State of
Prezi Data Platform

Data Platform

Define, Ingest, Store, Process, Orchestrate
User Needs

Architectures

Data Warehouse
Table storage + Compute

Data Lake
[illegible]

Data Lakehouse
[illegible]

Introduction

Exploring the Prezi Data Platform, its architecture as a Data Lakehouse, and the key components.

- What is a data platform and why we need it
- Different Architectures and DataLakehouse
- Components

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Definition

Events Definition

- Logmanagement (Django)
- New schema in Schema Registry
- New topic in Kafka
- Logging Libraries (all languages)

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Ingestion

Efficient, real-time data ingestion ensures seamless data flow into the Data Lakehouse

- [illegible] + Filebeat
- Logstash
- Kafka -
- Kafka Connect

02

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The robust storage of the Data Lakehouse accommodates structured, unstructured, and semi-structured data, enabling scalable and efficient data management.

S3 + Parquet + Hive

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In the Data Lakehouse architecture, processing is offloaded to a separate component. In our infra we use Spark and Trino

[illegible]

04

Orchestration

The numerous jobs we have, are coordinated/orchestrated by a component called [illegible]. It's responsibility is to run the correct job at the correct time

Conclusion

To sum it up:

- Prezi Data Platform is founded on stable/state-of-the-art techs and architecture decision
- It allows the introduction of cutting edge technology, as it is pluggable and modular
- It's constantly evolving

Trino Summit 2024

Thanks!

@vincenzocassaro

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Vincenzo Cassaro

Data Engineer @Prezi

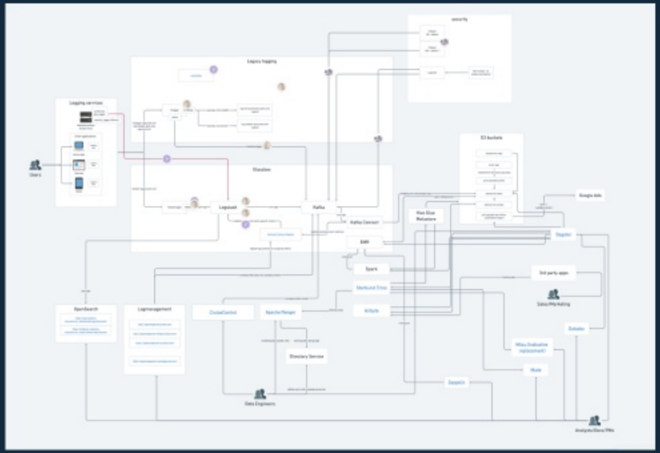
Data Infrastructure Team

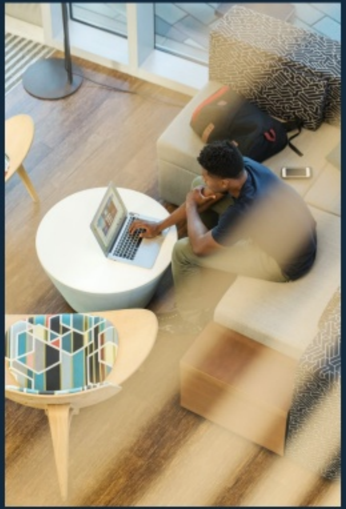
From Italy🇮🇹

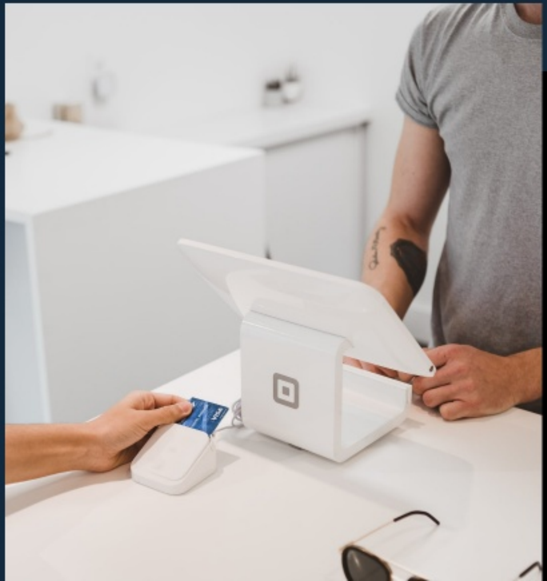
Data Platform

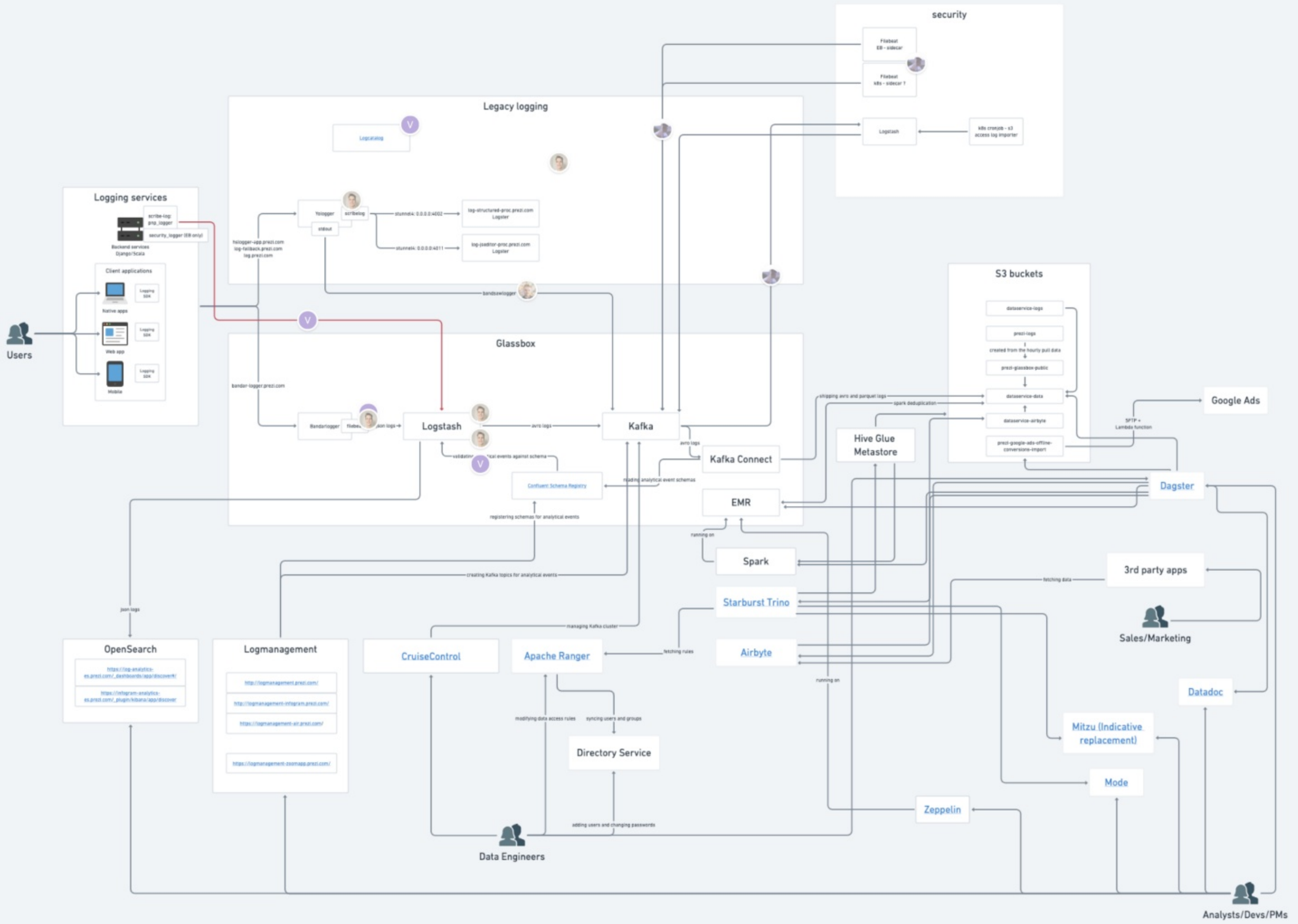
Define, Ingest, Store, Process, Orchestrate

