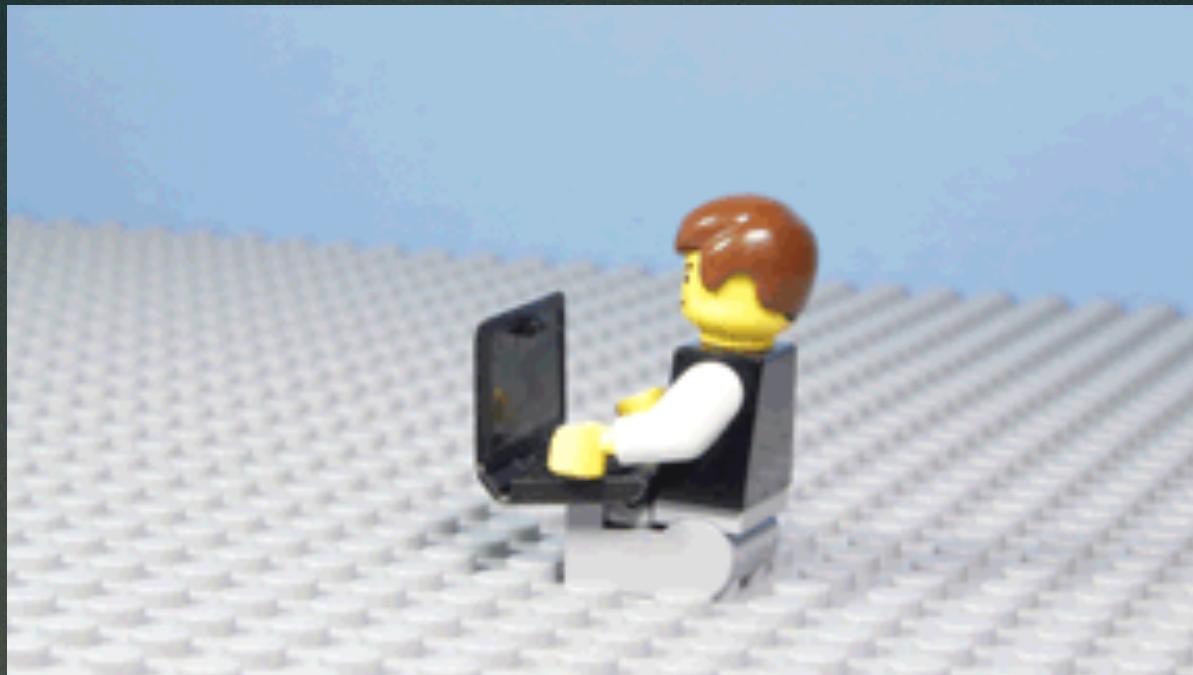




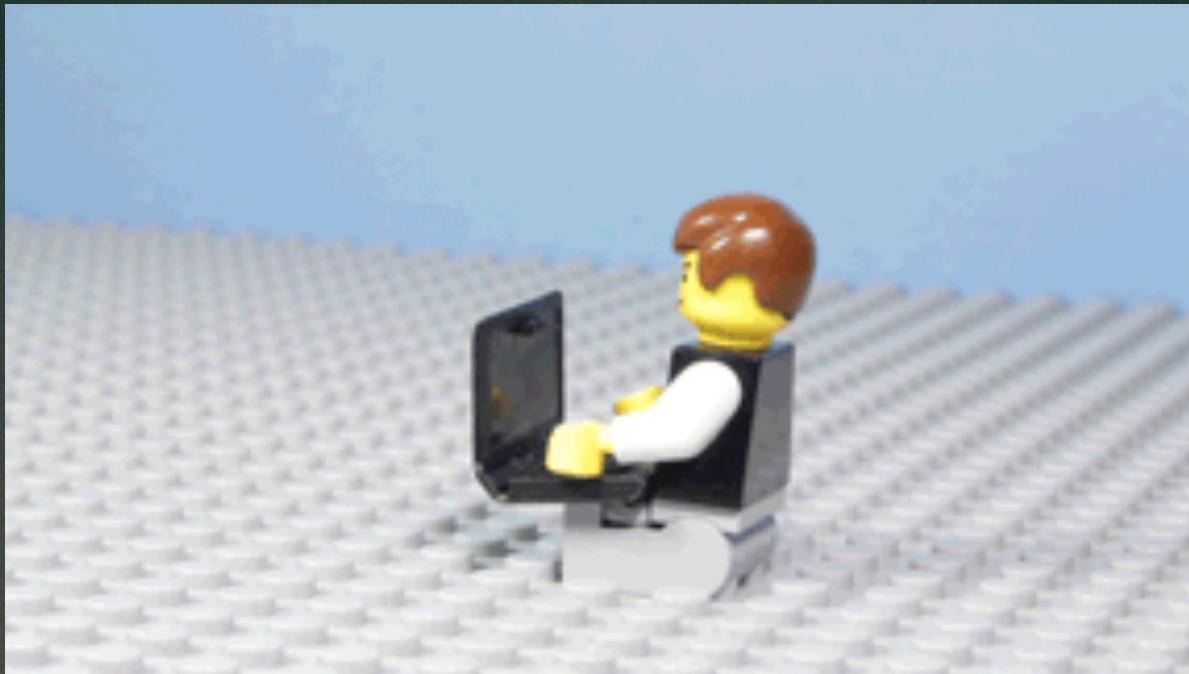
# Dashboard debugging and perf

David Kaltschmidt      [@davkals](https://twitter.com/davkals)  
Grafana Labs

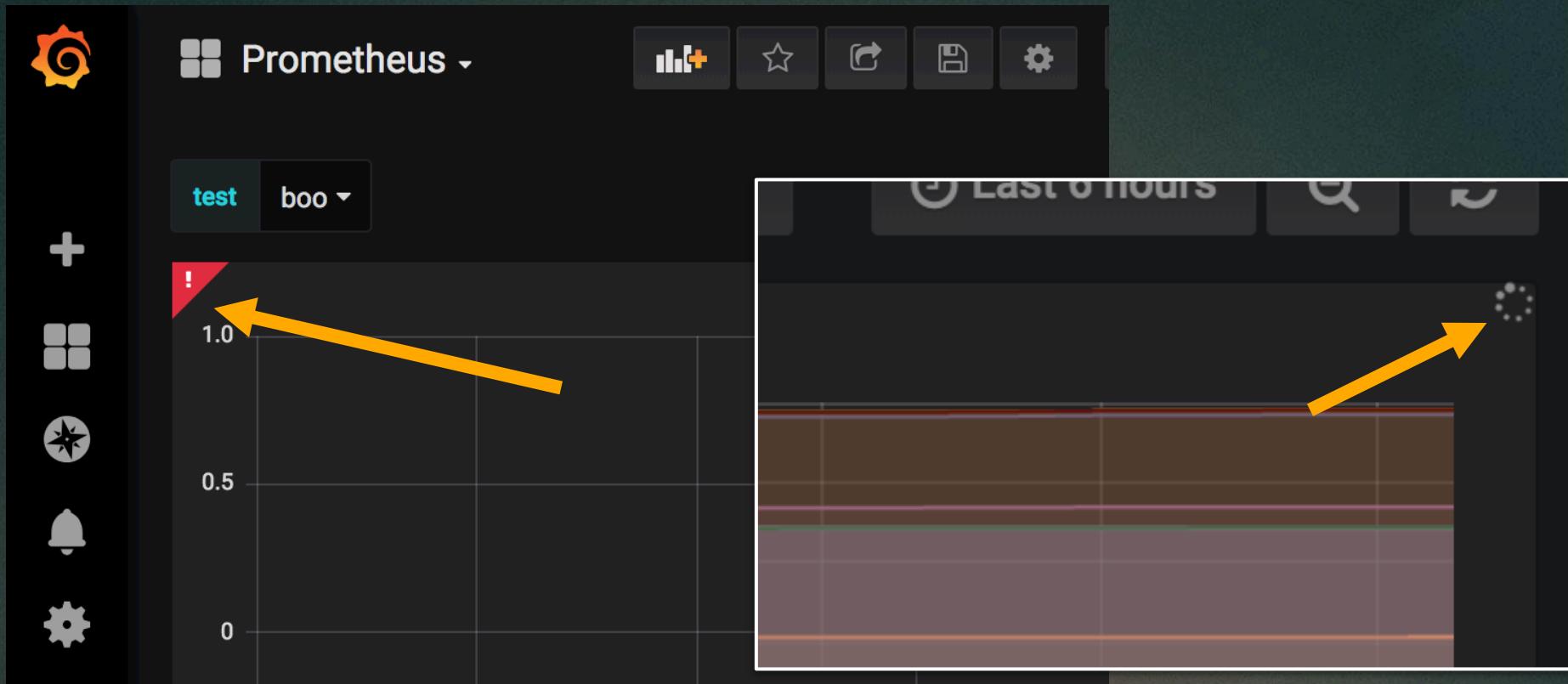
# My graphs are not loading!



