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Acquisition Support Program Overview

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Report Documentation Page

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Acquisition Support Program

Vision

Predictable success in the acquisition of software and systems

Overall Goal

A continuous program of applying new software engineering knowledge and techniques to increasingly complex program environments and amplifying their application through the acquisition infrastructure throughout the DoD, Federal Agency and other acquirer communities.

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Acquisition Support Program

Strategies

1. *Impact individual programs* – work with key DoD, Federal Agency, and other acquisition programs to help them meet their objectives

2. *Impact acquisition organizations* – help establish a learning environment within acquisition organizations

3. *Define, integrate and transfer knowledge* – help improve the state of the practice

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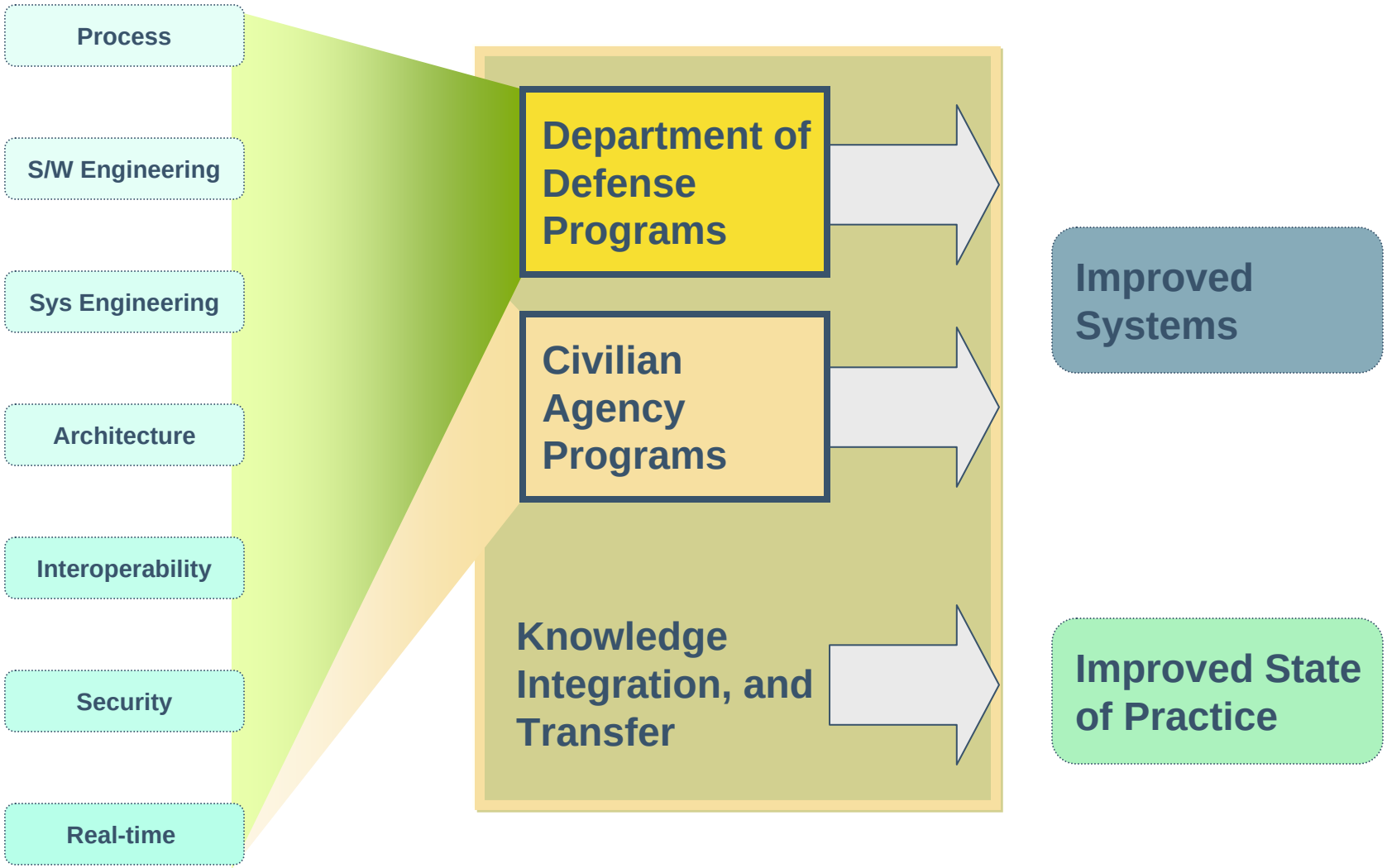
ASP Areas of Work



