

CGNS Steering Committee
Telecon Minutes
28 September 2004
11:00 AM Eastern Time

1. The meeting was called to order at 11:05 AM. There were 14 attendees, listed in [Attachment 1](#).
2. The minutes of the 30 June 2004 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 - action item carries
 - (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.
 - example CGNS files sent & posted; van der Weide will look for example codes to send to Wedan to post also
 - (c) Hauser will check into parallel issues regarding time-dependent data.
 - in process: reading OK; investigating writing now (for Reno paper)
 - (d) Rumsey to send e-mail to CGNSTalk & Shih regarding 8 units issue.
 - done - only response involved sound units (dB); see below
 - (e) Rumsey to send Poinot's AIAA paper to Towne to post.
 - done
 - (f) Rumsey to work with Tom Shih of CoS to draft letter from AIAA to software companies urging active support of CGNS.
 - done (sent to AIAA)
 - suggestion to further advertise by handing out CGNS material at AIAA meeting in exhibit hall - Rumsey and Edwards will look into this
 - (g) Rumsey to check with Towne regarding posting documentation to SourceForge.
 - done, discussion below
 - (h) Rumsey to discuss (during this telecon) the possibility of holding a CGNS User's meeting in summer 2005, in conjunction with the AIAA meeting.
 - done, discussion below
 - (i) Rumsey to discuss (during this telecon) the possible date of summer 2005 as a goal for switching over to HDF-5.
 - done, discussion below
4. Status of open items from prior meetings
 - (a) It is not yet known whether issue of links causing slowdown in files with thousands of blocks will be as big a problem with HDF-5. See 7a.
5. ISO status/discussion (Cosner, in absentia):

- (a) Boeing does not appear willing to resume funding of AP 237 soon (no funding since 1/1/03).
- (b) At time of cancellation, fluid dynamics standard was 80-90% complete.
- (c) The ISO-STEP category of “Engineering Analysis Data” (for which AP 237 was one component) is led by Keith Hunter of Lockheed-Martin, Ft. Worth TX. He plans to integrate fluid dynamics standard with the existing AP 209 standard for finite-element solid mechanics (many underlying data structures are functionally the same). It is expected that the CFD-related structures derived from CGNS will be preserved in the process.
- (d) This go-forward plan is based on the assumption that Boeing will not resume participation in this effort. (Note: Cosner is now in a new position in Boeing, so even if Boeing funding is restored, he will not be able to participate, except in initial stages of re-launching the Boeing engagement.)

6. Documentation issues and CGNSTalk issues (Towne):

- (a) Discussion of putting documentation on SourceForge or not
 - Towne creates and posts both PDF and HTML - may lose this generality if post to SourceForge (it is not straightforward to do both automatically)
 - After discussion, decided that Towne will post LaTeX documents on website. Anyone interested in modifying the documentation can download these and pass back to Towne, who will create new PDF and HTML.
 - Decision also made to put old versions of documentation on SourceForge in tar files along with old versions of CGNS software. Towne will send Wedan old versions of documentation. Wedan will also look for version 1.x documentation and will post on Sourceforge along with that software.
- (b) Status of V2.3 becoming revised AIAA recommended practice
 - AIAA has put the SIDS out for public comment - Towne will e-mail Craig Day at AIAA to find out status.
- (c) Is there a need to add & define “SoundIntensityDB” and others from acoustics as a data name identifier?
 - Rumsey will e-mail Bussoletti to ask him for definitions, if he would like them implemented. It should be easy to implement, because it is simply a definition in the SIDS.
- (d) Rumsey asked about hitting “reply” when answering a CGNSTalk e-mail. By default the reply goes to sender only and not CGNSTalk. Towne will check to see if the settings can be changed so replys automatically go to CGNSTalk.

7. Software status/discussion (Wedan):

- (a) Status of slowdown when writing files with thousands of blocks, using links
 - question as to whether this will still be a major issue for HDF-5
 - Van der Weide will try out the HDF-5 version of CGNS on his test case, using links, and will report back
- (b) Need for `cg_axisym_query` call?

