OAK RIDGE National Laboratory

Display Builder Web Runtime

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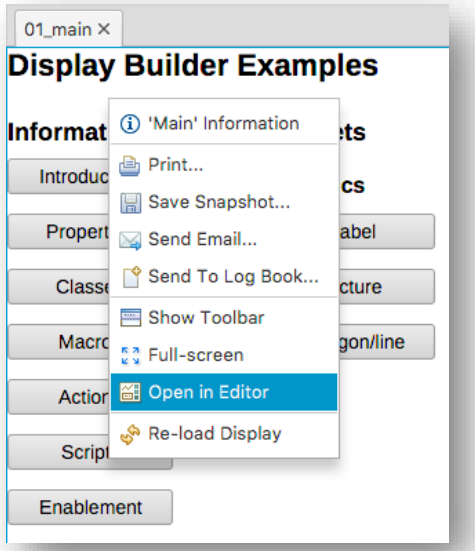
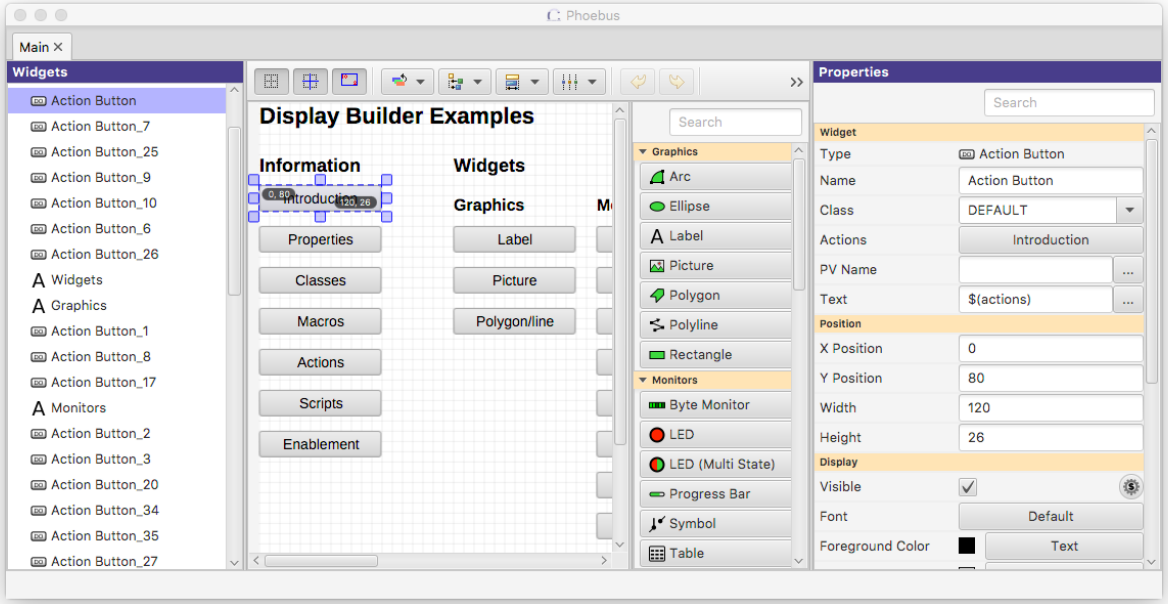
U.S. DEPARTMENT OF ENERGY

