Minutes from CGNS Steering Committee Meeting
Submitted by Bob Bush (UTRC) based on notes
by Christopher Rumsey (NASA Langley RC)
and Diane Poirier (ICEM CFD Engineering)

Meeting held on October 14 & 15, 1999

at United Technologies Research Center
East Hartford, CT

The first CGNS Steering committee meeting was held 14-15 October 1999 in Hartford, CT. This committee is responsible for supporting the CGNS CFD data standard, after the end of the NASA/Boeing contract effort to develop the standard. The main objective of this first meeting was to adopt a charter and to plan the next steps for the organization. The meeting minutes are followed by a list of action items.

DAY I

A.   *Attendees (17):* The list of attendees is attached at the end of this document.
- Ed Hall: suggests encouraging the universities to use CGNS. Has implemented CGNS in ADPAC.
- Ray Cosner: Boeing has more aggressive plans regarding CGNS for the year 2000.
- Francis Enomoto: IT is probably interested.
- Todd Michal: Will soon have a full implementation of CGNS in WIND. The next step is to add it to all the supporting tools.
- Dan Dominik: Boeing Reusable Space Systems has reviewed CGNS and decided to proceed with it.
- Chris Rumsey: Version 6 of CFL3D supports CGNS.

B.   *Outreach Team*: report by Barbara Hutchings (Fluent)
1) **Phase I**: prime players with focus on commercial companies: Fluent, CD, ICEM CFD, Pointwise (Gridgen), CEI (Ensight), Intelligent Light (FieldView)
2) **Phase II:** focus on other end-user organizations (CFD, CAE, CAD vendors)
- CGNS needs to support CFD CAE connections. Add material properties, etc.

C.   *Charter Team*: report by Bob Bush (UTRC)
1. CGNS will officially adhere to GNU licensing requirements
2. GNU license will be on the internet, prior to downloading users have to click "OK"

3. CGNS membership will be limited to 15 or fewer organizations at the discretion of the Steering Committee.
   - If size becomes an issue, we may limit membership to one representative from each organization i.e., "NASA" only needs one representative rather than one from each research center
   - Membership changes will be approved by the Steering Committee
   - We must leave the door opened for members of the automotive industry.
4. Technical Support Subcommittee (Documentation Committee)
   - The purpose of this committee is to take new proposals and put them in proper SIDS and ADF-File-Mapping format. The persons submitting proposals are not held responsible to present them in the SIDS and ADF-File-Mapping format.
5. The issue of whether a secretary is needed will be left up to the discretion of the chairperson.
6. Add ADAPCO to the steering committee
7. Contact DASA-MTU (see if they really want to be on the steering committee)

D.   *<u>Chairperson election:</u>* Bob Bush (UTRC) unanimously selected chairperson

E.   *<u>CAPRI:</u>* report by Bob Haimes, (MIT)
   - motivated by NPSS (NASA Glenn)
   - tying into many existing CAD packages
   - sees CAPRI as natural tie-in to CGNS, and NPSS is interested.
   - doesn't know if CAPRI will be free yet

D.   *<u>Position Discussions:</u>* report by Ray Cosner (Boeing)
   a) ISO (discussion of process and current status)
      - Boeing initiative. First presented at an ISO meeting in January 1999.
      - 200 CGNS registered users over 28 countries, as of 9/1/99. But only 6 of the 17 ISO P-Member countries are currently supporting CGNS.
      - Steps in the ISO certification process:
        - Translating SIDS into EXPRESS language. Almost completed.
        - Nov.12, 1999: Lobby for PWI Support. Needs and has the support of five ISO P-Member countries.
        - May 2000: Obtain NWI Approval: needs 2/3 of the voting countries.
        - Subcommittee to prepare the Draft International Standard during year 2000.
        - Several revisions are expected
        - Earliest possible ISO acceptance: November 2001, but 2002 or even 2003 are more realistic dates.
      - The wind tunnel and flight test capability will be added later by amendment.
      - The main stumbling block is to identify potential overseas supporters from the "P-membership" list
   b) AIAA subcommittee on standards
      - potential home for CGNS
      - AIAA is excited by the prospect

- existing committee members don't want to increase their workload
- The AIAA Committee on Standards would form a 4th sub-committee for CGNS and let the CGNS team operate autonomously.
- we voted "YES" to this idea and to think about what does the CGNS team want from AIAA

F. *Funding and Maintenance discussion*
- need money for tech support, software, upgrading API, etc.
  10-20K per year from each org? Is this possible?
  most money needed next 4 years or so, then could taper off
- we need to write "white papers"
- ICEM: may need as much as 2 F.T.E.'s for next few years!
  this translates to 300K per yr!   -a lot to do!
- need to draft a list of specific items that require funding. Do this at end of this meeting and present at next CGNS meeting at Reno 2000 (one evening) (Bush)
- perhaps should hold a USERS meeting at summer 2000 AIAA meeting
- can we put a plug (write article) for Aerospace America?
- SIDS changes could be partly funded by the Boeing ISO project.
- possible funding sources:(?) NIST, NPSS, IT, DOE

G. *Proposal for SIDS extensions* report by Bob Bush (UTRC)
- how do we adopt these?
- action: everyone on team to look at proposed extensions on the web site
  by the end of the month - send comments about them
- we can vote via e-mail
- should also send e-mail to all registered users telling them that it's their last chance to send their comments about the proposed extensions
- any changes shouldn't alter existing API functions
    if a change is needed, write a new function, but still support the old one for backward compatibility (perhaps gradually phase it out)
- have a "beta" release before making changes "official"?
- should this CGNS team hold telecons? RECOMMENDATION: bi-monthly - Bob to look into it
- web site should post all new SIDS extension proposals as they come in
- Need to develop a draft of actual process for adding extensions, and post this process on the web (Doug McCarthy)

