CDFVME_X v1_0

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***On*line/*Off* week DAQ mtg**
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- New Product: *cdfvme_teststand*
- Other new features
  - CDFdaq
  - packagePrefs

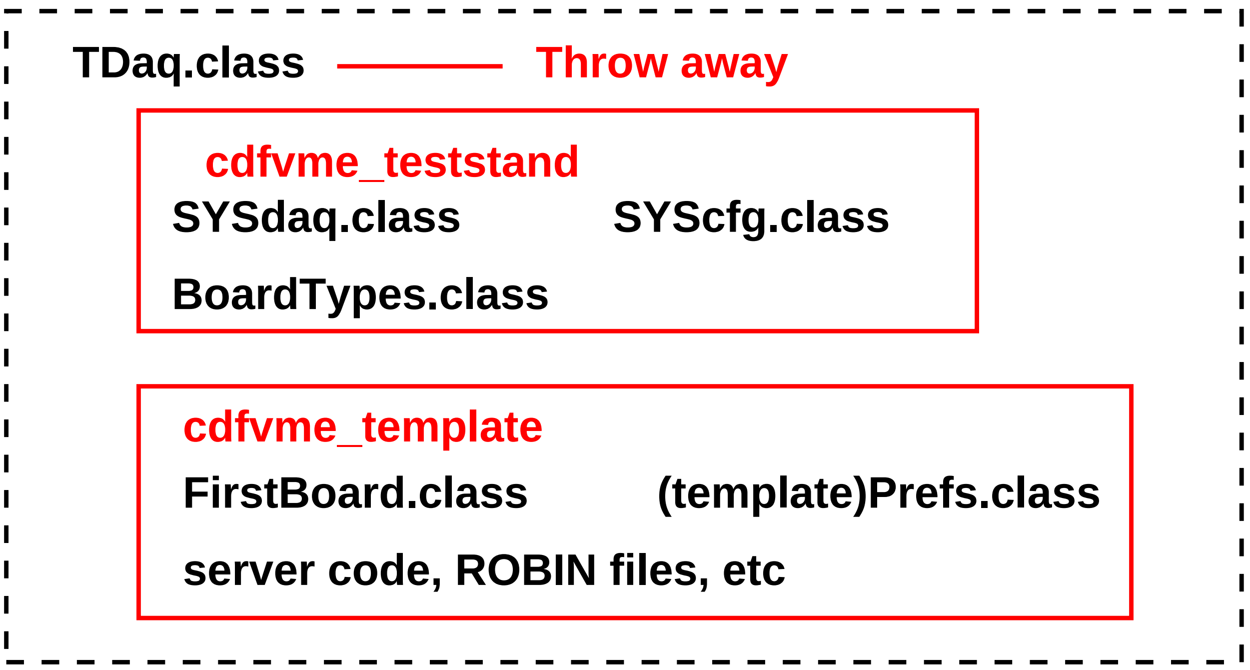
Problem

Conflicts in classpath when importing different board packages

Solution

Split *cdfvme_template*

- "Board level" package *cdfvme_template*
  Contains the implementation of the board(s)
- "Teststand level" package *cdfvme_teststand*
  Imports and use many "Board level" packages as an application ("DAQ", "Teststand", "Calibration" . . .)



Old cdfvme_template

ClassPath

TSdir/

TDaq.class

ts/

Ts.class

BoardTypes.class

```
TS =  0
boardNames = {"TS"}
```

TClockdir/

TDaq.class

tclock/

Tclock.class

BoardTypes.class

```
TCLOCK =  0
boardNames = {"TestClock"}
```

Tracerdir/

TDaq.class

tracer/

Tracer.class

BoardTypes.class

```
TRACER =  0
boardNames = {"Tracer"}
```

TSIdaqdir/

TDaq.class

tsidaq/

Tsidaq.class

```
import ts.*;
import tclock.*;
import tracer.*;
```

BoardTypes.class

```
TCLOCK =  0
TRACER =  1
TS =  2
boardNames = {"TestClock","Tracer","TS"}
```

