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MSC/PATRAN Version 8 at a Glance

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Overview of Version 8

MSC/PATRAN Version 8 represents The MacNeal-Schwendler Corporation's ongoing commitment to provide the CAE industry's leading pre- and postprocessing system.

With each release, improvements and enhancements increase the reliability, performance, and quality of MSC/PATRAN. Important enhancements to Version 8 include:

❏ Unigraphics-MSC/PATRAN Interoperability — Accesses Unigraphics features for suppression, unsuppression, and parameter modification. See **page 8**.

❏ CATIA Access Improvements — Direct CAD Access to CATIA geometry. See **page 17**.

❏ MSC/PATRAN ACIS Access — Directly imports models from CAD systems based on the ACIS geometry kernel. See **page 19**.

❏ Rapid Surface Meshing — A new process to create a high quality mesh from CAD surface geometry. See **page 22**.

❏ Automatic Hard Points Creation — Improve mesh quality by placing hard points on specified surfaces. See **page 34**.

❏ Curvature Based Tetrahedral Meshing — Automatically refines meshing in areas of high curvature. See **page 39**.

❏ Tetrahedral Element Modification — Automatically re-mesh tetrahedral elements from the Finite Elements menu. See **page 40**.

❏ MSC/PATRAN Arbitrary Beam Library — The MSC/PATRAN Beam Library now supports beams of arbitrary cross section. See **page 46**.

❏ MSC/NASTRAN Direct Access of Results, Part 2 — MSC/PATRAN now accesses grid point forces and stresses, model data and other results from the MSC/NASTRAN results database. See **page 49**.

❏ New MSC/PATRAN Database — A new Object Oriented MSC/PATRAN Database completely replaces InterBase in Version 8. This first phase lays the foundation for enhanced features and performance. See **page 56**.

❏ Access to MSC/PATRAN Databases from External Programs — The dbaccess.a archive file provides support to allow external programs to access MSC/PATRAN database files. See **page 59**.

❏ Minor Enhancements — A variety of minor enhancements are included. See **page 62**.

▼ Options   ◄◄ Retrace   ◄   ➤   ■ Exit

1.1   Supported Platforms

Version 8 supports the hardware and software configurations identified in the following table. Refer to the **MSC/PATRAN Installation & Operations Guide** for a complete description of the configurations.

Hardware	OS	OS Level
Digital	Digital UNIX	4.0B, 4.0D
HP	HP-UX	10.20
Intel	Windows NT	4.0
IBM	AIX	4.1.5, 4.2.1, 4.3.1
SGI	IRIX	6.2, 6.3, 6.4
SUN	Solaris	2.5.1, 2.6

MSC/PATRAN no longer supports the following operating system levels.

- SGI IRIX 5.3
- IBM AIX 4.1.4

1.2   Version 8 Documentation and Online Help

The following documentation is available for MSC/PATRAN Version 8.

Enhanced PCL Documentation

The PCL Reference Manual has been expanded and divided into two volumes. Volume 1: Function Descriptions describes each PCL function. Volume 2: Code Examples contains a new code example for each function, with a complete description of how the example works, and instructions on how to execute it.

The function descriptions in Volume 1 are cross-referenced to the examples in Volume 2 for quick and easy access. The code examples are designed to be copied directly from the online help using standard cut-and-paste techniques.

User Guides

The MSC/PATRAN User Guides provide detailed descriptions of the user interface, as well as general analysis information and examples.

- MSC/PATRAN User's Manual, Volumes 1-4
- MSC/PATRAN PCL Reference Manual
- MSC/PATRAN ADVANCED FEA User's Manual
- MSC/PATRAN ANALYSIS MANAGER User's Manual
- MSC/FATIGUE User's Manual
- MSC/PATRAN FEA User's Manual
- MSC/PATRAN LAMINATE MODELER User's Manual
- MSC/PATRAN MATERIALS User's Manual
- MSC/PATRAN THERMAL User's Manual, Volumes 1-2

Preference Guides

The MSC/PATRAN preference guides describe in detail all aspects of the input, output, and modeling guidelines used for specific analysis preferences. We recommend these documents for the analysis preferences you use most often. They include:

- MSC/PATRAN ABAQUS Preference Guide
- MSC/PATRAN ANSYS Preference Guide
- MSC/PATRAN LS-DYNA3D Preference Guide
- MSC/PATRAN MARC Preference Guide
- MSC/PATRAN MSC/DYTRAN Preference Guide
- MSC/PATRAN MSC/NASTRAN Preference Guide, Volumes 1-2
- MSC/PATRAN PAMCRASH Preference Guide
- MSC/PATRAN SAMCEF Preference Guide
- PATRAN 2 Neutral File Preference Guide

MSC/PATRAN Online Help

You can access online help from MSC/PATRAN two ways:

- Select Help from the MSC/PATRAN main form, click Document Library. A hypertext listing of all available MSC/PATRAN documents will appear.

- Press the F1 key from any MSC/PATRAN form. The appropriate page for the currently active form will appear.

You can access online help in UNIX environments without running MSC/PATRAN:

- Enter `phelp` in your xterm window.

1.3   Other Sources of MSC/PATRAN Information

World Wide Web Information

Our World Wide Web home page at `http://www.macsch.com` provides information about MSC and our products, support, training, and documentation.

Training Seminars

MSC offers a wide variety of training seminars. We provide classes at our facilities throughout the world on a regular basis. We also provide classes at client sites and can tailor them to meet your specific needs.

The following is a sample of MSC/PATRAN course offerings:

- PAT301, Introduction to MSC/PATRAN
- PAT302, Advanced MSC/PATRAN Usage
- PAT303, Transition to MSC/PATRAN
- PAT304, Introduction to PCL
- PAT312, MSC/PATRAN THERMAL
- PAT318, MSC/FATIGUE
- PAT322, MSC/PATRAN ADVANCED FEA
- PAT325, MSC/PATRAN LAMINATE MODELER

MSC Institute Course Documentation

MSC offers extensive training documentation that complements our numerous MSC/PATRAN courses. To order training and course documentation, call (800) 336-4858 or your local sales representative.

Technical Application Notes

Technical Application Notes (TANs) for MSC/PATRAN Version 8 are available on the World Wide Web. TANs describe real-life applications of MSC/PATRAN, problem workarounds, and other technical information.

To access the TANs, enter:

1. The MSC home page at `http://www.macsch.com`

2. Select Support, Training and Documentation

3. Select Technical Application Notes Online

MSC/WORLD Newsletter

The MSC/WORLD Newsletter contains information about MSC, new product developments, and applications of MSC software in the MCAE industry. If you are not currently receiving MSC/WORLD and would like to be added to the mailing list, please call (800) 336-4858, your local sales representative, or register through our web site.