Coverity Verification Services

Driving testing into development

Leading enterprise organizations are increasingly finding themselves in the business of software as they race to stay ahead of the competition and deliver more innovation through increasingly complex applications. Testing code during development is no longer just a best practice but a business necessity.

Coverity is the market leader in development testing with more than 1,100 customers around the world and more than 5 billion lines of code under management. We have helped industry and open source leaders transform their testing processes to find critical quality and security issues as the code is being developed. To help our customers with this transformation, we use the Development Testing Maturity Model as a guide and offer Coverity Transformation Services, including Verification Services, to assure the quality and security of their own code, address external mandates and verify the quality and security of their suppliers' code.

Coverity Transformation Services

Verification Services

Security Audit • Supply Chain Audit • M&A Due Diligence Audit
FDA Product ImplementationValidation • MISRA Service

Level 1
Automatic Defect Detection

Level 2
Identification of Residual Risk

Level 3
Developer Workflow Optimization

Level 4
Code Governance

Level 5
Enterprise Code Assurance

Adoption Services

Quick Start • Analysis Tuning • Custom Development

Education and Certification

Technical Support

Coverity Community

The Development Testing Maturity Model

Without the proper attention paid to adoption, even the best development testing solution will be relegated to shelf-ware. We've worked with companies in a wide range of industries to draft tailored development testing adoption plans. The best practices from these engagements formed the foundation of our Development Testing Maturity Model which we use to create a phased-in approach to adoption. This model takes into account your current processes and technical environment and provides prescriptive guidance, along with ongoing support from our team of expert consultants, trainers and technical support staff, to help you successfully adopt and integrate development testing into your development lifecycle. Coverity Professional Services will help you design a process that drives adoption through top down mandates and bottoms up adoption within your development team.

Level 1: Automatic Defect Detection

The first step to adoption of development testing is to introduce the automated detection of critical quality and security issues. This analysis can be run as part of the centralized build process or from the developer's desktop. Our consultants can assist you in installing and configuring the Coverity® Development Testing Platform to create a successful defect resolution process focused on identifying and addressing the most critical code defects based on impact analysis. They will work with you to create a quality and security baseline and establish and enforce policies and processes to ensure that no new defects are introduced into the code base.

Level 2: Identification of Residual Risk

Residual risk can occur in code if it isn't properly tested in development. Many organizations measure the effectiveness of their automated testing through a simple coverage number which treats critical code and dead code equally. Our consultants can help you introduce a policy-based testing methodology so that you can ensure that all risky code has an automated test associated with it.

Level 3: Developer Workflow Optimization

Development testing must fit in seamlessly with the solutions your developers use on a regular basis, such as source control management systems, bug tracking systems, IDEs and continuous integration systems. Our consultants will work with you to integrate our platform with those critical elements to improve the efficiency of your development process. Identified issues are queried against your Source Control Management (SCM) systems for automated identification of the appropriate file owners. Defects are then assigned to them automatically and tracked via your bug tracking systems.
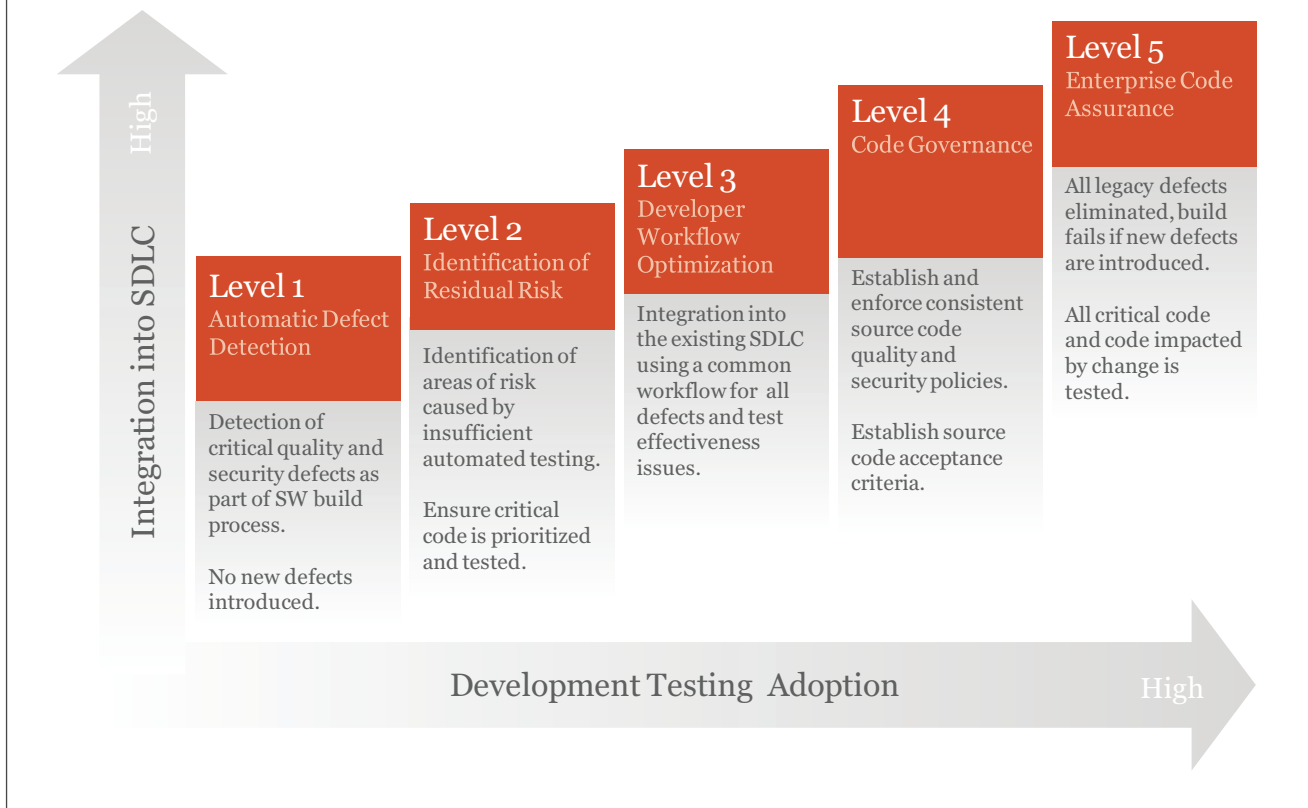
Level 4: Code Governance

