

e=MSC^x

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PRODUCT
DEVELOPMENT
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SimManager Content Management

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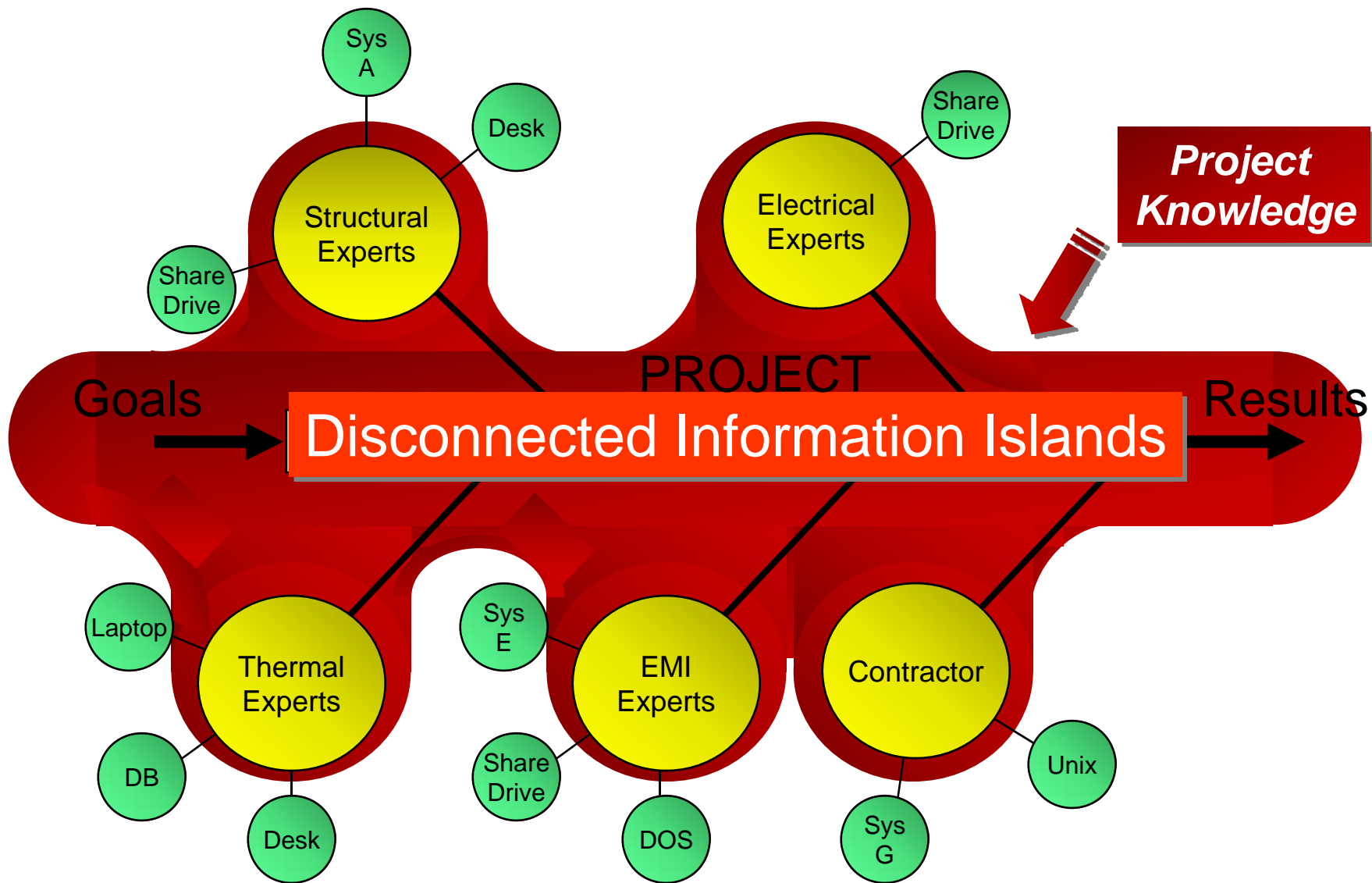
MSC.Software VPD Conference 2009



