

V4 Status and Workshop Report

EPICS Community, and the
Development Teams for CS-Studio,
DISCS, and V4

Meeting Attendees

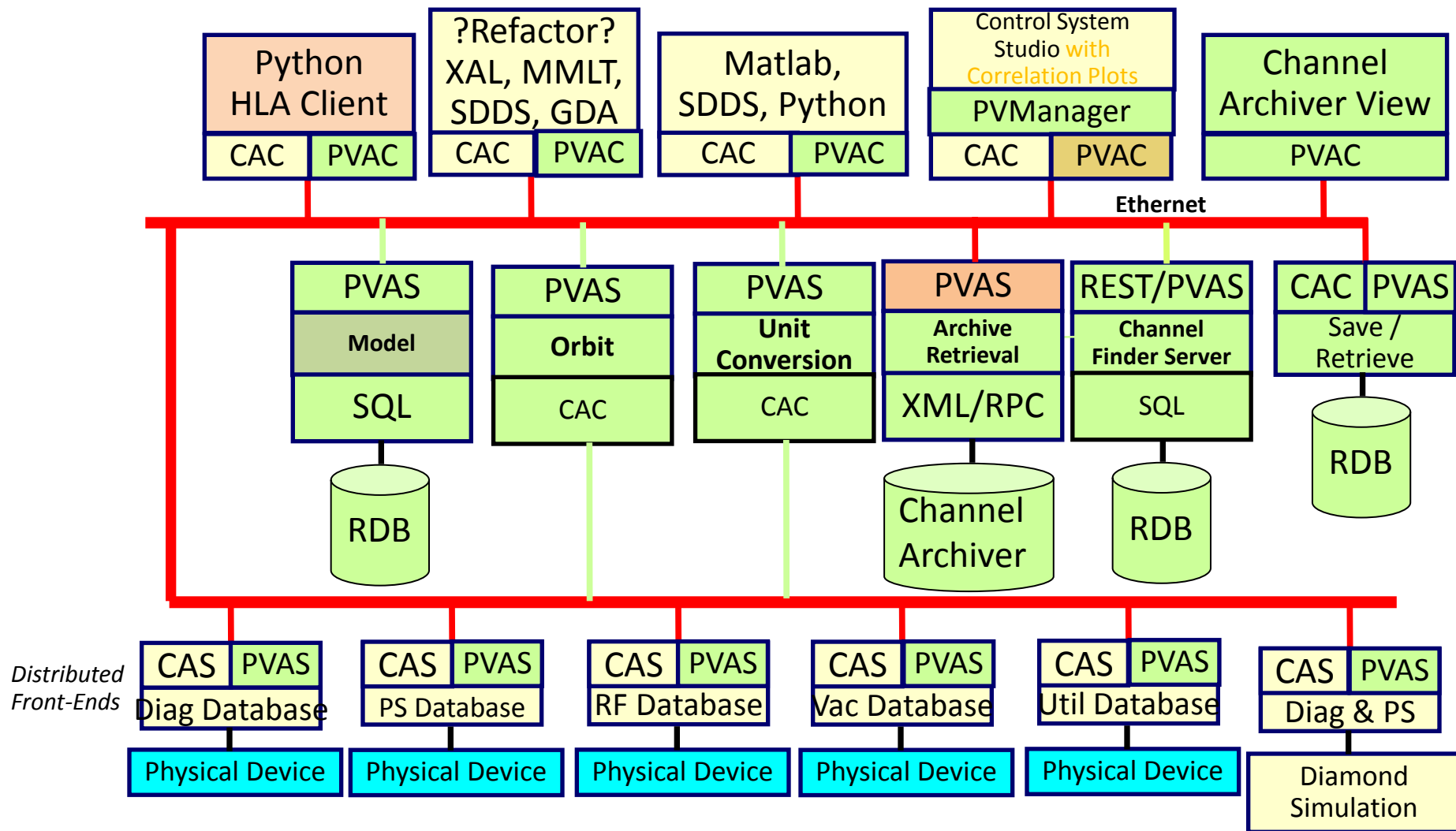
- 143 attendees from 50 institutes on 5 continents for the users meeting.
- Development meetings had 20 attendees from 8 institutes and some independent or commercial developers.

