The EPIC(S) Battle between Individualism and Collectivism

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What is e3 Trying to Do

- Lots of code from many sources
- Trying to keep it all up-to-date
- Trying to keep track of what is being used, by whom
- Maintaining site configuration challenging
- Fix so-called "dependency hell"
- How to ensure that everything is under version control and easy to deploy

e3 Definitions

An IOC:

- Standard executable entrypoint (iocsh.bash, loads softIocPVA)
- Runs a configured startup script st.cmd
- Dynamically loads all necessary functionality
- Generated by external configuration management tool

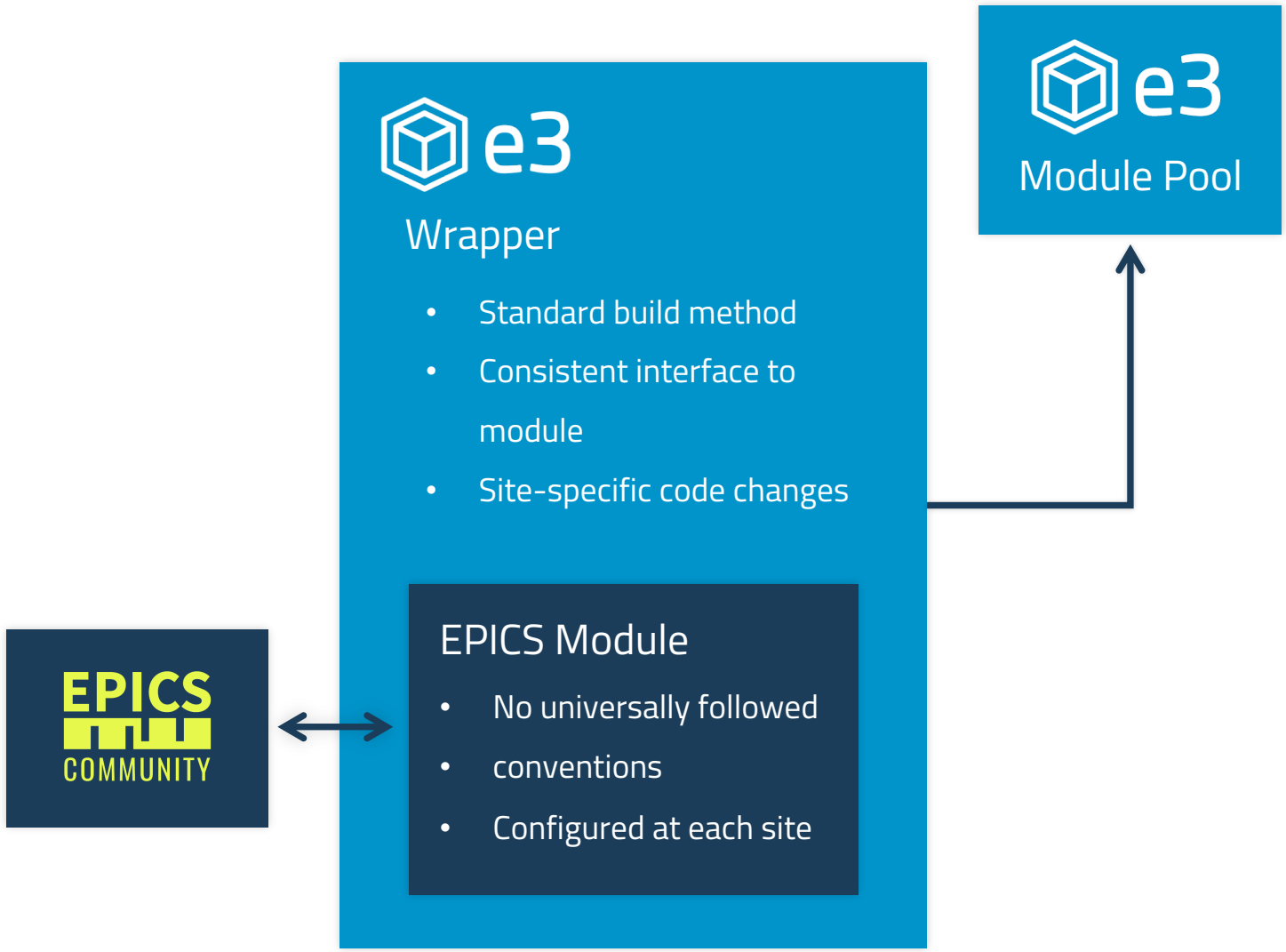
```
$ iocsh.bash st.cmd
```

```
require module1
require module2

epicsEnvSet(PARAM, value1)
iocshLoad($(module1_DIR)/config.iocsh, "PARAM=$(PARAM)")

epicsEnvSet(PARAM, value2)
iocshLoad($(module1_DIR)/config.iocsh, "PARAM=$(PARAM)")

iocshLoad($(module2_DIR)/module_2.iocsh)
```

