CGNS Steering Committee
Telecon Minutes
25 March 2004
11:00 AM Eastern Time

1. The meeting was called to order at 11:05 AM. There were 13 attendees, listed in Attachment 1.

2. The minutes of the 7 January 2004 Reno meeting were reviewed and approved as posted on the web site.

3. Status of previous action items:

   (a) Wedan to post latest and greatest HDF-5 version (including link capability) to SourceForge.
   - done; SourceForge package is "adfh". Users will also need to download HDF5 itself, and build it.

   (b) Rumsey to check with Towne to see if documentation still exists for `ElementList` and `Range` (removed prior to V2).
   - done — some was there, and some was written

   (c) Wedan will look into issue of links further (perhaps can modify open call so it does not follow links).
   - looked into it — will take some considerable work, so not done yet (keep as open item)

   (d) Rumsey will finalize updated CGNS Charter and send to Towne to post.
   - done

   (e) Wedan will prepare V2.3 for official release — need to coordinate with change to SIDS for `ElementList` and `Range`.
   - done, but documentation still needs to be taken off beta status

   (f) Wedan will look into formally archiving all old versions of the software.
   - old versions have been archived on ICEM's machines
   - Wedan will post to SourceForge at some point in the future (action item carries)

   (g) Wedan will remove the webpage containing binaries — in the future, all software must be obtained through SourceForge.
   - done — now directs you to SourceForge or to old archived files

   (h) Rumsey to send a summary of priority list of Proposals for Extension to Edwards.
   - done

4. ISO status/discussion (Cosner):

   (a) No change in status to report. There is no hard "no" regarding future funding, but not encouraging, either. In the ISO process, we are still good for 18 months more.

5. Documentation issues and CGNStalk issues (Towne):

(a) Spam issue on CGNSTalk is still bothersome, but generally tends to be only a few per week. This is felt to be not worth taking any action on yet.
(b) Current documentation is still V2.2 (2.3 is still in beta status). Towne will take V2.3 documentation out of beta status. The 2.2 documentation will be moved to the "prior version" location, and the 2.1 documentation will be removed.
(c) For latest SIDS (i.e., consistent with CGNS Version 2.3) as recommended practice, the formal review period will begin near mid-April and will last approximately 1 month (Craig Day at AIAA will set this up). After that, a formal CGNS Steering Committee ballot will be done to approve the revision.

6. Software status/discussion (Wedan):

(a) Discussion took place regarding `ElementList` and `Range` capability, which was recently re-added with V2.3. By default, V2.3 SIDS allows both the use of `PointList/Range` with `GridLocation=CellCenter` OR the new `ElementList/Range` feature. This is currently how the V2.3 documentation reads.
- Wedan has suggested eliminating the `Pointlist/Range` + `CellCenter` possibility (and thus removing the need for `GridLocation` under `BC_t`). So to summarize, the two choices are:
  i. allow existing usage of `PointList/Range` with `GridLocation=CellCenter` AND add new `ElementList/Range` capability (current default in V2.3), or:
  ii. change SIDS so when `PointList/Range` are used, they mean vertices only; drop `GridLocation` from `BC_t`
- An informal e-mail vote was split on the decision. During the discussion here, most people felt it would be better in the long run to go with Wedan's suggestion (number ii). Wedan could make the API automatically fix files doing it the old way (transparent to the user), so backward compatability will not be a problem.
- It was finally decided to go with Wedan's suggestion, but only when the next major release occurs. This way, there is plenty of time to make changes in the beta releases of the API (Wedan) and documentation (Towne) (open items).

(b) Discussion took place regarding recent discussion topic on CGNSTalk about CGNS slowness on Linux. It appears to be a Linux Red Hat 8.0 problem, writing to a remotely-mounted disk. The suggestion was made that Red Hat 9.0 might fix the problem.

