INTT Stuff Meeting Material

RIKEN/RBRC

Itaru Nakagawa

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Software Manpower Potential Resources

	BNL	Purdue	RIKEN	NWU	JAERI	Taiwan
	Rachid	Wei	(Yasuyuki)	Takashi	Shoichi	Ming
	Raul		Itaru	Maya		Rong-Shyang
PD		Milan	Genki			
Ph.D Candidate						Kai-Yu
2nd Year Graduate			Hikaru	Yumika Runa		Cheng-Wei
1st Year Graduate		Joseph?		Yuka		Wei-Che
UG			Tomoya, Ryota, Kazuma			

Software Tasks

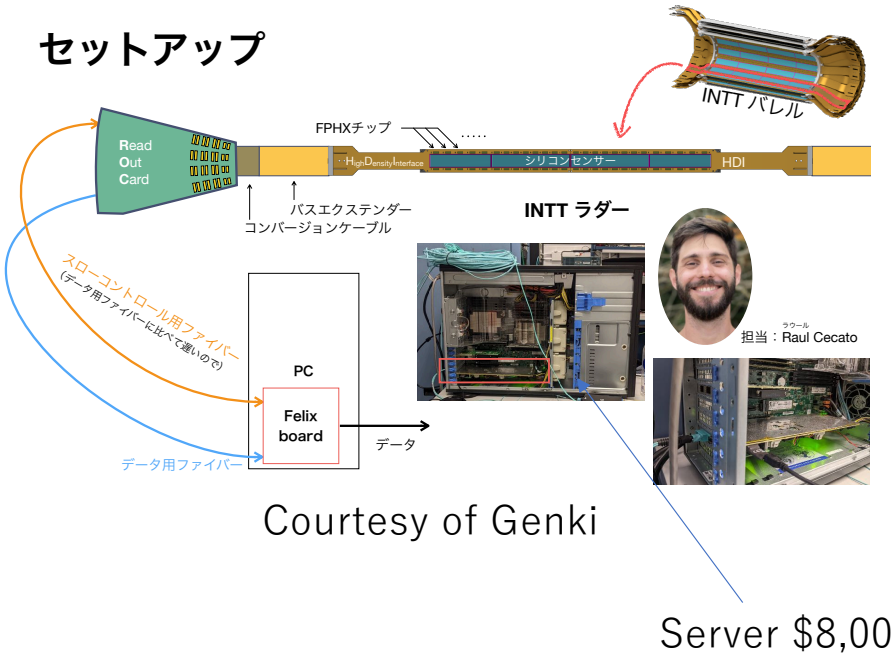
*Need FELIX environment for development/testing

Item	Personnel/Institute	Comment
GEANT INTT Model	Genki (RBRC)	
Track Reconstruction	Cheng-Wei (NCU)?	To be a member of the big offline software group.
Online Monitor	Joseph, Wei (Purdue)	
Unpacker*	Joseph (Purdue)	
Ladder QA Database	Milan (Purdue)	
LV, Bias Control GUI	Steve Boose (BNL)	
Expert GUI*		FPHX parameter control
DAQ operation database*		Record FPHX parameters in DB
DAQ start script*	DAQ group + INTT personnel	SC sequences
Calibration/Pedestal Scripts*		Automated script. Dump results into DB.
FELIX FPGA	Raul + INTT personnel	

Else?

