

CGNS Steering Committee
Telecon Minutes
16 Mar 2005
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 12 January 2005 meeting were approved as posted on the web site.
3. Status of previous action items:
 - (a) Hauser will provide Rumsey a list of issues that need to be discussed with the NCSA (HDF5) people.
 - Not done. Action item carries.
 - (b) Poinot will work on completing SIDS-to-HDF5 documentation; Wedan, Rumsey, Towne, Koziol will be reviewers. Will need to eventually incorporate new extensions (see (d)).
 - Status unknown. Action item carries.
 - (c) Michal will check with other Boeing people to see if they can test EM extension.
 - Status unknown. Action item carries.
 - (d) Towne will complete and post draft documentation on new extensions.
 - Done.
 - (e) Rumsey will contact Keith Hunten of Lockheed Martin.
 - Done via e-mail. Merge of FD standard with existing ISO standard for finite element solid mechanics will be started in next few months.
 - (f) Rumsey will contact Koziol to make him aware of issue of larger size (factor 2-3) of HDF5 files.
 - Done.
 - (g) Wedan will make change in CGNS HDF5 software so viewer can read (see) character strings in the HDF5 files.
 - Not done. Action item carries.
 - (h) Wedan will modify V2.4beta to include HDF5 as an option (at compile time), then will announce it.
 - Mostly done; but a few small issues remain. Wedan will complete changes for V2.4 and will announce when ready.
 - (i) Wedan will look into change required to allow Rind data for unstructured, and will contact Rumsey about it.
 - Done. The change is easy to do, but it is a problem because it causes loss of backward compatability. Discussion below.
 - (j) Michal will write a first draft proposal to handle polyhedral cells.
 - Not done. Action item carries.

- (k) Karman will write up description of need for a particular unstructured type and send to Rumsey.
 - Done. Rumsey passed a request to CGNSTalk to ask for a volunteer to write up a formal definition, but got no responses.
 - (l) Rumsey will look into possibility for CGNS user's meeting in Reno 2006.
 - Done. It is easy to sign up for a room. We need to define what is needed, how long it should last, etc.
 - (m) Hauser will send PDF of his CGNS Reno paper to Towne to post.
 - Done.
 - (n) Pointot will send PDF of his CGNS Reno paper to Towne to post.
 - Done.
 - (o) Pointot will obtain PDF of Iepan's CGNS Reno paper and will forward to Towne to post.
 - Done.
4. Vice-Chair position:
- (a) It was suggested that the committee members vote via e-mail. Rumsey will send a request for a vote via e-mail.
5. ISO status/discussion:
- (a) No change of status.
6. Documentation issues and CGNSTalk issues:
- (a) Status of AIAA balloting process is unknown. Rumsey will continue to try to contact Day and Cawley.
 - (b) Recent corrections to documentation:
 - SIDS examples 7d and 7e
 - MLL doc for ConversionScale
7. Software status/discussion:
- (a) Wedan brought up a user's concern with the current license (GNU Lesser General Public License): that it may contain legal loopholes. He suggested two alternatives (www.opensource.org/licenses/zlib-license.php or www.opensource.org/licenses/mit-license.php). Wedan and Hann will discuss off-line, consult with legal people, and make decision.
 - (b) Wedan implemented large file support (> 2 Gig) for 32-bit; will be available in Version 2.4.
8. HDF-5 status/discussion:
- (a) Discussion that we will want to keep ADF capability available, even after we move more heavily into usage of HDF-5.

- (b) Although Version 2.4 will be either-or, we may eventually want to be able to have one executable work with both ADF and HDF-5. Wedan said this would be possible with some relatively minor code modifications.
- (c) Status of problems with HDF-5 is unchanged:
 - HDF-5 has slower I/O when thousands of nodes.
 - The HDF-5 version of the test files were 2–3 times larger than the ADF files
Discussion group is: *hdf5cgns@ncsa.uiuc.edu*.

