Proposal for a partial read and write of connectivity, grid and solution data

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In CGNS unstructured grids are typically stored in one or a few zones. To avoid excessive memory requirements for parallel codes it would be desirable to have the possibility to read or write only a part of the data from/to a particular zone. Currently this is not possible using the midlevel library functions.

Therefore it is proposed to extend the functions cg_section_read, etc. such that it becomes possible to read and write only a part of the connectivity arrays. In order to be consistent, also the functions which write the coordinates and solution, cg_coord_write and cg_field_write, should be extended to have the possibility of a partial write.

The ultimate solution to this problem is of course a parallel IO capability, but even then it would be desirable to have a partial read and write option.

The midlevel routines that should be changed for a partial read/write are:

- cg_elements_read

- cg_section_write

- cg_parent_data_write

- cg_coord_write

- cg_field_write