AWS re:Invent

Cox Automotive Empowered to Scale with Splunk Cloud & AWS and Explores New Innovation with Amazon Kinesis Firehose

Ray Zhu | Product Manager, AWS
Elias Haddad | Product Manager, Splunk
Steven Hatch | Enterprise Logging Services Manager

November 28, 2017

Agenda

- What is Splunk
- Current Splunk ingestion landscape for AWS
- Current challenges
- New solution
- Cox Automotive use case
- Q&A

Forward-looking statements

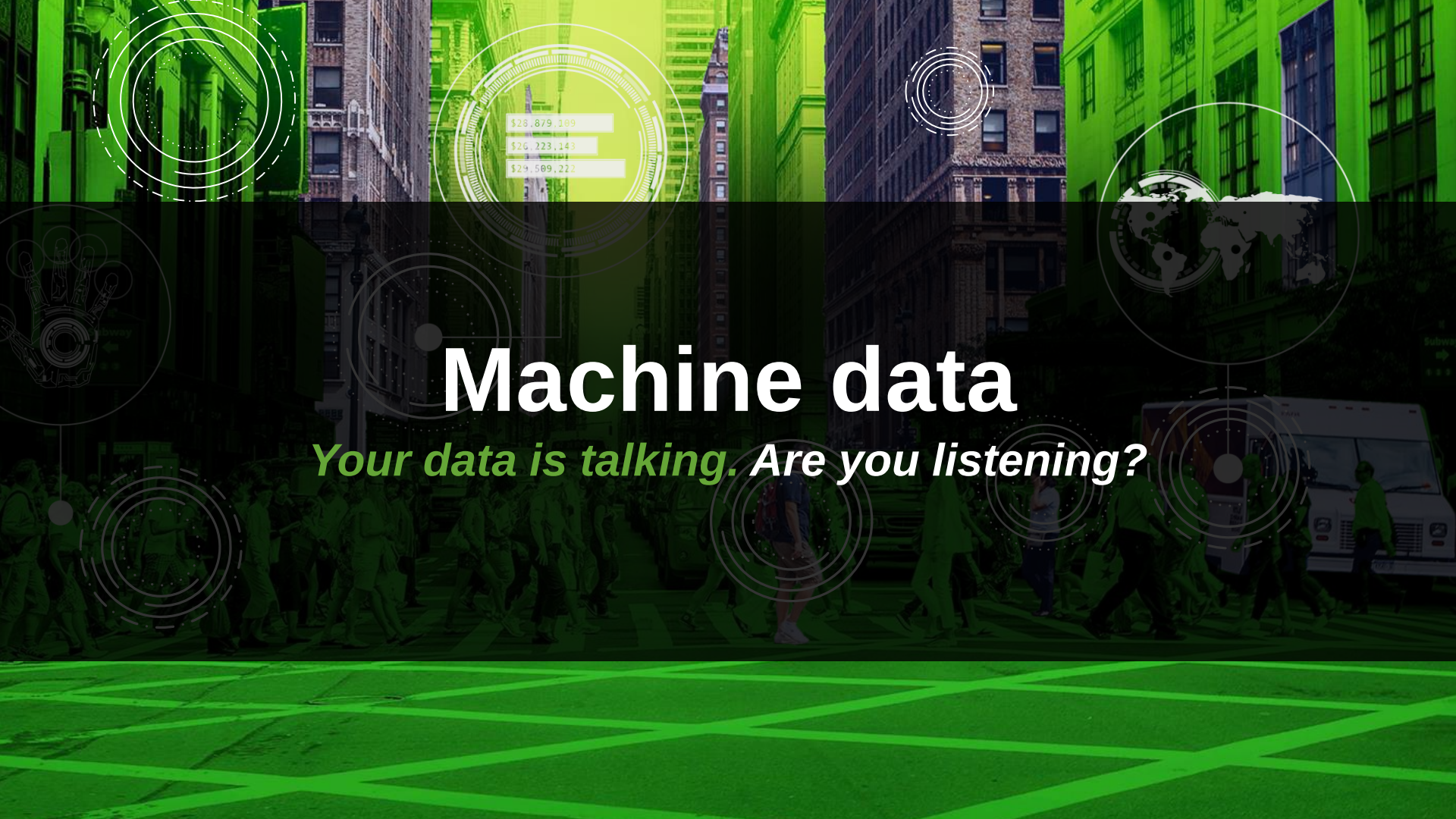
During the course of this presentation, we may make forward-looking statements regarding future events or the expected performance of the company. We caution you that such statements reflect our current expectations and estimates based on factors currently known to us and that actual events or results could differ materially. For important factors that may cause actual results to differ from those contained in our forward-looking statements, please review our filings with the SEC.

The forward-looking statements made in this presentation are being made as of the time and date of its live presentation. If reviewed after its live presentation, this presentation may not contain current or accurate information. We do not assume any obligation to update any forward-looking statements we may make. In addition, any information about our roadmap outlines our general product direction and is subject to change at any time without notice. It is for informational purposes only and shall not be incorporated into any contract or other commitment. Splunk undertakes no obligation either to develop the features or functionality described or to include any such feature or functionality in a future release.

Turn data into answers with Splunk

AWS re:Invent

aws


Machine data
Your data is talking. Are you listening?

What is machine data?

Application data
Mobile app and website data
*44% of the world's population will own smartphones in 2017**

IT infrastructure data
Network servers, cloud services
*Average cost of downtime for a data center is $7,900 per minute**

Security data
Firewall data, endpoint data
*Cybercrime will cost the world in excess of $6 trillion annually by 2021**

Customer-generated data
Social media data, support call logs
*There are 2.8 billion social media users worldwide**

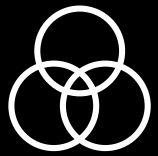
Internet of Things data
Temperature control, speed instruments
*8.4 Billion connected "things" will be in use in 2017**

splunk> listen to your data

Use machine data. Meet customer expectations.

To meet higher customer expectations, companies must leverage their machine data.

Why is this so hard?



