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Using I-deas and NX in a Teamcenter Multicad Environment

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Topics

The need to support Multi-CAD

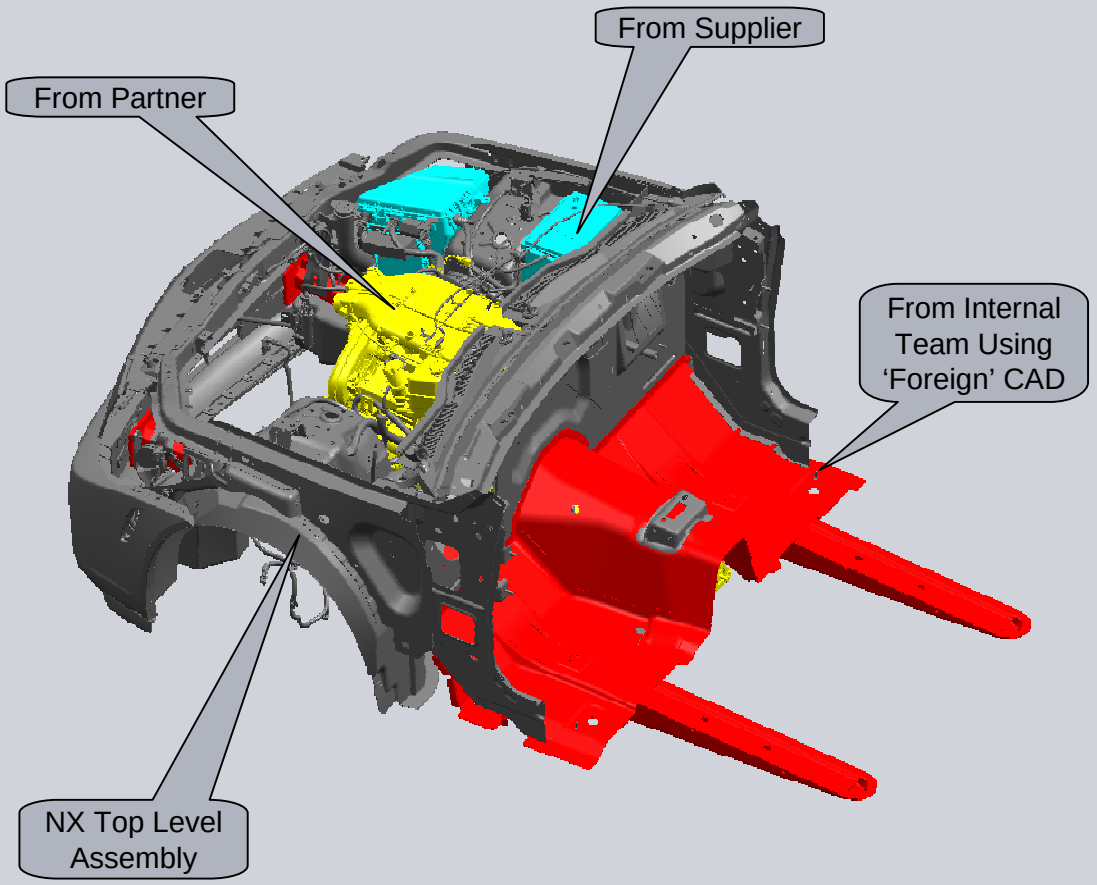
- CAD Transition
- Eco-System Collaboration

Our solution

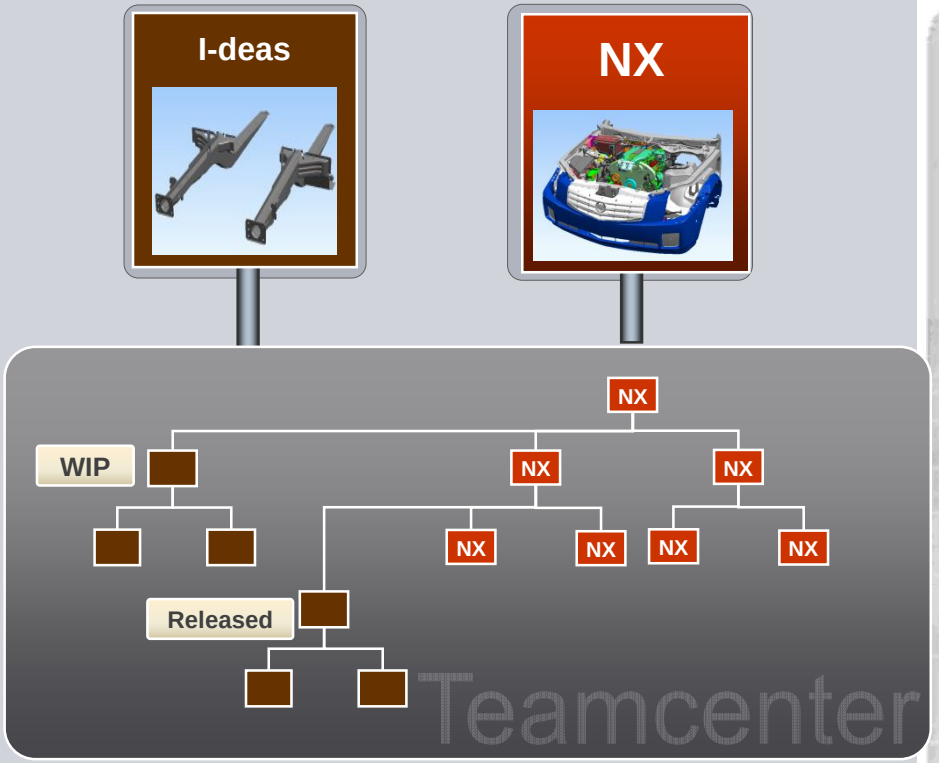
- JT
- Teamcenter Capabilities
- NX Capabilities

Typical Use Cases

- Design Reference
- WIP Collaboration



CAD Transition



CAD Transition

NX is replacing another CAD system

- Released data from legacy CAD system is needed to start new projects
- Projects may need WIP data from legacy CAD system

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CAD Transition Process Overview

Four primary steps for a successful CAD transition:

- Step 1: Select data for migration.
- Step 2: Metadata migration – 'Foreign' cPDM to Teamcenter
- Step 3: CAD data migration – 'Foreign' CAD to NX
- Step 4: Working with the New Tools

Multi-CAD capabilities help ensure a smooth transition

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CAD Transition and CAD Data Migration

A CAD Transition includes working in a multi-CAD mode with JT and also CAD data migration

JT solution supports the multi-CAD process

- Multi-CAD data belongs to programs using another system
- Used mainly for reference only in NX program

CAD data migration occurs when data ownership changes to NX

- Parts will be actively modified and developed in NX
- Feature data may be important
- Data is translated to NX using CMM