User Events








security
Filebeat
EB - sidecar
Filebeat
k8s - sidecar ?
Logstash
k8s cronjob - s3
access log importer
Legacy logging
Logcatalog
Logging services
scribe-log:
pnp_logger
security_logger (EB only)
Backend services
Django/Scala
Client applications
Native apps
Logging SDK
Web app
Logging SDK
Mobile
Logging SDK
Users
Yologger
scribelog
stdout
stunnel4: 0.0.0.0:4002
log-structured-proc.prezi.com
Logster
stunnel4: 0.0.0.0:4011
log-jseditor-proc.prezi.com
Logster
yologger-app.prezi.com
log-fallback.prezi.com
log.prezi.com
bandsawlogger
Glassbox
bandar-logger.prezi.com
Bandarlogger
filebe...
...son logs
Logstash
avro logs
Kafka
validatin... ...ical events against schema
Confluent Schema Registry
reading analytical event schemas
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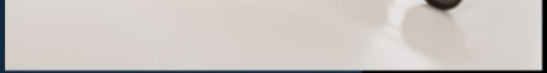
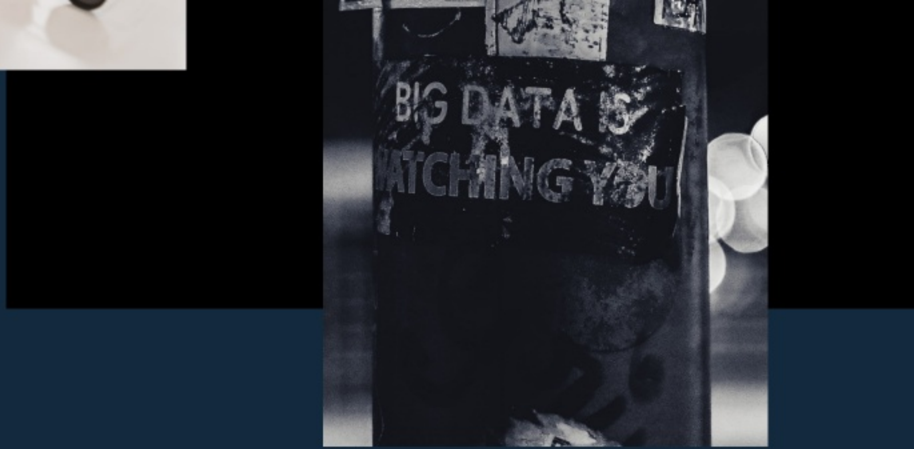
avro logs
Kafka Connect
EMR
running on
Spark
Starburst Trino
Airbyte
Hive Glue
Metastore
S3 buckets
dataservice-logs
prezi-logs
created from the hourly pull data
prezi-glassbox-public
dataservice-data
dataservice-airbyte
prezi-google-ads-offline-conversions-import
shipping avro and parquet logs
spark deduplication
SFTP +
Lambda function
Google Ads
Dagster
3rd party apps
fetching data
Sales/Marketing
Datadoc
Mitzu (Indicative replacement)
Mode
Zeppelin
running on
json logs
OpenSearch
https://log-analytics-es.prezi.com/_dashboards/app/discover#/
https://infogram-analytics-es.prezi.com/_plugin/kibana/app/discover
Logmanagement
http://logmanagement.prezi.com/
http://logmanagement-infogram.prezi.com/
https://logmanagement-air.prezi.com/
https://logmanagement-zoomapp.prezi.com/
creating Kafka topics for analytical events
managing Kafka cluster
CruiseControl
Apache Ranger
fetching rules
modifying data access rules
syncing users and groups
Directory Service
adding users and changing passwords
Data Engineers
Analysts/Devs/PMs





Architectures

Data Warehouse
Table storage + Compute

Data Lake
Multiple format (messy) storage

Data LakeHouse
Best of Both World (free file format + Table Api)

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[illegible]

[illegible]

