

# CIE-18-6 Design Integration Software: The User's Perspective - Large Enterprise Drivers

Jovan Zagajac  
Ford Motor Company

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# Who is Jovan Zagajac?

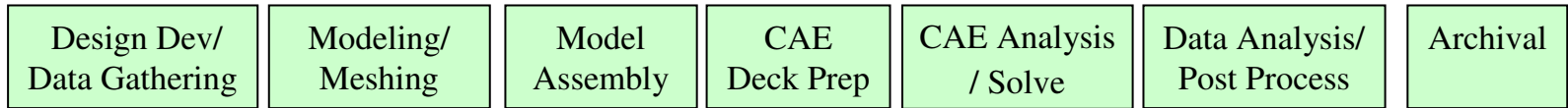
- Pronounced: Yo-van Za-gha-yats
- Experience
  - 25 years of experience in advancing, developing and using CAx technologies in construction and manufacturing industries
- Affiliations
  - Ford Motor Company, Dearborn (1997 to present)
    - Technical Leader in ***PLM Process and Technology Integration*** (*CAE focus*)
    - Six Sigma Black Belt, Decision Analyst and Internal consultant
  - Energoprojekt, Serbia (1984 to 1990)
    - Technical Manager - development of proprietary architectural CAD and Civil Engineering CAE software
- Education