Machine data is messy and unpredictable

Requires massive scale

You don’t always know which questions to ask

splunk>

Any question, any data, in *real time*

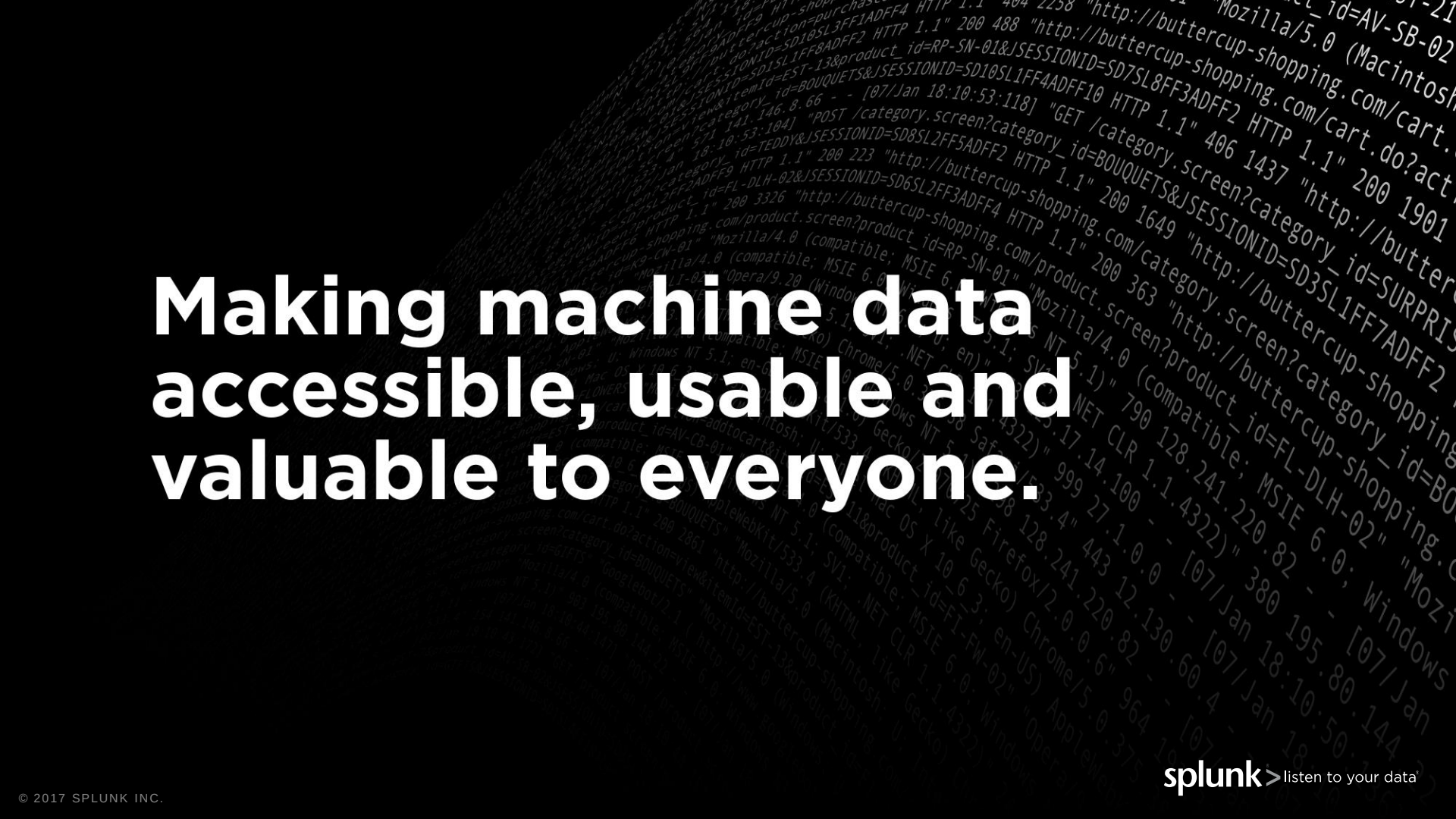
Single Platform,
Many Lenses

Performance
at Scale

Open Ecosystem

Hybrid

Machine
Learning



splunk> listen to your data

Proven at 13,000+ customers in 110+ countries

More than 85 of the Fortune 100

Splunk portfolio of AWS solutions

End-to-end AWS visibility

splunk> App for AWS

Available on Splunk Enterprise, Splunk Cloud and Splunk Insights for Cloud Monitoring