# My graphs are **too slow!**



# My graphs are not loading!



# Debugging broken panels

[Link to Grafana](#)



Name	<a href="#">Prometheus PA</a>	Default	<input checked="" type="checkbox"/>
------	-------------------------------	---------	-------------------------------------

## HTTP

URL	http://localhost:9090/prometheus	<a href="#">Help</a>
Access	Server (Default)	<a href="#">Help</a>
Whitelisted Cookies	Add Name	<a href="#">Help</a>

## Auth

Basic Auth	<input type="checkbox"/>	With Credentials	<input type="checkbox"/>
TLS Client Auth	<input type="checkbox"/>	With CA Cert	<input type="checkbox"/>
Skip TLS Verify	<input type="checkbox"/>		

Scrape interval	15s	<a href="#">Help</a>
Query timeout	60s	<a href="#">Help</a>
HTTP Method	GET	<a href="#">Help</a>

 HTTP Error Not Found

[Save & Test](#)

[Delete](#)

[Back](#)

# Debug tooling: Data Source settings test



# Debug tooling: Query Inspector

Queries to  Prometheus RB ▾

Add Query Query Inspector ?

### Query Inspector ×

⊕ Expand All  Copy to Clipboard

```
▼Object
  xhrStatus: "complete"
  ▼request: Object
    method: "GET"
    url: "api/datasources/proxy/31/api/v1/query_range?query=up%7Binstance%3D%22demo.robustperception.io%3A9090%22%7D&start=1551180840&end=1551202460&step=20"
  ▼response: Object
    status: "success"
    ▼data: Object
      resultType: "matrix"
    ►result: Array[1]
```



# Debug tooling: Query Inspector and beyond

The screenshot shows the Grafana interface with the following elements:

- Time Range:** A timeline at the top with markers from 04:00 to 09:30.
- Queries to:** A dropdown menu set to "Prometheus RB".
- Add Query:** A button to add a new query.
- Query Inspector:** A button currently active, highlighted in blue.
- Help:** A question mark icon.
- Query Inspector Panel:** An open panel titled "Query Inspector" with a close button. It displays the message "Loading query inspector... ⏺".
- Legend:** A section labeled "A" with a dropdown arrow. It contains the query text "up{instance=\$instance}" and a "Legend" button.
- Formatting:** Buttons for "legend format", "Min step", "Resolution", and a dropdown menu.