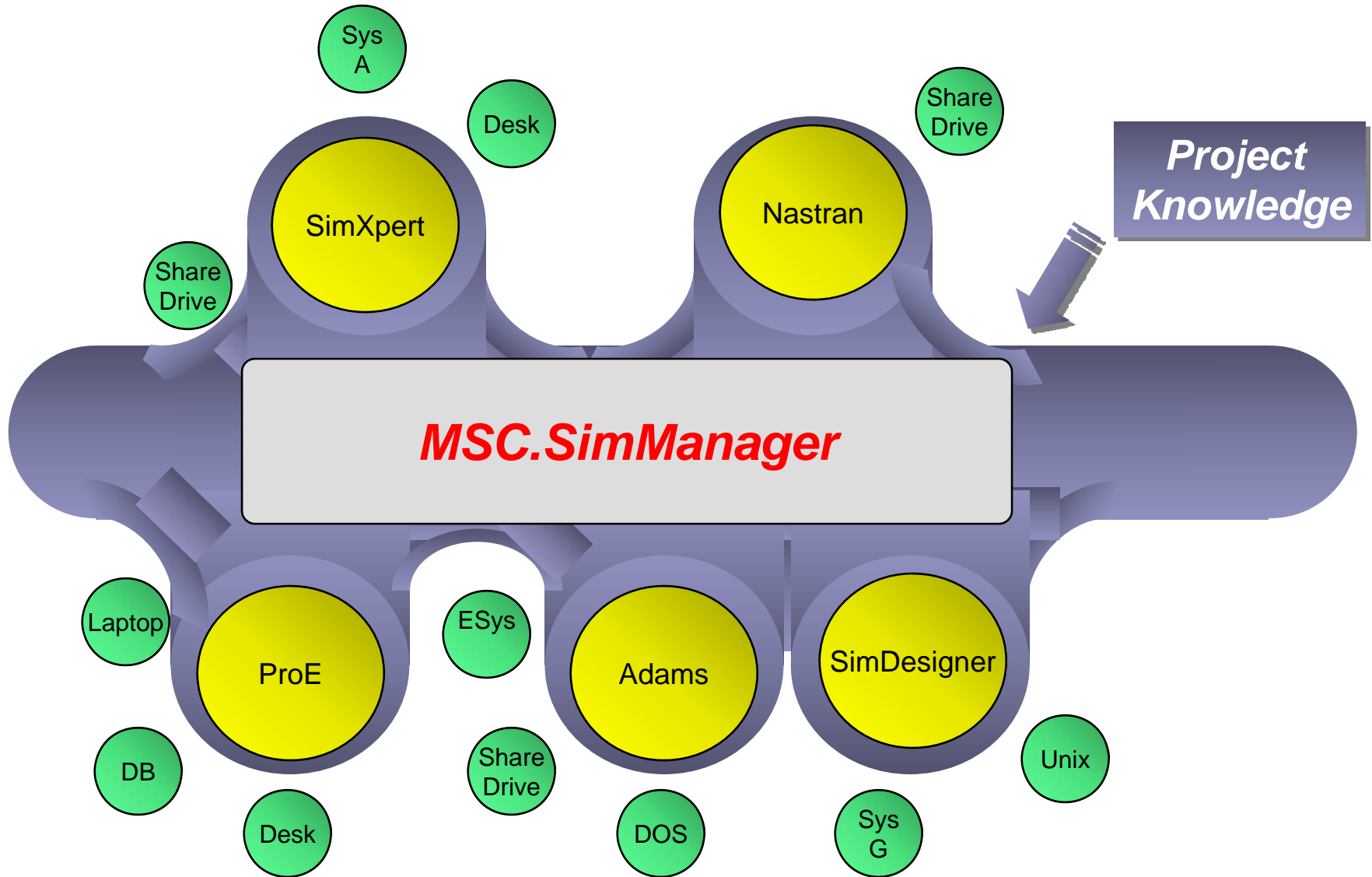
Why Content Management?

- Right answers FAST!
- Preserve knowledge for re-use
- Collaborate efficiently and effectively
- Retrieve and evaluate data for new applications
- Answer “Where used” and “What used”?
 - Reconstructive Forensics: Timely and costly process of recreating past events – the who, what, and where of something that has happened in the past to explain a failure
 - Traceability