AWS Integrations

AWS Lambda, AWS IoT, Amazon Kinesis, Amazon EMR, Amazon EC2 Container Service

Self-deployed AMIs or SaaS on AWS Marketplace

splunk>enterprise

AMI on AWS Marketplace

splunk>cloud

SaaS Contract Billed through Marketplace

splunk> Insights for AWS Cloud Monitoring

AMI on AWS Marketplace

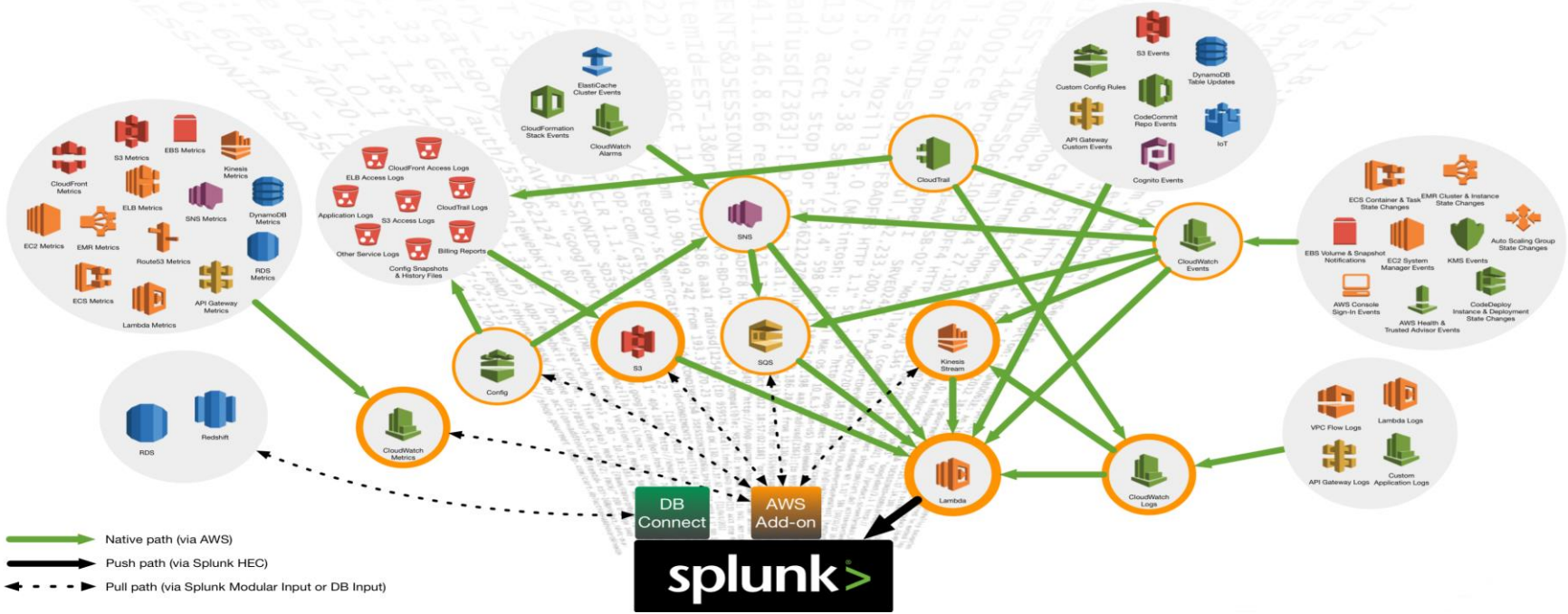
AWS-based SaaS

splunk>cloud

Benefits of Splunk Enterprise as SaaS


Monitored by splunk>
Splunk Cloud available worldwide
aws

Current Splunk end-to-end landscape for AWS

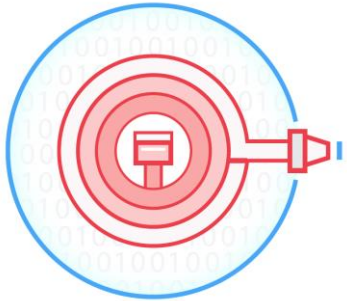


Poll-based ingestion challenges

- 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

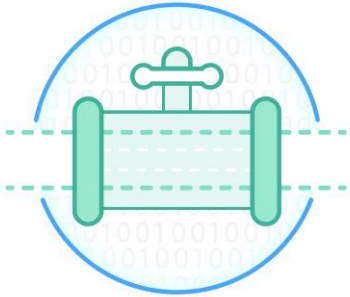


Amazon Kinesis Firehose

Easily load streaming data into AWS

Amazon Kinesis Analytics

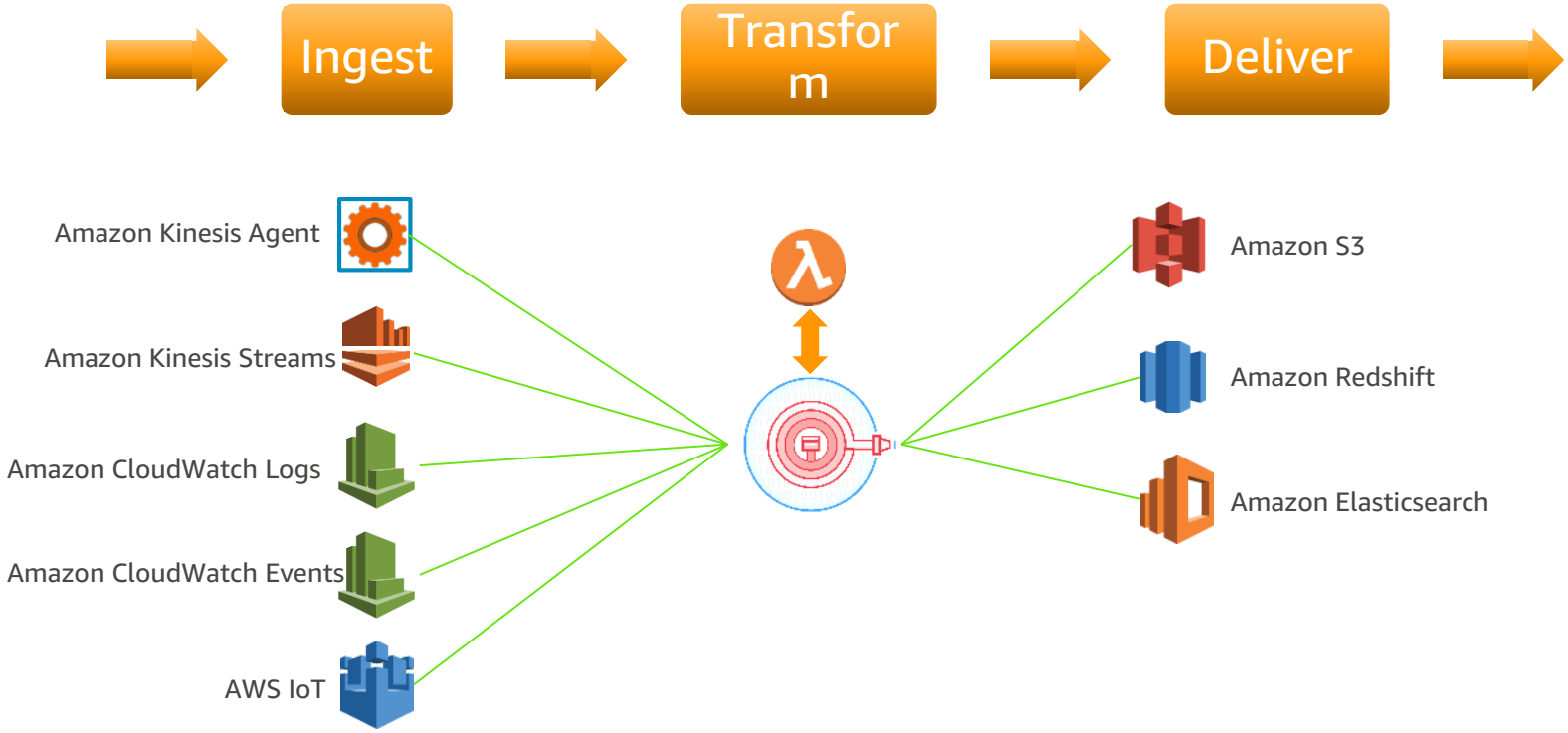
Easily process and analyze streaming data with standard SQL



Amazon Kinesis Streams

Build custom applications that process and analyze streaming data

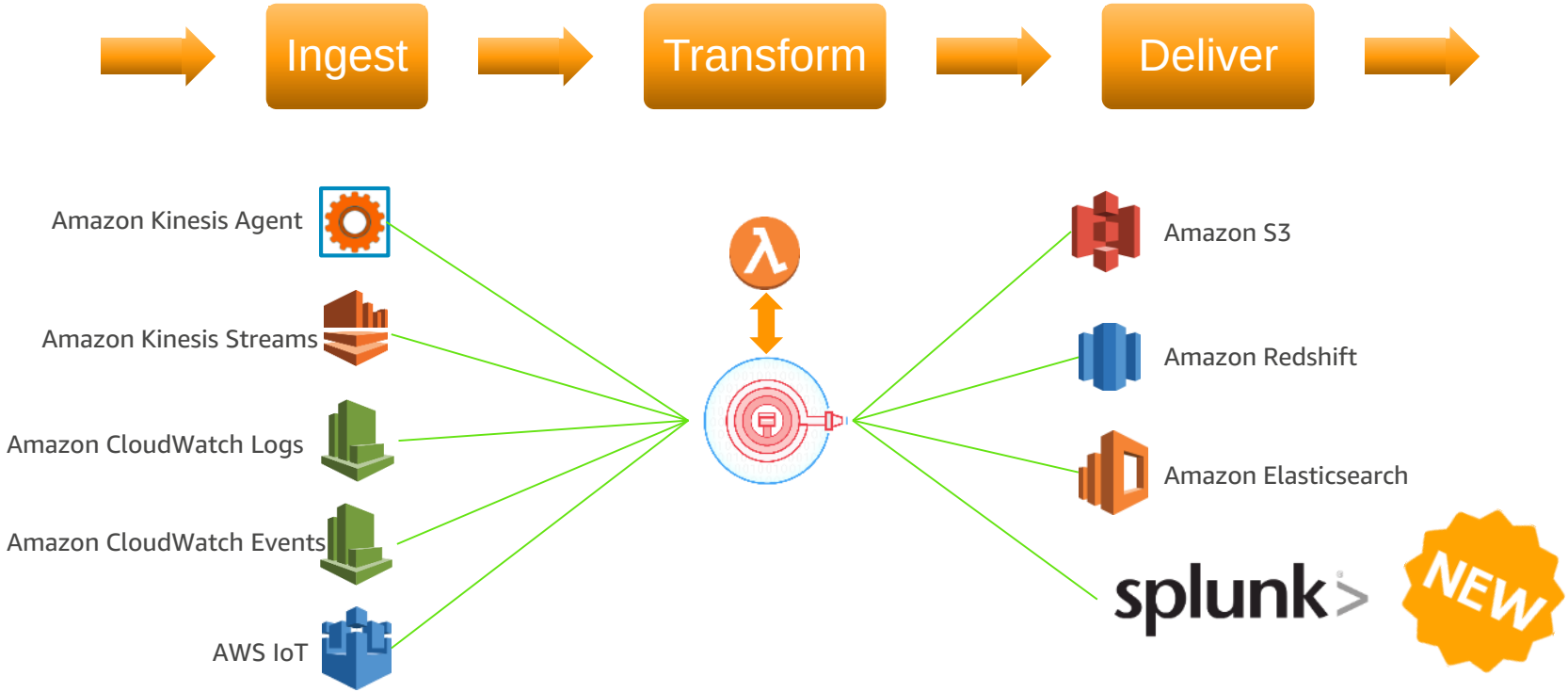
Current state of Amazon Kinesis Firehose



