



**Analytics in Real Time:
The [Grey's] Anatomy of Event
Streaming**

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Context - Who is This Guy Up There?

- Software Dev Manager (Seattle) - ABC Digital Media, Data Platform
 - ABC part of Media Networks Business Segment
- Distributed team - Burbank/Seattle
- Technology Architecture

ABC Digital Media Engineering

Streaming of ABC content on variety of platforms

- iOS, Android, Fire TV, Apple TV, Android TV, Roku, Web
- Current and former ABC shows, classics, originals, live stream
- Some content gated
- Shameless Plugs



Topics

- Challenges
- Possible Solutions
- Architecture chosen
- Outputs/Examples

Challenges

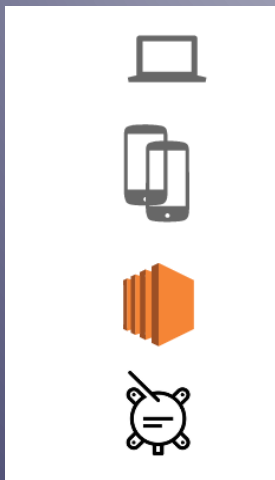
- Business wants real time analytics around user behavior during interaction with ABC streaming apps
- Operations needs real time analytics regarding performance of app, infra, etc
- Business needs more timely and more detailed reporting over a variety of dimensions
- Avoid proliferation of data and having to transform/shuffle/etc data to many systems
- Omniture data just not sufficient
- “Every Event is Sacred”

Demo

Because - Why Not!?



Solutions Considerations - Producers



- Latency
- Bandwidth
- Local Buffering/Retry
- Size of Messages

Solutions Considerations - Streaming System



Kinesis



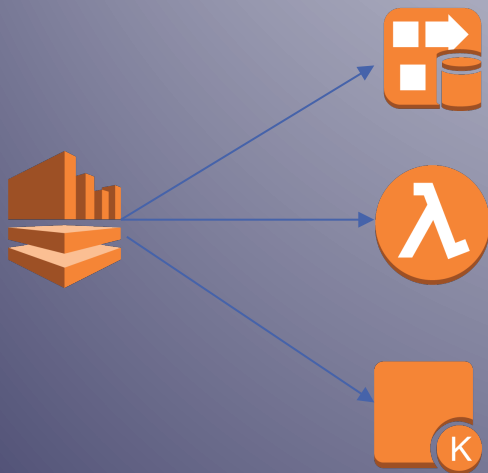
Dataflow



PubSub

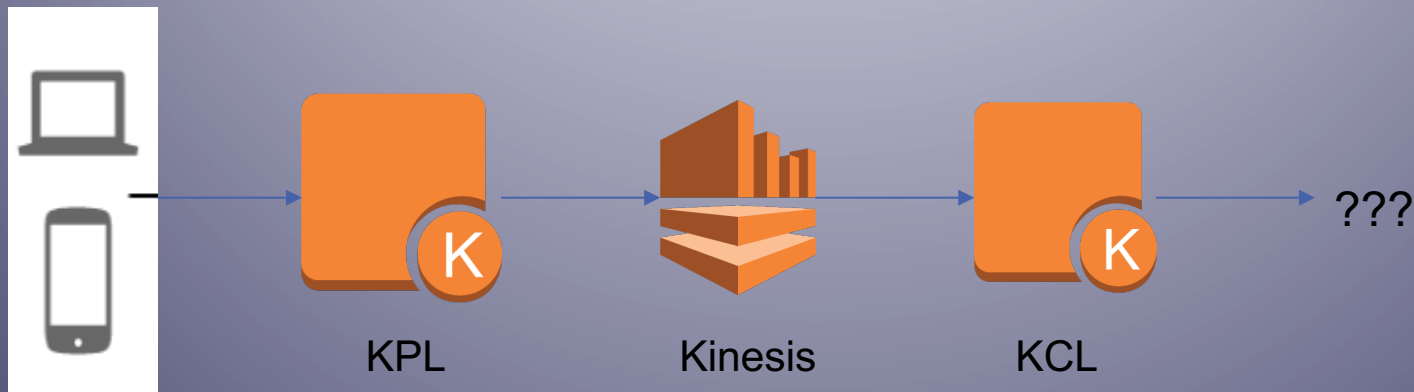
- Cloud Agnostic
- Serverless
- On-Prem

Solutions Considerations - Consumers



What's Your Use Case?