Typical Project Scenario



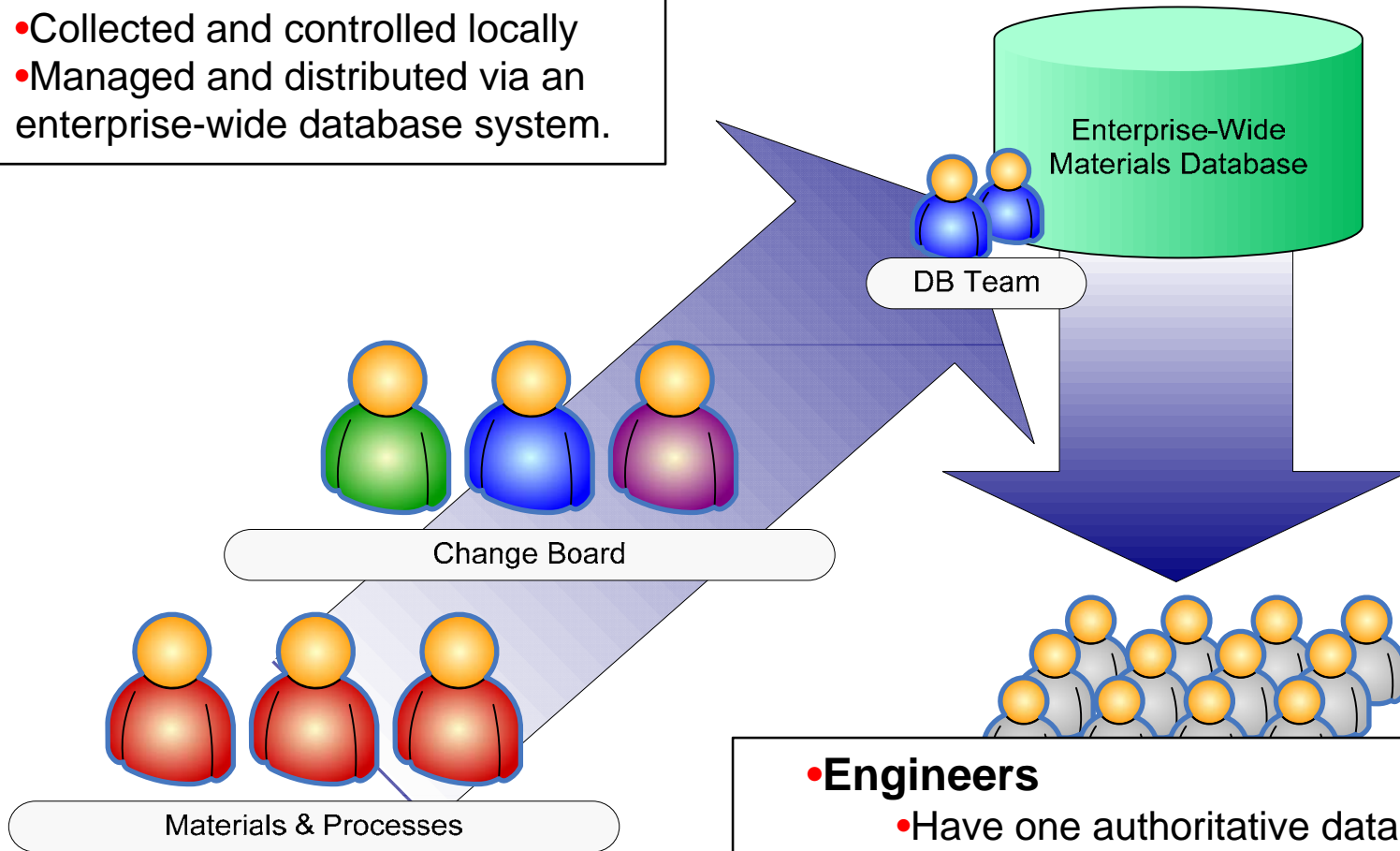
In SimManager, we can do this...



In Mvision, we can do this...

•Data

- Collected and controlled locally
- Managed and distributed via an enterprise-wide database system.



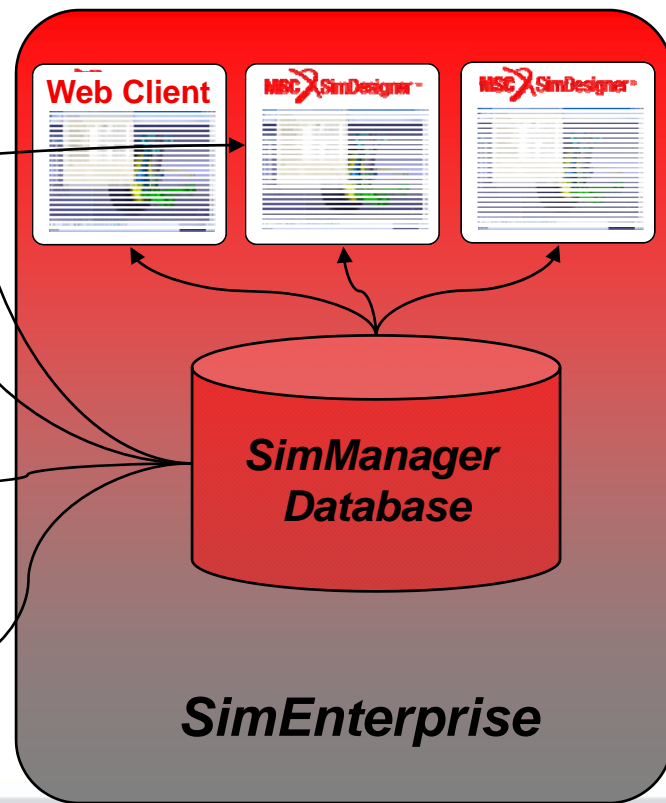
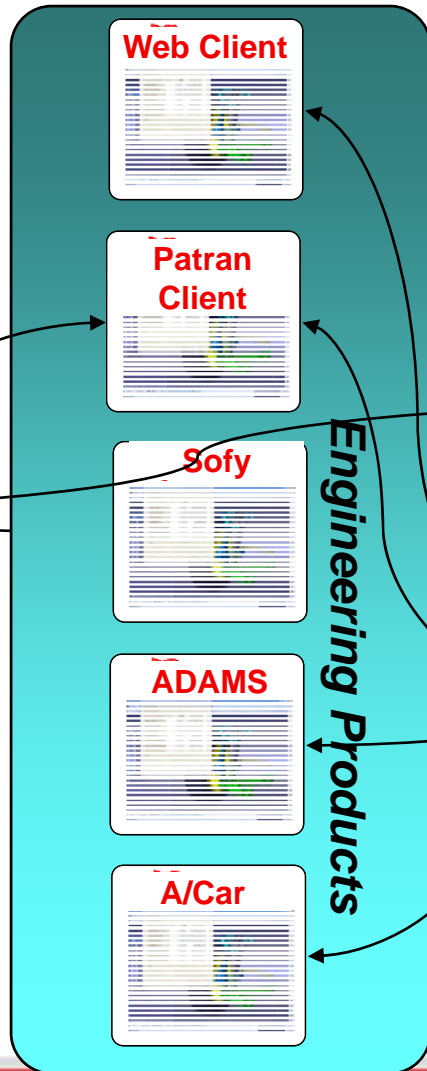
•Engineers

- Have one authoritative data source
- Access data via integrated systems
- Spend more time innovating

Reality...

