PULSAR SUMMIT

Pulsar Virtual Summit Europe 2021
Hosted By StreamNative x clever cloud

Using the FLiPN Stack for Edge AI (Flink, NiFi, Pulsar)

Wed, Oct 6, 4:30 pm CEST

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StreamNative Cloud

Powered by Apache Pulsar, StreamNative provides a cloud-native, real-time messaging and streaming platform to support multi-cloud and hybrid cloud strategies.

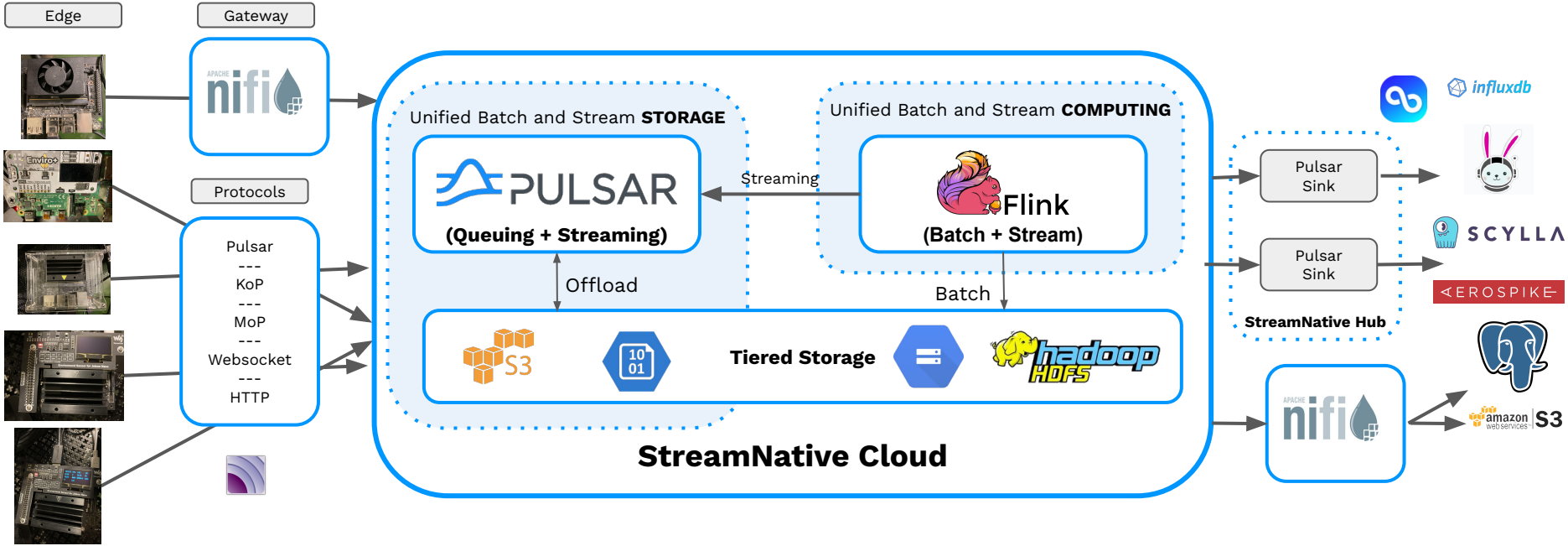
Cloud Native

Built for Containers

Flink SQL

End-to-End Streaming FLiPN Edge AI Application

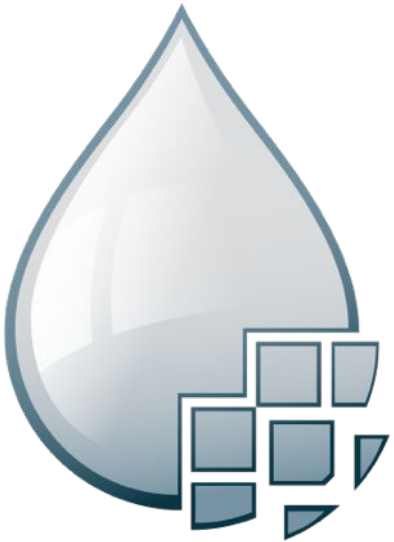
Apache Flink - Apache Pulsar - Apache NiFi <-> Devices - GPU/TPU - Python/Go/Java



FLiP(N) Stack

- Apache **Fl**ink
- Apache **P**ulsar
- StreamNative's Flink Connector for Pulsar
- Apache **N**iFi
- Apache +++

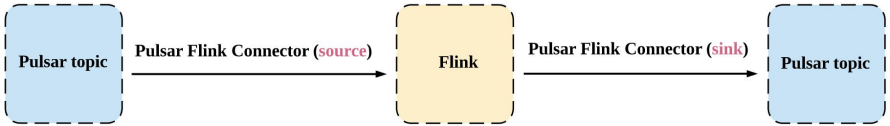
Why Apache NiFi?