Display Builder in CS-Studio Desktop Tool

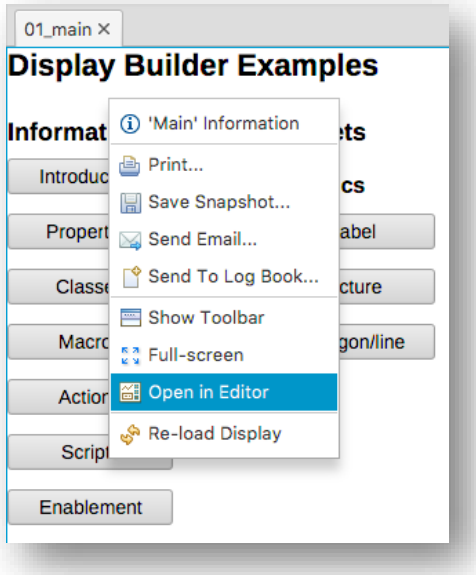


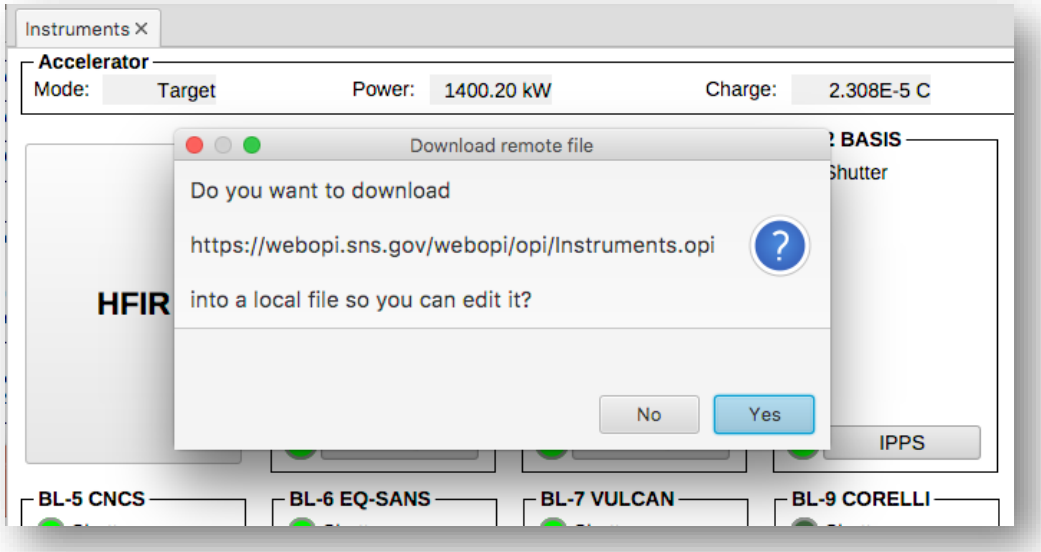


- Best support for all widget types and their features
- Includes editor for creating / modifying displays

But: Users need to install the tool, somehow access the display files, and the PV data (Channel Access, PV Access)

Storing Display Files on Web Server





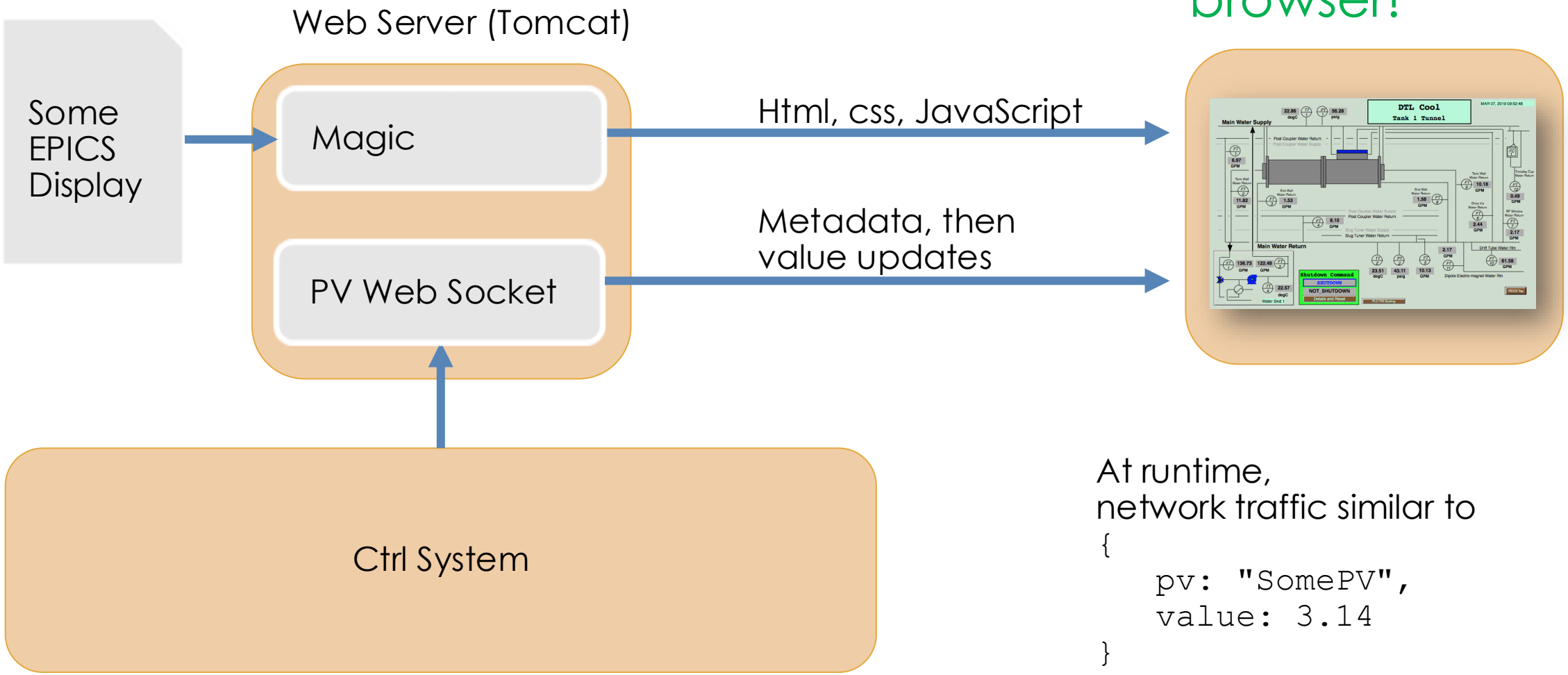
- Useful to make files available outside of control room
- Safe, read-only, always up to date

