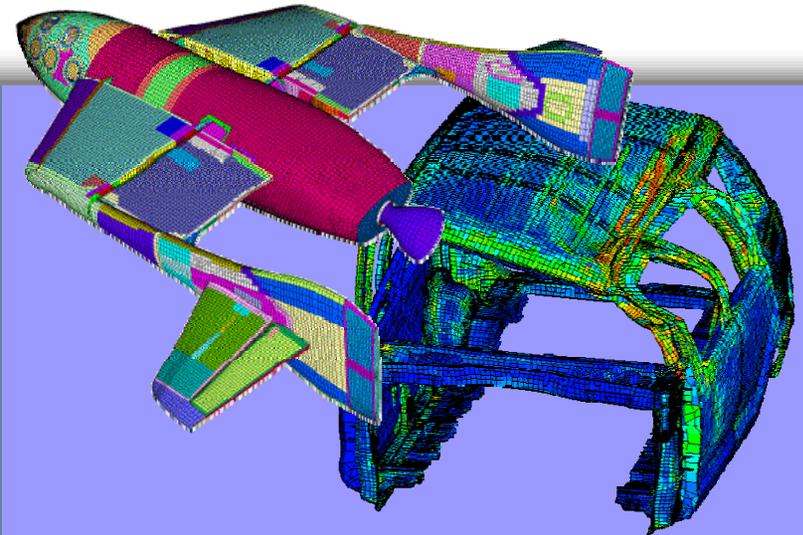




# NX Nastran Roadmap

Mark Donley

*NX Nastran Product Manager*





# Vision & Objectives

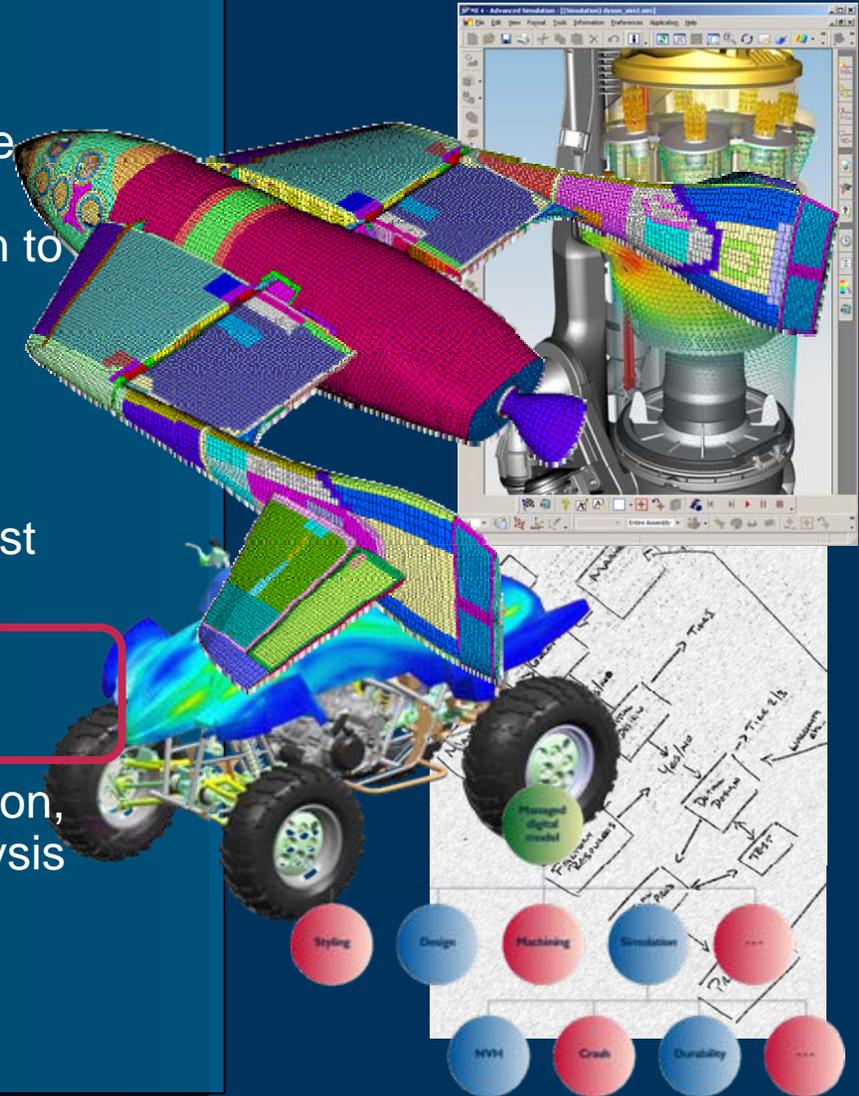


## Vision

- ▶ Digital Simulation Solutions that are pervasive throughout the product lifecycle and that enable Simulation to affect and drive product designs

## Key Objectives

- ▶ Best-in-class, scalable CAE pre-post solutions
- ▶ Market recognized, physics based solvers
