CGNS Steering Committee
Meeting Minutes
AIAA Meeting, Portland, OR
30 June 2004, 7:00 PM Pacific Time

1. The meeting was called to order at 7:05 PM. There were 7 attendees, listed in Attachment 1.

2. The minutes of the 25 March 2004 telecon meeting were approved as posted on the web site.

3. Status of previous action items:

    (a) Wedan will formally archive old versions of software on SourceForge.
        - not done yet - <u>action item carries</u>
    (b) Towne will take V2.3 documentation out of beta status.
        - done - V2.3 is now official documentation
    (c) Rumsey will form informal HDF-5 task force to begin looking at timing to switch to HDF-5, and develop list of things that need to be done.
        - done - current e-mail list of members is given in Attachment 2... anyone else interested in being a member of this list should contact Rumsey
    (d) Towne will post Hauser's CGNS paper(s) to website.
        - done (Reno paper AIAA 2004-1088)
    (e) Rumsey will set up & hold meeting for Portland.
        - done
    (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.
        - not done yet - <u>action item carries</u>

4. Status of open items:

    (a) Issue of links causing slowdown (perhaps can modify open call so it does not follow links).
        - status unchanged
    (b) With next major release, eliminate `PointList/Range` + `CellCenter` possibility (and thus remove the need for `GridLocation` under `BC_t`). Next major release of API will need to automatically make this alteration (transparent to user). Documentation (SIDS, User's Guide, other?) will need to be changed.
        - status unchanged
    (c) Need to look into compression capability of HDF-5.
        - this item is one of the items in the new list of "Tentative to-do list prior to HDF-5 switchover" – see Attachment 3... this list as a whole will from this point be considered an open item.

5. ISO status/discussion (Cosner, in absentia):

(a) Possibility to merge AP 237 (Fluid Dynamics) with AP 209 (Finite Element Solid Mechanics). Next ISO/STEP meeting is in UK in early July 2004, where they may decide this issue.

6. Documentation issues and CGNStalk issues (Towne, in absentia):

   (a) V2.3 now official documentation. V2.2 is under "prior version," and V2.1 has been removed. Currently there is a V2.4beta, which is same as V2.3. We're not sure yet whether the next release will be V2.4, or V3.0. It depends on when we make the big switchover to HDF-5 (which will be V3.0).
   (b) V2.3 will at some point become the updated AIAA Recommended Practice document. Craig Day at AIAA will first put it out for public review and comment. After that, CGNS members will be called on to vote.

7. Software status/discussion (Wedan, in absentia):

   (a) Nothing new, other than a few small bug fixes and configure script updates.

8. HDF-5 status/discussion (Hauser, Poinot):

   (a) Hauser is currently testing prototype parallel implementation – goal is to be ready for his planned Reno 2005 paper. He noted that it is necessary to create whole tree (or read whole tree) first using master processor, then can write (or read) data in parallel.
   (b) The question came up: what happens in parallel if want/need to create new node (with time-dependent data, for example)? Hauser believes you would have to close then re-open the file, but he will check into this.
   (c) It was noted that HDF-5 has its own complete set of tools available. For example, there is a viewer program (like *adfviewer*).
   (d) Quincey (NCSA) is currently working creation tracking issue in HDF-5.
   (e) After we switch over to HDF-5, users will need to download both CGNS software and HDF-5 software separately. Configure scripts will need to be modified to check for availability of appropriate HDF-5 libraries. This item will be added to the "to do" list.
   (f) Hauser brought up question whether it wouldn't be better to eliminate ID's altogether in the MLL when we go to HDF-5. Reference by names instead. This may be a big job, but it may be better for us in the long run. This item will be added to the "to do" list.
   (g) Poinot reiterated need for SIDS-to-HDF-5 file mapping document, prior to switch. This item will be added to the "to do" list.
   (h) The group discussed a possible date to shoot for the switch-over: Summer 2005 was offered as a possible goal! Is this feasible? There is unlikely to be funding available for any part of this effort. This will be discussed further at the next CGNS telecon.

9. Extensions status/discussion (Edwards, in absentia):

   (a) Intelligent Light (IL) is completing 6 extensions, as part of their SBIR. They should be completed in July, for beta testing. They are looking for volunteers to test the new extensions.

(b) Issue related to the EM extension (units) was discussed. 8 units apparently cover everything. IL will probably implement only new `DimensionalExponents` call for now (with 8 units), and `DimensionalUnits` will remain at 5 with the additional 3 being required to be certain units (electric current=Amperes, amnt of substance=moles, and luminous intensity=candelas). The group felt this was not desirable in the long run, and it should be a high priority item to create new `DimensionalUnits` calls to handle all 8, for consistency, at the very least by the time we switch over to HDF-5. This will be added as an open issue. Also, Rumsey will send an e-mail to CGNSTalk and Tom Shih (CoS) to make everyone aware of this issue.