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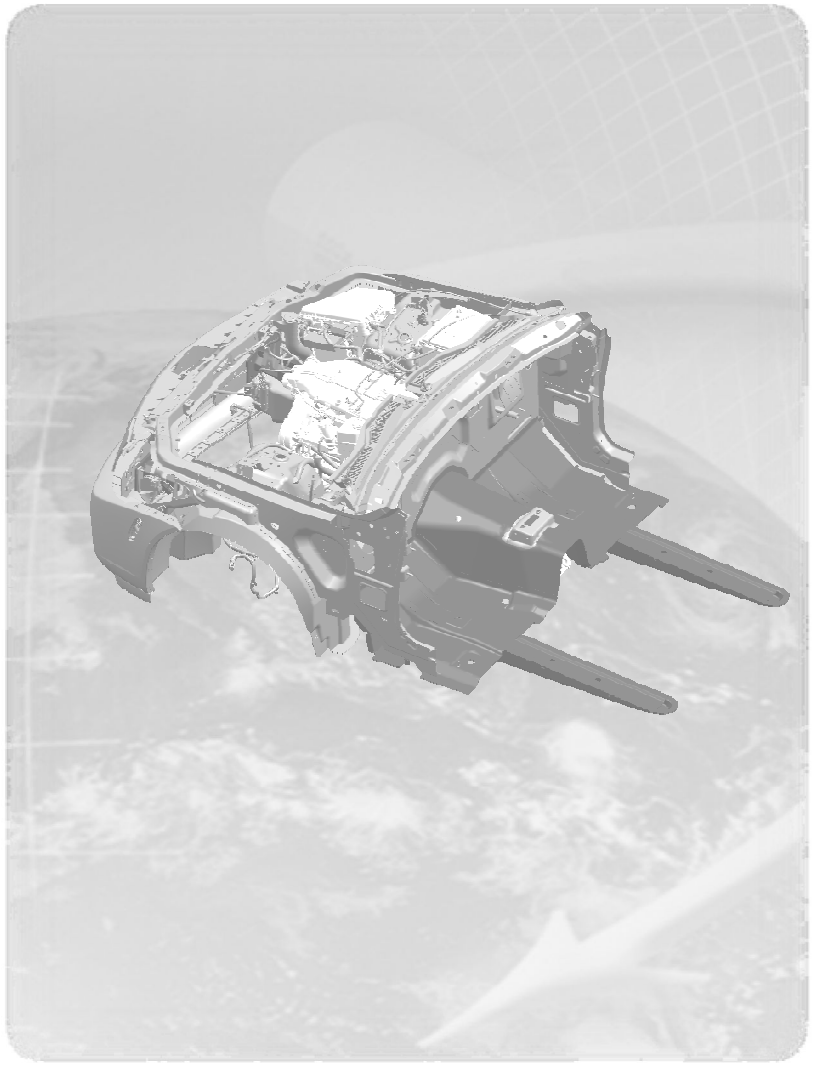
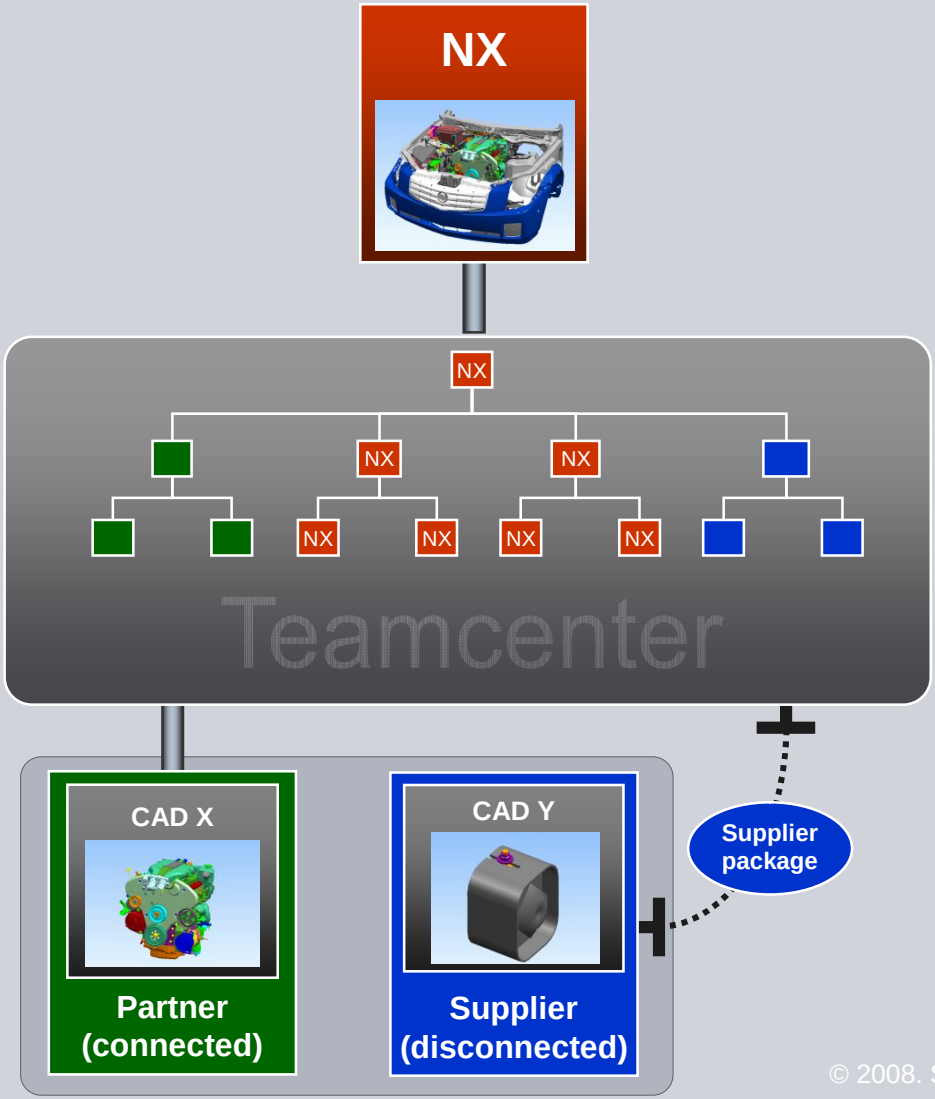
Eco-System Collaboration

- Product design & manufacture is increasingly collaborative & distributed
  - Partnerships
  - Suppliers
  - Mergers & acquisitions

  Different CAD Systems
- New design environment requirements
  - Multi-CAD support
  - Managed, lightweight data distribution
  - Intellectual property protection



Eco-System Collaboration



Collaboration

Design data supplied by groups using other CAD systems

- Internal teams
- Partners
- Suppliers

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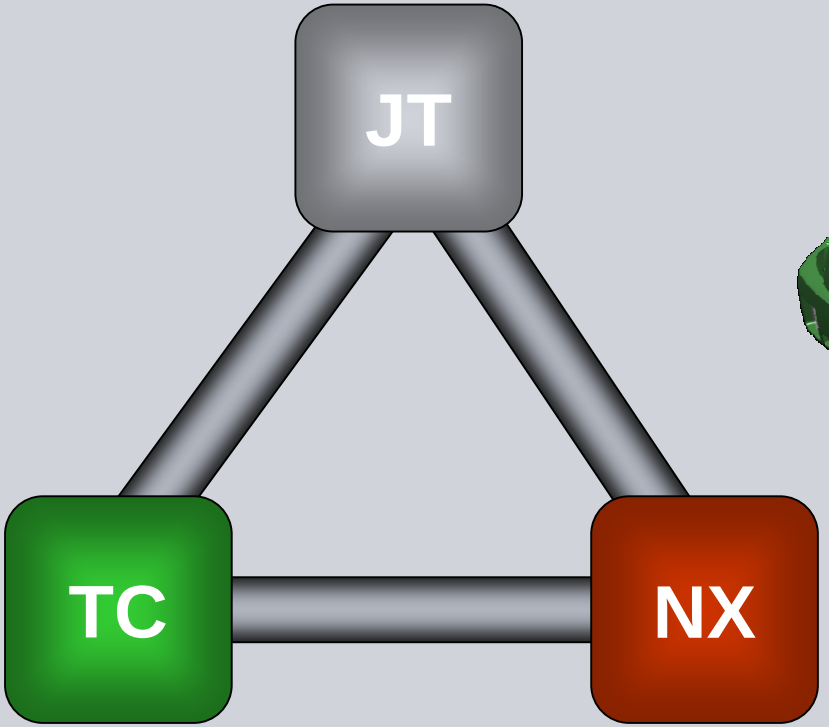
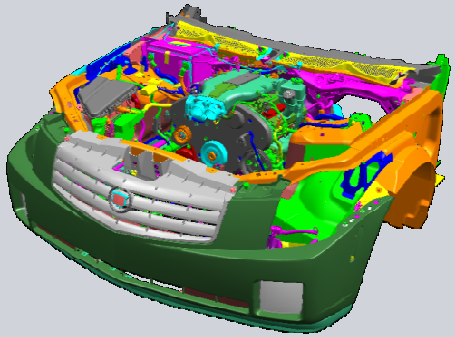
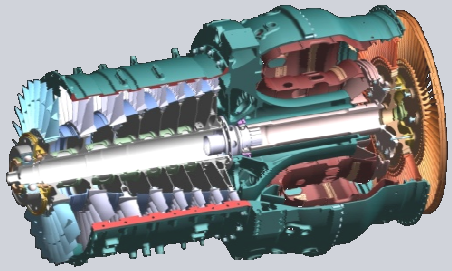
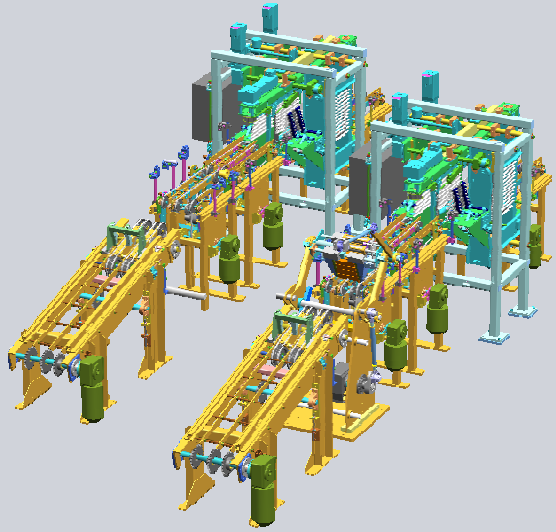
The strength of our solution