- ▶ Integrated system analysis for motion, flexible bodies, and response analysis
- ▶ Data management



Not just better tools,  
a better toolbox

- ▶ **Product Strategy**
- ▶ **Roadmap**
  - ▶ **Performance**
  - ▶ **Discipline Extensions**
  - ▶ **Process Improvements**

Not just better tools,  
a better toolbox

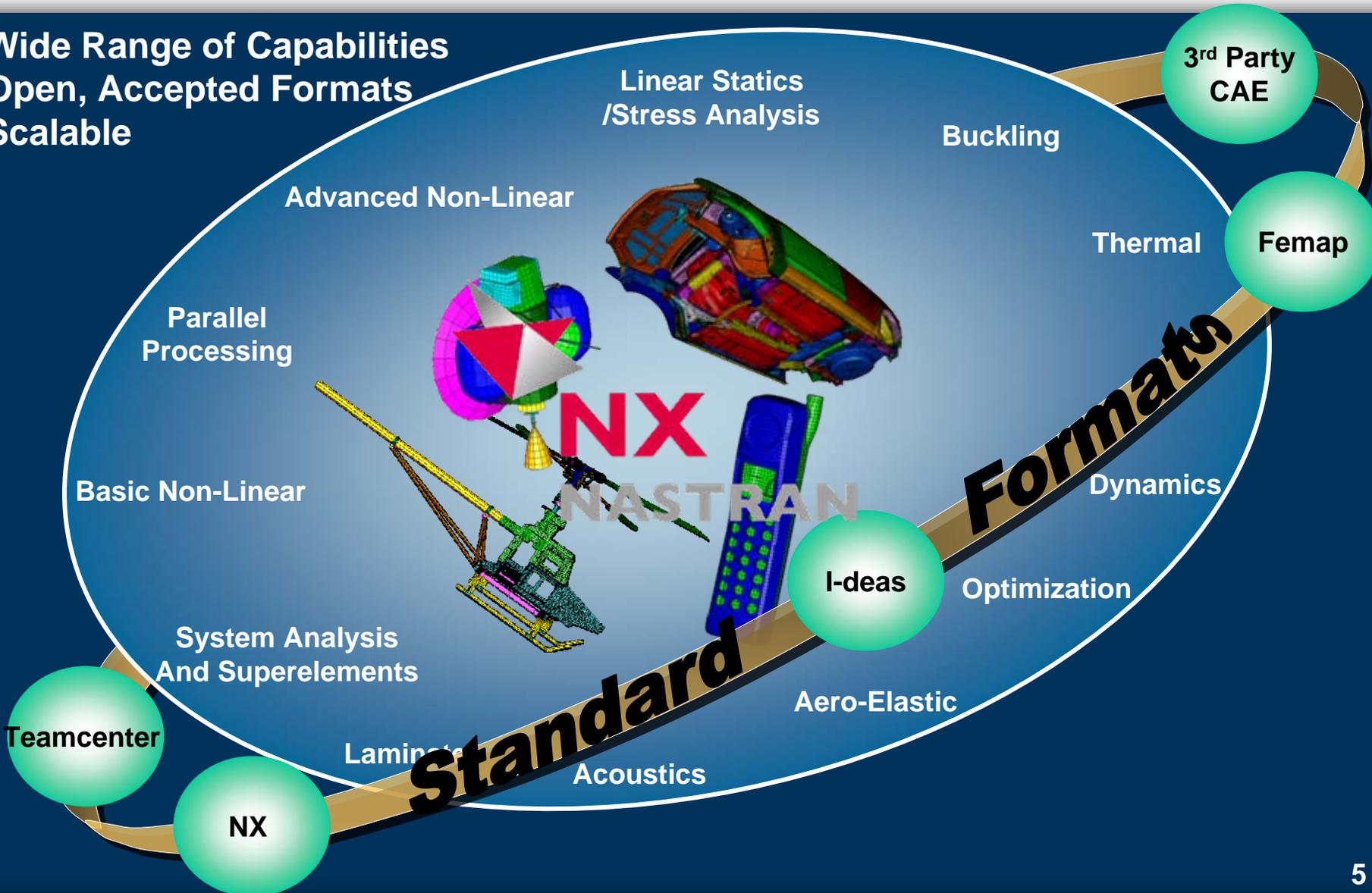
- ▶ **Product Strategy**
- ▶ **Roadmap**
  - ▶ Performance
  - ▶ Discipline Extensions
  - ▶ Process Improvements