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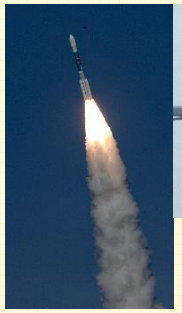
ASP Operational Plan

Acquisition Support Program
applies
Software and Systems Technologies

Feedback from direct support and community learning improves ASP practices & SEI technologies



Direct Benefit *to Acquisition Programs*

Indirect Benefit *to Similar Programs*

- ***Workshops, Classes, Seminars***
- ***Tailored learning via Acquisition Communities of Practice***
  - Army, Navy, Air Force, Defense and Intel Agencies
  - Software Collaborator's Network
  - Conferences
  - MITRE, Aerospace
  - Defense Acquisition University
  - OSD Best Practices
  - Civil Agencies
  - Universities
  - US-UK-AUS Working Groups

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ASP Portfolio

Army Team

Navy Team

Air Force Team

Civil/Defense Agency Team

Intelligence Community Team

Mission Assurance and Acquisition Practices Team

Knowledge Integration and Transfer Team

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SEI Acquisition - Footprints

Army
- ASSIP, Future Combat Systems, PEO Aviation, AMRDEC SED, CECOM SEC, AMCOM, PM Aviation, AMPS/JMPS, PM TAPO, US Army Reserve, PM FBCB2, AMRDEC AADL

Navy
- DD(X), Common Link Integrated Processor, Littoral Combat Ship, Multi-Mission Maritime Aircraft, Open Architecture and DASN IWS

Air Force
- SAF/AQ, Standard Systems Group, HRC2SPO, IDECS, C-130 AMP, Joint Mission Planning System, MILSATCOM (AEHF, FAB-T, CCS-C, TSAT), Space Radar, GPS, SMC Engineering Baseline, E10A (MC2A), ESC ACE, Joint Environmental Toolkit, MEECN

Joint/Other DoD
- Joint Strike Fighter, JSSEO, MDA

Intelligence Agencies
- National Security Agency, National Reconnaissance Office, Department of Homeland Security

Civil Agencies
- Internal Revenue Service, Department of Veterans Affairs, Nuclear Regulatory Commission, National Aeronautics & Space Administration

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MA&AP – Results: Organizational Interfaces 1

Supported external organizations:

- NDIA Systems Engineering Division
  - Leading SE Effectiveness Committee
  - Leading newly formed Software Committee
  - Contributing to CMMI-Steering Group
    - Leading development of a guidebook for the use of CMMI in Acquisition
- INCOSE
  - Participated in the on-going update of the Systems Engineering Handbook
  - Leading the Measurement Working Group
  - Participating in the development of the Measurement Primer

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MA&AP – Results: Organizational Interfaces 2

Supported external organizations (cont'd):

- PMI
  - Supporting Risk Management Specific Interest Group as VP-Administration
  - Pursuing certification for SASS course
- PSM
  - Qualified instructor for PSM
  - Leading development of Measurement Guidance for Acquisition

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MA&AP – Results: OSD Support

Conducting SE Effectiveness Survey for NDIA at the request of OSD

Developing a Guidebook for CMMI in Acquisition for the CMMI Steering Group, at the request of OSD

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Mission Assurance

Establishing a reasonable degree of confidence in mission success

Mission assurance

- is achieved by ensuring that operational risk to the mission is within tolerance
- requires a balance among mission, risk, and problem management

