National Electronics Manufacturing Initiative Virtual Factory Prototype

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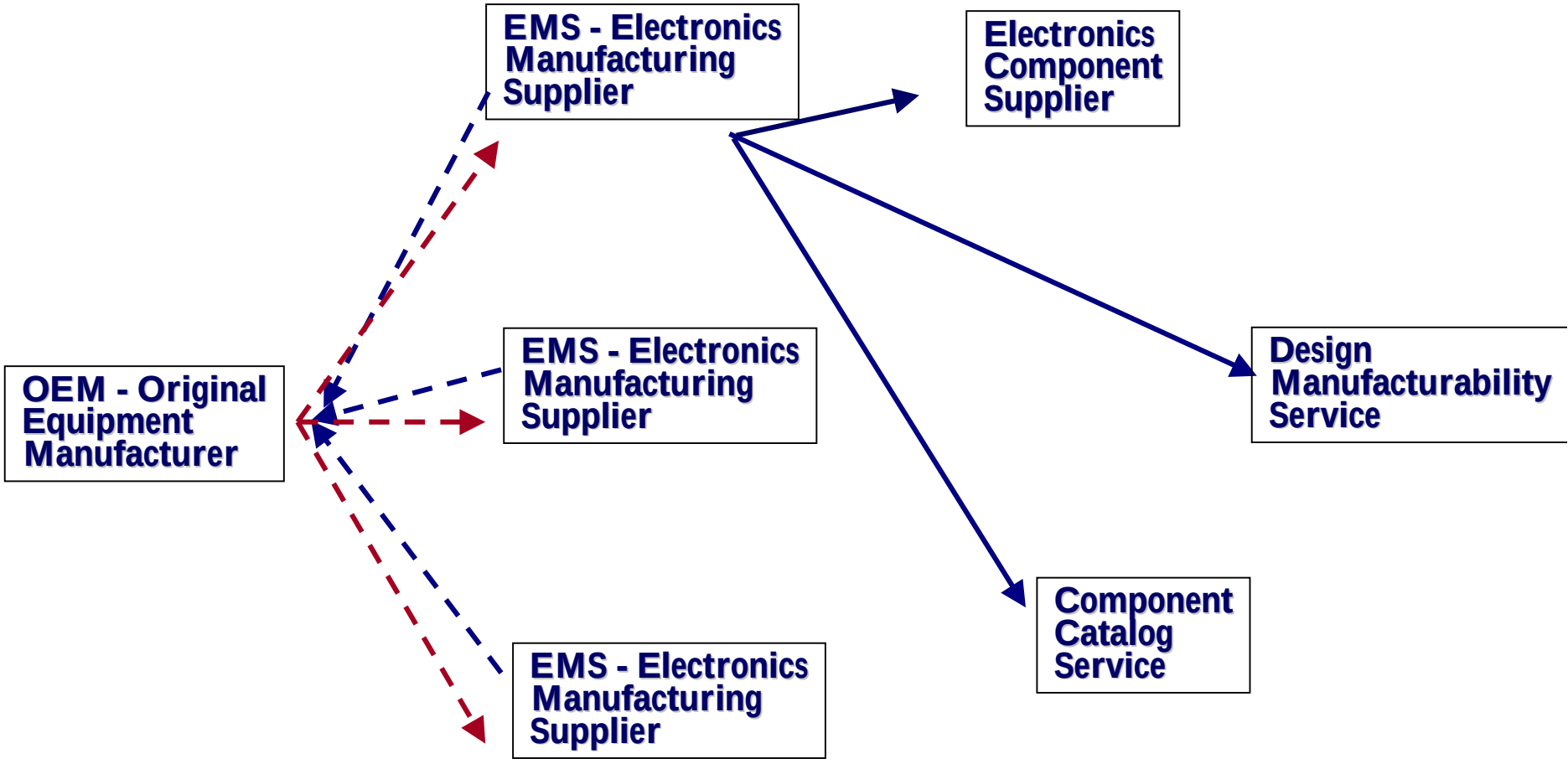
B2B Supply Chain Webs



