Release Note

Revision 297 of AMLS 5.1 / FastFRS 2.1

July 18, 2019

Differences between CDH/AMLS and CDH/FastFRS release versions 5.1.r244 and 5.1.r297:

AMLS

When all residual vectors were null, so that the job was not really a residual flexibility job, AMLS attempted to handle the job as a residual flexibility job and failed without giving a very helpful diagnostic message. Now AMLS checks as early as possible in the run for null residual vectors and prints a message to the log file if any are null, and, if all are null, turns off residual flexibility features in the job.

In phase 5, performance in writing eigenvectors to an output4 file has been improved.

User diagnostic output has been improved for the case in which AMLS finds a large negative eigenvalue for the last substructure in phase 3.

FastFRS

The error that resulted in the following error message:
```
*********************** Error in FastFRS (ODS). ********************
    Error: unable to point a matrix associated with a workspace
  Function: matrix<T>::point_to(workspace &work, i_t nrow, i_t ncol)
*******************************************************************
```
has been corrected.

FRF substructures and frequency dependent stiffnesses / damping are now completely processed by FastFRS. Previously, FastFRS shared that responsibility with Nastran.

FastFRS can now process either dynamic stiffness or compliance FRF substructures.

MSC and NX Delivery Data Bases (DDB)

For this release the DDB for the following versions of Nastran will be available:

MSC: 2014.1, 2016, 2017, 2018, and 2019
NX (SC):   10, 11, 12, and 2019

For this release AMLS_2017 can be used for all 2017 versions, i.e., 2017, 2017.1.0, 2017.1.2. The same is true for 2018 versions. If there is a special need for an older DDB version, please contact: support@cdh-ag.com. Please note that every new release of AMLS DDBs is stamped with the creation date, which can be seen in the f06 files. So for this version the following can be found in the f06 file:

```
*********************************************************
*********************************************************
**                                                     **
**                  COPYRIGHT 2007                     **
**    THIS DMAP PROGRAM HAS BEEN DEVELOPED BY CDH AG    **
**               ALL RIGHTS RESERVED.                  **
**             CREATION DATE: 2019-07-01               **
**                                                     **
*********************************************************
*********************************************************
```

The following items were new or changed in both MSC and NX DDBs.

1. The most important feature in this release is the addition of V2018 and V2019 DDB for MSC/Nastran and 2019 for NX (Note that NX-Nastran has been renamed to SimCenter-Nastran).

2. The processing of residual vectors has been made more robust with more information presented to the user in case of problems.

3. In coupled FSI analysis where a GE value was defined only for the fluid model and none was defined for the structure, the damping for the fluid was not included. This error has been corrected.

4. Handling of RESVEC(nodyn) has been improved, although this option is rarely used.

For further questions contact: support@cdh-ag.com

End of Release Note