Answering Your Questions about SCQC

How to Defend Against Hidden Defects, Unmaintainable Code & Security Vulnerabilities

What is SCQC?

Software Code Quality Checking (SCQC) is the analysis of computer code and related documentation to verify that software meets performance, security, and maintainability standards and validate that it conforms to generally accepted industry practices. There are three types of SCQC:

- *Architectural Analysis* – Document and code reviews by an entity independent of the development team.
- *Static Analysis* – Automated tools that test software without running or executing the code.
- *Dynamic Analysis* – Automated tools that run the executable code and access the files of the software.

Modern SCQC efforts combine all three types and leverage commercially available automated test tools. Careful tuning of these commercial tools and proper analysis of the results are the keys to successful SCQC programs.

How can SCQC help you?

Embedding SCQC into your testing program throughout the Software Development Life Cycle (SDLC) provides a wide range of cost, quality, and schedule benefits. Four high level benefits are that SCQC helps:

- Avoid catastrophic security breaches caused by exploitable security vulnerabilities hidden in production code.
- Identify system performance issues that cannot be detected through other types of testing.
- Reduce sustainment and maintenance costs by enforcing adherence to your organization's internal and industry coding standards.
- Decrease software lifecycle costs by detecting defects, vulnerabilities, and poorly written code earlier in the SDLC than other test types.

What should you consider when implementing an SCQC capability?

There are several initial actions that can help launch a successful SCQC effort:

- Define the goal for your new SCQC capability.
- Determine how/where SCQC will be integrated into your existing software development efforts.
- Survey open source and commercial options to determine which tool(s) best support your needs.
- Carefully interpret SCQC results to avoid flooding the development team.
- Reengineer internal processes to fully leverage SCQC early in the SDLC.

What is Valytics experience with SCQC?

Valytics is a full service independent test and evaluation organization that provides a range of SCQC and other testing services to a variety of federal clients. For example, we designed, initiated, and are currently integrating SCQC processes and tools into the Department of Veterans Affairs' SDLC.

How can you learn more?

Contact us at info@valytics.com to learn more about SCQC or how Valytics' full service independent test capabilities, including fully functioning test labs, can help your organization.