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Mission Assurance Framework

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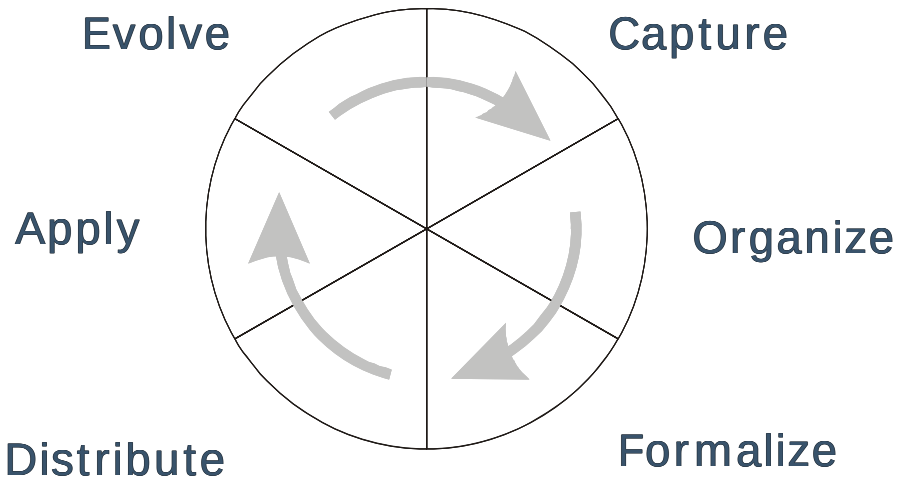
KIT – Overview

Define mechanisms to support active and ongoing collection and dissemination of lessons learned in support of the acquisition community

Document improved acquisition practices and lessons learned

Knowledge Life Cycle



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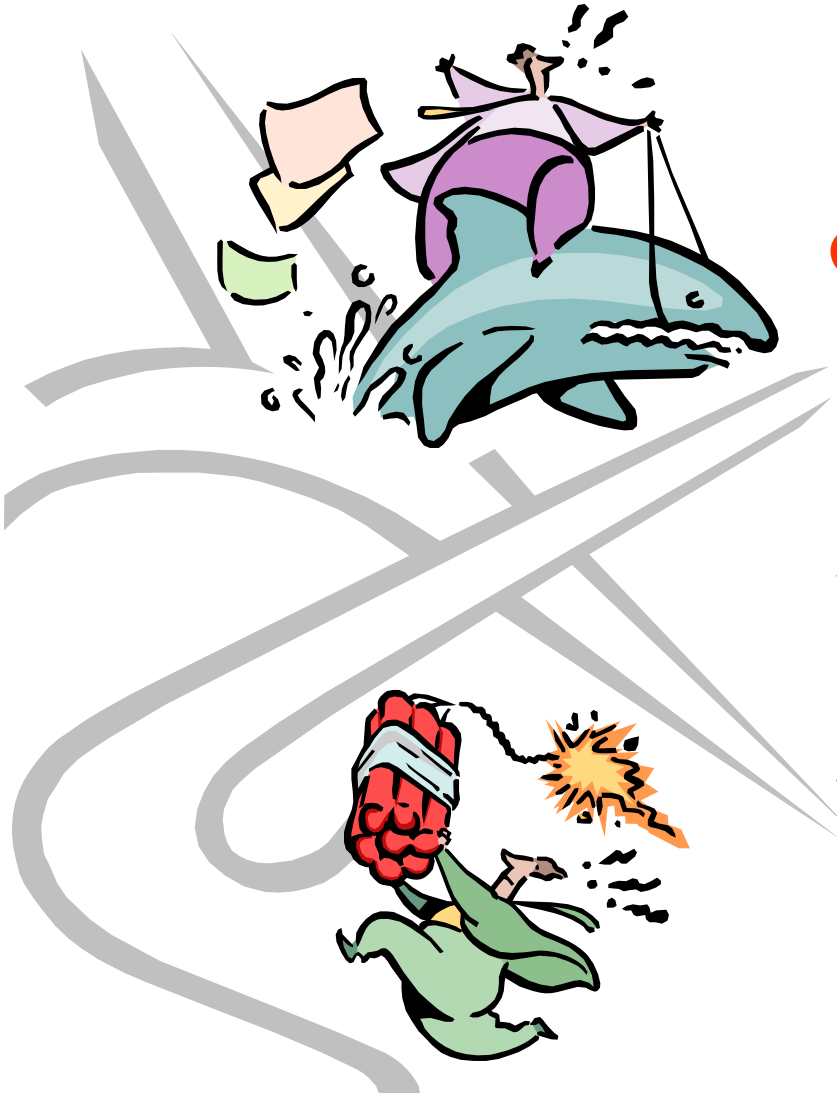