# NX Nastran – A Complete Solution



- ▶ Wide Range of Capabilities
- ▶ Open, Accepted Formats
- ▶ Scalable





# NX Nastran Offerings



## NX Nastran – for the Enterprise

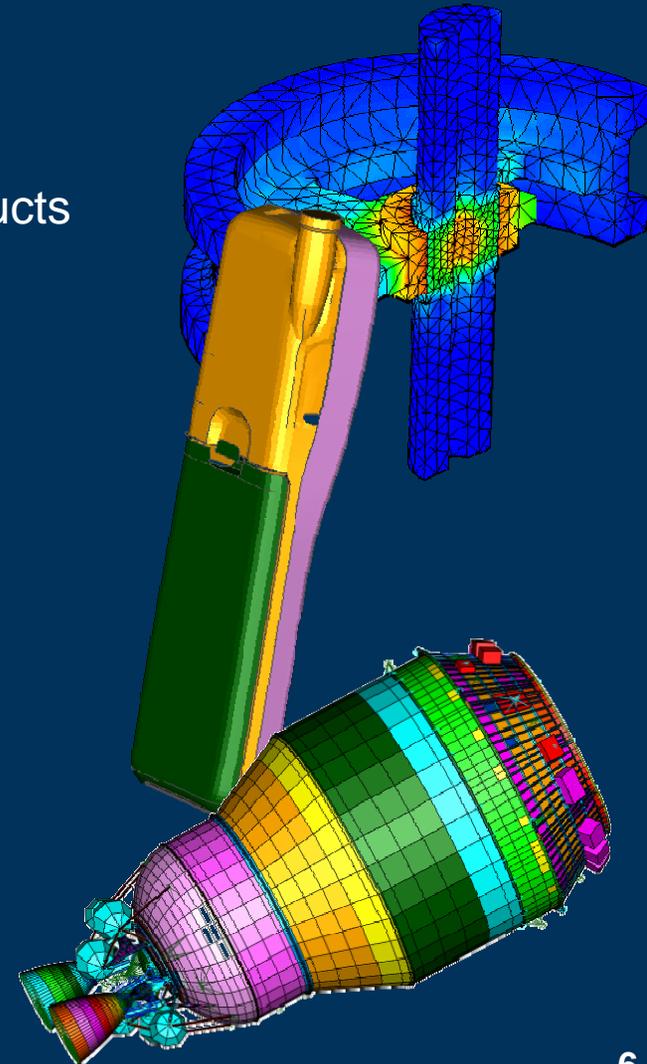
- ▶ Standalone solver with floating licenses

## NX Nastran Desktop – Integrated in Pre/Post Products

- ▶ NX Nastran Desktop (for NX and I-deas)
- ▶ NX Nastran Desktop for Femap

## ▶ Releases

- ▶ NX Nastran 1 – Sep 2003
- ▶ NX Nastran 2 – April 2004
- ▶ NX Nastran 3 – Dec 2004
- ▶ NX Nastran 4 – Oct 2005
- ▶ NX Nastran 4.1 – Feb 2006
- ▶ NX Nastran 5 – Q4 2006

