



# Splunk This! - Bringing Natural Language Processing To Splunk

Dipock Das | Incubation Projects

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**Making machine data  
accessible, usable and  
valuable to everyone.**

# Machine Data



Internal



Enterprise



External

# Example: Retail Store

Internal

Point of sale, SKU, Inventory, Labour, Sales, Returns, Loss, Utilities, Customers, Payments, Sensors

In Store

Enterprise

Warehouse, Deliveries, Shipping, Marketing, Surveys, Facilities, Regional Totals, Manufacturing, Supply Chain, Security, Recalls, DMA, Competition

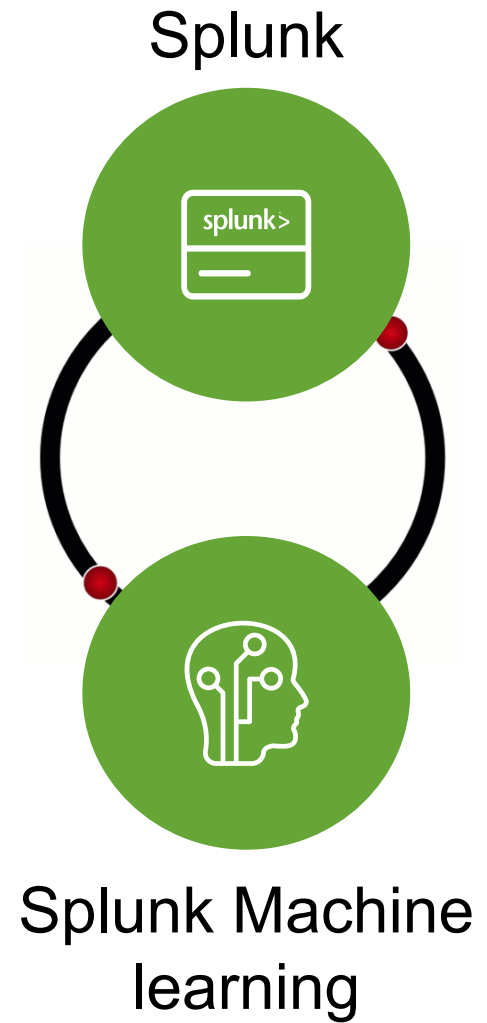
Above Store

External

Weather, Social Media, Traffic, Demographics, Legislation, Aircraft arrivals and departures, Exchange rates, Sporting Events, Public Events, Holidays