Software Acquisition Survival Skills

Bridging the gap between your current crisis and software best practices

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Software Acquisition Survival Skills

3-day course aimed at PMs and program office personnel

Topics:

- Risk Management
- Pre-Award Activities
- Requirements Management
- Systems Engineering
- Technical Evaluation
- Software Architecture
- Managing with Metrics
- Process Management
- Concept Integration

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KIT – Results

FY06 Delivery of Software Acquisition Survival Skills (SASS) course

- 30 offerings to-date
- 510 attendees since inception
- 3 Public offerings scheduled for Mar, Jun, Sep

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KIT – Results

CMMI-AM (Version 1.1) made the Top 10 list of most frequently downloaded PDFs in 1Q FY06

14 Technical Notes/Reports: Integrated Diagnostics, Taxonomy of Operational Risks, Reuse of Configurable Logic, Self Assessment and CMMI-AM, CMMI-AM Acquisition Module v 1.1, Robustness Testing, Including Interoperability in the Acquisition Process, U.S Army Acquisition—PEO Perspective, Risk-Based Diagnostics (2), Benefits of Improvement, Requirements (IRAD), Acquisition Strategy Development, Acquisition Planning Guidelines

8 Conference presentations: Annual Systems Engineering Conference & Annual CMMI Technology Conference and Users Group

Success Stories on external web

Developed Structured Discovery Method to assist with identification of knowledge transfer opportunities for customer work

Preliminary analysis for "Using System Archetypes to Identify Failure Patterns in Acquisition" (SSTC 2006)

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The Quest for the "Silver Bullet"

Open Systems

Interoperability

Acquisition Reform

Total System Performance Responsibility

Agile Acquisition

Evolutionary Acquisition

CMMI

Capability-Based Acquisition

Lean Six Sigma

Time-Certain Development

Insight versus Oversight

Net-Centric Warfare

Service-Based Acquisition

Architecture-based Development

Systems Engineering Revitalization

Lean Acquisition

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Principle-Based Decisions

"Principle" Defined:

> The collectivity of moral or ethical standards or judgments: *a decision based on principle rather than expediency.*

Decisions to pursue a given acquisition approach should be grounded on underlying principles designed to increase the effectiveness of acquiring and deploying systems to the warfighter.

The following describes the Seven Principles of Effective Acquisition.