B2B Business Drivers

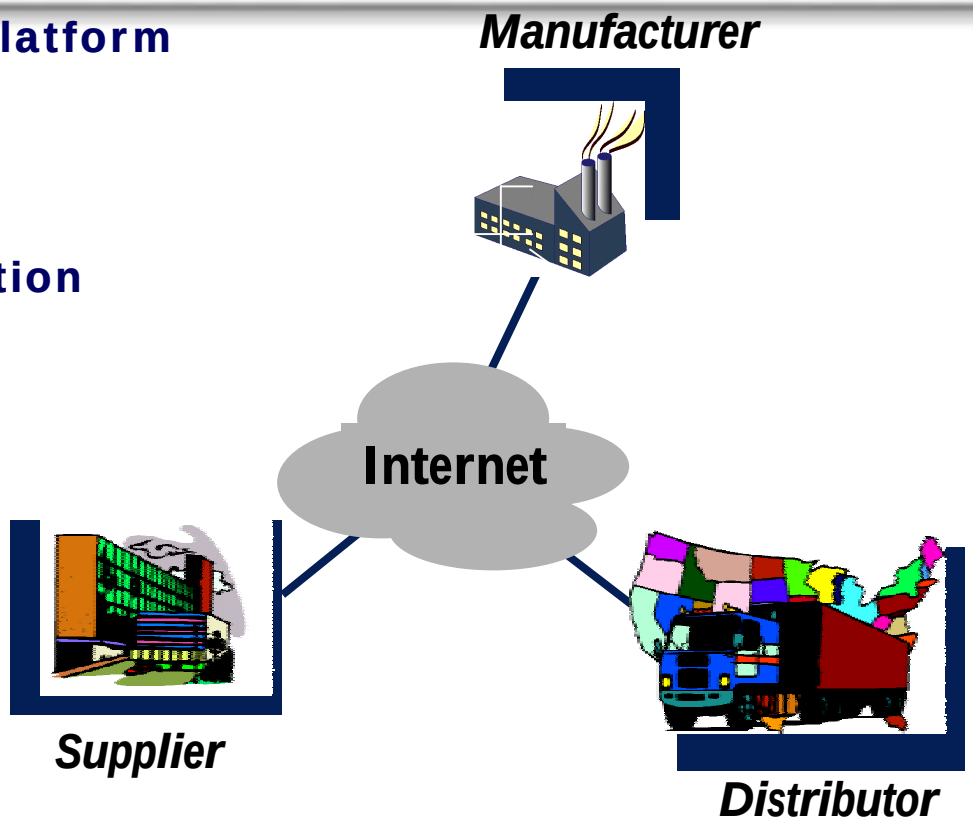
- Elimination of Errors
- Faster Cycle Times
- Inventory Reduction
- Reduced Operating Costs
- Redirect human interaction to focus on more value-added activities
  - “Lights-out manufacturing”
- Increased Visibility Into Extended Supply Chain
- Faster Time-to-Market

Challenges to B2B eCommerce

- Cross-enterprise application integration
- Agreement on document and transaction standards between trading partners
- Agreement on business rules and operational efficiency
- Security issues
- Automating distributed workflows
- Start-up costs for small to medium enterprises

B2B Process Integration Requirements

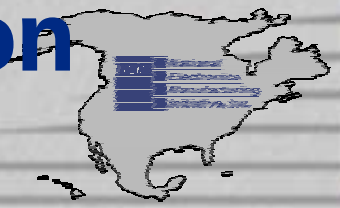
1. Integrated, Standards-Based Platform
2. Mission-critical Document Exchange System
3. Process and Workflow Automation
4. Any B2B Process Interaction
5. Advanced Security and Communication System
6. Seamless Integration With EDI Systems
7. Leverage Existing IT Infrastructure
8. Enterprise Application Integration
9. Enterprise Services Integration
10. Event Driven Publish And Subscribe Model

