

# SRT Prometheus Exporter

# Agenda

- Who we are?
- OSS Activity
- SRT Features
- Motivation
- Overview
- Discussion

# Who are we?

- Yinzhe Wu
  - Sony China
  - Software Engineer
  - [Windrow14@Github](#)
- Tomoya Fujita
  - Sony R&D Center, US Lab
  - Senior Staff Engineer
  - [fujitatomoya@Github](#)
  - [Robot Operating System Technical Steering Committee](#)

# OSS Activities

We have been working with OSS communities for a while,

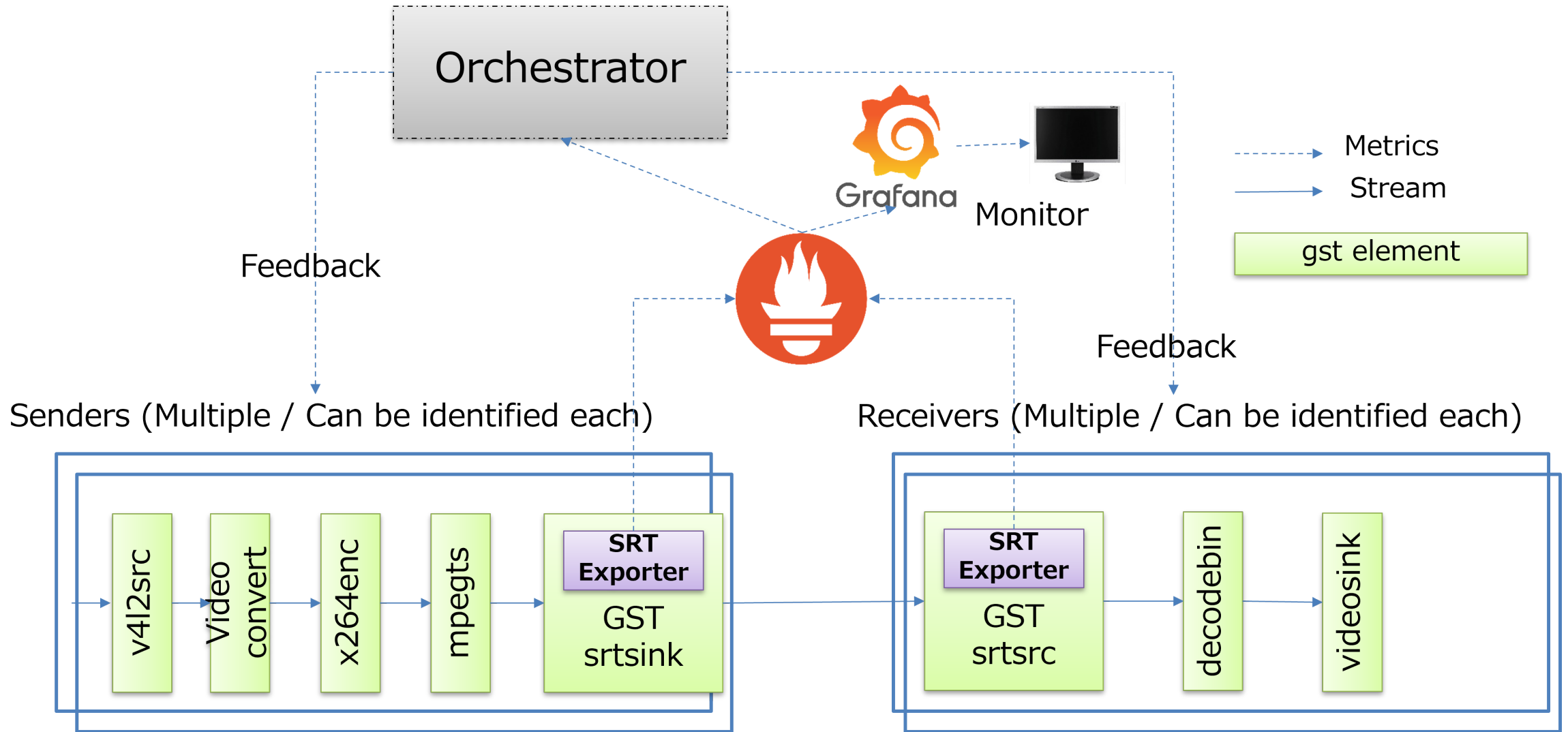
- Robot Operating System
  - Robot Operating System Technical Steering Committee
  - ROSCon 2018 Keynote Home Entertainment Robot
  - ROSCon 2019 Panel Talk Edge at Scale
  - ROS World 2021 Content Filtering Feature
  - ROSCon 2022 Keynote & Programing Committee
- Kubernetes
  - KubeCon EU 2021 Edge Day Robotics Edge Cluster System
  - Kubernetes Robotics Distributed System