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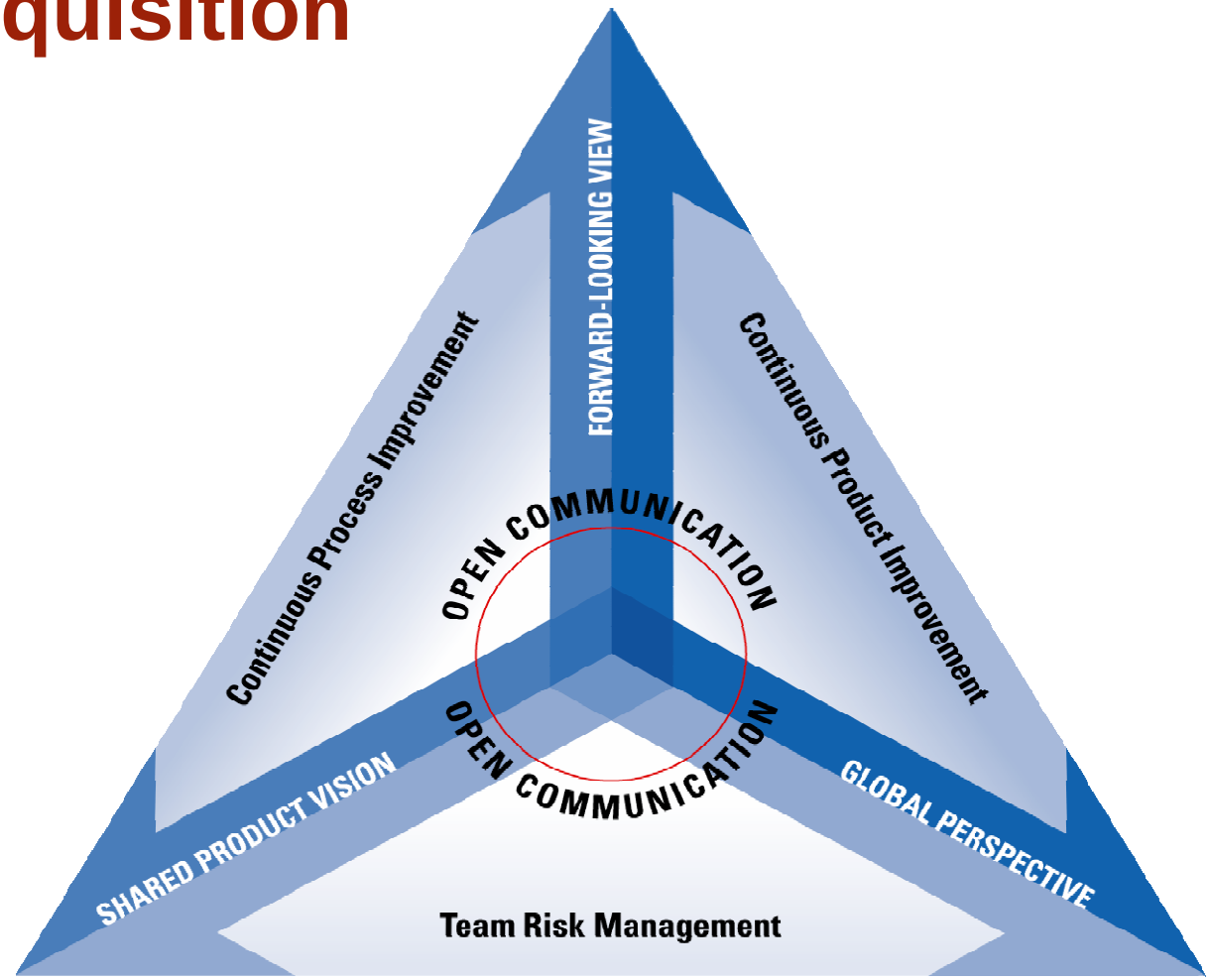
ASP's Seven Principles of Effective Acquisition



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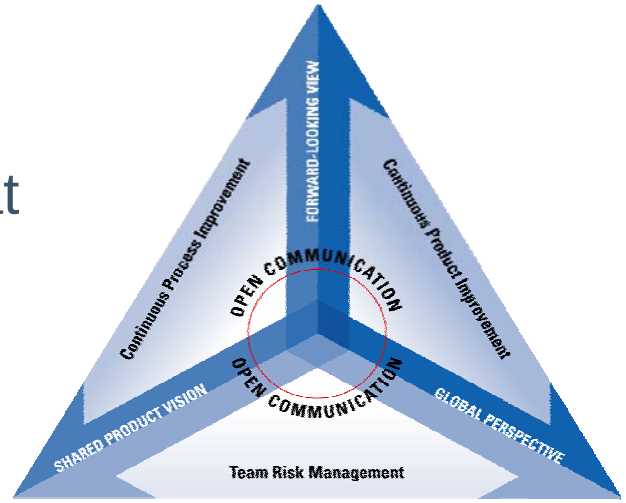
The *Core* Principle: Open Communication



Encouraging free flowing information at and between all stakeholders.

