

EPICS Tools and Services

Kunal Shroff – NSLS2
Kay Kasemir – SNS
Georg Weiss, Anders Harrisson, Fredrik Soderberg – ESS
Will Rodger, Rebecca Williams – DLS
Tynan Ford – ALS
Genie Jhang, Tanvi Ashwarya – FRIB
Jacqueline Garrahan – SLAC
Ralph Lange – ITER
Imran Usmani – APS

CS-Studio Collaboration

17+ sites actively packing a site-specific CS-Studio products or Participating in the development of one or more of the EPICS services

(NSLS2, SNS, ESS, FRIB, ALS, ITER, DLS, ISIS, CEA, NSRCC, KEK, FZB, DESY, CSNS, LNL, ROAN, JLAB,...)

12+ sites/labs/institutions using prepackaged products

Additionally, many users who do not create their own products.

Meet Our Team

Kunal Shroff

Community Manager
National Synchrotron Light Source II (NSLSII) at BNL



Kay Kasemir

Site Representative
Spallation Neutron Source (ORNL)



Ralph Lange

Site Representative
ITER



Wesley Moore

Site Representative
Jefferson Lab (JLab)



Ivan Finch

Site Representative
ISIS



Charles-Henry Patard

Site Representative
GANIL/Spiral2



Joerg Penning

Site Representative
DESY



Gustavo Ciotto Pinton

Site Representative
Laboratório Nacional de Luz Síncrotron (LNLS)



Yongxiang Qiu

Site Representative
CSNS



Andy Wilson

Site Representative
Diamond



Fredrik Söderberg

Site Representative
European Spallation Source



손창욱 (C.W. Son)

Site Representative
Korean Heavy Ion Accelerator (RAON)



Georg Weiss

Site Representative
European Spallation Source



Xinyu Wu

Site Representative
CSIRO



Tanvi Ashwarya

Site Representative
FRIB



EPICS Tools and Services

EPICS Tools

*Phoebus
CS-Studio*

- EPICS java core:
Consists of Channel Access and PVAccess client libraries, utility libraries

EPICS Service

*Archiver, ChannelFinder
Save Restore, Olog,
Alarm
...*

- epicsCoreJava & JCA is broadly stable
 - JSON conversions
 - Replace old data structure with standard java ones



EPICS Tools and Services

EPICS Tools

Phoebus
CS-Studio

EPICS Service

Archiver, ChannelFinder
Save Restore, Olog,
Alarm
...

EPICS


- EPICS middle layer Services:
Archiver, Alarm, Save Restore, Channel Finder, Olog, ...
 - Improvements to the search features for Olog, Alarm Logger, and Save Restore
 - [Save Restore](#)
 - [Olog](#)
 - [ChannelFinder Services and Supporting modules](#)

EPICS Tools and Services

EPICS Tools

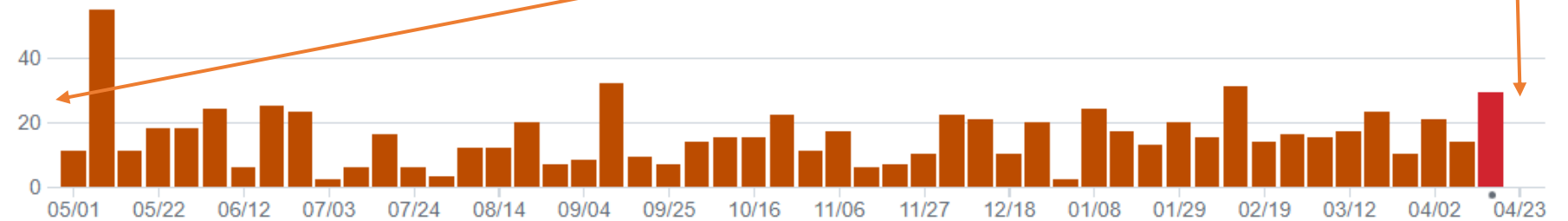
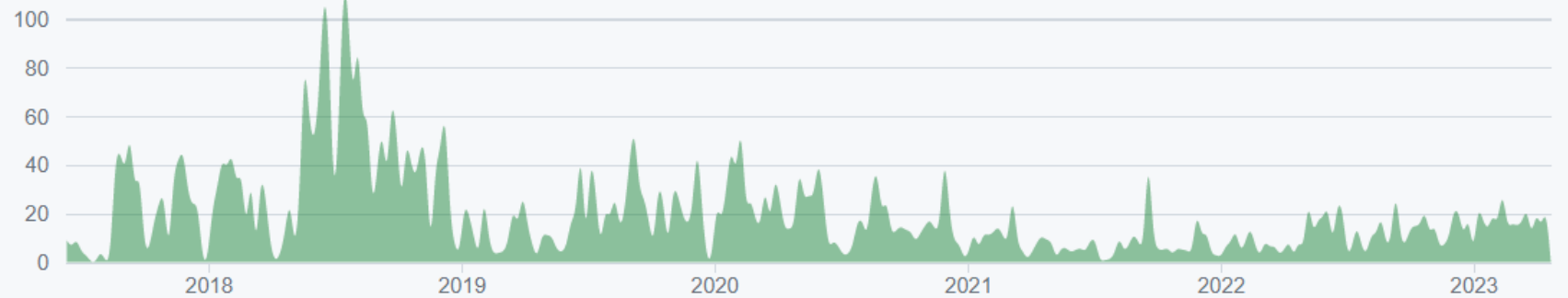
Phoebus
CS-Studio