# Debug tooling: Chrome dev tools

DevTools - localhost:3333/datasources/edit/3/

Elements Console Sources Network **Performance** Memory Application Security Audits Redux React x 37 :

View: Group by frame Preserve log Disable cache Offline Online

Filter Hide data URLs All XHR JS CSS Img Media Font Doc WS Manifest Other

200000 ms 400000 ms 600000 ms 800000 ms 1000000 ms 1200000 ms 1400000 ms 1600000 ms 1800000 ms 2000000 ms 2200000 ms 2400000 ms 2600000 ms

Name Headers Preview Response Cookies Timing

search?limit=30&starred=true  
 \_MpT78rik  
 annotations?dashboardId=9&from=1551180398214&t...  
 query\_range?query=up%7Binstance%3Ddemo.robust...  
 query\_range?query=up%7Binstance%3Ddemo.robust...  
 query\_range?query=up%7Binstance%3Ddemo.robust...  
 query\_range?query=up%7Binstance%3Ddemo.robust...  
 annotations?dashboardId=9&from=1551180826422&t...  
 query\_range?query=up%7Binstance%3Ddemo.robust...  
 query\_range?query=up%7Binstance%3D%22demo.r...

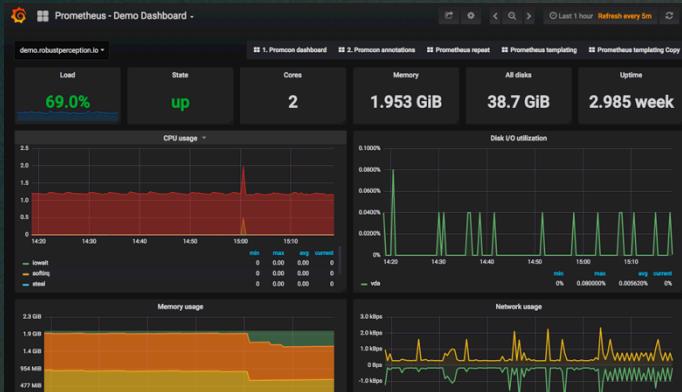
▼ {status: "error", errorType: "bad\_data",...}  
  error: "parse error at char 13: unexpected identifier \"demo\" in label matching, expected string"  
  errorType: "bad\_data"  
  status: "error"

172 / 195 requests | 1.6 MB / 37.9 MB transferred

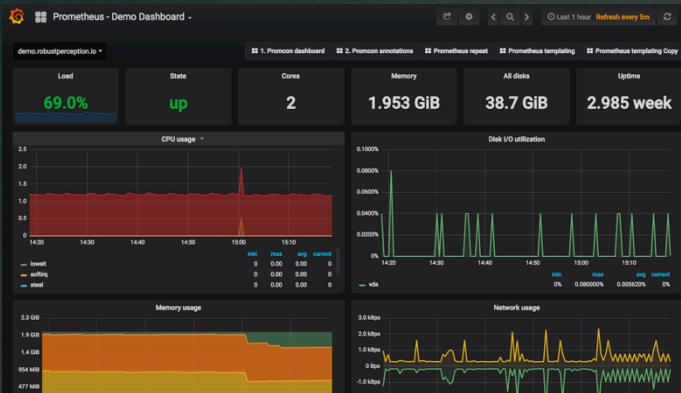
# My graphs are **too slow!**



# Understanding latency



# Understanding latency



Name i Prometheus PA Default

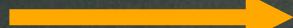
HTTP

URL	http://localhost:9090/prometheus <span style="color: #ccc;">i</span>
Access	<input checked="" type="checkbox"/> Server (Default) <span style="color: #ccc;">i</span> Browser
Whitelisted Cookies	Add Name <span style="color: #ccc;">i</span>

