

.conf2015

# Quick Service Data for Quick Service Restaurants

Brandon Burk, Juan Gomez  
Sonic Drive-In

splunk®

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# Agenda

- Speaker Introduction
- Business Overview (Who is SONIC?)
- Technology Strategy
- Splunk Journey/Landscape
- Use Cases
- Lessons Learned, Business Outcomes, Looking Forward
- QA

# Speaker Introduction

## Juan Gomez

- Lead Architect - Brand Systems
- Splunk user since 2009
- Enjoy every aspect of Splunk, from configuration, administration to finding insights from data
- Most recently working with Big Data, Hadoop and Hunk

Linkedin:

<https://www.linkedin.com/pub/juan-gomez/4/a75/99b>

## Brandon Burk

- Sr. Director - Digital Technology
- Networking, Software Development
- IT and Program Management
- Coffee Runner for Juan
- Minecraft Amateur - Studying under my 6 and 8 year old daughters

LinkedIn:

<https://www.linkedin.com/in/brandonburk>

Twitter:

[@brandonburk](https://twitter.com/@brandonburk)

# Who is SONIC?



- Largest chain of drive-in restaurants in the USA -- over 3,500 locations in 44 states (Q1/2014)
- Started in 1953 as Top Hat Drive-In
- Renamed in 1959 to SONIC Drive-In  
“Service at the Speed of Sound™”

# SONIC Fun Facts



In one year, SONIC:

- Sells enough tots that when placed end-to-end would circle the globe...