- there was an error that has been fixed, so there should no longer be a problem with this using existing calls
 - this and many other small bug fixes have been made - Wedan will make another 2.3.x release and will announce it soon
- (c) Can we have API sort BCs and Connectivity alphanumerically (like Zones)?
- a lot of discussion on this; if everything done alphanumerically, it will help with regard to HDF-5 (make it more efficient), but if a user is expecting creation order, then there would be problems
 - most participants in the discussion seemed to feel that doing alphanumeric sorting would be desirable, but no firm decision made yet (this will be added to list of open items)
- (d) Wedan mentioned that the CGNS check routine now checks *all* syntax for V2.3.
8. HDF-5 status/discussion (Hauser, Poinot):
- (a) Held discussion on possible official switchover date to HDF-5 in Summer 2005. It was felt that a Beta version (including documentation) should be released at least 6 months prior to the switchover date.
- (b) In looking at the “to do” list [Attachment 2](#), many people felt that the entire list wasn’t really *necessary* to complete prior to beta release. In other words, many of the items could be done later. Thus, January 2005 may even be a realistic date for releasing and announcing a Beta version. We would need to decide for sure on this issue by the next telecon.
- (c) Three key items on the “to do” list seem to be:
- completing the documentation (especially SIDS-to-HDF5 mapping document) - Poinot agreed to work on this
 - deciding how to perform automatic (or not) updating of ADF-type CGNS files to HDF5-type; this is important for backward compatibility, since many users would want the conversion to occur automatically and transparently, but it was also discussed that some users might want to preserve the old ADF-type file as is - we need to give more thought to this, and discuss again at the next telecon
 - issue of creation order
9. Extensions status/discussion (Edwards):
- (a) Intelligent Light (IL) is completing 6 extensions, as part of their SBIR.
- EM part still needs testing - Michal will check with other Boeing people to see if they can do this soon
 - There are still some minor issues with partial read/write: Wall will look into possibility of filling in unwritten portions of array with NaN’s (will this work on multiple platforms?)
 - There is also a minor fix needed (add `EMConductivityModel`)
- (b) The extensions will eventually be implemented as Version 2.4
10. Other issues:

- (a) Need for developing certification process was not discussed, but remains an issue. This will be added to list of open items.
- (b) Discussion of holding a possible “CGNS User’s meeting” was tabled; it is subject to decision on release date of V3.0.
- (c) Poinot’s CGNS compiler is not ready for release yet, but should be finished by January 2005 in time for his paper presentation at the AIAA meeting in Reno.
- (d) Rumsey mentioned that his 2-year term as chairperson will expire in January 2005. At that time (Reno meeting) we need to hold a chairperson election. Anyone interested in filling this position should contact Rumsey or Bush. Primary responsibilities include (1) organizing and leading regular telecons and meetings, (2) processing the minutes, (3) helping to lead and keep track of the various activities and directions of the CGNS effort, and (4) working to promote CGNS and give it greater visibility. The chairperson should be able to attend one face-to-face CGNS meeting per year (typically this has been the AIAA meeting in Reno). Also, it is helpful for the chairperson to maintain contact with the AIAA’s CoS (Committee on Standards), which is our “parent” committee. The CoS also holds meetings at AIAA conferences.
- (e) Next telecon will be sometime in November 2004.

11. Meeting was adjourned at 12:30 PM.

12. Summary of action items:

- (a) Wedan will formally archive old versions of software, along with corresponding documentation (including 1.x versions if they can be found), on SourceForge.
- (b) Van der Weide will look for examples of CGNS read/write programs, and will send to Wedan for posting.
- (c) Hauser will continue to check into parallel issues regarding time-dependent data.
- (d) Rumsey and Edwards to look into possibility to advertise CGNS by handing out CGNS material at AIAA meeting in exhibit hall.
- (e) Towne will post LaTeX documents on documentation website.
- (f) Towne will send Wedan old versions of documentation for posting on SourceForge.
- (g) Towne will e-mail Craig Day at AIAA to find out status of latest SIDS as AIAA recommended practice document.
- (h) Rumsey will e-mail Bussoletti to ask him for definitions of `SoundIntensityDB`, etc.
- (i) Towne will check to see if the settings in `CGNSTalk` can be changed so replies automatically go to `CGNSTalk`.
- (j) Van der Weide will try out the HDF-5 version of CGNS on his test case, using links, and will report back.
- (k) Wedan will make another 2.3.x release and will announce it soon.
- (l) Poinot will work on completing SIDS-to-HDF5 documentation, in preparation for the Beta release of V3.0.
- (m) Michal will check with other Boeing people to see if they can test EM extension soon.
- (n) Wall will look into possibility of filling in unwritten portions of array with NaN’s for partial read/write extension, and will work with Wedan to prepare all extensions for release.

13. Summary of **open items** from prior meetings (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 2](#)).
 - (d) Issue of 8 units - need consistency between `DimensionalUnits` and `DimensionalExponents`.
 - (e) Eventually resolve any differences between SIDS and ISO/STEP.
 - (f) Question of need (or preference) to have alphanumeric sorting of everything (like is currently done for zones)
 - (g) Need for developing certification process (official test for compliance)

Attachment 1: Attendees

Bob Bush	Pratt & Whitney
Armen Darian	Boeing - Rocketdyne
Dan Dominik	Boeing - Rocketdyne
David Edwards	Intelligent Light
Richard Hann	Ansys/CFX
Thomas Hauser	Utah State University
Todd Michal	Boeing - St. Louis
Marc Poinot	ONERA
Chris Rumsey	NASA Langley
Charlie Towne	NASA Glenn
Edwin Van der Weide	Stanford
Ken Wall	Intelligent Light
Bruce Wedan	ICEM CFD Engineering
Dan Williams	Ansys

Attachment 2: 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