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Orchestration

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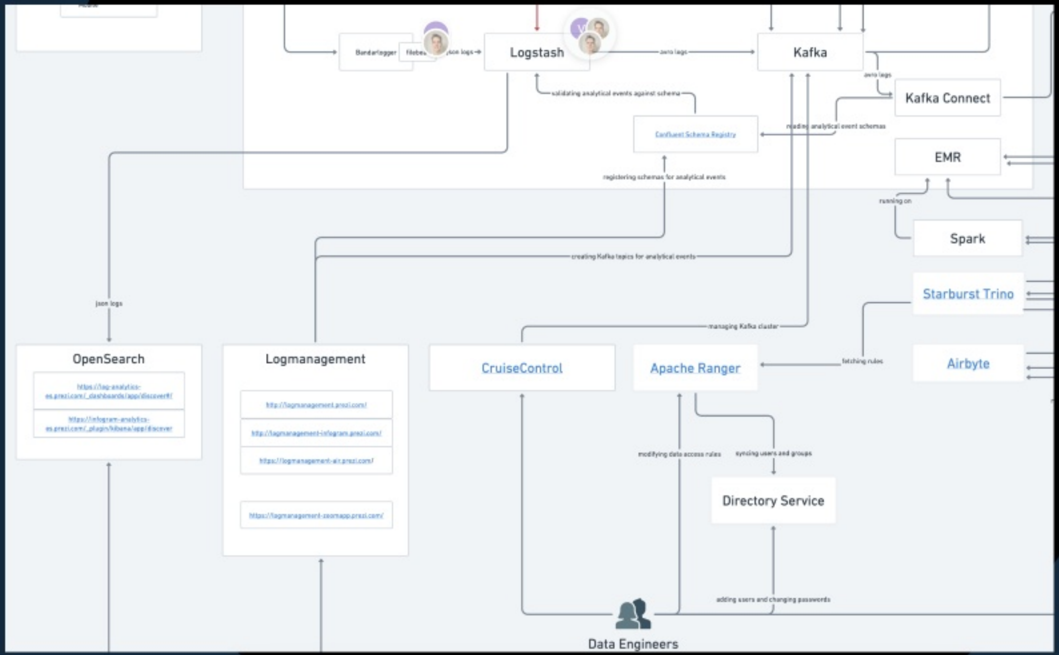
Bandarlogger
filebe
json logs
Logstash
avro logs
Kafka
avro logs
Kafka Connect
validating analytical events against schema
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OpenSearch
https://log-analytics-es.prezi.com/_dashboards/app/discover#/
https://infogram-analytics-es.prezi.com/_plugin/kibana/app/discover
Logmanagement
http://logmanagement.prezi.com/
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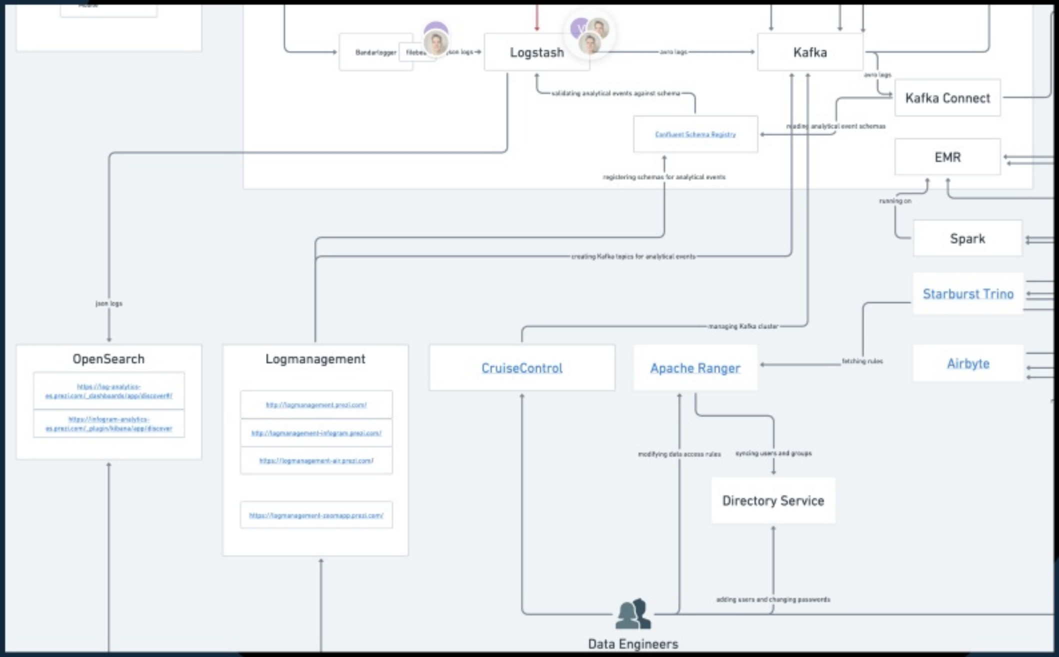
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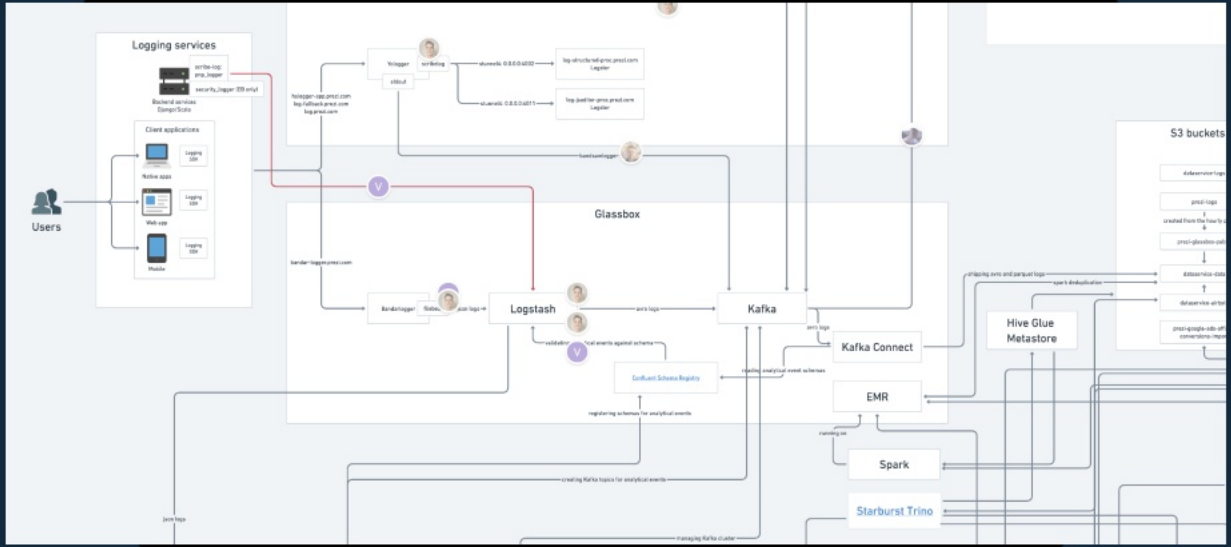

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kafka
16 Brokers
1.5 TB a day
~3000 topics/tables