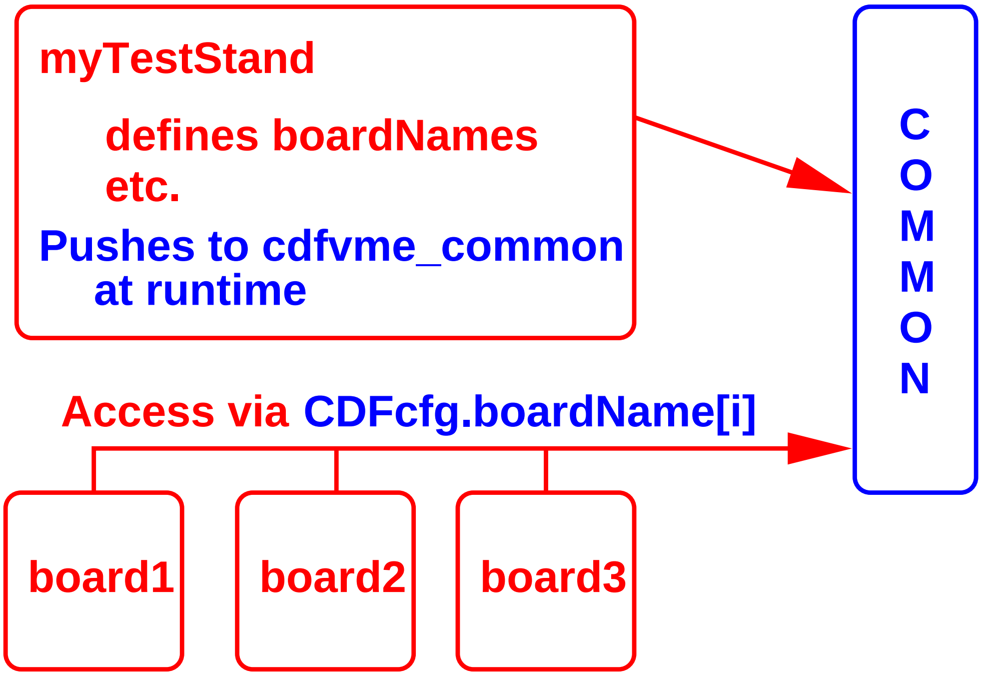
java TDaq --> Which one runs?

boardName[0] --> Which Board?

Which BoardTypes.class is used?

Dammit, you broke my stuff

Not really. Just rearranging + getting info from different source



How do I fix?

Depends a bit on how much you've modified

- "Board level" classes: Only know about *cdfvme_common*
  $\Rightarrow$ Maybe get new *cdfvme_template*, customize, and paste in old board(s) and associated code

  1. `newPackage oldPackage oldBoard`
  2. Replace server side with your old stuff
  3. Replace client with your old code, but merge in:
     (a) * remove `implements BoardTypes` everywhere

(b) * `boardName[i]` ⇒ `CDFcfg.boardName[i]`
Same for: `NBOARDS`, `CRATE_SIZE`, `MAXCRATES`, `boardConfigTag[]`, `boardClassName[]`

(c) `type` = index to arrays (`FIRSTB = 0` etc)
Set at runtime by *CDFcfg* - your board classes must:

i. * declare `public static int type;`

ii. * `setBoardCfg(crate,slot,addr)`
⇒ `setBoardCfg(crate,slot,addr,type)`
method `CDF.Board.type()` returns correctly

(d) * `FIRSTB` ⇒ `FirstBoard.type`

(e) * `oldPackagedaq.printHistory()`
⇒ `History.printHistory()`

(f) Move any Preferences in old `Prefs.java` into `oldPackagePrefs.java` (more later)