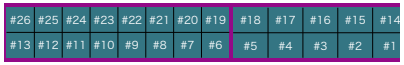
Transition to FELIX Readout

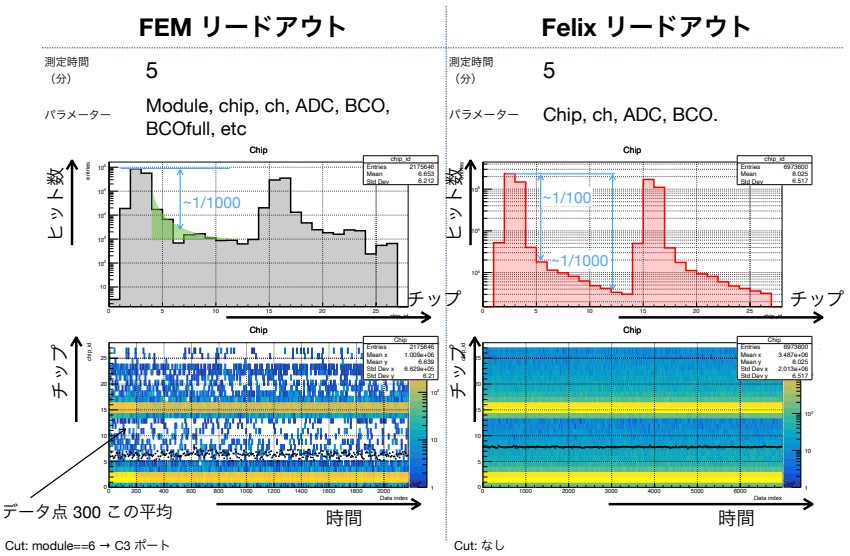
セットアップ



Courtesy of Genki

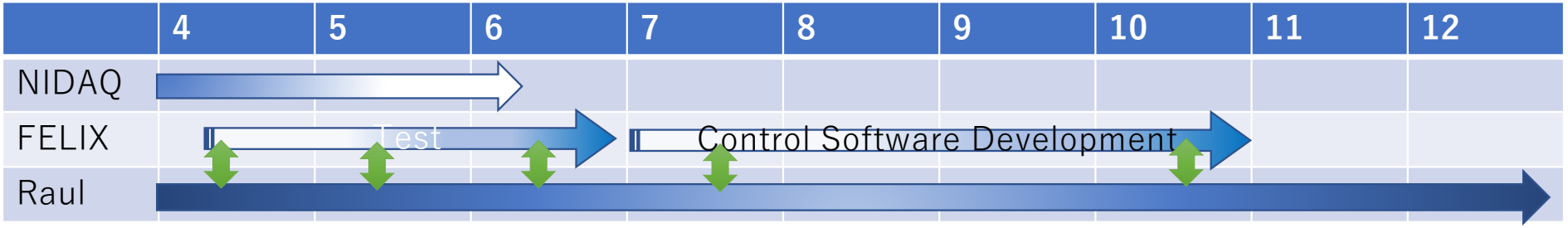
データ





- Should shift from FEM-NIDAQ base standalone to FELIX base readout in BNL test bench as long as the FELIX is ready for testing.
- Need 2nd FELIX test bench. Purchase another $8,000 server and FELIX board (available?)

Transition to FELIX Readout



- It is important to have an environment for Raul's development and testing/our control software development simultaneously. This way, Raul and we can feed back each other.

Expert GUI

- Can be modified from FVTX version
- Written in python

The FVTX Expert GUI was developed in python using Tk support through the Tkinter library. phoncs20 is the only machine in 1008 that has an appropriate python installation.

Unfortunately, phoncs20 is also the only machine that has broken remote password login. You can only log in directly to phoncs20 as phnxrc if you have added your public key to the authorized_keys file on the phnxrc account.

Organization

The FVTX Expert GUI is organized into four tabs:

- Slow Control
- Power Map
- Latch Database
- Bias Control

Additionally the Slow Control tab is organized into four additional levels

- Detector
- ROC
- Wedge
- Chip

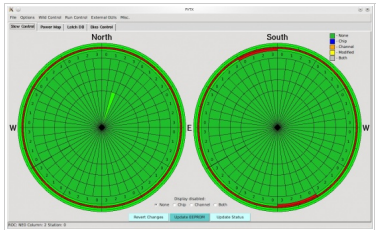
Slow Control

Graphical Representation

The Slow Control tab of the expert GUI is comprised of the frontal view of both detector arms (North/South) when looking ***out*** from the interaction point.

