Attendees: - UPDATE

Jeff Hill  LANL  Kay Kasemir  LANL
Marty Kraimer  ANL  Matthias Clausen  DESSY
Matt Bickley  JLAB  Chris LArrieu  JLAB
David Bryan  JLAB  John Galambos  ORNL
Bob Dalesio  LANL  Deb Kerstiens  LANL
Bob Sass  SLAC

Goals of the meeting:
1) Present an exhaustive list of existing and needed applications with
   A) a brief description of their function
   B) a description of the data that they will require as input/output
   C) restrictions on the delivery of this data
      for instance - time synchronous data, minimum latency,
      set control points in different IOCs at the same time etc....

2) Complete the definitions for data archiving
   A) data types that will be archived
   B) define the API for accessing archived data
   C) define the ability to use different data sources (RDB, Binary, SDDS)
   D) define the data format filters that may be supported

3) Present the primary aspects of Channel Access Version 4
   A) Information formats to support
   B) Delivery Requirements - may impact EPICS DB and other servers
   C) CA Diagnostics needed
   D) Other features that were missing in CAV3

Robert C. Sass  1 February 2000
**Agenda**

**Agenda: UPDATE**

Monday - starting at 9:30 am

Archiving:
- XARR: Chris Larrieu
- Correlation Plots: Matt Bickley
- Buffer Server: Bob Dalesio
- SDDS @ DESY: Matthias Clausen
- Archive Record: Matthias Clausen
- Remote access to archive engine: Chris Larrieu or Matt Bickley

Development Status: Kay Kasemir
1) Current status of archiver
2) How other data stores can be accommodated
3) Development plans and necessary developments to support them

Tuesday - starting at 9:00 am

Format for these presentations should be:
- Description of what the applications does
- Information needed from other applications - rate, data and methods
- Information that is produced that may be interesting to other applications
- Remote status/command requirements

Applications:
- EPICS Database Links: Bob Dalesio
- State notation language: Not Being Covered
- Display Manager: Deb Kerstiens
- Heartbeat Message: Peregrine McGhee

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Robert C. Sass

1 February 2000
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Wed. - probably starting in the afternoon to handle overflow from the applications
- Channel access version 4
- Information formats to support Bob or Jeff
- Data Delivery Requirements Bob or Jeff
- CA DIgnostics to include Jeff Hill
- CAV4 features that are missing from V3 Jeff Hill
Items Discussed

- Archiving and its API
- Applications
- GDD replacement
- CORBA
- OPC
- CAV4
Current Archive Efforts

- **XARR - Archive plotting tool**
  - Needs directory service for hierarchical relationships between channels and groups
  - Data filters needed (more later)
  - Query data on relationships or limits
- **Xtract**
  - Have CA deliver time synchronous data sets
  - Also need filters
- **Striptool mods**
  - Archive & current data but no scrolling
  - Again filters
  - Need seamless access to all data
Current Archive Efforts cont’d

• Archiving at DESY
  – Many data types archived; multidimensional arrays, waveforms
  – Use Rdb/ODBC to store/access what has been archived
  – Use SDDS for filtering and plotting
  – Archive data logging messages?

• Current Channel Archiver
  – Could use an Rdb (Desy) or other.
  – Web I/F for configuration or data browsing

• Buffer Server
  – Give single channel over time or
  – a set of channels at a point in time
New Archive (General?) API

- Directory (not name) Service of Channels & Groups available
  - Check out LDAP or free Rdb for this
- `query_desc = init_range(channels, time1, time2)`
  - returns query descriptor
- `transform_data (query_desc, transform)`
  - average, DFT, SVD, FIR, IIR, interpolations, statistical & more.
- `Narrow_query (query_desc, {name, attribute})`
  - Ask for specific attributes
- `subscribe_data (query_desc, callback)`
- `get_data (query_desc, storage)`
Applications

- **SNS**
  - Mostly learned about the project

- **Jlab**

- **SLAC**
  - Operator Scripting (Button Macros)
  - Applications
    - BBA, Autosteering, MPS, Feedback
    - Experiment control/Correlation, LEM
  - Services
    - 120 Hz acquisition/archive
    - Contention, synchronized device control (timing?)
    - Scaling/booting.
GDD Replacement

• General Interest in replacement.
  – Hard to use
  – Bug prone

• Jeff proposed a roll-our-own with a single extensible abstract base class.

• Some general support for using CORBA’s IDL compiler.

• No final decision but I think we should push for making an open source (Orbacus?) Corba implementation part of EPICS.
CORBA

• Several interested parties (Chris, Matthias, Marty)
• Still need Channel Access throughput
• Using IDL as GDD replacement would help push Corba into EPICS for High level apps
OPC

• Is presently an OPC Client for EPICS.
• Want an OPC server for EPICS so can access EPICS data thru Labview etc.
• OPC driver?
CAV4
Conclusions

- Chris Larrieu will flush out and submit a cleaned up archiver API in a few weeks.
- Look at a freeware SQL to be bundled with EPICs. Use for possible archive storage, database etc.
- CAV4 going ahead. Kay may get drafted to help.
- We should push for IDL to replace GDD and a free CORBA bundled with EPICS.
- We should design some integration of Channel Access and CORBA.
- Help with the buffer server idea?