# MSC.visualNastran 4D 2002   desktop

# New Features and Enhancements

## Quality Designs. Dynamic Results.™

MSC.visualNastran 4D 2002, the latest release of our flagship desktop product, includes several new features that enhance our motion and FEA capabilities, as well as ease-of-use. With new functionality in the motion core, like gears and belts and the addition of an interactive multimedia tour to teach our new customers the fundamentals of the application, our customers can simulate a wider range of problems and be more productive as soon as possible.

### GETTING STARTED

Our Getting Started CD is an interactive multimedia tour that guides new users through basic concepts of how to use MSC.visualNastran 4D and enables them to start their own projects.

An enhanced interactive Welcome Screen has been added to help new users, and has access to the Getting Started CD, demo file previews, and a tour of new features.

### GEAR & BELT CONSTRAINT

The gear/coupler constraint models general idealized gears. Spur and beveled gears can be modeled. Belt constraints will also be implemented in a planar fashion. Multiple gears and belt systems can be coupled for more complex motion.
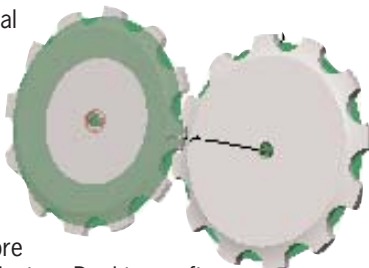
### FLEXlm & CAMPUS-WIDE LICENSE

FLEXlm, the *defacto standard*, offers a more robust means of licensing the MSC.visualNastran Desktop software over a network and provides campus-wide licensing, including temporary onDemand licensing.

### MY vN.UNIVERSE

Change and save simulation and display settings, colors, toolbars, unit systems, and materials, all in one easy-to-get-to location, on a per-user basis for true customization.

**CAD Environment Emulation** - users can now customize their MSC.visualNastran 4D environment to make the toolbars and buttons function as they do in their preferred CAD system. This eases the transition to simulation and makes them more productive since there is less to learn.

Emulate: MSC.visualNastran Desktop

MSC.visualNastran Desktop
Autodesk Inventor (TM)
Solid Edge®
SolidWorks®
Mechanical Desktop®

Create your own vNTemplate to always start new documents with your settings; or use the English and SI templates that are included.
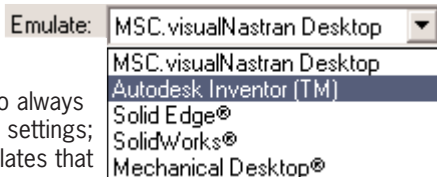
### REDUNDANT CONSTRAINTS

When two connectors are capable of constraining the same component in the same direction, redundant constraints exist. By properly determining the distribution of loads on redundant constraints, MSC.visualNastran4D accurately simulates stresses due to dynamic loading on "real-world" designs.
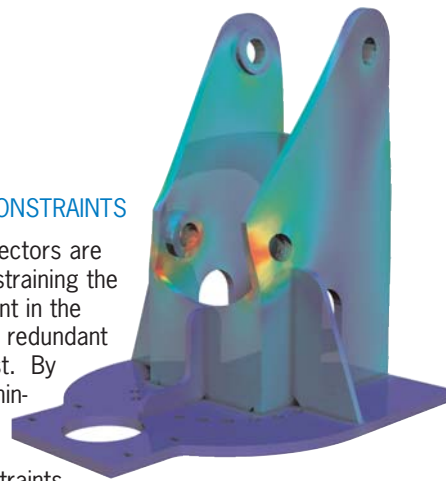
Get more accurate FEA results by reducing errors made from boundary condition assumptions. MSC.visualNastran 4D supports FEA with free degrees of freedom, to accurately reflect your true configuration.

### HEAT TRANSFER

The heat transfer in MSC.visualNastran 4D offers the fundamental FEA capabilities for steady state thermal analysis. With this feature, users can include thermal load and boundary conditions such as volumetric heat generation, surface convection, surface radiation, surface heat flux, and prescribed temperature. Users can also provide temperature-dependent film coefficients for convection boundary conditions. Heat transfer boundary conditions can also be controlled by formulas, tables, and time functions.

### SMOOTH CONTACT

Engineers can accurately and quickly simulate one body rolling or sliding on another body, in a three dimensions such as in cam and latch designs. Contact models perform significantly faster and with finer resolution.

MSC ✕ SOFTWARE
SOFTWARE • SYSTEMS • SERVICES
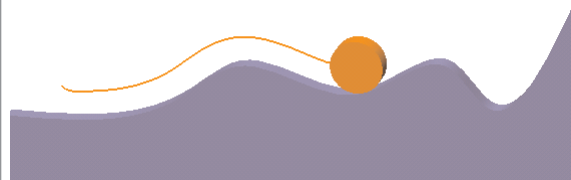
## OTHER MAJOR FEATURES
- Vectors with annotations
- Contact response vectors
- Joint friction
- FEA Results Meter

## EASE-OF-USE FEATURES
- Transient Pan & Zoom
- Welcome Screen
- Mouse view control
- File Open with Templates & Shortcuts
- File Preview Window
- "Paint the Constraint"
- Animated Progress Dialog Box
- Improved Key-framing
- Window shades
- Improved Drag & Drop Tables
- "What's This?" pop-up instant help
- Quick analysis selection menu
- Consolidated Preferences

## COMMUNITY SITE
- Product Updates
- Training Schedule
- Discussion Board
- Frequently Asked Questions
- Weekly Tips
- Online Services

## SOFTWARE SUPPORT
- Autodesk Inventor™ R4, R5
- CATIA® V4
- Mechincal Desktop® R5.0, R6.0
- Pro/ENGINEER® 20, 2000i, 2000i$^2$, 2001
- The MathWorks, Inc., Simulink® 3, 4, 4.1
- Solid Edge™ V9.0, V10.0, V11.0
- SolidWorks® 2000, 2001

## FILE FORMAT SUPPORT
- IGES, STEP, and STL
- Parasolid
- ACIS
- Working Model® (WM, WM2D)
- MSC.Nastran (XDB)

## SYSTEM REQUIREMENTS
- Windows® 98
- Windows Me®
- Windows 2000
- Windows NT® 4.0 (SP 3) or later
- Windows XP

Pentium™ II or better
64 MB minimum
16-bit color video card

Come see the new features for yourself, online:
http://www.vndesktop.com/2002/

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