



Proposed EPICS Data Logger for DSG

Aaron Brown
Detector Support Group
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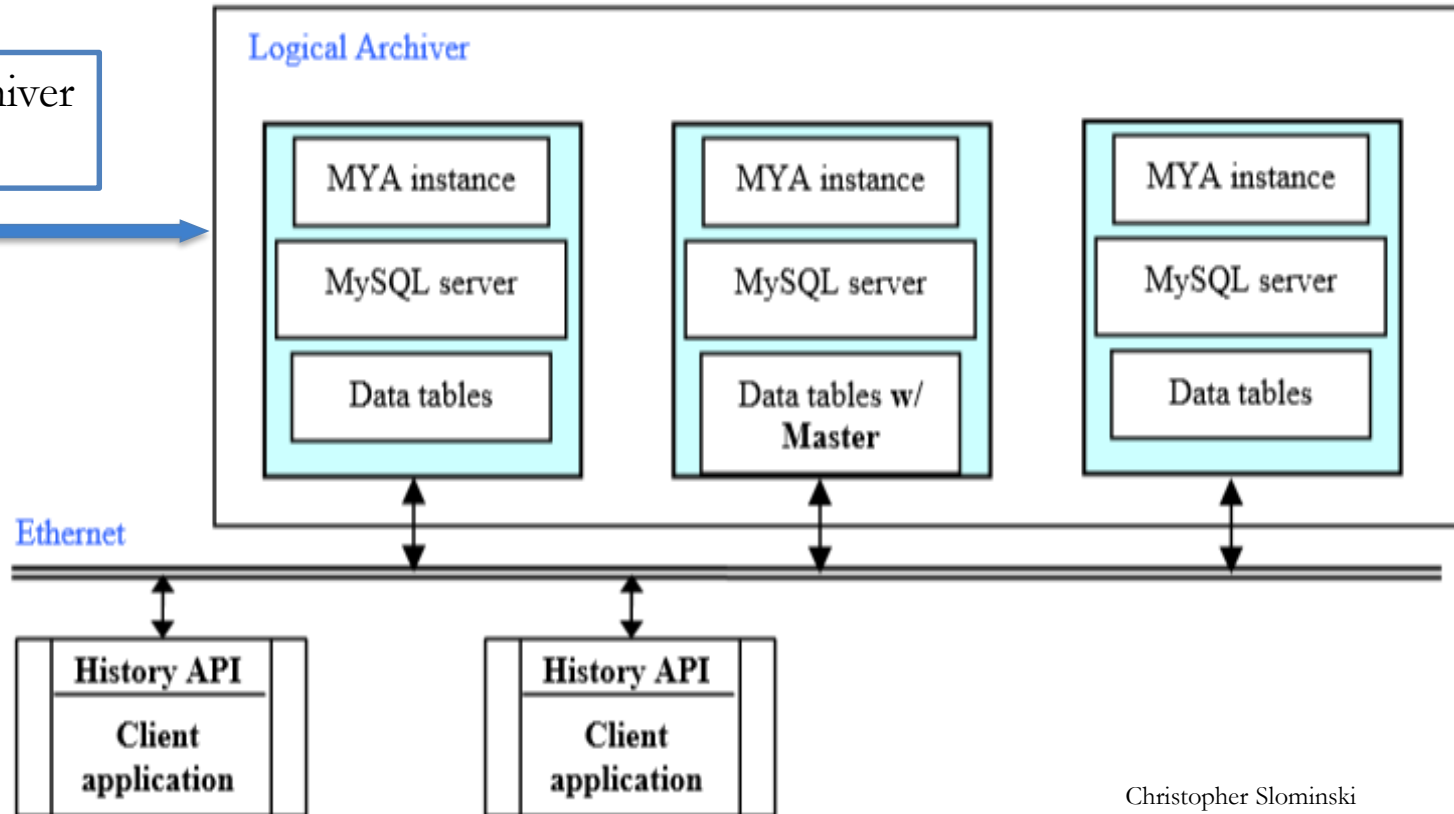
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Overview