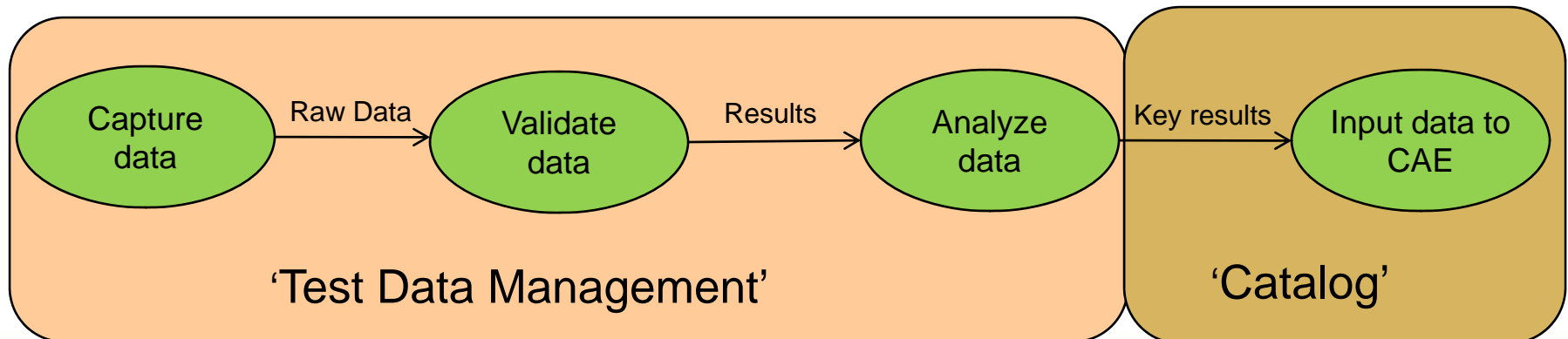
Disconnected Applications – no traceability - chaotic

Test Data Management...
 Catalogs of Data...
 Loads Systems...
 Archives of Parts...
 Legacy Data....
 Models of all types....
 LifeModels
 Crash Dummies
 Bolts
 Fasteners