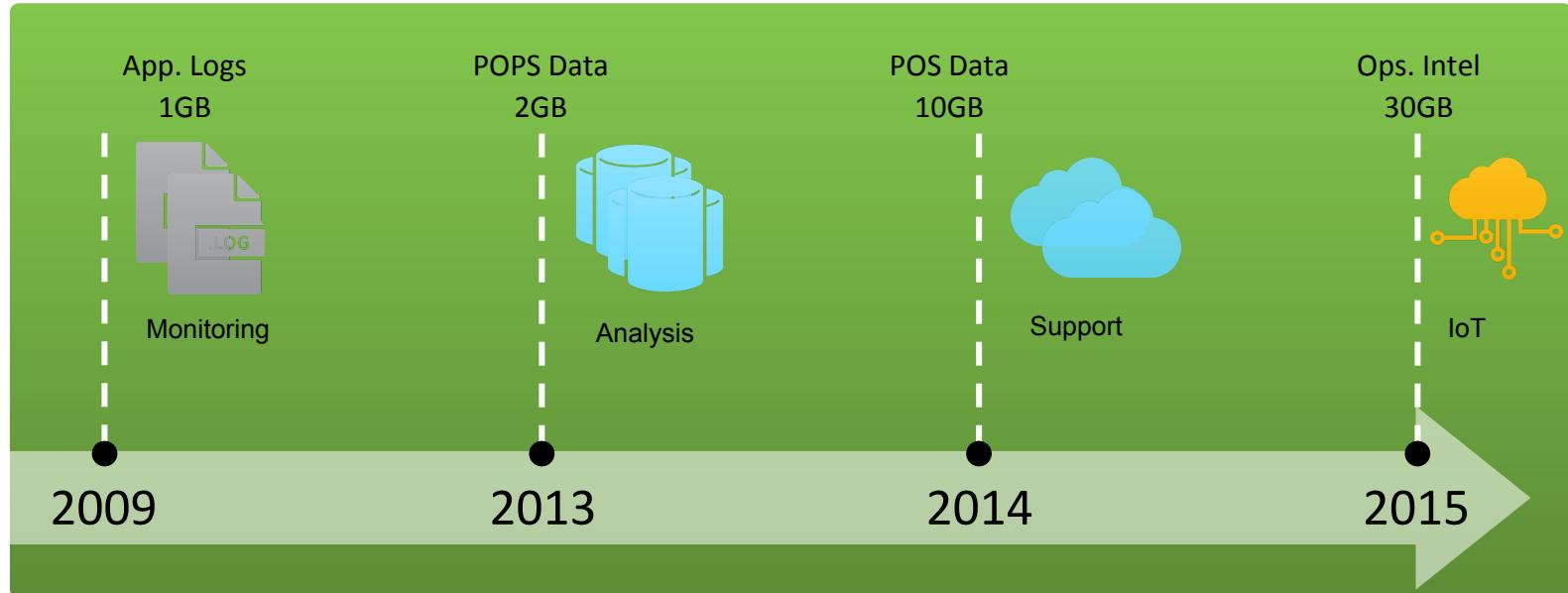
**TWICE**



# SONIC Strategic Technology Initiatives

- Point of Sale Replacement (3,500+ locations)
- Integrated Customer Engagement
  - Digital Interactive Menu Boards “POPS” (100,000 displays)
  - Mobile Commerce
  - Social Media
  - Customer Relationship Management
  - Big Data Analytics

# SONIC Splunk Journey



# SONIC Splunk Landscape

- 1 Search Head (8 CPUs, 16GB RAM, 100GB Disk)
- 2 Indexers (ea 12 CPUs, 12GB RAM, 350GB)
- 1 License/Deployment Manager
- 11 Forwarders (windows, linux)

# SONIC Fun Facts



In one year, SONIC:

- Sells enough Footlong Quarter Pound Coneys to border the

**48**  
contiguous United States



# SONIC Use Case #1

Point of Sale Replacements - Implement Price Auditing using Splunk

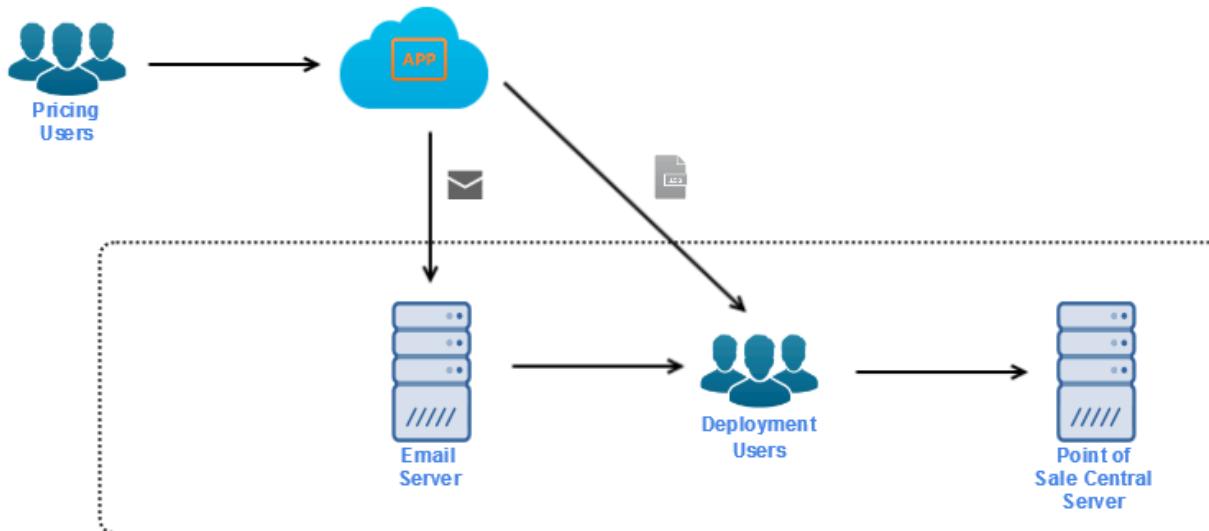
Challenge:

- How to ensure that prices stay consistent as we migrate store(s) from one Point of Sale to another?

