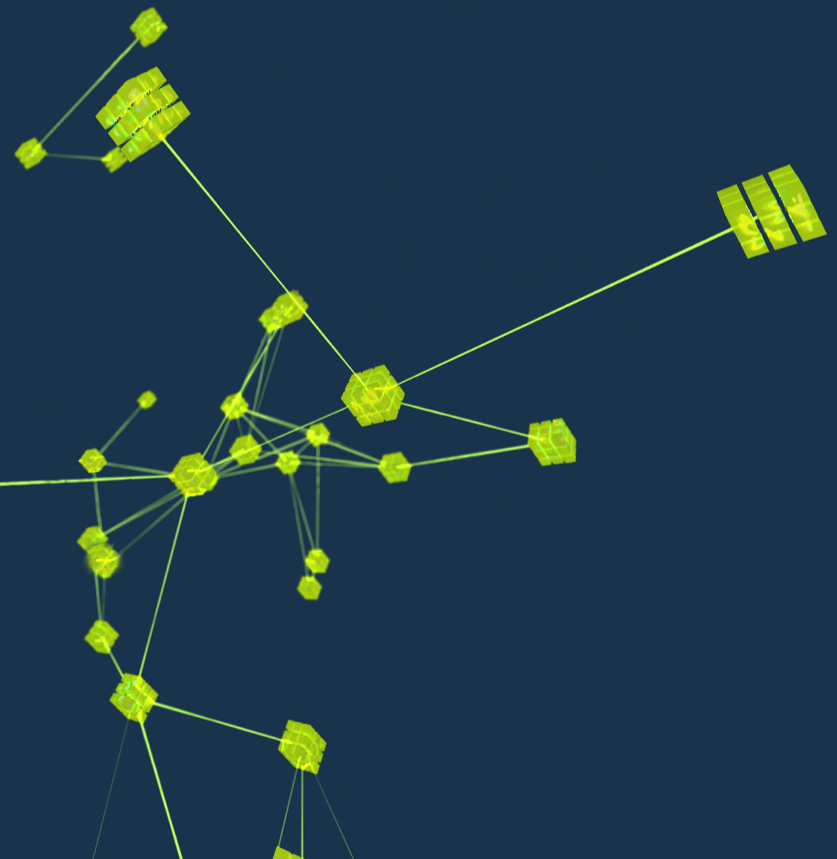
EPICS Collaboration Meeting September 2022



EPICS Build and Deployment
Workshop

The Consistency Crisis:

- Support Modules are compiled against specific releases of their dependencies.
- Any IOC will be linked against exactly one set of versioned modules.
- Graphs of module dependencies have to be kept at consistent version sets.
- Bugfixes (new versions of single modules) must be possible and manageable.
- Old applications can only be rebuilt if their set of versioned modules is kept.

The Consistency Crisis: What Base Offers

- Dependency versions and configuration are kept inside the module in files **configure/RELEASE** and **configure/CONFIG_SITE**.
- Files named **RELEASE.local** and **CONFIG_SITE.local** *one level above* the module subdirectories can override these settings.
  I.e., all modules below a directory use the configuration in these **.local** files.

The Deployment Dilemma:

- Development, test and production systems should be well separated.
- Deployment into production should only happen under the “triple A”: authentication, authorization and auditing.
- In case of a problem, rollback should be fast, simple and secure. (And happen under AAA rules.)

The Deployment Dilemma: What Base Offers

- By setting INSTALL_LOCATION, the EPICS build system will install the generated files (libraries, binaries, headers, databases, …) in that place instead of $TOP.

This Workshop:

… will discuss existing approaches and solutions to these problems.

Timo Korhonen (ESS): **E3 (ESS EPICS Environment)**
Thomas Birke (HZB/BESSY): **SUMO and rsync-dist**
Andrew Johnson (APS): C2 – **SUMO and Conda for APS-U**
Anze Zagar (ITER): **Packaging and deployment in CODAC Core System**
Anton Derbenev (NSLS-II): **Packaging and deployment at NSLS-II**
Rémi Nicole (CEA): **EPNix – Nix-based EPICS packaging**
Florian Feldbauer (PANDA): **Running IOCs in Docker containers**
Ronaldo Mercado (Diamond): **Running IOCs using Kubernetes**

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