

# Adding IOT Business Value - The Problem

- ❖ IOT Devices with battery issues can cause missed reading and updates. Leads to frustration to customers and employees using the devices.
- ❖ Currently, device metrics are “scattered” across platforms, some in DB and some real-time feeds, making it difficult to “see” potential problems.
- ❖ Finding and replacing these devices should be easy and fast



# Astra Streaming is the Solution

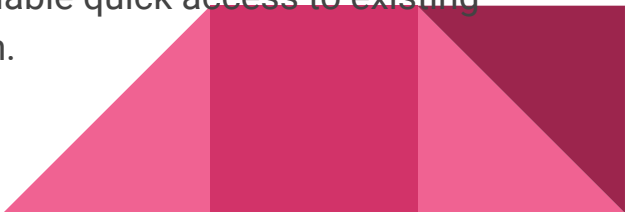
**The Fix** - Consolidate IOT metrics into a common real-time “feed”, to enable better visibility of each device

**The How** - Use Astra Streaming, Apache Pulsar-as-a-Service!

Pulsar is a complete messaging/streaming platform (open source), highly scalable, feature rich to support complex messaging requirements.

High-availability architecture, Geo-Replication built-in, and multiple deployment options across Public Cloud platforms.

Easy to use and integrate into your IT environment. Many “connectors” enable quick access to existing messaging feeds and CDC (change data capture) for database integration.



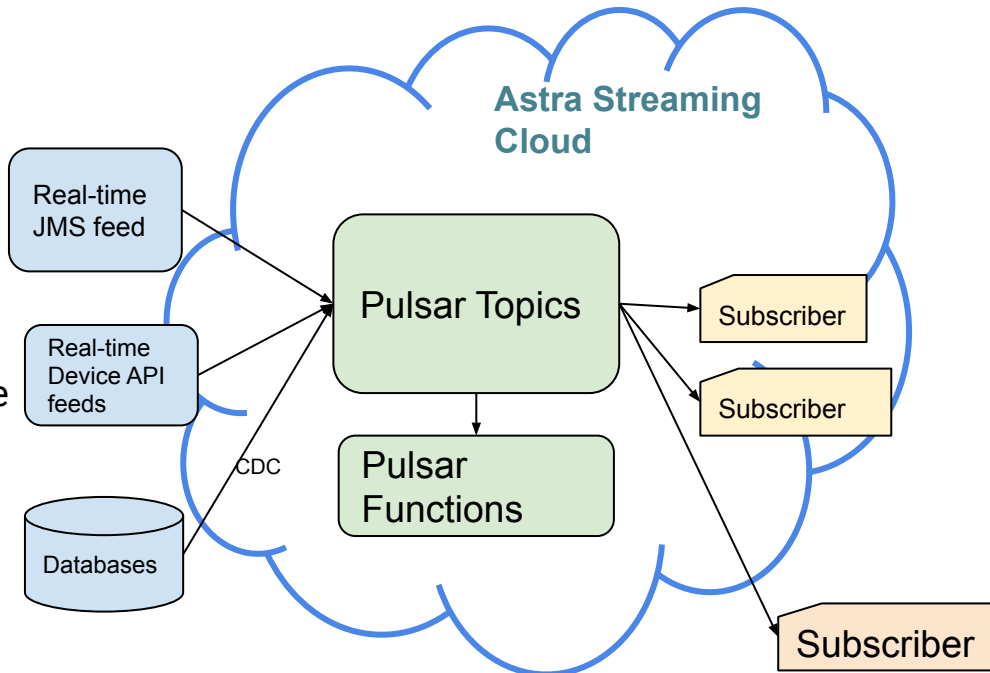
## Leverage Astra Streaming key features

**CDC for AstraDB** automatically captures real-time updates, de-dups the changes and publishes a message to a Astra Streaming topic.

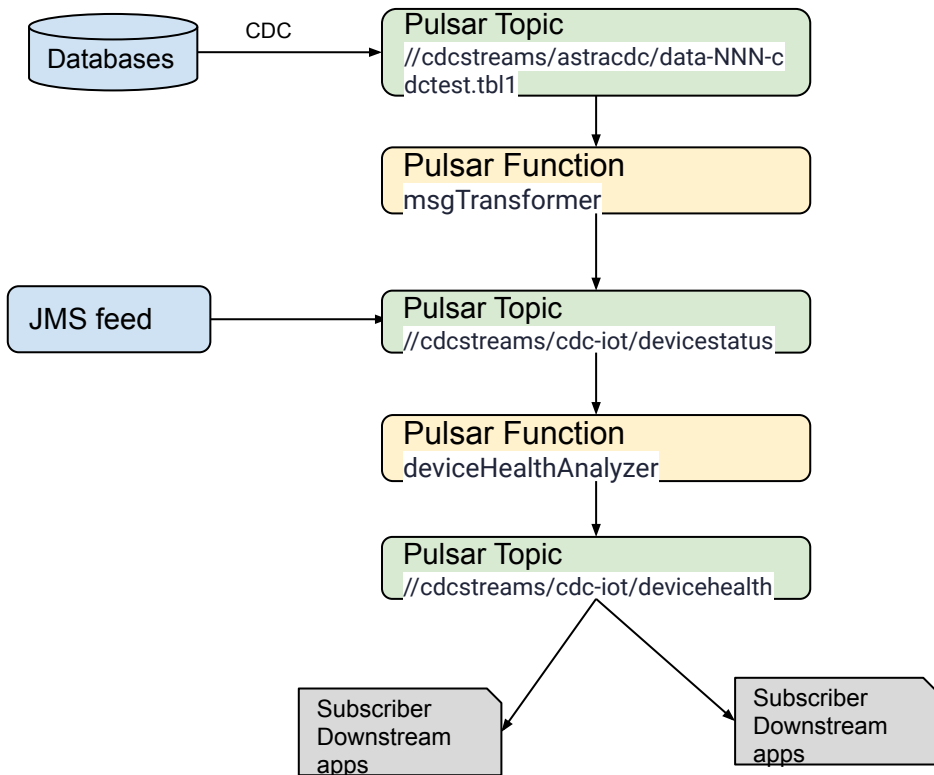
CDC component is simple 1:1 correspondence between DB table and topic

**Astra Streaming Functions** are lightweight compute process running in Astra Streaming (serverless).

You write the code for your function in Java or Python, then upload the code. It will be automatically run for each message published to the specified input topic.



# Astra Streaming Solution Details



- Use CDC on the AstraDB table “tbl1” to capture device metrics feed into Astra Streaming
- Use Astra Streaming JMS Client to feed IOT Device health metrics into Pulsar topic
- Setup Pulsar Functions to transform messages into a common format, publish to new Pulsar topic “devicestatus”
- Add a Pulsar Function on new topic to analyze new messages and publish to topic “devicehealth”

## More Benefits with Astra Streaming

- Run and deployed on many public cloud platforms and their DC locations
- Easy scale up or down as business demands
- Lower infrastructure cost and support, hosted in public cloud.

