<u>Minutes from CHPS Meeting Thursday July 3, 2008</u>

Attendees:

ABRFC - Billy Olsen, Bill Lawrence
CNRFC – Rob Hartman, Pete Fickenscher
NWRFC – Joe Intermill, Don Laurine
NOHRSC - John Halquist
Deltares - Karel Heynert
OCWWS – Mary Mullusky, Randy Rieman
OHD – Pedro Restrepo, Jon Roe, Chris Dietz, Joe Gofus

Pre-reading:

- Minutes from CHPS meeting 26 June 2008

1. RFC backup.

From last week's discussion: the goal today is to come up with an RFC service backup proposal to present to the national HIC conference at the end of July, and solicit a consensus.

What are RFC backup scenarios? First scenario is when a system component fails locally; second is when the local office is physically inaccessible to RFC staff.

Issue is about CHPS not just FEWS; more generally involves RFC forecasting, but this group's job should focus on approach for CHPS.

Discussion initially revolved around locations for Online Duty and Online Standby systems (not the Offline system). Should there be one or two online standby machines? Should one or more be located on-site or off-site? Central location, sister RFC, or other?

The following points were made (in approximate sequence):

o NOHRSC is willing to be a central location for national data source, if desired.
o Deltares doesn't yet have statistics regarding UK communications utilization (open action 062608-07).
o In coop situations (e.g. as in LMRFC case), using another RFC as a backup location puts large burden on the other RFC.
o In coop situations there may not be communications between primary and backup RFCs.
o NWS has been working on solution for RFC offsite backup for years, but has never come up with one; this group is unlikely to solve it any time soon.
o NOHRSC has 2 workstations slaved off NCRFC's AWIPS; communications is not via AWIPS WAN or LAN.
o ABRFC uses a laptop as a stopgap measure for failures.

- o Could synchronize forcing grids from an RFC to a central location; OR data source could send grids directly to the central location.
- o Deltares recommends that all data should <u>always</u> be sent to a central location.
- o Silver Spring might be considered for a central location; no operational forecasting is done there so it wouldn't be interrupting or over-burdening anything.
- o Using another RFC as a backup location means additional workload to keep staff at the 2nd RFC current with both RFC requirements; this is not very efficient.
- o Using another RFC as a backup location means easier access to local applications.
- o Possible solution: Online Duty and Online Standby system at primary RFC; Online Standby2 at another RFC. This is not technically complicated. Some software changes needed to allow > 2 synchronization sites. Solution will produce additional comms traffic.
- o From technical perspective, solution doesn't have to be limited to the AWIPS environment.
- o If the Internet is used as a communications path to an off-site location, will security be an issue?
- o NWRFC uses WFO Pendleton as backup. Data could become stale until alternate kicks into action.
- o Deltares recommends that central location (if used) must receive all data continuously.
- o If central location used, people don't need to physically relocate – could travel to closest WFO and login remotely.
- o Option to relocate staff to HQ is undesirable.
- o FEWS has a thick client, so data still trickles in – data may arrive a little slower maybe, but no effect on performance of operator client.
- o AWIPS network throughput/performance is significantly worse than Internet.
- o Could consider "CHPS Lite", running on a laptop.
- o Perhaps OHD could be viewed as a national data clearinghouse, accessible from anywhere, not as an alternative site.
- o Should Online Duty and Online Standby be in same office (either RFC or WFO), or split across 2 offices? If latter, networks between offices would need to be upgraded.
- o Conclusion(?): have Online Standby1 at local office AND have Online Standby2 at single central (national) location or at a sister RFC. Also have a standalone system available as a data backup.
- o Routine synchronization involves fairly small messages. Would need to synchronize forcing data.
- o Can't expect to have a 100% solution.
- o With GFE smart tools (local apps) being used more at RFCs, the backup issue goes beyond just CHPS and FEWS. Don't need to solve the big picture here, just CHPS.
- o What about ihfs_db? If all data goes through there, do we need a national ihfs_db? No don't want one - ihfs_db barely runs for one RFC now. Not ihfs_db data but ofsde data that needs to be synchronized.
- o What about having a central server plus a laptop as a 'cold' backup which could be fired up and then synchronized from central server? No, need to be continually sync'd/receiving data. There's a lot of overhead involved in keeping anything running continuously.

- o Centrally based system seems too hard. Suggestion: keep "CHPS Lite" on a laptop that could be cold started; use the Internet to access a central clearing house with all current data; make each RFC responsible for acquiring local data and local applications.
- o If Online Duty and Online Standby are both at same office, what's the point of having an Online Standby at all? Idea is for high availability -> don't want to access another system elsewhere because it will slow down operations, which in turn negatively impacts staff performance. Planned outages like AWIPS upgrades are now down to just a couple of hours. Need to weigh the cost and benefit of having 100% availability, versus reduced cost and reduced benefit of having < 100% availability.
- o Is Offline system just a 'luxury'? Could it be part of the solution? It depends on the system availability requirements. The Offline and Online Standby systems could be run on the same machine if that's what we wanted.
- o Suggestion: we don't really know what the performance impact of sync'ing to the Online Standby at another RFC will be, so why don't we test it and see? Otherwise we're just speculating. We could set something up after January 2009 when CHPS will be installed at CAT RFCs. Deltares said it was a little more installation work but otherwise easy (software already handles the configuration). Perhaps we could provide RFCs with some acceptable options for each to make their own local decision.

Action: Karel to update the hardware document to describe the options for RFC service backup designs.

2. SRHQ GFFG

Billy reported on his discussion with Bill Proenza concerning centrally-generated versus locally generated FFG. SR doesn't want NOHRSC usurping the role of its RFCs. As an interim solution SR is willing to support a NOHRSC solution ONLY for those RFCs that can't do anything else, and might therefore impact the CHPS schedule; however SR RFCs will still retain full responsibility for issuing FFG.

Action: Billy to send an email summarizing this to the CHPS_migration list

3. Plans for IFP meeting

This is a very important meeting. Proposed attendees: JoeI, Mike Pierce, Pete Fickenscher, and someone from NERFC. OHD doesn't see a need to send anyone at this time. Goal is to look at local usage of IFP ("IFP companion") during the forecasting process to get a handle on what might be required in CHPS. Deltares recommends limiting the participation, as people will be poring over a workstation screen for an extended period of time (3 days). Location will be Portland. Deltares will send Micha and a developer. Suggested date is 4-5 August.

Action: CAT RFCs to plan and prepare for this activity.

4. Presentation/demo for DOH conference

JoeI will be conducting a demo for the DOHs. Chris assumed it would take place in the 7th floor lab on the NHDR. Deltares recommended it be done on a laptop standalone system, which would be less prone to problems (more easily controlled). Suggestion that we do the demo before the CHPS presentation instead of afterwards because of the location change. The audience will want to know timelines (Chris to present).

Action: Joe and Chris to discuss in more detail offline next week.

Note: Action items from this and all previous meetings are contained in the "ActionItems" document maintained and distributed by Chris Dietz, OHD.

Next meeting: Thursday 7/10/08.