Monitoring EPICS Beacons

Michael Bree
Canadian Light Source

June 2019 EPICS Collaboration Meeting
> 1200 Apps

~ 400 Hosts
What is the Problem?
Classic Chicken & Egg

• Messy because users* ignore it
• Users* ignore it because it’s messy

* includes me
Partial Solution

• Strict policy – fix immediately
Partial Solution

• Strict policy – fix immediately

• Display prominently – Control Room*

* can’t... it’s to messy
Real Problem

If users won’t use the tool, the problem is with the tool, not the users.
Ambiguous Beacons

IOC HOST
Ambiguous Beacons

Can’t distinguish between:

• Restarts and lost beacons
• New and moved beacons
• Critical apps and temporary apps
EPICS Heartbeat

- Enhanced Beacon
- Key = CWD + CMDLINE (/proc)
- `heartbeat();`
- Legacy!! < 40% deployment
LinuxMonitor

- Based on PCMON (PSI)
- IOC App runs on (almost) all IOC Hosts
- Returns IOC host status PVs
- One image – restart deploys updates
LinuxMonitor (Enhanced)

UDP Query:

• **Client**: Send IOC App beacon port
• **LinuxMon**: IOC App PID from port (/proc)
• **LinuxMon**: Key = CWD + CMDLINE (/proc)
• **LinuxMon**: Return Key
LinuxMonitor Enhanced

IOC HOST

IOC APP A

IOC APP B

IOC APP C