- “Teststand Level”: Customize *cdfvme_teststand*

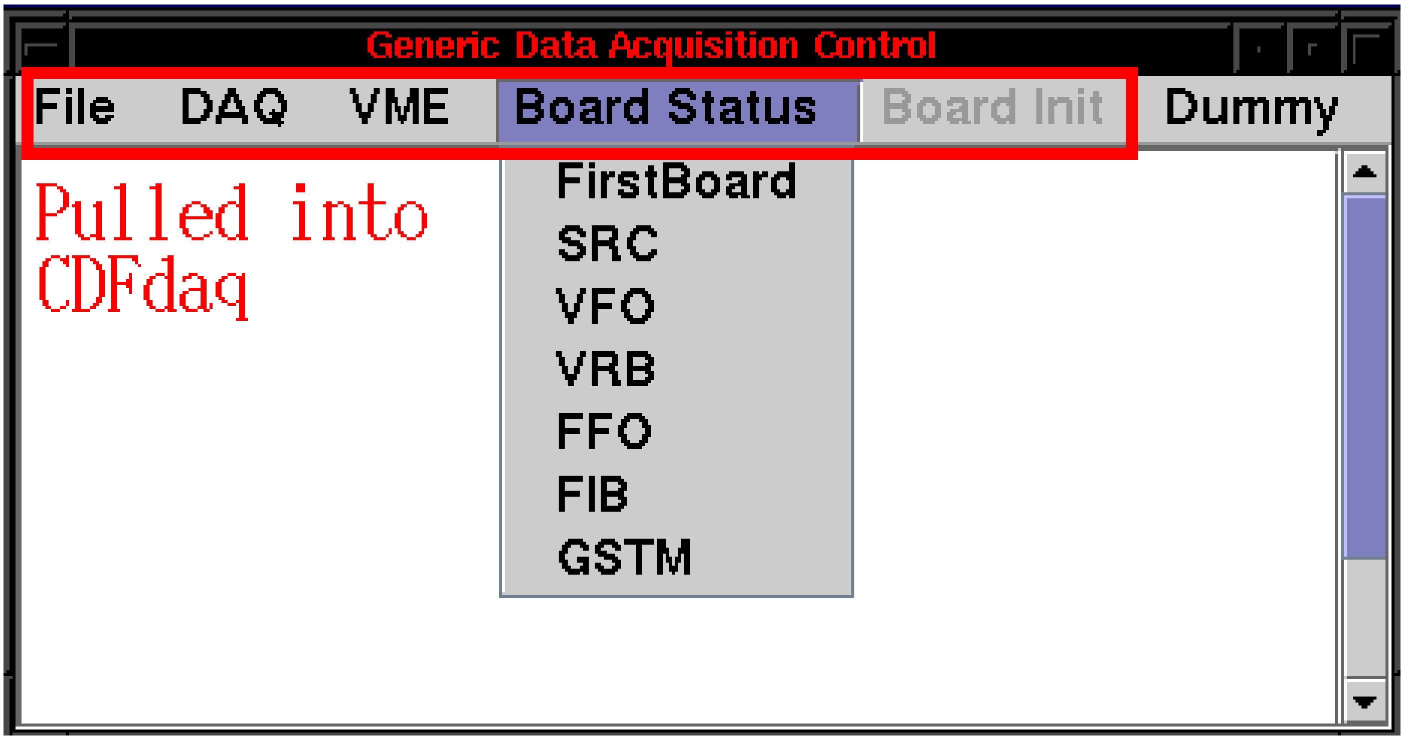
1. `newTestStand myTstandPackage oldPackage oldBoard`
2. *Modify `myTstandPackageBoardTypes.java` to include more boards and board packages. (acc. to `oldPackage.BoardTypes`)
3. Merge old `oldPackagedaq.java` changes with `myTstandPackage.java` (more later)
4. Merge old `oldPackagecfg.java` changes with `myTstandPackagecfg.java`