.. But still using desktop tool.

To edit, you'll be prompted for download

Display Builder Web Runtime

Client only needs web browser!



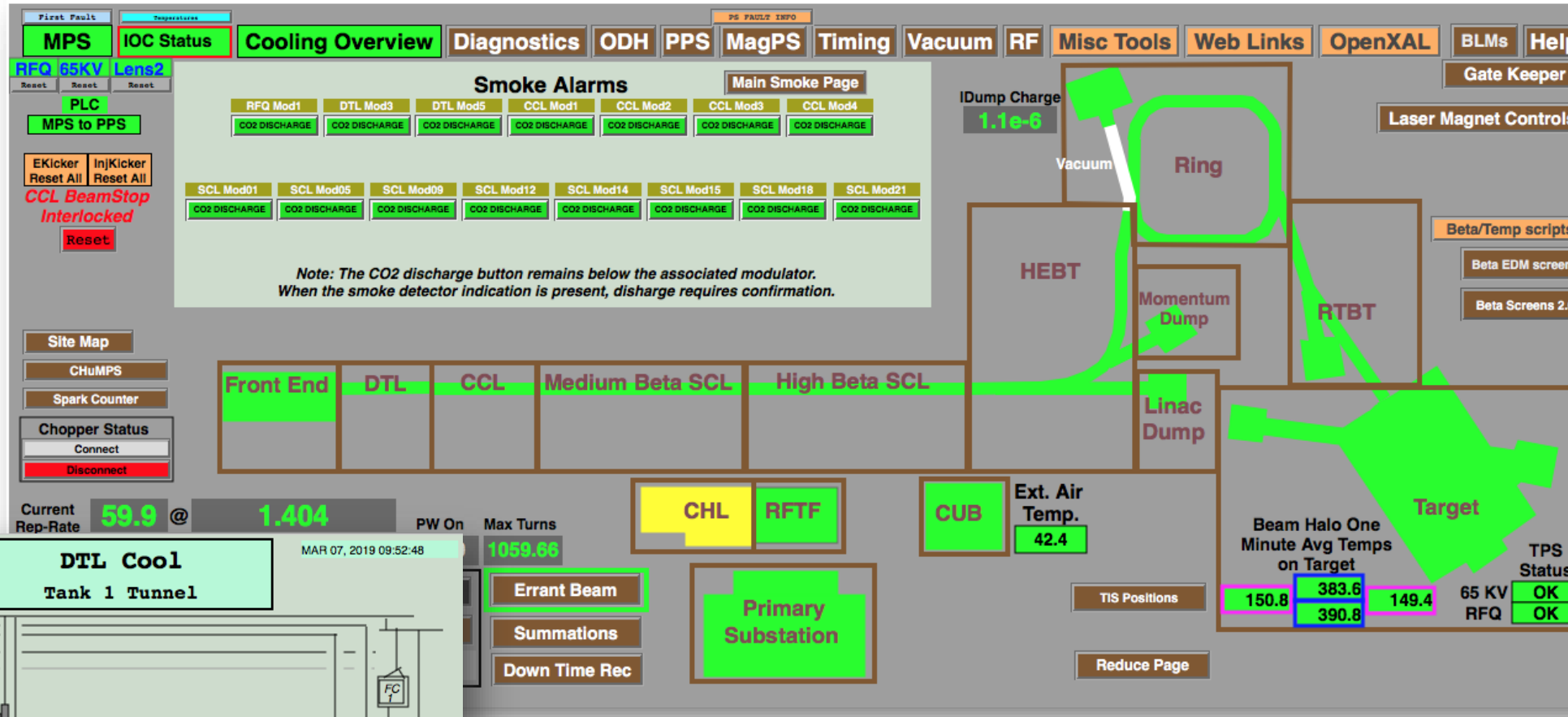
At runtime,
network traffic similar to

```
{
    pv: "SomePV",
    value: 3.14
}
```