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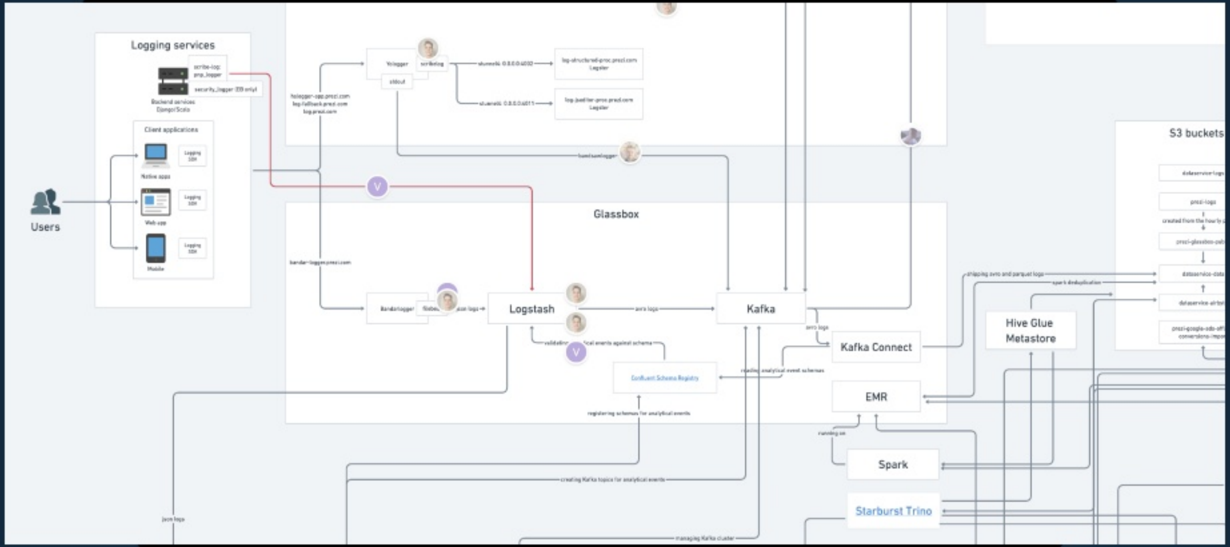

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- Kafka kafka 16 Brokers 1.5 TB a day ~3000 topics/tasks
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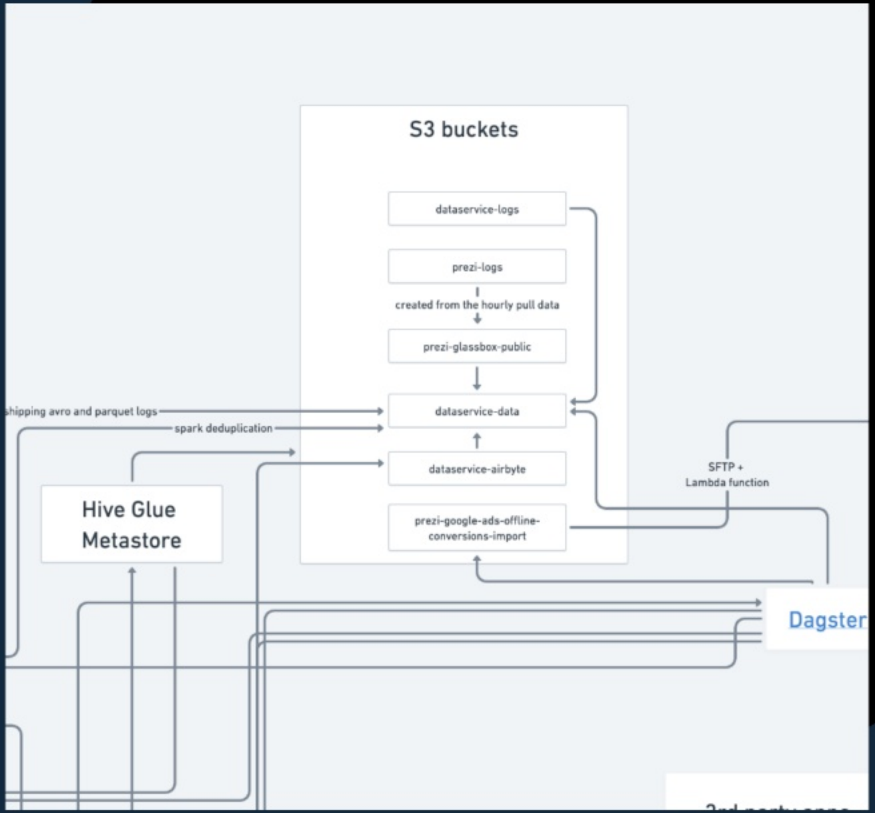
"On Premise" -> MSK, Gobblin

kafka

16 Brokers
1.5 TB a day
~3600 topics/tables

02

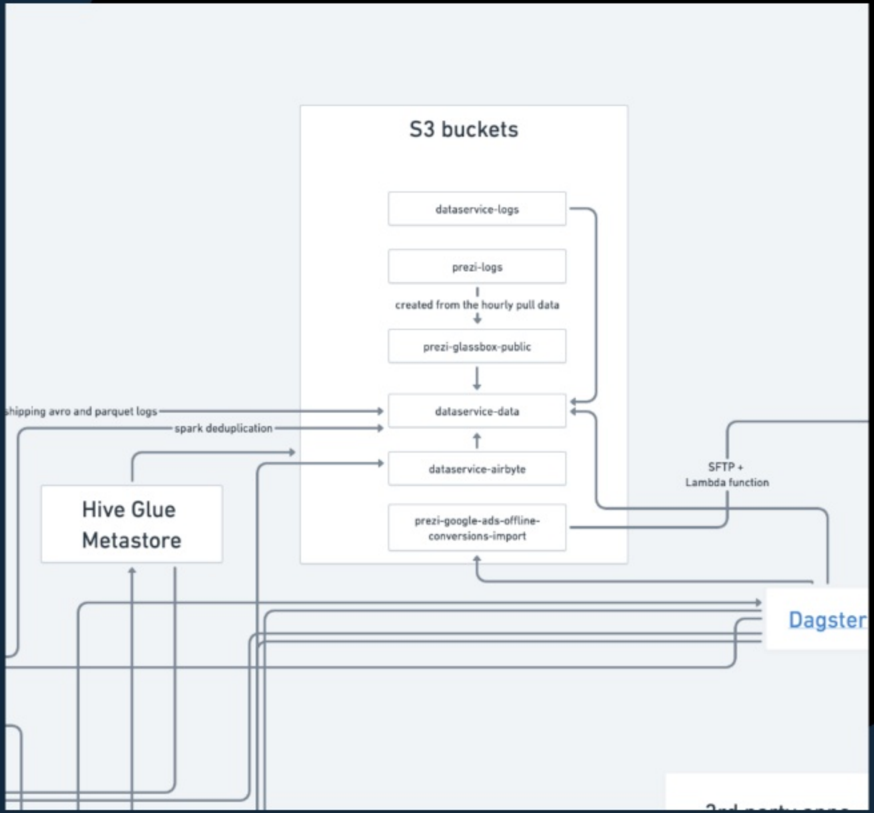


Storage

The robust storage of the Data Lakehouse accommodates structured, unstructured, and semi-structured data, enabling scalable and efficient data management.

