CGNS Steering Committee Telecon Minutes
18 September 2013

1) The telecon was called to order at 11:00 AM eastern time. There were 10 attendees, listed in Attachment 1.

2) The minutes of the 16 July 2013 telecon were approved.

3) Membership issues
   a) GE Global Research in Niskayuna (represented by Kaveh Mohamed) was voted in as a new Steering Committee member.

4) Bruce Wedan
   a) Passed away in a traffic accident several weeks ago.
   b) This leaves a big hole on the CGNS team. Bruce was the most knowledgeable committee member about the software coding, and volunteered a lot of time to it. A discussion was held about what to do without him. Bruce was an expert C programmer, and much of his coding is very clever and at times difficult for a less experienced programmer to understand. In the past, small amounts of funding have been occasionally available from NASA, but this is difficult to predict or guarantee. The issue of a CGNS consortium now becomes more important than ever. Hauser's old action item (9(a) below) should be more actively pursued now. Active volunteer programmers from the committee are also now also needed. SourceForge allows for multiple developers to commit code; the committee mentioned the importance of careful checking through a thorough test suite. A more formal system of code review may be necessary depending on the number and capabilities of developers. More decisions will need to be made regarding how to handle bug fixes and CGNS extensions in the future.

5) Discussion on parallel performance
   a) Questions have come up regarding the performance of the new parallel I/O in V3.2. Hauser is most familiar with the parallel coding, so Hauser will look into the parallel I/O performance issues. Decision to take V3.2 off beta has been delayed for this reason, as well as because of Bruce's death.

6) Discussion on CPEX 0037
   a) Sandia's previously provided examples were discussed (multizone unstructured CGNS issues they were having). Main problem is that many grid generator codes are not writing enough information. CGNS provides the capability, but many of the relevant nodes are optional. The committee agreed that the SIDS is OK as is in this regard. Pointwise is working to fix their output to include the needed information. The possible posting of a usage document of suggested practices, to help users and software vendors write such files, is being considered, but the best way to go about this is not known.

b) The CPEX also brought up possible needs when writing a CGNS file with both structured and unstructured zones. After discussion, it was asked what information (if any) is currently missing. Current SIDS allows for PointList and PointListDonor/CellListDonor under GridConnectivity_t. The Sandia proposal is asking for additional information of PointListPosition and PointRangeDonor on the Unstructured side. The committee felt that the PointListPosition info is already specifiable under Elements_t, and specifying PointListDonor or CellListDonor should cover what is needed on the donor side. But it is possible that the committee is misunderstanding or missing something. So the committee is asking whether some needed information is still missing, or if this is more of a preference. If the latter, then use of UserDefined nodes is more appropriate, and no changes should be made to the SIDS. Pointwise said that they would have no problem with including UserDefined nodes, so long as they do not conflict with the SIDS-required parts. One committee member mentioned that one possible missing piece of information is the fact that the structured side has 3 indices while the unstructured side has 1, and the current MLL does not check the dimension. So the indexing dimensionality may be needed information under GridConnectivity_t. This needs further scrutiny. <u>Rumsey, Bush, and Baker to continue off-line communications with Sandia about CPEX 0037 structured-to-unstructured connectivity issues.</u>

7) Status of Old Action Items:
   a) Hauser and Duque to continue to look into the consortium idea for CGNS, including more active support of HDF-5 consortium. Also look into applying to NSF software infrastructure for sustained innovation by Feb 2014, possibly related to data management plan.
      i) Carries.
   b) Hauser, Duque, and Iannetti to continue to develop Iannetti's proposal for handling sprays of unconnected points.
      i) Carries.
   c) Hauser to finalize the CGNS survey based on feedback from committee members, and email out to CGNSTalk.
      i) Carries.
   d) Guzik will summarize the changes required to the MLL software to have core data always start at location (1,1,1) when including Rind data, as well as backward-compatibility implications, to help the Steering Committee decide on a course of action (index discrepancy).
      i) Carries.
   e) Rumsey to finish document to help users go from v2.5 to v3.x and will post it to Downloads page.
      i) Done.
   f) Arunajatesan and Howard to provide list/examples for multizone unstructured CGNS usage.
      i) Done.
   g) Wedan to investigate needs related to combining structured and unstructured zones in a CGNS file

       i)   Not done. Action now part of CPEX 0037.

8) Next Telecon is tentatively set for Wed, October 16, 2013, 11 am eastern. A confirmation email will be sent prior to the meeting.

9) Summary of **action items**:

    a) Hauser and Duque to continue to look into the consortium idea for CGNS, including more active support of HDF-5 consortium. Also look into applying to NSF software infrastructure for sustained innovation by Feb 2014, possibly related to data management plan.
    b) Hauser, Duque, and Iannetti to continue to develop Iannetti's proposal for handling sprays of unconnected points.
    c) Hauser to finalize the CGNS survey based on feedback from committee members, and email out to CGNSTalk.
    d) Guzik will summarize the changes required to the MLL software to have core data always start at location (1,1,1) when including Rind data, as well as backward-compatibility implications, to help the Steering Committee decide on a course of action (index discrepancy).
    e) Hauser will look into the parallel I/O performance issues.
    f) Rumsey, Bush, and Baker to continue off-line communications with Sandia about CPEX 0037 possible structured-to-unstructured connectivity issues.
    g) All: how to handle bug fixes and CGNS extensions in the future?

Attachment 1: Attendees

Pat Baker	Pointwise
Bob Bush	Pratt & Whitney
Stephen Guzik	Colorado State U
Thomas Hauser	University of Colorado
Dmitri Kamenetskiy	Boeing
Michael Mirsky	Pointwise
Kaveh Mohamed	GE Global Research
Marc Poinot	ONERA
Chris Rumsey	NASA Langley
ZJ Wang	U Kansas