SIEMENS

NX Nastran 10.1 Release Guide

Contents

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is specifically optimized for your machine). If you want to conserve bandwidth and you want to install the required libraries yourself, download the lean distributions. The zip and tgz files are identical, except that on Linux, Unix, and MacOS, unpacking the tgz file ensures that the configure script is marked as executable (unpack with tar zxvpf), otherwise you will have to change its permissions manually.

Chapter 1: Overview and Problem Report (PR) fixes

Overview and Problem Report (PR) fixes

The NX Nastran 10.1 maintenance release includes the following fixes.

PR#	Problem Reported	Problem Description
1128190	V10.0	SOL 401 Creep - The stress oscillates with a constant load unless KUPDATE=1 (Full Newton-Raphson) is defined on the NLCNTL bulk entry.
1128682	V10.0	SOL 401 Creep+Plasticity - A model failed to solve with SMP=4, but solved fine for serial.
8252363	V10.0	SOL 401 - A model had difficulties solving a creep analysis.
8257119	V10.0	SOL 401 – Receiving the error message MOMENT IS NOT SUPPORTED as a result of applying a load with the MOMENT bulk entry.
7200246	V10.0	SOL 401 in the context of a NX 10 coupled multiphysics solution - output occurred for time steps in which output was not requested.
In addition to the fixes listed above, there are SOL 401 improvements in NX Nastran 10.1 that improve the general solution performance, and specifically improve the performance of creep, nonlinear iteration schemes, contact, and bolt preload. Many of these improvements were made while tuning specific models. As a result, you may not necessarily see a performance improvement with your models.		
2247218	V9.0	SOL 106 – Membrane Force was output as zero in a nonlinear analysis. A workaround is to set sys(500)=1 to output mechanical strain instead of the total strain.
7208138	V9.0	SOL 112 – Error in displacement output with MODACC and WMODAL. A workaround is to eliminate the parameters MODACC, DDRMM and WMODAL from the input.

7219888	V9.0	Repeated ifpdrv.F warnings were written to the .f06 output when long integer MATi IDs existed in the input file.
1999074	V9.0	If the PBUSH stress recovery coefficients SA, ST, EA, or ET were defined as 0.0, the default value of 1.0 was used instead.
2245667	V9.1	The CBAR element stress recovery was not properly accounting for end offsets.
7188499	V10.0	The TAUCS solver stopped abruptly rather than cleanly ending with the appropriate error messages as a result of insufficient memory.
7230361	V10.0	SOL 109 or 112 – Fatal error occurred when an acceleration enforced motion condition is defined on a grid, and another velocity or displacement enforced motion condition is defined on a different grid.
7216804	V10.0	Duplicate elements are written to the fluid-structural coupling debug output when requested with the SKINOUT describer on the FLSTCNT bulk entry.
7247731	V10.0	Some elements are missing from the fluid-structural coupling debug output when requested with the SKINOUT=FREEFACE option on the FLSTCNT bulk entry.
7199362	V10.0	SOL 200 – Two solutions using the Siemens Design Optimization (SDO) option ended with "illegal input to subroutine dom10f".
7199311	V10.0	SOL 200 – A solution using the Siemens Design Optimization (SDO) option ended with a QOPEN fatal error.
7200488	V10.0	SOL 200 – Solutions using the Siemens Design Optimization (SDO) option did not show progress if all starting design variables were zero.
7219889	V9.0	SOL 200 – If MATi IDs were defined using large integers, the updated design data punch file output was incorrect.

Additional SOL 200 Fixes

The following caveats which existed in NX Nastran 10 are fixed in NX Nastran 10.1.

Note: The optimizer choices for SOL 200 are DOT (default) and Siemens Design Optimization (SDO). SDO can be selected by setting the NASTRAN system cell 425 to 1.

The following SDO caveats are now fixed:

- A failure could occur if you have not defined any design constraints, or the constraints you have defined are determined to be trivial by the software and are filtered out. This may manifest itself as:

```
SDO STARTING
     BIOMSG: ERROR   1044 HAS OCCURRED IN ROUTINE QOPEN   , FILE INDEX =   0.
     STATUS =          0
…
*** SYSTEM FATAL MESSAGE 4276 (QOPEN)
     ERROR CODE     1044 PID=   0
```

  A workaround in version 10 was to add reasonable design constraints.

- A job would show no progress if all the design variables had a starting value of zero, or slow progress if some had a starting value of zero. A workaround in version 10 was to provide nonzero starting values, and preferably not very close to zero in order to avoid slow progress. The workaround works well unless a design variable achieves a zero value during the optimization process.

- An SDO job could fail with the following error message:

```
*** SYSTEM FATAL MESSAGE 3007 (DOM10)
     ILLEGAL INPUT TO SUBROUTINE DOM10F
```

  If you encountered this error in version 10, the following DMAP alter could be used as a workaround.

```
compile desopt $
alter 'call desswt1','call desswt1' $
      call desswt1   xinit/
           dsvcsv,xlurng,xotsid,r1vlgd,rsp2gd,r1tbgd,cntbgd,
           coorgd,conngd,shpvgd,tbdqgd,dndlgd,rr2igd,rsp3gd,
           cvalgd,dscmgd,r2vlgd,r3vlgd,drstbg,frqrpg,uvlcin $
endalter $
```

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