S3 + Parquet + Hive

02



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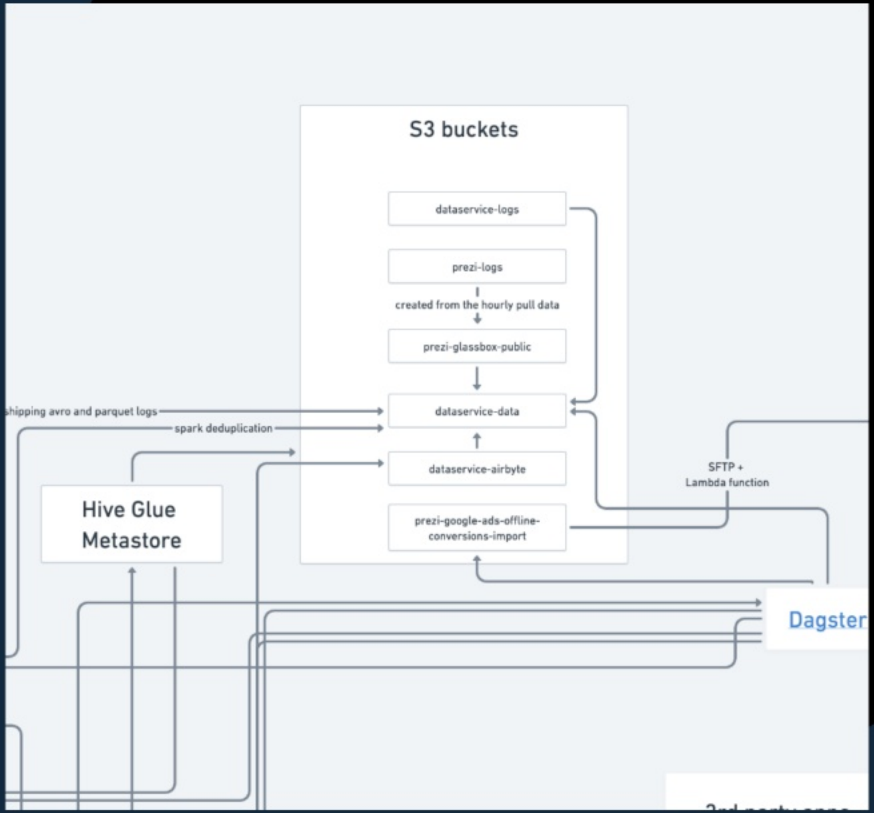
Hive Metastore -> Glue

02



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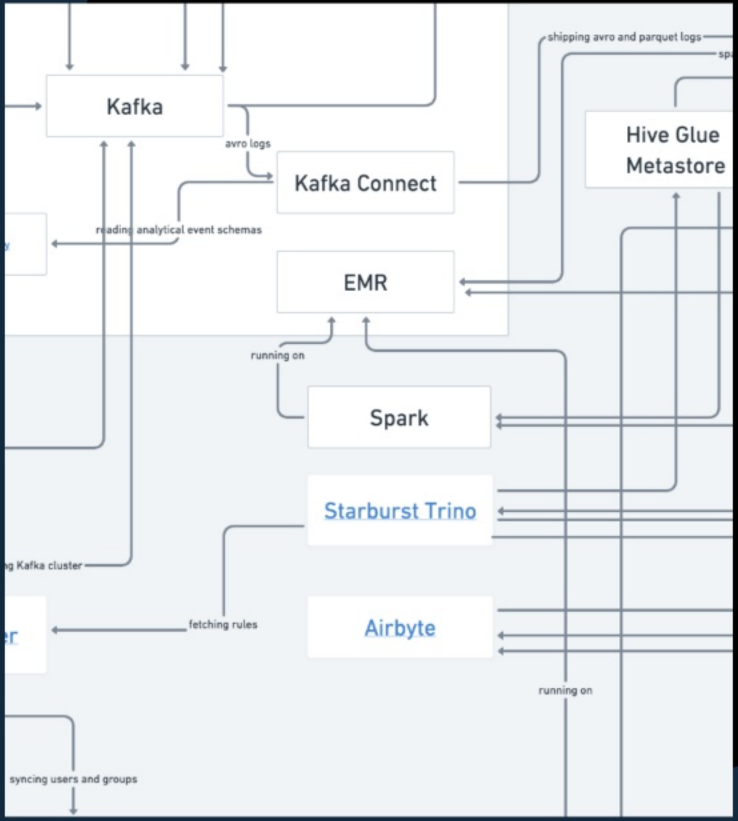
Iceberg

03

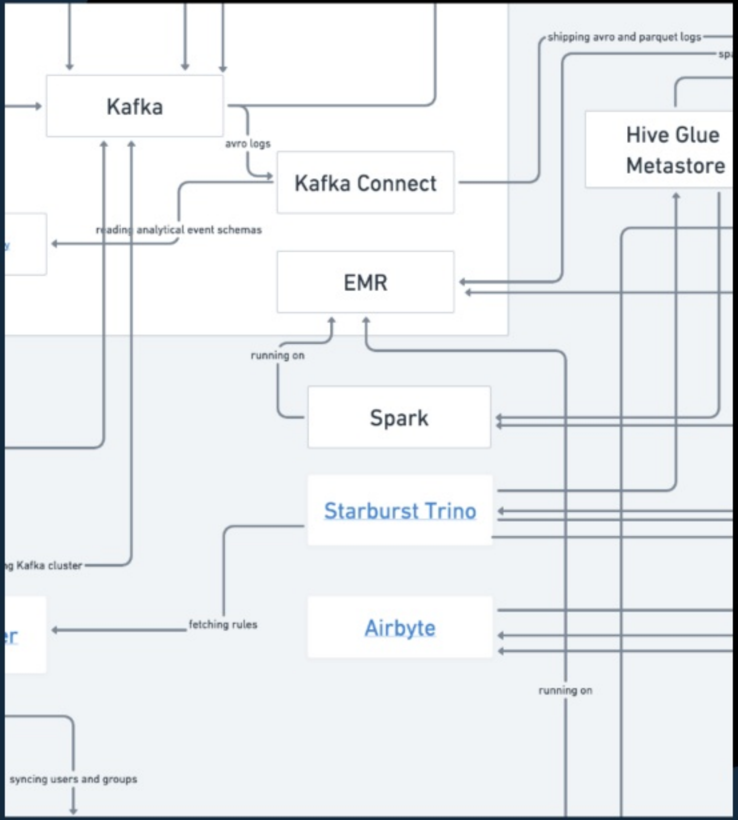


Processing

I the Data Lakehouse Architecture, processing is offloaded to a separate component. In our infra we use Spark and Trino