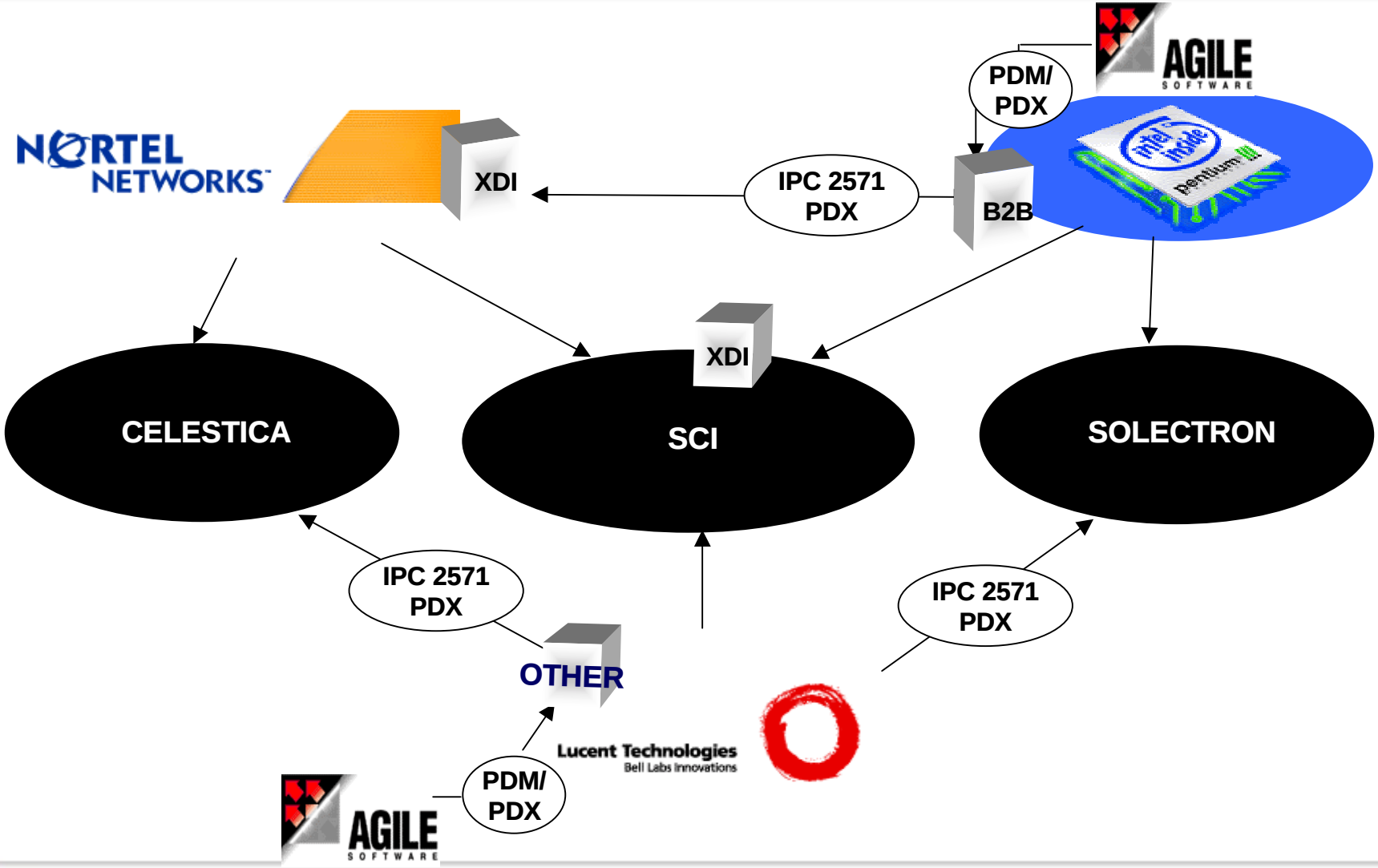


VFIIP Objectives

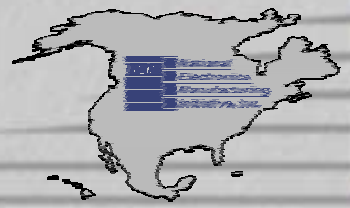
- Define Use Cases and a Business Case for the project
- Create an Electronics Manufacturing Virtual Factory Information Interchange process model
- Identify relevant standards organizations with which to participate
- Refine project Scope based on above steps
- Identify functional areas to establish a framework for start and end points
- Identify data objects within the functional areas
- Define data objects for standards
- Identify and prototype an interchange infrastructure
- Demonstrate Supply Chain interchange and protocols