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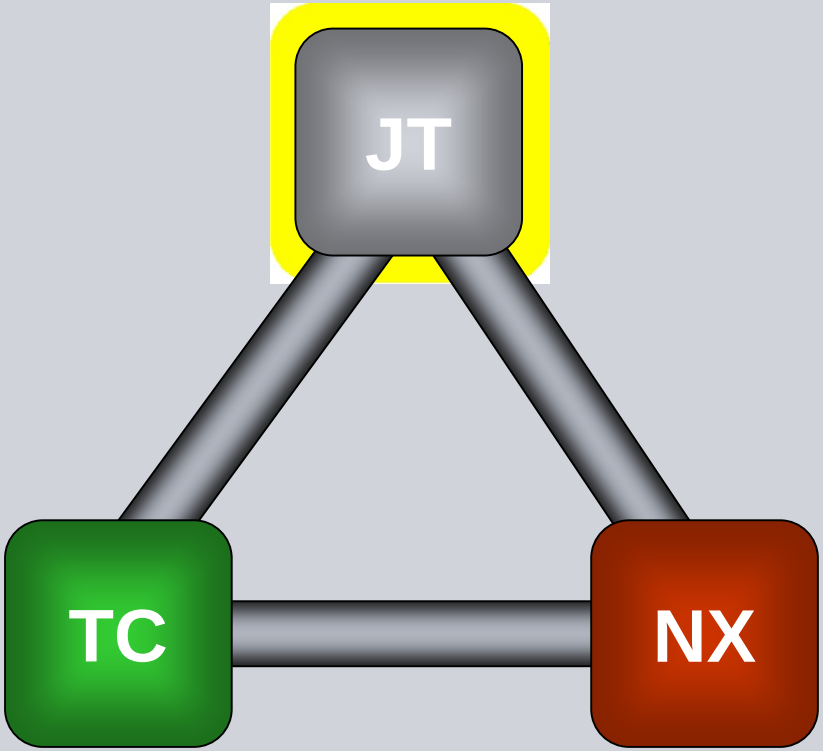
The strength of our solution - JT



JT Strengths

- Widely adopted visualization format
- Open format with integration toolkit
- Supports
  - Large assembly visualization
  - Design in Context
  - CAD Transition
- Hides proprietary model intelligence

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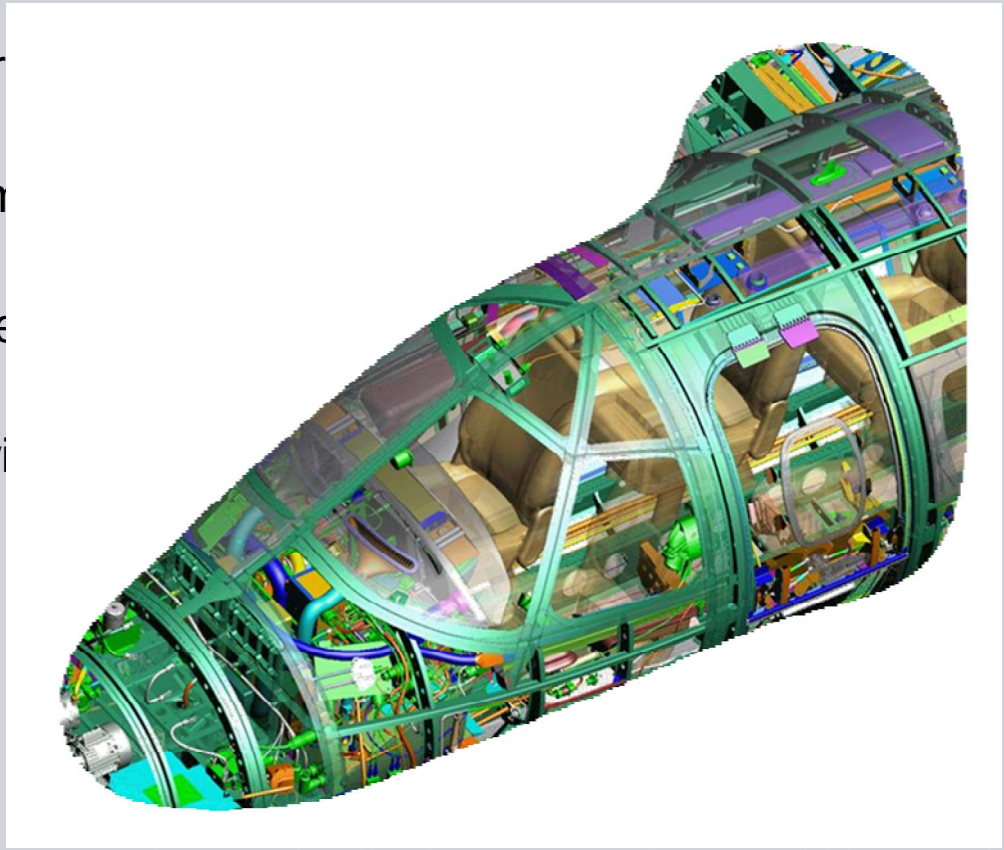
JT Supports “On Demand” CAD Data Migration to NX

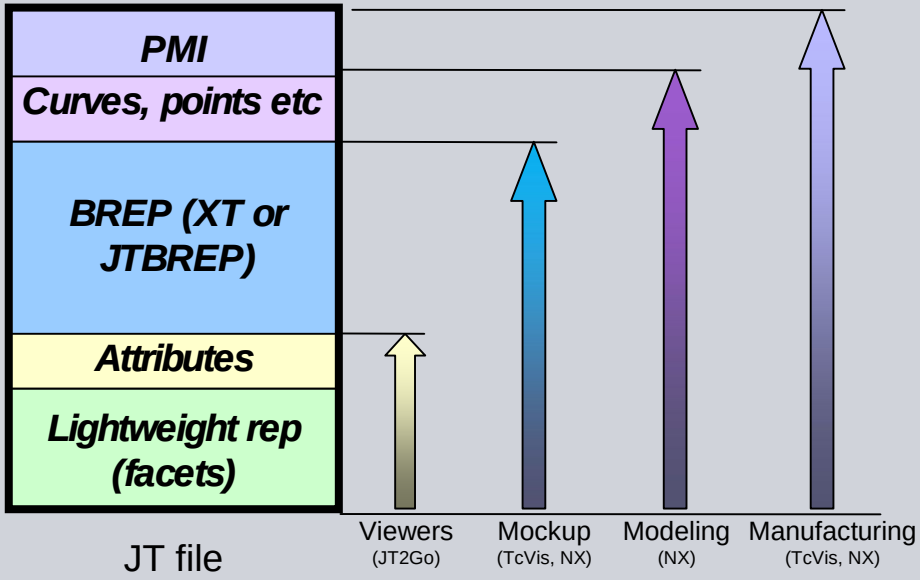
- JT supports “phased” transition process from legacy CAD systems into NX
- Can be integrated into new progr NX
  - Mainly referenced by NX (not m ready for ownership change)
  - Parts/assemblies where feature required
  - Associative update available wi NX transition