Web EDM

Ryan Slominski,
JLab,

2017 EPICS Meeting



Very useful and performant
for EDM displays
and Channel Access IOCs

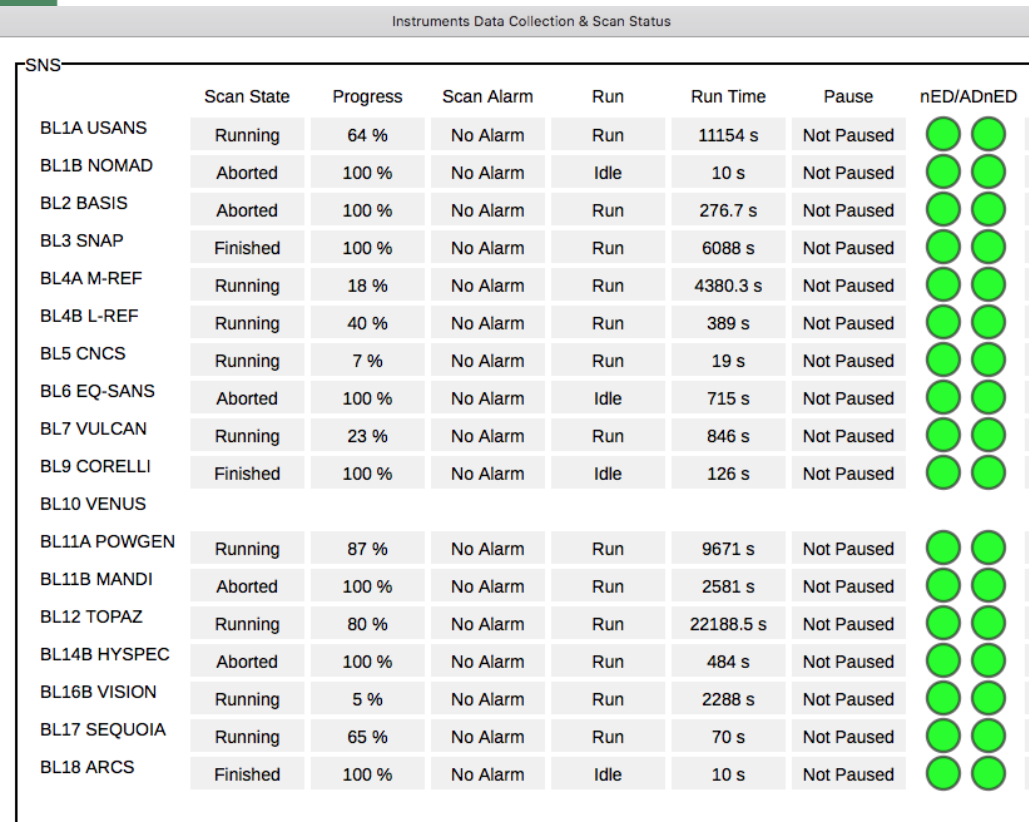
Limitations:

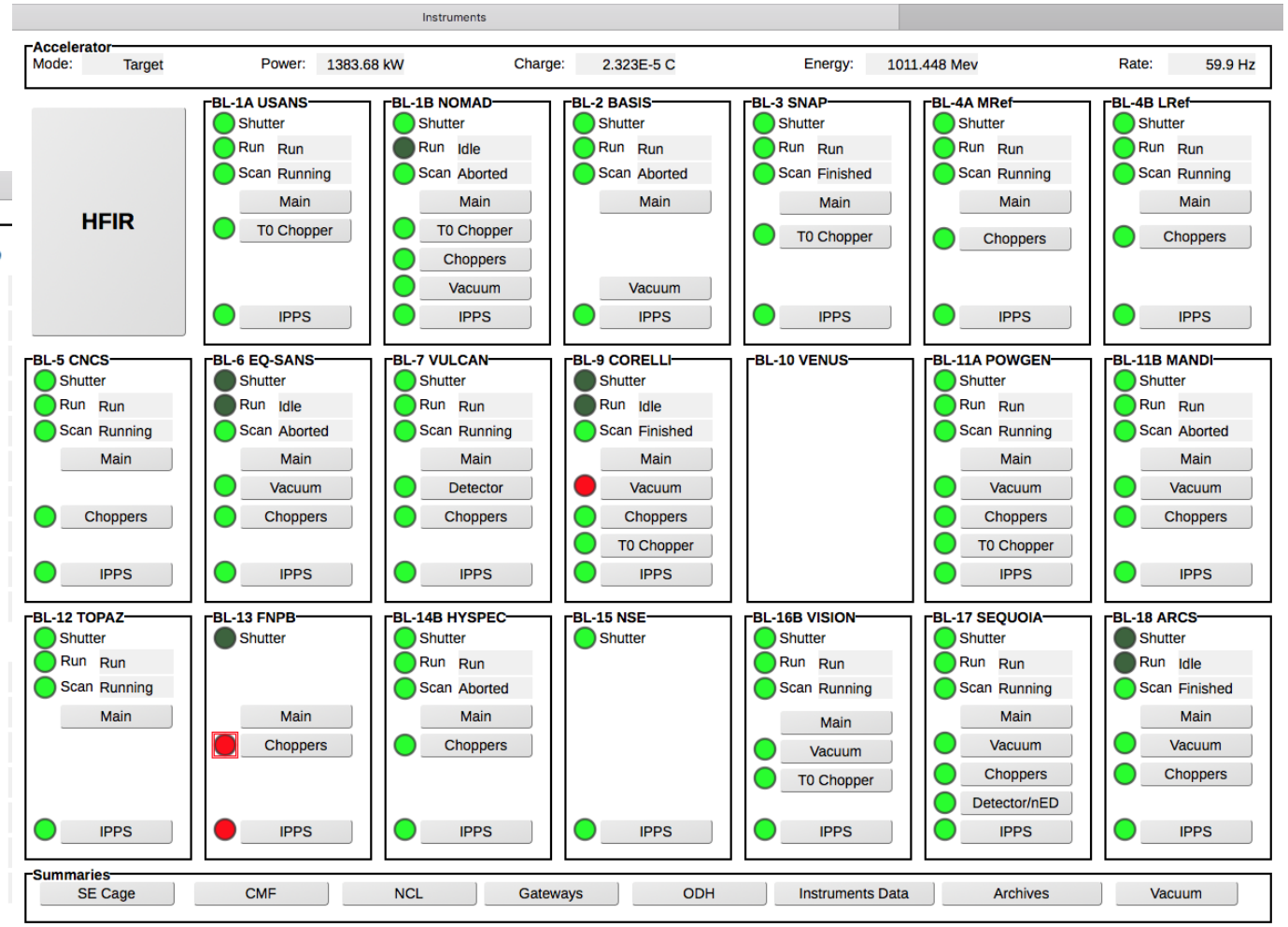
- No waveforms (plots, images)