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

Amazon Kinesis Firehose with Splunk delivery



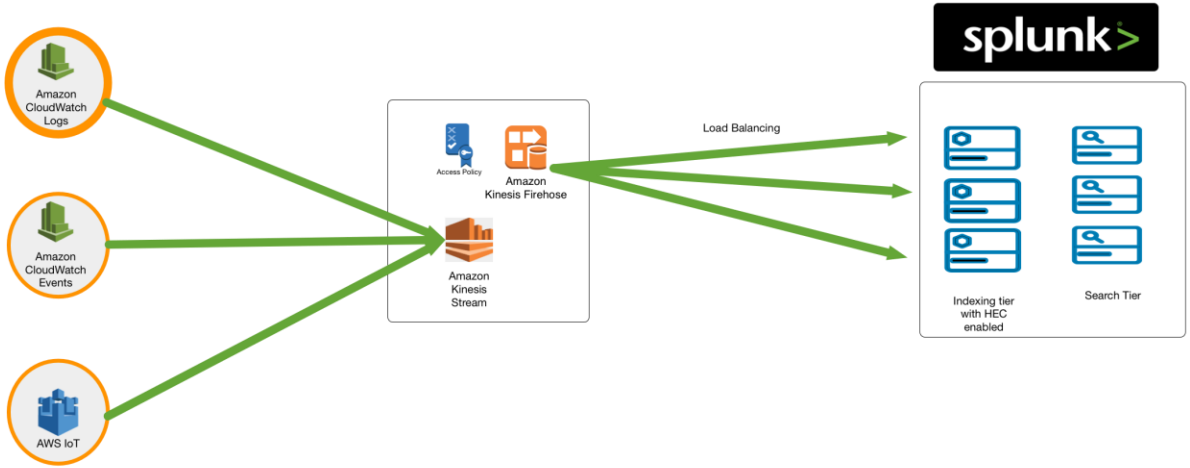
Amazon Kinesis Firehose advantages

Why would I use Amazon Kinesis Firehose as opposed to other ingestion mechanisms for Splunk?

Why Amazon Kinesis Firehose

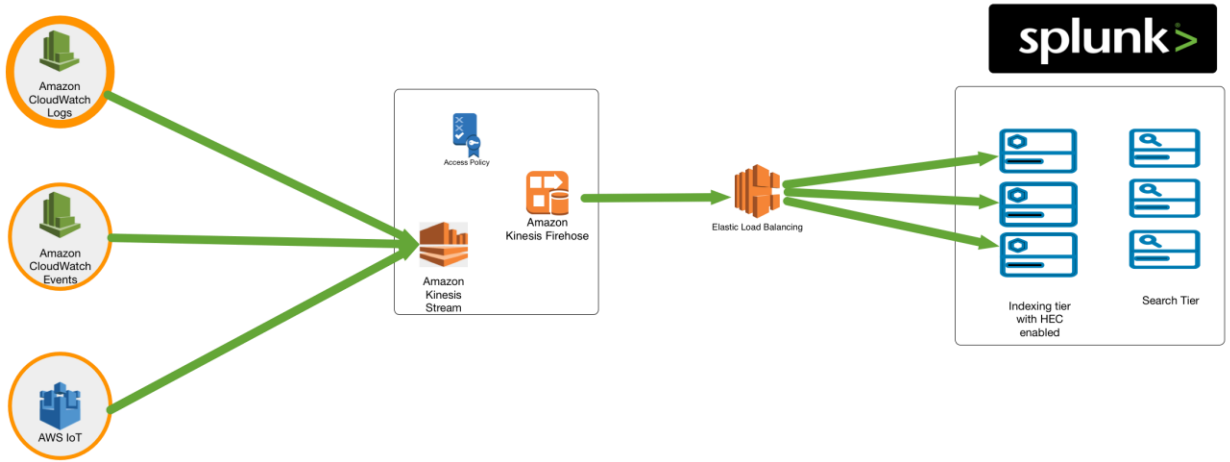
- Fully managed service with serverless architecture
- Bypass the need for setting up and managing heavyweight forwarder
- Greater reliability and scalability
- Well integrated with various data sources
- Easy to use with no programming requirement
- Ability to transform raw data prior to sending it to Splunk
- Very low cost—$0.029 per GB of data ingested via Amazon Kinesis Firehose