The strength of our solution - JT

JT Strengths (continued)

- Supports data required for wide range of consumers



- JT facets – A faceted file format invented by EAI for fast visualization and mock-up operations – measure, clearance/interference and dynamic sectioning.
- BREP
  - XT BREP– Parasolid format; true solid geometry; best for performance.
  - JT BREP – Legacy format; trimmed surface representation; may not be 'watertight' solids.
  - Can have one or the other (but not both) formats in a JT file.

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CAD -> JT Translator Support

Translator support for XT BREP (better for performance) and JT V9 (better for topology selection)

Translator	Can it write XT rep?	Can it write JT V9?
NX → JT	✓	✓
I-deas → JT	✓	✓
Solid Edge → JT	✓	✓
Catia V5 → JT	✓	Planned
Pro/E → JT	Planned	Planned
Inventor → JT	Planned	Planned
SolidWorks → JT	Planned	Planned

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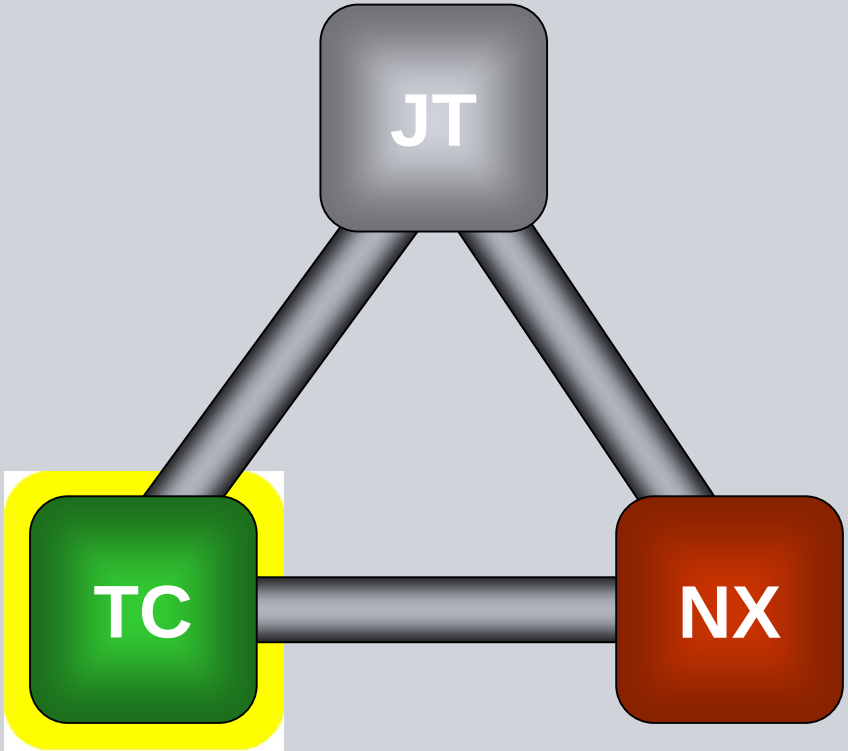
The strength of our solution - Teamcenter



Teamcenter Strengths

- Industry-leading solution
- Wide range of engineering, manufacturing & enterprise applications
- Utilizes JT as well as native CAD data
- CAD-independent with wide range of CAD integrations

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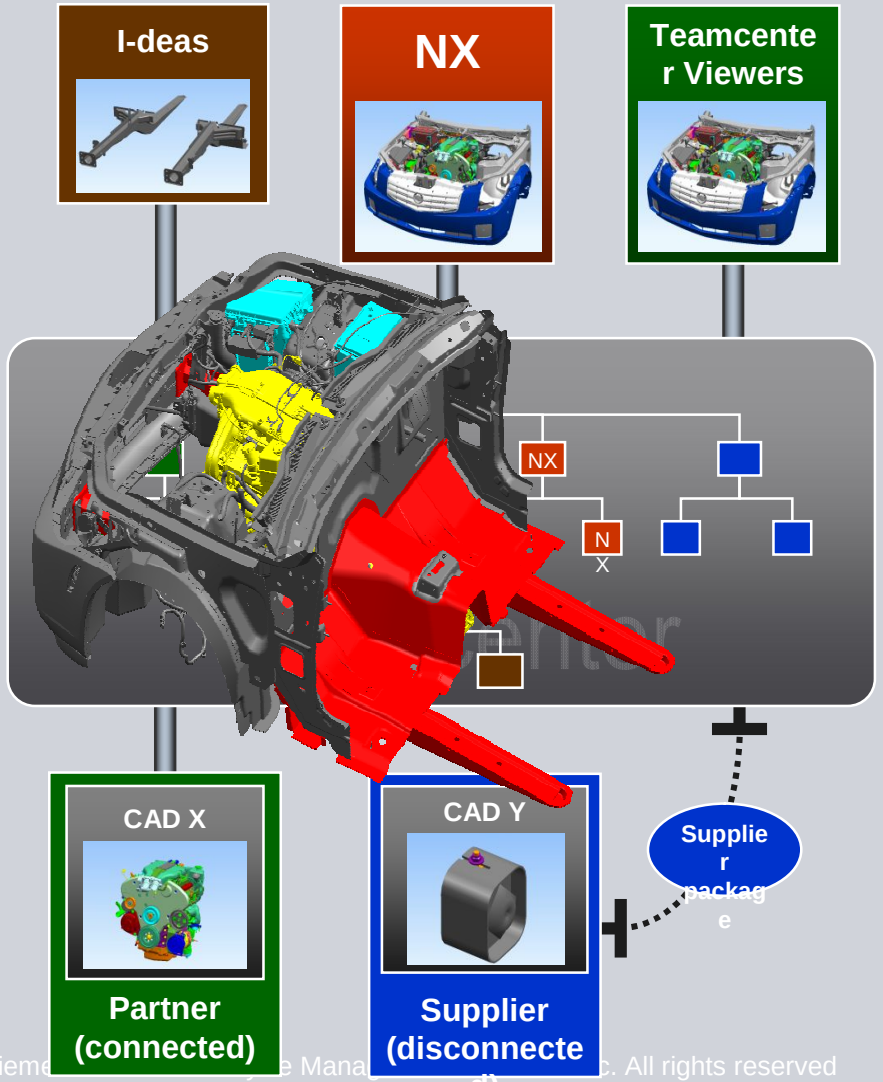
A Single Source of Multi-CAD Data - Teamcenter

- Brings data from different sources together into the same structure creating a single source of product and process information
- Stores JT representation of the data
  - On import
  - On save
  - Offline through Translation Services
- Validates through Teamcenter Visualization and in Rich Client
- Import/Export to partners and suppliers



