

Scope: UserDefined extension

Under the UserDefined_t node, the following children are currently allowed:

- Descriptor_t
- DataClass_t
- DimensionalUnits_t
- DataArray_t

We propose the capability to also allow the following (optional) nodes under UserDefined_t:

- PointRange IndexRange_t
- PointList IndexArray_t
- GridLocation GridLocation_t
- FamilyName FamilyName_t
- Ordinal Ordinal_t

Since there are currently no separate functions to write the PointRange/PointList nodes (the arguments are always passed with the function that creates the parent node itself), new MLL functions must be created.

One way to do this would be to create 3 new functions for writing/reading a point set. (See also proposal for BCDataSet extension.) These might look like:

write:

```
cg_ptset_write(PointSetType_t ptset_type, int npnts, int *pnts);
```

read:

```
cg_ptset_info(PointSetType_t *ptset_type, int *npnts);  
cg_ptset_read(int *pnts);
```

The read is made with 2 functions because of the Fortran interface, to return the information about the size of the array "pnts" prior to reading this array. This is how it was done for cg_boco_info/read and cg_conn_info/read. These calls would be used in conjunction with cg_goto.