

ADINA System Newsletter

Volume 4, Issue 3

www.adina.com

March 2002

Announcing ADINA System 8

Since we released the ADINA System 7.5 in August 2001, we have been pushing ahead with our development efforts for the next version (which we referred to previously as the ADINA System 7.6).

At this point, as we evaluate our current developments, we see that many major new capabilities and enhancements have been achieved across all the program modules. We believe that this is a significant new milestone for us and our users. We have therefore decided that the next version will be the ADINA System 8.

In this Newsletter, we highlight two major improvements in ADINA 8 – an improved automatic brick mesher and a new Unix/Linux graphical user interface. We also present a section on the Special University Campaign that we have launched to encourage the use of ADINA for teaching and research in education.

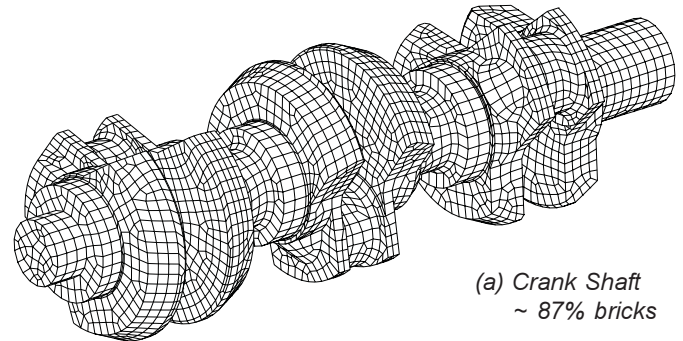
Improved Automatic Brick Meshing

In ADINA 7.5 we added the capability to perform automatic brick meshing on general solid bodies. In general, the mesh generated by the automatic brick mesher will have mostly brick elements but will also include tetrahedral elements.

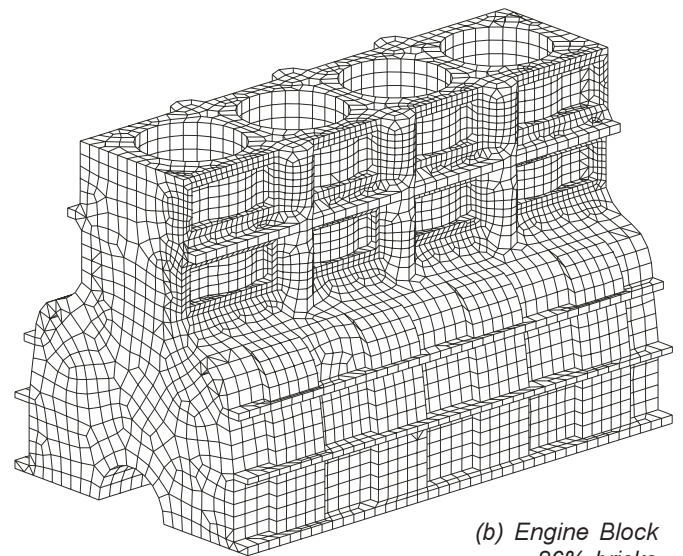
In ADINA 8, much effort has been put into the improvement of this capability. Specifically,

- fewer (none for some geometries) tetrahedral elements are created at the boundary of the geometry
- better quality tetrahedral elements are generated

Figure 1 shows a crank shaft and an engine block meshed using the automatic brick mesher in ADINA 8. Note that most of the geometric volume is occupied by brick elements - about 87% for the crank shaft and 86% for the engine block.



(a) Crank Shaft
~ 87% bricks



(b) Engine Block
~ 86% bricks

Figure 1: Automatic Brick Meshing in ADINA System 8

Training Classes

The next ADINA-AUI training course will be held at ADINA R & D on May 9 - 10, 2002.

INSIDE THIS ISSUE

- New Unix/Linux GUI
- ADINA License Options
- SPECIAL UNIVERSITY CAMPAIGN
- Supported Platforms for ADINA 8

New Unix/Linux GUI

Since the release of our PC Windows version about 3 years ago, we have received many positive feedbacks from our users, especially with regards to the graphical user interface (GUI). It is also recognized that the GUI on the Unix/Linux platform requires major improvements to make it more user friendly and easier to use.

One of the major efforts in our current developments is to create a Unix/Linux GUI that is similar in look and feel to the PC Windows GUI. The following problems with the current Unix/Linux GUI are resolved.