Capture Product Knowledge

Whole Product Management

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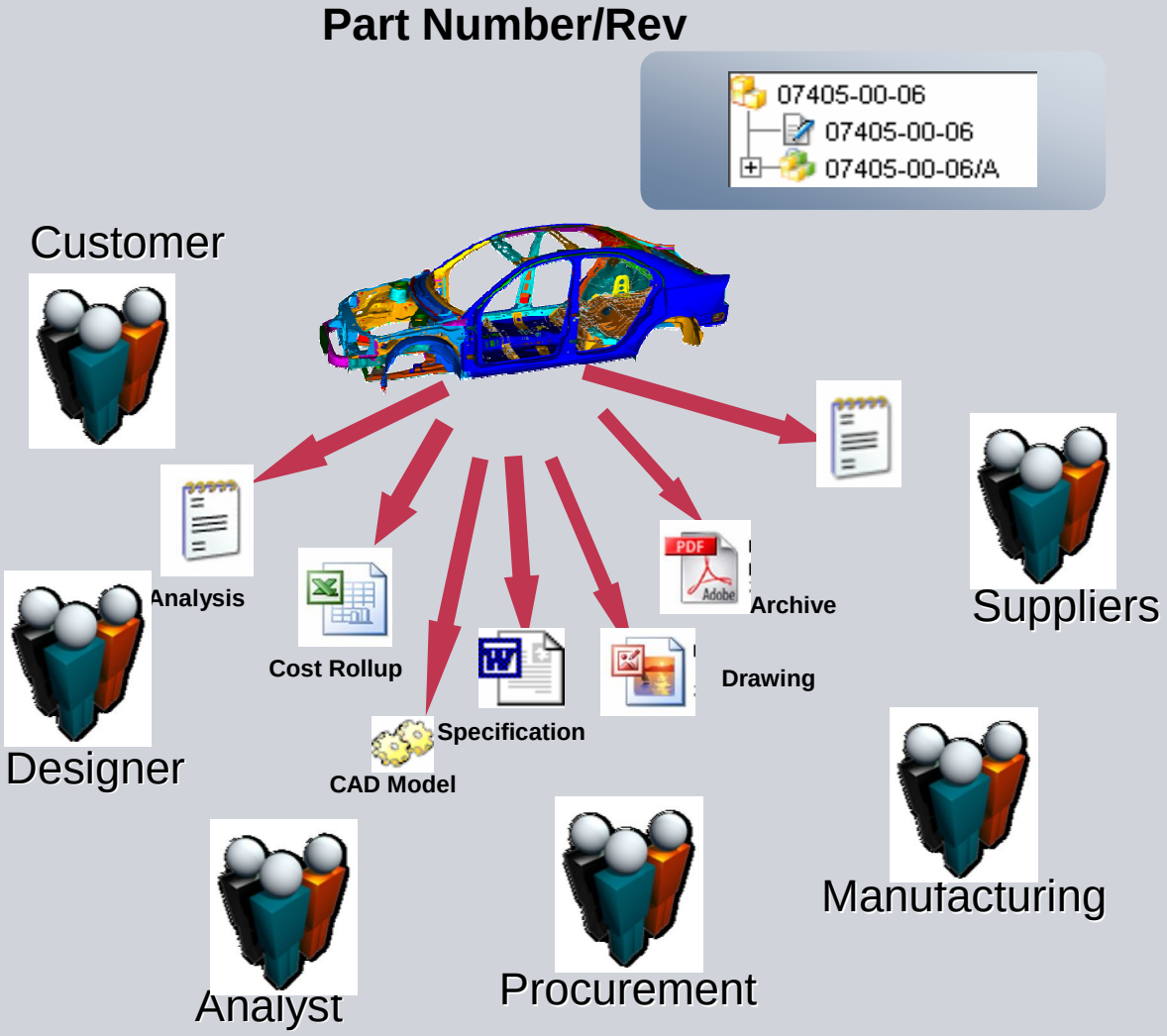
- Creates a single source of product knowledge
- Deliver the right information to the right people quickly & easily
- Data Managed as a Unit
- Item/Revision, drawing, BOM assembly, docs, tool, fixture…where used, where referenced



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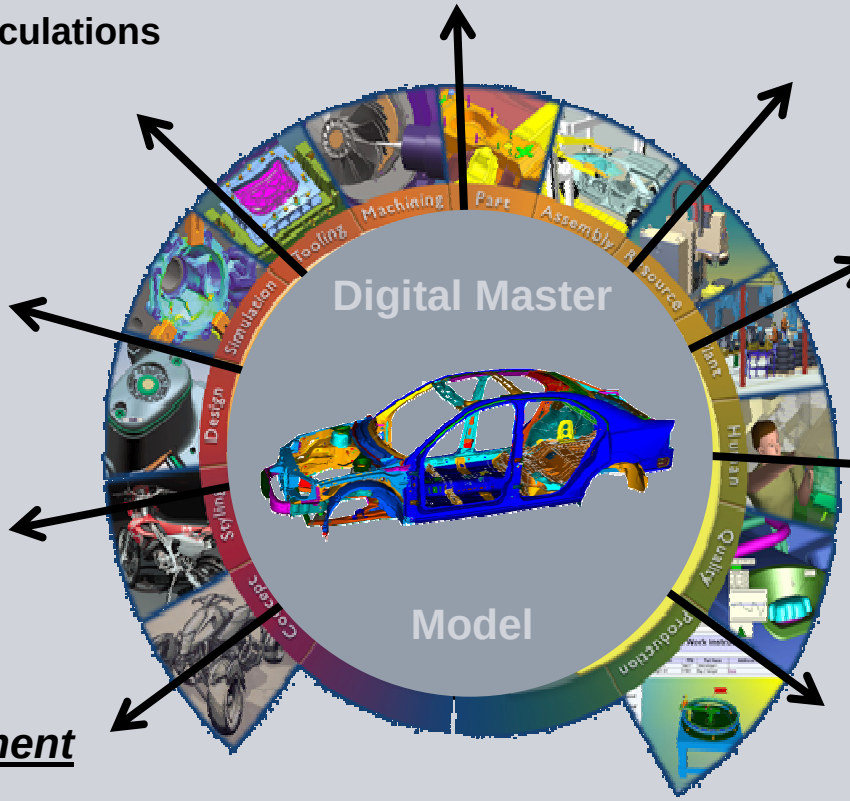
Teamcenter Process Management Supports Multi-CAD

BOM Management
- PSE Authoring (add, delete, re-structure)
- CAD structure reconciliation

Digital Validation
- DMU
- RDV
- Clearance Calculations

Configuration Management
- Options and Variants
- Product Configurators



Product Design
- Workflow
- Change
- Simulation
- Tooling
- Classification

Manufacturing Process
- Collaboration Context

Global Deployment
- Secure Access Control
- Multi-site references
- Remote access
- Ownership transfer