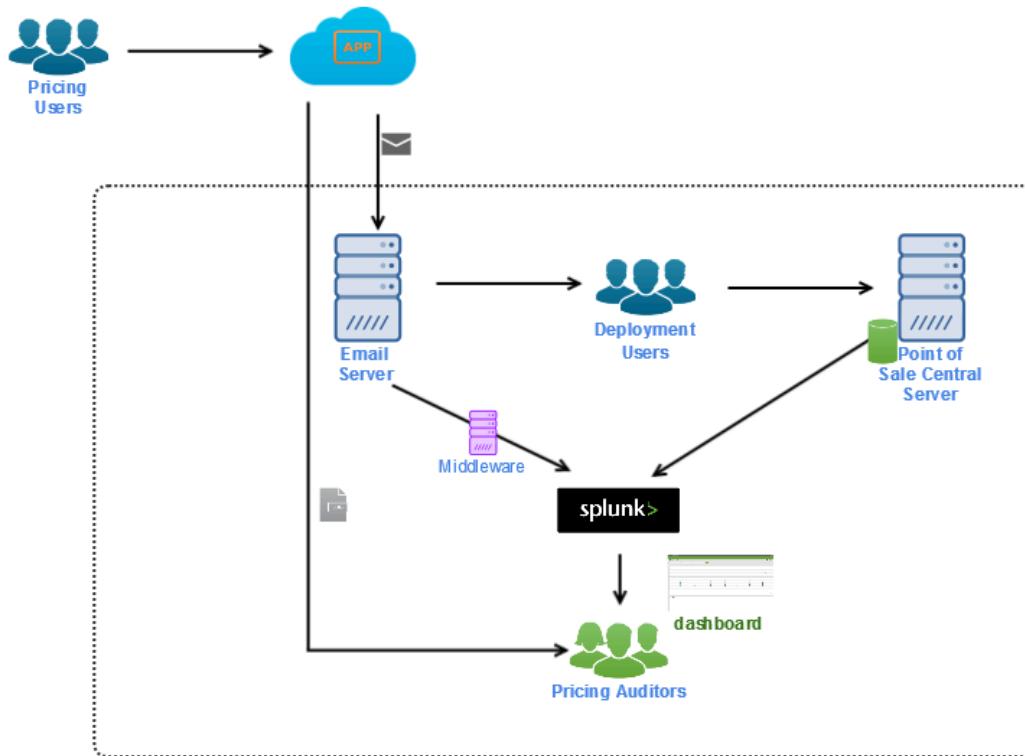
Solution:

- By conducting price audits
- But Then...
- How do we audit price data that is in multiple data sources? i.e. Cloud based vs. on premise
- How do we compare the compare multiple data formats?
- How do we take data updates into account?
- How we quickly respond to the business by adopting the current data and sources?

# SONIC Use Case # 1 (Before)



# SONIC Use Case # 1 (After)



# SONIC Use Case # 1

## Point of Sale Conversions - Implement Price Auditing using Splunk

***Great....***

Now we have a process to compare and alert prices coming from multiple sources

***But what about....***

Obtaining prices updates after prices are corrected in the target system? Can we use Splunk for that?

***Definitely...***

- Use 'script' from within search window to call out a python script  
`<option name="linkSearch">|script python getem $storeNumber$</option>`
- Then leverage RESTful APIs and bring data into Splunk's index via the python script

# SONIC Use Case # 1

## Point of Sale Conversions - Implement Price Auditing using Splunk

### Outcomes

- Maintained customer service and satisfaction while point of sale conversions occurred
- Minimize store disruption by ensuring that price information is accurate
- Speed up the time for price validation and price correction

## Verify Menu Prices By Store

[Edit](#) [More Info](#)

Store Number

HD01

[Submit](#)

## Verify Menu Prices By Store

Store: HD01

1m ago

**2000-01-01 00:00:00.0**

LAST PRICE CHANGE DATE

1m ago

**2015-06-15 08:46:59.673**

LAST PRICE EXPORT DATE

1

[Refresh](#)