PV Web Socket - http://localhost:8080/pvws

- Based on Phoebus Stack
  - VType PV for loc://, sim://, ca://, pva://, …
  - PV Pooling
  - RXJava Throttling
- Data Packaged as JSON
  - Sends metadata once
    - No separate connections to *.EGU, *.PREC, …
  - Severity and value on change
  - Arrays packed as Base64-binary
  - JavaScript in client merges updates

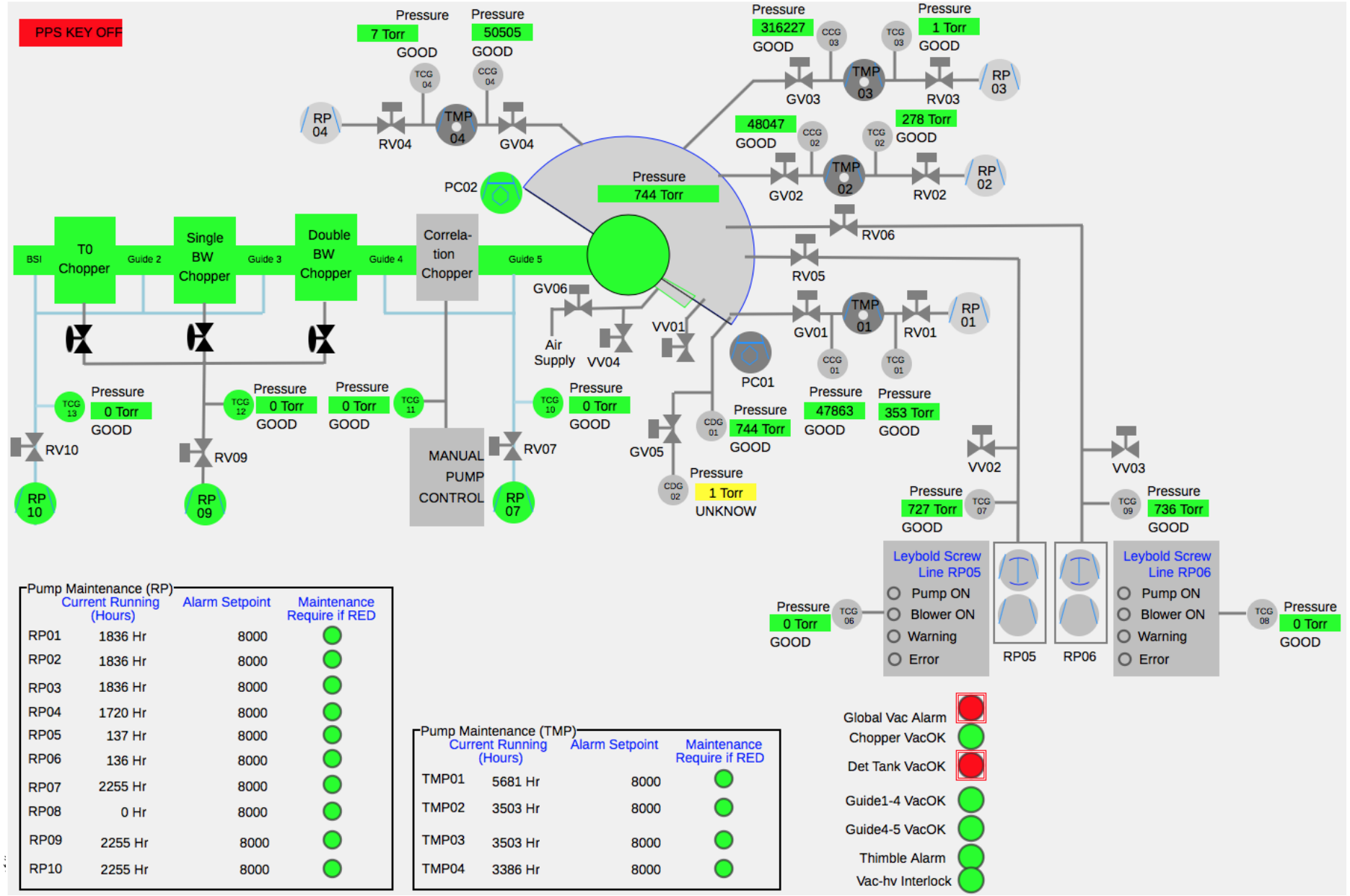
Display Builder Web Runtime - http://localhost:8080/dbwr