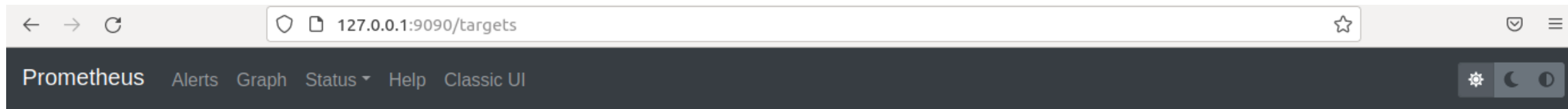
# SRT Differentiating Features

- Reliability
- Latency Window
- Timestamp Based Packet Delivery
- Too-Late Packet Drop
- Fast Retransmit
- Bidirectional Transmission Queues
- ***Statistics (HERE !!!)***
- Access Control (Stream ID)

# Motivation

- Statistics / Metrics / Tracing data is being necessary and important for cloud infrastructure to keep the system maintained.
- Once it comes to edge, these data will be required to maintain the whole services and systems for orchestration.
- Dynamic application re-deployment / parameter re-adjustment will be required to keep the service. (Circulatory Functioning System and Application.)





## Targets

All Unhealthy Collapse All

sample\_srt\_exporter (1/1 up) [show less](#)

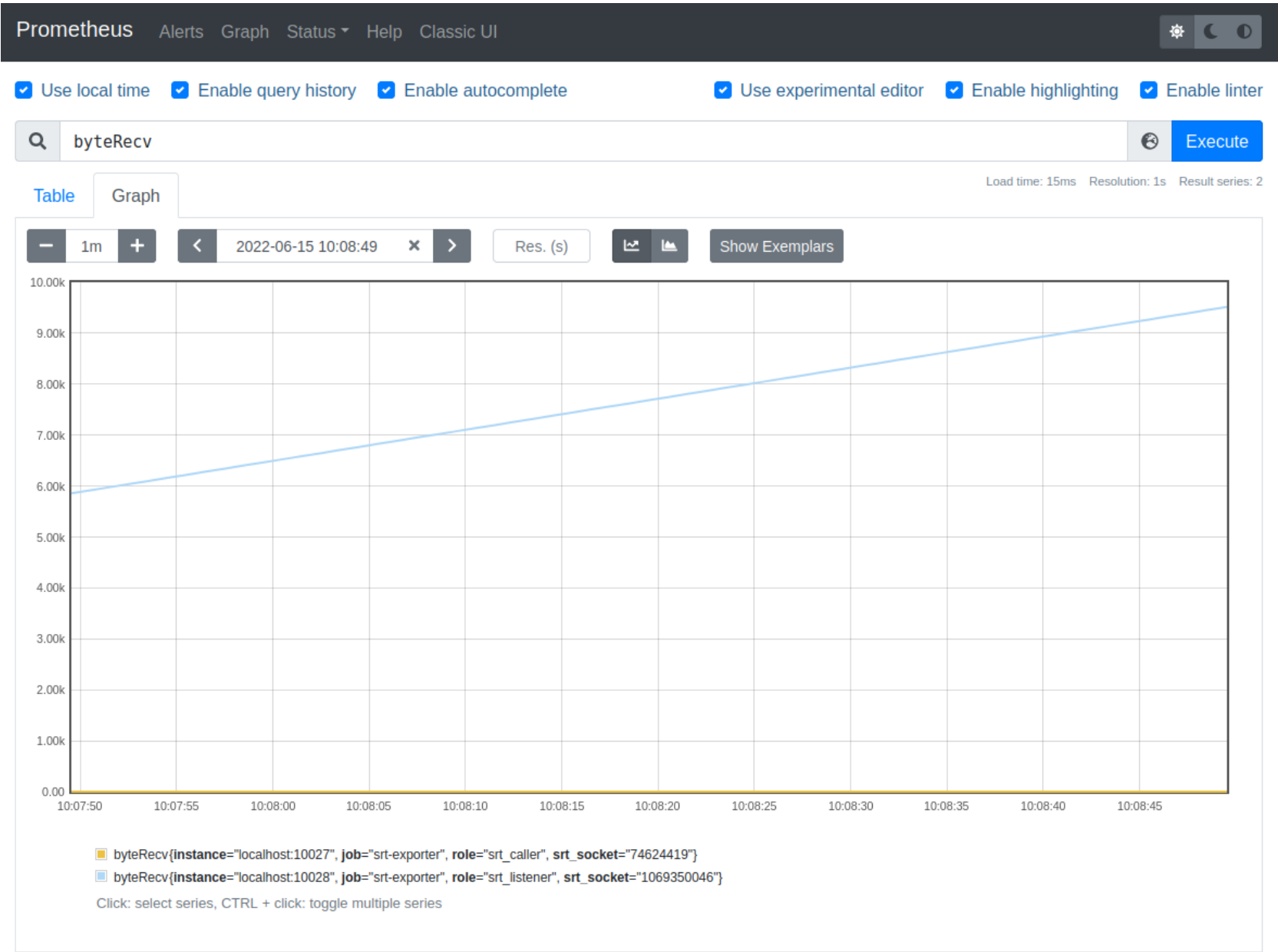
| Endpoint  | State | Labels   | Last Scrape   | Scrape Duration | Error |
|---|-------|--|---------------|-----------------|-------|
| <a href="http://localhost:9090/metrics">http://localhost:9090/metrics</a> | UP    | <a href="#">instance="localhost:9090"</a><br><a href="#">job="sample_srt_exporter"</a> | 769.000ms ago | 7.011ms         |       |