9. Extensions status/discussion:

- (a) Need for minor addition/changes to element type definitions was discussed. The software change will be easy. The main thing needed is formal documentation. Karman agreed to modify existing SIDS doc on element type definitions and send to Towne.
- (b) UIUC proposal to modify Rind data for use with unstructured data was discussed. The software change is relatively simple, but the change is not forward compatible: if put into V2.4, then earlier versions of the software would not be able to read the V2.4 file. Several options were discussed:
 - hold off on change until Version 3.0 (major releases do not have to be forward compatible)
 - put in, and provide data stripper
 - create a new URind node

It was finally decided to leave this capability out of Version 2.4 (commented), but Wedan will make it available for anyone who wants to try it (Norris of UIUC agreed to try it). We will revisit this issue during the next Telecon.

10. Other issues:

- (a) Review status of open items:
 - Item (a) from list was discussed (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.) Wedan will change the MLL to return element list instead of point list when appropriate. For the foreseeable future the `PointList/Range + CellCenter` possibility will be retained, as there does not seem to be a driving reason to go through the trouble to remove it. This item is being removed from the open item list.
 - Item (c) from the list (need consistency between `DimensionalUnits` and `DimensionalExponents`) is being removed from the list, because Wedan has already resolved this.
- (b) CGNS user's meeting:
 - tentative time for this will be at Reno 2006
 - max of 1.5 hours would be appropriate (evening meeting)
 - change title to “Introduction to CGNS”, use it as an outreach activity
 - give intro, and base it on the User's Guide, but also introduce attendees to all of CGNS's functionality

- Rumsey volunteered to work toward putting something together, and to identify others to help.
- (c) Wedan recently gave a talk about CGNS to an EM audience at NASA Ames.
- (d) Next telecon: sometime in May.
11. Meeting was adjourned at 12:20 PM.
12. Summary of **action items**:
- (a) Hauser will provide a list of issues that need to be discussed with the NCSA (HDF5) people.
 - (b) Poinot will work on completing SIDS-to-HDF5 documentation; Wedan, Rumsey, Towne, Koziol will be reviewers. Need to incorporate new extensions.
 - (c) Michal will check with other Boeing people to see if they can test EM extension.
 - (d) Wedan will make change in CGNS HDF5 software so viewer can read (see) character strings in the HDF5 files.
 - (e) Wedan will complete changes for V2.4 and will announce when ready.
 - (f) Michal will write a first draft proposal to handle polyhedral cells.
 - (g) Rumsey will send a request for a vote for vice-chair via e-mail.
 - (h) Rumsey will contact Day and Cawley about AIAA balloting status.
 - (i) Wedan and Hann will discuss license issue off-line, consult with legal people, and make decision.
 - (j) Karman agreed to modify existing SIDS doc on element type definitions and send to Towne.
 - (k) Wedan will change the MLL to return element list instead of point list when appropriate.
 - (l) Rumsey volunteered to plan “Intro to CGNS” for Reno 2006, and to identify others to help.
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) Resolve HDF-5 “to-do” list ([Attachment 2](#)).
 - (b) Eventually resolve any differences between SIDS and ISO/STEP.
 - (c) Question of need (or preference) to have alphanumeric sorting of everything (like is currently done for zones)
 - (d) Need for developing certification process (official test for compliance)

Attachment 1: Attendees

Steve Allmaras	Boeing
Juan Alonso	Stanford
Bob Bush	Pratt & Whitney
Armen Darian	Boeing - Rocketdyne
Dan Dominik	Boeing - Rocketdyne
Bob Fiedler	UIUC
Richard Hann	Ansys/CFX
Steve Karman	UT Chattanooga
John Norris	UIUC
Chris Rumsey	NASA Langley
Charlie Towne	NASA Glenn
Ken Wall	Intelligent Light
Edwin Van der Weide	Stanford
Bruce Wedan	ICEM CFD

Attachment 2: Tentative to-do list in association with 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 (Pointot?)
- 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