Labels, LEDs, Text Updates
Groups, Embedded displays, Macros

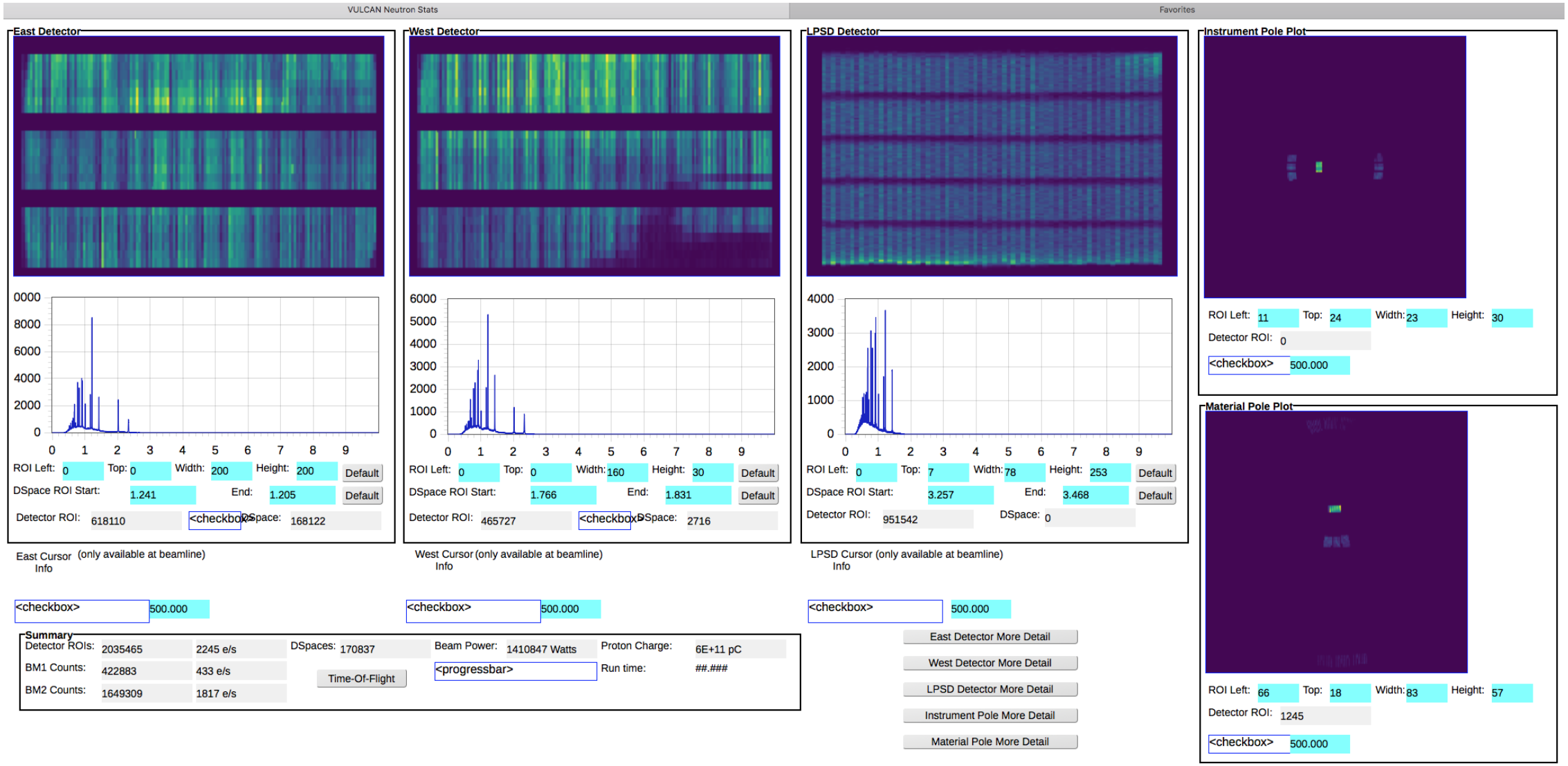
'Static' Widgets



Lines,
Circles,
Rectangles, ..