Enabling formal, informal, and impromptu communication.

Using consensus-based processes that value the individual voice (bringing unique knowledge and insight to evolving mission capabilities).

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The Three *Sustaining* Principles

Team Risk Management

Continuous Process Improvement

Continuous Product Improvement

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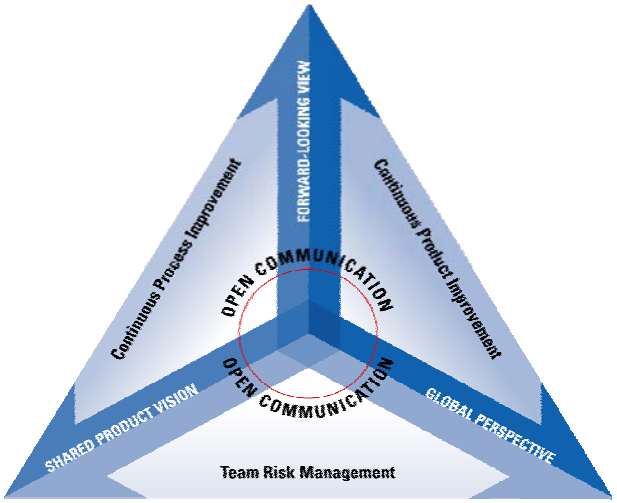
Team Risk Management

Evolving the warfighter's capabilities by continuously mitigating operational, development, and acquisition risks.



All stakeholders participating in managing the project by managing the risks.

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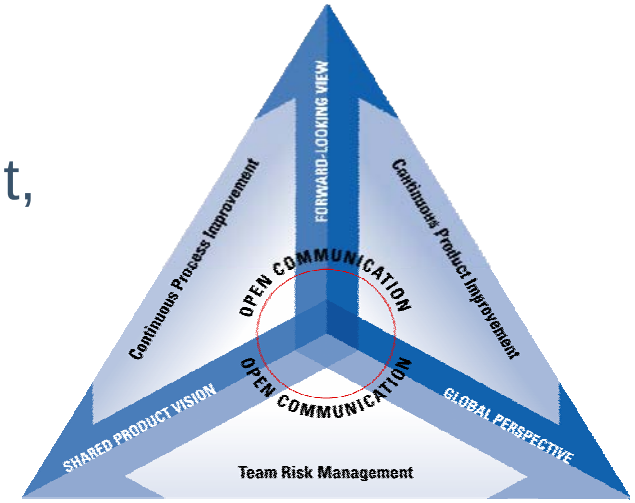
Continuous Process Improvement

Maturing the acquisition, development, and operational processes to meet the warfighter's objectives.



Employing a common process improvement framework and language to align and enhance process capability.

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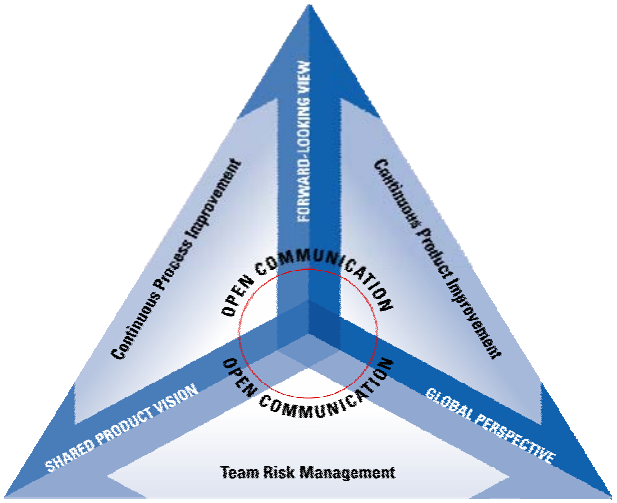
Continuous Product Improvement

Enhancing the warfighter's mission through evolutionary delivery of enhanced capabilities.



