NX Nastran Roadmap

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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
Topics

Not just better tools, a better toolbox

- Product Strategy
- Roadmap
  - Performance
  - Discipline Extensions
  - Process Improvements
Topics

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NX Nastran – A Complete Solution

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

Linear Statics /Stress Analysis
Buckling
Thermal
Dynamics
Optimization
Aero-Elastic
Acoustics
Laminates
System Analysis And Superelements
Basic Non-Linear
Parallel Processing
Advanced Non-Linear

 NX Nastran

Teamcenter
NX
I-deas
Femap

3rd Party CAE

Standard

Formats
**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
Migration Plan
Model Solution Linear: A010

I-deas 11
A010 Simulation Solution Set
- Linear Static
- Normal Modes
- Buckling
- Linear Contact
- Heat Transfer (Steady state)

I-deas 12 / NX 4
A010 Simulation Solution Set
- Linear Static
- Normal Modes
- Buckling
- Linear Contact
- Heat Transfer (Steady state)

I-deas 13 / NX5
NXN 110G NX Nastran Basic-Desktop*
- Linear Static
- Normal Modes
- Buckling
- Linear Contact
- Heat Transfer (Steady state and Transient)
- Spot Welds
- Basic Nonlinear

AND
NXN 110G NX Nastran Basic-Desktop
(1 release trial)

NX

* Enterprise solver available through upgrade program.
Migration Plan
Model Solution Non-Linear: A054

I-deas 11
A054 Model Solution-Nonlinear

I-deas 12 / NX 4
A054 Model Solution-Nonlinear

I-deas 13 / NX5
NXN120 NX Nastran Advanced Nonlinear-Desktop*

NX
NXN120 NX Nastran Advanced Nonlinear-Desktop

AND
NXN120 NX Nastran Advanced Nonlinear-Desktop
(1 release trial)

A054 Model Solution Nonlinear

Shared License

* Enterprise solver available through upgrade program.
Not just better tools, a better toolbox

- Product Strategy
- Roadmap
  - Performance
  - Discipline Extensions
  - Process Improvements
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.

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

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

 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