7. HDF-5 status/discussion (Wedan):

(a) Wedan has been in communication with someone from NCSA (HDF-5); fixing bugs in HDF-5, looking at things that might need changing in CGNS to improve its usability with HDF-5 (e.g.: character strings would be better for HDF-5 than character arrays)
(b) Earlier HDF-5 problem writing over 150 children has been fixed with a recent HDF-5 version
(c) Tracking creation order ("creation tracking") is still a problem with HDF-5 - they will probably fix this

(d) Using HDF-5 rather than ADF is still slower and bigger (up to 4 times) for smaller files (less than 1–2 meg or so). For bigger files, the differences are smaller. Performance should also improve with new future versions of HDF-5.
(e) Wedan has not yet looked into compression capability of HDF-5 (open item)
(f) HDF-5 is still the direction we want to eventually go, because (1) we don't need to maintain it, (2) it has parallel I/O capability, and (3) lots of other people use it
(g) There is no current date planned for switching over. We need to be very sensitive to any possible impact on vendors using CGNS. Rumsey will form an informal task force to begin looking at timing for this, and to develop a list of things that need to be done prior to switching over (initial volunteers are Hauser, Edwards, Hann, van der Weide, Wall, Wedan — Poinot will also likely join).
(h) Parallel I/O has not yet been implemented completely. Hauser is currently still working on parallel capability of HDF-5 version. He has a paper at an upcoming conference in May. Hauser will send his paper (and his earlier Reno paper) to Towne to post.
(i) There is currently a converter available that translates ADF <-> HDF-5.
(j) Mid-level library currently cannot distinguish between ADF and HDF-5. If you try to read the wrong one, you will get an error message. Eventually, we will develop a converter to make the conversion automatically.
(k) The HDF-5 version of CGNS will definitely remain as beta for now. The informal task force will help decide when it is most to our advantage (and when we are ready) to switch officially.

8. Extensions status/discussion (Edwards):

(a) Intelligent Light (Ken Wall) is starting on the agreed-upon extensions (six of them), as part of their SBIR. They are starting with the `UserDefined` extension. They still need to get CVS version of the software. Testing of `UserDefined` & `BCDataSet` will be done (at least) by Rumsey & Poinot. Testing of Partial read/write, `Family` extension, and added `GridConnectivityProperty` extension will be done (at least) by van der Weide and Alonso. Testing of Electromagnetics will probably be done by Bush and Fisher. Other people interested in testing the new extensions should contact Rumsey, Edwards, or Wall.
(b) Testing of the new extensions will be done using both the existing F77 example test codes, and also Wall will write new tests for the new extensions, and will add them to the repository of tests codes.

9. Other issues:

(a) Poinot will be presenting a CGNS paper in Portland AIAA meeting.
(b) Rumsey will set up a CGNS meeting for Portland (probably Wed PM). Depending on the number of attendees, this may be either informal (like last summer's meeting) or else will be a regular steering committee meeting.
(c) Question came up regarding how to test if a file is SIDS-compatible or not. Wedan has an incomplete method available (needs more work). Poinot has an XML CGNS "compiler" he has been developing that performs check.
(d) Suggestion was made to add to the example files as well as programs that generate

example files to the CGNS website. Alonso and Hann will send Wedan some of their examples, and Wedan will post them.

10. Meeting was adjourned at 12:20 PM.

11. Summary of **action items**:

    (a) Wedan will formally archive old versions of software on SourceForge.
    (b) Towne will take V2.3 documentation out of beta status.
    (c) Rumsey will form an informal task force to begin looking at timing for switch to HDF-5, and to develop a list of things that need to be done prior to switching over (initial volunteers are Hauser, Edwards, Hann, van der Weide, Wall, Wedan — Poinot will also likely join).
    (d) Hauser will send his May paper (and his earlier Reno paper) to Towne to post.
    (e) Rumsey will set up a CGNS meeting for Portland (probably Wed PM).
    (f) Alonso and Hann will send Wedan some of their examples of CGNS files and programs that write/read them, and Wedan will post them.

12. Summary of **open items** (these are different from action items, in that they are open or unresolved issues that we want to keep track of, but there are no specific actions required of anyone at this point in time):

    (a) Issue of links causing slowdown (perhaps can modify open call so it does not follow links).
    (b) With next major release, eliminate the `Pointlist/Range` + `CellCenter` possibility (and thus remove the need for `GridLocation` under `BC_t`). Next major release of API will need to automatically make the alteration (transparent to the user). Documentation (SIDS, User's Guide, other?) will need to be changed.
    (c) Need to look into compression capability of HDF-5.

Attachment 1: Attendees

Juan Alonso	Stanford
Ray Cosner	Boeing
Dan Dominik	Boeing - Rocketdyne
David Edwards	Intelligent Light
Richard Hann	Ansys/CFX
Thomas Hauser	Utah State University
Kevin Mack	ADAPCO
Chris Rumsey	NASA Langley
Charlie Towne	NASA Glenn
Edwin Van der Weide	Stanford
Ken Wall	Intelligent Light
Bruce Wedan	ICEM CFD Engineering
Nick Wyman	Pointwise