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TATA

TCS Embedded Code Analyzer

Engineering and Industrial Services

The complex technology matrix involved in building reliable, high-quality embedded software applications makes embedded software development a challenge. Third-party components in applications often do not adhere to industry standards, resulting in poor service quality and troubleshooting hurdles. Software testing tools often fail to address customer and industry specific errors leading to delayed or defective product releases. Post- release software errors raise warranty costs and cause performance shortfalls, and may even lead to casualties and fatal losses.

Tata Consultancy Services' (TCS') Embedded Code Analyzer (TCS ECA) automates embedded system code analysis and detection of defects early in the product development cycle. TCS ECA auto-detects defects that are difficult to identify through standard testing processes and which, more importantly, are very expensive to locate and fix when they surface. TCS ECA's proven ability to detect coding errors and standard defects makes it relevant to business critical functions across industries.

Overview

Organizations across various industries are finding it increasingly challenging to release products that are guaranteed to not have critical software related problems. Finding competent review staff is difficult and software processes do not always lend the assurance critical for software quality. These factors compel organizations to go through multiple iterations of test debug cycles to achieve acceptable quality levels, driving the software's cost of review high, and impacting its time-to-market. The costs associated with and the negative implications of product recalls, defect diagnosis and fix cycles, and customer dissatisfaction mean that organizations need to adopt a comprehensive defect detection solution.

To address these challenges, TCS brings you the TCS Embedded Code Analyzer (TCS ECA) tool. TCS ECA is designed to detect all occurrences of certain categories of errors early in the software development cycle and offer complete coverage-based testing, resulting in fewer product defects and hence better product quality. A highly automated offering, resulting in lower costs and higher confidence in software quality, TCS ECA allows you to focus on functionality and specification implementation.

Our Solutions

TCS ECA's static analysis technology detects crashes, freezes and erratic behavior in business-critical embedded systems applications even before they occur. The tool has unique features that check code quality for various defect patterns. In fact, in many cases, TCS ECA detects and localizes errors even before testing commences.

TCS ECA auto-detects coding errors – null pointer dereferencing, deadlocks, unhandled exceptions and others – that typically lead to system breakdown. Our tool's code analysis and defect detection capabilities reduce the overall testing time so that you can shrink your time-to-market.

TCS ECA is the most scalable product of its kind in the market today and can easily be customized to suit your specific needs. With TCS ECA, you are assured that your software quality is never compromised. TCS ECA's faster analysis and review cycles, flexibility and lower incidence of false positives boost the productivity of your development team.

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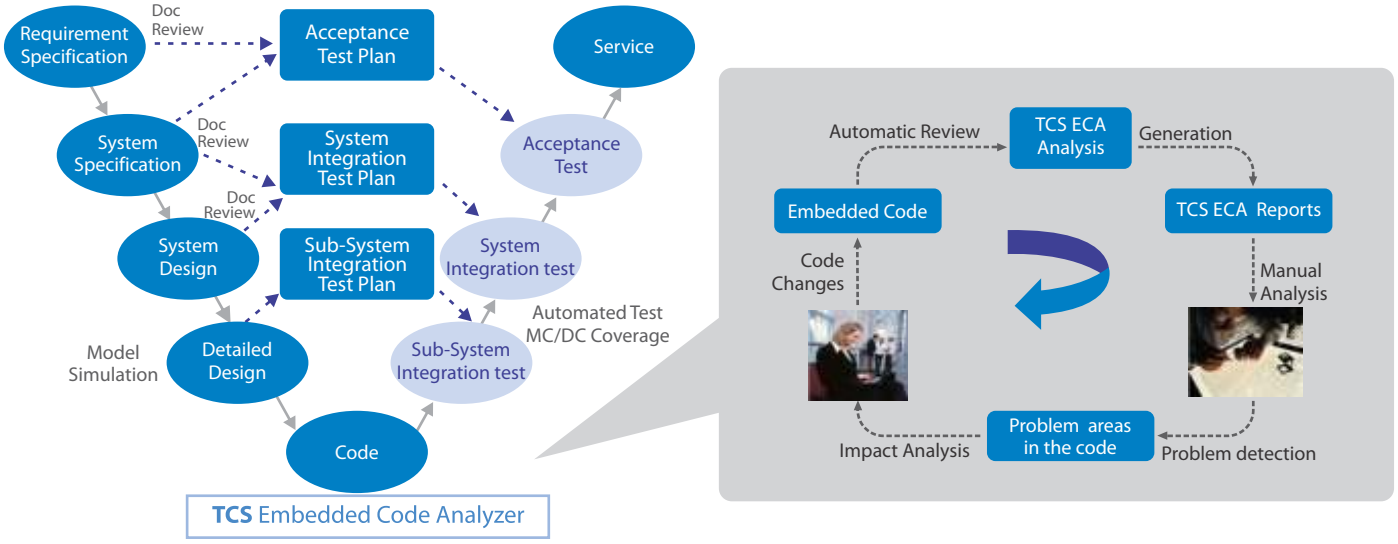

Benefits

Minimize product recalls

Detect potential showstoppers – crashes, freezes and erratic behaviour – in your software. Preempt expensive break-diagnose-fix-review-test cycles.

Shorten time-to-market

Achieve faster, complete and cost-effective test coverage with TCS ECA's automated debugging and early defect detection and correction, steering clear of high-cost, error-prone manual testing, while meeting the required quality levels.

Reduce cost of quality

Detect defects early in the development cycle with TCS ECA's static analysis and model-based methodologies, and lower the cost of testing. Reduce the cost of verification and validation, and enable continuous improvement in quality assurance.

Lower development efforts

Cut down the cost of development with TCS ECA's efficient and automated defect detection mechanism. Reduce review and analysis effort for developers with TCS ECA's test process resulting in fewer false positives being reported. Use it in every integration cycle during the lifetime of your projects, harnessing speedier analysis capabilities.

Easy compliance adherence

Check for compliance of software with industry standards and produce relevant reports with no extra effort.

The TCS Advantage

Unique features

Thirty percent of TCS ECA's features are unique in the market, while over forty percent of them are absent in any comparable alternative in the software assurance space.

Scalability

Tested on millions of lines of code, TCS ECA is one of the most scalable embedded software testing products available globally.

Flexibility

It is also the most flexible embedded software testing tool available. It allows you to select defect-specific analysis options, and you can customize it to address your specific problems.

Contact

To know more about TCS Embedded Code Analyzer, please contact eis.marketing@tcs.com

About Tata Consultancy Services Ltd (TCS)

Tata Consultancy Services is an IT services, consulting and business solutions organization that delivers real results to global business, ensuring a level of certainty no other firm can match. TCS offers a consulting-led, integrated portfolio of IT and IT-enabled infrastructure, engineering and assurance services. This is delivered through its unique Global Network Delivery Model™, recognized as the benchmark of excellence in software development. A part of the Tata Group, India's largest industrial conglomerate, TCS has a global footprint and is listed on the National Stock Exchange and Bombay Stock Exchange in India.

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