  - Doctorate in Mechanical and Aerospace Engineering from ***Cornell University*** (1990 - 1997)
  - Master of Science in Nuclear Engineering from the ***University of Michigan*** (1982 - 1983)
  - Bachelor of Science in Nuclear Engineering from the ***Polytechnic University*** (1979 - 1982)

# Personal Observations

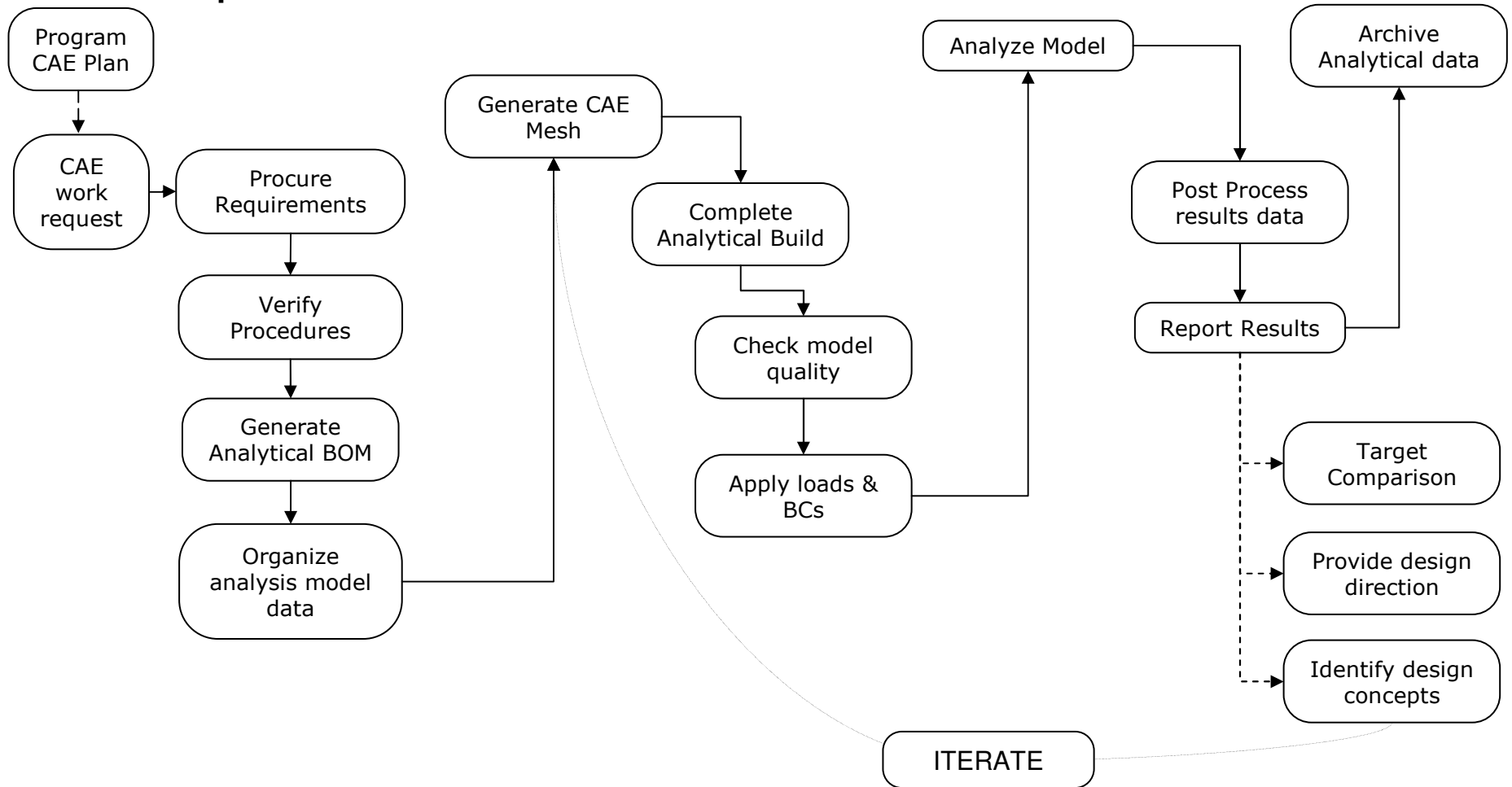
- Contemporary design integration software has evolved into essentially a set of **personal productivity tools** that help CAE analysts (main customer) codify and automate routine analytical tasks
  - The focus of development has been on delivering (often baroque) **optimization capabilities and visual process management** capability to the analyst
- The ***narrow process scope*** of the technology within product development is a limiting factor for delivering design integration capability in a distributed enterprise

