

CGNS Steering Committee
Telecon Minutes
22 March 2006
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 11 January 2006 meeting were approved as posted on the web site.
3. Steering Committee Membership
 - (a) Daniel Einstein (Pacific Northwest National Laboratory) introduced himself
 - he is interested in joining the steering committee
 - works in area of computational physiology
 - committee voted to add Pacific NW National Lab to steering committee: Towne will add Pacific Northwest National Laboratory to Steering Committee Charter.
4. Status of previous action items:
 - (a) Rumsey and Towne to update Charter with changes to committee membership.
 - done
 - (b) Rumsey will contact Aftosmis about possible participation on committee.
 - done — no response
 - (c) Allmaras will write explicit documentation, for addition to SIDS, describing face-based storage and providing explicit examples for using the method, and will send to Rumsey and Michal for review.
 - done
 - we need other committee members to look at it and give comments
 - it currently works with existing MLL (it is merely a documentation change), but do we need to worry about mixing cell-based with face-based in the same file or zone? do we need some sort of descriptor node so another user can easily identify what method is being used?
 - Fisher, Poinot, Hann, Weber, Allmaras, Rumsey will be on team to evaluate this proposal and decide what to do. Rumsey will forward Allmaras's documentation on face-based storage method to Fisher, Poinot, Hann, Weber.
 - (d) Wedan will write documentation for SIDS and MLL as appropriate on Rind-for-unstructured and send to Rumsey, Norris, and Towne.
 - Not done yet. Action item carries.
 - (e) Wedan to look into issue of memory allocation for `cg_descriptor_read` (related to use of `malloc`).
 - done
 - this involves C-usage of `link_read`, `geo_read`, `descriptor_read`, and `convergence_read`

- other MLL routines require user to *malloc* memory, and free up space
 - but these 4 routines are different in that they *malloc* the character strings for you
 - Wedan added new `cg_free` MLL routine (currently in CVS) so user can free up space “*malloc*”ed by these 4 routines
 - Documentation for this call still needed. Wedan to write up documentation on `cg_free`.
- (f) Wedan to post HDF-5 policy statement on website, and include link to HDF-5 site. Also Wedan will try to give Rumsey access to the CGNS website.
- first part done
 - Rumsey now helps Wedan make changes to the site, but sole control still resides at ANSYS/ICEM
- (g) Rumsey will summarize Poinot’s handling of source terms for internal BCs, and pass on to others through CGNSTalk.
- done
- (h) Rumsey to send Stuckert and Bush a copy of invitation letter to panelists for reference.
- done
- (i) Rumsey to look into advertising the tutorial session to be held in San Francisco.
- done
 - AIAA did not want to advertise in the conference bulletin, because of possible conflicts with AIAA courses that attendees are paying for
 - AIAA recommended that we make one or more posters, and also 1-page flyers. Poinot and Rumsey will work on making a poster and flyer, and will forward to steering committee prior to printing.
 - Hann recommended looking into advertising at CFD-Online. Rumsey will look into advertising the SF tutorial session at CFD-Online.
- (j) Wedan will investigate `InwardNormalList` problem (lines 1877–1878 in `cgns_internal.c`).
- done (bug fixed)
- (k) Wedan will look into MLL changes associated with making `CellList+InterpolantsDonor` (under `GridConnectivity`) optional rather than required.
- done — new MLL routine `cg_conn_write_short` written (in CVS)
- (l) Rumsey will make SIDS doc changes associated with making `CellList+InterpolantsDonor` (under `GridConnectivity`) optional rather than required.
- done — currently posted in Beta documentation
 - Discussion held about version numbering and documentation (summary in section 8 below)
- (m) Rumsey and Bush will look at need for multiple `ZoneGridConnectivities` for time-dependent data and will put together a preliminary proposal.
- done — new proposal submitted

- (n) Alonso will forward to Rumsey some preliminary ideas on levels of compliance for vendors, related to problems he has encountered.

- Not done yet. Action item carries.

5. Planning for San Francisco AIAA meeting

- (a) Two major CGNS events planned: Panel discussion and evening tutorial session
- (b) Panel discussion will be “CGNS Practical Applications in CFD”, under auspices of Fluid Dynamics TC, Monday June 5, 1PM. We currently have 5 panel members: Cayre (SNECMA), Sudre (Eurocopter), Poinot (ONERA), Hann (Ansys-CFX), Fisher (or Mani or Allmaras) (Boeing). But Cayre and Sudre are not sure about being able to attend. Rumsey will send Fisher more information about SF Panel discussion.
- (c) Discussion held about evening tutorial.
 - we already discussed advertising (see 4i)
 - 5 tutors are Rumsey, Wedan, van der Weide, Hauser, Poinot
 - Rumsey has requested a room sized for 50 people
 - Question came up whether it’s a good idea to divide tutorial into into “Basic” and “Advanced” sections. Perhaps better to just show topics and proceed naturally from basic to advanced? Or change “advanced” to “in-depth”? No decision made. Poinot and Rumsey will work on the advertising poster and see how it comes out — and decide what to call things at that point.