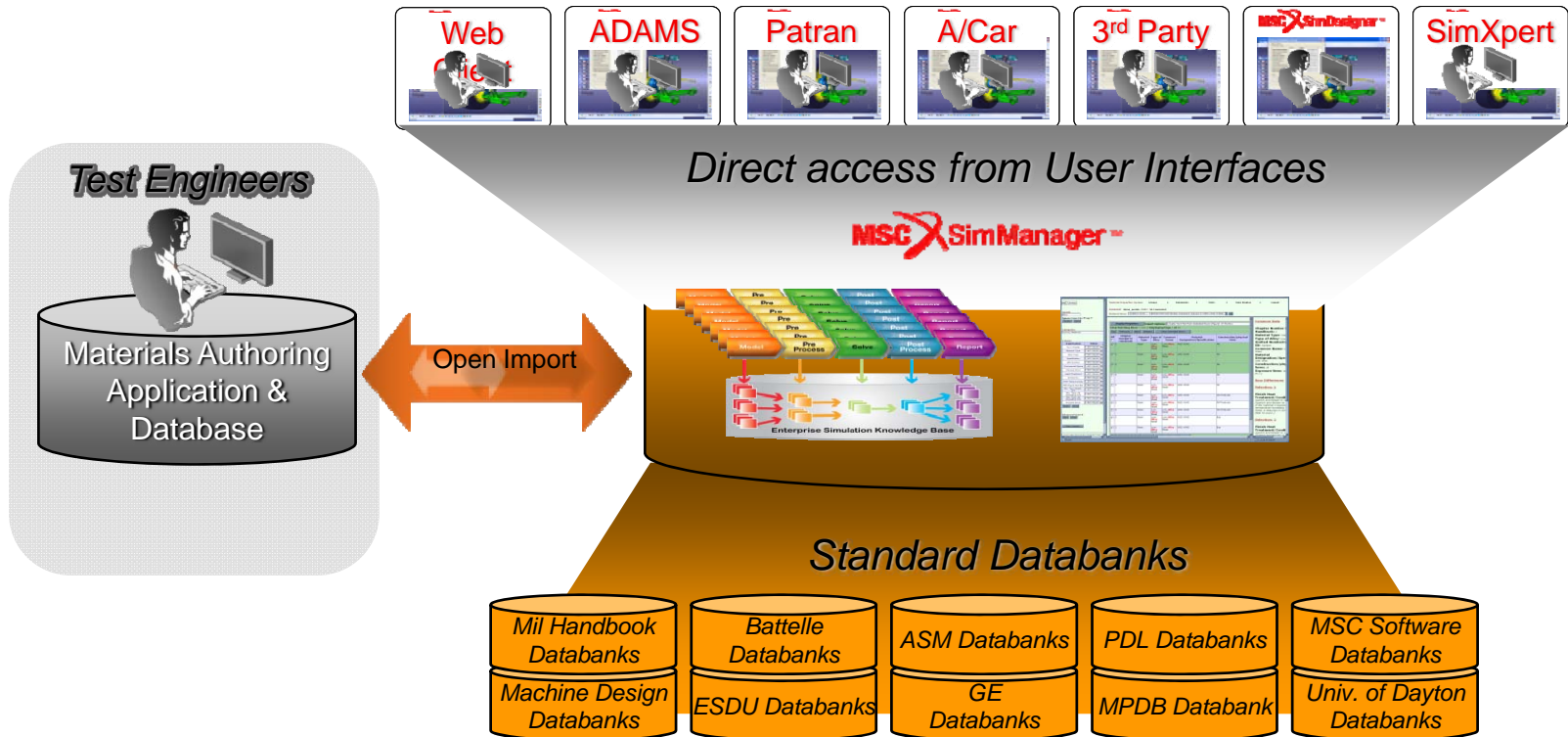
Traceability for Disconnected Data

- **Data that is manually uploaded to analysis**
 - Retrieved from hardcopy catalogs
 - Generated by disconnected solvers / CAD
 - The ‘key result’ of upstream processes that reside in other systems, spreadsheets, projects, etc.



Auditable Data - Use Case for Materials

Need to archive data input and output to analysis



Introducing SimCatalogs - R4

- **Systematic approach**
 - Uploading
 - Organizing
 - Disseminating
 -outside data required by Simulation
- **Establishes the audit trail**
- **New view into existing data**
- **Simpler way to retrieve data**
- **Ensures collaboration**

Think consistency...



Think quality...



Think cost savings...



Think innovation...