Serverless and scalable



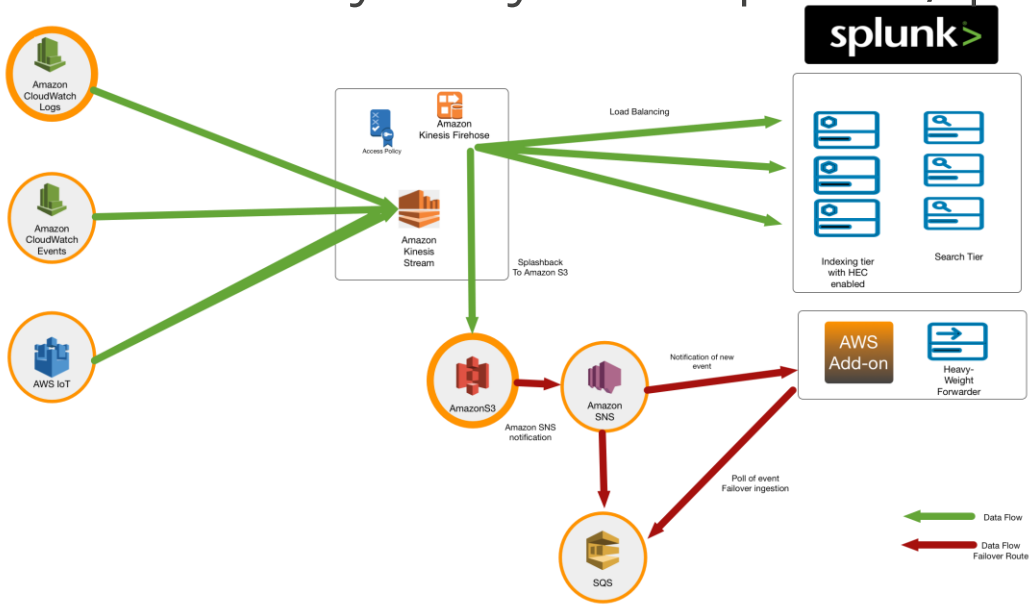
- Supports native balancing to indexing tier
- Supports Splunk Cloud and Splunk Enterprise
- Leverages HTTP Event Collector's indexer acknowledgment
    - Makes sure events are written to disk on Splunk's side
    - Unacknowledged events are sent again

Serverless and scalable



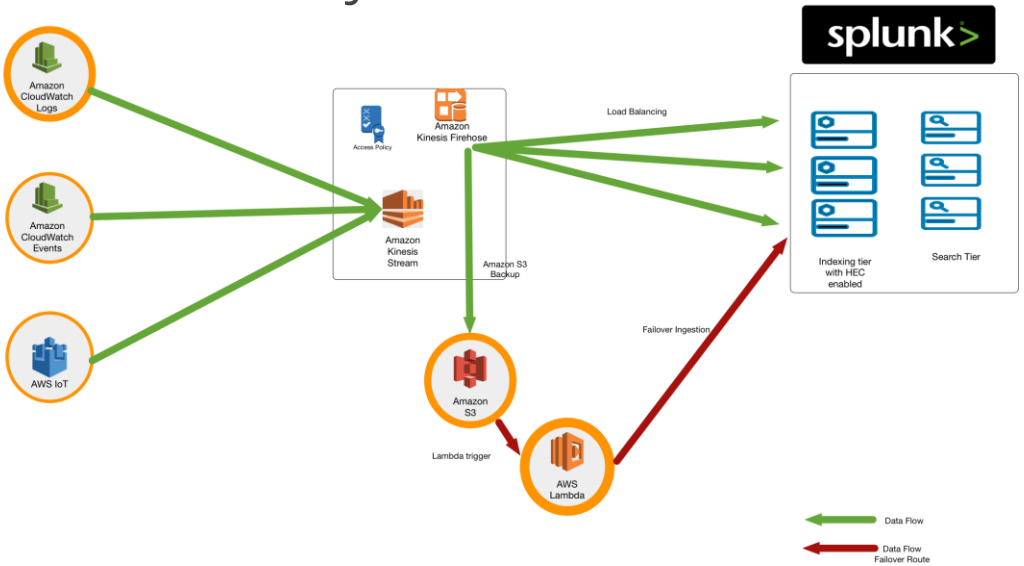
- Supports ELB and third-party load balancers

Greater reliability: Hybrid push/pull



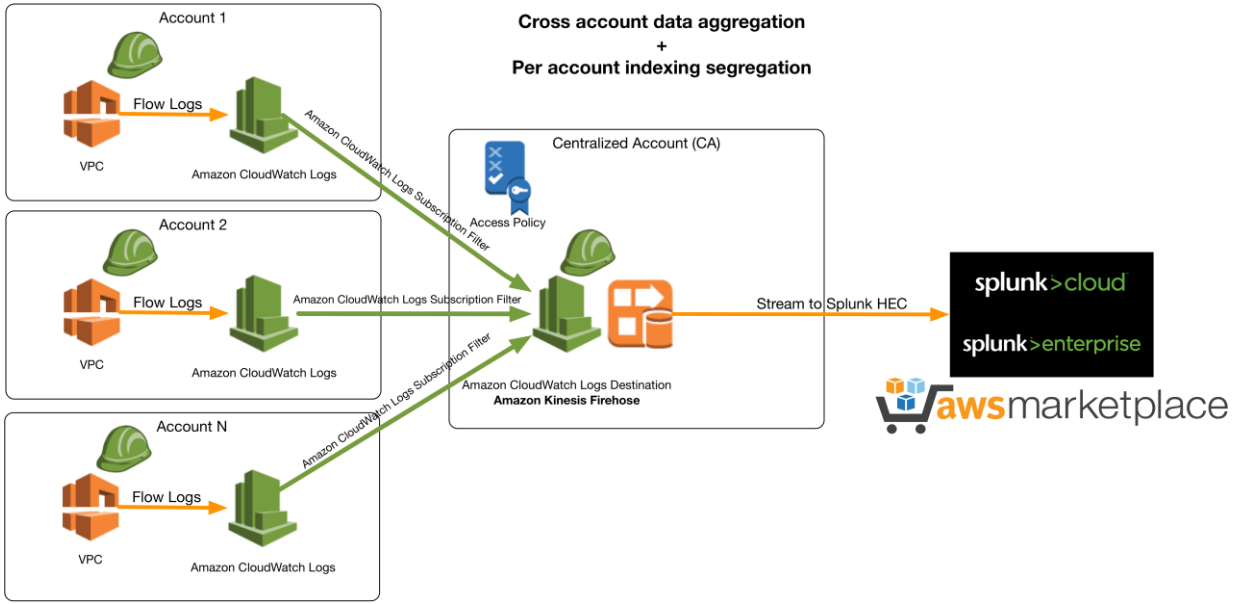
- Supports delivery acknowledgment. Unacknowledged events can be persisted to Amazon S3 and ingested again via alternative delivery mechanism.
- Undelivered and unacknowledged events can be ingested from Amazon S3 bucket using poll-based mechanism (Splunk add-on for AWS)
- Hybrid push/pull: backup route less prone to same bottleneck