Near Store

# Delivers Actionable Operational Insights



# “Everyone..”

## New Industries And Personas



Energy



Commerce



Transportation




Retail



Manufacturing

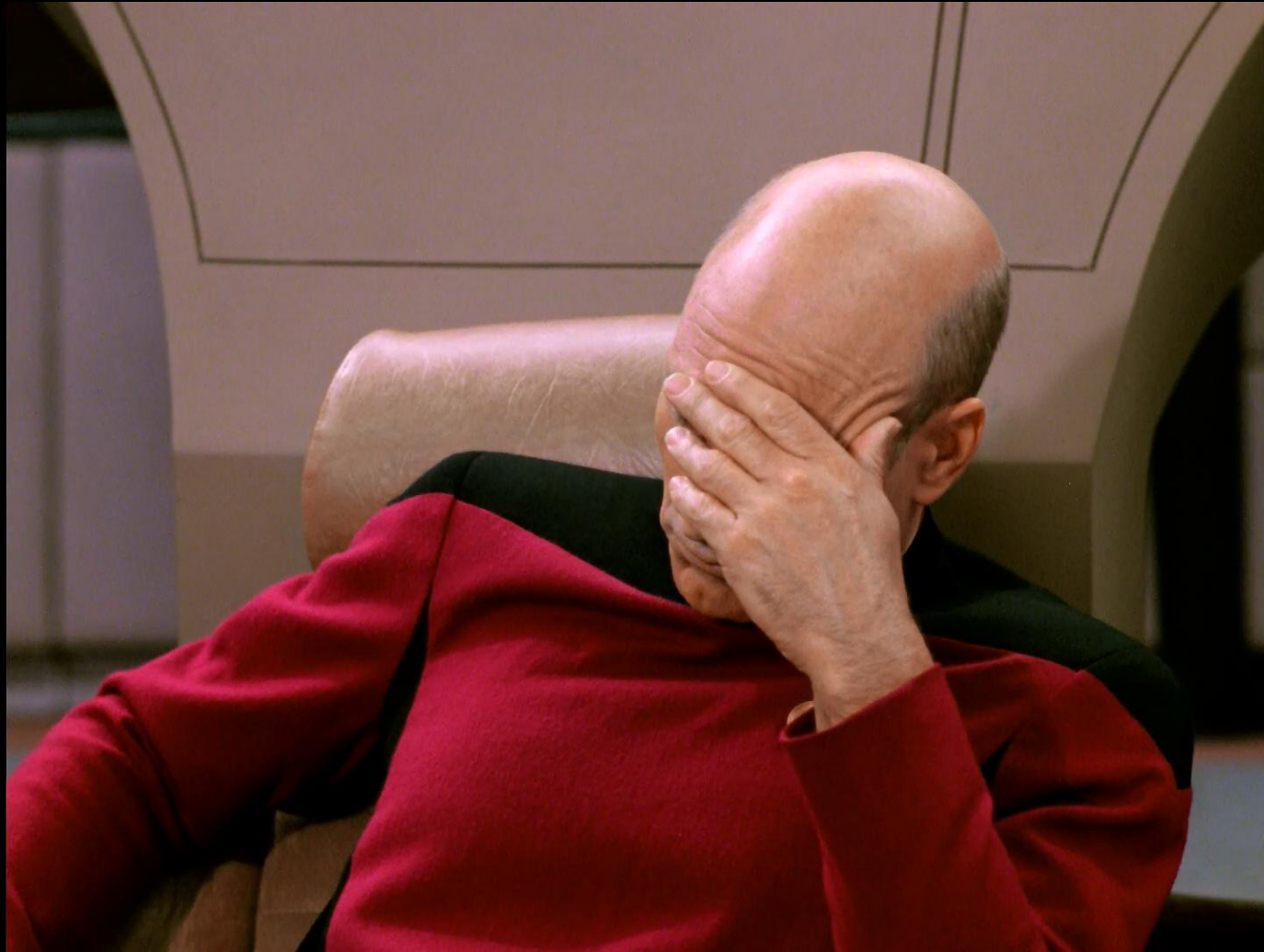


Food Service

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# Data ...



# is all over the place



You need training and Ninja skills ... splunk> [.conf2017](#)