- Irritating scroll bars on dialog boxes are removed.
- Awkward layout and position of controls in dialog boxes are corrected to be consistent with those on PC Windows.
- Toolboxes which may overlap each other are replaced with dockable toolbars.
- Last position and size of the main window are properly saved and used in the next session.

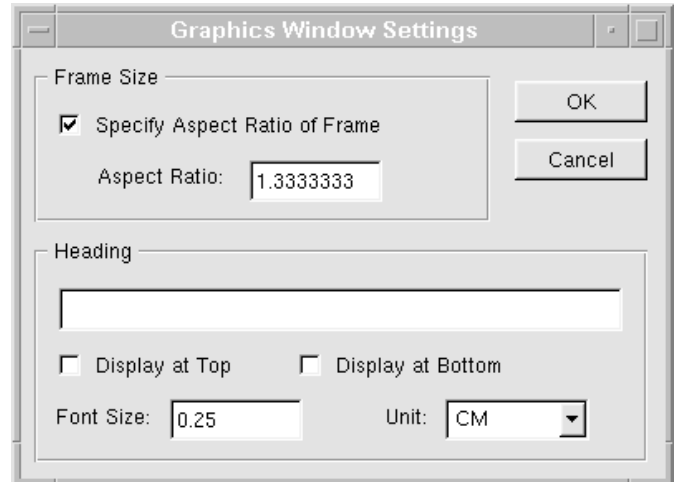
Figure 2 shows a sample dialog box to illustrate the similar look and feel for both the Unix/Linux and PC Windows platforms in ADINA 8.

ADINA Licence Options

The following license options are available in the ADINA System 8. During the installation, you will be prompted to specify the type of license you have.

- Node-locked License
- Industry Floating License
- Educational Floating License

The node-locked license option is available on all platforms. In ADINA 8, we will support the floating license option on all platforms except Compaq Tru64 UNIX. We are also working towards the support of floating license for the 64-bit programs.



Example showing the Graphics Window Settings dialog box on HP with PC Windows layout and style of controls.

Figure 2: New Look and Feel for Unix/Linux Dialog Box

In the following paragraphs, we briefly describe each of these license options.

Node-locked License

A node-locked license allows ADINA to be run only on the licensed computer; i.e. the license is tied to a single computer.

The main advantage of a node-locked license is that there is no restriction on the number of ADINA jobs running on the licensed computer. This type of license is most often used by a single person on a single computer.

Industry Floating License

A floating license allows ADINA to be run on any computer attached to a network with one of the computers acting as the ADINA license server.

The main advantage of a floating license is that the ADINA license units can “float” across to any computer on the network. This type of license is most suitable when there are several ADINA users who need to run ADINA on different computers.

Educational Floating License

A special educational floating license allows unlimited number of users to use ADINA throughout the University.

SPECIAL UNIVERSITY CAMPAIGN

The ADINA System offers tremendous value for teaching and research in the Universities. The benefits of using ADINA include:

- A **one-system program** for structural, heat transfer, and fluid flow analyses, including linear and non-linear, static and transient solutions.
- The same pre- and post-processor is used for all types of analysis. No additional software is required.
- A modern graphical user interface, including solid geometric modeling based on an open standard (Parasolid).
- Students can use the 900-nodes version on their own PCs for homework problems. See Figure 3 and section on page 4.
- Theory and formulation based on the book "Finite Element Procedures" by K.J. Bathe. The solutions to all the exercises in the book that do not require the use of a computer program are provided in a Solutions Manual for the book.
- The M.I.T. video course by K.J. Bathe on Finite Element Procedures can be used as part of the teaching material.
- For research, users can program their own types of loads, elements, and material models.

The ADINA System is used by many Universities, including UC Berkeley, M.I.T., Columbia University, University of Florida, Lehigh University, New Jersey Institute of Technology, University of Southern California, and University of Calgary.

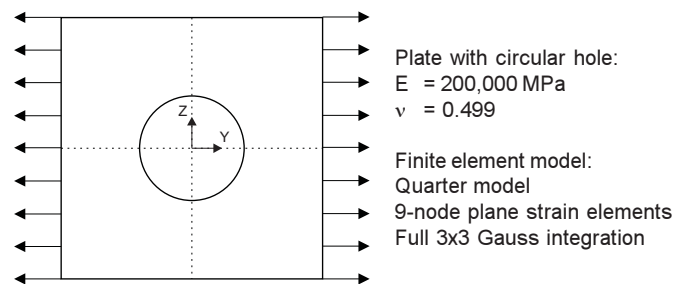
Professors who license ADINA can decide whether to use the node-locked or floating license option. For the node-locked license, passwords can be requested for up to 20 machines. For the floating license, the professor can limit the usage to his own research laboratory or allow usage across the University.

