

SOFTWARE QUALITY AUDITS

Get a complete picture of the health and maintainability of your code and architecture and the quality and maturity of your processes

OVERVIEW

To assess the overall quality of your software, you should focus on three key areas: the code, the architecture, and the processes used to build them. Black Duck® Software Quality Audits give you a complete picture of the health and maintainability of your code and architecture, as well as an understanding of the quality and maturity of your processes.

Black Duck Software Quality Audits identify problems in architecture, code, and code construction techniques that can lead to quality and ROI issues. These issues drive concerns regarding the costs of remediating defects in the code and architecture and maintaining the codebase over time.

KEY FEATURES

Code audit requests are typically urgent and often confidential. The Black Duck Audit Services team, a highly trusted supplier, offers speed of service, deep software development expertise, and industry-leading tools to assess the quality of a codebase and the processes behind it. The result is a set of comprehensive, relevant, and actionable reports.

To perform Software Quality Audits, we analyze the quality of the processes used to create the code and prepare an overall qualitative assessment of the codebase. We also apply various industry-standard metrics to evaluate the code quantitatively. Finally, we use powerful architectural analysis tools to determine the state of the overall architecture across technical and economic considerations.

CODE QUALITY AUDIT

The Code Quality Audit combines static analysis tools and expert manual code review to determine code quality based on these metrics:

- Is the code built using industry best practice coding standards?
- Is it structured in a reasonable and formal way to enable efficient ongoing development?
- Does it avoid high complexity (due to poor code construction techniques) that leads to inefficient maintenance?
- Is it well-documented?

Experts interpret the results and provide recommendations for addressing shortfalls in code quality.

DESIGN QUALITY AUDIT

Architecture is a key aspect of overall quality because even high-quality code can pose problems in a poorly designed architecture. The Design Quality Audit (DQA) provides deep insights into a software system's design or architectural health, the likely cost of ownership, and the resulting risk-related consequences. The DQA, powered by Silverthread, captures architectural health metrics from a codebase, creates visualizations, benchmarks against thousands of comparable systems, and identifies design degradation. Finally, it uses predictive analytics to model the economic impact of design health.

A DQA report offers an analysis of architectural health across these key categories:

- Technical health: views on modularity, cyclical, complexity
- Economic outcomes: cost of ownership, risk, and agility
- Schedules: estimates of timeframes for development
- Refactoring: estimates of ROI and payback for refactoring

SOFTWARE DEVELOPMENT AUDIT

The Software Development Audit offers a complete analysis of the processes and practices that compose the software development life cycle (SDLC). Experts conduct in-depth interviews with a small number of key personnel to gain insight into the quality and maturity of development practices, including coding standards, processes, and tools. From this, they provide recommendations for improving code quality while reducing development and maintenance costs.

The final report uses industry-standard categorizations to offer a qualitative analysis that includes:

- Software development process analysis
- Other product development and quality processes (including build and release)
- Quality assurance practices
- Technical documentation and comments
- Engineering organizational structure

INTEGRATED END-TO-END SOLUTION

When you combine Black Duck Software Quality Audits with Open Source and Application Security Audits, you benefit from a comprehensive integrated solution for your software due diligence needs. Whether you need an internal assessment or support for an M&A transaction, we can give you a complete picture of the integrity of your code assets.

About Black Duck

Black Duck® meets the board-level risks of modern software with True Scale Application Security, ensuring uncompromised trust in software for the regulated, AI-powered world. Only Black Duck solutions free organizations from tradeoffs between speed, accuracy, and compliance at scale while eliminating security, regulatory, and licensing risks. Whether in the cloud or on premises, Black Duck is the only choice for securing mission-critical software everywhere code happens. With Black Duck, security leaders can make smarter decisions and unleash business innovation with confidence. Learn more at www.blackduck.com.

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