

Enabling Faster, Lower Cost Innovation

With application development organizations' increasing use of open source software, the need for automated management and governance solutions has never been more pronounced. Development teams must balance the benefits of flexibility, innovation and cost optimization against potential technical, security and legal risks. The Black Duck® Suite™ enables enterprise open source adoption with automated management and governance to help customers realize the compelling economics of open source with unprecedented visibility and control.

World-class development organizations are finding a competitive edge by pro-actively embracing the use of open source components in combination with internally developed code and other external software. As a rule of thumb, for every 1,000 lines of code used from an open source component, a development organization can save roughly \$20,000 USD. Such savings allow development managers to focus their teams on differentiating features and high value-add applications and extensions. In this way, companies spend their precious engineering resources building business value, not reinventing the wheel. Thus, using open source can increase developer productivity, reduce costs, and increase innovation and flexibility.

It likely comes as no surprise that, while open source software is free of purchase cost, it is not a "free lunch." Using open source, especially using it at scale (hundreds of components versus just a few), presents new challenges for management, governance and security.

Manual methods of code management and laissez faire approaches to open source are prone to errors and can affect quality, result in version proliferation, create unwanted license obligations, introduce security vulnerabilities, and encryption export violations all of which expose companies to unnecessary risk.

The Black Duck Suite

The Black Duck Suite is an advanced enterprise-class solution to the unique management, governance and security challenges associated with open source use. The Black Duck Suite automates key processes related to open source code management over the application development (AppDev) life cycle: Search & Select, Review & Approve, Catalog, Validate, and Maintain & Monitor.

The Suite provides a catalog of software components with searchable metadata (component information), and when a component is proposed for use, the Suite automates the approval process. Additional capabilities include providing code search straight from the software developer's IDE. And on the back end of the AppDev life cycle, code is validated before it is deployed.

Search & Select

Using a standard browser, developers can search the catalog for components based on metadata (name, description, version, license, and more). Developers can also search for and index code (contained within version control and file systems) directly from within their development environments using the Black Duck IDE plug-ins for Visual Studio and Eclipse.

Review & Approve

The approval workflow enables a customized review and approval process, commensurate with an organization's structure and policies. With the use of a wizard, developers submit components and approval criteria to approval boards, which may approve, reject, approve with restrictions, or request more information. Information pertaining to the approval process is then captured in the catalog for subsequent auditing.

Key Processes in the Governance of Open Source

Black Duck® Suite™



Search
& Select



Approve



Catalog



Validate



Monitor

Features	Benefits
Search and Selection from the KnowledgeBase and internal catalog	<ul style="list-style-type: none"> • Searches the comprehensive KnowledgeBase of open source component information and metadata, speeds the search process and enhances the selection process enabling better code choices • Improves developer productivity by finding and re-using open source components from a catalog of approved components • Avoids rework and redundant development • Supports standardization
Configurable Approval Workflow	<ul style="list-style-type: none"> • Accelerates the approval process • Aligns with and supports robust policy implementation • Fosters interdepartmental collaboration
Rapid ID™ for Automated Discovery and Identification	<ul style="list-style-type: none"> • Improves efficiency and speed in discovery and identification to automate file identification • Ensures compliance with company policies and license obligations • Validates compliance with approved bill of materials • Provides audit trails and traceability
Catalog of Components	<ul style="list-style-type: none"> • Saves time and eliminates unnecessary requests • Allows component tracking and location information 24x7 • Simplifies and streamlines the component request process • Avoids rework and redundant development • Supports standardization
Manage Security and Risk	<ul style="list-style-type: none"> • Ensures selection and use of the most secure open source components • Monitors security vulnerabilities and sends automatic alerts • Ensures license compliance • Enables more confident management of software origins and obligations
SDK for Integration	<ul style="list-style-type: none"> • Integrates with existing developer tools and environments

Catalog

The catalog is the local database of components used within an enterprise. It reflects components that have gone through a Review & Approval process and shows the component's status: approved, rejected, or in-process. It also tracks where components are being used. When developers search for and select components, the catalog may be searched in parallel with the Black Duck KnowledgeBase in order to encourage standardization -- the use of components that are already used in the organization -- and decrease component (and version) proliferation. Catalog components can include open source, third-party and other code, and may come from the KnowledgeBase or be created locally to represent other software that might be incorporated in an application.

Validate

The license validation engine scans source code and binary files to discover unknown and unapproved software, automatically comparing the scanned code base to the known universe of open source code in the Black Duck KnowledgeBase, the most comprehensive database of open source software in the world (more information below). We do this by maintaining code

prints in the KnowledgeBase which can be fuzzy or exact matched to the code under analysis. The encryption validation engine analyzes source code and finds en-cryption algorithms, enabling organizations to adhere to policies and encryption export regulations.

A software bill of materials, the list of components in an application or product, is used during the validation stage. The approved bill of materials is the aggregation of all the components for an application that have gone through the approval process. The actual bill of materials is the aggregation of all the components for an application. The degree of compliance is determined by matching the approved and actual bills of materials; mismatches indicate either unapproved code in an application's code base or missing components.

Maintain & Monitor

The catalog enables the maintenance and monitoring of components already in use and makes visible which components are deployed and where. When a KnowledgeBase update arrives, it is mapped against the list of components and this information is used to generate alerts based on component use. For example, if three out of 500 applications in the organization are using a particular version of Apache Tomcat, and that

“The fundamental economics of software development leads you to open-source software”

– David Rivas, Nokia
VP for S60 Software

particular version of Tomcat is discovered to have a security vulnerability, email alerts can be generated for the internal owners of the three relevant applications.