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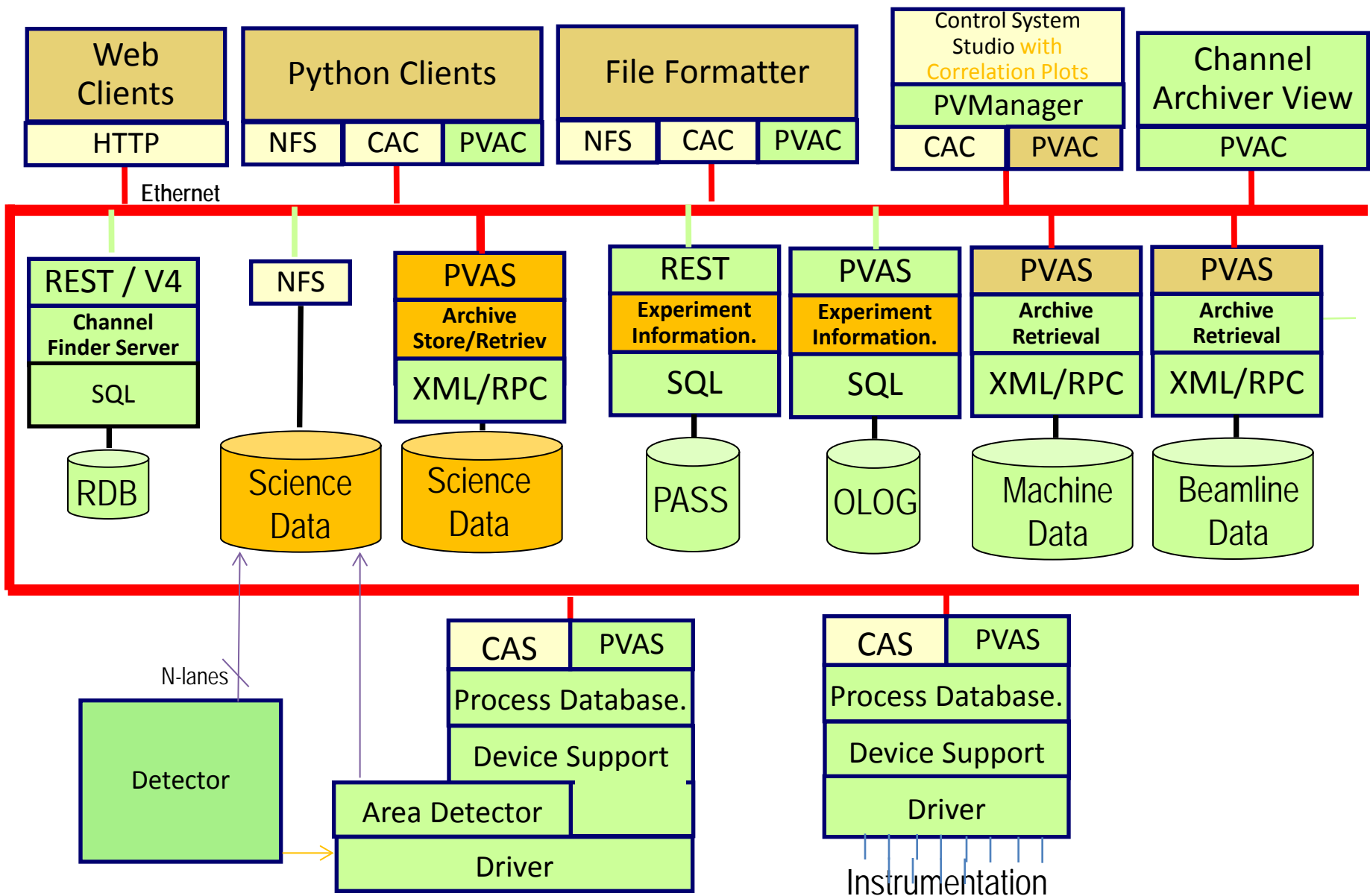
Three Day SLAC Developers' Meeting

- V4 development team is developing all of the V4 infrastructure for PVData and Communication, compatibility with V3, Normative Types, and General Services
- Control System Studio team is developing an integrated operator environment in an integrated product.
- DISCS is developing RDB applications over a full range of facility and control requirements.

V4 Middle Layer Services for Machines



V4 Middle Layer Services for Experiments



Development Teams Organizational

- V4 development team: Ralph Lange (previously forgotten) Marty Kraimer, Matej Sekoranja, Nikolay Malitsky, Guobao Shen, David Hickin, Timo Korhonen, Bob Dalesio, Andrew Johnson, with Greg White as team lead.
- Control System Studio: Gabriele Carcasi, Kunal Shroff, Kay Kasemir, Xihui Chen, with Eric Berryman as team lead.
- DISCS: Working on at least 17 domains Eric Berryman, Paul Chu, FRIB, Dong Liu, FRIB, Huihui Lv, Zhao Zhuo, IHEP, Miha Vitorovic, Dejan Dezman Cosylab, Guobao Shen, BNL, Suzanne Gysin, ESS with Vasu Vuppala, FRIB as team lead.
- Developers meetings will proceed as joint development meetings with a nominal 4 months frequency that will rotate between the developer's sites.

Highlights

- V4 PVAccess connects to I/O Controllers using either the V3 protocol on the wire or a PVAccess server in the \geq V3.14 IOC.
- CS-Studio serves V4 Process Variables.
- Database applications are deployed for Electronic Traveler, naming, requirements tracking, cable documentation, and Proteus (cable, inventory and installation), Deployed as V4 services: Channel Finder (Gives an Object View), Save Set (MASAR), Model Service, Unit Conversion, OLog (deployed data management), and Archive Data.
- A new archive appliance is being deployed at SLAC that archives 2M channels with < 1 second response to return 1 month of data. Prototype for archiving V4 types also done.

Highlights

- Developments in the three areas are being integrated and deployed at member labs.
- V4 and CS-Studio Release methods to support continuing development when the release cycle begins and to harden a release with bug fixes.
- **Multicast implementation is started. This uses a topic name for listeners.**
- Working to Improve monitor performance to minimize header data.
- Access security is needed from DISCS group for PVAccess security and to complete Channel Finder as a V4 service.
- **Fast array support (Copy on Write) in the V3 IOC to support large data sets.**
- Replace archive XML RPC with a V4RPC to improve speed.
- Will standardize on CAJ – pure Java. Hardening is being addressed.
- Many of the NTTypes are mapped to Vtypes in PVMManager for V4 and CS-Studio integration.
- **Deployments into production environments at NSLS II and FRIB are hardening the developments in all three areas. Many of the applications are in full production.**

Conclusions

- There is a strong and active development team in these three areas that is coming together to bring middle layer services that will be applied to physics and experimental control and data acquisition.
- The underlying performance and flexibility that has been created by Marty Kraimer and Matej Sekoranja has provided a strong base for the development of these new middle layer services.
- The next 18 months will see many of these deployments go into production. During this phase, the applications will harden and move to production quality.
- If you are interested in helping to develop in any of these areas, there are a lot of opportunities to get involved.