Architecture So Far...



Solutions Considerations - Data Store

Use Case Really Drives Decision Making!!!

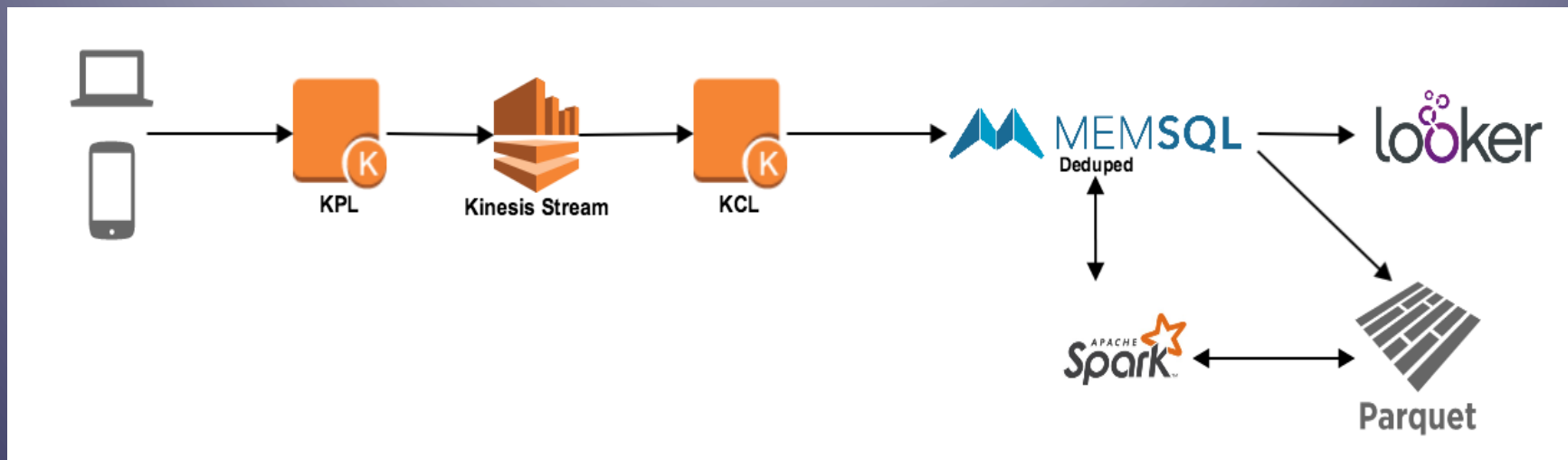
- **Batch Analytics/BI**
- **Real Time Analytics and Metrics**
- **Compatibility with Common Tools**
- **Scale**

DATG Choice



- “Real Time Data Warehouse”
- Ability to insert data at extremely high rate
- Column Store - Excellent compression of data
- In Memory Store - Primary keys, geospatial indexes
- Tool compatibility

