Slow control framework

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2017.8.25
*Trigger/DAQ workshop*
NTU, Taipei

Status at KEK

- Infrustructure (network, PC for central systems) are ready

- NSM2 and EPICS as baseline framework for interprocess communication

- Outer detector slow control is most built upon NSM2, and current GCRT is based only on NSM2 based systems

- Inner detector slow control is built upon EPICS, and DESY-TB was based on mix of NSM2 and EPICS systems

- Konno-san made a lot of efforts on build **almost all** slow control programs, and I'm still one of poor users who are learning how to use

Network

- **b2nsm and b2epics, sharing the same line, for slow control**

  - Fully isolated from daqnet

  - Need at least two network ports for daqnet and b2nsm/b2epics when users bring in a PC for slow control purpose

  - USB network adaptor should be good enough

- **Network security is our priority**

  - **Potential risk** to stop the experiment if the daqnet is intruded

  - Private network is not a taxheaven, all security policies are applied

  - Even if you are sure that no damage is made or no information is stolen, it is **not easy to prove it and get approval** for restart

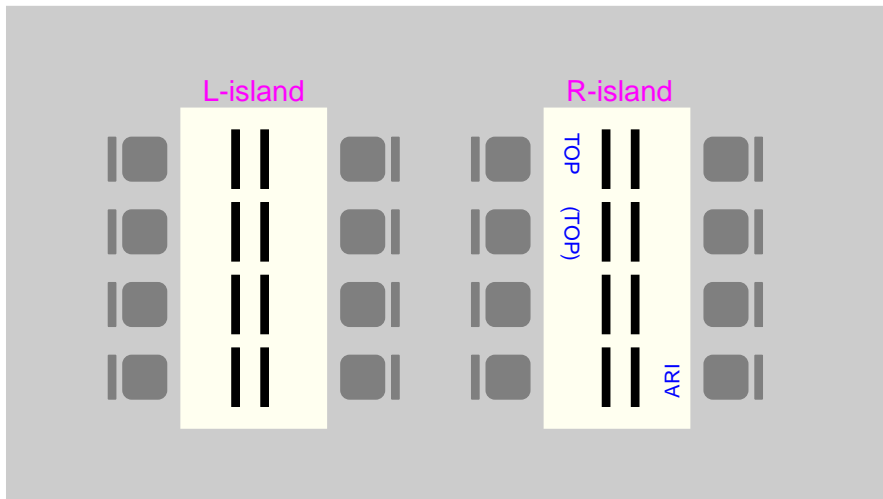 - Windows is not allowed, it is more popular target of malicious act

B3 control room
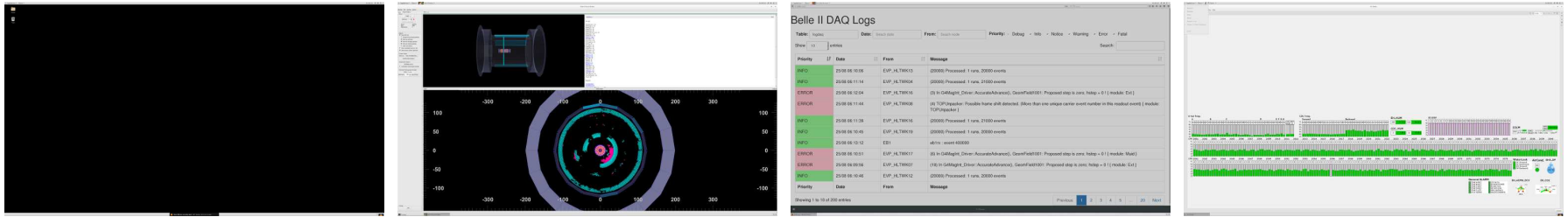
● Top: superkekb, event display, log, monitor
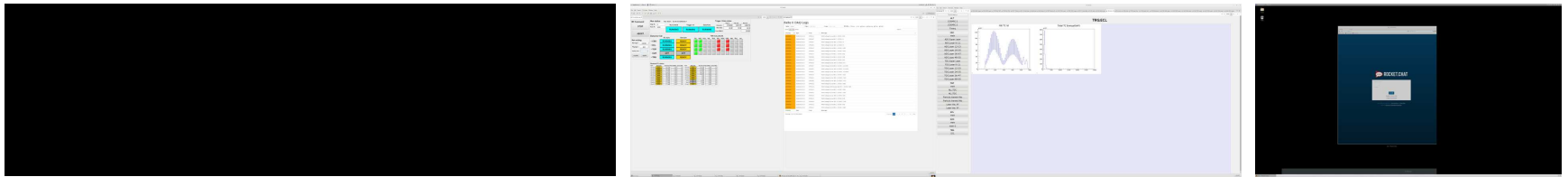
● Bottom: HV control, Run control, DQM, elog/chat(?), need more idea

● 16 displays for detectors

● 2 by TOP, 1 by ARICH for now

● Free desks are quite useful for commissioning work

● More space for beast etc

NSM2 operation mode

- 27 hosts, about 65 processes in b2nsm network
- More NSM2 nodes inside COPPER netowrk and HLT network
- This is not yet a huge number, but already having problems
- nsmd2 running mostly under b2daq account
- NSM2 is designed in such a way to use shared memory for easy sharing of information
- However CSS is not good at using shared memory

NSM2 problems and action plan

- Sometimes some processes crash, and could not be recovered just by restarting the dead process

- Almost no effort has been spent so far to debug NSM2

- Log files are not kept because they are large and often not so informative

- Just this morning an NSM2 problem occurred

  - most of the daemon processes are gone

  - at restart, some of the daemons did not properly start

  - and even after fixing it, I could not make CDC to be READY

- Anyway I made a small change and set up log files for a few relevant hosts, now I'm ready to start debugging

Other than NSM2

- EPICS processes should work and should be controlled from RC, as was done in DESY-TB

- SuperKEKB and solenoid PVs are already available within b2epics network
(e.g., should be used by field mapping team)

  - PV list is available at `https://confluence.desy.de/display/BI/MDI+WebHome`, but need a better format (you need to download even though it is a simple text file, which worked fine with TWiKi)

  - And I just found that this file hasn't been updated to the latest one...