

EPICS Base 3.x News

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Outline

- What's new on the stable branch (3.14)
- What's new on the developer branch (3.15)
- Features in development
- Planned features
- Release timetables



New on the Stable Branch (3.14)

- ~40 commits since 3.14.12.3
 - Nanosecond resolution time provider for MacOS
 - Periodic scan threads no longer drift over time (Eric Norum/LBL)
 - `epicsLoadLibrary()` and `epicsFindSymbol()` on Windows (Dirk Zimoch/PSI)
 - `dbpf` can put long strings to a `DBF_UCHAR` array
 - Support for VxWorks 6.9 and iOS 7.0
 - Bug fixes etc.



Recap: Features added for 3.15.0.1

- Released August 2012
 - Source code reorganized, better parallel builds
 - Named soft events (EVNT field is now a string)
 - Server-side per-channel filters (timestamp, dead-band, sub-array, synchronization)
 - CA Event queue ordering is now guaranteed
 - Users can write their own filters
 - Asynchronous process-get support
 - "Async Soft Channel" device support for input records
 - Processes linked record, waits for completion before fetching value



New on the Developer Branch (3.15)

- ~90 commits since 3.15.0.1
 - Multi-core real-time enhancements for SMP Linux (Ralph Lange/ITER)
 - Spin-locks API, epicsSpin.h (Ralph Lange/HZB)
 - Enhancements to several existing record types
 - 16 links for fanout & sequence records, double-buffering of waveform, aai & aao records
 - New long string record types lsi, lso & printf
 - New UDFS field sets alarm severity of UDF alarms
 - New 'tapfiles' target lets Jenkins display test results
 - Bug fixes from the 3.14 branch etc.



Features in Development

- Parallel callback threads (Ralph Lange/ITER)
 - Improve real-time performance on SMP
- Thread-pool subsystem (Michael Davidsaver/BNL)
 - Worker threads for long-running calculations, etc.
- Incorporate record reference documentation into Base
 - Updating record descriptions, generating tables from DBD data
 - Adding pages for common menus, server-side filters etc.
 - Result will generate HTML files specific to this version of Base



Planned Features

- Update CAS and PV Gateway (Murali Shankar/SLAC)
 - Support for variable length arrays (not in CAS yet either)
 - Pass through DBE_PROPERTY events
- Rework the DB Locking (lock-set) implementation (Michael Davidsaver/BNL)
 - Needed by EPICS V4 pvaSrv to collect data from multiple records simultaneously
- Simplify filter arguments (Ralph Lange/HZB)
 - `{"dbnd":{"m":"rel","d":5}}` `{"dbnd":{"rel": 5}}`
 - `{"sync":{"m":"unless","s":"filling"}}` `{"sync":{"unless":"filling"}}`
- Make record links modular
 - Make links another possible extension point for the IOC
 - Using JSON for link syntax



Release Timetables

- Base 3.14.12.4
 - By Christmas 2013
- Base 3.15.0.2 — Developer release
 - Early 2014
- Base 3.15.1 — Operational release
 - By Christmas 2014 ?
- Base 4.x — Incorporating pvAccess
 - Not planned yet



EPICS V4 Release

- Version 4.3.0-rc1 of the EPICS V4 core software is now available
 - Visit <http://epics-pvdata.sourceforge.net/>
 - Click on 'Download' at the top or left side of the page
 - Click on '4.3.0'
 - Both C++ and Java implementations available
 - Java version contains compiled .jar files
 - C++ version contains source code
- Please test one or both of these if you can
- We plan to release Version 4.3.0 on October 22nd as long as no major bugs are found