Putting It All Together



Examples

looker

Browse

Explore

Develop

Search

Help

Admin



Outage Indicator

2m ago

Run

Edit

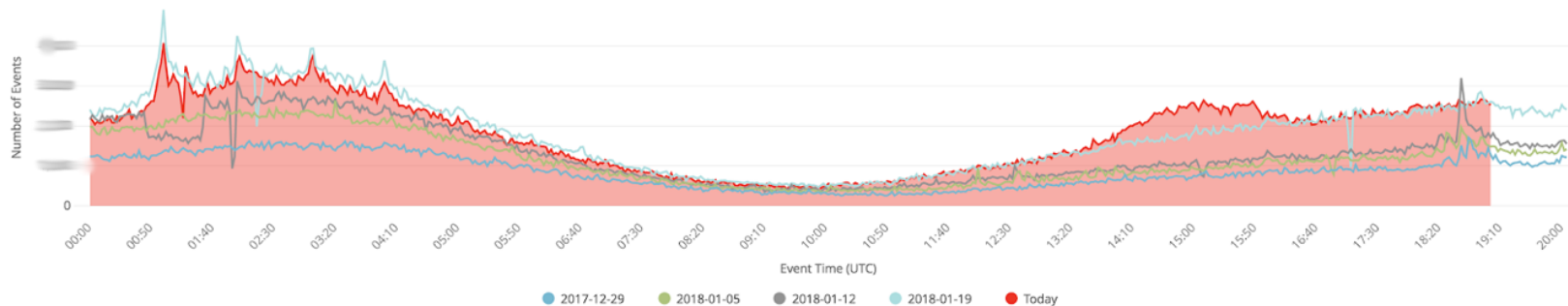


FILTERS

Select Date Filter (leave blank to include Today's data) is any value Select Brand is "ABC"

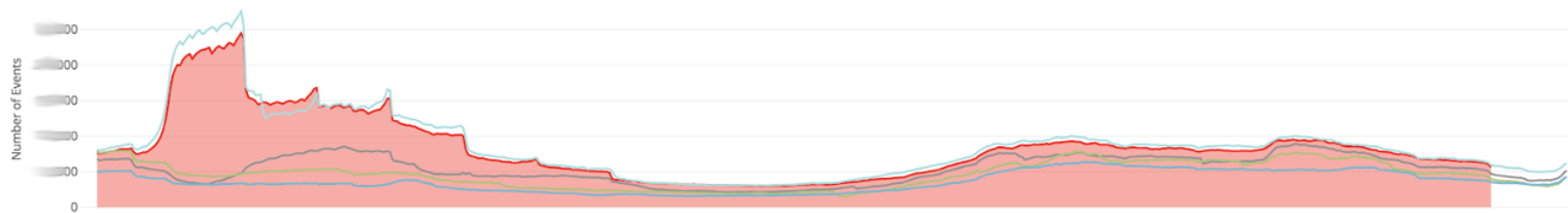
Outage Indicator (initiate)

Expect to *spike* in case of outage.



Outage Indicator (playback_progress_live)

Expect to *drop* in case of outage.



