Applications

Kay Kasemir
ORNL/SNS

Using Information and pictures from
Matthias Clausen, Jan Hatje, and Helge Rickens (DESY)

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Control System Studio

• Goal: New control system (GUI) tools.
  – Consistent Look and Feel
  – Data exchange beyond copy/paste of PV names
  – Run on Windows, Linux, Mac OS X, …
  – Interface to more than one control system

• Approach:
  – Build on the Eclipse (Java) framework
  – Add
    • Data types and APIs for Front-End Computer (FEC), Process Variable (PV), Live and archived data samples
    • Guidelines for integration into menu, online help, preferences, …
  – See Software Technology talk: "Control System Studio", Jan Hatje (DESY)
Simple 'Probe' Example

• Basic function
  – Enter PV name, see values.

• CSS Version
  – Portable: Win32, Linux, OS-X
  – Localized
  – Window resizes
  – Drop-down list of recently entered PV names
EPICS 'PV Tree'

- CSS Application plugin for Eclipse that displays EPICS record data flow
  - Inputs of 'calc' record etc.
  - Recursively descending
Common Preferences

- CSS apps use the Eclipse preference system
  - Not just for apps! Also for libs like EPICS Channel Access support
  - No environment variables, nor special setup files for each application
  - GUI
Common Online Help

- Applications
- Support Libraries
- … from different authors, sites

EPICS Library

This provides the ChannelAccess (CA) client library for accessing Process Variables on EPICS IOCs via the network.

Preferences

There are two main items to configure:

- JCA Context:
  There is a pure Java as well as a JNI implementation available. The pure Java version is the default because it is easier to install and
CSS Context Menus

- Send "PV" to other application that handles PVs
  - or FEC, Data, ...

- Based on Eclipse "Object Contributions"
  - No compilation, no configuration when adding new application
DESY Namespace Browser, Alarm Tree

- CSS Applications that browse DESY LDAP server
DESY Message Log Viewer

- Alarm System development would fill another talk.
- Point: CSS Integrates generic, CS- and site-specific tools.
CSS Samples

- Markers indicate source
  - Live Sample?
  - Channel Archiver?
  - Archive Record?

- Samples have 'quality'
  - Original sample
  - Interpolated Sample
  - Ideally, data server automatically switches from interpolated to original when zoomed in "far enough"
Multiple Data Browser Instances
Synoptic Display

- Operator interface tool for multiple protocols
- Promising ideas
  - Everything is dynamic
  - "Text Update" widget = Label with dynamic text
CSS Startup Choices

- Startup with login/password for your XMPP server
- .. or workspace selector

.. or other site-specific authentication
Customizable Welcome Screen

- Different sites can customize depending on local needs.
Conclusion

• Eclipse offers a modern, portable application framework

• CSS adds control-system specific APIs and guidelines

• There are already several useful general-purpose CSS applications

• You can add site-specific CSS applications

• All can be packaged as needed, everything is integrated; common look, behavior, data exchange, …