- EPICS tools:
CS-Studio & Phoebus

Jun 11, 2017 – Apr 24, 2023

Contributions: Commits ▼

Contributions to master, excluding merge commits and bot accounts



EPICS Service
Archiver, ChannelFinder
Save Restore, Olog,
Alarm
...

EPICS
TV

EPICS Tools and Services

EPICS Tools

*Phoebus
CS-Studio*

- EPICS tools:
CS-Studio & Phoebus

EPICS Service

*Archiver, ChannelFinder
Save Restore, Olog,
Alarm
...*

- Phoebus is in production at multiple sites

- Beers for new contributors!!

- Abraham Wolk
- Minijackson
- Alexis Gaget
- cjenks cybercom
- Sky Brewer
- Thomas Lehrach
- rjwills28

EPICS


Collaboration Status

- Phoebus
 - ~300 PR's
 - ~100 Issues with 80% closed in 2 weeks

<https://github.com/ControlSystemStudio>

The screenshot displays the GitHub interface for the ControlSystemStudio repository. The top section shows a summary of issues: 4 Open and 316 Closed, with filters for Author, Label, and Projects. Below this, four recent pull requests are listed, each with a green checkmark indicating they were merged. The bottom section shows a list of issues, with a search bar and filters for Labels (12) and Milestones (0). A 'New issue' button is visible in the top right of the issues list.

4 Open ✓ 316 Closed Author Label Projects

Alarm server sevrpv: remove outdated PVs ✓
#2651 by kasemir was merged 3 days ago

Alarm config action: Preserve PV names ✓
#2650 by kasemir was merged 3 days ago

Alarm log UI updates ✓
#2648 by georgweiss was merged 3 days ago

Replace logbook advanced search button ✓
#2646 by georgweiss was merged 3 days ago

Repl

is:issue created:>2022-04-24 Labels 12 Milestones 0 New issue

Clear current search query, filters, and sorts

28 Open ✓ 81 Closed Author Label Projects Milestones Assignee Sort

Tab alignment in Tabs widget
#2238 by Amadrath was closed on May 17, 2022 6

Tolerances saved in the *.pvs file are ignored in the PV Table application
#2260 by konrad-gajewski was closed on May 17, 2022 1 1

"Channel Info" resolution of PV names
#2262 by kasemir was closed on May 25, 2022

Inconsistent "There are .. active alarms" messages and alarm state after Kafka disconnects
#2267 by kasemir was closed on May 20, 2022

clean a Graph
#2270 by baham4s was closed on May 25, 2022 1

org.elasticsearch.client.RequestOptions\$Builder NoSuchMethodError
#2273 opened on May 24, 2022 by daykin 9

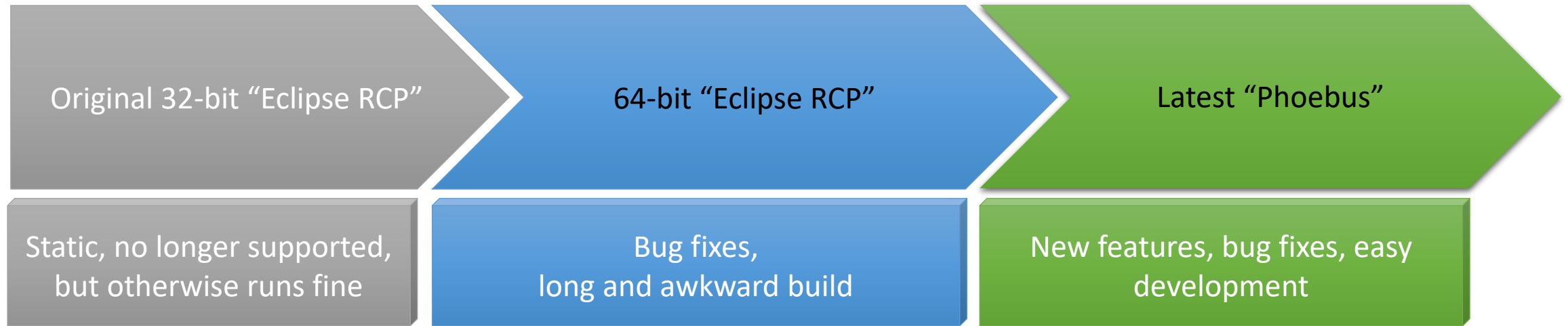
Scale, minor ticks and markers with ProgressBar widget
#2275 by baham4s was closed on Aug 31, 2022 2