Revision Control
- Revision Rules
- Baseline
- Freeze, Revise
- Delete, Purge

Design Management
- Find, Open, Save
- Design in Context

Supply Chain Collaboration
- JT

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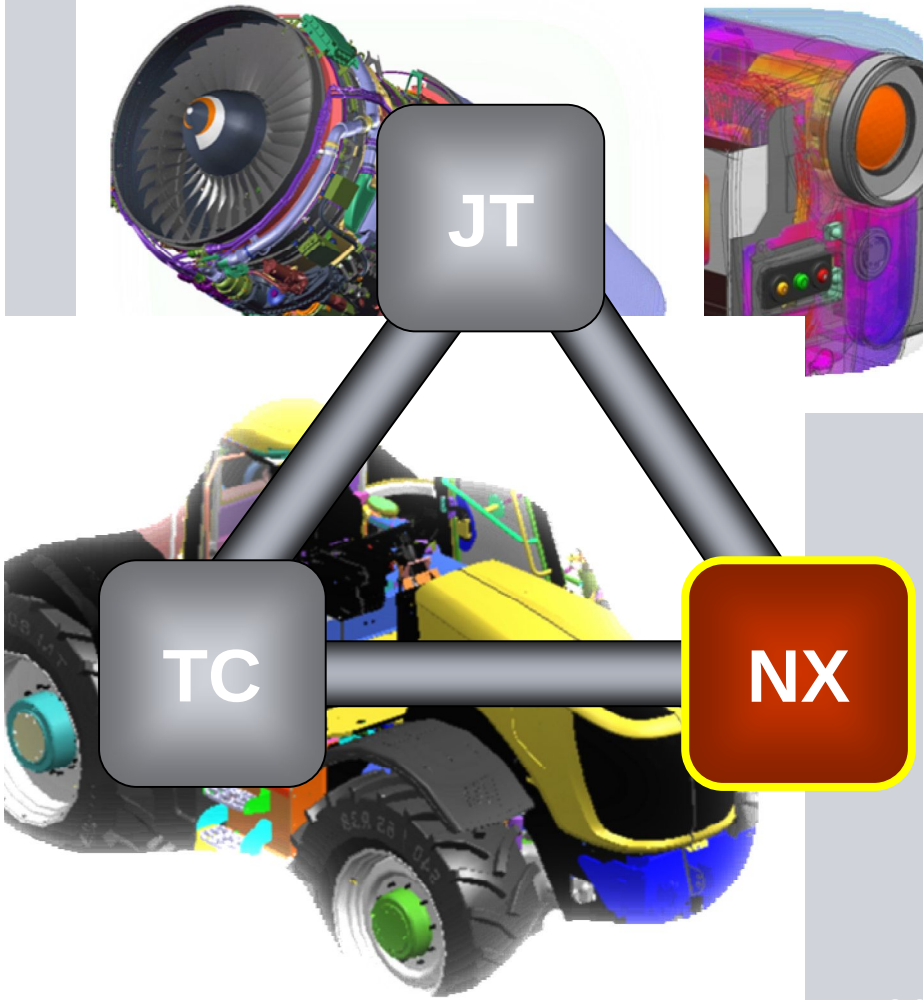
The strength of our solution - NX



NX CAD

The most productive CAD system on the market today

Multi-CAD Technologies/Capabilities

- Active Mockup
- Design Freedom editing on featureless models
- Reads Teamcenter structure & JT geometry directly

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NX 5 Unified Environment

Benefits

Improved product knowledge transfer between disciplines from styling through manufacture

No data translation overhead ensures product knowledge is reused throughout process

Common User Interface speeds learning and deployment

NX 5 delivers benefits of integration and powerful applications

Teamcenter inside NX

Teamcenter Inside NX

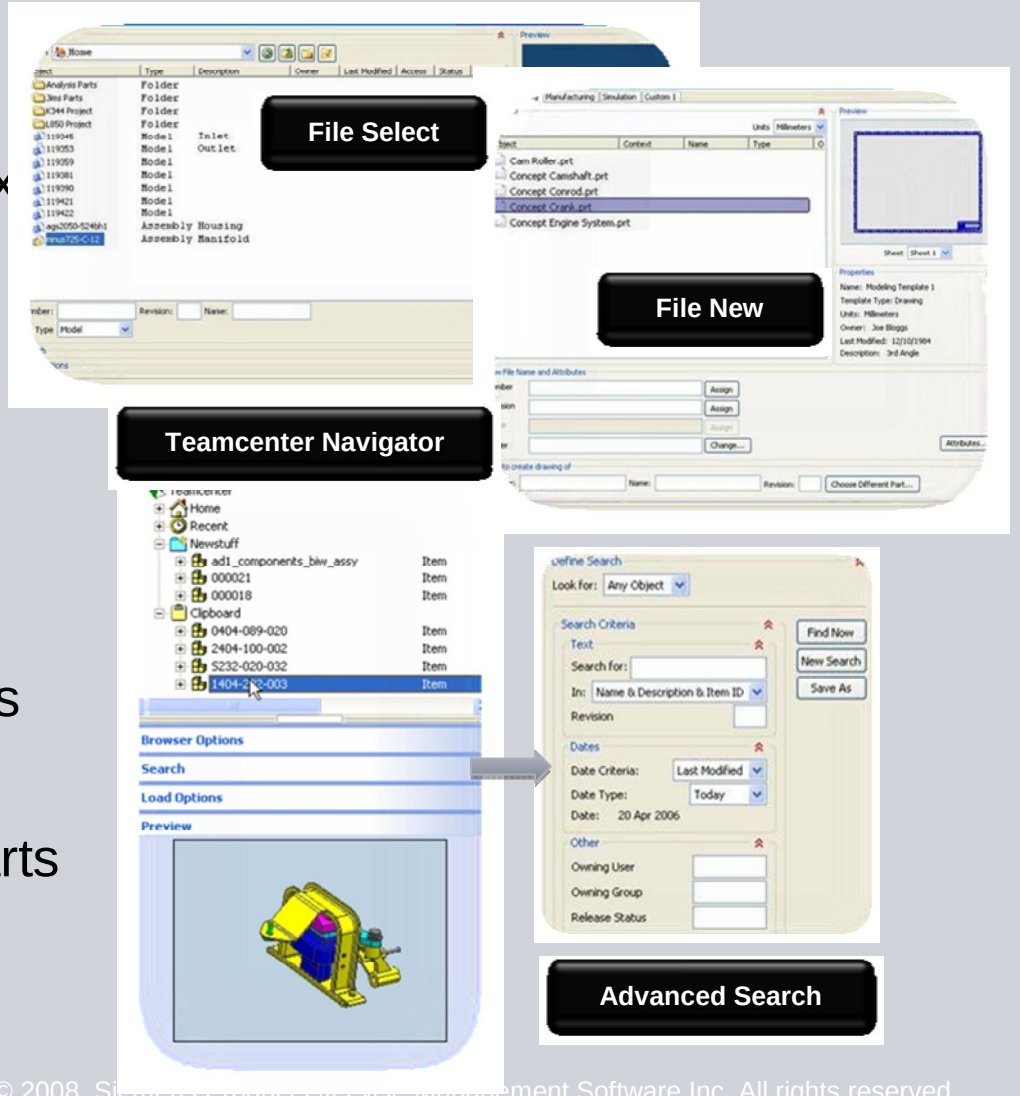
Benefits

Teamcenter navigation inside NX increases productivity 30% with instant access to data

