



Customer Success Story

THWARTING ENTERPRISE DATA BREACHES

INDUSTRY

Technology – Software Security

PROBLEM

Allow the DevOps team to easily manage multiple programming languages and package types.

RESULTS

- Accelerate build and release processes without adding engineering resources
- Improved build quality
- Easily scale as demand increases
- Cost efficiencies with AWS

PRODUCT

JFrog Artifactory Cloud Enterprise



COMPANY

Polyverse is a software company based in Bellevue, WA that provides scrambled versions of Linux that are completely impervious to zero-day attacks and buffer overflows before the exploits are even known. Polyverse has an internal mantra for tools and technology consumption, “you build it, you own it, you run it” which ensures that Polyverse developers can bring any new technology into the company so long as they take the responsibility of maintaining it and ensuring its success. This approach allows for a rapid incorporation of new technologies that are proven and thereafter maintained by the team using them.

CHALLENGES

The ongoing challenge for Polyverse is managing cognitive load (i.e. effort required to learn new tools). Since Polyverse allows their DevOps teams to bring in the best tools that will allow them to gain efficiencies and build software faster, they try and standardize whenever possible. This allows more teams within Polyverse to adopt its use; and thereby reduce much of that cognitive load. As a smaller company, hosting their servers and infrastructure in the cloud was a necessity and AWS was a natural fit. Further, Polyverse runs a large amount of build jobs per day, across a variety of Linux distributions, packages, and environments – so they needed tools that could scale & support a diverse set of DevOps needs. The main challenge at Polyverse was an ever-growing number of artifact builds, due to their dependency on various package types and reliance upon Docker.

RESULTS

JFrog Artifactory Enterprise was brought into Polyverse to solve the problem of managing a large number of artifacts generated and consumed across programming languages and package types used by the DevOps team including Go Lang and Node JS. Polyverse is Docker native, and Artifactory enabled storage consolidation of all the images built. Polyverse builds a Docker image from every commit of source code, across every branch, in each repository. If it exists in git, they build an image out of it. With Artifactory Enterprise, the DevOps team at Polyverse was able to improve their build deployment speed by several magnitudes; and the team experienced an improvement in build accuracy with every code change. They could build and release faster without adding any new engineering resources. Polyverse went with hosted JFrog Enterprise, because they wanted to completely offload management. AWS was the right choice to help manage the costs and headache associated with their required infrastructure at Polyverse (products used include AWS Batch, SQS, ECS and ECR primarily to run workloads). With AWS Batch, Polyverse can scale out their clusters on demand, as jobs pile up. Additional services used to glue this all together include IAM, Cognito, and Fargate, in a smaller capacity.

Polyverse serves Linux repos to the world, and every machine on the entire planet (that subscribes to Poylverse) gets its own private repo of the entire Linux package manager. Polyverse likes to think of themselves as the world's largest CI/CD pipeline because they are pulling from Linux sources, rebuilding and subsequently deploying continuously. This translates to about 200K container build jobs in their queue at any given time, and each of the builds for every distribution are the core images stored in JFrog Artifactory. Build clusters can range from 1500 nodes up to 5000 nodes at peak, with about 100K jobs running on them in parallel, with queues of up to 1M jobs at peak. Containers enable Polyverse to rapidly get deterministic environments at a moment's notice. Without containers, each environment would require a separate VM, and the costs would be many orders of magnitude higher.

This highly scaled effort is built by 12 Polyverse DevOps engineers, who also manage the system effectively and easily.

“Our approach of using JFrog Artifactory Enterprise, hosting on AWS, and deploying to containers allows Polyverse to gain a huge advantage when compared to other solutions on the market. We are always looking for platforms that will lower our TCO, but so far, this combination is a winner in terms of low management overhead, low cognitive load, lowered costs, easy maintenance, and easy debugging. All these benefits enable us to focus on what we do best - binary scrambling to ensure security for the enterprise.” - **Archis Gore**, CTO at Polyverse Corporation



www.jfrog.com



www.facebook.com/artifrog/



www.twitter.com/jfrog



www.linkedin.com/company/jfrog-ltd