10. Other issues:

    (a) Poinot presented a CGNS paper in Portland AIAA meeting: AIAA 2004-2142. Rumsey will send to Towne to post.

    (b) In a recent AIAA survey, general membership expressed the desire to see a greater promotion of CGNS. AIAA is asking for ideas on how they can help us with this. At the Committee on Standards (CoS) meeting, they suggested that we draft a letter that AIAA can send to commercial CFD companies' presidents, discussing AIAA's support of the CGNS standard. The CoS may also write letters to technical contacts as well. Rumsey will work with Tom Shih (chair of CoS) to draft a letter for AIAA.

    (c) It was decided to wait to hold the next CGNS telecon until September, to avoid conflicts with summer holidays.

    (d) A new "open item" is to eventually align / resolve differences between SIDS and latest ISO/STEP, as each continues to evolve.

    (e) Issue was brought up that we may want to add flag-based options when opening CGNS files. For example: "follow links" vs. "don't follow links"; "use ADF" vs. "use HDF-5"; "translate file automatically" vs. "leave the file as-is"; "compress" vs. "don't compress". This will be added to "to do" list.

    (f) Poinot asked the question: currently if you use MLL you are compliant: but if people write their own MLL, how can we insure they are compliant? Set up "ISO test suite"?

    (g) The request was made whether we can put all documentation (*.tex* files?) on SourceForge. Rumsey will check with Towne about this.

    (h) Question about whether it might be a good idea to have a "CGNS User's Meeting" at the AIAA summer 2005 meeting. This will be discussed further at the next CGNS telecon.

11. Meeting was adjourned at 8:20 PM.

12. Summary of **action items**:

    (a) Wedan will formally archive old versions of software on SourceForge.

    (b) Alonso and Hann will send Wedan some of their examples of CGNS files and programs that write/read them, and Wedan will post them.

    (c) Hauser will check into parallel issues regarding time-dependent data.

    (d) Rumsey to send e-mail to CGNStalk & Shih regarding 8 units issue.

    (e) Rumsey to send Poinot's AIAA paper to Towne to post.

(f) Rumsey to work with Tom Shih of CoS to draft letter from AIAA to software companies urging active support of CGNS.

(g) Rumsey to check with Towne regarding posting documentation to SourceForge.

(h) Rumsey to discuss (during next telecon) the possibility of holding a CGNS User's meeting in summer 2005, in conjunction with the AIAA meeting.

(i) Rumsey to discuss (during next telecon) the possible date of summer 2005 as a goal for switching over to HDF-5.

13. 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) Resolve HDF-5 "to-do" list (Attachment 3).

(d) Issue of 8 units - need consistency between `DimensionalUnits` and `DimensionalExponents`.

(e) Eventually resolve any differences between SIDS and ISO/STEP.

Attachment 1: Attendees

Dan Dominik	Boeing – Rocketdyne
Thomas Hauser	Utah State University
Mori Mani	Boeing, St. Louis
Chris Nelson	ITAC
Marc Poinot	ONERA
Chris Rahaim	Rotordynamics Seal Research
Chris Rumsey	NASA Langley

Attachment 2: List of people on HDF-5 task force

Robert Bush
David Edwards
Mark Fisher
Richard Hann
Thomas Hauser
Quincey Koziol
Marc Poinot
Greg Power
Chris Rumsey
Ken Wall
Edwin van der Weide
Bruce Wedan

Attachment 3: Tentative to-do list prior to HDF-5 switchover

- Complete and test parallel implementation
- Complete and test API capability to automatically detect and switch between ADF and HDF-5 (transparent to user?)
- Assess/minimize impact on software vendors using CGNS
- Make changes recommended by HDF-5 to improve usability with HDF-5 (e.g., character strings as opposed to character arrays)
- HDF-5 must fix "creation tracking"
- Assess compression capability of HDF-5
- Create SIDS-to-HDF-5 documentation (Poinot?)
- CGNS configure scripts will need to be modified to check for availability of appropriate HDF-5 libraries.
- Possibly add flag-based options when opening CGNS files. For example: "follow links" vs. "don't follow links"; "use ADF" vs. "use HDF-5"; "translate file automatically" vs. "leave the file as-is"; "compress" vs. "don't compress".
- Look into eliminating need for ID's from MLL