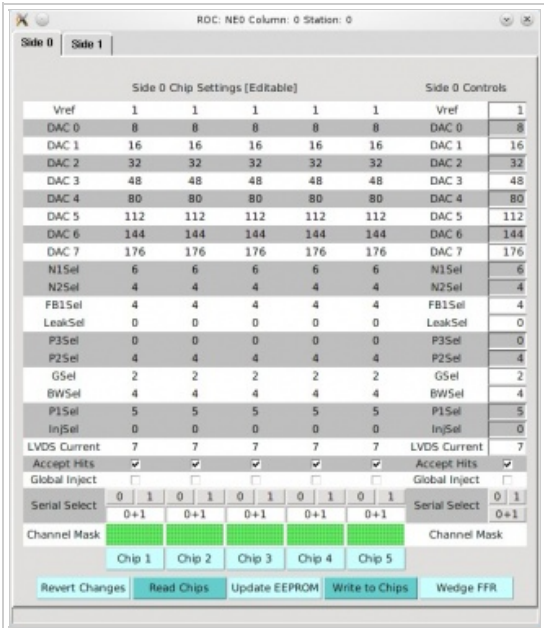
As such, the locations of **East** and **West** are reversed for each arm.

To aid in orientation **E** and **W** labels are placed in the corresponding locations.

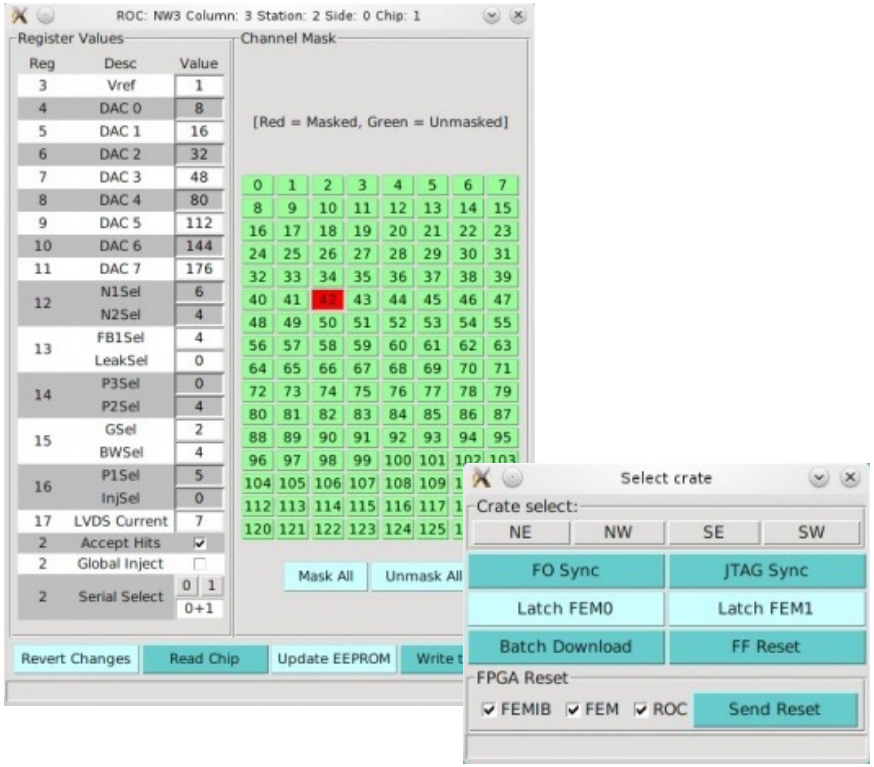


View of the Slow Control tab with detector status rings.

- From the inside out the various layers of information provided are:
  - Station 0 wedges
  - Station 1 wedges
  - Station 2 wedges
  - Station 3 wedges
  - ROCs
    - The numbering here is the ROC ***column*** of the wedges in that same phi slice
  - Status rings

