

CGNS Telecon Minutes

Friday, 12 September 2017, 10:00am Eastern Time

1. The meeting was called to order by Bob Bush. Attendees are listed in Appendix A.
2. 25 July 2017 minutes were approved as published on the website.
3. Steering Committee Issues
 - a. Earl Duque is now primary representative of Intelligent Light (IL), with Brad Whitlock as backup.
 - b. Tony Garratt now represents ANSYS in place of Ulrike Wolf.
4. Steering committee attendance:
 - a. Committee members (telecon last date attended):

Airbus	09/2017
Boeing	09/2017
Cenaero	09/2017
Colo State	09/2017
HDF	09/2017
IL	09/2017
NASA LRC	09/2017
ONERA	09/2017
P&W	09/2017
Pointwise	09/2017
SAFRAN	09/2017
Sandia	09/2017
Tecplot	09/2017
TTC	11/2016
U Colo	01/2017
U Kansas	09/2017
5. Discussion
 - a. Latest NSF proposal scored “highly responsive,” yet was not funded. Breitenfeld will email to the funders to ask about it, so we can decide whether to try again next year (and if so, what - if anything - needs to be changed in the proposal).
 - b. Software status (Breitenfeld)

CGNS is highly reliant on being able to read metadata efficiently (especially for many thousands of processors). A fix for this was in HDF 1.10.0. Unfortunately, it was unintentionally broken in 1.10.1, but it has been repaired in the latest branch, which will go into 1.10.2, due for release in a few months.
 - c. Garratt brought up some documentation needs – especially for cmake and compression. Most people probably use autotools, not cmake. Garratt to work with Breitenfeld to update documentation for cmake and compression. The committee also discussed compression, which currently does not work for CGNS with HDF5.
 - d. Breitenfeld currently tests CGNS with 5-6 compilers (mostly Fortran). It is all done automatically. This does not cost anything, in fact it helps find problems.
 - e. Storage of high order solutions extension (Hillewaert)

Hillewaert has sent a draft to the committee. There are a lot of details, which still need to

be ironed out (preferably via Google Docs) by the subcommittee of experts, which includes some on the CGNS steering committee and some from outside.

- f. CPEX 0041 – almost ready to go. Garratt provided a few additional comments from Hann, regarding naming convention, and need for `cgsizet`, among others. Legay to incorporate Hann's latest review of CPEX 0041, and send out for final vote.
- g. Implementation Strategy
CPEX 0040 has been approved, but not yet implemented. Guzik has a branch, but needs to be sure all possible usages of rind planes are covered. Guzik to finalize implementation of CPEX 0040. We have not yet identified a person to implement CPEX 0041 (once it is approved). This is complicated by the fact that Legay's group does not directly use the MLL library. Poinot and Legay to discuss this off-line.

6. Review action items

- a. Continue to review outstanding JIRA items/tasks.
 - i. Item carries.
- b. Hillewaert will complete a proposal for storage of high-order grids and data.
 - i. A draft is in place, but needs further refinement by a sub-committee.
- c. Breitenfeld to add Windows documentation as appropriate.
 - i. Item carries.
- d. Wang and Hillewaert to spell out required clarifications regarding high order element point locations in existing SIDS docs.
 - i. All OK, except it would help to have additional clarifying statement. Wang to add statement to the docs about the fact that nodes are uniformly spaced on all edges of high-order elements.
- e. Hillewaert and Wang to determine if existing high order point locations in CGNS are OK.
 - i. Done. They are OK as is.
- f. Legay to update CPEX 0041 with Sjaardema's recent suggestion, then Rumsey to forward to the committee and ask for a vote by early September 2017.
 - i. First part done. Second part to be done after next iteration on comments from Hann.

7. New business

- a. Hillewaert would like to add (for future discussions):
 - i. For adaptive usage, for example, need to be more directive when referring to CAD
 - ii. For scale-resolving simulations, need to specify details about statistics

8. Ongoing action items

- a. Continue to review outstanding JIRA items/tasks.
- b. Hillewaert and sub-committee of experts to continue with proposal for storage of high-order grids and data.
- c. Breitenfeld to add Windows documentation as appropriate.
- d. Garratt to work with Breitenfeld to update documentation for `cmake` and compression.
- e. Legay to incorporate Hann's latest review of CPEX 0041, and send out for final vote.
- f. Guzik to finalize implementation of CPEX 0040.
- g. Wang to add statement to the docs about the fact that nodes are uniformly spaced on all edges of high-order elements.

9. The next meeting is tentatively scheduled for Tuesday, 24 October 2017 at 10am Eastern.

10. Adjourn

Appendix A – Attendees

Pat Baker	Pointwise
Scot Breitenfeld	HDF Group
Bob Bush	Pratt & Whitney
Simone Crippa	Airbus
Tony Garratt	ANSYS
Stephen Guzik	Colorado State U
Koen Hillewaert	Cenaero
Scott Imlay	Tecplot
Pierre Jacques-Legay	Onera
Dimitri Kamenetskiy	Boeing
Marc Poinot	Safran
Chris Rumsey	NASA Langley
Greg Sjaardema	Sandia
ZJ Wang	U Kansas
Brad Whitlock	Intelligent Light