Process Integration Tools for NASTRAN®-centric Finite Element Simulation Software

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Motivating Open Architecture

**Fidelity**
- FE in conceptual design
- Automation in model creation
- Model reuse & morphing

**Speed**
- “Intelligent” interfaces ("Process Aware")
- Repeatable, in-context, self-describing

**Integrated**
- Data when and where needed
- Repeatable, in-context, self-describing
Gateway Architecture

NASTRAN-xMG

GATEWAY PHIG,,,,,,,,/NEWPHIG

dll loader COMMON xfer

Provided by tMG

Customer Written

Nastran tools in client module

Gateway DLL

gateway.dll

gateway.f "template"

util30.lib

bidirectional xfer via GATEWAY
SDR2 CASECC,CSTM,MPT,DIT,EQEXIN,SIL,GPTT,EDT,BGPDP,,QG,UGV,EST,
XYCDB,PGG,PCOMPS,GEOM3/OPG1,OQG1,OUVG1,OXES1,OXEF1,OPUGV1,OXES1L,
OXEF1/*STATICS*/S,N,NOSORT2/-1/S,N,STRNFLAG/COMPS/
GATEWAY OES1/OES1MAX,OES1SUB/'STRESSMAX'/1 $
OUTPUT2 OPG1,OQG1,OUVG1,OXES1,OXEF1/C,N,0/V,Y,OUNIT2// V,Y,OMAXR $ 
...

STRESSMAX

gateway

util30.lib

MAX
STRESS
STORE

User Meta Data
Old & New
Maxima
Sample
Sample Maxima

Case at Maximum Stress

Maximum Stress