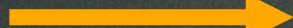
Help ▾



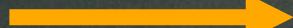
# Understanding latency w/ server



# Request latency with dev tools

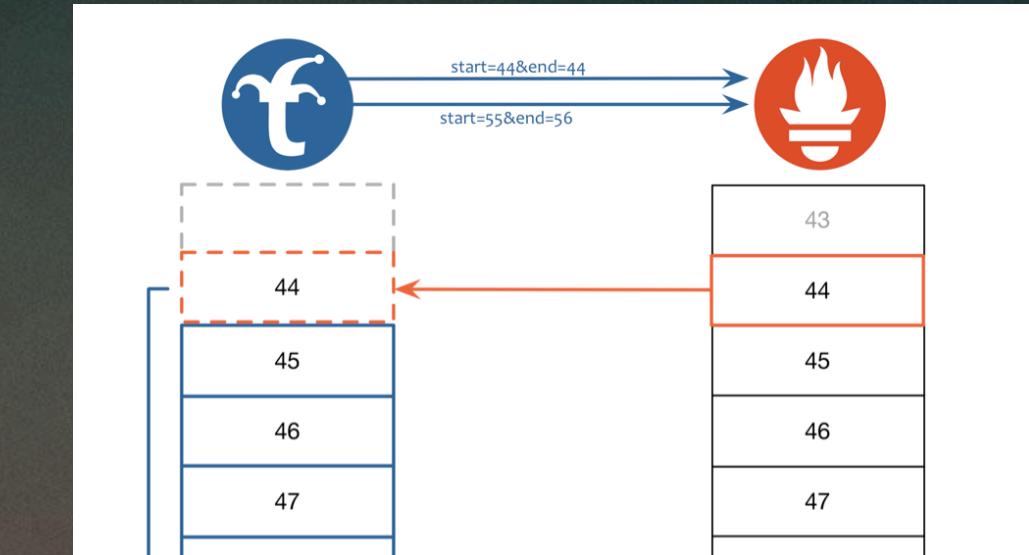
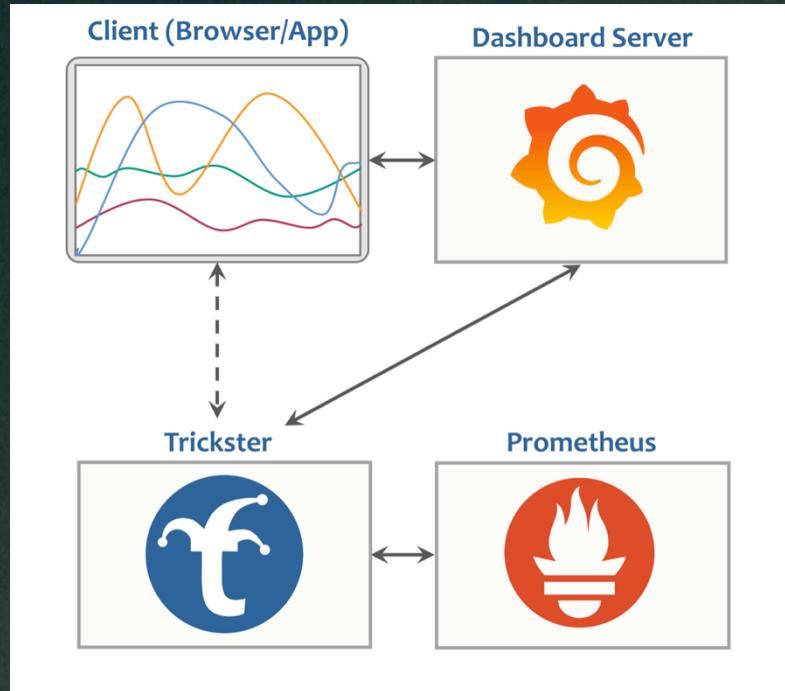


