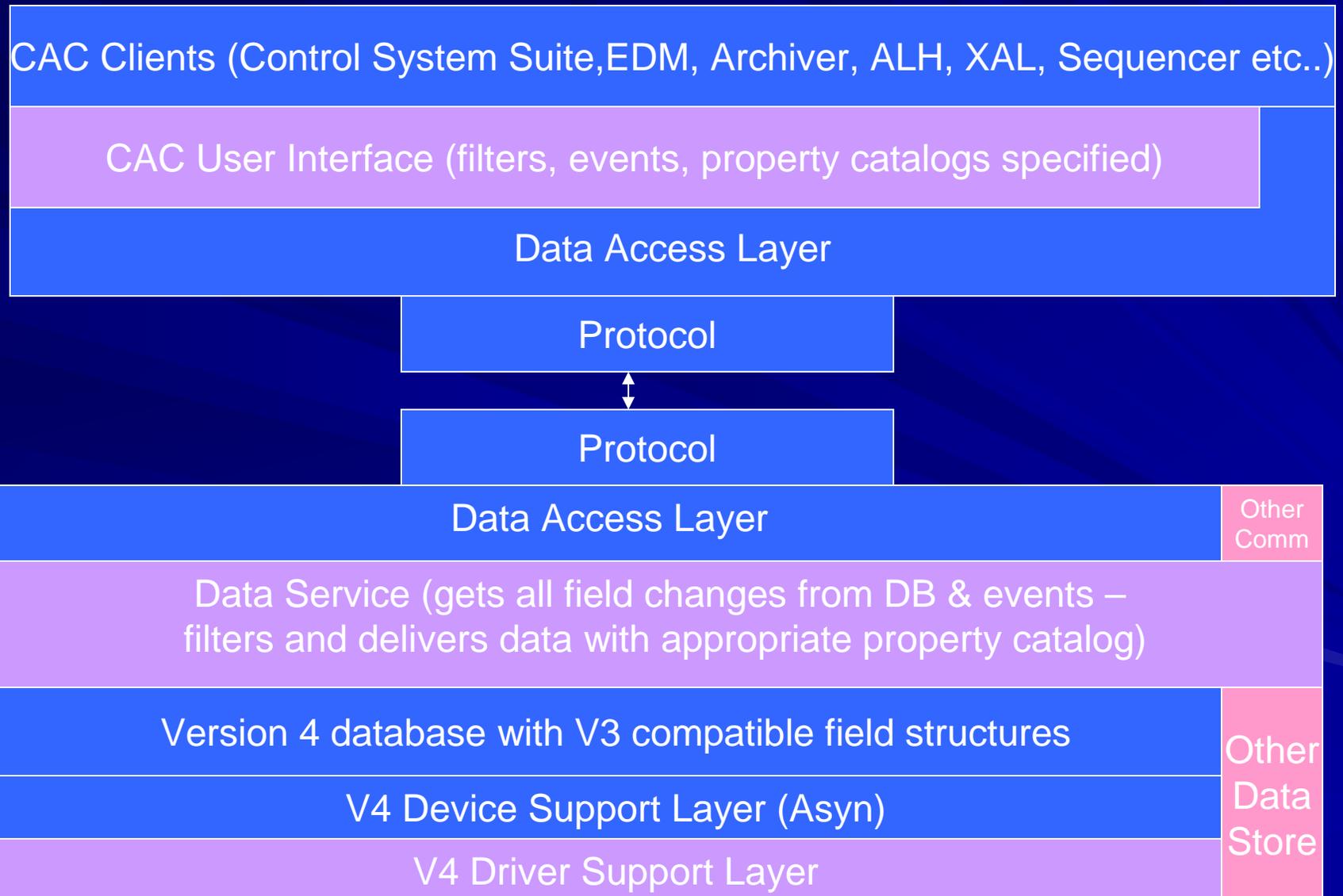


Version 4.0 EPICS Core - Issues

Dalesio 01/27/2006

Version 4 Core Architecture



Functions that require a rewrite of Database or CA V4

- Provide name introspection and domain control in support of seamless integration of large control systems
- Provide atomic read/write of multiple fields in a record
- Remove limitations on string lengths, device states, number of input links to support arbitrary sizes/dimension arrays.
- Record Library to provide pluggable functionality
- Provide hierarchical devices to support higher level view of application in the front-end processors.
- Alternate protocols

Lack of Progress

- **Not compelling for any of our users**
- **Not compelling for many of the developers**
 - **V4 is a background task**
 - **Resources are spread out and communication to resolve some of these issues is VERY difficult, time consuming, and near impossible at a distance.**

Plans

- Development plan to get all of the possible functionality into Version 3.
- Continue to perform pioneering work for version 4 that demonstrates useful functionality.
- Identify the customer – project or application that is served.

Release 4.0 Goals – Move Into 3

■ Move It

- Provide online add/disable of I/O to support continuous operation.
- Provide redundant control of remote I/O to support improved reliability.
- Verification Suite
- Flavored Data (Monitor filtering on Event)

■ Still version 4

- Provide triggers, filters, and rate limits to improve resource use of network and client side processing
- Write with read-back
- Provide channel access diagnostics
- Variable String
- Better Array Support

Smaller Team for Version 4

- Demonstrate some useful new database ability
 - Device Orientation
 - Power Supply
 - BPM
 - Message/Response
 - Telescope Mount Control
 - Batch Control
 - Download parameters to a beamline experiment
 - Download parameters for an observation
- Provide a Version 3 interface
- EPICS Control Suite – drive requirements
- Interfaces from Client to Data Access
- Interfaces from Data Access to the Server

Identify the customer – project or application that is served.

■ ILC

- has millions of channels
- device orientation is compelling

■ Telescopes

- Mount Control and observation control is compelling

■ Beamlines

- Experiment control is compelling

Conclusions

- V4 is not compelling for existing projects without upward compatibility.
- V3 must continue to overcome existing limitations: event filters, online add, redundancy...
- Continue to prototype portions: client, data access, and new database.
- Project needed for development of integrated V4 – or more time.