

Tesperanto - A Model-Based System Specification Methodology and Language

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Abstract. Technical requirements, specifications, and standards are fundamental documents that serve all the stages of the systems engineering management process. This paper presents Tesperanto _ "Technical Esperanto" _ a model-based methodology and language for authoring, analysis, design, and testing of system specifications, and its integrated development environment. Tesperanto is an English text that is generated automatically from the evolving graphical model of the system being specified, creating self-documentation that is maintained in sync with the model at all times. Tesperanto was evaluated over a period of more than two years by a multi-national group of systems engineering and enterprise management experts as a means to enhance text in ISO international standards. The evaluation showed that Tesperanto improves the consistency, quality and value of standards and can potentially be of similar value for other kinds of technical documents.