What if you  
could interact  
with your data  
without the skills



# Splunk Data Fabric + Natural Language Processing

Web

Mobile

Voice

API

splunk > enterprise

splunk > cloud™

splunk > Platform for Operational Intelligence

Syslog/  
TCP

Network  
Wire Data

Mobile

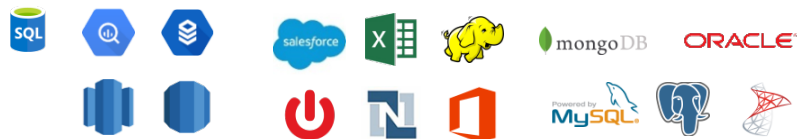
IoT  
Devices

Cloud  
Stores

Enterprise  
Apps

Databases

Mainframe  
Data



138.60.4 - - [07/Jan 18:10:57:153] "GET /category.screen?category\_id=GLIFTS&JSESSIONID=5D15L4FF10ADFF10 HTTP 1.1" 404 728 "http://buttercup-shopping.com/cart.do?action=view&item\_id=EST-66&product\_id=FP3-5W-03" "Mozilla/5.0 (Windows NT 6.0; WOW64; rv:41.0) Gecko/20100826 Firefox/41.0" [07/Jan 18:10:57:123] "GET /product.screen?product\_id=FL-DSH-01&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 1318 "http://buttercup-shopping.com/cart.do?action=changequantity&item\_id=EST-18&product\_id=AV-CB-01&JSESSIONID=5D55L9FF1ADFF3" [07/Jan 18:10:56:156] "GET /oldlink?item\_id=EST-26&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 305 "http://buttercup-shopping.com/cart.do?action=purchase&item\_id=EST-26&JSESSIONID=5D55L9FF1ADFF3" [07/Jan 18:10:57:153] "GET /category.screen?category\_id=GLIFTS&JSESSIONID=5D15L4FF10ADFF10 HTTP 1.1" 404 728 "http://buttercup-shopping.com/cart.do?action=view&item\_id=EST-66&product\_id=FP3-5W-03" [07/Jan 18:10:57:123] "GET /product.screen?product\_id=FL-DSH-01&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 1318 "http://buttercup-shopping.com/cart.do?action=changequantity&item\_id=EST-18&product\_id=AV-CB-01&JSESSIONID=5D55L9FF1ADFF3" [07/Jan 18:10:56:156] "GET /oldlink?item\_id=EST-26&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 305 "http://buttercup-shopping.com/cart.do?action=purchase&item\_id=EST-26&JSESSIONID=5D55L9FF1ADFF3" [07/Jan 18:10:57:153] "GET /category.screen?category\_id=GLIFTS&JSESSIONID=5D15L4FF10ADFF10 HTTP 1.1" 404 728 "http://buttercup-shopping.com/cart.do?action=view&item\_id=EST-66&product\_id=FP3-5W-03" [07/Jan 18:10:57:123] "GET /product.screen?product\_id=FL-DSH-01&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 1318 "http://buttercup-shopping.com/cart.do?action=changequantity&item\_id=EST-18&product\_id=AV-CB-01&JSESSIONID=5D55L9FF1ADFF3" [07/Jan 18:10:56:156] "GET /oldlink?item\_id=EST-26&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 305 "http://buttercup-shopping.com/cart.do?action=purchase&item\_id=EST-26&JSESSIONID=5D55L9FF1ADFF3"

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# Splunk Natural Language Processing



Query



Communicate



Automate

138.60.4 - - [07/Jan 18:10:57:153] "GET /category.screen?category\_id=GIFTS&JSESSIONID=5D15L9FF10ADFF10 HTTP 1.1" 404 728 "http://buttercup-shopping.com/cart.do?action=view&itemId=EST-66&product\_id=63-SW-03"  
128.241.220.82 - - [07/Jan 18:10:57:123] "GET /product.screen?product\_id=FL-DSH-01&JSESSIONID=5D55L7FF6ADFF0 HTTP 1.1" 404 3322 "http://buttercup-shopping.com/cart.do?action=purchase&itemId=EST-26&product\_id=K9-CW-06"  
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:/buttercup-shopping\_id=RP-LI-02" 468 125.17.14.189) "GET /category.screen?category\_id=EST-66&product\_id=63-SW-03" "http://buttercup-shopping.com/cart.do?action=purchase&itemId=EST-26&product\_id=K9-CW-06"  
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# Query



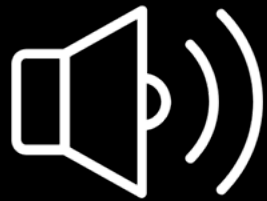
- ▶ Natural language query
- ▶ Text or Voice input
- ▶ SPL or SQL
- ▶ Disambiguation and Context Correction
- ▶ Provide recommendations
- ▶ Learn from your actions
- ▶ Smart data discovery

# What Questions Can I Ask?



Time-bound	
Time & Context	“sales quarter over quarter in 2015” “sales by country in 2014”
Aggregation	“average price Widget X is sold”
Identification	“products with high sugar content”
Comparison	“number of service tickets in Q1 vs Q2”
Ranked	“country with highest sales”
Exclusion	“sales by product excluding Widget X”
Range	“countries where sales are > 10m”
Compute	“sum of units sold in Canada by store”