6. Open Items (see number 15 below):

- (a) No discussion

7. ISO/STEP

- (a) Hunten reported that of four new STEP Integrated Resource (IR) documents developed during CGNS STEP integration, 2 are done (Parts 107 and 53) and 2 are in process (Parts 52 and 110). They are combining the original AP 209 with an integrated engineering analysis framework and CGNS to create a second version of AP209 (AP209E2). Expect ISO committee draft for ballot around September 2006. They hope to eventually develop an API standard based upon the currently-being-developed STEP Binary standard based upon HDF-5 to be associated with the AP 209E2. The latest revision of the **AP 209 planning model** is attached (PDF, 2 pages, 50K).

8. Documentation

- (a) Towne will check with AIAA on the status of the latest Recommended Practice document.
- (b) Version numbering discussion
 - generally, we consider e.g. 2.0 → 3.0 a major new release, with possible loss of some compatability — it is formally announced
 - 2.3 → 2.4 a fairly significant new release, with compatability maintained — it is also formally announced

- when there are fairly minor changes, like bug fixes or small enhancements that do not affect most users, they sometimes come out unannounced (e.g., 2.4.2 → 2.4.3)
- the question is how to handle minor changes when the small changes involve a need for documentation change or addition
- Towne indicated that the decision of determining the version number can be made independent of consideration of the documentation. In other words, if the new documentation goes with 2.4.4, then this version number is posted at the top of the SIDS document. The most important thing is good communication between Wedan and Towne, so each is fully aware of what the other is doing.

9. Software

- (a) No discussion

10. HDF-5

- (a) Koziol at NCSA is working on revisions to group format in HDF-5, and plans to wrap up sometime this spring for release 1.8.0.
- (b) Hauser's student is almost ready with a beta release for parallel HDF-5
 - Hauser will send to Alonso and van der Weide to try out
 - After this, it will be made available on SourceForge

11. Extensions

- (a) There are several new proposals for extension (the first 3 are already posted), but technical problems on the website make it impossible to access them yet.
 - Averaging Interfaces - (Magnan)
 - Face Center Connectivity - (deVito)
 - Multiple zone connectivities for time-dependent - (Rumsey)
 - Fluid-structure interaction with deformable boundaries - (Einstein)
- (b) Rumsey will forward all new proposals to Steering Committee for comments. Deadline for response will be in a few months.
- (c) Rumsey will have Einstein's FSI proposal posted to the website.
- (d) There is also still a need for handling source terms without having to specify them over the entire field, but rather only over a small "region" or "regions". One possibility is to springboard off of Sayre's existing proposal on "Element Regions", which applies only to unstructured grids. We need an interested person willing to extend this and/or create a new source term ("region") proposal for extension!

12. Other issues:

- (a) Next telecon will be tentatively held on Wed, May 10 at 11 AM eastern.
- (b) We will also try to hold a special telecon just for the participants/leaders/panelists at the San Francisco meeting, probably earlier in May, to coordinate in preparation for the event.

13. Meeting was adjourned at 12:15 PM.

14. Summary of **action items**:

- (a) Towne will add Pacific Northwest National Laboratory to Steering Committee Charter.
- (b) Rumsey will forward Allmaras's documentation on face-based storage method to Fisher, Poinot, Hann, Weber.
- (c) Wedan will write documentation for SIDS and MLL as appropriate on Rind-for-unstructured and send to Rumsey, Norris, and Towne.
- (d) Wedan to write up documentation on `cg_free`.
- (e) Poinot and Rumsey will work on making a poster and flyer for the SF tutorial session, and will forward to steering committee prior to printing.
- (f) Rumsey will look into advertising the SF tutorial session at CFD-Online.
- (g) Alonso will forward to Rumsey some preliminary ideas on levels of compliance for vendors, related to problems he has encountered.
- (h) Rumsey will send Fisher more information about SF Panel discussion.
- (i) Towne will check with AIAA on the status of the latest Recommended Practice document.
- (j) Hauser will send parallel version of CGNS with HDF-5 to Alonso and van der Weide to try out.
- (k) Rumsey will forward all new proposals for extension to Steering Committee for comments.
- (l) Rumsey will have Einstein's FSI proposal posted to the website.

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)
- (e) Need to upgrade/update *User's Guide* as appropriate (such as additional specific examples)

Attachment 1: Attendees

Steven Allmaras	Boeing Commercial
Armen Darian	Pratt & Whitney - Rocketdyne
Daniel Einstein	Pacific NW National Laboratory
Mark Fisher	Boeing - IDS/St. Louis
Richard Hann	ANSYS/CFX
Thomas Hauser	Utah State
Keith Hunten	Lockheed Martin
Robert Magnan	Hydro Quebec
Marc Poinot	ONERA
Greg Power	USAF/AEDC
Chris Rumsey	NASA Langley
Charlie Towne	NASA Glenn
Kurt Weber	Rolls Royce/Allison

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)
- 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 (beta implementation of “external links” is in the works — likely complete in early 2006?)