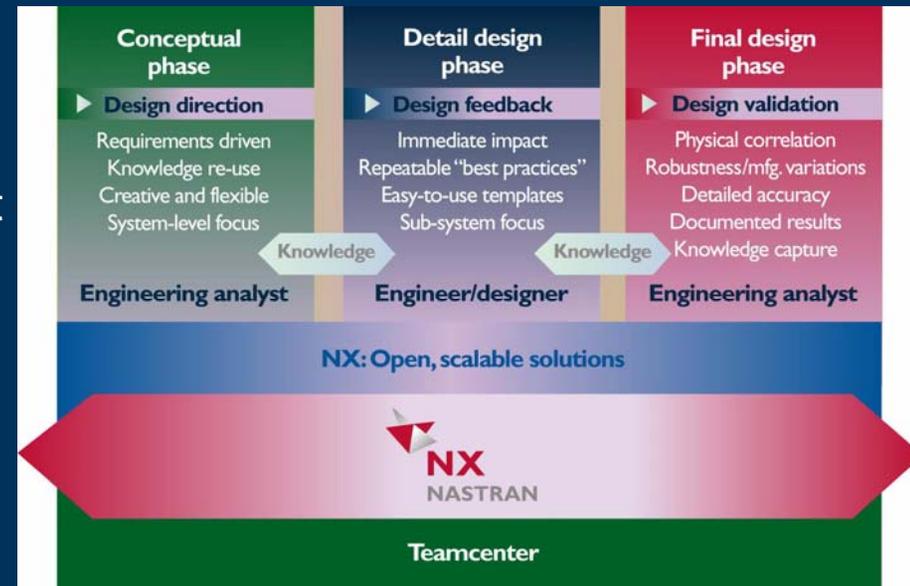
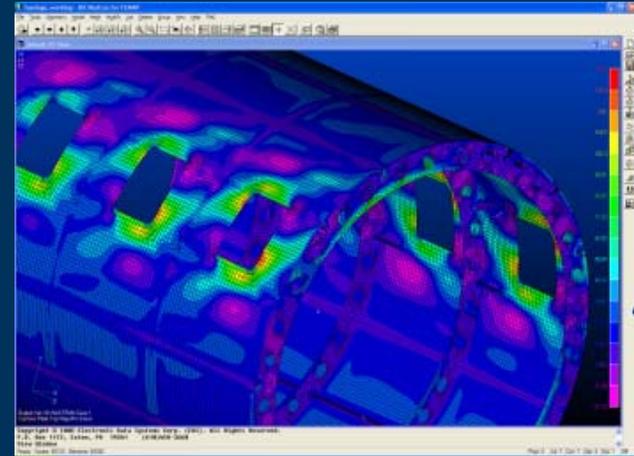




# NX Nastran Product Strategy



- ▶ Drive development of NX Nastran for the Enterprise
  - ▶ Increase Performance for reduced solve times
  - ▶ Expand Disciplines with additional physics solutions
  - ▶ Process Improvements to increase quality of results and reduce modeling effort
  
- ▶ Leverage NX Nastran as a Standard
  - ▶ Extend access across full product development cycle
  
- ▶ Integrate with UGS CAE offerings
  - ▶ Pre/Post Processors
  - ▶ Teamcenter PDM Solutions



