



Panasonic Heating & Ventilation A/C Company's Path to Enhanced Development Operations and Security Using the JFrog Platform

Panasonic Corp's Heating, Ventilation and A/C Division embarked on a mission to improve the efficiency and security of its development process in order to consistently provide better products and services for its customers.



Integrated Security at Every Stage of the Development Lifecycle



Single System of Record for Secure Automated Software Releases



End-to-end Auditing and Tracing of Software Artifacts

6

Nodes in cloud and server environments combined into a single repository



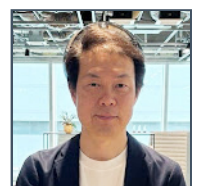
Shift Left resulting in improved development security and efficiency

99.9%

SLA for availability of the software development environment



"We develop and deploy HVAC CLOUD, air-related apps, and services for lighting and heating equipment. Previously, managing growing vulnerabilities required assigning personnel, and security risks weren't fully controlled. With JFrog and our shift to DevSecOps, vulnerability management and license checks are now easily handled within the repository. The shift to DevSecOps has greatly contributed to this progress."



Mr. Kengo Nishimura

Service Development & Operation Department,
Solution Business Development Center,
Heating & Ventilation A/C Company,
Panasonic Corporation

Company Overview

Panasonic Corp's Heating, Ventilation and A/C Division develops and operates residential air conditioners, electric water heaters, CO2 heat pump water heaters, air-to-water heat pumps, commercial air conditioners and VRF multi-split air conditioning systems for residential and commercial buildings.

The company's services are deployed across a wide range of environments, from sports centers, train stations and schools to hospitals and department stores. Additionally, the organization is moving towards AI-powered models for their energy-saving control systems as part of a greater strategy to differentiate themselves from the competition by using a more innovative approach to meet industry challenges. For example, the company uses AI models to determine the customer's local weather, temperature, and air humidity, to provide the optimal air conditioner settings for energy savings.



The Panasonic AC Smart Cloud system provides status updates to all installations, reducing potential breakdowns and optimizing costs.

Given the complexity of combined responsibility for ensuring application security and management of AI/ML development operations, and the need for auditing of all software artifacts to ensure compliance with relevant standards, the team realized that a more comprehensive software development and security platform had become an urgent requirement.

The project was led by Kengo Nishimura, Director of the Service Development and Operation Department, Solution Engineering Business Division at Panasonic Corporation's Heating & Ventilation & Air Conditioning Company, and Senior Engineer Hideki Homma.

Challenges

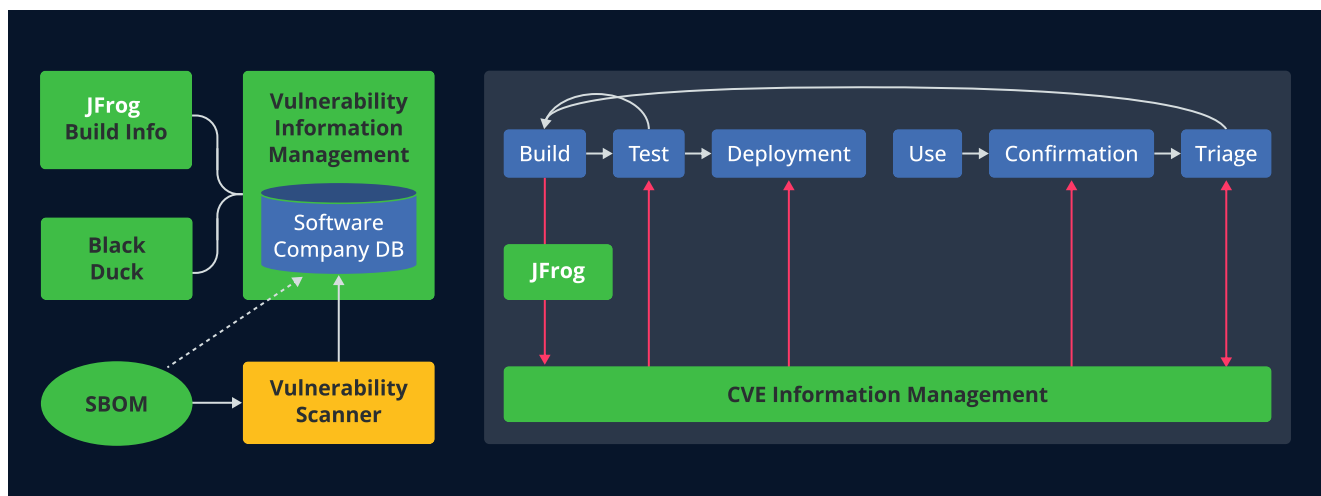
Before adopting the [JFrog Platform](#), the team relied on manual processes, such as using a spreadsheet to track information and manage vulnerabilities in multiple coding languages such as C, C#, C++, Java and Python. This approach was labor-intensive, prone to errors, and inadequate for addressing the rapidly growing volume of vulnerabilities.