API:

- Restricted interface to simplify running IOCs
- Exposes parameters to control system configuration management utilities
- Configuration is done by system expert, not necessarily the IOC integrator
- No need to explore inner workings of all modules

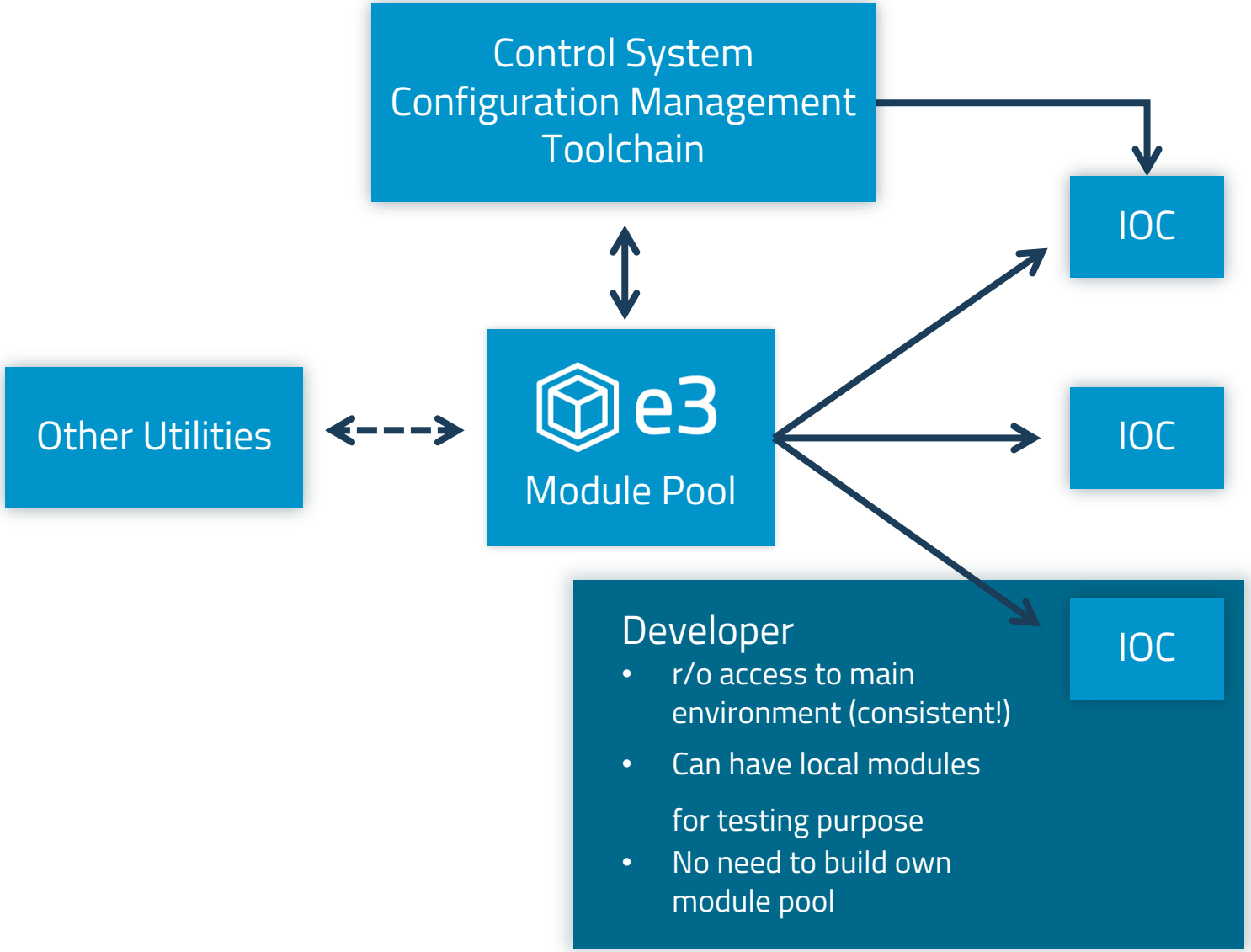
Standardised Interface for Epics Modules



e3

- Provides a standard interface between EPICS modules and IOCs
- Version controlled site-specific changes (db, sources, snippets, anything!) without needing to push to community repositories
- Limited pool of modules (avoids combinatorial explosion)
- Guaranteed consistent environment
- Focus on "high-level" dependencies: only need to specify StreamDevice version, no need to specify Asyn as well

e3 Environment



- Single pool of modules maintained by a dedicated team
- Regular review as a part of deployment in order to ensure high code quality
- Supports multiple version of EPICS base
- Supports multiple consistent environments