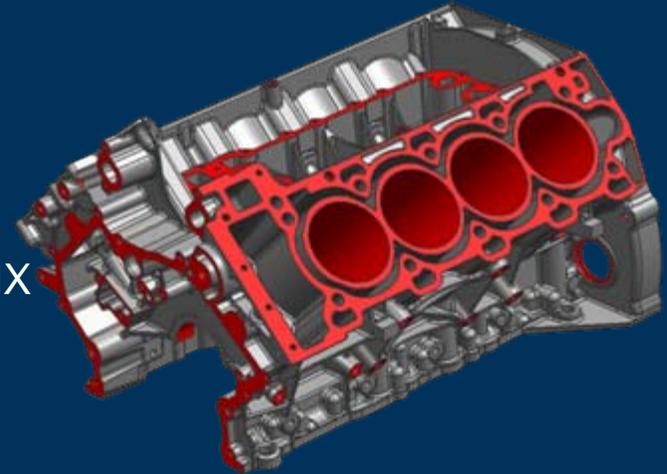


# Recent Highlights for NX Nastran



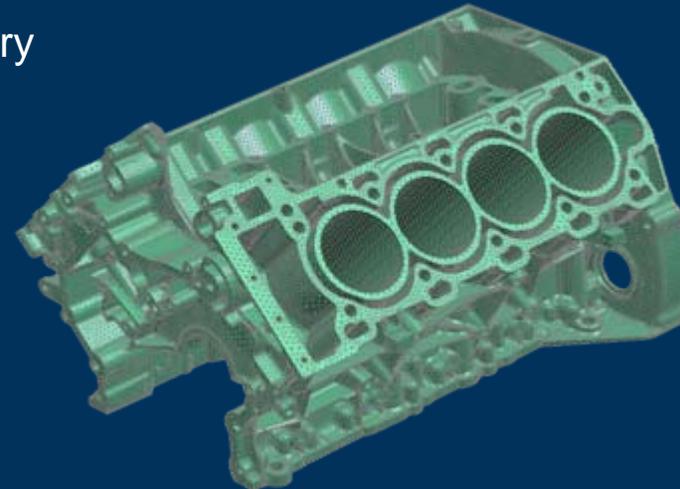
## NX Nastran market growth continues

- ▶ Over 100 enterprise installations
- ▶ Major win at NASA Marshall
- ▶ Major win at Lockheed Martin Aeronautics
- ▶ Migration of 4000+ Model Solution licenses to NX Nastran Desktop



## New Technology

- ▶ Released NX Nastran 4/4.1 in December/February
- ▶ Breakthrough memory re-architecture
  - ▶ Eliminated 8 Gb RAM limit
  - ▶ Benchmark: 70M DOF eigen solution
  - ▶ Benchmark: 200M DOF static solution
- ▶ Rotor Dynamics and Explicit Non-Linear Solvers





# Solver Product Migration



## FE Solvers

### I-deas Model Solution

Shared License

NX Nastran Desktop - Basic

I-deas 11

NX 3

I-deas 12

NX 4

NX 5

I-deas 13

NX 6

2004

2005

2006

2007.....