- MYA Archiver is current data logging method used site-wide
 - Provides group no control over how often a PV value is scanned

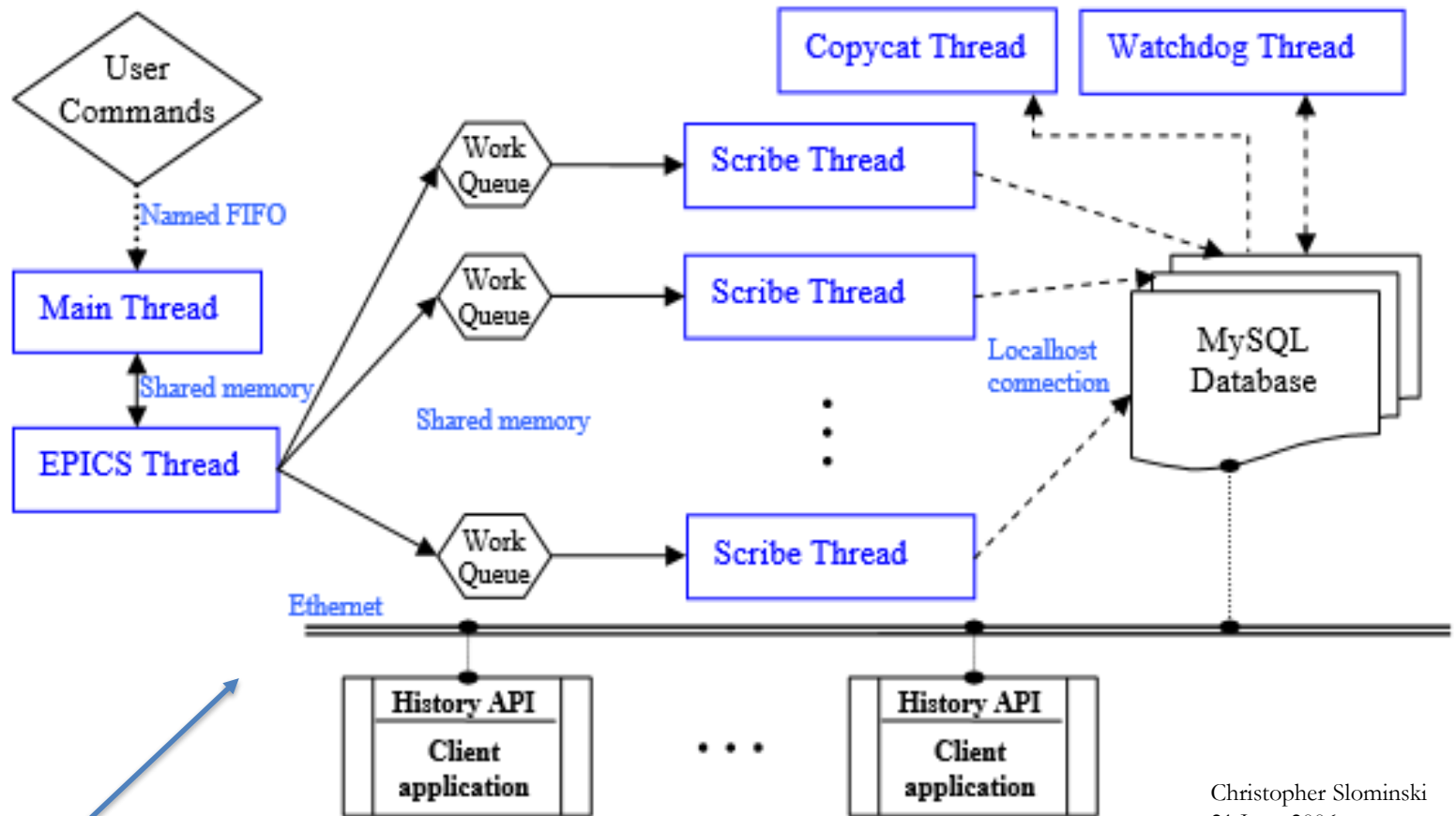
MYA Channel Archiver architecture



Christopher Slominski
21 June 2006

Overview

- Data written to database only if PV value changes
- Data stored in multiple MySQL databases



Christopher Slominski
21 June 2006

MYA Channel Archiver architecture.