Software code governance is about establishing and enforcing consistent standards for code quality and security and measuring improvement over time. Our consultants will work with you to establish policy thresholds, such as the number of high-risk defects, types of defects allowed or the code which must have automated tests associated with it. By defining policies that you measure your project against, it makes it possible to implement "quality gates" and validate that code has met your code governance goals before it is promoted to the next stage in the lifecycle. These policies can also be used to define acceptance criteria with third party suppliers.

Level 5: Enterprise Code Assurance

In this final stage of maturity, all legacy defects have been eliminated and the build is configured to fail if new defects are introduced. All critical code and code impacted by change is covered by an automated test. All legacy defects are eliminated and the build fails if new defects are introduced. Software is only released into production if it meets these criteria.

Development Testing Maturity Model

Integration into SDLC — High

Level 1
Automatic Defect Detection

Detection of critical quality and security defects as part of SW build process.

No new defects introduced.

Level 2
Identification of Residual Risk

Identification of areas of risk caused by insufficient automated testing.

Ensure critical code is prioritized and tested.

Level 3
Developer Workflow Optimization

Integration into the existing SDLC using a common workflow for all defects and test effectiveness issues.

Level 4
Code Governance

Establish and enforce consistent source code quality and security policies.

Establish source code acceptance criteria.

Level 5
Enterprise Code Assurance

All legacy defects eliminated, build fails if new defects are introduced.

All critical code and code impacted by change is tested.

Development Testing Adoption — High

Coverity Verification Services

Coverity Verification Services are designed to help you assure the quality and security of the code created outside of your organization and help you address external quality and security mandates.

Supply Chain Audit Service

Nearly every company uses some form of third party code in their software, and that software isn't tested with the same level of rigor as internally produced code. The Coverity Supply Chain Audit Service is designed to give you visibility into the state of quality and security of your suppliers' code. Our consultants will come on-site to your suppliers' locations, analyze their code for quality and security defects and prepare a detailed report of the findings.

Mergers and Acquisition (M&A) Due Diligence Audit Service

According to Forbes, 70% of acquisitions fail. To protect against this, organizations must ensure they do the appropriate due diligence. Part of this process is to ensure the quality and security of the code which is critical in technology-focused acquisitions. The Coverity M&A Due Diligence Audit Service gives you critical visibility into the quality and security of the code you are considering purchasing. Our consultants will give you a detailed report on the types of defects present, defect density and complexity of the code.

Security Service

The OWASP Top 10 and CWE Top 25 represent the most prevalent and highest impact security flaws, which often occur in Java web applications. With the Coverity Security Service, our experts will work with you to create a tailored solution to help you address the top OWASP and CWE issues that impact web applications. We will help you address critical injection and cross site scripting issues, and will utilize best of breed technologies to help protect you from the risk of a security exploit and improve the collaboration between your development and security teams.

Food and Drug Administration (FDA) Product Implementation Validation Service

Static code analysis is recognized by the FDA as an important technique for verifying the correctness of software, especially in the area of medical devices. For static analysis to deliver on its full potential, it must be deployed and operated properly within an organization's environment. With the Coverity FDA Product Implementation Validation Service, experts will perform an on-site audit to validate correct installation and operation of Coverity Quality Advisor and the Coverity SAVE™ static analysis verification engine. The Coverity engineer will prepare a validation report which can be submitted to the FDA.

MISRA Service

Organizations across a wide variety of industries and applications including automotive, rail, aerospace, military and medical sectors incorporate MISRA guidelines as part of their development testing efforts. The Coverity MISRA Service can help you address coding standard issues and enforce MISRA C and MISRA C++ rules with our development testing platform. We'll work with your team to ensure the platform is integrated into your environment and processes using the Development Testing Maturity Model as our guide.

About Coverity Services

Coverity is committed to our customers' success. In addition to providing a robust Development Testing Maturity Model and rich transformation services, we offer adoption services such as a quick start program to get you fast time to value for your investment, comprehensive training and certification programs, an expert technical support team and the Coverity Community where you can interact with your peers and Coverity engineers. To learn more visit: http://www.coverity.com/services/index.html