# NEXUS REPOSITORY MANAGERS

## Nexus OSS, Nexus Pro and Nexus Pro+

Nexus repository managers help organizations build better software, faster. Like a supply chain, applications are built by assembling open source and third party components from a wide variety of public and proprietary sources. While assembling software from existing components is faster and more efficient than custom coding every feature, the flow of components into and through an organization introduces complexities that slow down the development process.

With over 80% market share, Nexus is the "go-to" repository manager for organizations seeking to accelerate software development initiatives while increasing efficiency and quality.

## KEY BENEFITS

**Faster and more reliable builds**
Locally caching and hosting components eliminates the need to download them repeatedly, saving time and eliminating the risk of remote service failure. Nexus repository managers store everything required to deploy or re-create an application's binaries and the environments in which they run in one stable, reliable and easily accessed location. This allows your development team to reduce build cycle times, operations teams to accelerate rollouts and rollbacks, and security and audit teams to streamline audit processes.

Users of Nexus repository managers report that their build tools and other development tooling perform up to 20x faster than those pulling artifacts from public repositories.

**Improve collaboration**
Keep all development locations in sync by providing rapid availability of components to each Nexus instance, ensuring overall build stability and performance across geographically distributed environments.

**Reduce rework and maintenance**
Nexus repository managers provide complete visibility into what binaries have been downloaded from public repositories, including accurate, up-to-date information about component licenses, known security vulnerabilities, versions, popularity and more. By standardizing on preferred components and versions, you'll boost developer efficiency by reducing your code base and simplifying maintenance. Furthermore, you'll improve quality and avoid rework by empowering developers to use the high-

est quality component and version at the start. Developers can use a search function in the Nexus interface to instantly determine if a specific component has a known security or license issue. Additionally, in Nexus Pro+, automated policies provide proactive and rapid feedback on acceptable component usage—all without slowing down the development process. In fact, customers report that with less rework and maintenance, individual developer productivity is improved by 15 percent.

**Enhance security**
Nexus repository managers bring additional levels of security to development operations including support for single sign-on, role-based access controls, secure connections to the Central Repository, and LDAP support.  The use of user-based tokens avoids having to supply plaintext credentials to the tools accessing Nexus.

**Component deployment for continuous delivery**
Software development teams can post a collection of related components to the repository manager that can be tested, promoted, or discarded as a unit. These "staging" capabilities support improved releases to a production system, including build sign-offs or re-deploying new builds for testing prior to final release. Automated validation of release components ensures quality and notifications sent during the process keep everyone informed.

**"Nexus is super easy to set up and update. You'll waste time trying to find another way to manage your binaries. Development of Nexus is very active, the support is awesome and all the features you'd need are there."**

*Alexis Morelle,*
*Software Factory Architect, Alcatel-Lucent*

**"It is impossible to do serious development without a repository manager. And the only one on the market that is serious is Nexus."**

*Arnaud Heritier, Software Factory*
*Manager, eXo*

## Nexus OSS: A reliable basic repository manager

Nexus OSS is ideal for organizations that need to improve component management, but don't need sophisticated features or support. It provides the basic functions to store and retrieve downloaded components and their metadata to speed builds. Custom binaries can also be managed with Nexus OSS. Features include:

- **Integration with all major build tools**—Apache, Maven, Ant, Gradle, Ivy, SBT, Leiningen, Gant/Grails, and others
- **Caching and proxying remote component repositories**—improve build times and stability by reducing dependence on external repositories
- **Support for common repository and component formats**—including Maven, npm, RubyGems, NuGet, YUM, OBR, and P2

## Nexus Pro: Enhanced control, quality and efficiency

Building on the feature set of Nexus OSS, Nexus Pro incorporates features that provide greater control of components along with visibility of potential component risk. Nexus Pro also comes with world-class technical support, including optional 24/7 coverage. Whether your organization has thousands of developers distributed around the globe, or smaller teams with demanding requirements, Nexus Pro delivers immediate game-changing efficiencies, such as:

- **Build promotion and staging support**—improve release processes and collaboration with managed promotion and staging.

- **Secure access and permissions**—includes LDAP or Atlassian Crowd integration, user tokens, and single sign-on.

- **Repository Health Checks**—ensure continuous, up-to-date evaluations of license and security risks in components you've downloaded into your repository

- **Component Information**—instant access to always up-to-date security vulnerability data, detailed license characteristics and other quality data allowing you to easily choose the best components for your application. Avoid time-consuming manual research and easily avoid rework efforts to fix issues later.

