PhD Thesis Proposal

MAP-I 2007/2008

Title:

Inception of Software Validation and Verification Practices within CMMI Level 2: An IEEE/ISO 29119 Roadmap

Scope:

CMMI level 2 lacks validation and verification (V&V) efforts since this maturity level is only concerned if an organization ensures that, in their software development projects, the requirements are managed and that their processes are planned, performed, measured, and controlled.

V&V are critical activities when designing large-scale software products. Due to the size of the solutions, it is mandatory to demonstrate that the product (or product components) fulfills its intended use, when placed in its intended environment, and also to ensure that selected work products meet their specified requirements. IEEE/ISO 29119 standard will be able to adequately frame the adoption of effective V&V practices within a software organization.

Presently, there is a lack of a roadmap to help organizations that develop large-scale software products and want to be a CMMI level 2 certified organization and formally adopt V&V practices in their software development processes, as a means to simultaneously assess the level 3 of capability within both V&V key process areas (KPAs).

Goals:

- Establish V&V KPAs practices based on IEEE/ISO 29119 standard
- Analyze the impact of V&V KPAs practices if adopted at CMMI level 2
- Characterize and assess a real case
- Establish a V&V roadmap for CMMI level 2

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