheduled Events, Trusted Advisor Events

▶ AWS IoT

▶ Kinesis Streams
### What Ingestion Mechanism Shall I Use?

<table>
<thead>
<tr>
<th>Use Case</th>
<th>Kinesis Firehose</th>
<th>Splunk AWS Add-on</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supported Kinesis Firehose Data Sources</td>
<td>Preferred</td>
<td>-</td>
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<tr>
<td>Fault tolerance</td>
<td>Yes</td>
<td>Only SQS based S3 input</td>
</tr>
<tr>
<td>Guaranteed delivery and reliability</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>S3 Input</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>On-Prem Splunk with private IPs</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Poll-based Data Collection (Firewall restrictions)</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Kinesis Firehose Limits

- 20 Kinesis Firehose delivery streams per Region
- Default a maximum of 2,000 transactions/second, 5,000 records/second, and 5 MB/second
- Limits can be increased, but be careful not to increase past the incoming traffic amount. This can lead to small delivery batches to destinations, which is inefficient and can be costly.
- Please refer to the Kinesis Firehose documentation for instructions on how to increase limits: [http://docs.aws.amazon.com/firehose/latest/dev/limits.html](http://docs.aws.amazon.com/firehose/latest/dev/limits.html)
In Summary

Splunk + AWS = Cloud Visibility

• Strong partnership with numerous product integrations

Current GDI for AWS data into Splunk

• HTTP Event Collector, AWS Add-on, DB Connect

Firehose Kinesis integration

• Addresses scalability and reliability concerns
Interested? Sign up for Beta

Kinesis Agent

Kinesis Streams

CloudWatch Logs

CloudWatch Events

AWS IoT

NEW
Thank You

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