VMware Tanzu Application Catalog

Enterprise-ready open source software

Developer Convenience

- Rapidly innovate with a self-service catalog of ready-to-deploy open source building blocks, including application components, databases, and runtimes.

- Focus on writing code without worrying about version updates, security patching, and other lifecycle management activities.

Platform Engineering Confidence

- Gain the confidence that the OSS used by your development teams is secure, conforms to your enterprise IT requirements, and is continuously updated through automated processes.

- Standardize OSS across your organization while ensuring secure and sustainable adoption.

Open source software is challenging to use in production

As enterprises move from a monolithic architecture to a distributed, microservices-based architecture, developers increasingly benefit from the wide range of technologies offered by the open source software (OSS) ecosystem. With OSS, software development teams not only gain a wide breadth of options and flexibility but they can also easily access community-led innovation. However, allowing for the use of non-governed OSS from unreliable resources is a high-risk proposition for enterprises because the potential exposure to several software supply chain security threats increases.

Successfully securing an OSS supply chain requires visibility into the dependencies that OSS brings along, understanding the vulnerabilities in those dependencies, and patching them as soon as possible. However keeping up to date on every OSS component and all of its dependencies, vulnerabilities, and patches in the upstream source code is a tedious and time-consuming effort that very few organizations can afford. The bigger question is whether development teams should be spending their time packaging OSS applications, manually tracking every single one of them and their dependencies, and ensuring that they are all always up to date, healthy, and patched with the latest CVE fixes rather than focusing on innovation and building new business solutions. One alternative for organizations to reduce this manual toil is to have dedicated CI/CD pipelines to maintain third-party OSS. But that is just as expensive, especially if SLSA3 levels of security are to be achieved.

The solution that meets the needs of developers and platform engineers

VMware Tanzu Application Catalog™ is the enterprise edition of Bitnami Application Catalog delivered as a cloud service. Tanzu Application Catalog enables customers to build their own private catalog of custom-packaged open source application components that are continuously maintained and verifiably tested for use in production environments. These ready-to-deploy artifacts are custom-configured per your requirements and deposited into a private repository of your choice, along with a complete set of metadata that proves the provenance and trustworthiness of the software within, all easily accessible through a centralized UI.

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Some of the applications in the catalog

Analytics
• Elasticsearch

• Grafana

• Jaegar

• OpenSearch

• Prometheus

Databases
• MySQL

• PostgreSQL

• MariaDB

• ClickHouse

Infrastructure
• Kafka

• RabbitMQ

• NATS

• Contour

• MetalLB

Developer Tools
• Apache APIXIS

• Apache Flink

• Appsmith

• JRuby

• Parse Server

Infrastructure
• DeepSpeed

• KubeRay

• MLflow

• PyTorch

• Tensorflow

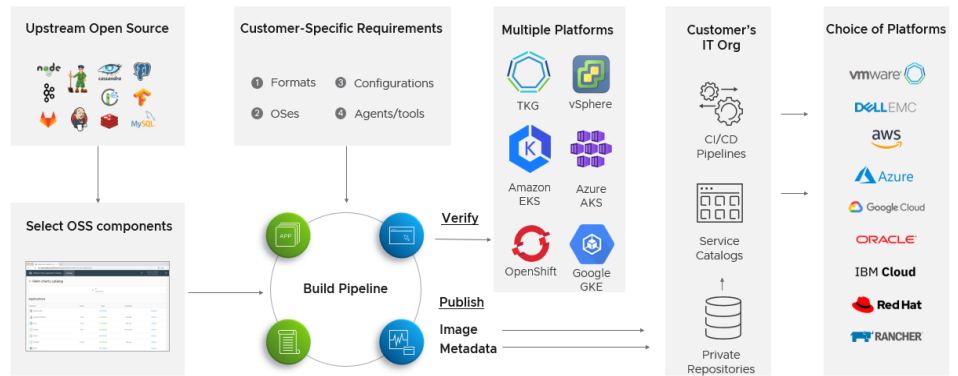Find the complete list of applications [here](#).

Figure 1: Tanzu Application Catalog - Overview

How it works

Choose your software
Browse an extensive library of 250+ production-ready OSS images which include all the necessary building blocks of modern applications, including databases, language runtimes, message streaming services, and API gateways, so you can build your own custom catalog. Choose the form factor for each application in your curated catalog: Container image, Helm chart or virtual machine.

