

CGNS Steering Committee
Telecon Minutes
17 November 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 28 September 2004 meeting were approved as posted on the web site.
3. Steering committee membership: Motion was made to increase committee membership to 20 institutions. Motion carried. Then the committee members voted Utah State, Stanford, and ANSYS-CFX as new steering committee members. Towne will make changes in CGNS Charter document.
4. Status of previous action items:
 - (a) Wedan will formally archive old versions of software on SourceForge.
 - done
 - (b) Van der Weide will look for examples of CGNS read/write programs, and will send to Wedan for posting.
 - decided that his programs not appropriate for tutorial level (item removed); Wedan is developing some sample code in spare time for eventual posting
 - (c) Hauser will check into parallel issues regarding time-dependent data.
 - in process (for Reno paper); item carries
 - (d) Rumsey and Edwards to look into possibility to advertise CGNS by handing out CGNS material at AIAA meeting
 - Rumsey created draft of 1-page flyer – will circulate it to steering committee for comments
 - (e) Towne will post LaTeX documents on documentation website.
 - done
 - (f) Towne will send Wedan old versions of documentation for posting on SourceForge
 - done
 - (g) Towne will e-mail Craig Day at AIAA to find out status of latest SIDS as AIAA recommended practice document.
 - done; discussion below
 - (h) Rumsey will e-mail Bussoletti to get definition of SoundIntensityDB
 - done; definition is now in latest SIDS documentation
 - (i) Towne will check to see if the settings in CGNSTalk can be changed so replies automatically go to CGNSTalk
 - done
 - (j) Van der Weide will try out the HDF-5 version of CGNS on his test case, and will report back

- done; discussion below
- (k) Wedan will make another 2.3.x release
- done
- (l) Pointot will work on completing SIDS-to-HDF5 documentation, in preparation for the Beta release of V3.0
- in progress; Wedan, Rumsey, Towne, Koziol agreed to be reviewers
- (m) Michal will check with other Boeing people to see if they can test EM extension soon
- not done; item carries; although we may need to move forward soon with the extensions without Boeing testing
- (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.
- decided changes would be too extensive; staying with default of zeros for unwritten portions, with user responsible for keeping track
5. ISO status/discussion:
- (a) No change from last report
6. Documentation issues and CGNStalk issues (Towne):
- (a) Status of V2.3 becoming revised AIAA recommended practice
- i. Day and Cawley discussed balloting process – changed from 2 years ago
 - ii. committee needs to be balanced among “interest categories”
 - iii. decided on Government, Academia, Industry (tool vendor), and Industry (user)
 - iv. first step will be to e-mail the committee members and have them fill out which category they belong to
 - v. ballot on recommended practice will occur after that (possibly in January)
7. Software status/discussion (Wedan):
- (a) As part of Alonso and Van der Weide's discovery of slowness writing files with huge numbers of blocks, Wedan found a major cause in ADF: software doing “chunk search” to try to use up empty spaces in the file. By disabling this search, write times dramatically improved (e.g., 15 min -> 20 sec) for the big files. Downside is that file size could increase. Wedan will look into good way to implement this fix.
- (b) Wedan said that it appears that if you delete a node in ADF, then write out the file, it rewrites everything. Van der Weide agreed to try this on one of his big test cases and report back. Koziol said that HDF-5 does not do this.
8. HDF-5 status/discussion:
- (a) HDF-5 task force has been active, pursuing issue uncovered by Alonso and Van der Weide (slow writing of files with huge numbers of blocks, 1000 or more). Wedan found a fix for ADF, but HDF-5 is still too slow. Koziol is working with Alonso and Van der Weide looking into the issue.

- (b) Poinot uses HDF-5 version of CGNS regularly, and has no problems (but he does not employ so many blocks).
 - (c) Discussion of switchover to HDF-5
 - i. we need more people to try the HDF-5 version prior to Reno meeting; Rumsey will send e-mail to CGNSTalk about it, and also will try to develop a list of what users there are and what platforms they have tested on.
 - ii. it is also important that software vendors be a part of the beta process
 - iii. Koziol mentioned that HDF-5 is funded and committed for long-term; unlikely to be major changes (i.e., no HDF-6)
 - iv. further discussion and decision on switchover to take place at Reno meeting
9. Extensions status/discussion (Wall, Wedan):
- (a) Version 2.4 (Beta) will be cut sometime soon; this version includes the latest IL extensions
 - i. Wedan and Wall will work out details & get latest version of extensions in place
 - ii. Rumsey will initiate documentation on new extensions; Wall and Towne will help
10. Other issues:
- (a) Review status of open items
 - i. links causing slowdown is no longer a major problem (remove item)
 - ii. Eliminate PointList/Range + CellCenter possibility: will be done for V3.0, not before
 - iii. HDF-5 "to do" list – still open
 - iv. Issue of 8 units – still an issue
 - v. Resolve SIDS and ISO/STEP – still an issue
 - vi. alphanumeric sorting of everything – would be useful, but still needs looking into
 - vii. certification process – Poinot's upcoming Reno paper addresses this (uses XML grammar)
 - (b) Need for CGNS user's meeting – to be discussed at Reno
 - (c) Wedan to talk about CGNS at Computational Electromagnetics meeting at NASA Ames early in 2005
 - (d) Next meeting: face-to-face at Reno, Wed Jan 12, 7PM, room TBD
 - (e) Election of chairperson will be held at Reno meeting; anyone interested in the position should contact Rumsey
11. Meeting was adjourned at 12:25 PM.
12. Summary of **action items**:
- (a) Towne will make changes in CGNS Charter document.
 - (b) Hauser will check into parallel issues regarding time-dependent data.
 - (c) Rumsey will circulate CGNS flyer to steering committee for comments.
 - (d) Poinot will work on completing SIDS-to-HDF5 documentation; Wedan, Rumsey, Towne, Koziol will be reviewers.
 - (e) Michal will check with other Boeing people to see if they can test EM extension.

- (f) Wedan will look into good way to implement the disabled chunk-search fix in ADF.
 - (g) Van der Weide will try deleting node and then writing (using ADF) on one of his big test cases and report back.
 - (h) Rumsey will send e-mail to CGNSTalk about testing HDF-5 version of CGNS, and also will try to develop a list of what users there are and what platforms they have tested on.
 - (i) Wedan and Wall will work out details about extensions & get latest version in place for V2.4.
 - (j) Rumsey will initiate documentation on new extensions; Wall and Towne will 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) With V3.0 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.
 - (b) Resolve HDF-5 "to-do" list ([Attachment 2](#)).
 - (c) Issue of 8 units – need consistency between `DimensionalUnits` and `DimensionalExponents`.
 - (d) Eventually resolve any differences between SIDS and ISO/STEP.
 - (e) Question of need (or preference) to have alphanumeric sorting of everything (like is currently done for zones)
 - (f) Need for developing certification process (official test for compliance)

Attachment 1: Attendees

Juan Alonso	Stanford
Armen Darian	Boeing – Rocketdyne
Craig Day	AIAA
Meredith Cawley	AIAA
Dan Dominik	Boeing - Rocketdyne
Quincey Koziol	NCSA
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

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 (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