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Areas of consideration for IEEE Std 1220 alignment with ISO/IEC 15288

Background/Objective

A top-level comparative analysis of the differences between ISO/IEC 15288 and IEEE Std 1220 was performed at the ISO/IEC JTC 1/SC 7/WG 7 meeting held in Cape Town, South Africa in November 2002. The objective of the analysis was to understand how the two documents differ, determine potential areas to be considered to better align the documents as IEEE Std 1220 is revised, and to provide recommendations from SC 7/WG 7 for proceeding forward.

This document is not intended to be exhaustive, directive or binding, only an input for consideration during the IEEE Std 1220 revision planning. The following is a list of the top-level differences between the two documents.

Results of Comparison

1. Nomenclature for system architecture elements.
    a. 15288 refers to systems of interest, systems, and system elements
    b. 1220 refers to System, subsystems, assemblies, components, etc.
    c. 1220 explains use of activities/tasks for each level of the hierarchy rather than looking at application in a recursive manner
2. Process/Activity/Task structure
    a. All of the content of 1220 is considered to be a single process called Systems Engineering (the process is overloaded)
    b. Current activities in 1220 are equivalent to processes in 15288
        i. Recommend changing 1220 activities to processes and align with 15288.
        ii. Recommend adding a new activity level as an aggregate of tasks in 1220 – coordinated with activities in 15288
3. Names and content of life cycle stages and processes differ somewhat between the two standards.
4. Some differences exist in the terminology used, as well as variations in definitions of common terms.
5. Significant differences exist in prescription of documentation and reviews
    a. 1220 refers to specific documents and reviews rather than information/review needs and outcomes
    b. 15288 identifies outcomes/information needs
    c. 15289 is intended to define a set of candidate documents that meet information needs for ISO software and systems life cycle process stds. This document could maintain the document descriptions and characteristics.
6. Many processes of 15288 are not in the scope of 1220 (such as Validation)
    a. No need to change scope to be same

Recommendations

1. Review the areas of difference listed above and allocate (in whole or part) to the Phase A and Phase B revisions described in WG 7 N0659 “IEEE 1220 Revision WG - A Preliminary Plan for the Initial IEEE 1220 ISO/IEC 15288 Harmonization Effort “.
2. As necessary, consider interim revisions (in Phase A) and final revisions (in Phase B) to allow changes to be made in a manner that manages impact to users and the revision project.
3. Review the scope and plan for changes immediately prior to Phase B.