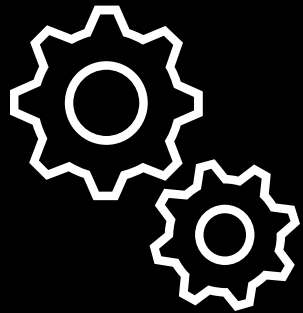
# Communicate



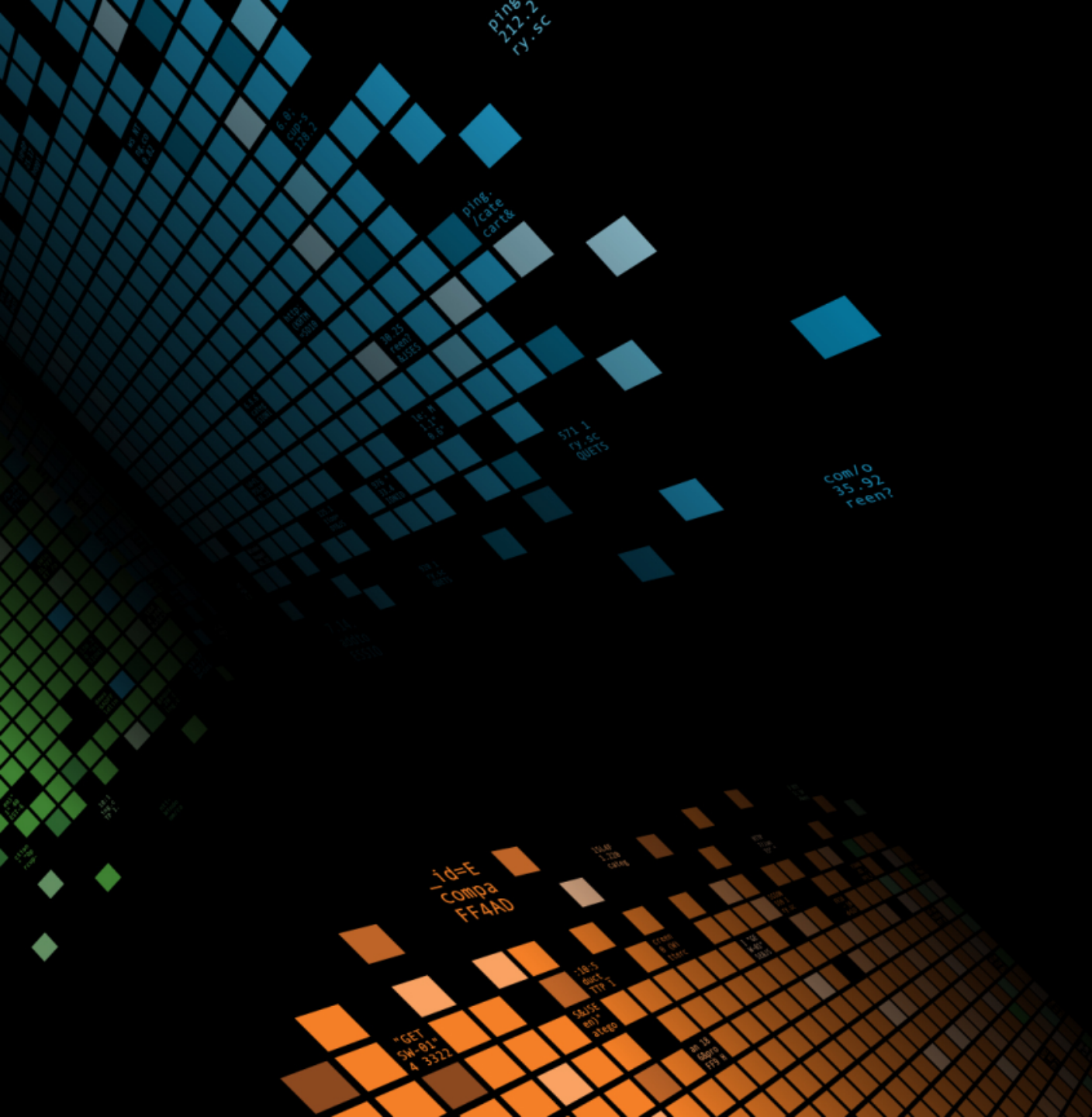
- ▶ Generate relevant visualization
- ▶ Interaction via visualization
- ▶ Generate narrative - natural language text
- ▶ Highlight things of importance



# Automate



- ▶ Set up alerts
- ▶ Set up actions
- ▶ Send email or other workflow tasks  
(example: when voice access returns multiple results, ask to send email)



# Demo!

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# What You Saw



- ▶ Natural language queries
- ▶ Disambiguation
- ▶ Instant results
- ▶ Interactive Discovery
- ▶ View SPL
- ▶ Run in Splunk

# Can It Work With Your Data ?

Yes !

- ▶ Any data model in Splunk
- ▶ Or Relational Database
- ▶ Or an Enterprise application...



# More Demo!

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# What You Saw



- ▶ Adding your own data source
- ▶ Query on non-Splunk data
- ▶ Slack client using REST API

# Benefits

- ▶ Broader appeal
  - Anyone can use
  - Self discovery drives higher engagement
- ▶ Faster time to value at lower cost
  - Simplified user experience
  - Productive in seconds
  - Minimal training
- ▶ Data driven decisions
  - Analyze structured and unstructured data
  - Historical, Transactional, Operational Data
  - Understand the Why? Not just What?





