Proposal for extension of boundary types in the SIDS –
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It is proposed to modify the current BCTypes_t typedef to include four new boundary conditions :

BCMassSource :: boundary condition with a specified mass source. Used for boundary conditions internal to a model such as fan inlets

BCPorousWall :: Boundary condition used for walls which are porous. Example, the grate in a wood&refuse boiler.

BCInterior :: Boundary condition used in specify integration surfaces

BCInternal :: Boundary condition for walls (thin surfaces) internal to the model

The changes required are 1) extension of the enumeration BCType_t in cgnslib.h 2) increase in the number of valid BCTypes from 26 to 30 in cgnslib.h and 3) addition of char strings to BCTypeName in cgnslib.c as shown below.

```
typedef enum {
        BCTypeNull, BCTypeUserDefined,
        BCAxisymmetricWedge, BCDegenerateLine, BCDegeneratePoint,
        BCDirichlet, BCExtrapolate, BCFarfield, BCGeneral, BCInflow,
        BCInflowSubsonic,  BCInflowSupersonic, BCNeumann, BCOutflow,
        BCOutflowSubsonic, BCOutflowSupersonic, BCSymmetryPlane,
        BCSymmetryPolar, BCTunnelInflow, BCTunnelOutflow, BCWall,
        BCWallInviscid, BCWallViscous, BCWallViscousHeatFlux,
        BCWallViscousIsothermal, FamilySpecified, BCMassSource, BCPorousWall, BCInterior,
        BCInternal
} BCType_t;

#define NofValidBCTypes 30
extern char const * BCTypeName[NofValidBCTypes];

char const * BCTypeName[NofValidBCTypes] =
        {"Null", "UserDefined",
         "BCAxisymmetricWedge", "BCDegenerateLine", "BCDegeneratePoint",
         "BCDirichlet", "BCExtrapolate", "BCFarfield", "BCGeneral",
         "BCInflow", "BCInflowSubsonic", "BCInflowSupersonic", "BCNeumann",
          "BCOutflow", "BCOutflowSubsonic", "BCOutflowSupersonic",
          "BCSymmetryPlane", "BCSymmetryPolar", "BCTunnelInflow",
         "BCTunnelOutflow", "BCWall", "BCWallInviscid", "BCWallViscous",
         "BCWallViscousHeatFlux", "BCWallViscousIsothermal", "FamilySpecified",
         "BCMassSource", "BCPorousWall", "BCInterior",   "BCInternal"

      };
```