# Network latency vs ds latency vs plotting latency

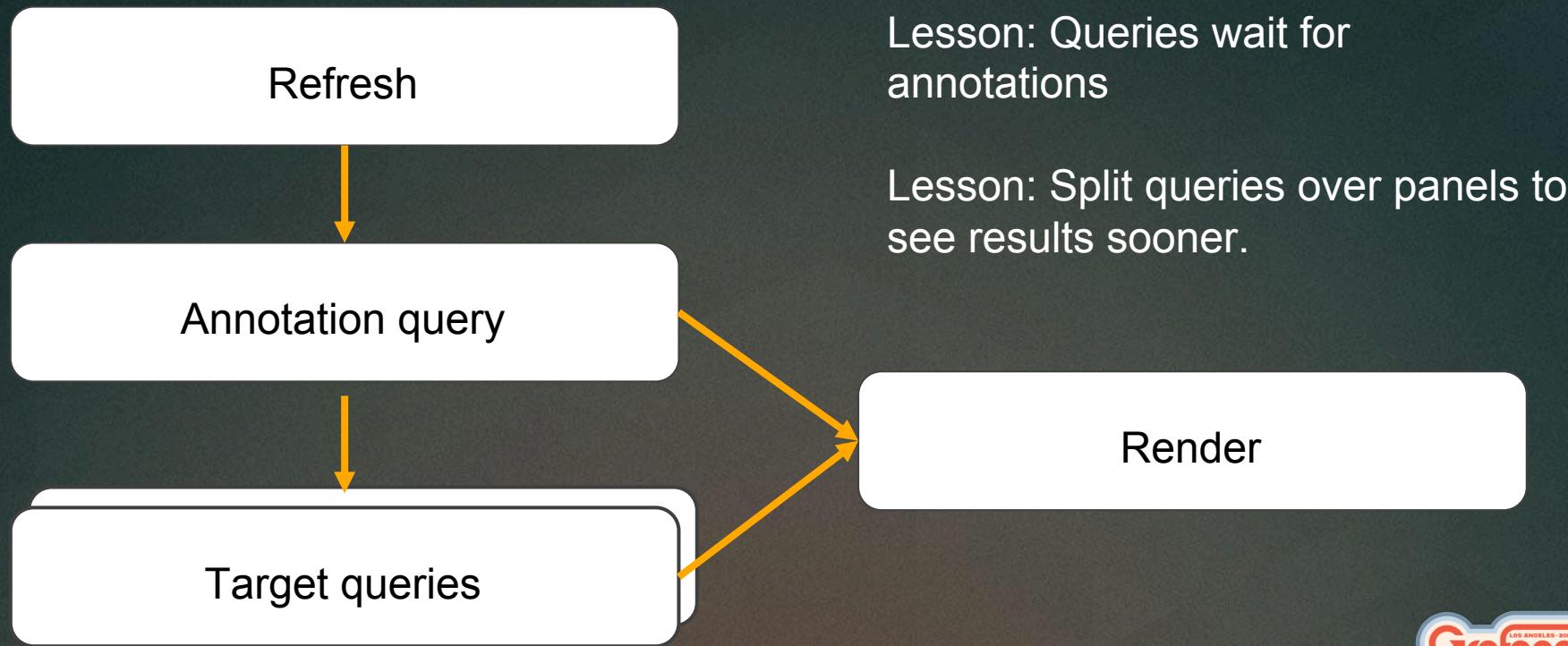


<http://localhost:3333/explore>

# Intermission: Trickster, a reverse proxy cache



# Graph panel requests: queries wait for all



# Lesson: Tweaks with little impact

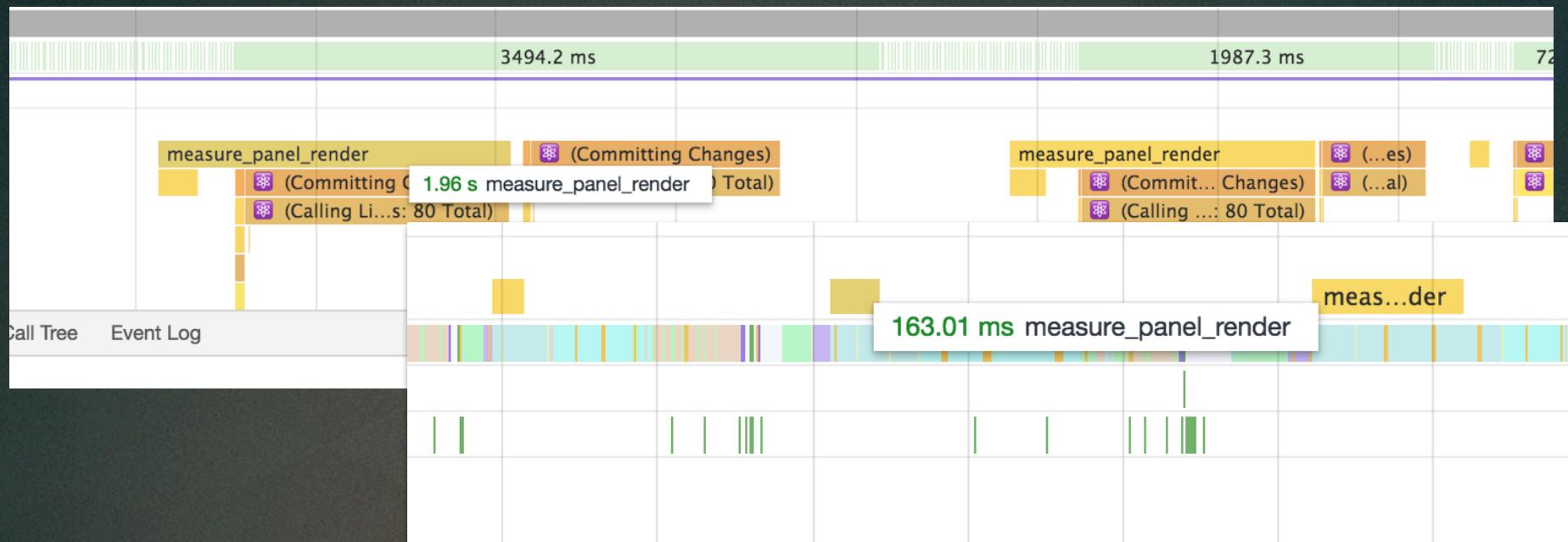
- Time range
  - Effect on data source latency/has to load more data
  - Some data sources have explicit step parameter for resolution