Delivering an initial capability on the first promise date, with the demonstrated capability to deliver improved or updated capability on a regular, dependable schedule.

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The Three *Defining* Principles

Forward-Looking View

Global Perspective

Shared Product Vision

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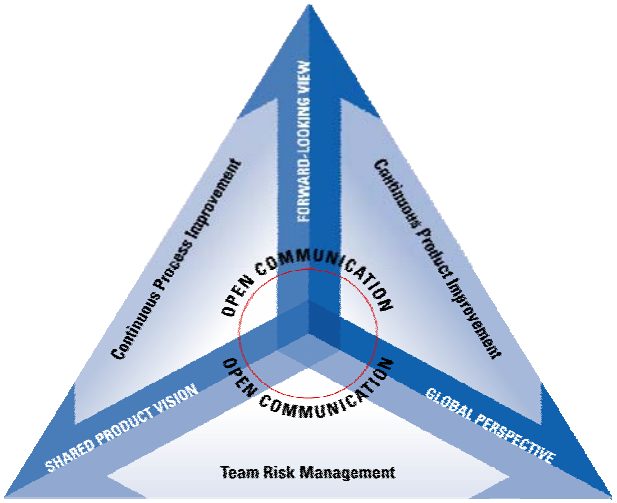
Forward-Looking View

Seeing a common *tomorrow* against which all stakeholders can measure potential breakthroughs and risks.



Managing project resources and activities while anticipating uncertainties.

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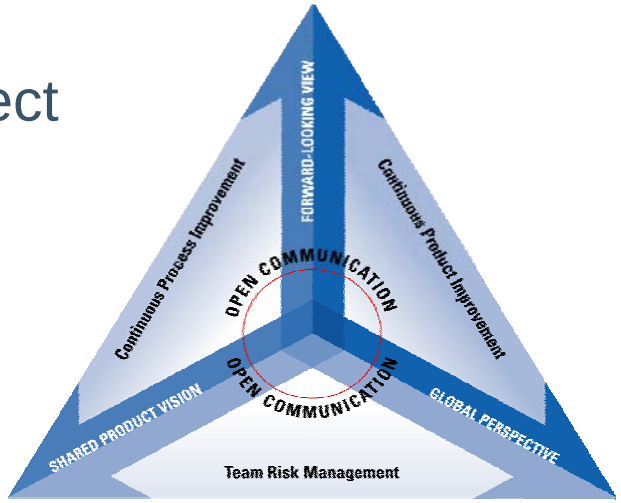
Global Perspective



Sharing a single mental model of project success that crosses all boundaries between acquirer, developer, and operator.

Viewing enhancements within the context of the operational mission.

Recognizing both the potential value of opportunity and the potential impact of adverse effects.

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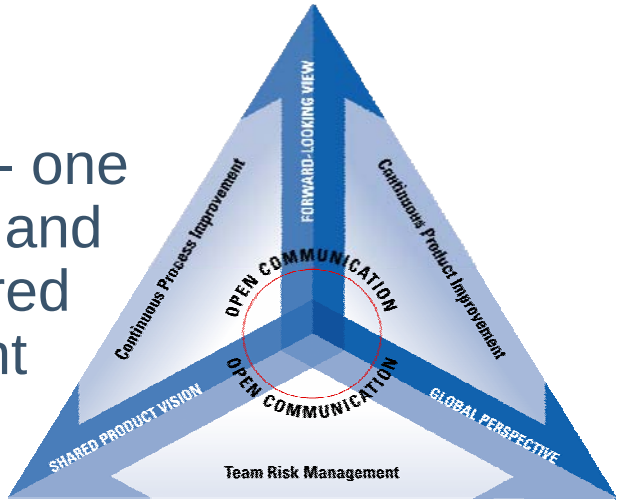
Shared Product Vision

Developing and sustaining a common conception of the product being built - one that can be stated simply and briefly, and is founded on common purpose, shared ownership, and collective commitment among the stakeholders.



Focusing on results.