7 x r5.2xlarge

03



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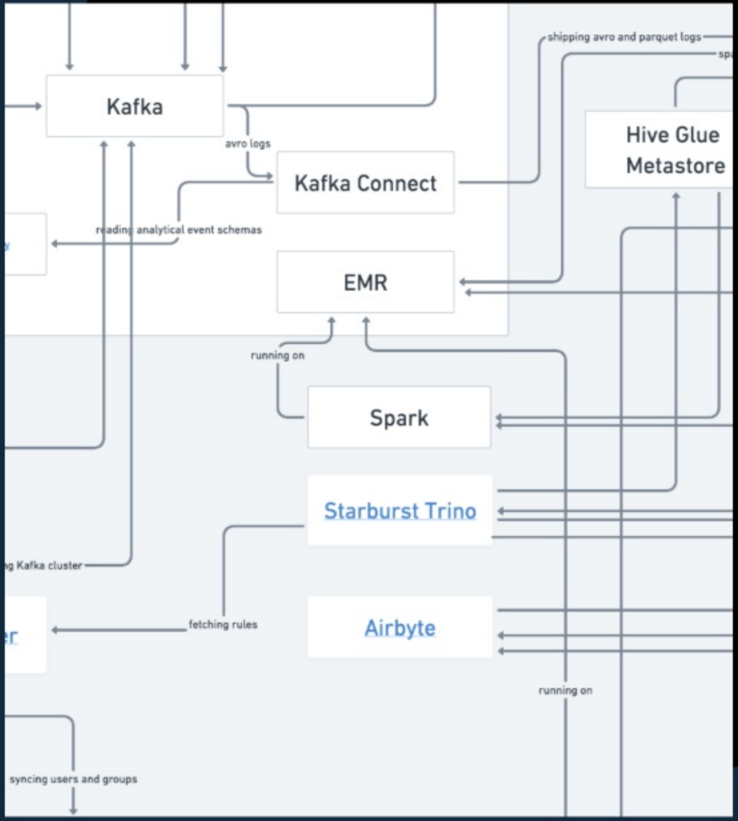

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Scalability and saas

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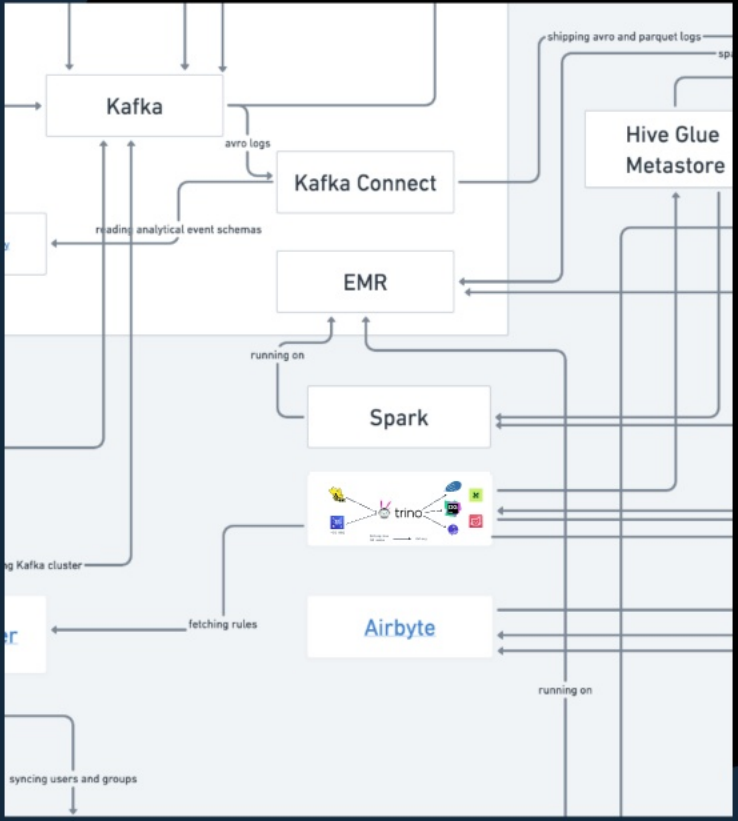

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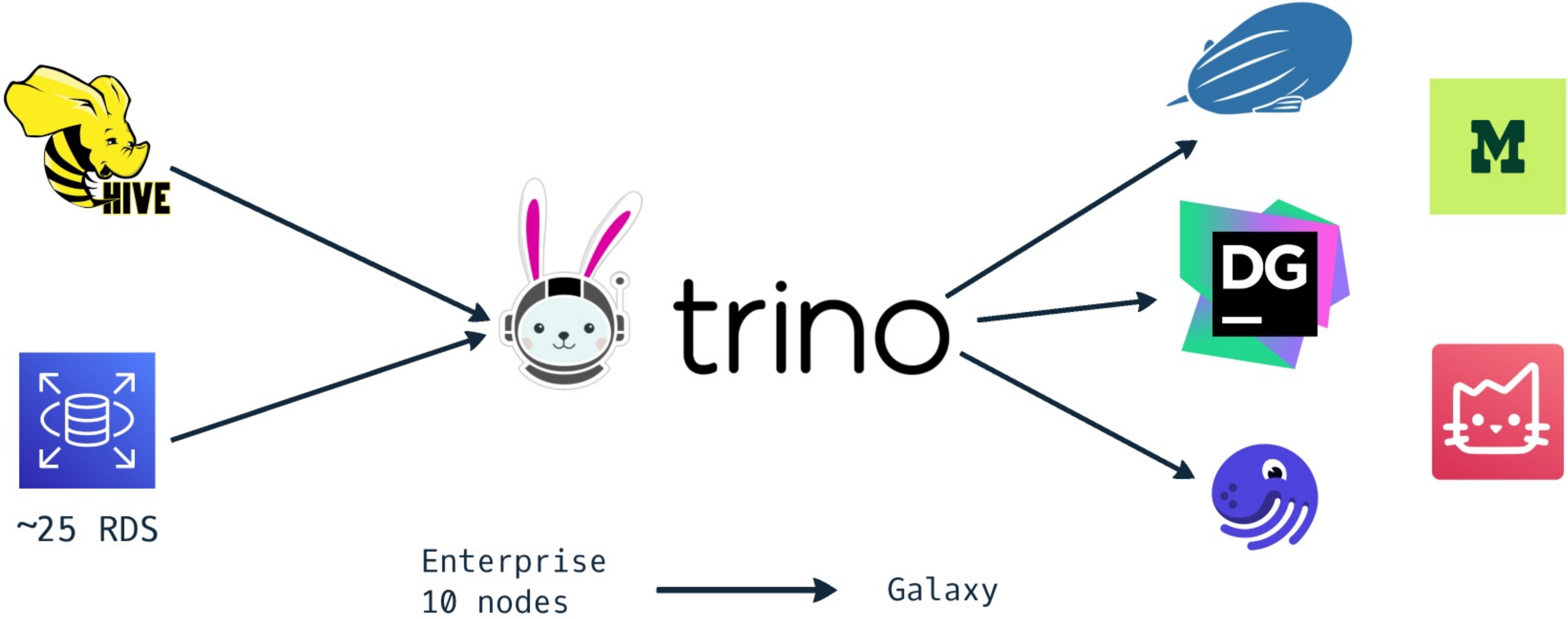