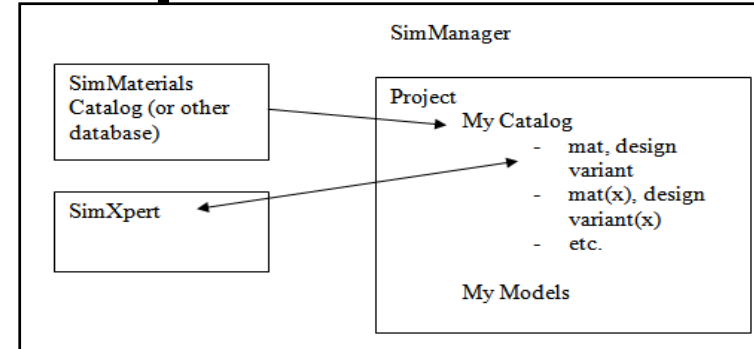
Leverages MSC Expertise

- **Leverages SimManager Concepts**

- Item and Variant
- Manages models for a Variant

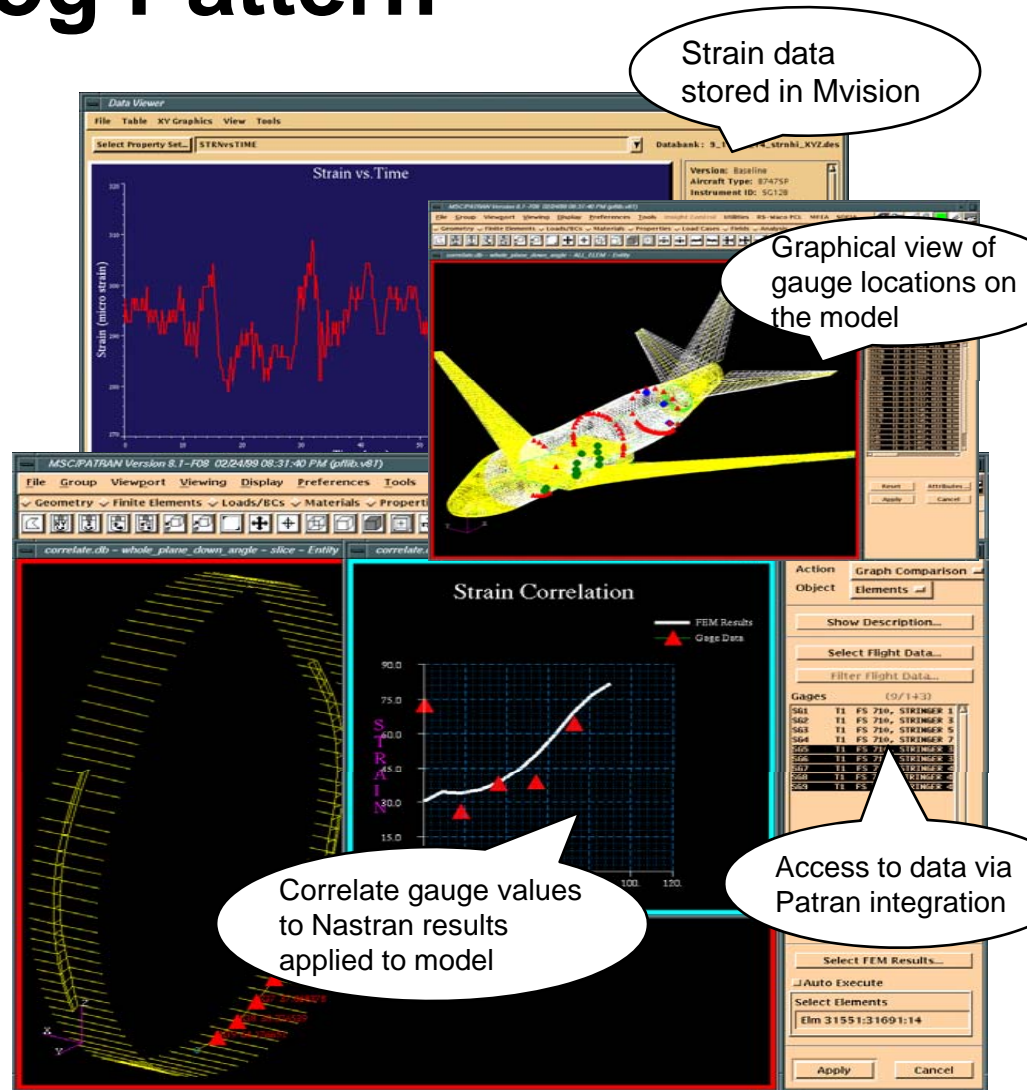
- **Leverages MSC Expertise**

- Materials import / model management
 - Boeing, Samsung, Whirlpool, P&G
- SimMaterials Prototype
- Mvision (Materials, Parts, Beams, Loads)
- OOTB SimManager Integrations
 - Publish / retrieve for Patran, SimX, SimD, Adams



Establishes a Catalog Pattern

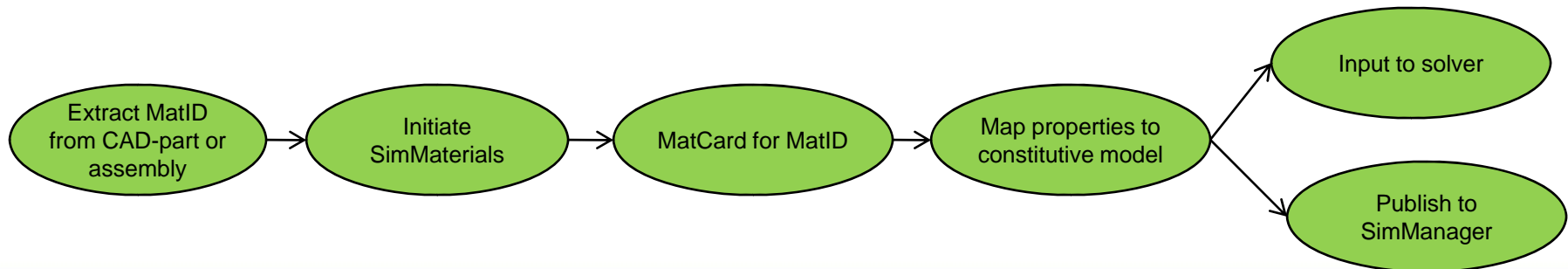
- Beams
- Parts
- Models – CAD, mesh, geometry
- Materials
- Loads
- Fasteners
- Bodies