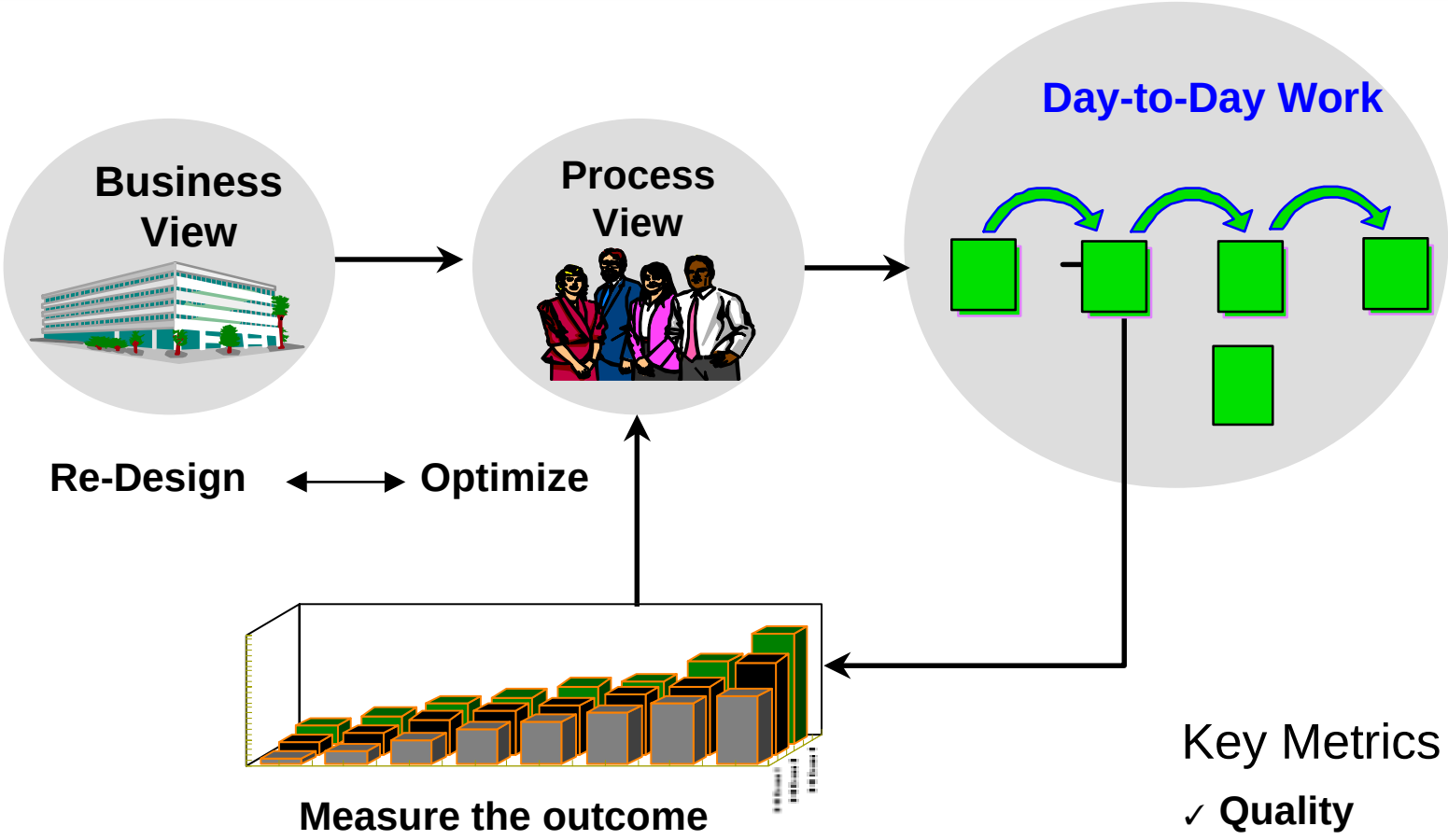
NEMI Process Integration Scenario





Process Philosophy

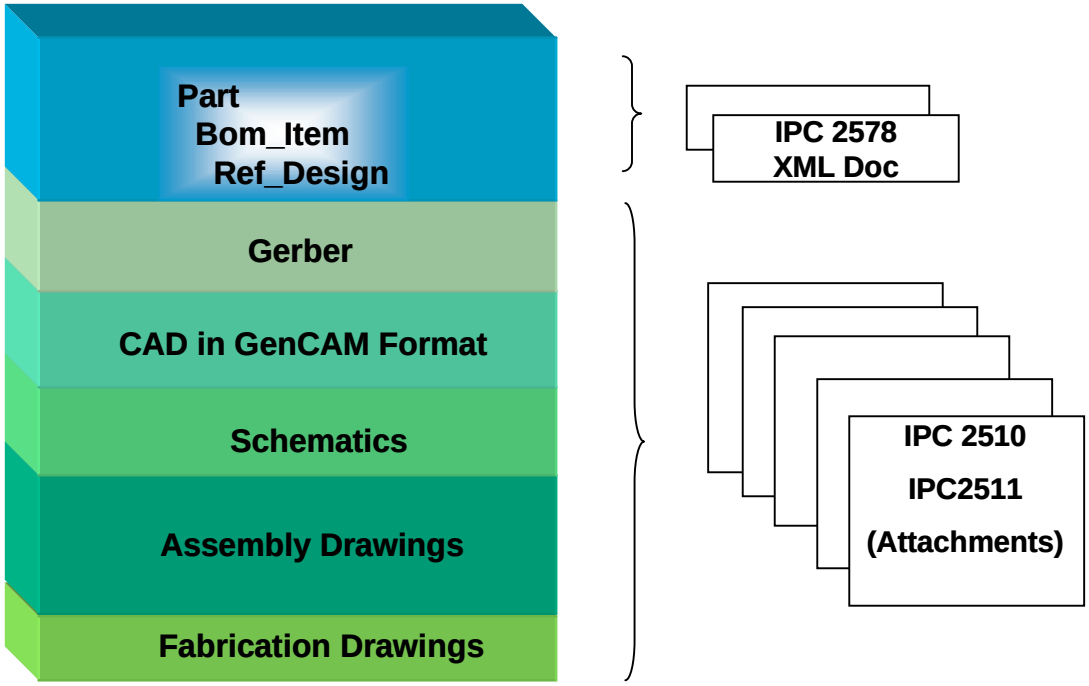




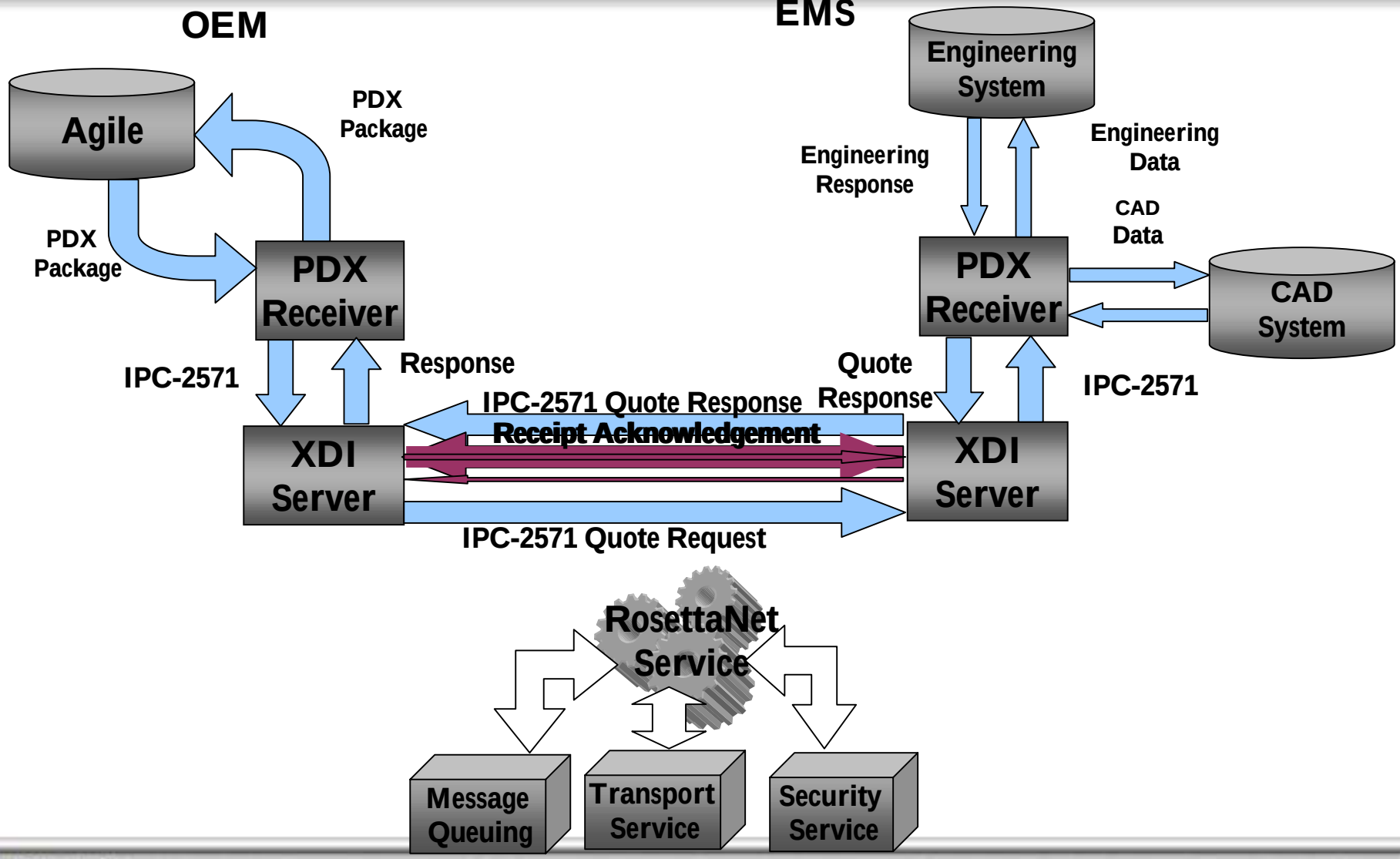
Key Metrics

- ✓ **Quality**
- ✓ **Cost**
- ✓ **Cycle Time**

IPC-2571 Payload



VFIIP Prototype



Current Status

- XDI Server software installed and configured at Georgia Tech Manufacturing Research Center and GenRad Software.
- Test conducted with sample data.
- XDI Server stress tested with large CAD file.

Next Steps

- Develop as-is and to-be process models.
- Install XDI Server at other VFIIP Prototype participants (Intel, Nortel, Celestica, SCI, Solectron, NIST)
- Develop integrations with Enterprise systems (PDM, CAD) to achieve end-to-end integration.
- Work with other standards such as RosettaNet, OAGI to harmonize content model.