- **Smart proxy**—immediate availability of upstream artifacts in downstream Nexus instances.

- **Expert technical support**—includes documented Service Level Agreements and optional 24/7 support.
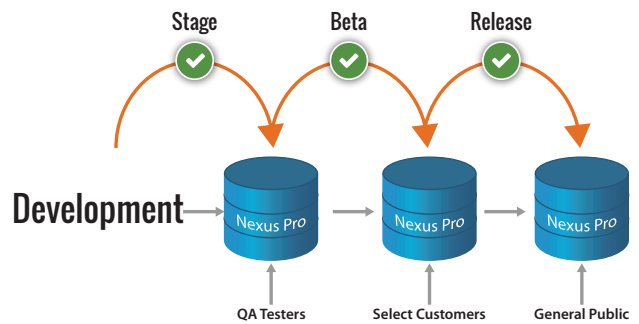


Keep everything required to create your application's binaries and the environments in which they run in a deterministic, stable location.

## Nexus Pro Repository Health Check

As developers download components, they may unknowingly choose undesirable component versions. The Nexus Pro Repository Health Check automatically evaluates your Nexus Pro repository for components with known security or license issues that may lead to unplanned rework.



**Summary Panel**

Get an overview of the components that have been analyzed in the selected repository and the number of security and license alerts detected.

**Security Vulnerabilities**

Quickly see the breakdown of vulnerabilities based on severity and the threat level it poses to your repository.

**License Analysis**

See the number of licenses detected in each category and the number of conflicting licenses.

## Nexus Pro+: Optimal control and efficiency using customized policies

Nexus Pro+ takes Nexus Pro one step further to improve the quality of your applications with automated policies. Nexus Pro+ ensures higher-quality component choices are made upfront in the software development life cycle (SDLC), reducing rework associated with out-of-date versions, restrictive OSS licenses, or known security vulnerabilities. Nexus Pro+ includes all Nexus Pro features, plus:

- **Policy automation**—Define rules for open source component use related to application types, license risk, security vulnerabilities and architecture.

- **Policy alerts**—Violations can trigger warnings, notify specific personnel, or even prevent a release.

- **Component evaluation**—developers can evaluate component choices in the context of the policies for their application, selecting the ideal version for use.



The component information panel in Nexus Pro+ displays security vulnerabilities, license risk, artifact age, popularity, and more.

Visit the the Nexus Community to see real-world examples of Nexus in customer ecosystems at www.sonatype.org/nexus.

## THE ROLE OF NEXUS IN THE CONTINUOUS ECOSYSTEM

- **Continuous integration**—Improve CI build performance.  Nexus is the source of components used by the various executions/builds/jobs running on the CI server and also the target of outputs.

- **Continuous delivery**—Optimize distribution.  As in continuous integration environments, Nexus is the source of the components that are being delivered to the various environments and it is the repository of record for the deployment components, including VM images, scripts and containers.

- **Public repositories**—Cache locally.  Nexus is the proxy between development and operations teams and the repositories on the Internet or with partner organizations. It reduces the bandwidth required since each component has to be downloaded only once, rather than multiple times. This also increases the stability of the internal tool setup since it reduc-

es the dependence on these external repositories. It also increases speed due to avoided downloads and faster downloads.

- **IDE**—Nexus provides the components and component information in the IDE so developers can make the right choices without interrupting their flow.

- **Build tools**—Access components from Nexus via downloads as well as publish them to Nexus via uploads/deployments. Build tools also act as automation for numerous other steps that are potentially related to Nexus and often executed on the CI server and the developer's computers.

- **Continuously updated component information** Only choose the best. The Sonatype data services provide regularly updated and curated component information to Nexus and puts it at your fingertips to help you choose the better, safer component.