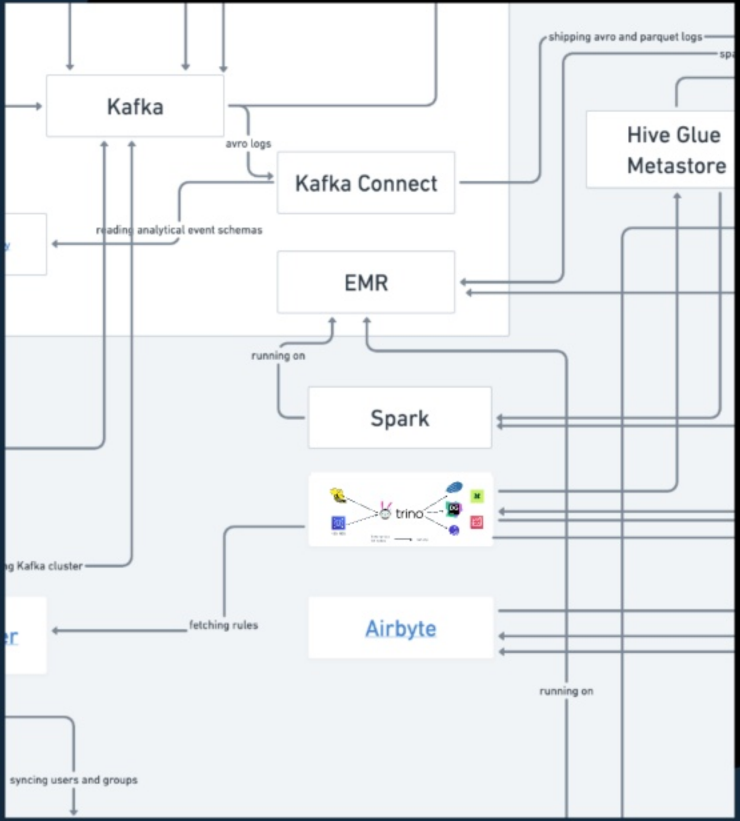
~25 RDS

Enterprise
10 nodes

Galaxy

03

Processing



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Scalability and saas

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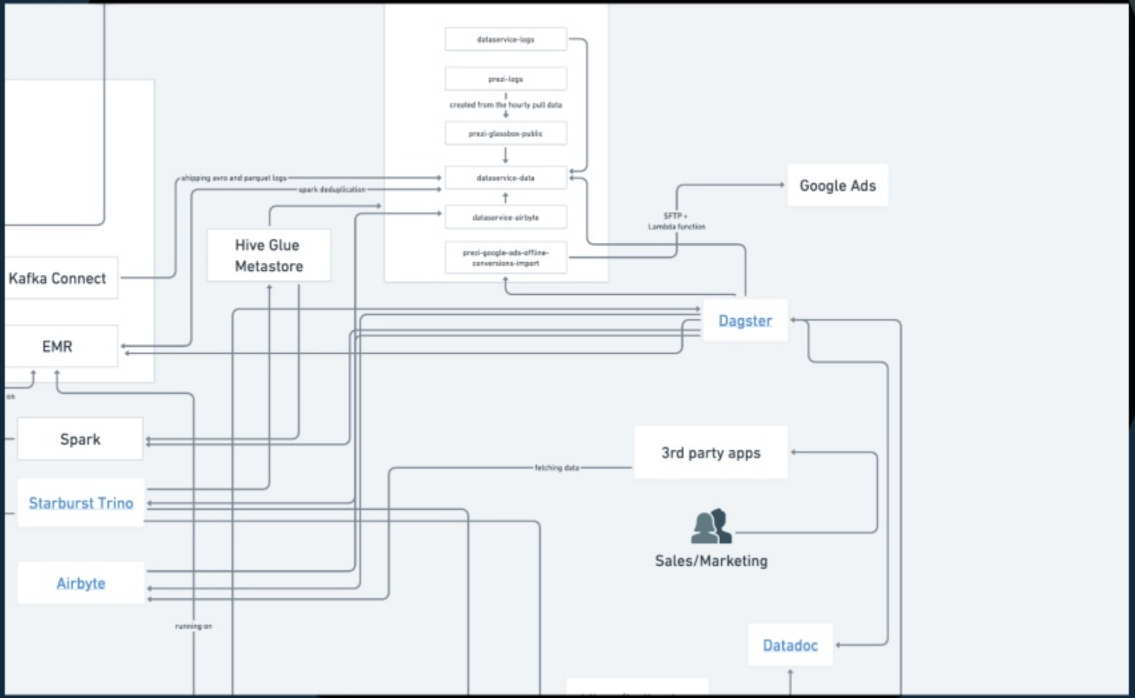
Orchestration

The numerous jobs we have, are coordinated/orchestrated by a component called Dagster. It's responsibility is to run the correct job at the correct time



