Minutes from CHPS Meeting Thursday March 4, 2010

Attendees:
ABRFC – Billy Olsen, Mike Pierce, Jeff McMurphy
CNRFC – Pete Fickenscher
NERFC – David Vallee, Rob Shedd, Alison MacNeil
NWRFC – Harold Opitz, Joe Intermill
NOHRSC – John Halquist
Deltares – Edwin Welles
OCWWS HSD – Dave Riley
OHD – Pedro Restrepo, Jon Roe, Chris Dietz

Pre-reading:
  • Support Log distributed via chps_ops on March 3

1. Health check on Support Log

      ABRFC show stopper #1: Eric is unable to upload new configurations – the CM crashes; this has
      already been reported but we have heard nothing recently – what is the status? The Deltares
      person is still out sick. Edwin will continue to badger.

      ABRFC show stopper #2: Performance is degrading again. Most runs are doubling or tripling in
      length. Now the system clock seems to halt for a while before catching up; for example in a run
      of about 10-13 seconds, the clock stops for about 10 seconds before resuming. Similar slow
      downs have been observed at NWRFC (runs are taking 21-30 minutes) and at CNRFC (update
      states run took 16 minutes after the January patch, now takes 25-26 minutes). Performance at
      CNRFC is "not terrible". NERFC is not noticing any performance problems.

      NWRFC still has problems with MODs. Deltares fixed some in the recent patch. They have been
      investigating a UNIT-HG problem but the fix is complicated. It isn't clear which problems have
      been fixed and which are still broken. All CATs will be evaluating the patch in the upcoming
      weeks. NW wasn't able to reproduce an earlier reported WECHNG mod problem – after
      removing the local data store everything seemed fine. NW is concerned and confused about some
      apparent inconsistent behavior: two different workstations seem to have different data. NW is
      going to try to do some more analysis to pinpoint the nature of this issue.

      NERFC reported a problem (described in an email) where they made some mods, ran it through,
      deleted the local data store and resync'd – resulting in the loss of all but 3 of the mods. They tried
      deleting and resync'ing again but no difference. Is anyone else seeing this behaviour? Delatares
      has the NERFC configuration in Delft so will try to reproduce. HSD/Dave Riley will contact
      Alison to see if he can gain an understanding of the problem and reproduce it on the NHOR (he
      needs to get an account first); Deltares will assist with the analysis.

      CNRFC has no particular show stopper items to report.

      Action: none.

2. "February" patch - feedback

      Chris asked what had prompted Edwin's note about the patch being for CATs only? It stemmed
      from a side conversation with Harold and JoeI. The patch announcement went out on chps_ops

which would have been seen by CAT-IIs; NW suggested Edwin issue an announcement making sure the CAT-II RFCs don't download/install the patch until the CAT has had time to review it. Generally the plan is that patches would be tested first at CAT RFCs before going to all RFCs. In this case it might be best for the CAT-IIs to skip the February patch and focus on the March release (which will contain the Feb patch items). We don't want to generate unnecessary confusion and email traffic. Further, the release notes were a bit too "concise" and needed more detail. On Tuesday Edwin had also discussed with Chris the need for better release notes; their agreed position was that Deltares will focus on more thorough/verbose information for the quarterly releases, but won't put any additional special effort into patches. One interesting side note: OHRFC reported seeing the same local database problem experienced by NERFC even though they don't have the patch. Did they download the patch? That is unlikely but not impossible. If they did, they won't need to uninstall it. Regarding NERFC's local database problem, Deltares might try to distribute a solution earlier than the March release if NE's problem gets much worse. NW will run some tests today to find out if they're seeing the same problem.

Some remarked that certain chps_ops problems seem to stay open for a long time. It's also not clear when a problem has been assigned and is being worked – it just goes quiet. Suggestion: notify the chps_ops community as soon as the issue has been assigned a Support Log number, and include the Support Log number to the subject line of any emails associated with the issue. Chris is concerned that the growing number of conventions aren't captured anywhere and how would new people know what they are? DaveR suggested enhancing the "Support Process" tab in the Support Log to describe all existing email conventions for the chps_ops list.

Action: DaveR to update the Support Log process tab to reflect all known current conventions for using the chps_ops list.

3. Calibration – status, issues

    Chris is hearing mixed signals from the CAT about the priority of Calibration. The BOC-II document says Calibration is not a requirement for BOC-II but it also says a CHPS-based user interface will be developed by January 2010. At the January workshop the CAT expressed concern that OHD had not made progress on the Calibration interface, and pushed for distribution of a design document by the end of January. This was perceived by Chris as an increased urgency for Calibration.

    A field-based team was nominated but OHD has still not issued a design document. The Calibration project continues to suffer from a resource crunch because the project needs Deltares software development support. Further, Edwin has asked OHD to limit its interactions with Andre to Hank alone. Therefore if Calibration is a CHPS priority we will need to move Hank onto the Calibration project so he can interface with Andre on behalf of Calibration requirements. [This is what Chris meant when she recently said Calibration was a high priority "even at the expense of the Graphics Generator". A misunderstanding at the recent XEFS project meeting resulted in an incorrect rumor that this statement had come from the February HIC meeting.]