A unified framework, the Suite includes a robust SDK which enables integration with IBM Rational, Microsoft and other build tools and environments.

Black Duck KnowledgeBase

The foundation of the Black Duck Suite is the Black Duck KnowledgeBase. Billions of lines of valuable open source software are available on the Internet for developers, but only the Black Duck Suite leverages the industry’s most comprehensive database of open source software, the Black Duck KnowledgeBase.

Black Duck adds new code and new projects to the KnowledgeBase on an on-going basis. KnowledgeBase updates can incorporate hundreds or thousands of new project updates, which enables Black Duck customers to stay current with the dynamic open source community. KnowledgeBase updates are tested for accuracy before they are released to our customers.

The KnowledgeBase Includes

- 100+ billion of lines of code
- 500,000+ OSS projects
- 5,000+ sites indexed
- 2,000+ unique licenses monitored
- 47,000+ security vulnerabilities tracked
- 450+ encryption libraries and algorithms included

Developers can quickly search the KnowledgeBase for appropriate components to use within their projects.

Each component entry is populated with a rich set of information which aids developers in selecting the best available component to meet their functional needs, while also matching their organization’s component usage policy (such as licensing, security and other policies). This eliminates the need for developers to spend hours or days searching for components and can help speed development and innovation.

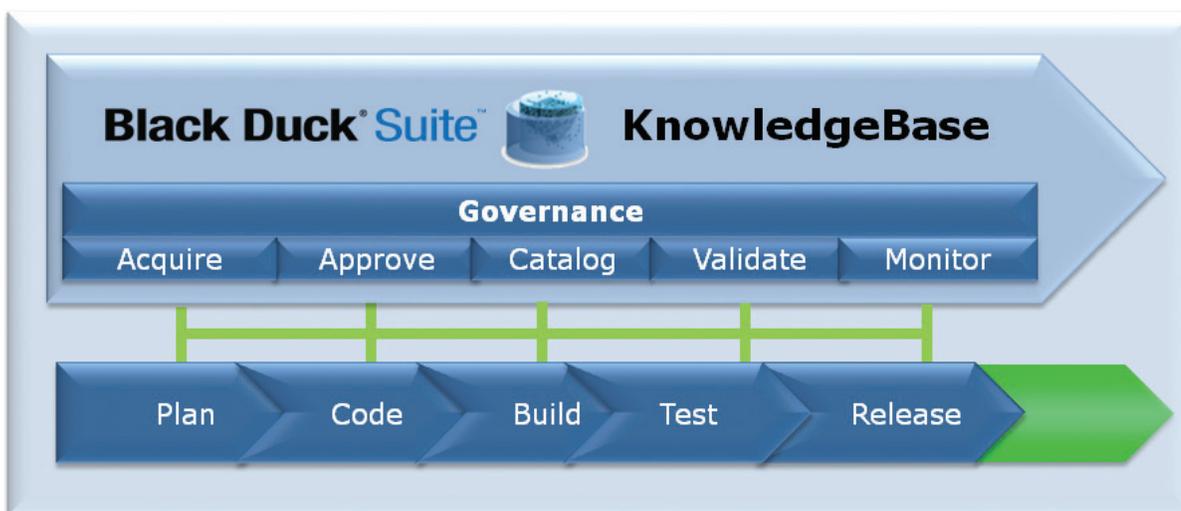
Professional Services

Since Black Duck Software’s inception in 2002, we have been the leading innovator in automating the management, review and analysis of open source software. As a result, our professional services team has more experience implementing open source software management solutions than any other company in the world.

Black Duck offers a comprehensive range of professional services including:

- Strategic Planning Services to help you develop strategies, policies and processes for managing open source, proprietary and third-party code, and prepare for the seamless integration of Black Duck’s products into your organization.
- Project Implementation Services to ensure a smooth Black Duck solution implementation from installation to training.

Black Duck Suite Supports the Application Development Lifecycle



- Continuous Improvement Services to help you evaluate your compliance management process so you can keep up-to-date on best practices, training on new features and implementing new Black Duck releases and upgrades.
- Custom Development Services to deliver a fully tailored solution to fit your unique needs. This can include custom report development, application customization, KnowledgeBase optimization and SDK training.

We also offer both in-person and online training programs to help our customers get the maximum benefit from their Black Duck solutions by providing clear, logical and interactive educational programs.

The Black Duck Suite provides the features and capabilities required to provide effective governance across the application lifecycle. It automates each step of the governance process and integrates seamlessly with existing development tools and processes, from planning through coding, building, testing and releasing code, and beyond. The Black Duck Suite is the industry's most comprehensive platform for enabling enterprise open source adoption with automated management and governance.

“...we selected Black Duck because of its KnowledgeBase of open source software. The maintenance of that KnowledgeBase was more robust than other solutions considered...”

– Andre Terrisse, Intel's Software Legal Compliance Program Manager



About Black Duck Software

Black Duck Software is the leading provider of strategy, products and services for automating the management, governance and secure use of free and open source software, at enterprise scale, in a multi-source development process. Black Duck enables companies to shorten time-to-solution and reduce development costs while mitigating the management, compliance and security challenges associated with free and open source software. Black Duck Software powers Koders.com, the industry's leading code search engine for open source, Ohloh.net, the largest community for and free public directory of open source, and The Olliance Group, the leading open source business and strategy consulting firm.



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