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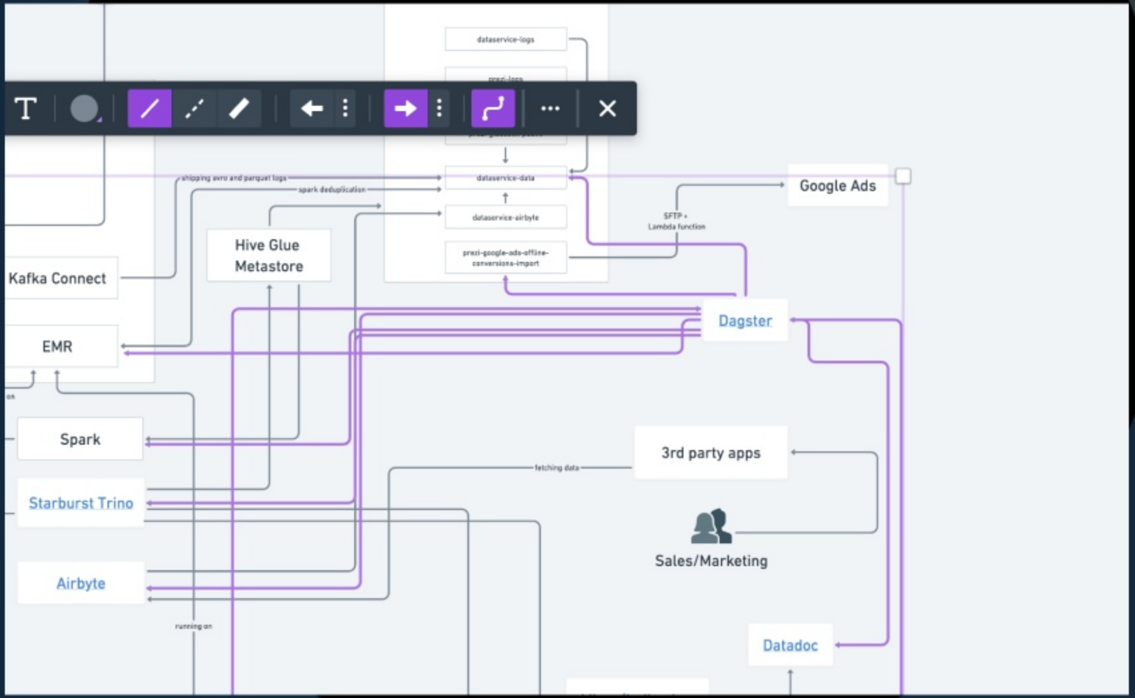
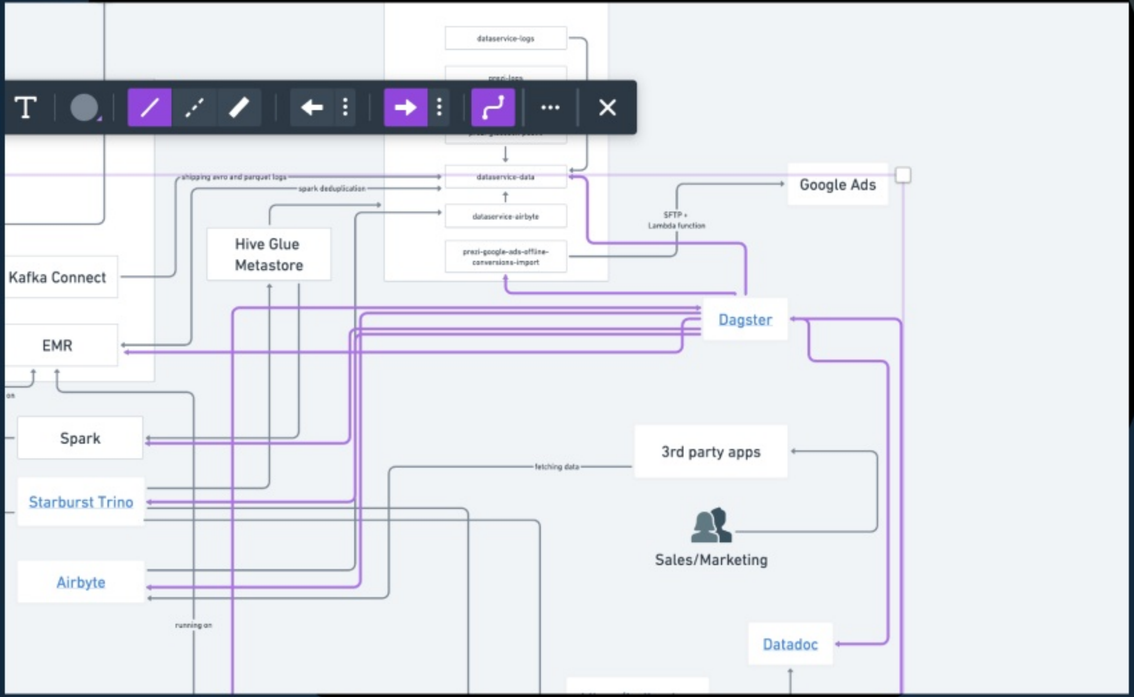


04



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More Flowkeeperless

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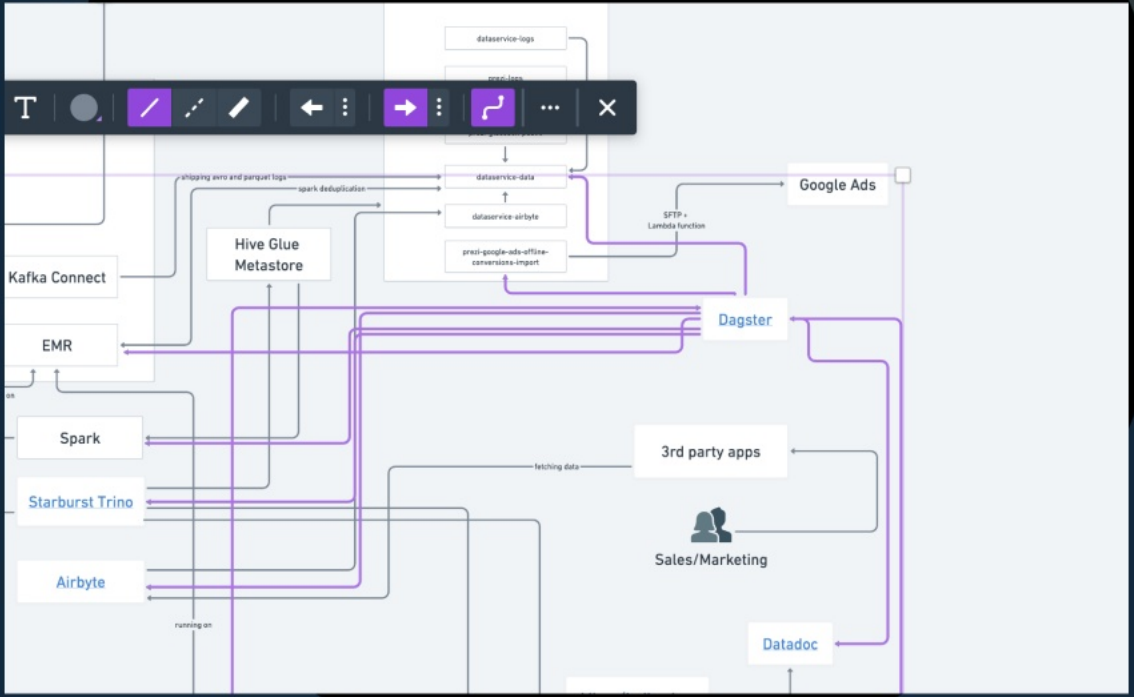

More Flowkeeperless

Hybrid Saas

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[illegible]

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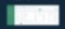

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On Premise -> AWS [illegible]

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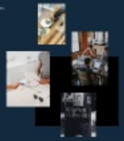
State of Prezi Data Platform

Data Platform

[illegible]



Architecture

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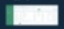

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