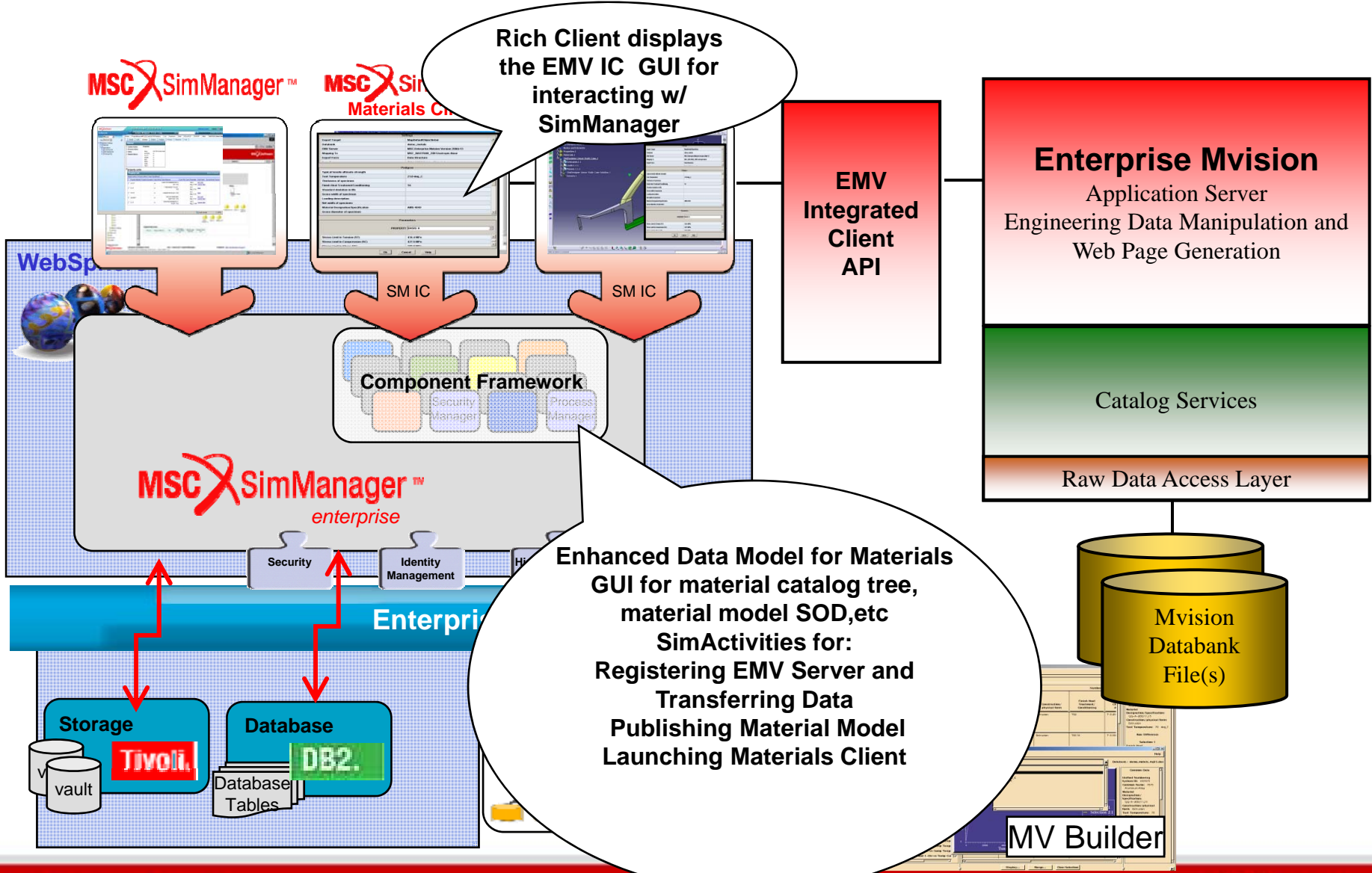
Sample loads catalog in Mvision

Roadmap Catalog Data -> Discrete Data

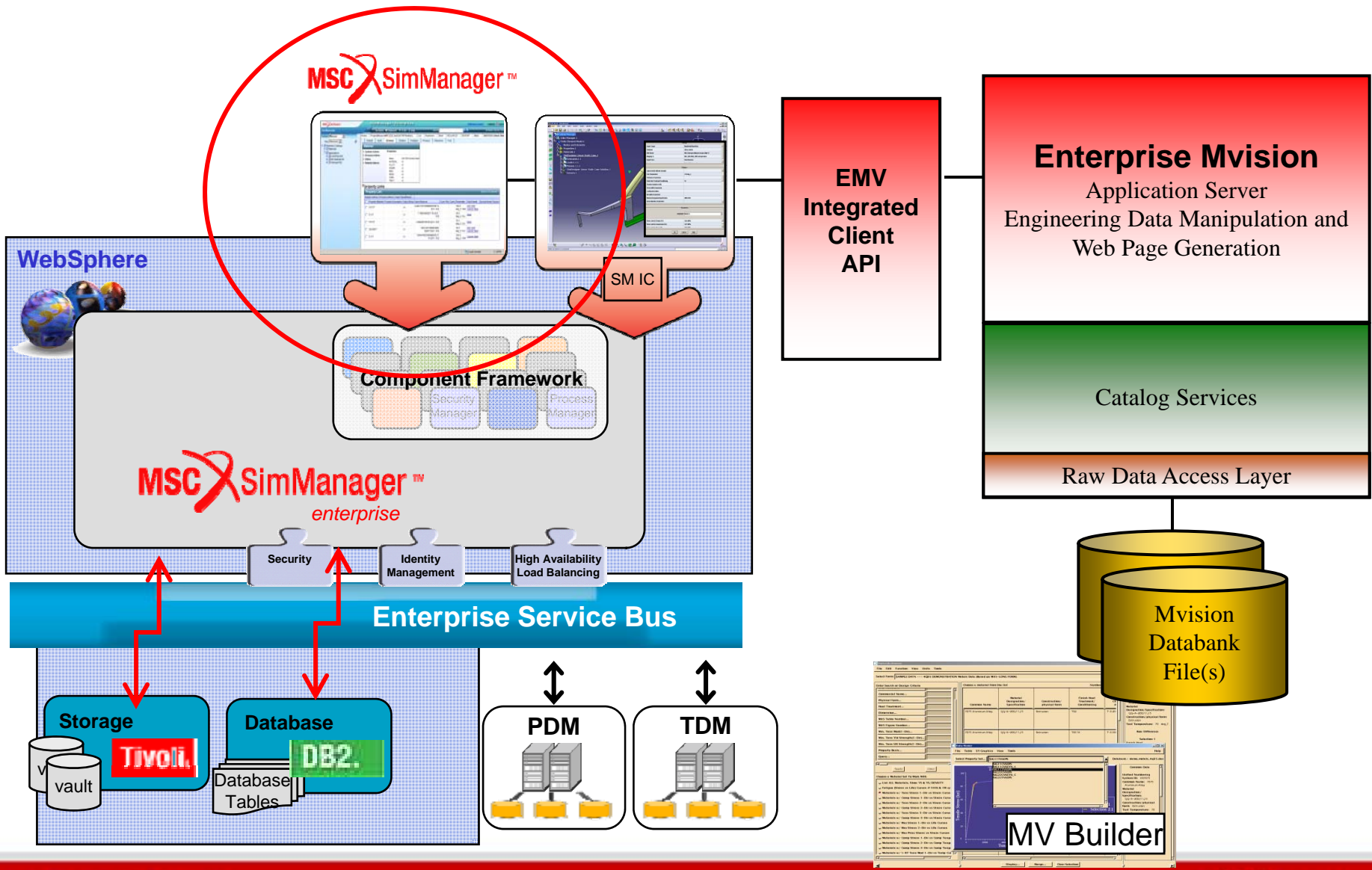
1. Catalogs as an OOTB SimManager feature
2. Catalog data publish/retrieve from SimXpert
3. SimXpert parses data for use by solvers
4. EMV is integrated with SimManager
 - Facilitates auto-populating a materials catalog
5. Catalog data migrated to SimManager



