EPICS R3.12.0Beta13 Release Notes

Argonne National Laboratory
Advanced Photon Source
Accelerator Systems Division/Controls Group
Draft (April 27, 1995)

1. R3.12.0Beta13 announcement

R3.12.0Beta13

A new EPICS release, R3.12.0Beta13, has been created and is now ready for user testing.

All the epics extensions on phoebus except gdct, free-gdct, db2database, sf2db, and dbreport will be updated and rebuilt using Beta13 this afternoon, Thursday April 27. These five extensions will be built using Beta13 only after all production applications have been upgraded to Beta13.

WARNING: Applications doing a getrel to /usr/local/epics/R3.12.0Beta13 should also do a getapp to appSR R1.3 (/usr/local/epics/appSR/R1.3) because of changes in the .current_rel_hist file. See details below.

2. Changes Between R3.12.0Beta12 and R2.12.0Beta13

GPIB driver

New with R3.12 is HiDEOS support for GPIB devices. To make use of the HiDEOS GPIB interface you simply need to configure it after the rest ofHiDEOS in your startup.cmd file.

To configure HiDEOS, see the HiDEOS docs on the EPICS WWW-server. After the ‘hideos_main’ and before the ‘iocInit’ commands, you need to assign EPICS link numbers to each of the IP-slots containing ip-488 modules.

The command to assign an EPICS link number to a HiDEOS GPIB interface is:

```
HiDEOSGpibLinkConfig(<link number>, <HiDEOS board number>, <HiDEOS task name>)
```

For example, to initialize EPICS's GPIB link number 10 to the ip-488 board in slot 'C' on your mv162 board you would issue the following command:

```
HiDEOSGpibLinkConfig(10, 1, "c-ip488")
```

NOTE:You may not assign link numbers that are reserved by the NI-1014 and NI-1014D driver(s). There are currently 4 links reserved for that driver. It is recommended that you start numbering your HiDEOS link numbers from ten.

getrel

getrel now puts the getrel date in the .current_rel_hist file.

Environment Parameter System Changes

All defaults for the environment parameters have been moved into the config directory, and are now all set in one file rather than the three or four files used in the past. This mostly involved changes in libCom, plus the addition of a new script base/tools/bldEnvData. The new file config/CONFIG_ENV contains all the parameter defaults, and should be edited to reflect the correct values for each site. This file contains a series of PARAMETER=VALUE pairs. This file will be interpreted using the Bourne Shell (/bin/sh), so the formatting is not as free as with the other CONFIG files - there should not be spaces on either side of the equals sign, and values which contain spaces or other special characters must be suitably quoted or escaped.

bldEnvData is a new shell script which is run by the libCom Makefile in each of the O.<target> directories. It takes the default parameter values from the CONFIG_ENV file and creates a header file envData.h which defines (ie allocates storage for) each parameter and sets its default value. The header file also contains a list of all the environment parameters which epicsPrtEnvParams uses to display them all. These envData.h files must only be #included within the source file base/src/libCom/envSubr.c

NOTE: bldEnvData has been tested under the sun4 and solaris host architectures only.

The base/include/envDefs.h file is used by bldEnvData to determine the list of environment parameters which exist. If a parameter is not declared as "extern ENV_PARAM" in this file it will be ignored by the parameter system, and will probably result in an undefined symbol error when the IOC loads iocCore. If a parameter is declared in base/include/envDefs.h but bldEnvData cannot find a default value for it in config/CONFIG_ENV, it will print a message and use an empty string for the default value.

Questions/Problems to Andrew Johnson <anj@ast.cam.ac.uk>

Allen Bradley Support

Support was added to retrieve adapter and card status. A new document describing the allen bradley driver and device support is available via the APS home page (Look for EPICS and then Supported Hardware)

pv names starting with a digit

dbStaticLib and DCT have both been changed to allow record names to start with a digit. These should be the only things that need to be changed to support this feature.

Channel Access

The following two channel access bugs have been fixed.

Bug I

- SYMPTOM
  CA client crashes when IOC is rebooted.
- OCCURRENCE (all of the following are true):
  o You are running epics_R3_12_0Beta12.
  o Your CA client is waiting for a get request to complete.
  o The IOC involved disconnects (is rebooted).
- CAUSE:
  get IO structure interpreted as get call back IO structure during IOC shutdown phase.

Bug II

- SYMPTOM
  All clients with disconnected channels are notified if an IOC runs out of dynamic memory pool space (only the clients with disconnected channels referencing the effected IOC should be notified).
- OCCURRENCE (all of the following are true):
  o You are running one of
  epics_R3_12_0Beta1 through epics_R3_12_0Beta12
  or epics_R3_12_0Beta_11_16_94
  o Your CA client has disconnected channels.
  o Any IOC on the subnet is out of dynamic memory pool.
- CAUSE:
  Improper ordering of operations in the CA server.

3. Application Source/Release Control R1.3 changes

A new version of Application Source/Release Control, appSR R1.3, is now available for user testing in the directory /usr/local/epics/appSR/R1.3

The differences between appSR R1.2 and appSR R1.3 are as follows:

getapp

getapp now puts the getapp date in the .current_rel_hist file.

apStatusSync

apStatusSync ignores getrel and getapp dates in .current_rel_hist file when obtaining the getrel path.

tools directory

The appSR/tools directory no longer exists in R1.3. Scripts are now installed into the target bin directory.

4. Changes in EPICS Extensions

BURT

Burt has been enhanced such that the environment variable ‘BURT_CPP_PARMS’ may be used to set flags passed to cpp. Only ‘-D’ and ‘-I’ flags may be specified in this environment variable, however, no verification of this is performed by burt at this time.

This environment variable is only supported in the burt 'read' operation.

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