SOFTWARE SUSTAINABILITY
AND ACQUISITION REFORM

A VIEW FROM
THE BOTTOM

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19a. NAME OF RESPONSIBLE PERSON
Project Management

Engineering

Engineering Data (a.k.a Technical Documentation)

Testing Facilities

COTS

Configuration Management

Quality Assurance, Process Management, etc

Product Requirements
Risks
Constraints

New Software Product
Software Acquisition Fact of Life

WITH SUFFICIENT DEVELOPMENT TIME AND RESOURCES, SOFTWARE CAN ALWAYS BE PRODUCED WITH HIGH QUALITY THE FIRST TIME.

WE HAVE KNOWN FOR 30 YEARS HOW TO DEVELOP SOFTWARE.
Policy and Principles

- Flexible
- Reduced Cycle Time
- Tailored
- Total System Approach
- Innovative
- System Engineering
- Decentralized Responsibility
- Performance Based
Software Acquisition – What Happens

• RESOURCES

• COTS

• SUSTAINMENT

• TOO MUCH HELP FROM WELL MEANING, BUT UNINFORMED PEOPLE
Observations

- NO POLICY ON SUSTAINMENT
- NO REQUIREMENT TO VERIFY SUSTAINMENT
- ACQUISITION POLICY DOESN’T REQUIRE SOFTWARE FOCUS
- TOO MANY OPPORTUNITIES TO DELAY SUSTAINMENT
- TAILORING TRANSLATES TO ELIMINATE
What Should We Do?

- MANAGE SOFTWARE AS A CRITICAL ACQUISITION ELEMENT
- ACQUIRE SUSTAINMENT CAPABILITY FOR TOTAL SYSTEM
- TREAT COTS AS ANOTHER SYSTEM REQUIRING SUPPORT
TEAM TINKER

U.S. AIR FORCE
Constant Wind Shifts

• DOD 5000 Series documents undergoing regular changes. General trend to less guidance and more “flexibility”
  – We tend to see this as more opportunities to mess up
  – Latest and most radical change is near release
  – Leverage Flexibility More Training & Experience
• See disconnects between DOD and Service Instructions
  – Not much time for high level changes to filter into lower level practice
• A lot of old practice still done due to older more experienced staff still around. As they go problems tend to show up. Due to civilian demographics risk is to see more problems develop
  – Although there is growing low-level pushes for process
• Software is largely ignored in major Service policy instruments. Been a major issue of debate over the years
Concerns

- AFMC SISSG has focused on Weapon System software.
- AFSSSG & DOD SISSG tend to focus on IT software and some Systems Engineering
- HQ & DOD SSG idea is new organizational formations. Relationships in flux. AFMC SISSSG has existed in several forms over many years.
  - Lesson learned: SSGs prosper when software is a hot topic otherwise tend to fade away
- SSGs are advisory groups. They do not make policy.
Recent Topics

- **AFMC SISSG**
  - S/W Sustainment Questions for SECAF
    - Programming Languages
    - Training
    - Staffing
    - Quality of S/W Product Engineering Data
    - System Architecture – Affordable, Sustainable, Long lasting
    - SMARTS & PM Sustainment Indicators
      - ASC Acquisition S/W Process Guidebook
      - Group Organization & Long Term Strategy
- **AFSSG**
  - Getting organized
- **DOD SISSG**
  - CMMI
  - Acquisition Training
  - Program Cost Metrics
  - Linking 5000 & 8500 series
  - Independent Expert Reviews