# Process Example - CAE

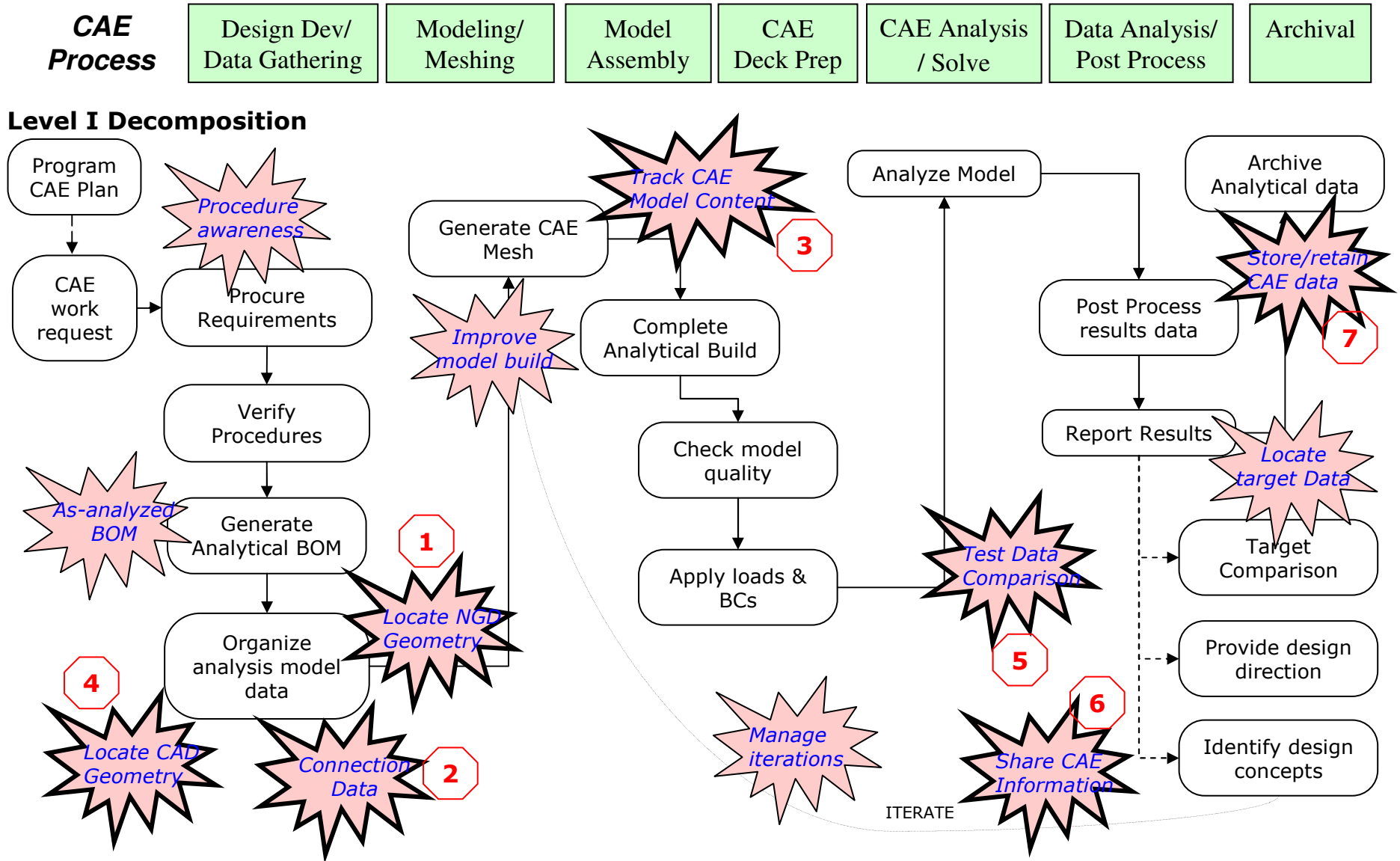
## CAE Process



## Level I Decomposition

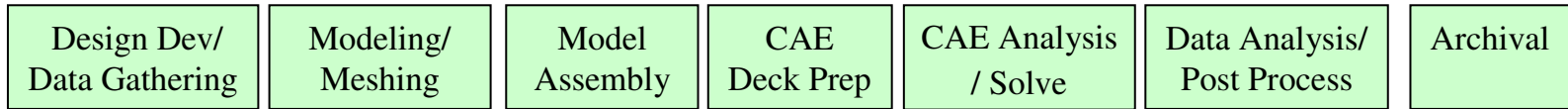


# CAE Process High Hurts

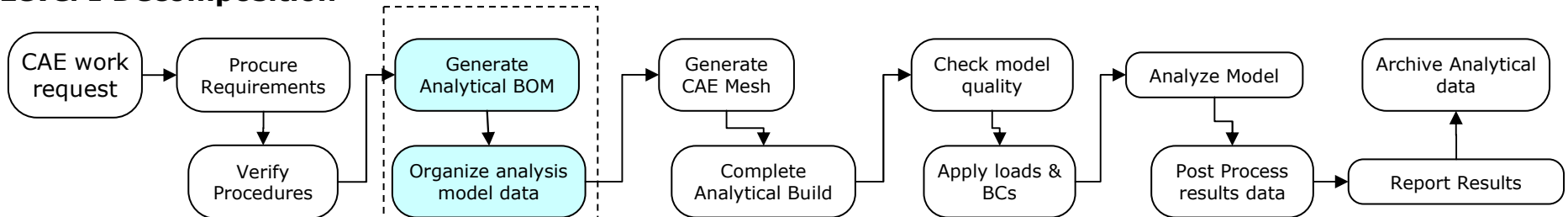


# Next Level of Detail

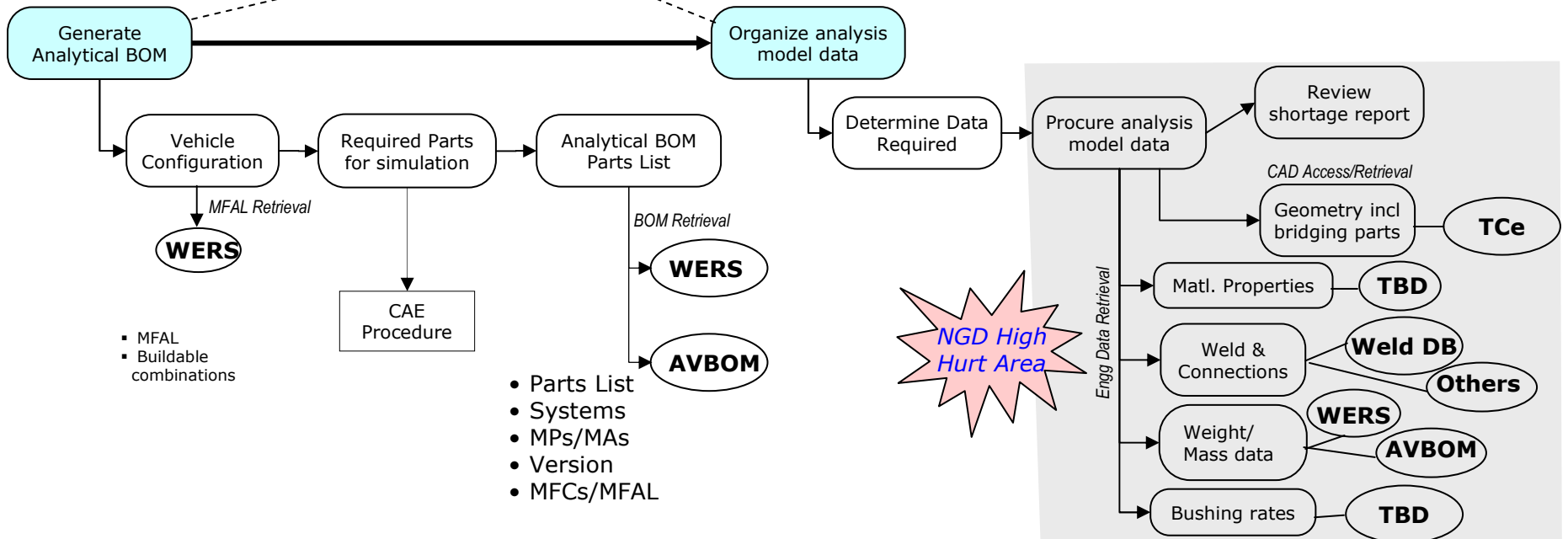
## CAE Process



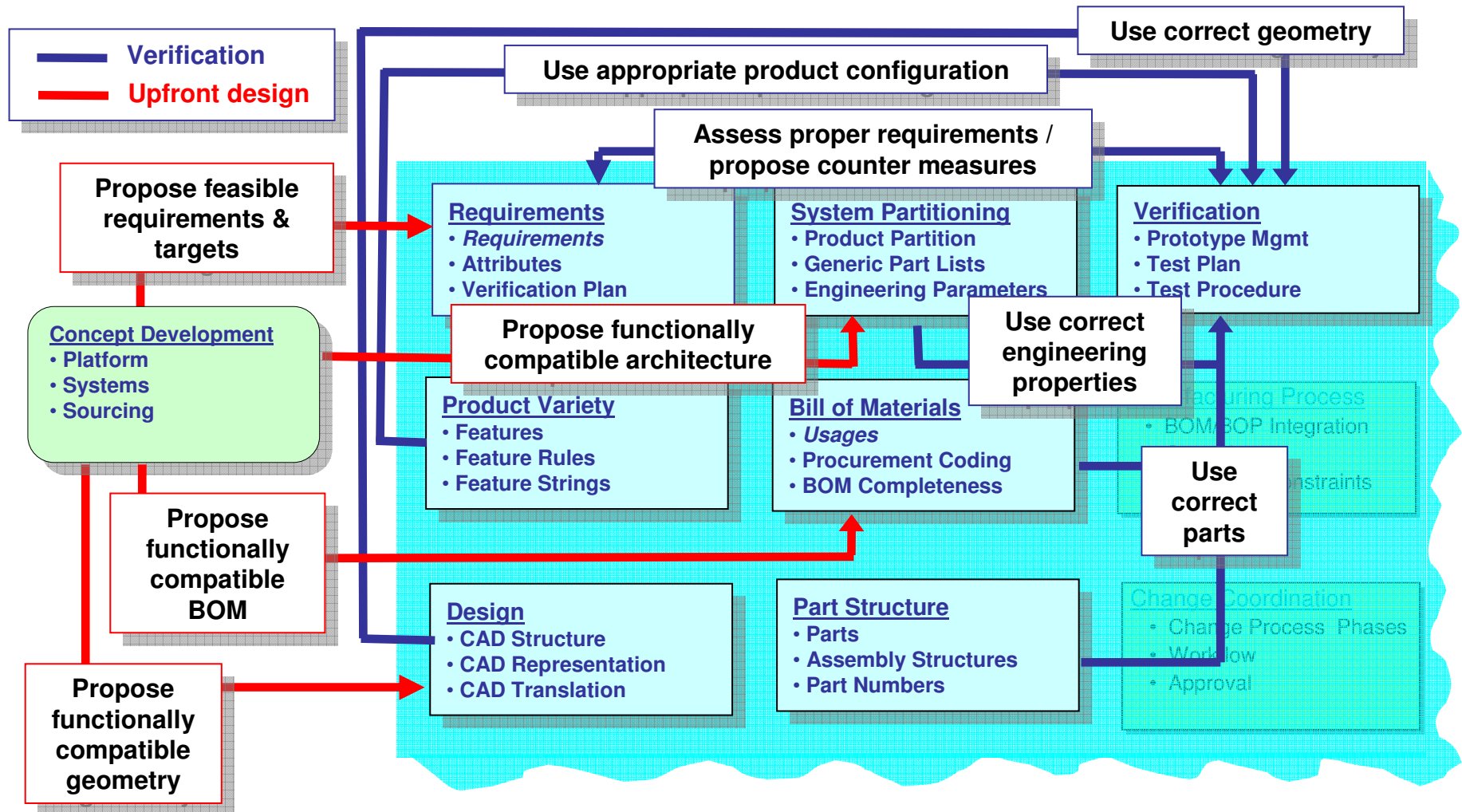
## Level I Decomposition



## Level II Decomposition



# Engineering Information Interactions



We need new capabilities for collaborative engineering to support critical Engineering Information interactions.

# PLM Integration Priorities (Engineering)

- Product Design (CAx)
- Product Data Management (PDM)
- Manufacturing Process Management (MPM)
- Supply Chain Management (SCM)
- Systems Development Lifecycle (SDLC)
- Product and Portfolio Management (PPM)
- Customer Relationship Management (CRM)
- Enterprise Resource Planning (ERP)

## Key Enablers:

1. Convergence of Business Process Management (BPM) and Process Integration (PI) technologies
2. PLM Supplier Consolidation



# Personal Observations

- Contemporary design integration software has evolved into essentially a set of **personal productivity tools** that help engineers codify and automate routine analytical tasks
- The focus of development has been on delivering (often baroque) **optimization capabilities and visual process management** capability to the CAE analyst (main customer)
- The ***narrow process scope*** of the technology within product development is a limiting factor for delivering design integration capability in a distributed enterprise