Virtualization 1 - Project
MQTT

D. Walsken, M. Baba Mehdi, C. Voss

What is MQTT

Problem 1

- Big computation
- Easily parallelizable
- Can be run on multiple machines
- No (easy) way to make the output thread coherent

What is MQTT

Problem 2

- Many databases
  - need the same data
  - need data from remote location

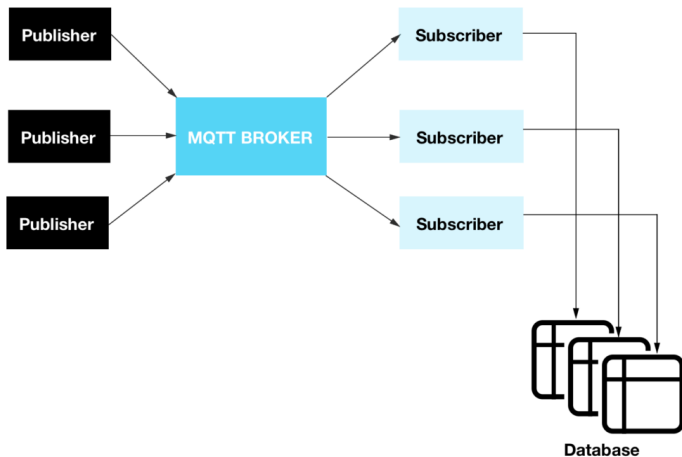- Need to be synched every time they connect to the internet

Problem 3

- High latency/unreliable network
- Internet of things

Solution

MQTT:

- **Message Queuing Telemetry Transport**
- Publish/Subscribe Protocol
- "The Core of MQTT is the **Topic**"
    - Numerical units can publish to a topic
    - Database client can subscribe to a topic

MQTT

Figure 1

MQTT

Typical Setup

- MQTT broker running in docker a container
- Numerical client(s) generating numbers in a container
- Database(s) with some glue code in the third container

MQTT

Project

- Database: python running sqlite3
- MQTT broker: Eclipse-Mosquitto
- Numerical side: prime-generator using the "**Sieve of Eratosthenes**"

Sources

Image

- https://crate.io/a/getting-started-cratedb-mqtt-endpoint

The End

Thank you for your attention