Problem

Hard to update underneath without access to main window

Solution

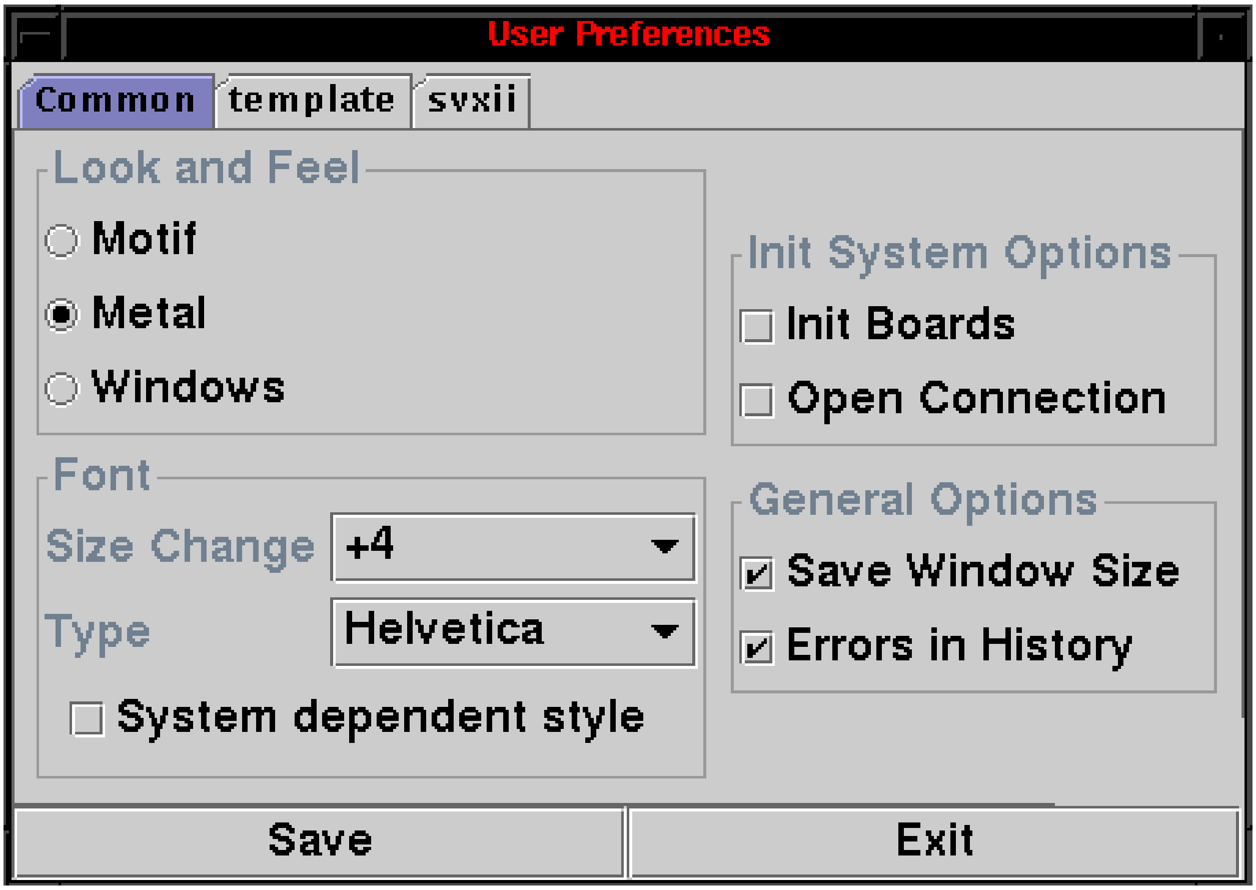
- `TstandPackage.java` extends *CDFdaq.java*
- Menus pulled into *CDFdaq*, made objects, bound to methods



- In `TstandPackage.java` you can:
  - overwrite methods, call `super.methodName()` etc.
  - easily remove and rearrange Menus/Menu Items

Preferences

Added support for preferences from multiple packages- A test-stand can load preferences pages (essentially JPanels) from different packages.



Code looks like:

```
CDFPrefs prefs = new CDFPrefs();
prefs.add("template", new templatePrefs());
prefs.add("svxii", new svxiiPrefs());
prefs.loadProps();
```

Summary

Other Miscellaneous Changes

- To run: `tstandpackagename`
- Documentation being upgraded significantly
- NT support also greatly enhanced
- Support for VxWorks-5.3, PowerPC and 68k, added
- TestManager structure available in *cdfvme_common* - See Colin's talk 24-July and a future talk
- Links added - See my talk 7-August
- Generic VME I/O available for Block Transfer mode
- Other stuff I forget

When, Where, How

- Make stuff available Monday
- http://www-b0.fnal.gov:8000/core/cdfvme/index.html or out of FNAL KITS
- Update products on B0 cluster Monday
- lots of help from cdfvme-support@fnal.gov
- Expert provided on an individual basis or perhaps an intensive training session?