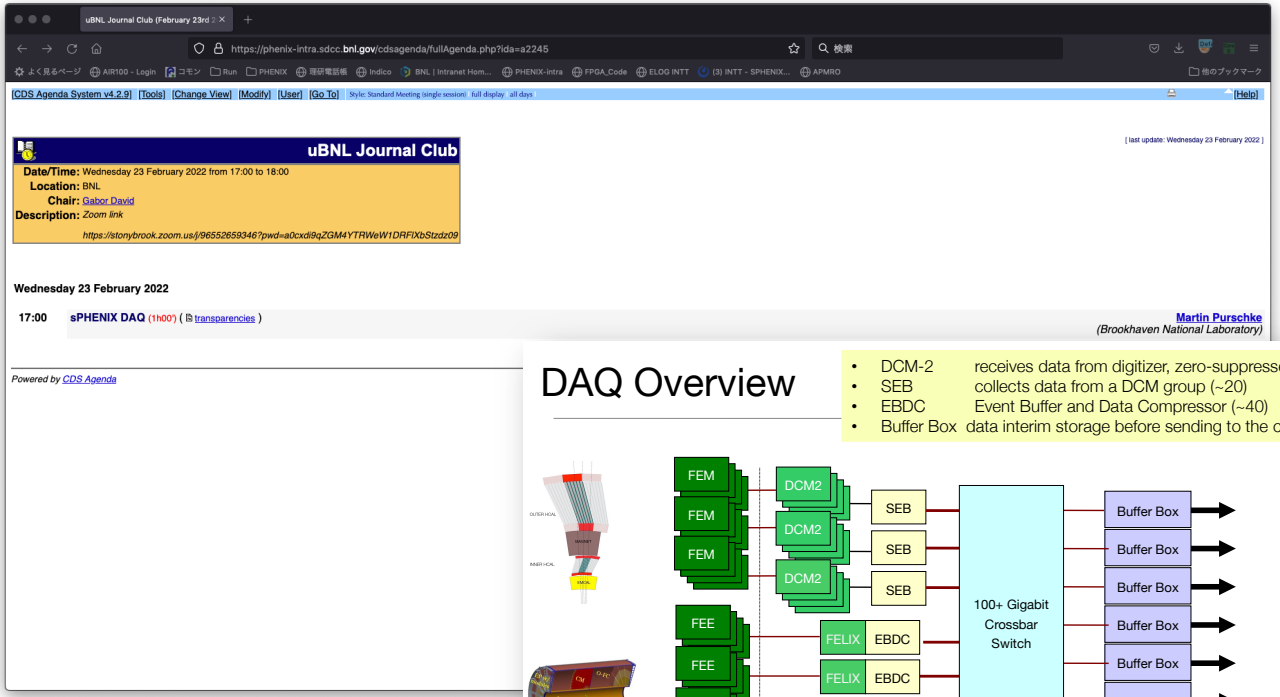


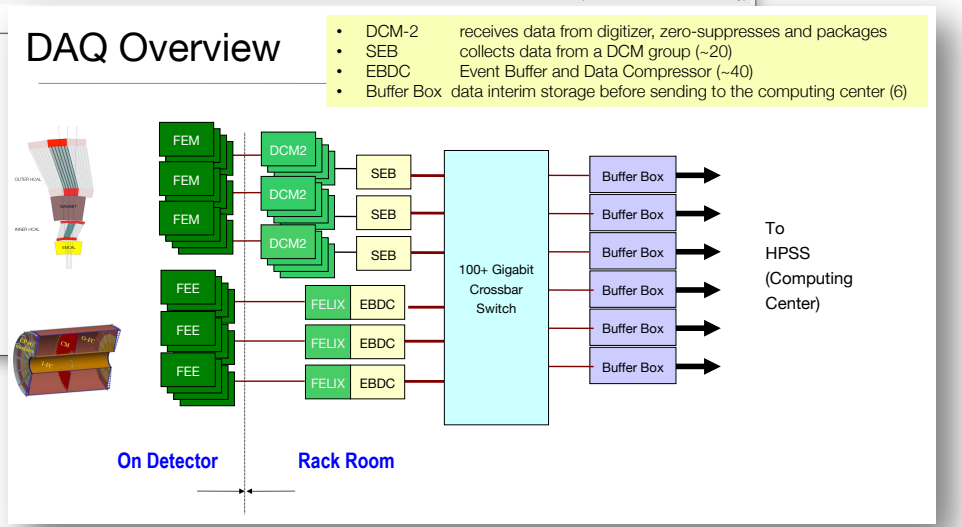
Wedge level window for modifying register values. All fields are editable.