### I-deas Model Solution Non-Linear

Shared License

NX Nastran Desktop – Advanced Non-Linear

I-deas 11

NX 3

I-deas 12

NX 4

NX 5

I-deas 13

NX 6

2004

2005

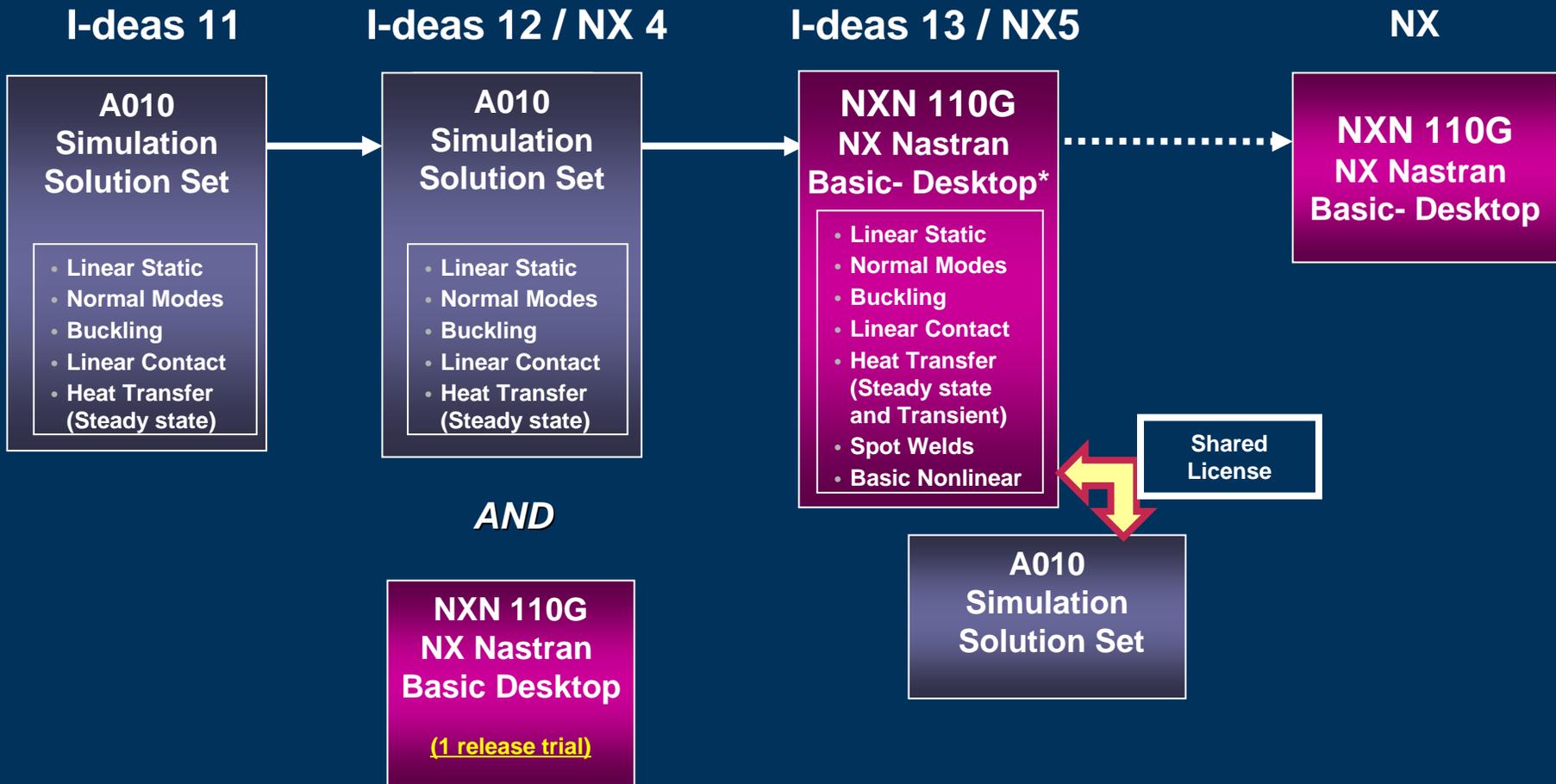
2006

2007.....



