



Progress on Development Issues Since Last Meeting

S.E Kruger, E.D. Held, C.C. Kim

NIMROD Meeting
APS-DPP Meeting (Orlando, FL 2007)

Progress has been made on several fronts



- **Implementation of new website/TRAC**
- **Review of nimfiles**
- **Regression test system**
- **Merge of nimpsi**
- **nimuw branch**

New website implemented with TRAC integration



- **The website is in two parts**

- Static HTML/CSS public site:

- Can check out at:

- svn co <https://nimrodteam.org/svn/website>

- Especially useful:

- svn co <https://nimrodteam.org/svn/website/presentations>

- Private site

- TRAC site for users (wrapped around regression test)

- TRAC site for developers (wrapped around source code)

- TRAC includes:

- Wiki

- Source code browser

- Issue tracker

- SVN password management

- **To Do Items**

- CSS is standards compliant, but breaks on Internet Explorer (and now TRAC is broken on Safari)

- Will fix ASAP. In meantime, please use Firefox.

nimfiles has resulted in improvement in development efficiency



- **nimfiles is a way of organizing files related to development of a single development project**
 - Maintain just the files that are different under an svn repo
 - Currently method used by Eric, Srinath and I for developing new code
 - Allows parallel development
 - Good for long-time scale development
- **nimfiles has parallel structure to nimroot svn repo:**
 - svn co <https://nimrodteam.org/svn/nimfiles/branches/kruger>
 - Put into \$NIMROOT/nimfiles
 - runconfig.sh then picks it up automatically
 - Develop those files
 - Once desired behavior is obtained, merge over to your branch
- **nimfiles forces better programming practice because you need to have interfaces at least at file-based level**

Status of regression tests



- **Regression test system is in place**
 - Running nightly on nimrodteam.org
 - Currently testing nimdevel trunk and kruger branch
- **To configure, need to specify:**
 - \$NIMSRC: Where the source code locate:
e.g., `$HOME/nimroot/nimdevel`
 - \$NIMBLD: Where the build is (can be the same):
e.g., `$SCRATCH/nimroot/nimdevel/build1`
 - \$NIMRGR: Location of regression tests
e.g., `$HOME/nimroot/regress`
 - “Accepted results”: Where the right answer is
(from svn co https://nimrodteam.org/svn/accepted_results/<machine>)
- **If NIMSRC and NIMRGR are set, then running `$NIMRGR/runconfig.sh` should just work**
- **Need hdf5 libraries installed. Regression test based on:**
 - `h5diff file1 file2 -v -p $REL_ERR -r $ABS_ERR`

Outstanding issues



- **Regression test system is in place**
 - Running nightly on nimrodteam.org
 - Currently testing nimdevel trunk and kruger branch
- **ToDo**
 - Output for nightly runs is too verbose. Dave Wade-Stein has a fix in, but we haven't sorted out why it isn't working
 - Miscellaneous things for making nice output
 - Put in nightly testing for other branches
 - Add more tests
- **Adding more tests has led to reinvestigating ORNL case (from "High S Campaign")**
 - Should be clearly 2/1 unstable yet 1/1 mode appears.
 - Interchange problem?

nimpsi merge with nimdevel



- **nimpsi is a new branch that represent merge of nimdevel and “nimlite”**
 - Changes have been merged into kruger branch
- **Summary of major changes**
 - dump files are no longer modules (types know how to dump themselves)
 - single set of diagnostic routines (struct_set, diagnose, contour) for all programs
 - merging of various rect_init and polar_init routines into common routines
 - Restructuring of nimset to make it easier to add additional geometries (import to PSI Center)
 - Separation of routines in nimrod for each equation:
adv_be.f, ad_ve.f, adv_nt.f
int_be., int_ve.f, int_nt.f, int_op.f
 - Reduced compile times
 - On mac, memory usage went from >900MB to ~600MB.

nimuw branch created under nimdevel



- **Earlier, merge capabilities was seen as highest priority**
- **Now: ability to work with regression tests/nimfiles is highest priority**
- **Keeping two separate repos is with automated merging between the two is now best bet for making everyone happy**

Merging with all branches needs to be done soon



- **Known issues post-nimpsi merge**
 - contour plotting is broken
- **Will start merging in late December**