



CMMI[®]-Based Improvement: The View from the Project

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The Project



- **Large-scale Ground System that fits into larger, Space-based program providing sensor data to military users**
 - **Software-intensive, net-centric environment**
 - **Part of larger, system of systems**

The Organization



- **Lockheed Martin Integrated Systems & Solutions, which achieved CMMI[®] Version 1.1, SE/SW/IPPD/SS Maturity Level 5, October 2005**
- **IS&S has rigorous CMMI[®] maintenance methodology**
 - **All programs visited**
 - **6 – 9 months after ATP with SCAMPISM C**
 - **One year after initial benchmark, SCAMPISM B or C depending on value and/or risk**
 - **Depending on process risks identified in previous benchmarks, revisited at least every two years**

The Project Process History



- **Awarded in late 1990's**
- **Troubled with cost and schedule problems**
- **In 2001, initial SCAMPISM C held to assess process risk – declared “red”**
- **Process Action Team formed and improvement strategy defined**
 - **Process initiatives managed like a project**
 - **Benchmark at least annually, until “blue” risk rating achieved**

Project Improvement Strategy



- **Generate How's and What's, Then Assess**
- **Repeat until Blue**
- **Maintain**

Benchmark Assessment:

★ SCAMPI C

★ SCAMPI B

★ SCAMPI B

★ SCAMPI B

Generate The How:

- Update program processes
- Resolve benchmark AI's
- Conduct process training

Generate The What:

- Assemble Evidence

Assess the How and the What:

- Evidence Validation & Readiness Review
- Resolve and Incorporate AI's

Process Risk Assessment

Red

Yellow

Green

Blue

What Did We Do?



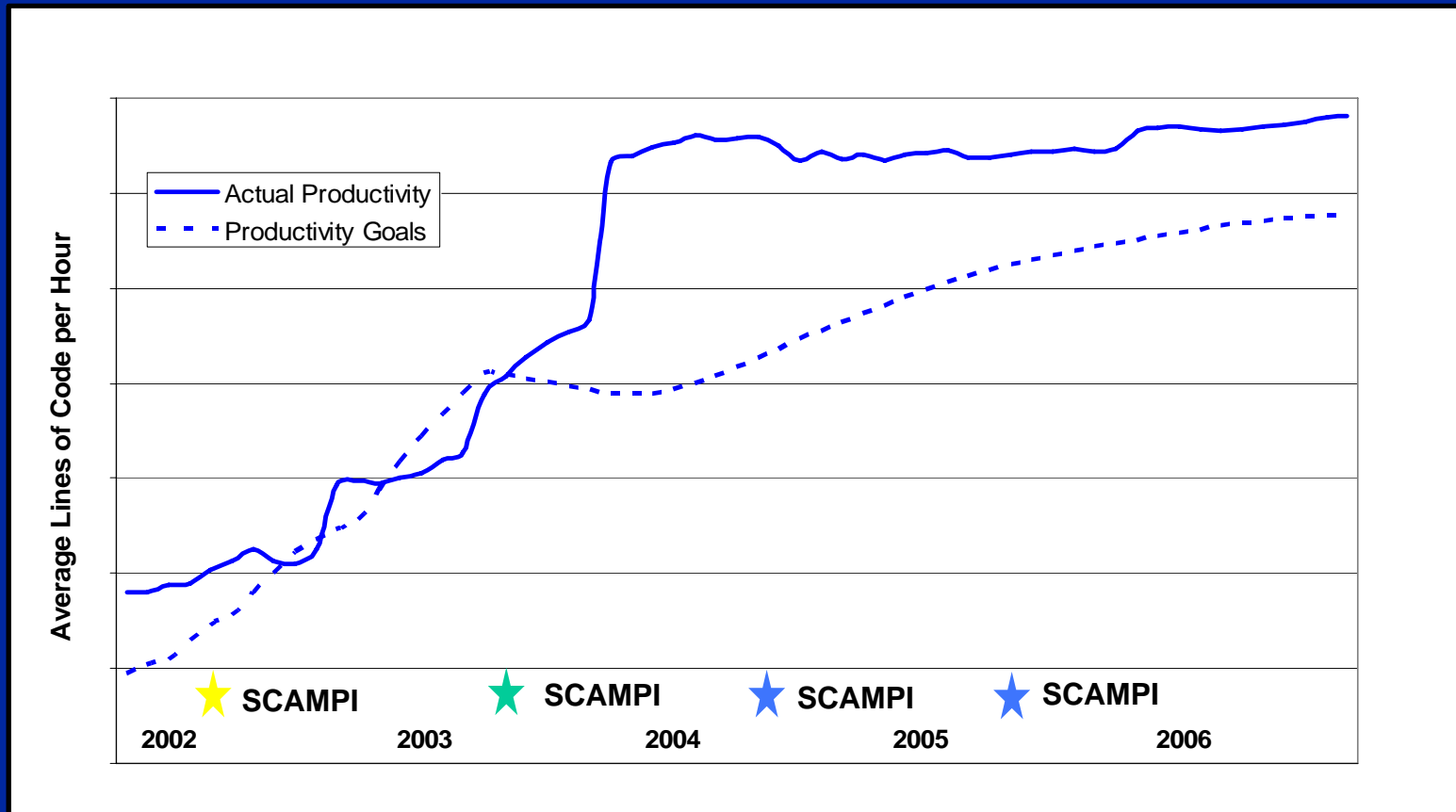
- **Aligned project processes with organization's standard processes**
- **Provided adequate resources (training, tools, labs)**
- **Instituted quantitative management and causal analysis**
- **Benchmarked program process maturity annually, beginning in 2002, following IS&S CMMI[®] maintenance methodology**
- **In 2006, participated in IS&S SCAMPISM A**