looker

Browse

Explore ▾

Develop ▾

Search

Help ▾

Admin



ABC ▾

Bitrate Dashboard ♥

5m ago

Run

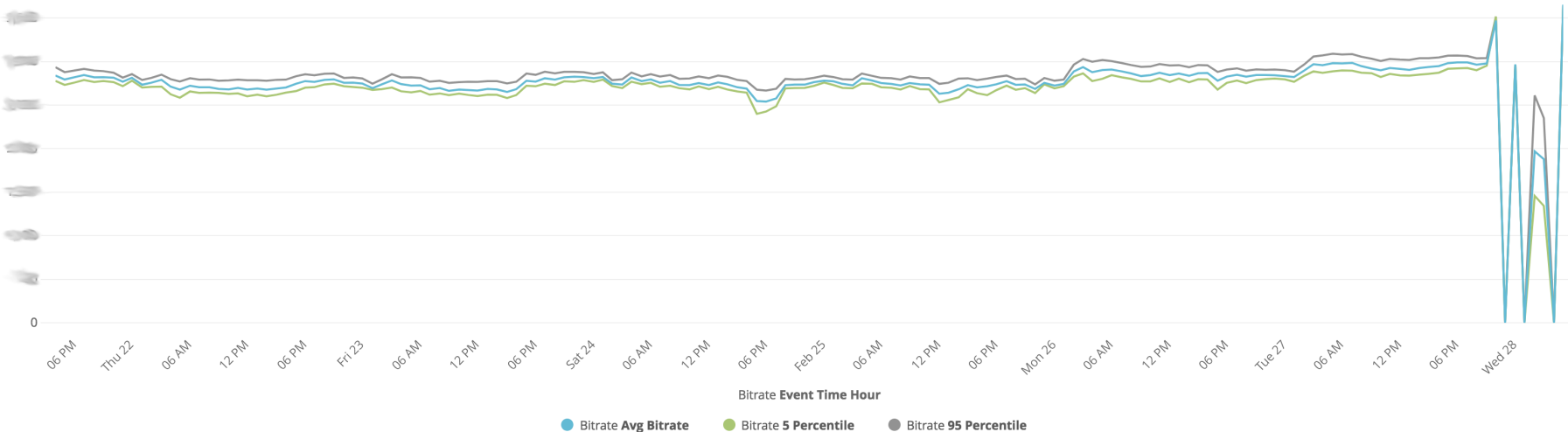
Edit



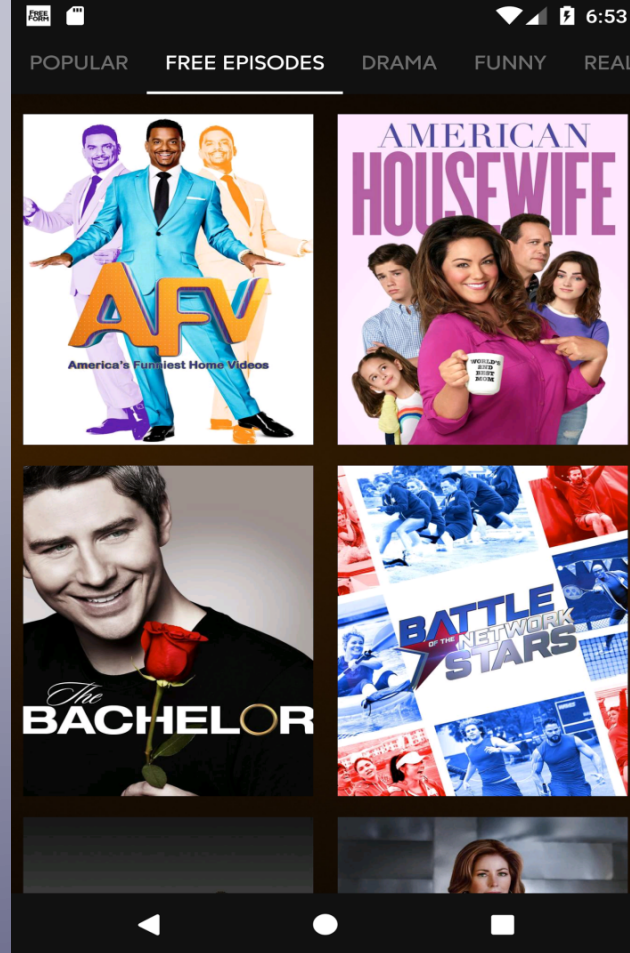
FILTERS

Device Family "ios-phone"

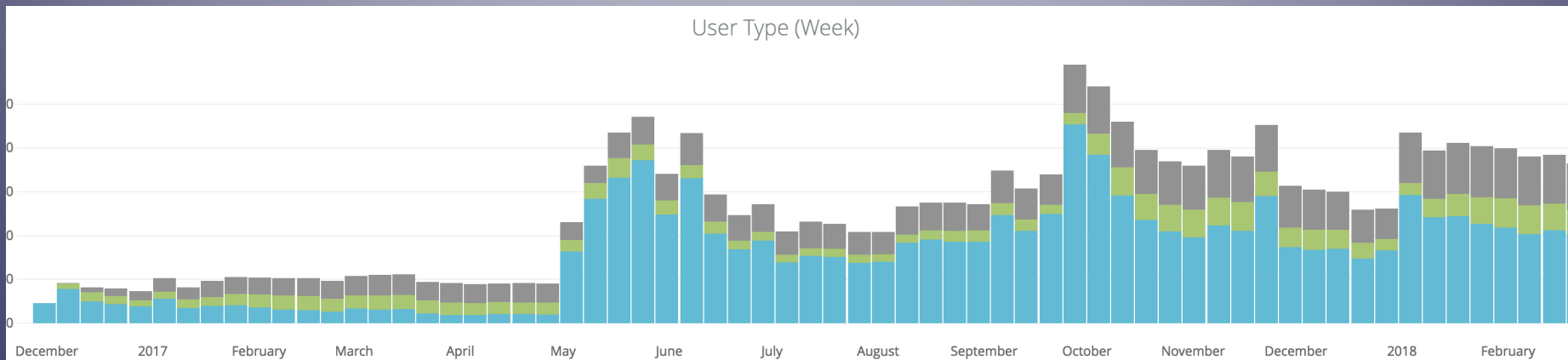
Bitrates per Hour (last 7 days)