alarm-logger: How to change/disable tomcat port; missing properties file; broken -help 1

CS-Studio meeting 2023-03-08

- A schema for BOB file format
- Example test which generates "all widgets all properties" XML file already in place and with minor updates it will be able to generate output files of different formats including a schema.
- The XML generation will be part of the Phoebus build. This can then be modified to produce the additional files.

Status of individual sites



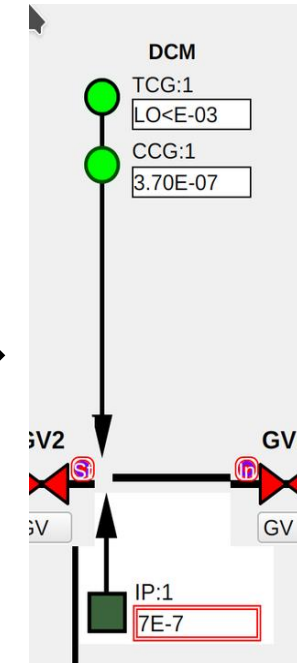
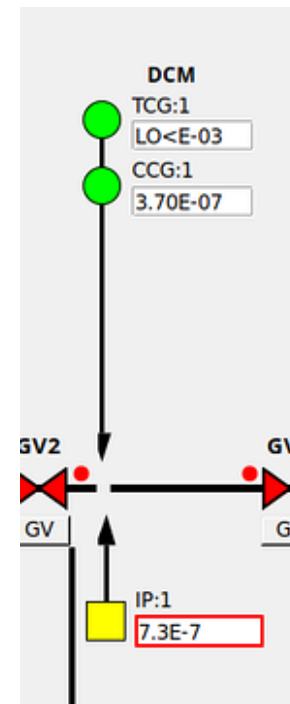
- SNS Accelerator

- DLS
- ITER
- ISIS
- FRIB (partially)
- NSLS-II (accelerator)
- ...

- SNS Beam Lines
- ESS
- ALS
- FHI
- FRIB (partially)
- NSLS2 (some beamlines)
- ...

Status of individual sites

- NSLS2
 - 3 Beamlines moved to Phoebus
- FRIB
 - So our main FRIB beamline production network has ~3000 screens out of which ~1300 screens have been converted and tested.
 - Fall 2023.
- ITER
 - New visualization requirement



0 Open	✓ 55 Closed	Author
Truncate log title but avoid ending in partial word	✓	#2641 by tanviash was merged 4 days ago
Handle empty description for legacy actions	✓	#2639 by tanviash was merged last week
Legacy longString textUpdate interactive property	✓	#2636 by tanviash was merged 2 weeks ago
Legacy resize option 3 mapped to None	✓	#2631 by tanviash was merged 2 weeks ago
Legacy XYGraph trace width	✓	#2603 by tanviash was merged on Mar 20
Handle tracenames from legacy xygraph widget	✓	#2593 by tanviash was merged on Mar 15

Next Steps

- Eclipse based CS-Studio supported till Oct, 2024
- Preparing 4.7.2
 - Integrate bug fixes and improvements to the epics base libraries (JCA, VTypes, ...)
 - Update dependencies (protobuf)
 - New Save and Restore services API
- JavaFX 20 and JDK 17

Useful links

<https://controlsystemstudio.org/>
<http://phoebus.org>

- Fork us on github
<https://github.com/ControlSystemStudio>
- ChannelFinder
<http://channelfinder.github.io/>
- Olog
<https://github.com/Olog>
- SaveRestore, Alarm Services, Scan Server
<https://github.com/ControlSystemStudio/phoebus/tree/master/services>

How to contribute

- GitHub Issues
- Monthly meetings on the 1st Wednesday of each month.
- EPICS developers meeting in Aug/Sep 2023
 - Potential topics/sessions
 - EPICS tools and services
 - EPICS base
 - EPICS build and deployment