A Path to Convergence of Risk Management Standards

Garry Roedler
Lockheed Martin Corporation

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Current Situation

• No shortage of standards and guidelines
  – Grown in an uncoordinated manner
  – Resulted in inconsistencies
    • Approach - methods
    • Terminology
    • Requirements

• Complicated further with the addition of opportunity management or “positive” risks
Measurement Provides A Precedence For Convergence

ISO/IEC SC7 Standards
- 12207 (revision - supporting process)
- 15288 (measurement concepts)
- 9126 (terminology coordinated)
- 14598 (terminology coordinated)

INCOSE Measurement WG
- Led Systems Extension for PSM
- Participated in CMMI M&A
- Influence in extending 15939 to Systems

IEEE Standards
- Influence new IEEE standards
- Adopt ISO standards
A Precedence For Convergence

- Measurement has established a precedent and approach to achieve convergence
  - Can be applied to any project and technical process
- No accepted leader for convergence for Risk Mgt
  - Need to determine conflicts, gaps and redundancies
  - Effort within ISO/IEC JTC1/SC7 and IEEE
    - Focused on aligning risk management requirements and terminology

- "Sharing" project leaders/members has been key
- Set a new precedent in the area of risk management
- Need to expand the collaboration

IEEE Std 1540
SW Risk Mgt

Fast-track

ISO/IEC/IEEE
16085:2004
SW Risk Mgt

ISO/IEC/IEEE
16085:2006
Risk Mgt

ISO/IEC 15288R
System Life Cycle Processes

In process revisions

ISO/IEC 12207R
SW Life Cycle Processes
A Path to Convergence

• Need for a champion to lead/promote convergence
  – INCOSE could perform that role
    • Currently a stakeholder, but not tied to any specific standard or guide
      – Can be unbiased leader to facilitate a convergence effort beyond ISO and IEEE
    • Challenge: trying to span the independent industry and domain standards and guidance
    • Need to collaborate with Program Management Institute (PMI), since RM is considered both SE and PM process
A Path to Convergence

• ISO/IEC/IEEE 16085, Risk Management is good base
  – General, yet complete enough for engineering and management
  – Defines the terminology, process requirements, activities, tasks, and application in the life cycle
  – Defines risk mgt as a “continuous process for systematically addressing risk throughout the life cycle of a product or service”
  – Could be applied to any discipline or domain
  – The process consists of six activities as follows:
    • Plan and implement risk mgt
    • Perform risk analysis
    • Perform risk treatment
    • Manage the project risk profile
    • Perform risk monitoring
    • Evaluate risk mgt process
  – Successfully battle-tested due to origin from IEEE Std 1540

• Internal convergence by ISO can be leveraged as a catalyst for a more widespread industry convergence
  – INCOSE can establish long-term plan for industry convergence
  – Start effort through achieving alignment of INCOSE SE Handbook
Risk Management and Measurement

Risk management is most effective when it is integrated with measurement - INCOSE should promote the need to evolve the processes together.