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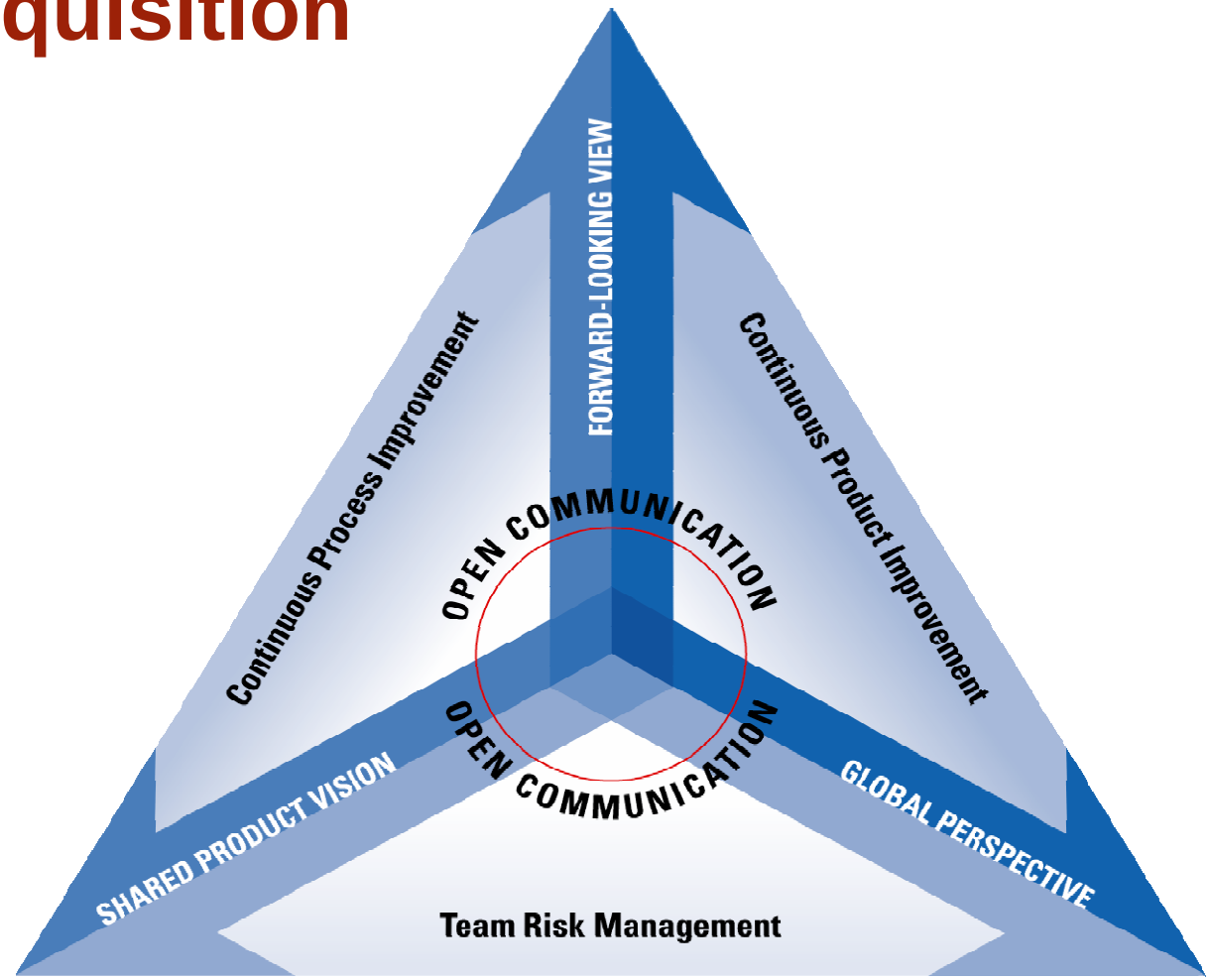

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Summary

The SEI, through the Acquisition Support Program, works directly with key acquisition programs to help them meet their objectives.

The SEI looks for common themes and solutions and packages them for wider dissemination and use.

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