

# **PERFORM-3D® Version 6.0.0**

© Copyright Computers and Structures, Inc., 2016

***Notice Date: 2016-12-12***

---

PERFORM-3D Version 6.0.0 is a major update from PERFORM-3D Version 5.0.1, and is distributed electronically by download from the ftp.

---

## **PLEASE READ THIS FILE!**

It contains important information that may be more current than what is in the Manuals.

## **Contents**

1. Installation Instructions for PERFORM-3D Version 6.0.0
2. Installation Instructions for License Manager 8.6.0
3. Release Notes – Changes from Version 5.0.1.

## **1. Installation Instructions for PERFORM-3D Version 6.0.0**

PERFORM-3D Version 6.0.0 is available electronically as a full installation by download from the ftp, or on DVD by request. The DVD can also be downloaded from the ftp.

The installation instructions are available in three places:

1. File “Perform-3D\_Install\_Instructions.pdf” on the ftp
2. The “Installation Instructions” link on the PERFORM-3D DVD browser.
3. File “Perform-3D\_Install\_Instructions.pdf” in the root folder of the DVD.

These instructions include information about the software license system used and installation options and instructions.

You can choose between a Standalone or Network license. Regardless of which type of license you choose, the full application must be installed on each workstation where PERFORM-3D will be used.

You will need to obtain a license for PERFORM-3D v6 before you can use the software. If you do not already have a v6 license, please fill out the License Request form at <https://www.csiamerica.com/license-request>.

Instructions are provided on how to obtain a locking code by clicking the link next to the Locking Code fields on that form. The license file will be emailed to you after processing your request.

You can obtain your license before or after installing the software. While installation can be performed without a license, we recommend obtaining a license first so that you can check the installation by running the software.

## **Installation Instructions for License Manager 8.6**

The information in this section does not apply if you are using Standalone licenses.

If you will be using a Network license to run PERFORM-3D, the License Manager should be installed on a license server, which is usually not one of the client workstations. The DVD browser provides the necessary installation for the Sentinel RMS License Manager 8.6.

- If you have a version of Sentinel RMS License Manager v8.x.x older than 8.6 running, follow these steps:
  - Make a backup of the license file “lserver”, if present
  - To minimize possibility of interruption on the client, it is recommended no licenses are in use. However, this is not mandatory and most users will be unaffected.
  - Proceed with the installation of Sentinel RMS License Manager 8.6
  - Add the backed up “lserver” file to the new installation
- If you are already running the Sentinel RMS License Manager 8.6 or a newer version, you can skip the above installation.
- If you have an older version of Sentinel RMS License v7.x.x running, you will need to leave this installed as v8.6 does not recognize v7.x.x licenses. Install the Sentinel RMS License Manager 8.6 on a different server.

See the *Sentinel RMS System Administrator's Guide* for more detailed information about the License Manager and the License Manager Administration program “WlmAdmin.exe”. This can be found from the Windows Start menu under PERFORM-3D > License Manager.

### **On the client workstations**

To speed up finding a network license when PERFORM-3D is launched, you can create a text file, LMHOST.INI, and enter the network name or IP address of the machine that is running the License Manager. Save this file to the folder where PERFORM-3D is installed, in the subfolder with the program executable (Perform-3D.exe).

### 3. Release Notes

This section lists all changes made to PERFORM-3D since the previous version. Incidents marked with an asterisk (\*) in the first column of the tables below are more significant.

#### ***Changes from v5.0.1 (Released 2013-09-18)***

##### ***Enhancements Implemented***

<b>*</b>	<b>Incident</b>	<b>Description</b>
*	87969 88129 88728 94597	An enhancement was made to allow time-history results files to be larger than 2GB. Previously, if the number of nodes times the number of steps was large enough to produce files bigger than 2GB, then trying to view results in the graphical user interface would cause an error condition. The same issue could generate other error messages when reviewing results or writing results to text files. Results that were displayed or produced were not affected.
*	88471	An enhancement has been made to allow running up to four analysis series in parallel. The number of parallel analyses run will be reduced to physical CPUs present on the machine if less than four in order to prevent competition that would be less efficient.
*	88472	An enhancement has been made to import results of analysis series run on different machines into a single model for post-processing of results. This will have the particular benefit of speeding up the consideration of large suites of ground motions. The models run on different machines must be identical except for the analysis series, and will be checked for consistency before combining the results.
	88475	The "Perform3D Binary Results Files" documentation has been updated to include information for obtaining data on ground accelerations, elastic slab-shell element results, analysis logs, limit state usage ratios, and internal energies.
	88914	An enhancement has been made to speed up the recovery of results for plotting on screen when a large number of time steps are present and the model is large.
	88477	The version number has been changed to v6.0.0 for a new major release. Note that Windows XP is no longer supported.

## Incidents Resolved

*	Incident	Description
*	60423	An incident was resolved where the Elastic Shear Material for a Wall component did not always produce the correct results when the “Depends on axial stress” option was chosen for the shear strength. In most cases the “VC” strength was being used regardless of the value of the axial stress. This could result in an incorrect calculation of the demand/capacity (D/C) ratio, and could be unconservative.
	76399	An incident was resolved where changing the scale factor for Beta-K damping in the Element Group Data dialog was not reflected in the Beta-K damping factor shown in the Beta-K Options portion of the Analysis Series dialog. The value shown in the Analysis Series dialog for Beta-K scale factor for the element group was used in the analysis.
	81067	An incident was resolved where the reported structural section forces for dynamic analyses incorrectly included beta-K damping forces in addition to the expected stiffness forces. This affected the structural section results obtained either from the graphical user interface or binary files. Model behavior and other results were not affected. In most cases the beta-K damping forces were small.
*	88068 88843	An incident was resolved where models that use the P/V/M release components with non-zero stiffness in the torsional degree of freedom were not able to calculate results for static and dynamic nonlinear analyses. When this issue occurred, results were reported as "NaN" or "infinite". This issue did not affect P/V/M release components where the torsional degree of freedom was fixed or had zero stiffness.
	88069	An incident was resolved where the "Section Dimensions" portion of the Properties form should not be available for rotational hinges. Section dimensions are only applicable for curvature hinges. Values previously entered for rotational hinges had no effect on the results.
	88419 93186	An incident was resolved where convergence errors could sometimes prematurely terminate analyses for models with the P-M2-M3 Hinge Column Components or FEMA Column Components. This issue only effected models where these column components were defined with cyclic degradation enabled and an energy factor of less than 1.0 for the points beyond "Y". When this occurred, results were not available for the effected time steps.
*	89559	An incident was resolved where a nonlinear bar element using the inelastic steel material, buckling type, did not compute strength degradation at the defined “DL” deformation in the compression direction. This issue was exhibited when the inelastic steel material, buckling type, undergoes small unloading and reloading loops while in the compression yield plateau. This issue may also affect models with sharp strength degradation and snap-back behavior.
	90232	An incident was resolved where moving a 2-node strain gauge element to a 4-node strain gauge element group would cause corruption of the data file. The type of move operation is now prevented.