srt-exporter (2/5 up) [show less](#)

| Endpoint  | State | Labels  | Last Scrape   | Scrape Duration | Error   |
|---|-------|---|---------------|-----------------|---|
| <a href="http://localhost:9903/metrics">http://localhost:9903/metrics</a>   | DOWN  | <a href="#">instance="localhost:9903"</a> <a href="#">job="srt-exporter"</a>  | 249.000ms ago | 0.572ms         | Get "http://localhost:9903/metrics": dial tcp 127.0.0.1:9903: connect: connection refused |
| <a href="http://localhost:10027/metrics">http://localhost:10027/metrics</a> | UP    | <a href="#">instance="localhost:10027"</a> <a href="#">job="srt-exporter"</a> | 688.000ms ago | 0.995ms         |   |
| <a href="http://localhost:10028/metrics">http://localhost:10028/metrics</a> | UP    | <a href="#">instance="localhost:10028"</a> <a href="#">job="srt-exporter"</a> | 661.000ms ago | 1.121ms         |   |
| <a href="http://localhost:9901/metrics">http://localhost:9901/metrics</a>   | DOWN  | <a href="#">instance="localhost:9901"</a> <a href="#">job="srt-exporter"</a>  | 893.000ms ago | 0.352ms         | Get "http://localhost:9901/metrics": dial tcp 127.0.0.1:9901: connect: connection refused |
| <a href="http://localhost:9902/metrics">http://localhost:9902/metrics</a>   | DOWN  | <a href="#">instance="localhost:9902"</a> <a href="#">job="srt-exporter"</a>  | 808.000ms ago | 0.276ms         | Get "http://localhost:9902/metrics": dial tcp 127.0.0.1:9902: connect: connection refused |



# \_\_ SRT Prometheus Exporter Introduction \_\_



- SRT Prometheus Exporter
  - Single Shared Library
  - Depends: <https://github.com/Haivision/srt> (statistics APIs)
  - Description: calling SRT Statistics APIs internally based on SRT socket, it will expose the statistics via http. Prometheus server can scrape the statistics and deal with monitor and alerting.
- Gstreamer SRT src/sink property
  - Patch has been developed
  - Depends: <https://github.com/GStreamer/gst-plugins-bad/tree/master/ext/srt>
  - Description: adding extra property for exporter enable/disable flag, port range, socket identification.

## What we want to discuss?

- Anyone interested?
- Can we maintain this library as SRT community?
- More use cases, feature requests and feedback.
- Anything else?

we are open to discuss on any possibility !!! Thanks!