  - Limited effect on render times because data is sampled down

# Lesson: Tweaks with more impact

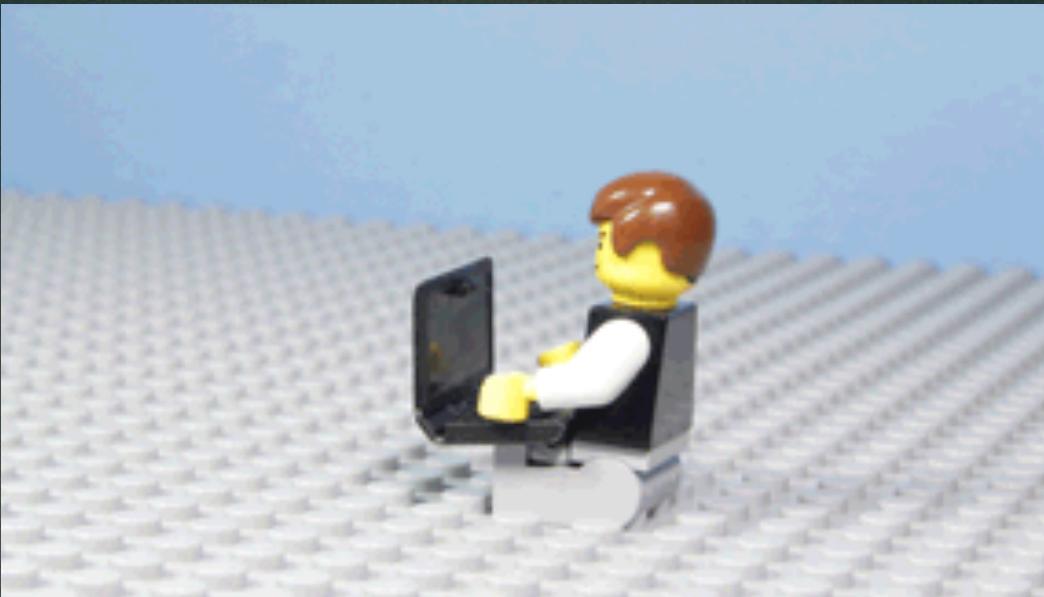
- Query limits that reduce number of time series
  - Graphs render times are similar:  
everything is rendered on canvas
  - BUT: legend items are expensive

# Lesson: high impact tweak

- Hide legend items (rely on hover instead)



# THANKS!



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@davkals