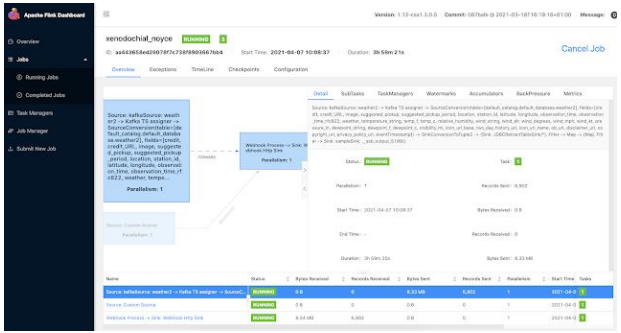


- Guaranteed delivery
- Data buffering
  - Backpressure
  - Pressure release
- Prioritized queuing
- Flow specific QoS
  - Latency vs. throughput
  - Loss tolerance
- Data provenance
- Supports push and pull models

- Hundreds of processors
- Visual command and control
- Over a sixty sources
- Flow templates
- Pluggable/multi-role security
- Designed for extension
- Clustering
- Version Control

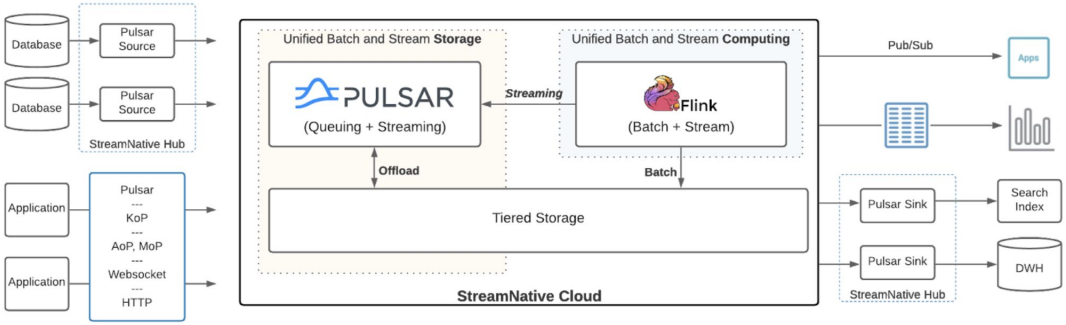
Why Apache Flink?

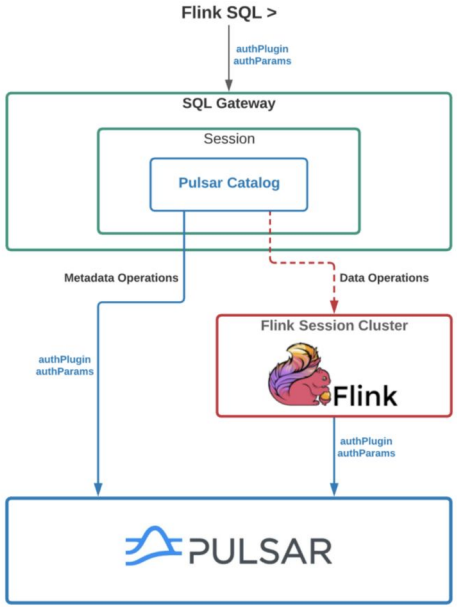


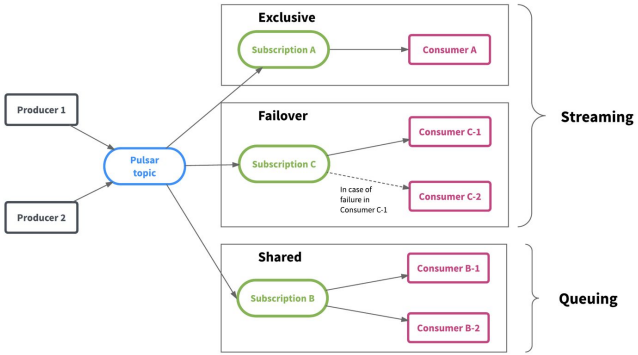


- Unified computing engine
- Batch processing is a special case of stream processing
- Stateful processing
- Massive Scalability
- Flink SQL for queries, inserts against Pulsar Topics
- Streaming Analytics
- Continuous SQL
- Continuous ETL
- Complex Event Processing
- Standard SQL Powered by Apache Calcite

Flink + Pulsar (FLiP)







https://flink.apache.org/2019/05/03/pulsar-flink.html
https://github.com/streamnative/pulsar-flink
https://streamnative.io/en/blog/release/2021-04-20-flink-sql-on-streamnative-cloud

Using NVIDIA Jetson Devices With Pulsar

DEMO TIME

https://github.com/tspannhw/minifi-xaviernx/
https://github.com/tspannhw/minifi-jetson-nano
https://github.com/tspannhw/Flip-iot
https://www.datainmotion.dev/2020/10/flank-streaming-edgeai-on-new-nvidia.html

Deeper Content

- https://github.com/tspannhw/EverythingApacheNiFi
- https://github.com/streamnative/pulsar-flink
- https://www.linkedin.com/pulse/2021-schedule-tim-spann/
- https://github.com/tspannhw/SpeakerProfile/
- https://streamnative.io/en/blog/release/2021-04-20-flink-sql-on-streamnative-cloud
- https://docs.streamnative.io/cloud/stable/compute/flink-sql

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