# Migration Plan

## Model Solution Linear: A010

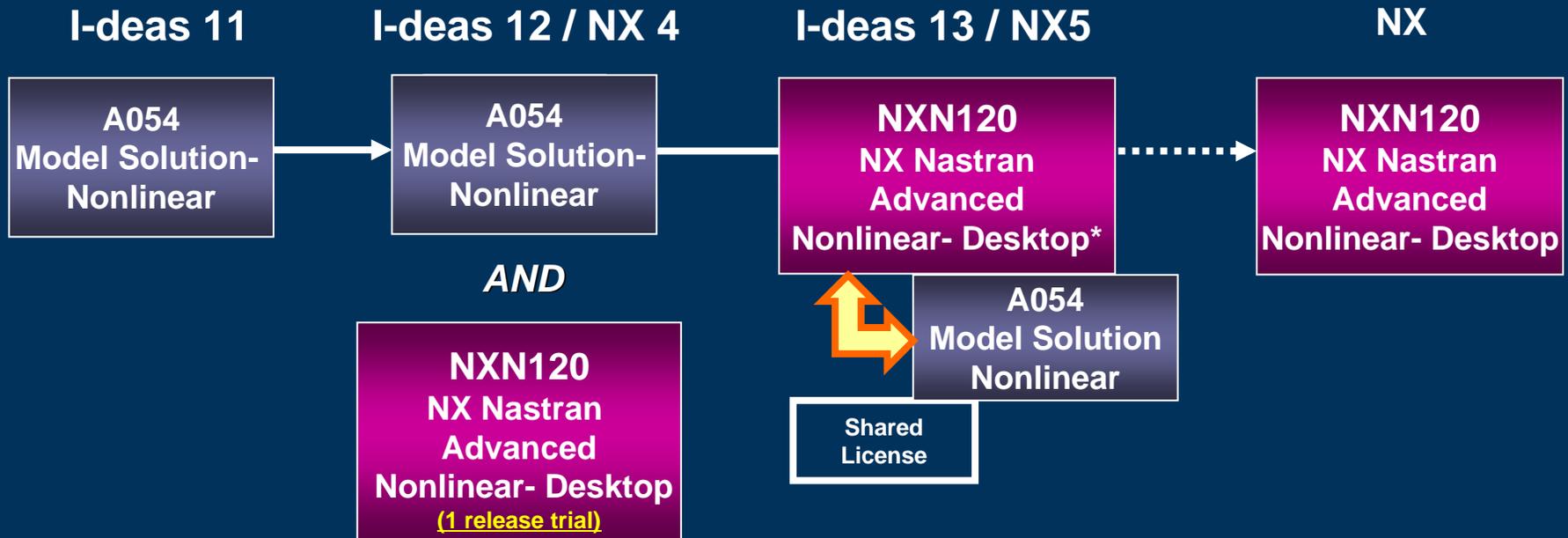


\* Enterprise solver available through upgrade program.



