

CGNS Steering Committee
Telecon Minutes
12 September 2007
11:00 AM Eastern Time

1. The meeting was called to order at 11:05 AM. There were 10 attendees, listed in [Attachment 1](#).
2. The minutes of the 22 May 2007 meeting were approved as posted on the web site.
3. Steering Committee Membership changes, updates, and issues
 - (a) Mark Anderson of Concepts NREC (a turbomachinery design and development organization) introduced himself, and expressed an interest in joining the Steering Committee. The committee approved the membership. This brings the current member list to 23 organizations (current maximum is set at 30).
 - (b) Towne will update the Steering Committee Charter to add Concepts NREC, and Rumsey will update the website.
4. Status of previous action items
 - (a) Hauser to coordinate with Wedan and put parallel HDF-5 version of CGNS on SourceForge as beta release, either in V2.5 or in V3.0.
 - i. Action item carries (modified). Hauser has obtained latest release, and is in process of having his students add and test the parallel HDF-5 capability. Will be V3.0. Hauser and Wedan will put V3.0 with parallel HDF-5 capability as an alpha release on SourceForge when ready.
 - (b) Pointot will continue to test and work with HDF5 external link capability.
 - i. Pointot is still evaluating link capability of HDF-5 version 1.8.0 beta 3, with help from Koziol at NCSA. Action item carries.
 - (c) Rumsey will e-mail Tricia Carr to get update on status of the CGNS short course.
 - i. Done. Short course is currently scheduled for Jan 5–6, 2008 (see more details below).
 - (d) Allmaras will send Rumsey revised face-based proposal for posting on website.
 - i. Not done yet. Action item carries.
 - (e) Rumsey will e-mail to the Committee for a vote on the Regions proposal.
 - i. Done, but some issues surfaced that prevent closure. These are being worked. Rumsey will coordinate bringing the Regions proposal to completion.
 - (f) Richard Hann and Earl Duque will ask others at their company about sprays, and will e-mail Rumsey particular needs or issues.
 - i. Done. Anyone else interested in this feature should contact Rumsey, to be included in future e-mail discussions on this subject.
 - (g) Rumsey will develop a proposal to handle sprays of unconnected points.
 - i. Not done yet. Action item carries.

- (h) Hann will evaluate the new capability sent to him by Wedan for writing HDF-5, ADF, or XML and will report about it.
 - i. Not done yet. This capability is also being evaluated by Hauser and his students. Action item carries as: Hann and Hauser will evaluate the capability for writing HDF-5, ADF, or XML in proposed V3.0.
- (i) Rumsey will e-mail to the Committee for a vote on the modified Generalized Connectivity proposal (change to SIDS).
 - i. Done. Proposal was accepted. Towne will add the Generalized Connectivity change to the SIDS.
- (j) Wedan will make fix associated with Valgrind complaint in V2.5, and will take 2.5 off beta status.
 - i. Done. V2.5 is new official release as of Sept 7, 2007.

5. Open Items (see number 15 below)

- (a) Purpose of open items is to not lose track of long-term issues that come up.
- (b) Brief discussion: item (d) of Open Items will be taken care of in V3.0.

6. CGNS short course for AIAA

- (a) Scheduled for Jan 5–6, 2008 in Reno, NV (just prior to Aerospace Sciences Meeting).
- (b) Led by Thomas Hauser and Ken Alabi, with help from Marc Pointot, Bruce Wedan, and Chris Rumsey.
- (c) AIAA allots some travel expenses for instructors, but there is not a lot available, so most instructors will need to try to get their companies to pay travel.
- (d) AIAA may cover conference registration fee if company covers travel.
- (e) Current plan for any honoraria is to hold it for future committee use.
- (f) AIAA decides go vs. no-go in early December, based on number of pre-registrants at that time (goal is 4–5 by early Dec., at least 12 or so for the class).
- (g) There are still a lot of logistics to work out:
 - i. who prepares what?
 - ii. who teaches what?
 - iii. can all 5 instructors can make it to Reno, and how to most effectively use AIAA's available travel money?
 - iv. need complete course notes (copies of viewgraphs plus any other documentation to be given to the students) by early December (AIAA will copy and pass out)
 - v. how to work lap-top logistics — connection to internet needed? or provide CD with all software on it?
- (h) Rumsey will arrange a telecon for the instructors to start to work out details (Monday Sept 17).

7. ISO/STEP

- (a) Nothing to report.

8. Documentation

- (a) Towne will make V2.5 the official documentation.
- (b) The SIDS document as revised AIAA Recommended Practice: AIAA R-101A-2005 is now out, and available either from AIAA or from www.cgns.org.

9. Software

- (a) Wedan will add Hauser as a SourceForge developer.
- (b) Weinkauff problems: cannot link to more than 127 files, and also closing CGNS file does not necessarily close links. Wedan will look into Weinkauff issues regarding automatically closing linked files, problem with unsuccessful opening leaving data structures undefined, issues with MAXIMUM_FILES, and use of relative paths.

