Minutes from CHPS Meeting Thursday December 10, 2009

Attendees:

ABRFC – Billy Olsen, Eric Jones, Mike Pierce
CNRFC – Rob Hartman
NERFC – Rob Shedd, Alison MacNeil (formerly Gillis)
NWRFC – Harold Opitz
NOHRSC – (absent)
Deltares – Edwin Welles
OCWWS – (absent)
OHD – Jon Roe, Chris Dietz

Pre-reading:

- none

1. Review Support Log

No log was distributed this week.

The following are considered blockers:

ABRFC (also possibly NERFC):
1. synchronizing mods
2. database issues

Edwin reported that these are both being worked at Delft by Frederik and Eric.

Action: none

2. SAT review

4 major points came out of SAT this week:

1. The build is not perfect and there are still some bugs which are blocking transition into full operations; these bugs do not block continuation of parallel operations.
2. The SAT reps are disappointed with this build – their expectations were that we would be totally ready at this point but we're still not there.
3. Over the next several months Deltares needs the CAT RFCs to do *vigorous* bug finding activities to really wring out the problems in the build.
4. Deltares requests that the CAT identifies any additional "must haves" for a truly informative parallel operations phase. For example, NWRFC must have the ssarreg mods; NERFC must have multi-elevation zone mods [as an aside Edwin reported that Deltares already has a solution designed for the latter.].

Edwin believes the SAT reps understand that the number of extra functions required is not large. The biggest thing is to identify and fix bugs. Deltares must apply extra resources to fix those bugs; so the CAT must prioritize: bug fixes, or new features? We can't simply keep adding new things. However we do need the system working in order to bang on it and find bugs.

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Jon pointed out that we can't have key pieces missing if we expect to get the CAT-II up and running. That may become a question of setting expectations; but we still have some time to decide what those expectations should be. We do want the CAT-II sites to identify only small problems not big ones.

There was only one CAT-II rep at SAT; NCRFC's rep was sick and couldn't make it. Joe Ostrowski from MARFC was here. There were no major issues identified by the (lone) CAT-II representative.

Request from the SAT reps for Harold: please send the triple view script to the other RFCs. RobS, RobH, and Billy all said they already have a solution and don't need it. An observation from CNRFC: some forecasters don't like using triple view for IFP, so they want the option to leave the views alone.

The SAT release is due out next week. NHOR installation will be on Dec 15th. CNRFC, NERFC, and NWRFC can all take installs on Weds Dec 16th. ABRFC prefers to wait until after the New Year; installing prior to the holiday even without use presents a higher risk than holding off till everyone returns. This release includes the 3-way MC synchronization. Deltares has only demonstrated this feature in Delft; OHD and Deltares previously agreed that the extra effort required to demonstrate in Silver Spring wasn't worth doing. The demonstration (that the 3-way MC synchronization works at Deltares) was successful. Once the release is in place at the CAT sites we can test it on some sample systems in January.

HEC-RAS: all tests passed. However, the system ran out of memory during the course of one test on the lower Columbia that required running update states for the entire NWRFC. We believe it was on LX2-NHDR. This doesn't happen on Matthijs's laptop. Edwin will report back to Jon today on their findings. Aside: the problem with HEC-RAS generating a zero-padded month of values has been fixed.

Documentation testing: this will be accomplished over multiple SATs. Existing documentation (on the Wiki) was found to be extensive, complete, and thorough. Some additional ad-hoc testing was conducted by following instructions found in the documentation to implement new features; instructions were found to be reliable. One request from the SAT reps: if a feature requires a new/different configuration, please indicate such in the document. The system documentation prepared for the Pilot was considered a good template for the real system but needs to be finalized. New FEWS documentation recently created includes:
- IFD – some documentation prepared by Andre was distributed to the group; this isn't on the Wiki yet. It was found to be out of date (April) and will be updated/expanded.
- Transformations – some documentation exists for all transformations but it doesn't provide all detail yet (e.g., definitions of all algorithms, all elements of schemas).