**less like this ...**



come to Papa

**and more like this ...**



See Data Fabric and  
NLP in Splunk Labs



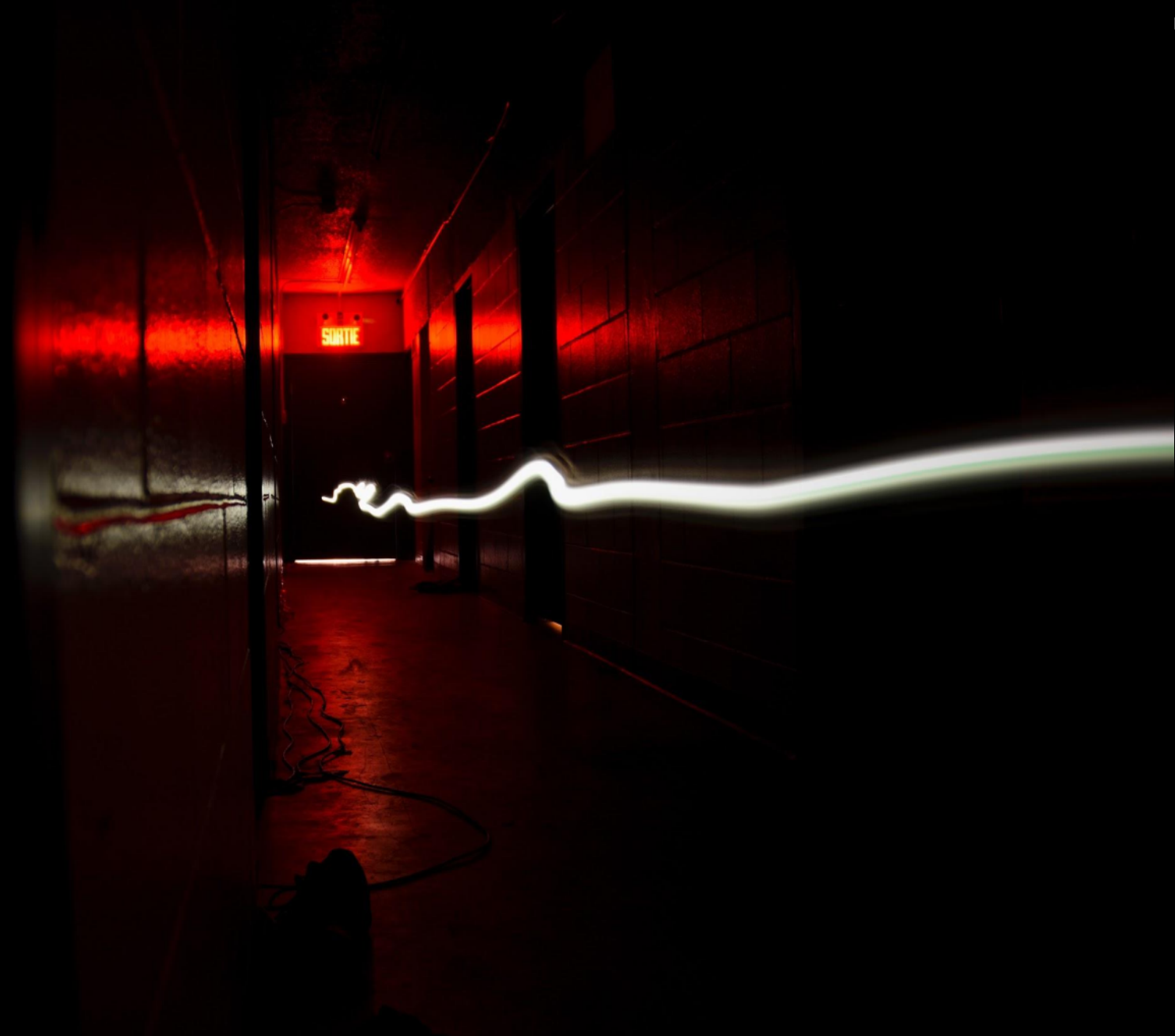
Sign up for the Beta



dipock@splunk.com



Thank you





**Making machine data  
accessible, usable and  
valuable to everyone.**

# Thank You

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