

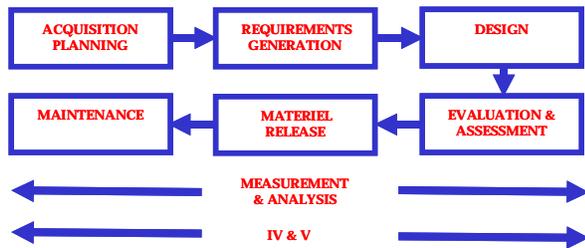
Science & Technology Software Quality Assurance



INTRODUCTION

The TACOM-ARDEC Software Quality Assurance (SQA) Core Competency, part of the Quality Engineering Directorate (QED), Picatinny Arsenal, NJ, supports US Army software development activities. SQA provides independent verification and validation (IV&V), evaluation and assessment, and performance measurement and analysis services for the development and fielding of software-intensive armaments and weapons. SQA also manages the Tri-Service Assessment Initiative, which provides Army, Navy, and Air Force Program Managers with a quick, detailed evaluation of their software and system acquisition and development processes. Together, SQA's activities ensure that the software-controlled weapon systems supplied to the US warfighter are safe, reliable, suitable, and of the highest quality.

The organization is recognized for providing cost effective and high quality services throughout the software life cycle, including R&D, production and field support. Exceptional employees are the key to our world-class excellence. Our software enterprise is certified level II+ in the Integrated Capability Maturity Model (CMM-I) for software acquisition and system engineering.

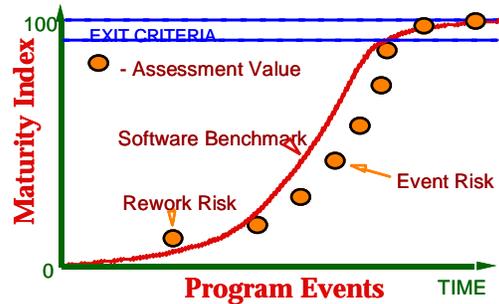


SQA Throughout the SW Lifecycle

INDEPENDENT VERIFICATION & VALIDATION

IV&V is performed by the Software Quality Engineering (SQE) Group. Its mission is to assure that software development throughout the lifecycle maintains appropriate levels of process compliance. SQE Group activities include:

- Analysis of designs & code for safety and reliability.
- Evaluation of documentation for accuracy and consistency.
- Tracking of software development programs using tools such as the *Readiness Growth Model (RGM)*; reporting of identified program problems to the customer.
- Performance of independent assessment of software function against requirements.



Readiness Growth Model

EVALUATION AND ASSESSMENT

The evaluation and assessment functions are performed by the Software Readiness & Assessment (SRA) Group. Its mission is to ensure that the software meets all requirements and functions properly for its intended purpose. SRA Group activities include:

- Assessment of requirements for testability.
- Independent development of test scripts & procedures from requirements.
- Performance and/or monitoring of software engineering evaluations and Formal Qualification Testing (FQT).

PERFORMANCE MEASUREMENT & ANALYSIS

Performance Measurement and Analysis is performed by the Software-Intensive Systems Evaluation (SWISE) Team. Its mission is to help program managers track system and software progress and deviations through the use of a measurement tracking system. SWISE Team activities include:

- Analysis of program activities to derive salient issues.
- Identification of appropriate issue-driven measures.
- Analysis of measurement data using the *Practical System/Software Measurement (PSM)* tool and performance models.

For additional information, please contact

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