CGNS Steering Committee Telecon
06 September 2001
2:00pm Eastern

Minutes

1. The meeting was called to order at 2:00pm. There were 15 attendees, listed in Attachment 1. There were 2 invited guests to the telecon: Udo Tremel from Germany who has implemented a C++ interface on top of ADF that is 'parallel' to the mid-level library. Marc Poinot from ONERA who has been working a Python oriented wrapper to the mid-level library.

2. Steering Committee Membership: no activity

3. ISO Status: Bob Bush read Ray Cosner's ISO status report, also provided as Attachment 2.

   There was discussion of the CGNS Committee review of the ISO documents. Bob Bush, Diane Poirier, Charlie Towne and Chris Rumsey have reviewed portions of the documents. The consensus is that the ISO documents are very confusing and difficult to map to the SIDS document. This makes the review and comments difficult. Bob Bush will arrange a telecon with Ray Cosner, and perhaps Peter Wilson, to discuss the review in more detail.

4. Documentation: Charlie Towne indicated that the updated User's Guide has been put on the web, as have been the minutes from the June meeting.

   Charlie and Bob reported that there has been some contact with Jim French to deliver the SIDS to the AIAA and re-format it for release as a Recommended Practice. The CGNS Steering Committee will serve as the Consensus Body for the document. Also, Jim French indicated that AIAA uses LaTeX for some documents (e.g. text books) so we should be able to maintain the documentation in close to its current form.

5. Reno Planning: Edwards - Dave reported that the AIAA paper abstract was approved and will be presented on Wednesday at the AIAA Reno meeting. He will be collecting inputs and writing the paper in the October time frame. He has also arranged for the CGNS Users Meeting to appear in the Conference announcement. Users group, and Steering Committee meetings have been tentatively scheduled for Wednesday night, 16 January.

6. Software:

   Mar Poinot indicated that they have release a NEC SX4/5 version of CGNS. Manuel Kessler agreed to serve as a software quality check, and Diane has posted it on the web with their names as contact. There seems to be an issue with ADF on the NEC with double precision integers. Mark Fisher agreed to review their difficulties and help propose changes consistent with existing ADF software.

   There was considerable discussion of what approach we should be taking on extending the current mid-level library functionality to object oriented programming standards, and distributed memory constructs. Udo Tremel has a C++ version of the mid-level libraries. There is some concern that wholesale replacement of the current mid-level library could cause backward compatibility and maintenance issues. Marc Poinot has a Python object

oriented wrapper to the existing ADF and mid-level libraries. Mark Fisher and Todd Michal have some issues with the existing mid-level library (internal buffering - flush entire buffer; parallel access from multiple machines; lock while writing to memory). While there was good discussion, no consensus seemed to form on the direction to go. A sub committee was formed to discuss the issue further. The first step is for Mark Fisher (and or Todd Michal), Udo Tremel and Marc Poinot (and anyone else interested) to submit a short proposed approach to add the capabilities they require (object oriented interface, distributed memory) to Bob Bush by 20 September. Bob will compile the responses, and draft a summary for review and comment. We will then iterate to see if we can come to consensus on an approach that will satisfy the needs of all organizations (technical, manpower, time, etc.)

7. Extensions - Intelligent Light has a small contract with NASA Langley to implement the Chemistry, Links and User Defined Array support. They have the contract, identified staff, and anticipate beginning effort soon. ICEM-CFD (Diane Poirier) has a small contract with Boeing to supply ISO support, as well as support of the existing software implementation. She will be generating a version control system, and perhaps implementing the Rotating Coordinate extension.

8. The meeting was adjourned at 3:30pm.

Attachment 1: Attendees

Bob Bush	Pratt & Whitney
Chris Rumsey	NASA LaRC
Greg Power	AEDC
Don Roberts	Amtec
David Edwards	Intelligent Light
Armen Darian	Boeing
Todd Michal	Boeing
Mark Fisher	Boeing
Alan Shih	Catalpa Research
Charlie Towne	NASA Glenn
Diane Poirier	ICEM-CFD
Kurt Weber	RR-Allison
John Chawner	Pointwise
Dave Schowalter	Fluent
Udo Tremel	EADS Germany
Marc Poinot	ONERA

Attachment 2: E-mail from Ray Cosner re ISO/STEP Status

As a reminder, the ISO/STEP fluid dynamics standard based on CGNS actually consists of four "parts", each of which is a separate document:

- AP 237 - Fluid Dynamics Data
- Part 110 - Mesh-Based Computational Fluid Dynamics
- Part 52 - Mesh-Based Topology
- Part 52 - Numerical Analysis

The most recent meeting of the ISO group responsible for the AP 237 Fluid Dynamics standard was held June 11-15 in San Francisco. During the San Francisco meeting, a page-by-page review was conducted of each of these parts, spanning four days. Since then, we have been working to update the standards documents to incorporate all comments. The update of Part 52 was completed on August 21; the other updates are expected to be completed in September. All comments from the CGNS Committee are welcomed, and if possible we will incorporate the comments in these Parts during the current update. When the current update is completed, probably in the second half of September, I will deliver all four parts to Bob Bush and ask him to distribute them to the members of this Committee.

On September 5-6, I will brief the CGNS and ISO standards to a hydrodynamics conference of the US Navy. I anticipate they will express discomfort with the absence of free surface, hydrodynamics and acoustics data provisions in the current draft of the standard. If that issue does come up, I will respond that the scope of the standard is simply limited by skill areas of the participants and by the available resources, and that we would welcome US Navy participation to define these additional needed elements.

The next ISO meeting is Sept 30 - Oct 5, in Fukuoka Japan. I plan to attend this meeting, together with Peter Wilson who is the Boeing person who is actually documenting the standard. Another page-by-page review of the fluid dynamics standard will be performed at that meeting. Following that meeting in Japan, we will again update the documentation. This update, in the October-January period, will be our last opportunity to make easy and radical changes (if desired) without needing to coordinate them with other parties participating in the ISO process.

The next ISO meeting after the Fukuoka meeting will be held Feb 25 - March 1, in Myrtle Beach, South Carolina. At this meeting, we plan to present all four Parts as "committee drafts" which is the third of six gates in the process for establishing an ISO standard. This means, the parts will be in a complete form and they are then formally offered to the worldwide ISO community for comments. Once we reach this stage, we will have to maintain a formal process of logging and responding to all comments we receive.