EMV-SimManager Integration



Implement SimManager UI Framework



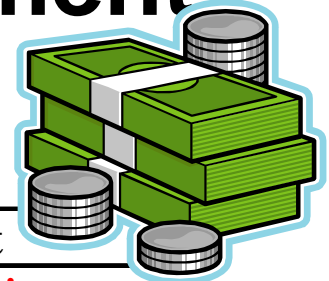
Full Implementation of SimMaterials

- Storage, viewing, and manipulation of materials properties in SimManager
- EMV Server may be dissociated, as desired

The screenshot displays the SimMaterials software interface. On the left, a tree view shows a hierarchy of materials, including 'Steel' and 'G43400 AISI4340 Low Alloy'. The main window shows a table of material properties for 'Steel - G43400 AISI4340 Low Alloy - All - Quenched'.

MATERIAL	ALLOY	DESIG	FORM	Temper	Treat	Temperature	E vs Temp	YS vs Temp	Elastic Tensile Modulus	
<input type="checkbox"/>	Steel	Low-Alloy Steel AISI 4340	Steel	All	Tempered to 125 ksi	Quenched	70 deg F			3.3 E7 psi
<input type="checkbox"/>	Steel	Low-Alloy Steel AISI 4340	Steel	All	Tempered to 125 ksi	Quenched	70 deg F			4.7 E7 psi
<input type="checkbox"/>	Steel	Low-Alloy Steel AISI 4340	Steel	All	Tempered to 125 ksi	Quenched	70 deg F			3.9 E7 psi
<input type="checkbox"/>	Steel	Low-Alloy Steel AISI 4340	Steel	All	Tempered to 125 ksi	Quenched	70 deg F			4.1 E7 psi
<input type="checkbox"/>	Steel	Low-Alloy Steel AISI 4340	Steel	All	Tempered to 140 ksi	Quenched	70 deg F			4.1 E7 psi
<input type="checkbox"/>	Steel	Low-Alloy Steel AISI 4340	Steel	All	Tempered to 140 ksi	Quenched	70 deg F			4.1 E7 psi
<input type="checkbox"/>	Steel	Low-Alloy Steel AISI 4340	Steel	All	Tempered to 140 ksi	Quenched	70 deg F			4.1 E7 psi
<input type="checkbox"/>	Steel	Low-Alloy Steel AISI 4340	Steel	All	Tempered to 140 ksi	Quenched	70 deg F			4.1 E7 psi
<input type="checkbox"/>	Steel	Low-Alloy Steel AISI 4340	Steel	All	Tempered to 140 ksi	Quenched	70 deg F			4.1 E7 psi
<input type="checkbox"/>	Steel	Low-Alloy Steel AISI 4340	Steel	All	Tempered to 140 ksi	Quenched	70 deg F			4.1 E7 psi

Known Benefits of Data Management



	Speed	Quality	Cost
Engineering Director/VP	Reduction in project duration – so faster design-to-manufacture time.	More innovative designs. Fewer bad decisions, re-designs and warranty recalls.	Substantial savings on fewer redesigns and warranty recalls.
Product/Program Manager	Reduction in project duration, due to more productive use of time.	All of team working from consistent, auditable data.	Much less time spent by uninformed users searching for data.
Head of Materials	New materials and routine inquiries addressed more quickly.	Personnel focus on more challenging topics.	Much less repeat testing. Expensive hard copy updates abolished.
Head of Design	New data categorised quicker.	Helps identify more innovative solutions.	Designer's time spend more productively. Fewer redesigns.
Head of CAE	CAE analysis throughput increased.	Validity and consistency of CAE analyses improved.	Analyst's time spent more productively. Fewer repeat analyses.

Specific Benefits of Improved Traceability

- **Reduced costs**
 - Track down failures, substantiate claims
 - Reduce / eliminate 'forensic reconstruction'
- **Shorter process cycles – greater agility**
 - Assess impact of changes
 - Materials, parts, models, loads data, etc.
 - Environmental regulations

Contact Details :

- For further information please contact

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