General SIDS Improvements (June 2008)

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The attached changes to the SIDS were undertaken to improve consistency and also to allow for easier handling of edge/face-based unstructured grids. The file "parts_of_sids.pdf" contains relevant sections of the SIDS, extracted to a single pdf file.

Specifically, here are the relevant sections to look at:

- Zone_t (sec 6.3, p 54):

Added CellDimension structure parameter for FlowSolution_t, DiscreteData_t, ZoneBC_t

- Elements_t (sec 7.3, p 66):

Modified the ParentData stuff to separate out parent cells from the extra position data. This is independent of all the other mods in the SIDS. There was a request for this separation in ParentData, so I just included it here with everything else.

- FlowSolution_t (sec 7.7, p 72):

Added PointRange/List, etc, for edge/face output with unstructured grids

- ZoneBC_t (sec 9.2, p 101)

- BC_t (sec 9.3, p 103):

Removed ElementRange/List and augmented PointRange/List consistent with FlowSolution, ZoneSubRegions, etc. NOTE: for compatability, MLL will need to still read/recognize and write (or automatically translate) ElementRange/List.

- BCDataSet_t (sec 9.4, p 106):

Augmented PointRange/List consistent with BC, FlowSolution, etc. Removed verbage about ignoring GridLocation and PointRange/List if BCDataSet_t is located under FamilyBC_t

- DiscreteData_t (sec 12.4, p 171):

This should have identical changes as FlowSolution_t

- FamilyBC_t (sec 12.8, p 176):

Eliminated BCDataSet_t substructure and replaced with new FamilyBCDataSet_t. Cramming BCDataSet_t here was inconsistent - where does ListLength come from, and if ListLength is not one how is the "locally defined" data to be interpreted.

- FamilyBCDataSet_t (NEW sec 12.9, p 177):

New structure more appropriate for inclusion under FamilyBC_t. It only allows for globally constant Dirichlet and Neumann data. At some point in the future, FamilyBC will likely be modified to allow for spacially varying data (e.g. boundary layer profiles), but the mechanics just aren't there yet.