Description	Micros Object Id	Item/Side Price	Modifier (Add)/Side Price	Modifier (Easy)/Side Price
Lg ChocToff Bl	26427	5.49	5.49	5.49
Lg ChocoBerry Bl	26415	5.49	5.49	5.49
Lg CinnaBana Bl	26418	5.49	5.49	5.49
Lg Cook Dgh BL	26409	5.49	5.49	5.49
Lg Cook Pie Bl	26423	5.49	5.49	5.49
Lg Fried IC Bl	26424	5.49	5.49	5.49
Lg PB CDgh Bl	26421	5.49	5.49	5.49
Lg PB Snckrs Bl	26407	5.49	5.49	5.49
Lg PB Snick Bl	26428	5.49	5.49	5.49
Lg Pine Up Bl	26412	5.49	5.49	5.49

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## Test Price Audit

[Edit](#) [More Info](#) [Download](#) [Print](#)
[Delete](#)

storeNumber	plu	itemNumber1
<input type="text"/>	<input type="text"/>	<input type="text"/>
<a href="#">All</a>	<a href="#">All</a>	<a href="#">Submit</a>

Store: 1234

&lt;1m ago

## Price Differences between X and Y

	store	sku	size	priceDiff	newPrice	oldPrice	price1	exportDate	absDiff	range	
1	1234		Medium	-1.10	6.49	6.49	7.59	2015-06-15 08:46:59.673	1.10		!
2	1234		Medium	-1.10	6.49	6.49	7.59	2015-06-15 08:46:59.673	1.10		!
3	1234		Large (32 oz)	-1.00	3.99	3.99	4.99	2015-06-15 08:46:59.673	1.00		!
4	1234		Large (32 oz)	-0.50	4.49	4.49	4.99	2015-06-15 08:46:59.673	0.50		!
5	1234		Large (32 oz)	-0.50	4.99	4.99	5.49	2015-06-15 08:46:59.673	0.50		!
6	1234		Small (14 oz)	-0.50	3.29	3.29	3.79	2015-06-15 08:46:59.673	0.50		!
7	1234		Mini (10 oz)	-0.40	2.89	2.89	3.29	2015-06-15 08:46:59.673	0.40		!
8	1234		Unsized	-0.30	7.39	7.39	7.69	2015-06-15 08:46:59.673	0.30		!
9	1234		Crispy	-0.30	6.19	6.19	6.49	2015-06-15 08:46:59.673	0.30		!
10	1234		Unsized	-0.20	6.59	6.59	6.79	2015-06-15 08:46:59.673	0.20		✓
11	1234		Unsized	-0.20	6.59	6.59	6.79	2015-06-15 08:46:59.673	0.20		✓
12	1234		Unsized	-0.20	5.49	5.49	5.69	2015-06-15 08:46:59.673	0.20		✓
13	1234		Unsized	-0.20	5.49	5.49	5.69	2015-06-15 08:46:59.673	0.20		✓
14	1234		Medium (20 oz)	-0.20	3.99	3.99	4.19	2015-06-15 08:46:59.673	0.20		✓
15	1234		Unsized	-0.20	5.19	5.19	5.39	2015-06-15 08:46:59.673	0.20		✓

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# SONIC Fun Facts



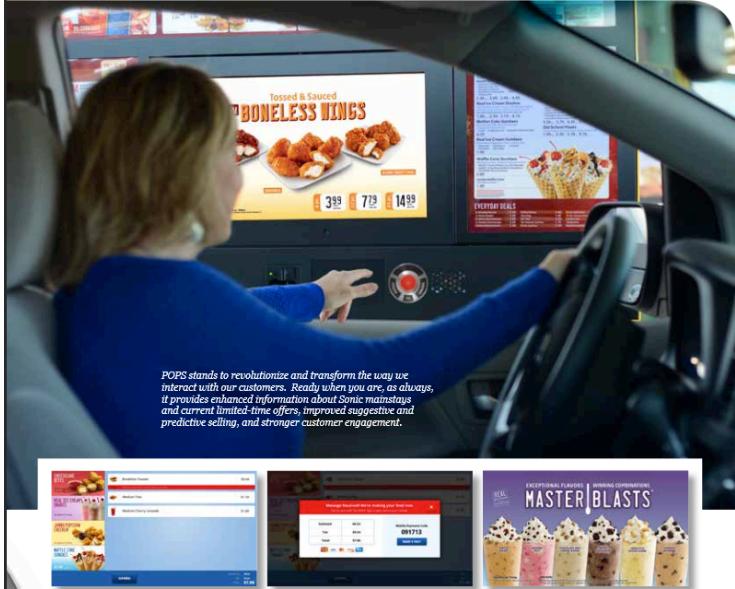
In one year, SONIC:

- Sells enough Cherry Limeades to fill more than

50  
Olympic sized swimming pools



# SONIC I.C.E.



# Use Case #2 Background

Run a Great Mobile Pay Experience at **100,000+** Points of Purchase



OR



Legacy Credit Card Terminal

## *Challenge*

Detect and correct slow or unreliable mobile payment experiences

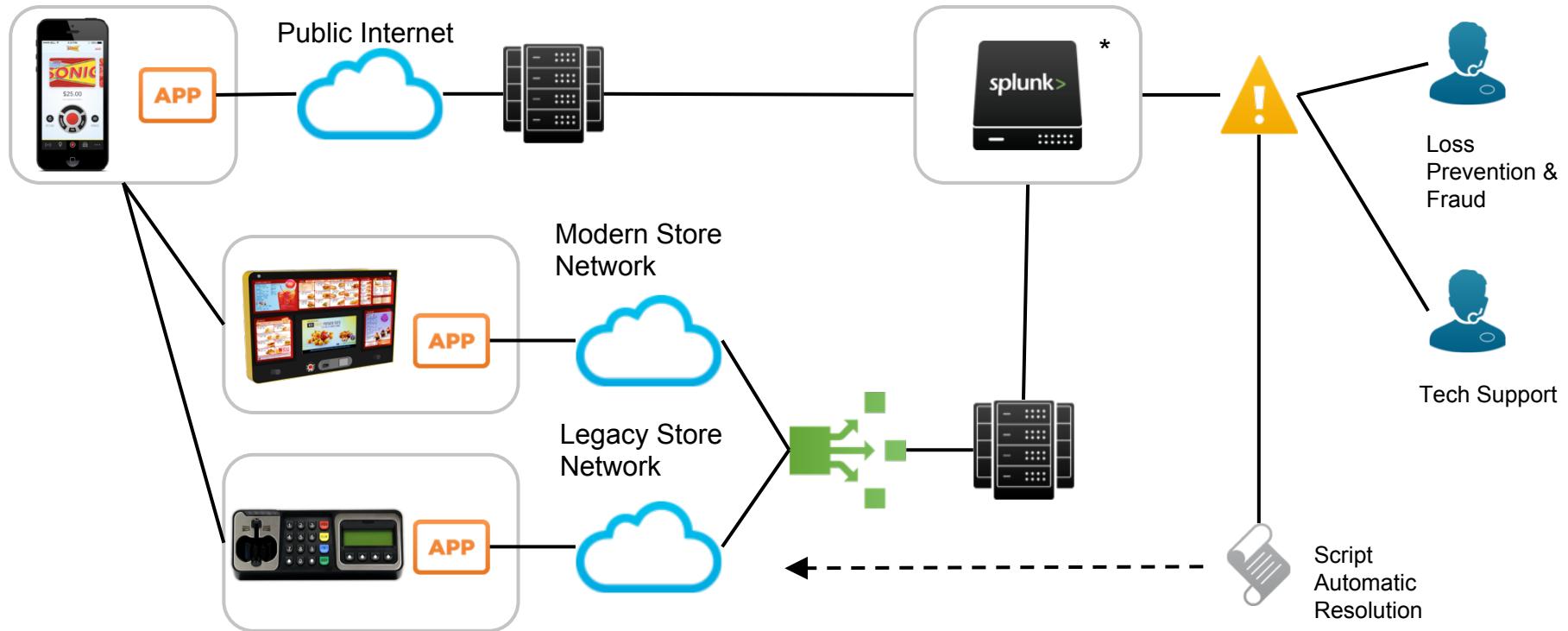
## *Solution*

Set performance target, compare 100,000+ locations to target, apply corrective actions

## *But Then*

- How will we evaluate legacy Point of Sale environments along with newly installed environments?
- How will we easily apply corrective action?