Plans

- Create local EPICS data logger
 - Monitor and log EPICS PV data for DSG testing purposes
- DSG controls scan rate and which PVs are monitored
 - PV value logged even if the value hasn't changed
- Archive data on local MySQL database
 - Located on a host machine on each of the hall subnets
 - User would remote into machine and access database for PV data
 - Query results can be saved to text file

Currently

- PV Monitoring

- Using three example PVs and three RTD PVs

- Data saved to text file

- Database has been created

- MySQL database to store PV data
- Uses standard SQL queries
 - ✓ Don't need to parse data before storing

```
04-11-2019--16:20:57 alarm_alias 23.0000
04-11-2019--16:20:57 ch0_alias 23.0000
04-11-2019--16:20:57 ch2_alias 23.0000
04-11-2019--16:20:57 ambrownHost:ai1 7
04-11-2019--16:20:57 ambrownHost:ai2 3
04-11-2019--16:20:57 ambrownHost:ai3 1
04-11-2019--16:20:58 ambrownHost:ai2 9
04-11-2019--16:20:58 ambrownHost:ai1 8
04-11-2019--16:20:59 ambrownHost:ai1 9
04-11-2019--16:21:00 ambrownHost:ai3 2
04-11-2019--16:21:00 ambrownHost:ai2 0
04-11-2019--16:21:00 ambrownHost:ai1 8
04-11-2019--16:21:01 ambrownHost:ai1 1
04-11-2019--16:21:02 ambrownHost:ai2 1
04-11-2019--16:21:02 ambrownHost:ai1 2
04-11-2019--16:21:03 ambrownHost:ai1 3
04-11-2019--16:21:04 ambrownHost:ai2 2
04-11-2019--16:21:04 ambrownHost:ai1 4
04-11-2019--16:21:05 ambrownHost:ai3 3
04-11-2019--16:21:05 ambrownHost:ai1 5
04-11-2019--16:21:06 ambrownHost:ai2 3
04-11-2019--16:21:06 ambrownHost:ai1 6
04-11-2019--16:21:07 ambrownHost:ai1 7
04-11-2019--16:21:08 ambrownHost:ai2 4
```

Example PV name

Example PV value

```
"PVLogs_test02.dat" [noeol] 1047453L, 19521536C
```

Monitored PV data is currently being saved to a text file.

Timestamp

Issues Faced

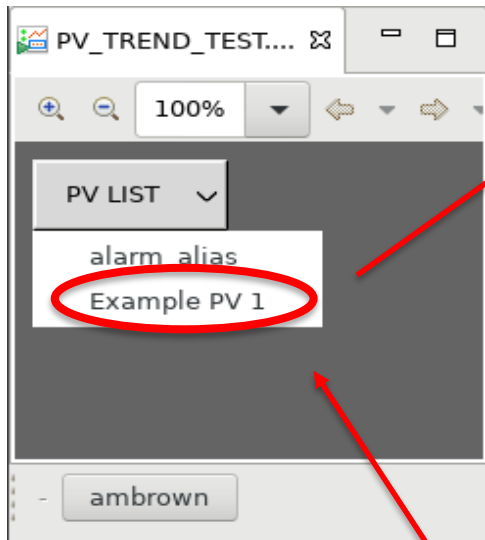
```
MariaDB [testAMB]> select * from PV_Table;
+-----+-----+-----+
| Timestamp      | Name       | Value |
+-----+-----+-----+
| 23 October 2019 | alarm_alias | 24    |
| 23 October 2019 | alarm_alias | 23    |
| 23 October 2019 | alarm_alias | 25    |
+-----+-----+-----+
3 rows in set (0.01 sec)
```

PV values manually loaded into MySQL database to test that it was setup correctly.