## FEATURE COMPARISON

| Feature | Nexus OSS | Nexus Pro | Nexus Pro+ | Description |
|---|---|---|---|---|
| Storage and Retrieval of Components | ✔ | ✔ | ✔ | Speed development and build performance with local caching and hosting of software components, including open source components downloaded from public repositories and proprietary components developed in-house. |
| Integration with Leading Continuous Delivery Tools | ✔ | ✔ | ✔ | Nexus offers a number of formal and community supported integrations and plug-ins (e.g., Puppet, Chef, Docker, RunDeck, Jenkins). |
| Unlimited Server Deployments | ✔ | ✔ | ✔ | Scale your organization and deployment onto as many servers and datacenters as you like without worrying about licensing. |
| Comprehensive Tooling Support | ✔ | ✔ | ✔ | Robust build and development tool support (Maven, Ant/Ivy, Gradle) makes Nexus features easily accessible to developers. |
| Hosted and Group Repositories | ✔ | ✔ | ✔ | Single virtual location for sharing and publishing components simplifies environment configuration. |
| Multiple Repository Formats | ✔ | ✔ | ✔ | Comprehensive repository support for Maven, NuGet, npm, RPM/Yum, RubyGems, OBR, P2 and Docker (coming soon). |
| Authentication and Access Control | Basic | Advanced | Advanced | Basic support includes LDAP and fine-grained access control. Advanced includes Enterprise LDAP and Atlassian Crowd support, as well as SSL certificate management and user token support. |
| Automated Repository Health Checks | Basic | Advanced | Advanced | The Nexus Pro Repository Health Check automatically evaluates your Nexus Pro repository for components with known security or license issues that may lead to unplanned rework. Basic Repository Health Checks provide summary information only. |
| Technical Support | | ✔ | ✔ | Live tech support with guaranteed service level agreements to help with configurations, upgrades, and more. 24/7 coverage optional. |
| Publish/Subscribe Notification for Deployments | | ✔ | ✔ | Ensure optimal build stability with immediate deployment notification to downstream Nexus servers allowing efficient distribution to many Nexus instances. |
| Robust Search | Basic | Advanced | Advanced | Basic search facilitates component identification and selection. Advanced search supports searches for keywords, classnames, checksums, and custom metadata. |

## FEATURE COMPARISON

| Feature | Nexus OSS | Nexus Pro | Nexus Pro+ | Description |
|---------|-----------|-----------|------------|-------------|
| Build Promotion and Staging | | Basic | Advanced | Improve release processes and collaboration with managed promotion and staging. Advanced staging can enforce policy to ensure that security, license and quality standards are met. |
| Policy Automation | | | ✔ | Define rules for acceptable component usage based on security vulnerability type and CVE score, license type, component age and more. |
| Policy Alerts and Actions | | | ✔ | Enforce policies with active (e.g., prevent staged build from being promoted) or passive (e.g, notifying specific people) actions. |

Visit us online at www.sonatype.com/Nexus/Try-Compare-Buy for more detailed features and comparisons.

## Nexus Platform At-A-Glance: Speed, Efficiency and Quality Across your SDLC

### GET STARTED

**NEXUS OSS**
**Basic Repository Manager**
Faster, more reliable builds. Improve open source component downloads, storage and retrieval.

**NEXUS AUDITOR**
**Security & License Risk Audit**
Monitor the quality and integrity of application components in production.

### GO PRO

**NEXUS PRO**
**Advanced Repository Manager**
Improve the speed, distribution, and control of components from development to production.

**NEXUS PRO+**
**Advanced Repository, Plus Policy**
Avoid rework. Improve the quality and integrity of components used.

### REACH YOUR PEAK

**NEXUS LIFECYCLE**
**Software Supply Chain Automation**
Component insight and automated open source policies provide rapid feedback to prevent defects across your SDLC.

**Learn more about all Nexus products at www.sonatype.com/Nexus**

## Get Started Today

Join the Sonatype Nexus community to learn, engage, and share Nexus tips and trick with peers and experts worldwide. Check out the fresh new articles and Nexus Live video chats with our development team. Try your hand at a Nexus two-minute challenge video, enhance your skills with free video training, and peruse the latest Nexus Now newsletters. Find the community at **www. sonatype.org.**

For a 14-day free trial of Nexus Pro, please visit **www. sonatype.com/nexus/free-trial.** No credit card is required. Just download and go!

Sonatype focuses on the challenge of creating a secure software supply chain. Today, developers rely on millions of third party and open source building blocks, known as components, to build up to 90% of a typical application. These components are downloaded from the internet, without controls, allowing components with known security vulnerabilities and/or licensing risks to be built in to newly developed software. And unlike a manufacturing supply chain, these components are not tracked throughout their lifecycle for update or recall. Sonatype uniquely identifies all components and integrates data about known security, license and quality risks into the tools developers use every day, so risky components can be easily avoided and defects repaired early in the development process. Policy automation, ongoing monitoring and proactive alerts makes it easy to have full visibility and control of components throughout the software supply chain so that applications start secure and remain that way over time. Sonatype is privately held with investments from New Enterprise Associates (NEA), Accel Partners, Bay Partners, Hummer Winblad Venture Partners and Morgenthaler Ventures. Visit: www.sonatype.com