# Use Case #2 Blueprint



# Use Case #2 Outcome

Benchmarked Performance at 100,000+ Points of Purchase



OR



Legacy Credit Card Terminal

## *As a Result*

- Actions planned for restaurants with chronic technical issues
- Prevention of potential issues
- Confidence in marketing decisions
- Customer experience data driving new product development
- Gift Card Fraud Detection and Prevention

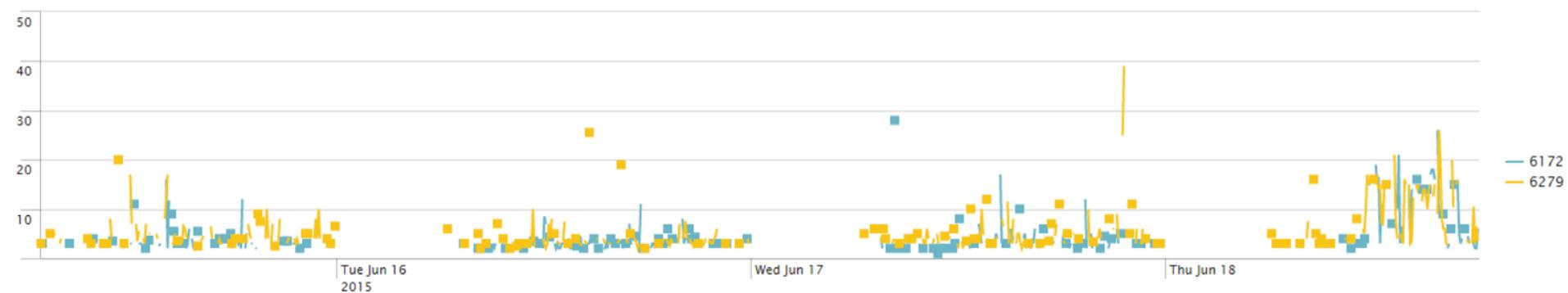


Chart - Average Total to Reset Duration Excluding >3 stdev

Save Save As View Close

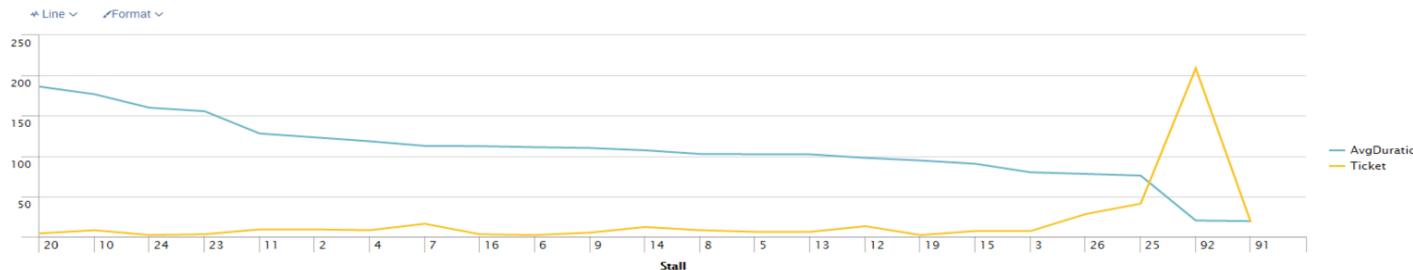
during Sun, Jul 5, 20...

```
index="db_hub_index" sourcetype=pops_hub_events_source_type StallType="PAYS" Store=6064
| transaction Store Stall startswith="NormalizedEvent=PaysTotalled" endswith="NormalizedEvent=PaysReset"
| rex field=_raw ".+Amount=(?<amount:\d+),.*"
| rex field=_raw ".+Code=(?<mobilecode:\d+),.*"
| eval starttime=_time, "%Y-%d-%m %H:%M:%S" | eval endtime=strftime(_time+duration, "%Y-%d-%m %H:%M:%S")
| eval Amount = tostring(amount)
| table Stall TicketID Amount mobilecode starttime endtime duration
| eventstats avg(duration) as avg stdev(duration) as stdev by Stall | where abs(duration-avg) < stdev*3
| stats avg(duration) as AvgDuration, count as Ticket by Stall | sort -AvgDuration
```