Greater reliability: Serverless architecture



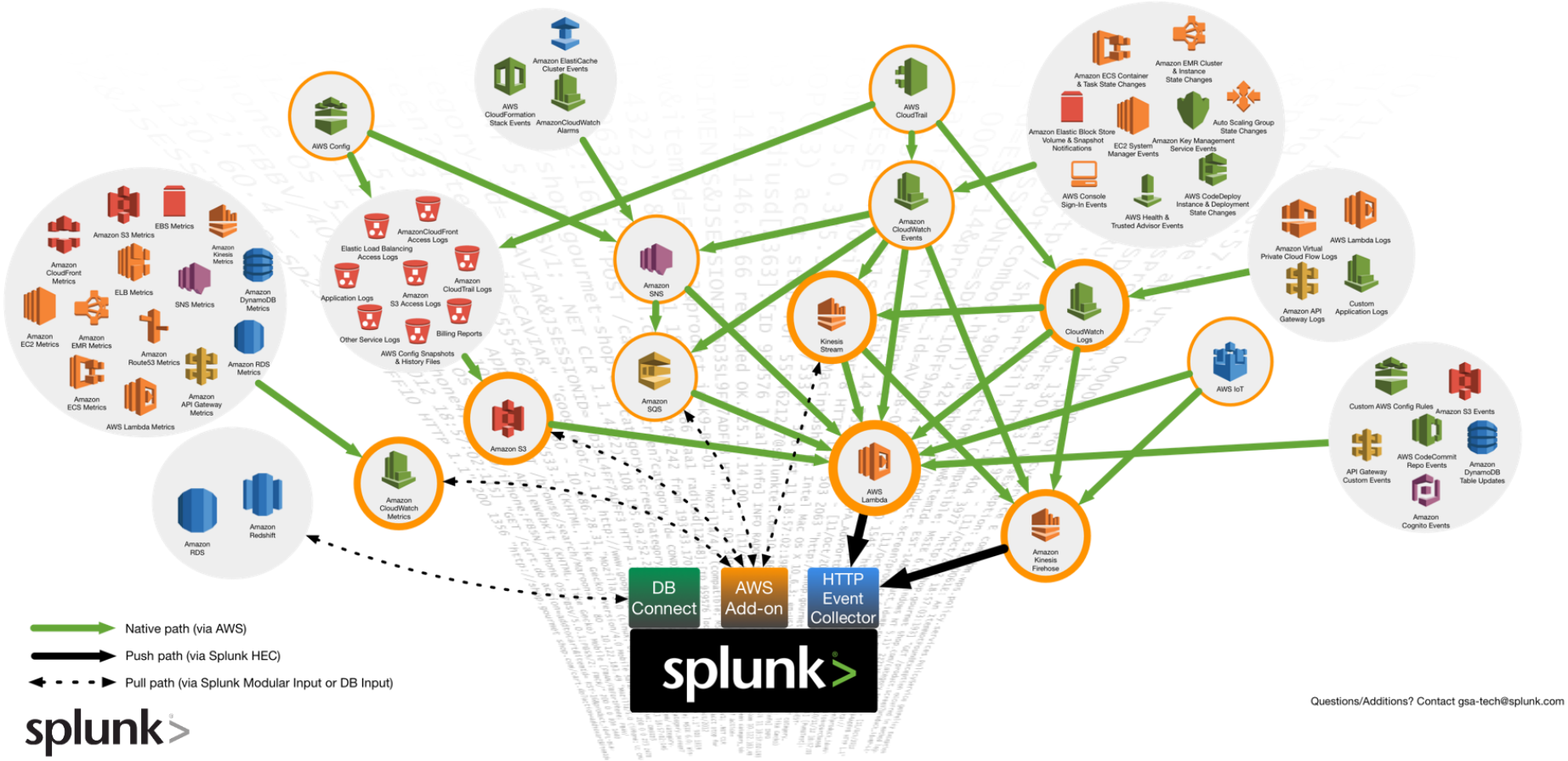
- Undelivered and unacknowledged events can be ingested from Amazon S3 using AWS Lambda for full push-based architecture
- Lambda can be configured to push data to a failover HEC endpoint
- Pure push, serverless-based architecture; no forwarder required

Cross-account delivery



- Consolidate Amazon VPC flow data from multiple accounts into one Amazon Kinesis Firehose delivery stream
- Ability to route events to different indexes based on AWS Lambda conditions

New Splunk end-to-end landscape for AWS



splunk>

Questions/Additions? Contact gsa-tech@splunk.com

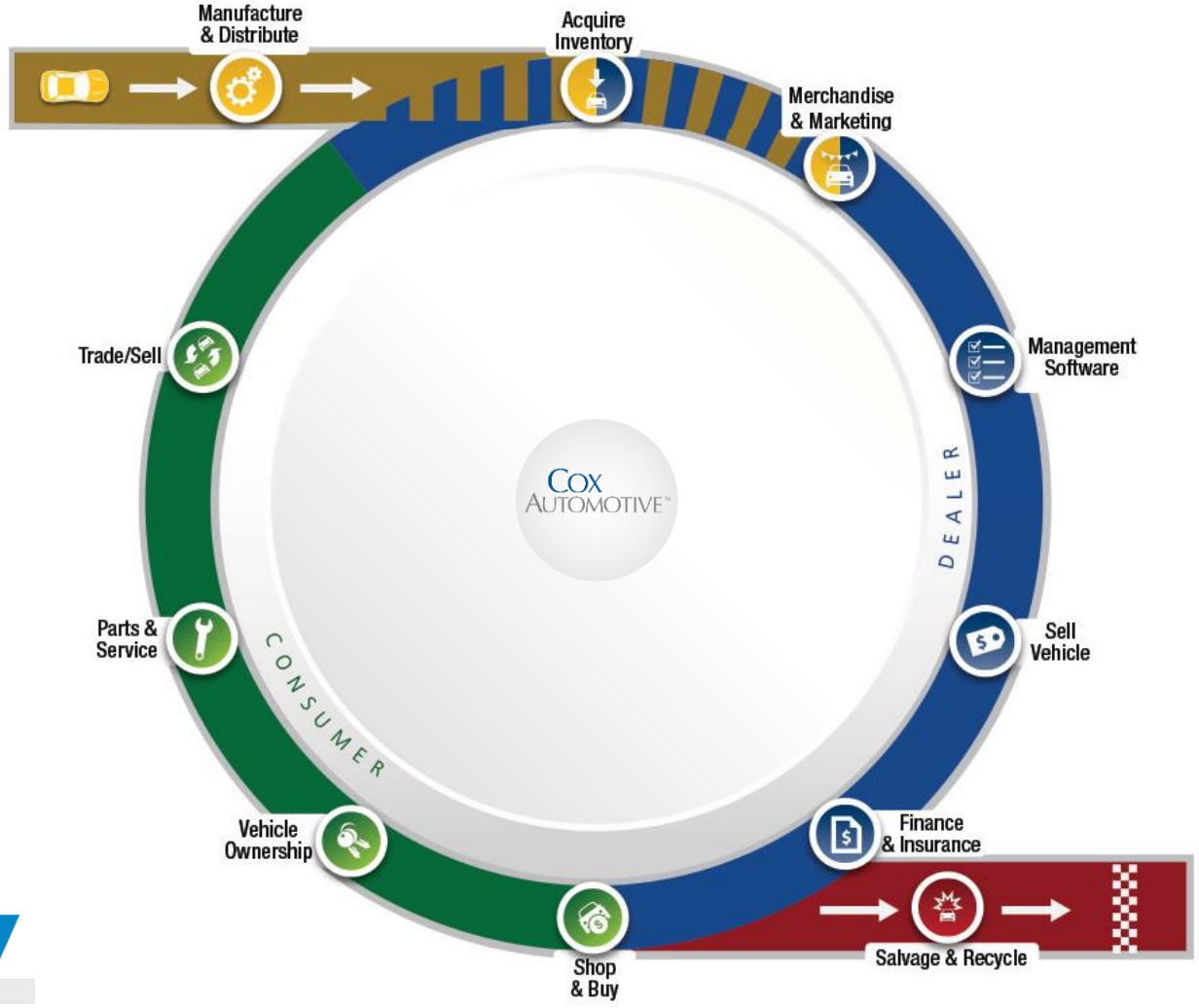
Amazon Kinesis Firehose use case

When would I use Amazon Kinesis Firehose as opposed to other ingestion mechanisms for Splunk?