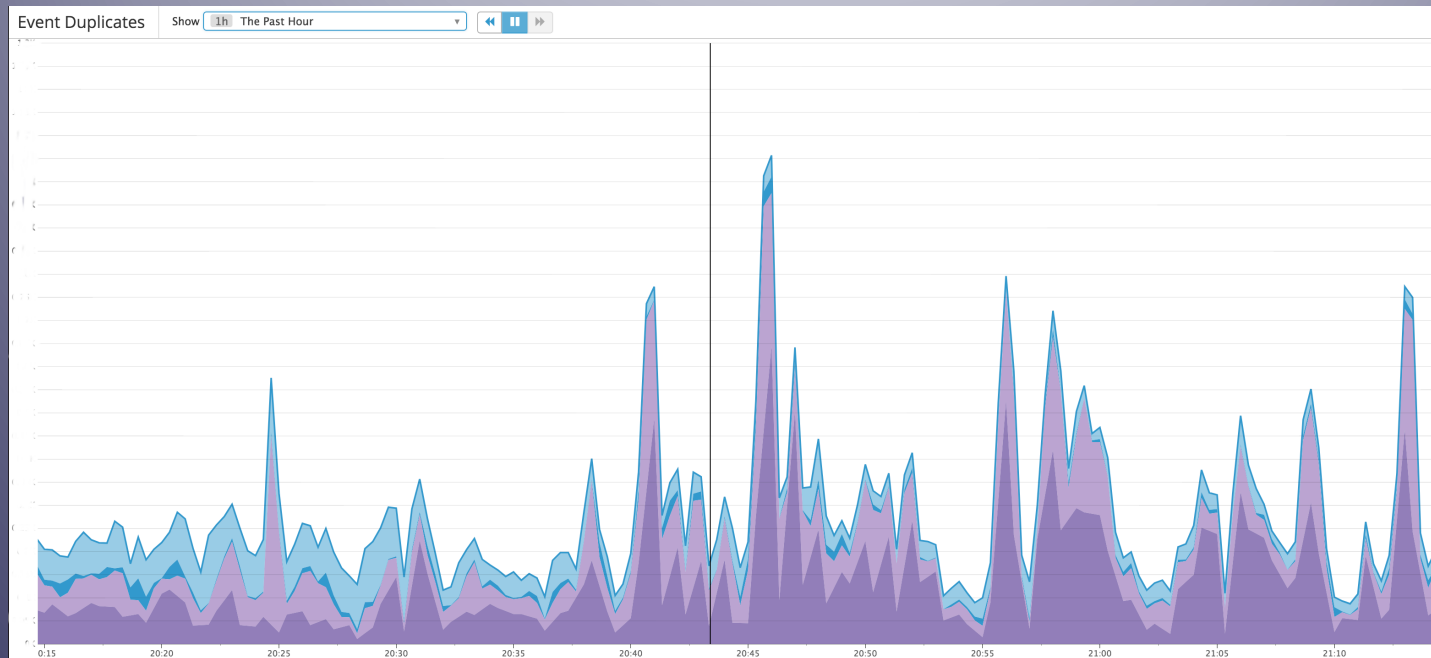
Enhanced User Experience



User Segmentations



Dedupe Process Monitoring



Recap

- **Understand your use case!!!**
- Keep architecture as simple as possible
- Leverage your strengths, but don't hesitate to ask for help
- Be ready and open to pivots

Questions?