Customize based upon your requirements
For each application's base OS, either use VMware's lightweight Linux distribution, Photon OS, or choose from any of the other options we provide: Red Hat UBI, Ubuntu or Debian. You can also choose your own customized OS as the base image. Carry out any other language runtime or application-level customizations according to your needs. Tanzu Application Catalog builds the applications in your curated catalog based upon your customizations and tests them across major Kubernetes platforms.

Deploy anywhere with confidence
Applications in your custom catalog are delivered as ready-to-deploy artifacts to a private registry of your choice or a VMware-hosted registry, along with a comprehensive set of metadata including VEX, SBoMs, and CVE scan reports. You can then deploy the applications to any platform with more peace of mind, as the latest security patches and version upgrades are automatically delivered to you once they are available upstream.
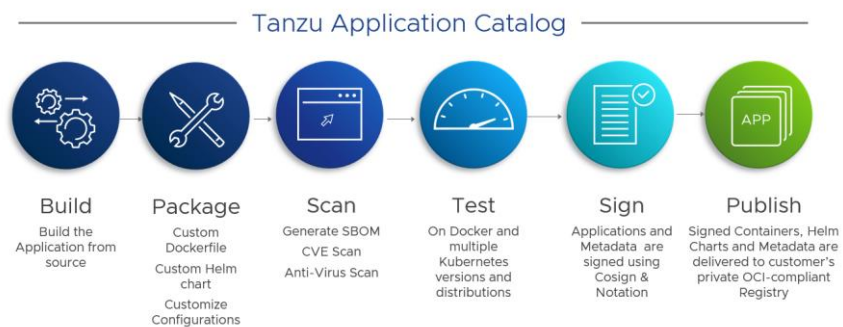

Figure 2: How does Tanzu Application Catalog work?

Additional Resources

Product features

- Rich library of 250+ trusted open source building blocks, such as runtimes, databases and other application components

- Best practices adopted from Bitnami's 15+ years of experience for secure packaging and delivery

- Automated continuous monitoring of upstream code changes to ensure delivery of the latest versions to customers at the earliest possible time once they are available upstream

- All artifacts delivered are fully ready to deploy out of the box, packaged with all necessary dependencies and configuration

- Automated rigorous functionality and performance tests on multiple platforms for every package

- SLSA Level 3-compliant pipeline to provide an inherently secure supply chain and enable you to build a strong security posture

- Out-of-the-box option allows usage of Photon OS—A VMware by Broadcom-maintained lean and lightweight Linux distribution as the base image

- Choice of operating system allows you to choose from Photon OS, Red Hat UBI, Ubuntu, or Debian, or alternatively use your own custom base image

- Private delivery to an OCI-compliant registry of your choice, with the option to use a VMware by Broadcom-hosted registry is provided as well

- Software bill of materials (SBoM) in the ISO-standard Software Package Data Exchange (SPDX) format to provide deep visibility into your software supply chain

- Vulnerability Exploitablity eXchange (VEX) documentation as per Cybersecurity and Infrastructure Security Agency (CISA) standards to provide visibility into true risk from upstream vulnerabilities and helps eliminate false positives

- Support for containers, Helm charts, and virtual machines gives you flexibility to choose a form factor for deployment

- Container images can be deployed as ARM64 or x86-64, depending on the architecture of the platform on which they are deployed

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Key use cases

Improve security and compliance posture–Get OSS built on a SLSA3 compliant supply chain, a STIG-compliant Photon OS as a base image option, and VEX documentation per CISA guidelines from Tanzu Application catalog.

Automate day 0 and lifecycle management of OSS–Reduce developer toil and enable them to fully focus on software development. OSS-related day 0 and lifecycle management activities, inlcuding packaging, patching, updating, and baseline configuration activities, are carried out by Tanzu Application Catalog,

Reduce security risks posed by OSS–Security patches and OSS upgrades are packaged by our automated build pipeline and made available to you as soon as they are released upstream.

Improve security decision making–Use the comprehensive metadata provided by Tanzu Application Catalog to get the information you need for reliable and efficient upstream risk management and a stronger security posture.

Standardize use of OSS to reduce complexity–Build a curated catalog for your development teams—configure and customize the applications to include enterprise tools and agents, so they can quickly integrate approved OSS into their apps.

Streamline open source vendor dependencies–Have all of your OSS packaged in a consistent way, on consistent operating systems, consumed from a single repository, with a single point of contact if you need help.

Start your journey with Tanzu Application Catalog today!

Get started with Tanzu Application Catalog today by filling out the form at https://tanzu.vmware.com/application-catalog#get-started.