



# Dispatching Petabytes with PostgreSQL

Andrew Pantyukhin

[andrew@dreamindustries.ru](mailto:andrew@dreamindustries.ru)



**15M media objects**  
**3PB raw data**  
**storage, streaming, processing**



**HDFS? Isilon?**  
**custom solution**



**1000s hard drives**

**file system per drive**

**filename = sha256(file)**



**dispatching**  
**ingestion, rebalancing**  
**encoding, analysis**



# PostgreSQL!

(of course)



# entities

**sha (asset), hdd, chassis  
metadata, actions, status**



**15M master objects**

**25M derivatives**

**70M copies**





**200GB core**  
**500GB XML processing**  
**2TB+ overall**



# custom types

enum

native/wrappers



**hashtypes**  
**shatypes**  
**+ crc32, bugfixes**



# actions

fully async, fail-over  
dumb polling



# smart locking

update set t=now()where t old  
update returning



# **XML**

**third-party metadata  
stored, processed in PG**



# research

## large-scale action logging



**production**  
**aggregated views of dispatcher**





**distributed logic**  
**dispatcher, XML processing,**  
**production, research**  
**full-mesh data exchange**



**table data transfer**  
**slow or inflexible**  
**simple custom scripts, diff**



**dream industries**  
**disruptive innovation lab**  
**funding, collaborating**  
**inviting, hiring**