434 events (7/5/15 12:00:00.000 AM to 7/6/15 12:00:00.000 AM)

Events (434) Patterns Statistics (23) Visualization

Job ▾ II ■ ↻ ↴ Verbose Mode ▾



# CRM - Fraud Detection - Customer Info

The purpose of this dashboard is to help identify possible instances of fraud.

[Edit](#) [More Info](#) [Download](#) [Print](#)

Select a time:

Last 7 days

## Multiple Billing Zones Registered To a Single Account

4m ago

	id	First Name	Last Name	# Zip Codes	Email
11662574	big	Will		12	
11662925	miller	light		13	
11663848	teeny	tiny		3	
11665628					
11672527	green	day		15	
11672707					
11674559	kill	dave		3	

## All Credit Card Information

3m ago

	id	Cardholder Name	Billing Zip	Exp. Month	Exp. Year
11662925			07017	8	2016
11662925			07060	7	2017
11662925			12601	6	2023
11662925			23234	10	2017
11662925			28690	8	2016
11662925			30052	2	2016
11662925			38016	11	2017
11662925			43953	8	2017
11662925			44113	7	2017
11662925			45231	7	2022

## All Gift Card Information

3m ago

	id	Card #	Last Balance	LB Check Date	Reg
11662925			15.0000	2015-08-10 23:55:11	201

## Sonic Account with Multiple Names on Credit Card Accounts

4m ago

	id	First Name	Last Name	# Customer Names	Email
11662574	big	Will		12	bw15@Gr
11662925	miller	light		13	makk@ya
11663848	teeny	tiny		3	hoodstar2
11665628					

## All Credit Card Information

3m ago

	id	Cardholder Name	Billing Zip	Exp. Month	Exp. Year
11662925			07017	8	2016
11662925			07060	7	2017
11662925			12601	6	2023
11662925			23234	10	2017

## All Gift Card Information

3m ago

	id	Card #	Last Balance	LB Check Date	Reg
11662925			15.0000	2015-08-10 23:55:11	201

# Fun Facts



In one year, SONIC:

- Gives away enough mints to reach the top of the Empire State Building and back to the ground...

5,000

times



# Lessons Learned

- *Lessons Learned*
  - Iterate on Capacity Planning and Allocation
  - Educate before Advocating in the Enterprise
  - Leverage End-User Training Resources
  - Use Professional Services or Splunk Recommended 3<sup>rd</sup> Party Consulting
  - Plan on Development for Some Data Sources
  - Identify and Build Splunk Admins and Subject Matter Experts

# Business Outcomes

## Our Choice for Operational Intelligence

- *Outcomes at Sonic*
  - Products Sold at Accurate Prices = Predictable Sales Performance
  - Prevention of Poor Digital Customer Experiences
  - Gift Card Fraud Detection and Loss Prevention
  - Improvement of SaaS and other Vendor Provided Technology

# Looking Forward

## Our Choice for Operational Intelligence

- *The Future*
  - Optimizing data indexed and balancing with Hadoop/Hunk
  - Splunk API Integration to other Control/APM Systems
  - Establishing Basic Governance with Speed to Discover
  - Leverage Big Data assets via Hunk



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## Q&A



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THANK YOU

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