Steven Hatch
20 Years Enterprise IT Experience
Enterprise Logging Services Manager
Leading international Splunk
rollout across Cox Automotive
COX AUTOMOTIVE
Infrastructure & Operations

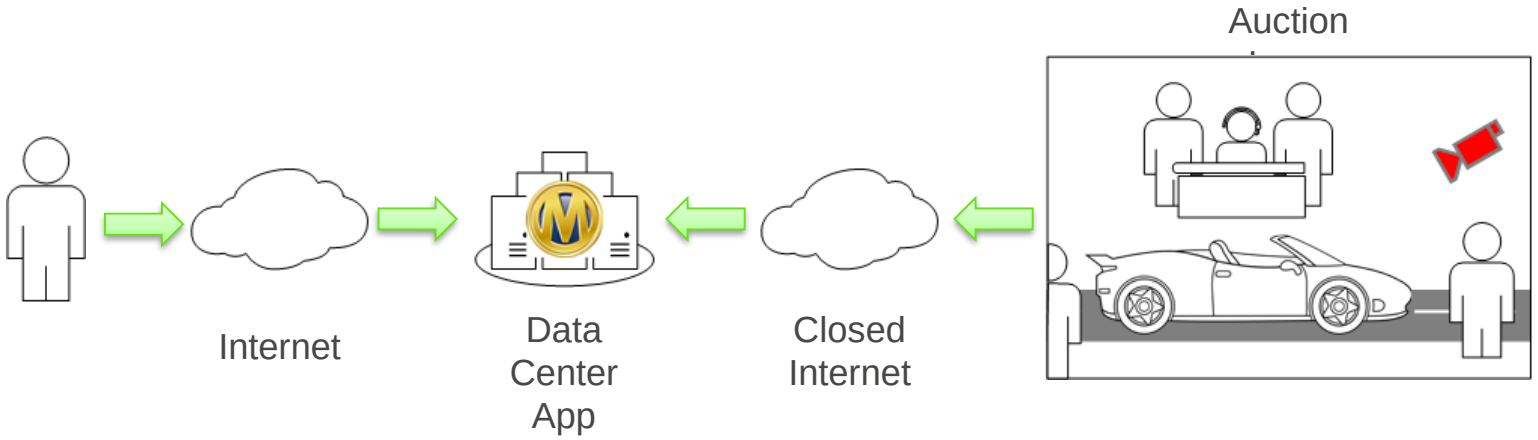

Cox Automotive™
A leading provider of products and services that span the automotive ecosystem worldwide.
More than 20 brands that together provide end-to-end solutions for customers large and small.
A subsidiary of Cox Enterprises, Inc.
24,000+ employees (October 2014)
40,000+ customers (Wholesale & retail dealers, OEMs)
Source: Cox Automotive FP&A, 2014
$45B+ vehicle values sold annually through Manheim
Source: Manheim Financial Reporting, 2013
121 AUCTION LOCATIONS worldwide (October 2014)
32M+ UNIQUE VISITORS MONTHLY Autotrader & Kelley Blue Book
Source: Autotrader & Kelley Blue Book site data, unduplicated 2014 monthly average
67% OF ALL CAR BUYERS use Autotrader or Kelley Blue Book
Source: IHS Automotive Automotive Buyer Influence Study, 2014