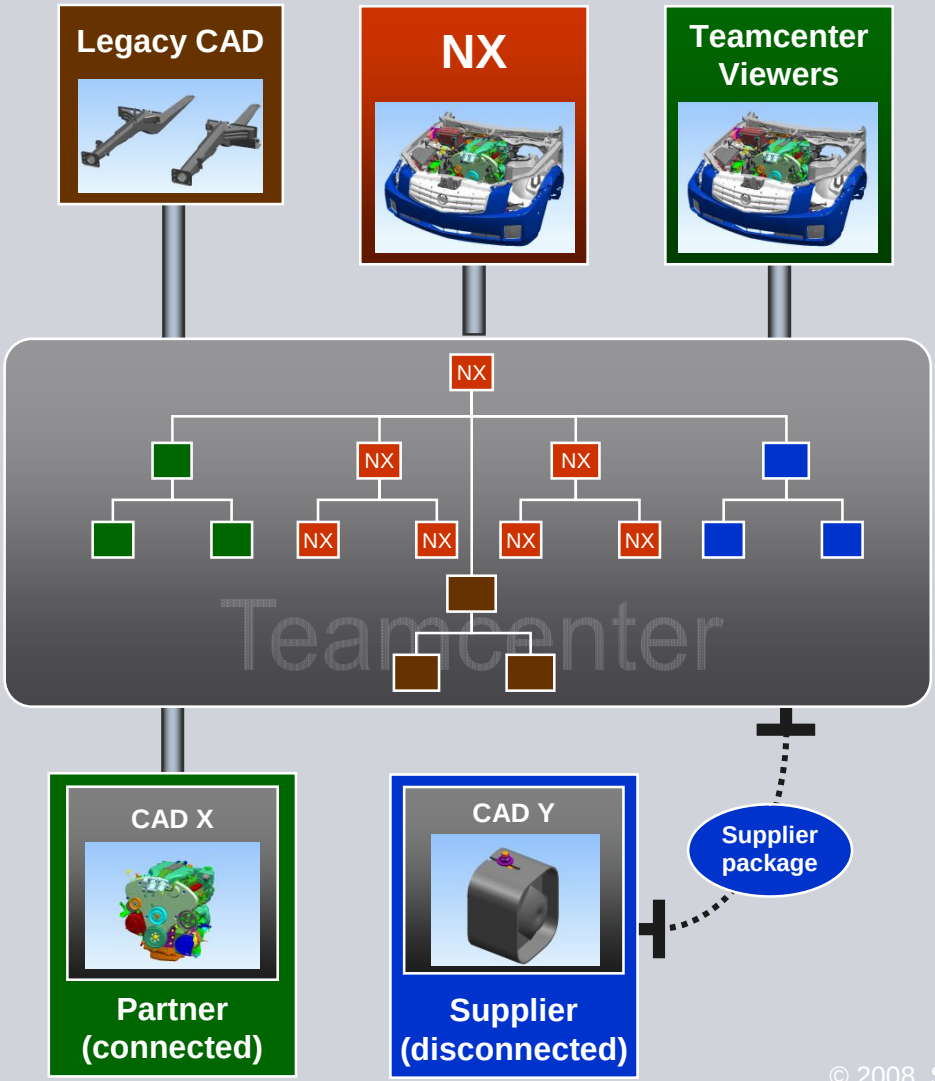
New file & attribute creation promotes master model and enforces business rules

Ready access to Teamcenter, Classification and O/S directories enables part reuse

Knowledge enabled standard parts libraries* saves design time and increases productivity



Multi-CAD Capabilities Summary



Multi-CAD in NX

- Visualization & review
- Mockup
- Authoring
  - Background geometry for design-in context
  - Starting point for new parts/assemblies

Multi-CAD in Teamcenter

- Data security and reuse
- Process Management
- Visualization & review
- Mockup
- Supplier import/export

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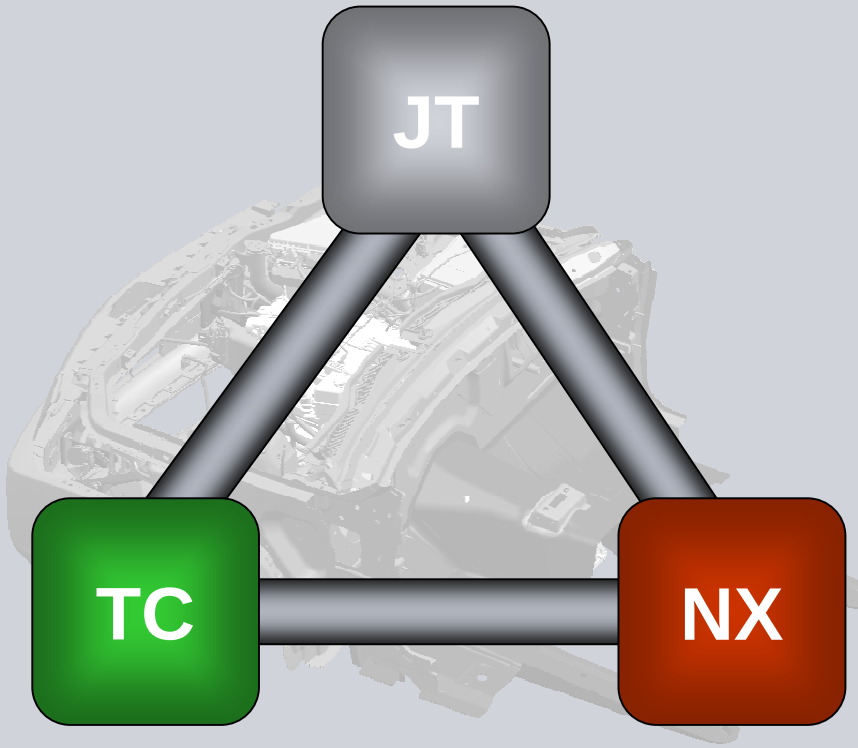
The strength of our combined solution



