P21841

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Type of Project: New IEEE Standard
PAR Request Date: 28-Sep-2017
PAR Approval Date: 06-Dec-2017
PAR Expiration Date: 31-Dec-2021
Status: PAR for a New IEEE Standard

1.1 Project Number: P21841
1.2 Type of Document: Recommended Practice
1.3 Life Cycle: Full Use

2.1 Title: Systems and Software Engineering -- Taxonomies of Systems of Systems (SoS)

3.1 Working Group: Working Group for Life Cycle Processes (C/S2ESC/WG_LCP)
Contact Information for Working Group Chair
Name: Teresa Doran
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Contact Information for Working Group Vice-Chair
None

3.2 Sponsoring Society and Committee: IEEE Computer Society/Software & Systems Engineering Standards Committee (C/S2ESC)
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Name: Paul Croll
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Contact Information for Standards Representative
None

4.1 Type of Ballot: Individual
4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 03/2018
4.3 Projected Completion Date for Submittal to RevCom
Note: Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months.: 02/2021

5.1 Approximate number of people expected to be actively involved in the development of this project: 20
5.2 Scope: The purpose of this standard is to define normalized taxonomies for systems of systems (SoS) to facilitate communications among stakeholders. It also briefly explains what a taxonomy is and how it applies to the SoS to aid in understanding and communication.

5.3 Is the completion of this standard dependent upon the completion of another standard: No
5.4 Purpose: This document will not include a purpose clause.
5.5 Need for the Project: There is growing demand for systems engineering for systems of systems which are proliferating in all application domains. Today almost all systems operate in a systems of systems environment, and must work effectively with other independently developed and operated systems to meet the user business or mission needs.

Having normalized taxonomies is important for engineering SoS. Relationships between constituent systems affect the system of systems. Using essential characteristics to partition the various types of systems of systems provides an abbreviated nomenclature for thinking about systems of systems. Based on the taxonomies, different approaches to the engineering of systems of systems are possible, improving the efficiency and effectiveness of systems engineering.

5.6 Stakeholders for the Standard: Stakeholders include systems engineers and designers, systems owners and acquirers of the SoI and the SoS, project evaluators and reviewers,

Intellectual Property
6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?: No
6.1.b. Is the Sponsor aware of possible registration activity related to this project?: No
7.1 Are there other standards or projects with a similar scope?: No

7.2 Joint Development

Is it the intent to develop this document jointly with another organization?: Yes

Organization: ISO/IEC JTC1
Technical Committee Name: Information Technology-Systems and Software Engineering
Technical Committee Number: JTC1/SC7
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8.1 Additional Explanatory Notes: 4.2 Since this standard is already in initial CD ballot in ISO/IEC/JTC1/SC7, on IEEE approval, it would be moved forward as quickly as possible for the initial IEEE SA ballot, e.g. as early as FEB18.

5.2 This Scope statement is as provided in the initial ISO/IEC/JTC1/SC7 Committee Draft of this document. Although it is subject to change as the document evolves, it provides a 'purpose' for the document.

7.2 This is a joint development project with ISO/IEC JTC 1/SC7 under terms of the Partner Standards Development Organization (PSDO) agreement with IEEE.

8.1 A related standard for the application of systems engineering processes in general is ISO/IEC/IEEE 15288:2015, Systems and software engineering--systems life cycle processes.