H. *Logo report*
- it's been on the web site long enough - should probably come off
- team "seemed" to agree on some sort of swan logo
- Theresa Babrauckas (NASA) will try to refine the logo for final recommendation

I. *Award report*
- Recognized for their outstanding contribution to the CGNS project: Thomas Dickens (Boeing), Wayne Jones (Boeing), Matt Smith (Boeing), Steve Allmaras (Boeing),

Theresa Babrauckas (NASA Glenn), Christopher Rumsey (NASA Langley), Francis Enomoto (NASA Ames), Mike George (NASA Ames), Ben Paul (Boeing), Armin Wulf (ICEM CFD Engineering), Ray Cosner (Boeing), and Doug McCarthy (Boeing).

- Diane Poirier (ICEM CFD Engineering) was given an award for her outstanding service to the CGNS team.
- Theresa Babrauckas gets "best unabashed performance in a crowded restaurant" award for her bold rendition of "I Could Have Danced All Night" at the Thursday evening dinner

DAY II

A. Definition of the work required to support CGNS

1. Extensions
- ❑ necessary changes to new proposals, (esp. relating to "point-by-point" grid motion)
- - need to allow for multiple GridCoordinates_t nodes
- - default is the one named "GridCoordinates"
- - new API calls are needed relating to reading grid, (old call can still default to reading "default" grid) then point-by-point will be easier, w/o having to use multiple bases (can employ a GridCoordinateConnections under TimeLevels_t)
- ❑ discussion about area-weighted patched connectivity
  - - Steve Feldman will look into drafting a new proposal if needed
- ❑ need FreeStream_t node? Several users wonder where to store their freestream conditions.
- ❑ need to be able to handle Cartesian grids? (Octree)
  - - Diane Poirier will work with M. Aftosmis to prepare a proposal
- ❑ Add API function to be able to create an arbitrary node, and improve the cg_goto function to be able to go to these arbitrary nodes.
- ❑ Add support to periodic boundary conditions.
- ❑ Create an API function to write to disk in case the solver bombs.

2. Performance Reports
- ❑ we need a "performance report" available on the web site
  - - many customers want to know overhead before they commit to CGNS

3. Documentation
- ❑ SIDS needs to be updated to include all the new features
- ❑ documents should be available in the pdf format
- ❑ need User Manual/Tutorial
- ❑ CGNS API documentation needs to be printable (pdf)

4. Training

5. Web maintenance

6. *User support*
   - ❑ This effort is expected to grow rapidly in the next few years. An idea is to establish a CGNS News Group enabling users to help each other.

7. *Utility development*
   - ❑ Utility that finds if 2 CGNS files differ, and list the differences.
   - ❑ Utility that computes the translated & rotated grid coordinates.

8. *Platform/OS Upgrade Maintenance & Validation*
   - ❑ Build a collection of test cases.

9. *Outreach*

10. *Administration*

B. Estimation of the funding required

The team made a first estimate of the manpower required in each of the 10 categories listed above, for the next 3 years. The total manpower for the 10 categories came to 2 F.T.E. for year 2000.

C. The meeting was concluded

Action Items

Theresa Babrauckas (NASA-Glenn)
- refine swan logo and make final recommendation
- Find out about possible funding from NPSS

Diane Poirier (ICEM CFD Engineering)
- Contact DASA-MTU (see if they really want to be on the steering committee)
- Discuss with M. Aftosmis of a way to handle Cartesian grids (Octree) and make a proposal
- take the logo off the web site, and send Theresa the logo files
- Rewrite the proposed extensions in the SIDS and ADF_File-Mapping language. Then contact all registered users to ask for a final review of these proposals.
- Post on the web:
   - ❑ Meeting minutes
   - ❑ the GNU License Agreement on the web.
   - ❑ Proposal for extensions of the SIDS and API
   - ❑ CGNS steering committee charter
   - ❑ Process for extending the standard
- Add a notice of exclusion of warranty in all software files and documents.

- Extend the CGNS SIDS, ADF-File-Mapping and API to incorporate the proposals once reviewed.

Bob Bush (UTRC)
- Present a list of specific items we need funding for at the next CGNS meeting and list of possible funding sources.
- look into bi-monthly telecons
- Arrange the CGNS team meeting at the AIAA conference in Reno, January 2000.
- Update charter and distribute
- Prepare terms of agreement with the AIAA Committee on Standards.

Doug McCarthy (Boeing)
- develop a process for adding extensions, to be posted on the web

Steve Feldman (ADAPCO)
- draft a new proposal for area-weighted patched connectivity and circulate

Outreach Committee
- Develop advertising strategy
- Contact potential users
- Keep contact list of users, funding, sources, etc.

Bob Haimes (MIT)
- Find out about possible funding from the NIST (Federal Agency for Standards).

Chris Rumsey (NASA Langley)
- Prepare meeting minutes.

All
- Comment on proposed extensions by 31 October, and send comments to Diane Poirier.
- Decide what CGNS needs from AIAA – respond to e-mail draft
- Look for international cooperation

Attachment 1: CGNS Attendance List - Oct.14-15 1999 –

Member Name	Affiliation	Phone	Fax	Comments
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