



Live Streaming Grafana Data Sources

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Who are we?

- Been in the enterprise network monitoring space for 10+ years
- Traditional product is an appliance that collects SNMP, netflow, and more
- Monitor some of the largest networks in the world

Looking forward

- Close to release of a new SaaS, monitoring product
- Strong focus on high-frequency, high cardinality, streaming telemetry data
- Need a way to visualize the value of high-frequency data

Grafana

- Started using grafana internally for self-mon a year ago
- Fell in love, but was hard to get the “wow” factor of sub-second data when visualizations update on a 5s timer
- Also a lot of wasted network/compute refreshing the same dense data over and over again
- How difficult would it be to have Grafana live stream our data... and would we need make changes to Grafana core to do so?

Turns out, easy! *

- Not well documented, but instead of the `[{target, [value, timestamp]}]` structure datasources are required to return, grafana also accepts an observable RxJS object!
- We can use an http library that supports unclosed http connections (i.e the fetch api) to listen for new data and feed it into the RxJS observable.
- We can implement live streaming in any datasource without forking grafana!

Demo

Caveats/ Areas for Improvement

- Some interactions (like zooming) don't work because to Grafana, that panel is never done "loading"
- Easy to destroy browser performance if re-painting isn't buffered. (10 metrics at 1s interval may actually repaint every 100ms!)
- Hard to control lifecycle of the open streams
- Mixing live and non-live panels can cause confusing ux

Example code

<https://github.com/seanlaff/simple-streaming-datasource>