Limited 'Rule' Support:
Some colors,
Hide/Show

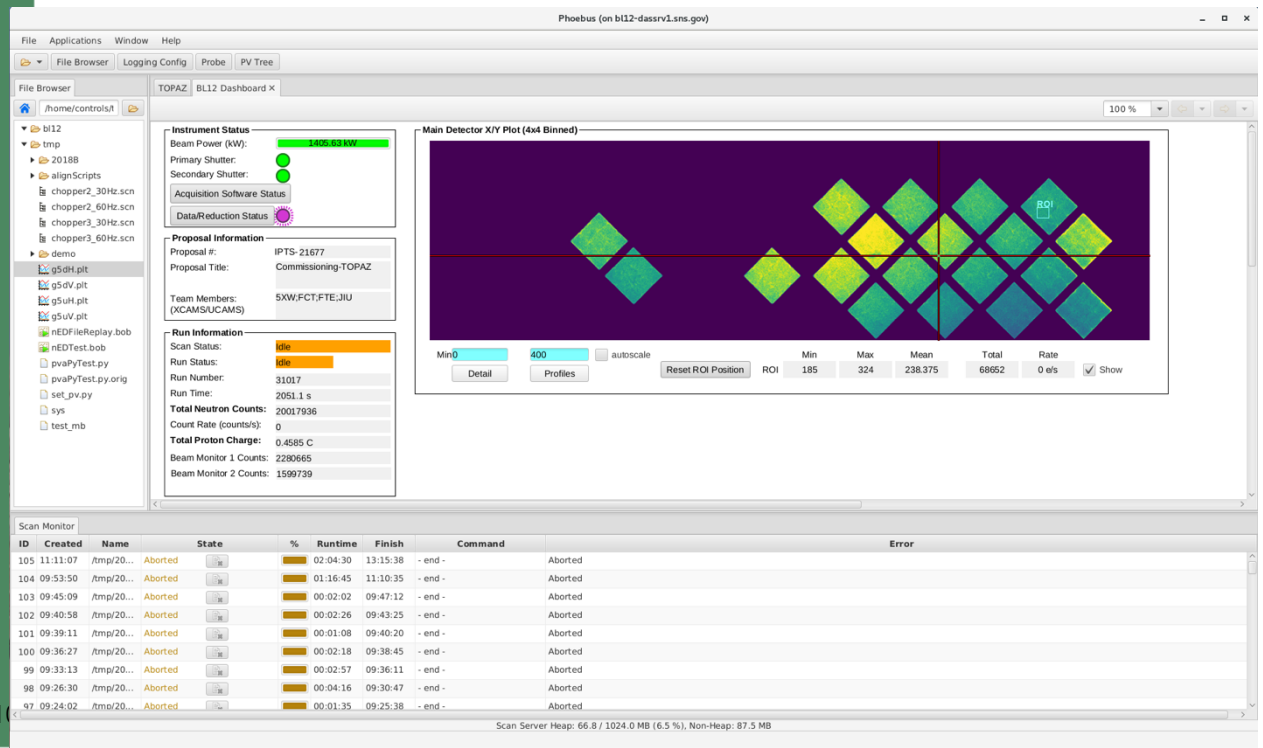
Line and Detector plots



CS-Studio on Desktop vs. Web Runtime

- Integrated Product
- Widgets with full functionality

- Just Display Runtime
- Most widgets, not full functionality
  - Much simpler plots



You might have to tweak your displays to work for both desktop and web view…

Still:
Read-only web view of control system is extremely convenient and useful!

Summary

Display Builder *Web Runtime* offers web access to much of the *Desktop* version

https://github.com/ornl-epics/pvws
https://github.com/ornl-epics/dbwr

➔ http://your_site/dbwr

1. git clone
2. ant
3. copy *.war to Tomcat
4. Set environment:
   EPICS_CA_ADDR_LIST, ..