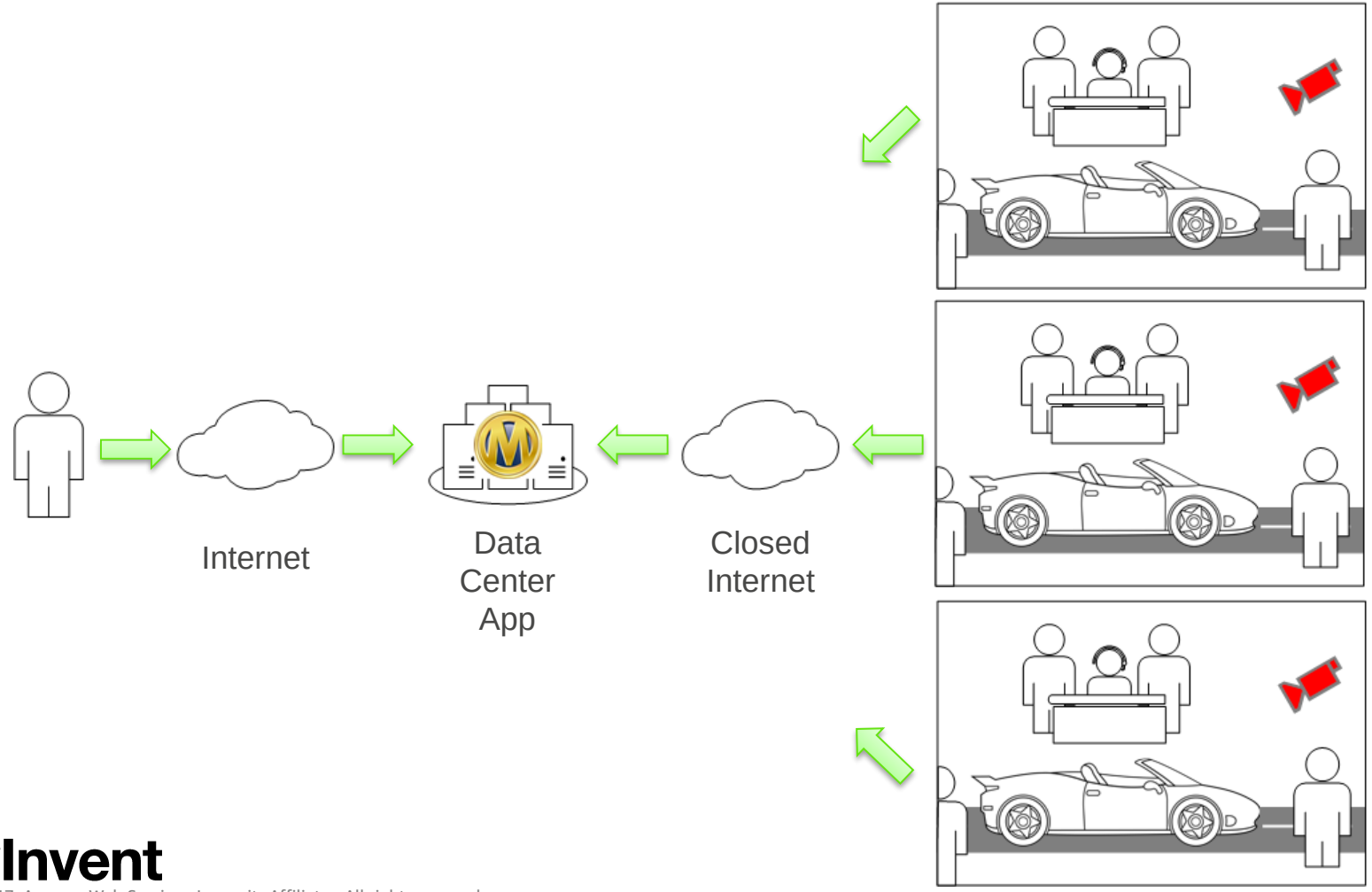

Cox
Automotive™
Transform the way the world
buys, sells, and owns cars.
Vision


Manufacture & Distribute
Acquire Inventory
Merchandise & Marketing
Management Software
Sell Vehicle
Finance & Insurance
Salvage & Recycle
Shop & Buy
Vehicle Ownership
Parts & Service
Trade/Sell
DEALER
CONSUMER
COX AUTOMOTIVE™

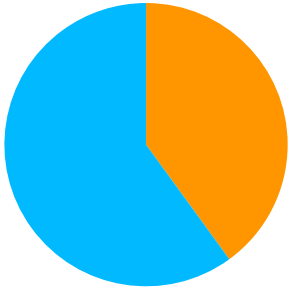

ONLINE BUYERS
12
INTERNET BID RECEIVED
21-1: 2012 VOLVO XC60 FWD 6C
Odometer: 79,461
VIN: YV4952DL6C2299833
Options: 6G, AT, CD, CI, PS, AC, EW, M
Seller: CHUCK'S AUTOSHACK, INC (ONLINE)
Title: PRESENT
Annc: TIMING COVER LEAK
HIGH BID
TAI AUTOMALL
$14,800
NEXT BID
$14,900
LANE
1

Audio / Video Network Gear Monitoring

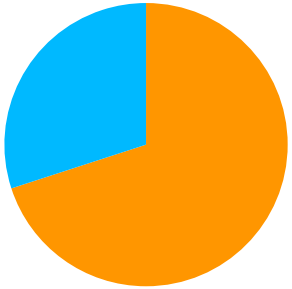




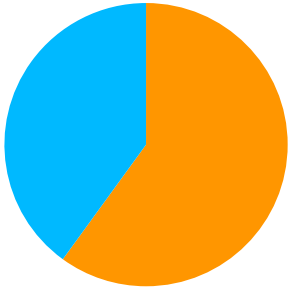
Monitoring App



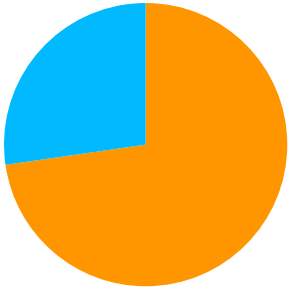
Monitoring App



Monitoring App



Monitoring App



splunk>cloud™

Ingest all component data

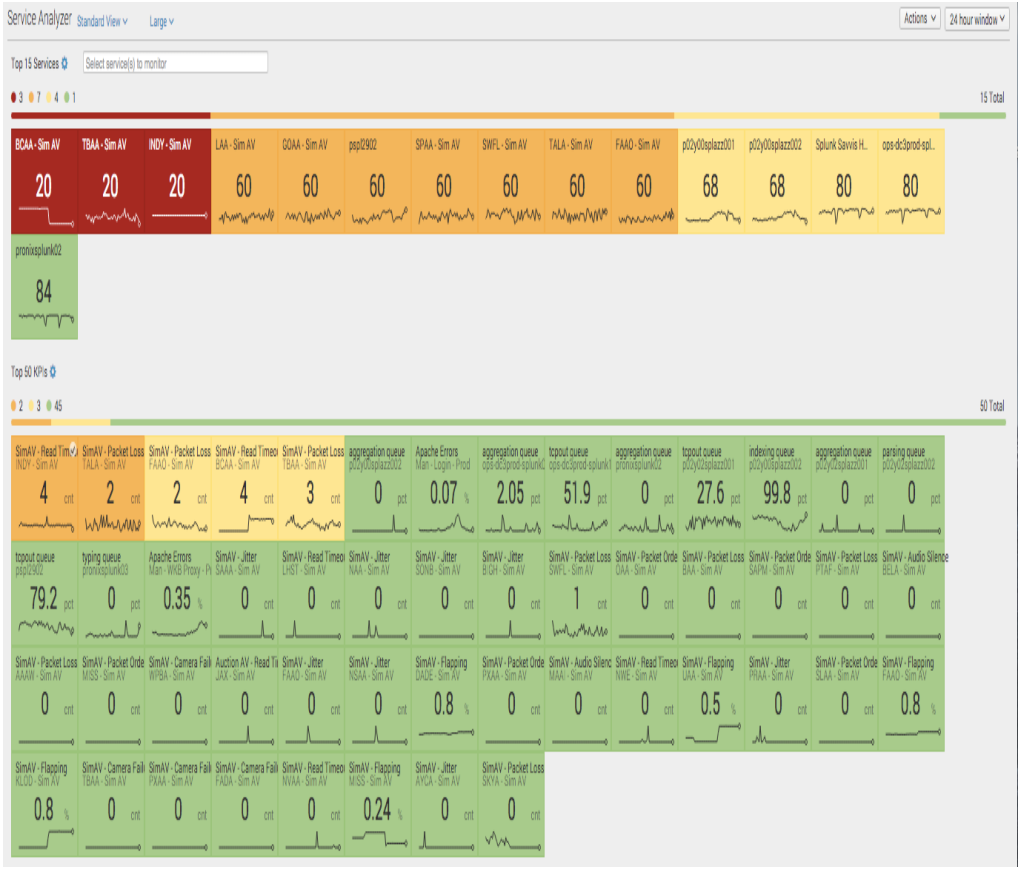
Correlation

Alert routing

Homegrown anomaly detection

Wrapping intelligence around noise

Medium	ServiceHealthScore		60.0
Low	SimAV - Packet Loss		2
Normal	SimAV - Audio Silence		0
Normal	SimAV - Jitter		0
Normal	SimAV - Flapping		0.815789
Normal	SimAV - Packet Ordering		0
Normal	SimAV - Read Timeout		0
Normal	SimAV - Camera Failure		0



Expansion of self-service @ Cox Automotive

Build recipe of success by way of the key ingredients

Devs or application teams can build it however they want

Center of Excellence

Build partnerships

Develop standards

Standardize infrastructure

Empower, educate, and delegate

Evangelize

Build for scale

Grow the business

Q&A

AWS re:Invent

aws

AWS re:Invent

Thank you!