OHD's documentation was not reviewed.

Edwin suggested the schedule for providing CHPS documentation might be:
- end of March for completed transformation docs
- end of June for the rest.

Chris noted that documentation is a contract deliverable; also that per agreement with NWSEO we're obliged to provide acceptable CHPS documentation before NWSRFS is retired from operations. Chris pointed out that the CAT-II will likely start asking to see the docs when they begin to get their heads around some of the new functionality.

Billy suggested we create a checklist of things do to for the CAT-II – not just documentation but everything – with current status. Chris said we should discuss this at the January workshop.

Performance testing: Deltares demonstrated that no degradation had occurred since the last SAT. Deltares couldn't test the update states performance because the action never completed (see above test for HEC-RAS – CHPS ran out of system memory). Acceptable performance is a major blocker to full operational use of CHPS. Edwin suggested that critical functionality (broken or missing) should be addressed first, followed by performance, then other items. Edwin also pointed out that Deltares (Onno) is now prototyping "parallelism". Onno needs to talk to Lee about making changes to the OHD code to make it thread-safe. Other suggested performance improvements include reducing the amount of output (a lot of info messages should be debug), limiting the number of times a SHEF export is done (currently at the end of every segment), and reducing the number of MAP/MAT etc. merges that are done (currently at the beginning of every segment for the entire forecast group). ABRFC reiterated the need to get performance dealt with soon because it already impacts a "meaningful parallel operations". Billy reported that it took an unacceptable 1 hour 35 minutes to complete 3 forecast groups (1 with 10 segments, 1 with 30-35 segments, 1 with 17 segments). Over 50% of time is spent waiting for each one to run. Save/approve forecast took 3-5 minutes. Plus this was when nothing (no flooding) was going on. ABRFC cannot meet their forecasting deadlines if the FEWS performance problems aren't addressed. It has been a concern of Billy's all along. A forecast group needs to take under a minute in order to be timely. NERFC reported that timing seems to depend on where the processes are running; the OC (live system) version is slower than the SA version. But even on the SA it takes 3.5 minutes via the IFD versus 17 seconds manually; this is for the Great Lakes forecast group which has 28 segments. NERFC doesn't have numbers for the live system (OC). Why does it take several minutes in the IFD but only seconds on the Shell Server? RobS also pointed out there's a slowdown when multiple clients are running. Edwin isn't sure how to go about conducting an analysis; they need some concrete numbers. ABRFC will select a forecast group, collect some performance numbers, and provide them to Deltares. NERFC will try to conduct some more controlled tests.

Revisiting support log issues: there's a problem with the SACCO mod: the edit does not take effect. Andre is looking into this right now. NERFC reported that the SACCO mod works fine there. RobS wondered if omission of some steps during the last patch installation has made them immune somehow (they didn't make the configuration changes to get relative states working). Other RFCs all seem to exhibit problems. RobH said he would get some more details on the incorrect SACCO mod behavior at CNRFC. Harold said he would check to make sure the latest patch release was installed on all systems at NWRFC. Everyone will check again after the December release is installed next week.

Action: CAT RFCs to identify any additional "must haves" for a truly informative parallel operations phase.
Action: Edwin to report progress to Jon by COB Thurs 12/10, on SAT failure of HEC-RAS test.
Action: Edwin/Chris to put workshop agenda together – include a discussion on a list and status of remaining tasks for CAT-II.
Action: ABRFC and NERFC to collect and provide Deltares with some quantitative data for performance tests.
Action: RobH to provide some more details on the incorrect SACCO mod behavior at CNRFC.
Action: Harold to verify that the latest patch was installed on all systems at NWRFC.

3. Other

When is the Advanced Configuration training scheduled? June 7-11, 2010. It should be held in a central location – NWSTC and Silver Spring were both suggested. How many people should attend? Unknown; Deltares to advise. Also Chris will check the budget estimate to see what she used.

Action: Deltares and OHD to provide more information on Advanced Configuration training.

Next meeting: Thursday December 17, 2009.