10. HDF-5

- (a) Brief discussion regarding benchmarking currently underway by Hauser and his students.
- (b) Question on how to get more people involved?
 - i. There are several users interested in parallel capability. Hauser will maintain contact with these users, and let them know when parallel V3.0alpha version is ready to be tested.
 - ii. Suggestion to hold a “user’s meeting” in Europe, where there is a lot of CGNS activity and relatively broad user base. Hauser and Rumsey will contact people in Europe regarding possibility of holding a European CGNS User’s Meeting sometime in the future.
- (c) Funding for software development — is always a problem for CGNS committee
 - i. NASA funding no longer readily available.
 - ii. We generally rely on volunteers.
 - iii. Possibly could tie software development as part of grants or proposals that individual committee members write.
- (d) New V3.0 will be very easy for user to use or switch between ADF and HDF-5.
- (e) HDF-5 1.8.0 is still beta version — this is the version that intended to fix links issues.

11. Extensions

- (a) Face-based storage proposal — ongoing (Allmaras has action item)
- (b) Regions proposal — discussed redundancy of `ElementList/Range...` in the past it was in, then out, then put back in again (its use makes `GridLocation` unnecessary)
 - i. `PointList/Range` generally preferred for specifying specifying points
 - ii. `ElementList/Range` for faces and cell centers
 - iii. `PointList/Range + GridLocation=Cellcenter` still allowed (but discouraged)
 - iv. Allmaras still trying to figure out how to allow for edge-based capability in Regions
 - v. Effort is still under development
- (c) Generalized Connectivity — proposal accepted, currently being added to the SIDS documentation.

12. Other issues:
 - (a) Next telecon planned for Wed, Nov. 28 at 11AM eastern.
 - (b) Next face-to-face meeting planned for Sunday Jan 6 at 7PM in Reno, NV at the AIAA meeting (note this is different from the usually held Wednesday PM time slot).
13. Meeting was adjourned at 11:55 AM.
14. Summary of **action items**:
 - (a) Towne will update the Steering Committee Charter to add Concepts NREC, and Rumsey will update the website.
 - (b) Hauser and Wedan will put V3.0 with parallel HDF-5 capability as an alpha release on SourceForge when ready.
 - (c) Poinot will continue to test and work with HDF5 external link capability.
 - (d) Allmaras will send Rumsey revised face-based proposal for posting on website.
 - (e) Rumsey will coordinate bringing the Regions proposal to completion.
 - (f) Rumsey will develop a proposal to handle sprays of unconnected points.
 - (g) Hann and Hauser will evaluate the capability for writing HDF-5, ADF, or XML in proposed V3.0.
 - (h) Towne will add the Generalized Connectivity change to the SIDS.
 - (i) Rumsey will arrange a telecon for the AIAA short course instructors to start to work out details (likely Monday Sept 17).
 - (j) Towne will make V2.5 the official documentation.
 - (k) Wedan will add Hauser as a SourceForge developer.
 - (l) Wedan will look into Weinkauff issues regarding automatically closing linked files, problem with unsuccessful opening leaving data structures undefined, issues with `MAXIMUM_FILES`, and use of relative paths.
 - (m) Hauser will maintain contact with users interested in parallel HDF-5 capability, and let them know when parallel V3.0alpha version is ready to be tested.
 - (n) Hauser and Rumsey will contact people in Europe regarding possibility of holding a European CGNS User's Meeting sometime in the future.
15. 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) Keep track of/resolve HDF-5 "to-do" list ([Attachment 2](#)).
 - (b) Keep track of progress with ISO/STEP.
 - (c) Need for official certification process (test for compliance)
 - (d) Need to add Karman's additional PYRA element type to allowed list (in software and in SIDS). Need to wait until V3.0 for this due to compatibility issues.
 - (e) Need to upgrade/update *User's Guide* as appropriate (such as additional specific examples)
 - (f) Need to resolve slow behavior and larger file sizes that can occur in CGNS files when there are many (thousands) of nodes.

Attachment 1: Attendees

Steve Allmaras	Boeing
Mark Anderson	Concepts NREC
Mike Jeffries	Pointwise, Inc.
Earl Duque	Intelligent Light
Thomas Hauser	Utah State
Greg Power	USAF / AEDC
Chris Rumsey	NASA Langley
Charlie Towne	NASA Glenn
Edwin van der Weide	Stanford
Bruce Wedan	ANSYS / ICEM CFD

Attachment 2: Tentative to-do list in association with HDF-5 switchover

- Complete and test parallel implementation
 - under development
- Complete and test API capability to automatically detect and switch between ADF and HDF-5 (transparent to user?)
 - under development
- Assess/minimize impact on software vendors using CGNS
 - under development (success with automatic detection transparent to user will minimize impact)
- Make changes recommended by HDF-5 to improve usability with HDF-5 (e.g., character strings as opposed to character arrays)
- Assess compression capability of HDF-5
- 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
- Resolve “link-of-links” problem: will require HDF-5 fix by NCSA
 - under development (1.8.0 beta)