Process Improvement Results



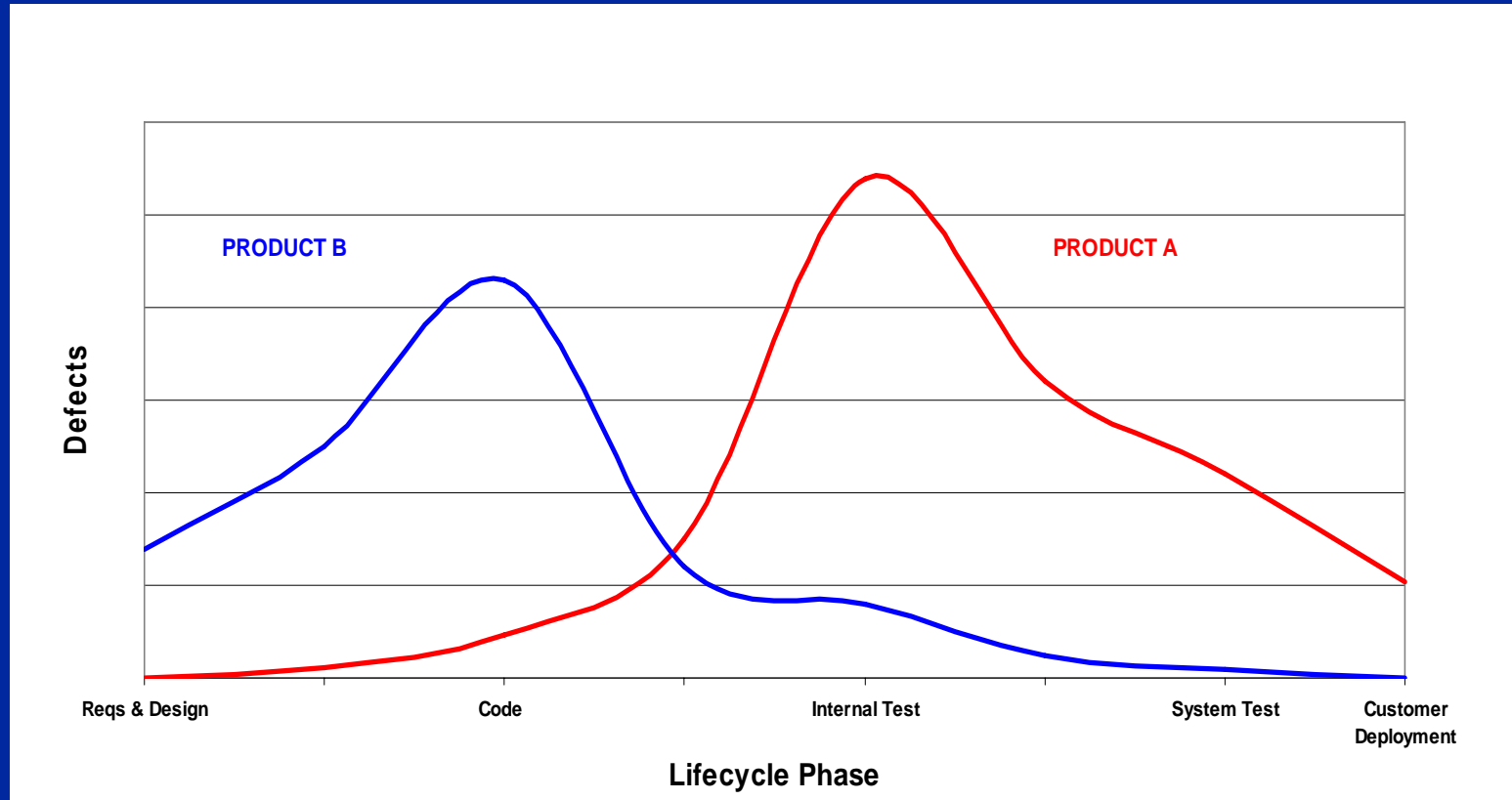
- **Better and better benchmarks**
- **Measurable improvement in project execution**

Productivity



- Substantial improvement in software productivity as a result of process improvement efforts
- Cost savings realized by project

Defect Discovery



- **Product A delivered around time of initial SCAMPI-C**
- **Product B delivered very recently**
- **By fixing problems earlier in the product lifecycle, defect resolution costs have been reduced by 60- 70%**

What We're Doing Now



- **Continuing to understand and improve process performance capabilities**
- **Generating innovation for organizational deployment**

Questions?