    This inability of Deltares to further a FEWS Application Programming Interface (API) raises a fundamental software engineering concern for Chris: without an API the collaborative software development relationship between OHD and Deltares is not what was originally envisioned by the NWS. The FEWS API was supposed to be a rich mechanism for the NWS to be able to develop new code (GUIs, data access) on top of FEWS, while leveraging the functionality already within FEWS and without having to "reinvent the wheel". For example, all new user interfaces

developed using the API would instantly have the same look and feel of the IFD without having to code the features separately.

During the Graphics Generator activities last year, Andre helped Hank by providing some limited API capabilities, but Andre did not have time to take them any further (the IFD was the top priority) and Hank could not afford to wait. In order to make progress on the GraphGen project, Hank was forced to move away from introducing additional dependencies on the API - a decision which resulted in an easier-to-manage and greatly reduced interdependency between the two sets of code, but also resulted in replication of some IFD functionality. Chris believes this is not a good long term solution. Either OHD continues creating its own code outside of the FEWS code base (with replication of functionality, and constantly playing catch-up with features added to the IFD); or Deltares must work with OHD to develop a more comprehensive API so that the NWS can create a smarter set of CHPS software now and into the future. The requirements for such an API are mostly unknown and would need to be co-developed by Deltares and OHD. A fully capable API will take a long time to evolve and mature.

We do not have access to the FEWS source code. Edwin is interested in championing the notion of opening the FEWS source code to the community. However Edwin pointed out that development of a meaningful API would consume significant amounts of Deltares resources. As an aside, such work is outside the scope of the CHPS Implementation project.

What about other agencies who might also need an API? The NWS is currently unique among forecasting agencies with whom Deltares does business; other agencies use hydrologists primarily as operators, whereas the NWS uses hydrologists as operators, scientists, and developers. We know that the lack of a Calibration interface is a show stopper for the Australians, which has yet to decide on FEWS. The Australians showed great interest in collaborative development with the NWS on a FEWS-based API.

The group concurred with the following approach:

o   OHD will continue with Phase 1 of the GraphGen, which continues to be a top priority. GraphGen Release 1.0 is expected in mid-late March. Release 1.0.1 is expected in April. NERFC would also like to run the beta version, currently being tested at CBRFC, CNRFC, and NWRFC. Once an operationally acceptable version is delivered, GraphGen development will then be temporarily suspended while an API is developed.
o   Edwin will initiate a project to define and develop a GUI plus expanded data FEWS API. OHD will dedicate some resources to the project; the Calibration code will be used as a working prototype for the API.
o   OHD will hold off the operational development of a Calibration interface for now. Any work will be prototype in nature to help define an API. However once the API is better defined, OHD will resume the work on Calibration, re-factor the Graphics Generator to make full use of the new API, and (potentially) begin other post-BOC CHPS projects such as Verification using the API.

Meanwhile all RFCs will continue to use existing Calibration tools until a FEWS/API-based Calibration interface is available. This could be a year or more.

Specifically, the CAT provided the following guidance to OHD:
a.   that OHD not accelerate Calibration development at the expense of the Graphics Generator; and
b.   that OHD defer the new Calibration project until after the FEWS API development.

4. Other

- The CAT-II RFCs and NWRFC (the only CAT) have the new directory structure. When will the other 3 CATs get the same directory structure? The plan is to bring them up to date before the March release. RandyR and Peter are collaborating on this effort. DaveR will check with RandyR to see if any further info is available.
- Mike Pierce recently sent an email asking when the IFD team could meet to discuss some changes now that forecasters have some experience. Edwin will get an answer from Andre. The meeting will be focused specifically on icons.
- JohnH wants to bring Edwin up to date on the discussions with Deltares on an archive database. This is not part of the CHPS Implementation project.
- Upcoming CAT-II System Manager class: RandyR has suggested that in future the class should be held in Silver Spring. The upcoming one in April will be in Sacramento as planned. Chris may have to limit funding to 1 person per CAT-II RFC. Edwin stressed limiting class size – the count is 11 or 12 per class. Chris will issue an email, and will stress the need to send no additional people – not even at the RFC's own expense. The 2nd Migration training class had far too many students.
- Advanced Configuration Training: we haven't decided where to hold this class. It does not need to be at an RFC because most things can be done on the SA. NWSTC was suggested as a possible location, but the recent Deltares experience there has generated some bad feelings. NWRFC offered to host. Edwin will find out if Deltares participants have a preference.
- Development Registry: we need to begin deciding on priorities for the June release. Edwin will update to reflect the recent requests and will post on the wiki.
- CAT-II call next week: will occur on Tuesday. This is the first call after the Migration class. Chris requested some CAT participation.
- SAT: scheduled for w/c March 22. Starts at 1pm on Monday. The idea is to do more ad-hoc (aka "hooligan") testing. JoeI and Ron have done some of this in past SATs, but Deltares would like to increase the amount and add a little more structure to it. There will be less controlled (canned) testing by the RFC forecasters.

Next meeting: Thursday March 11, 2010