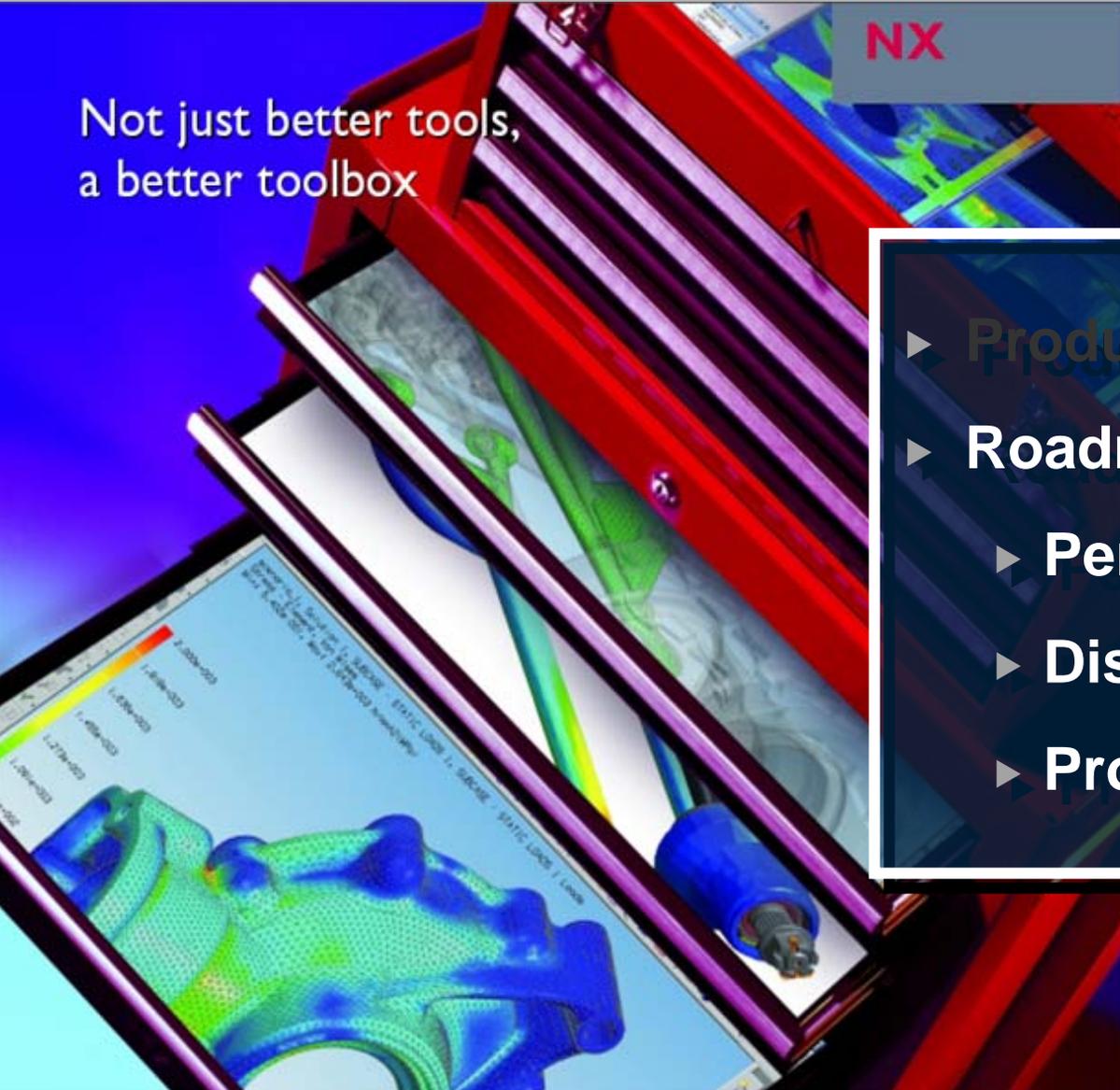
# Migration Plan

## Model Solution Non-Linear: A054



\* Enterprise solver available through upgrade program.

Not just better tools,  
a better toolbox

- 
- ▶ **Product Strategy**
  - ▶ **Roadmap**
    - ▶ **Performance**
    - ▶ **Discipline Extensions**
    - ▶ **Process Improvements**



# FE Solver Vision



Today

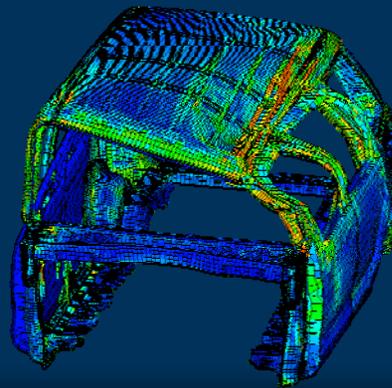
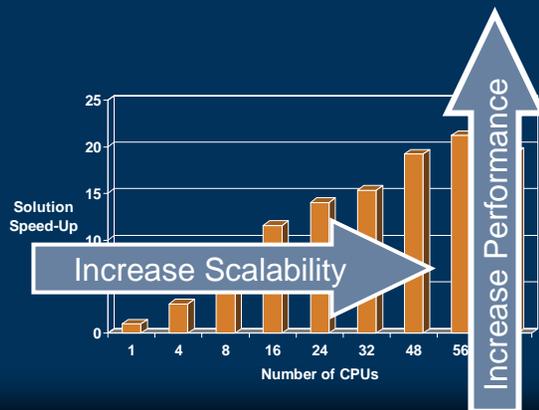
Today – UGS provides best-in-class structural solver – NX Nastran – for Enterprise and NX Desktop environments. Provides a robust, scalable, high-performance solver for component and system level analysis.



- ▶ NX Nastran Solver
  - ▶ Comprehensive analysis capabilities
  - ▶ High performance for very large models

Tomorrow

Tomorrow – Continue to improve performance, extend disciplines, and improve usability of NX Nastran solver.



- ▶ NX Nastran Solver
  - ▶ Large model performance improvements – Optimization, dynamics
  - ▶ Discipline extensions – Multi-physics solutions
  - ▶ Process improvements – bolt modeling, dynamics, thermal distortion



# Roadmap Details



- ▶ To be presented at conference



# NX Nastran Summary



- ▶ Accelerating Growth of NX Nastran User Base
  - ▶ Enterprise and Desktop solver solutions
  - ▶ Lower total CAE cost of ownership
- ▶ UGS Focus & CAE Expertise
  - ▶ Strong commitment to NX Nastran development
  - ▶ Major enhancements into NX Nastran
    - ▶ Performance
    - ▶ Discipline Extensions
    - ▶ Process Improvements
- ▶ Leverage NX Nastran in PLM Process Solutions: Pre/Post & Data Management
  - ▶ Fully integrated CAE data management leveraging NX Nastran results
  - ▶ Single source for integrated PLM technology and services