"https://www.phenix.bnl.gov/WWW/offline/wikioff/index.php/FVTX_Expert_GUI"

sPHENIX DAQ

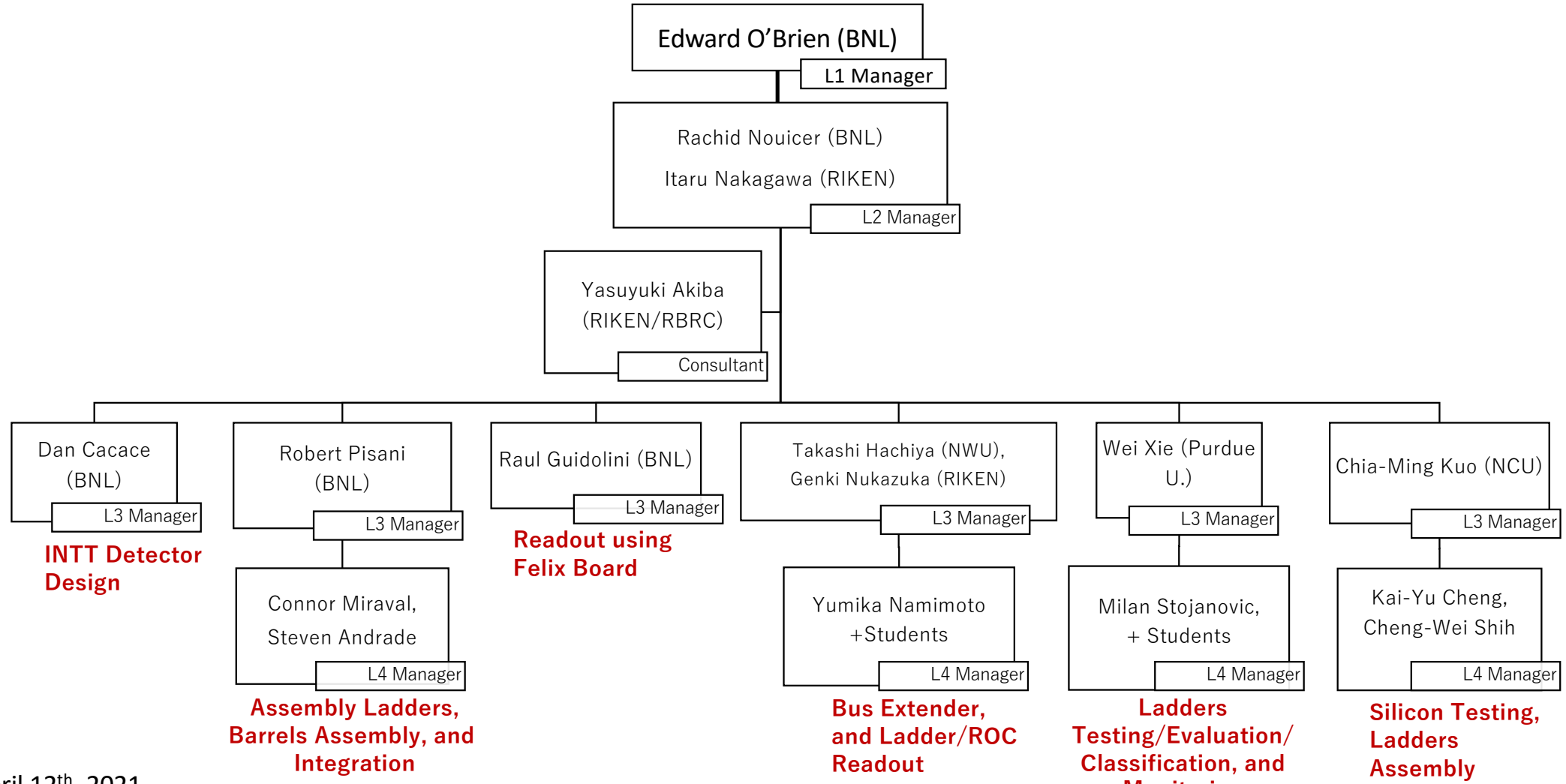




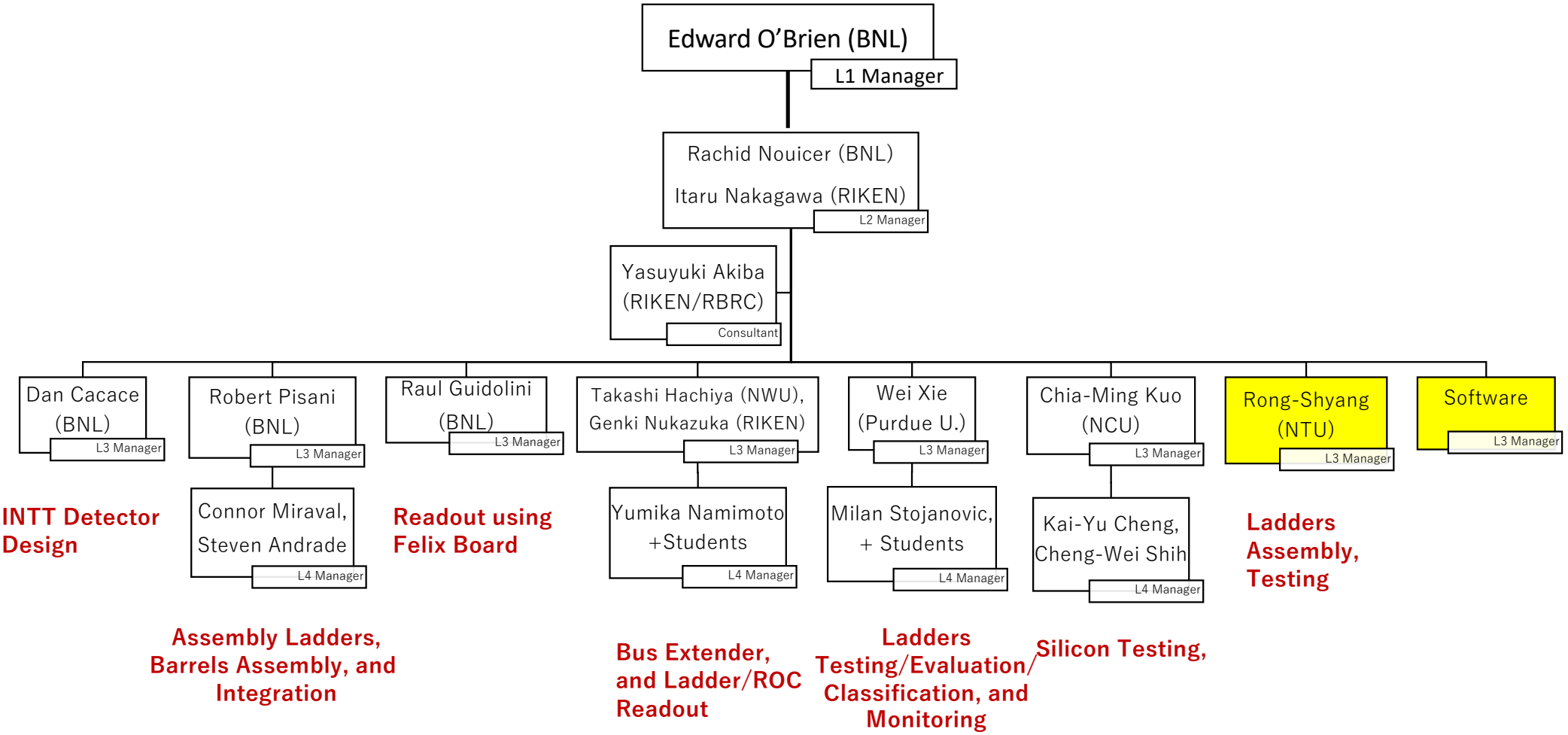
- Do we have standalone rc like PHENIX?
- How many BCLKs before the trigger decision?
- How events are built thru EBDC?
- Etc..

We should be more familiar with sPHENIX DAQ system. Planning to invite Martin for QA session soon.

Management Chart (Presented in the FELIX review)



Management Chart (Update Proposal)



April 21th, 2022

Proposed plan for INTT Publications

Topics	Target Journal	Leading Author	Timeline	Remaining Issues
Bus Extender (Electric)	The Japan Institute of Electronics Packaging	Takashi Kondo (TIRI)	2022/May	To be announced from Takashi later
Bus Extender (Mechanical)	NIM	Takashi?	2022/Summer	Final evaluation of the yield rate
2021 Beam Test	ELPH Ann. Rprt. NIM	Genki?	2022/Summer	Efficiency (Thick tail by MC, BG contamination)
INTT Ladder	NIM	Itaru/Rachid?	2022/Summer	
INTT Barrel	NIM		2023	

Backup Slides