Special Campaign Offer

For this special University campaign, we offer the following attractive terms.

- Free evaluation of the complete ADINA System for up to 3 months.
- When you license ADINA, payment can be made within 1 year.
- Professors who use ADINA for teaching can attend a 2-day training course without paying the course fee. Students pay only US\$220.

If you would like more information, including the low price we offer, please call Susan at 617-926-5199, or send an email to edu@adina.com.



Note that in ADINA, by default we do not use the 2x2 reduced integration, because non-physical solutions can result, see pages 472-474 of "Finite Element Procedures" by K.J. Bathe.

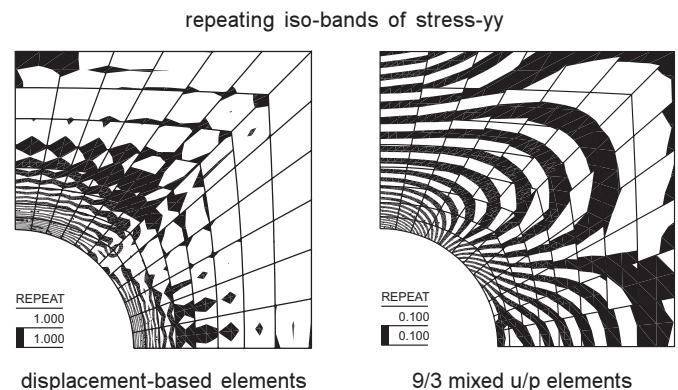


Figure 3: Homework Example: Objective is to test the displacement-based elements and the u/p elements in almost incompressible analysis

900-Nodes Version

The 900-nodes version is ideal for use by students. It does not require any password and can therefore be freely distributed to students for use on their own PCs, including laptops. They can use the 900-nodes version to solve homework problems. An example is shown in Figure 3.

For problems requiring more than 900 nodes, the student can still use the 900-nodes version to define the geometry, materials, loads, boundary conditions, and analysis control. The database saved with the 900-nodes version can be opened with the full version (PC Windows) to mesh the model.

Supported Platforms for ADINA 8

The minimum operating system (OS) planned to be supported for ADINA 8 are listed below.

Platform	Minimum OS level
Compaq	Tru64 UNIX 4.0G
HP	HP-UX 11
IBM	AIX 4.3.3 ¹ , 5.1 ²
SGI	IRIX 6.5
Sun	Solaris 7 ¹ , 8 ²
PC	Linux kernel 2.4.2 ¹ , 2.4.3 ²
PC	Windows 98/Me, NT 4.0, 2000, XP

¹ For 32-bit version

² For 64-bit version

In ADINA 8, we plan to release the full 64-bit version and drop the 64-bit solvers with 32-bit porthole for

Sun and IBM. We will then have the full 64-bit version for HP, IBM, Sun, and SGI platforms.

In addition, ADINA 8 will be available on the Itanium/Linux platform and we are working with HP on porting to the Itanium/HP-UX platform. Please see the announcements on our News web page.

TRANSOR Updates

In ADINA 8, TRANSOR for I-DEAS will include the following updates.

- Support for I-DEAS 7, 8, and 9.
- Batch processing capability for pre- and post-translation.
- Translate 64-bit binary porthole files.

TRANSOR for Patran will support MSC.Patran 2000r2 and 2001r2.

Downloads

The following downloads are available on the Download page of our web site. Please contact us for the password to access this web page.

- PC Windows version of ADINA 7.5.3
- TRANSOR for I-DEAS 9 for all platforms
- TRANSOR for Patran 2001r2 for SGI and HP

From the Download page, you can also view the list of bugs fixed in ADINA 7.5.3.



ADINA R & D , Inc.

71 Elton Avenue

Watertown, MA 02472

Telephone: (617)-926-5199

Fax: (617)-926-0238

Email: support@adina.com

ADINA is a registered trademark of K. J. Bathe

For additional information about ADINA please visit us at www.adina.com

FOCUSED ON EXCELLENCE