The combination

Maximum Productivity

CAD Transition to NX

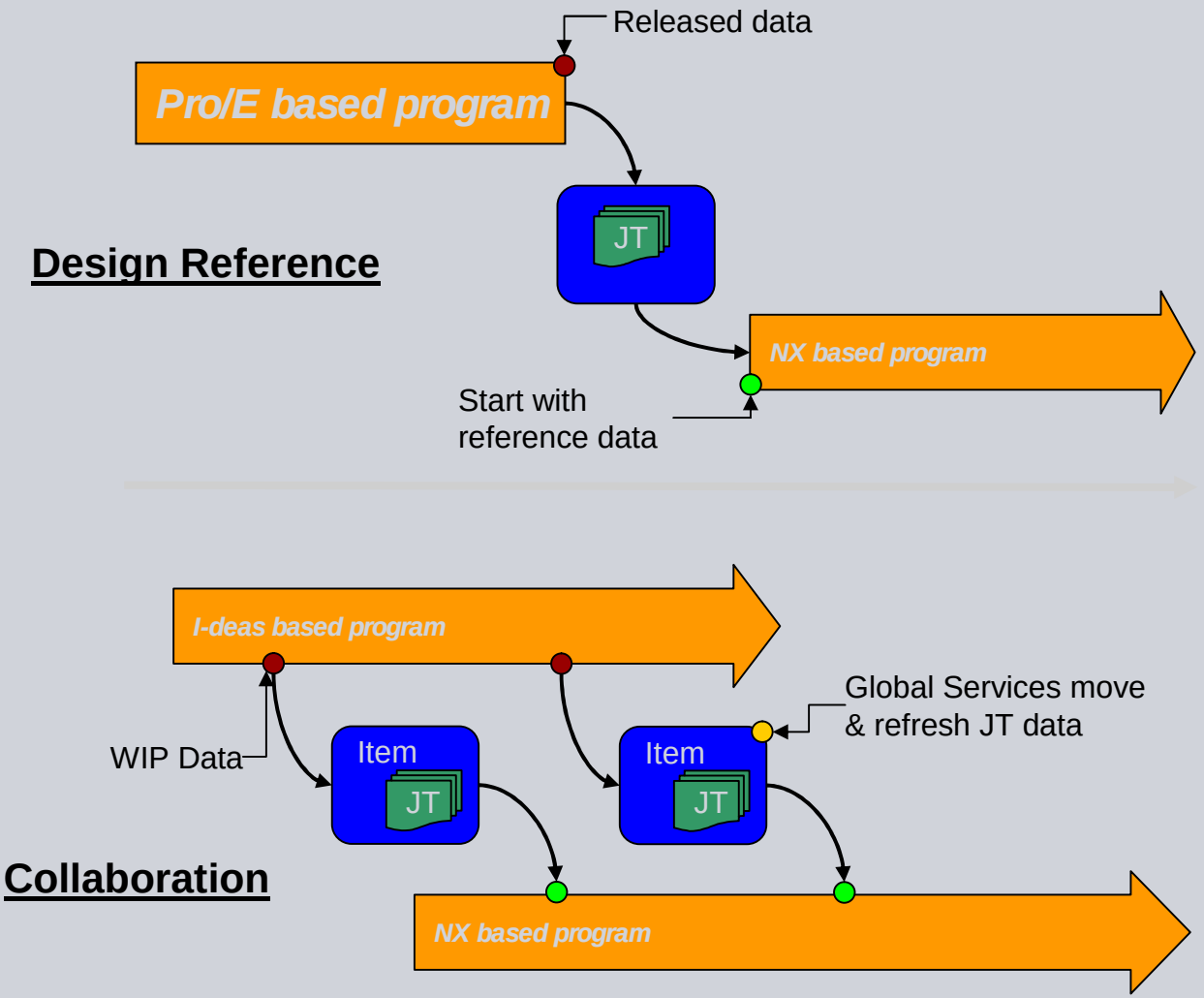
CAD Collaboration

CAD authoring in a Multi-CAD context

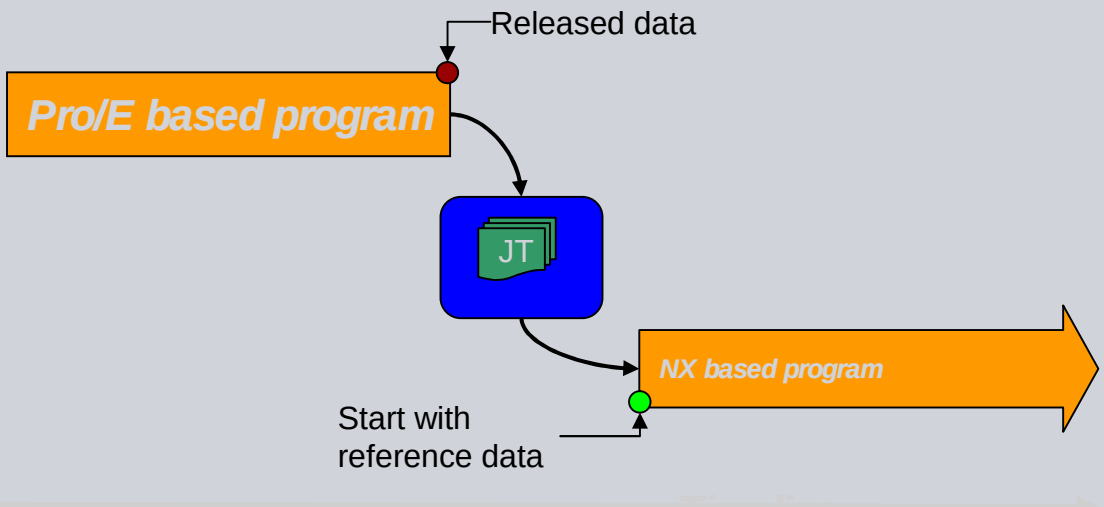
Integrated Product data management

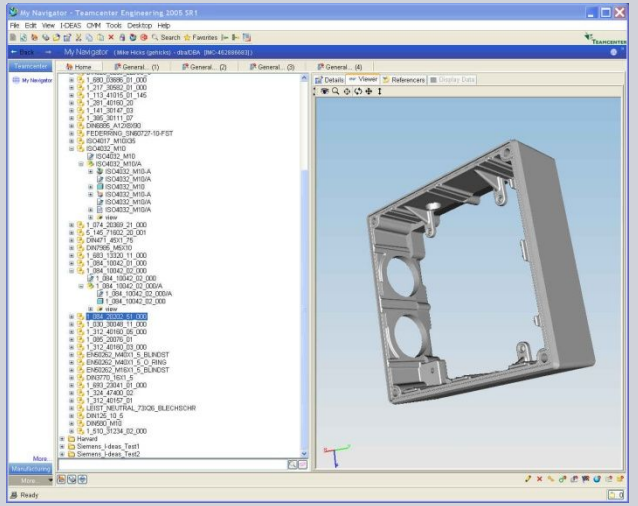
IP protection

Typical Multi-CAD Use Cases



Multi-CAD for Design Reference





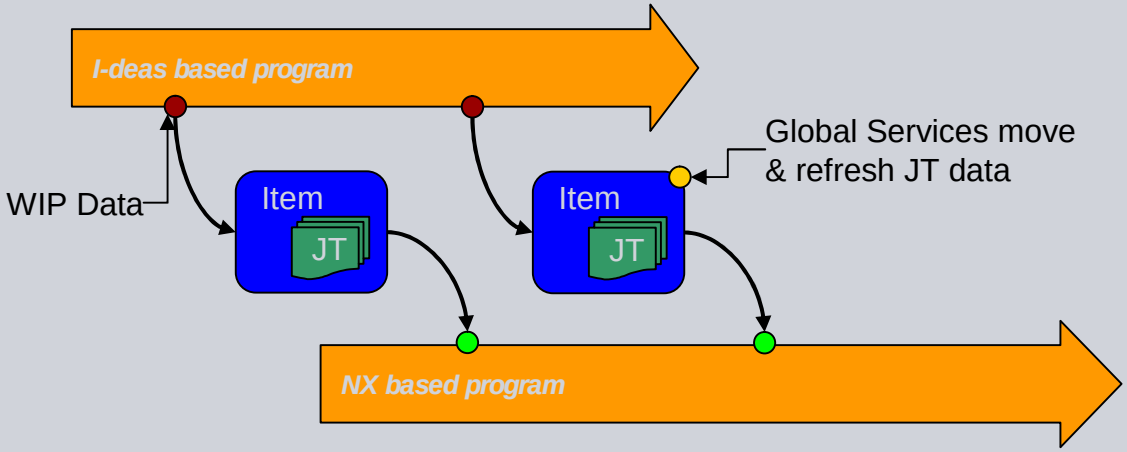
Design Reference

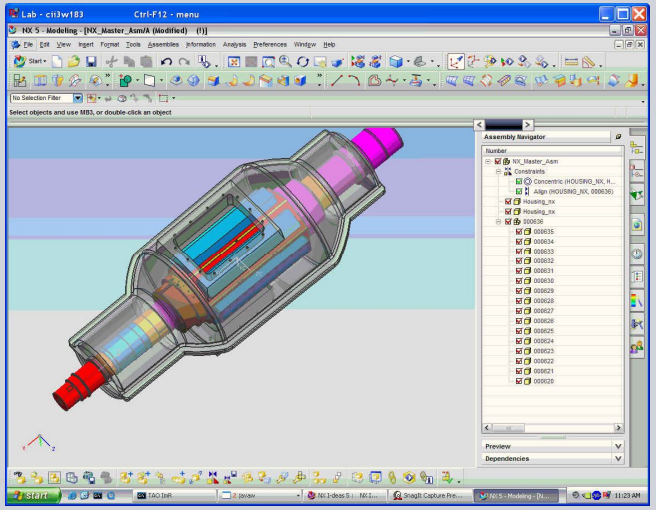
- Released data referenced within new program for design in context
- Pro/E
  - Data is in ‘Released’ state
  - Considered ‘Master’
- NX
  - Uses Pro/E data for reference & design in context in NX based program

Solution : JT MultiCAD

- Move released program data, as JT to Tc2007
  - Data is moved once
  - No transfer of ownership
- Tc2007 Multi-CAD to manage JT data
- Engineering Translation Services provide s JT data for reference and support design-in-context

Multi-CAD for Design Collaboration





Collaboration

- WIP data shared collaboratively with current programs for reference and design in context
- I-deas
  - Data is WIP
  - Considered ‘Master’
- NX
  - Use I-deas data for reference & design in context in NX based program

Solution : JT Multi-CAD

- Move WIP program data, as JT, from IE to Tc2007
  - Global services
  - Data is moved once and refreshed regularly
  - No transfer of ownership
- Tc2007 Multi-CAD to manage JT data
- NX Multi-CAD to provide JT data for reference and support design-in-context

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Starting Today You No Longer Have To..

Worry about using data from multiple CAD systems

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You asked the tough questions about CAD strategy

We Listened.

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The Next Breakthrough in Digital Product Development

A new history free, feature-based modeling system that allows you to interact with any geometry

- Efficiently
- Intuitively
- Directly

…without being confined by how the model was originally constructed

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Synchronous Technology

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