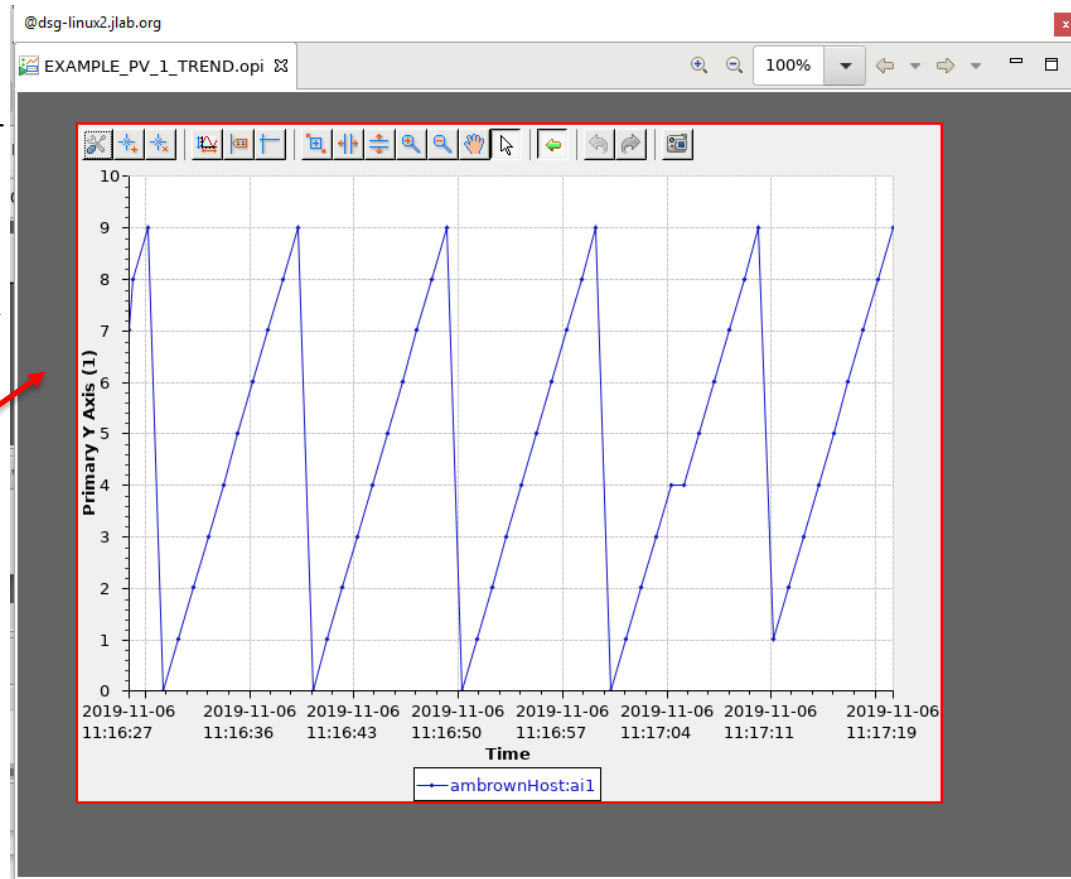
- Rate Guarantee
 - Changing rate guarantee would allow choice of often PVs are scanned
- Load MySQL Database
 - Can load database from text file, but not directly (skipping text file)
 - Currently investigating alternate database options

Issues Faced

- Data Plotting
 - CSS-BOY screen to plot real-time PV data
 - Working on plotting archived data directly from database



Drop menu for PV trends



- Trend line for “Example PV 1” opens in separate tab

Going Forward

- Figure out how to load PV data directly into database
- Figure out best way to include plotting capability
- Determine how many PVs we want to monitor continuously

Conclusion

- Development of local EPICS data logger in progress.
 - Allows control of how often PVs are scanned
- Currently monitoring 6 PVs and storing values in a text file
- MySQL database created to archive PV data

THANK YOU