Presto - swiss army SQL knife on Hadoop
Agenda

- About Allegro
- Technical history of Allegro platform
- Architecture of our data computation stack
- Leaking component in desired architecture
- What is Presto?
- Story of some Presto implementation
- Swiss knife - 3 dimensions
- Lessons learned
- Q&A
About us
About us

https://github.com/allegro
Technical history of Allegro platform

Monolyth Oriented Architecture → Service Oriented Architecture
Technical history of Allegro platform

Relational DB + Exadata → Distributed DB Engines + Message Bus + Hadoop
Technical history of Allegro platform

BI Team + DWH Team

Everybody works with data
Architecture of our data computation stack
Architecture of our data computation stack

Hive on Tez/MR, SparkSQL

PUB/SUB

ReAir

Presto

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Leaking component in desired architecture

What if not Exadata ?
Leaking component in desired architecture

Wish list:

- Low entry threshold tool:
  - AnsiSQL
  - JDBC interface (DataGrip etc.)
  - Legible documentation
  - Predefined UDF
  - Users didn’t need special knowledge related with queries construction
- Project with solid community
- Works with secured cluster
What is Presto?

“Presto is an open source distributed SQL query engine for running interactive analytic queries against data sources of all sizes ranging from gigabytes to petabytes.”

“Presto was designed and written from the ground up for interactive analytics and approaches the speed of commercial data warehouses while scaling to the size of organizations like Facebook.”

Source: https://prestodb.io/overview.html
Who’s using Presto?

“Facebook uses Presto for interactive queries against several internal data stores, including their 300PB data warehouse. Over 1,000 Facebook employees use Presto daily to run more than 30,000 queries that in total scan over a petabyte each per day.

Leading internet companies including Netflix, Airbnb and Dropbox are using Presto.”
Presto Connectors

- Accumulo
- Black Hole
- Cassandra
- Hive
- **Hive Security**
- Memory
- JMX
- Kafka

- Local File
- MongoDB
- MySQL
- PostgreSQL
- Redis
- SQL Server
- System
- TPCH
Presto Data Formats

- Text
- Avro
- SequenceFile
- RCFile
- ORC
- Parquet
What is Presto?
Our trip to production

- puppet
- Secured Coordinator
  LDAP + HTTPS
- Grafana
- Alation
- Teradata
- Tableau
- jmxtrans
- SLA
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Swiss army SQL knife - 3 dimensions

- Business dimension
- Ask fast - fail fast
- Flexibility of solution
Lessons learned

- Engaging users right from the start of the project
- Be in touch with developers and community
- Pay attention to data formats (prices as string)
- Monitor all metrics
- Test every format used - Avro, Parquet problems
- Read source code to learn deeper how things works
- Test tuning options
- Teradata vs Facebook version
- Lack of CBO (will be soon) - don’t trust benchmarks
Q&A

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