The team was also faced with the challenge of managing vulnerabilities for open source software (OSS) packages. This included ensuring security compliance across multiple services, which required a large amount of man-hours to review each vulnerability and make sure that there was a remediation plan and countermeasures were in place.

Additionally, the company needed a more efficient way to manage binary artifacts and ensure that all software components met their stringent security standards. The reliance on open databases like the National Vulnerability Database (NVD) provided insufficient coverage, leading to last-minute rollbacks and wasted time in the development cycle.

Solution

To address these challenges, the team [followed a growing industry trend](#), in seeking a platform approach covering the three major pillars of software artifact management, application security and continuous release distribution. In the end, JFrog's comprehensive [DevOps and Security platform](#) was selected as their solution choice.



The JFrog Platform helps protect against OSS vulnerabilities while auditing artifacts for compliance with quality and security standards.

More specifically, the team believed that the end-to-end solution provided by JFrog products and features could provide the improved efficiency and security they required:

- **JFrog Artifactory:** Centralized the management of all binaries, ensuring that the company could store, track, and manage all artifacts with consistent security and compliance controls. Leveraging Artifactory also provided the ability to federate development environments in different locations between servers and AWS, and create a more efficient centralized repository for the entire organization.
- **JFrog Xray and JFrog Advanced Security:** Significantly improved the speed and accuracy of dependency vulnerability detection based on JFrog's unique vulnerability database, that includes daily updates providing far more extensive coverage than previous NVD open database solutions. The addition of contextual analysis gave an even more in-depth understanding regarding the impact of CVEs on specific applications, thereby minimizing false positives and misdetections, while identifying real threats with significantly greater accuracy.
- **JFrog Distribution:** Facilitates the secure and efficient distribution of artifacts across different environments, ensuring consistent deployments.

"JFrog Artifactory can be used to speed up the response to vulnerabilities when deploying open source software (OSS). It also has the great advantage of managing binaries of released software, which makes it easier to manage vulnerabilities and identify risks of leakage."

"In addition to JFrog Artifactory's central management of all binaries, JFrog Xray was also a significant differentiator, providing pre-release vulnerability information which was a key advantage over the open databases we were previously using."

"For security reasons, we use both our development environment on AWS and our organization's private local environment, and have designed JFrog Distribution's Edge to deploy in both environments."

Mr. Hideki Homma, Senior Engineer, Panasonic HVAC

Results

By adopting the JFrog Platform, Panasonic Corporation's HVAC Company transformed its approach to DevOps, achieving significant improvements in security, efficiency, and overall development quality, as well as the following critical benefits:

- ✓ **Integrated Security at Every Stage of Development:** With JFrog Xray's comprehensive scanning capabilities, Panasonic was able to detect and address vulnerabilities earlier in the development cycle, reducing the risk of security breaches and the need for costly rollbacks.
- ✓ **Single System of Record for Secure, Automated Software Releases:** The integration of JFrog's tools enabled a shift-left approach, allowing developers to perform vulnerability checks earlier in the development process. This not only reduced labor costs but also improved the overall release cycle, streamlining Panasonic's overall security processes.

- ✔ **End-to-end Auditing and Traceability:** With JFrog Artifactory, the management of binaries became more efficient, reducing the time and effort required to track and deploy software components across different environments.
- ✔ **Enterprise Proven Scale and Governance:** As Panasonic HVAC continues to innovate in the IoT space, the JFrog Platform provides the scalability needed to support increasing demands, ensuring that the company can continue to deliver cutting-edge solutions to its customers, including:
 - **Centralized Governance:** The ability to set policies and continuously monitor compliance across all repositories ensuring that Panasonic can still enforce their stringent security standards while reducing manual oversight.
 - **Secure Distribution Across Environments:** JFrog Distribution allowed Panasonic to overcome network limitations and securely deploy artifacts across various environments, maintaining consistency and security throughout the development lifecycle.

This partnership between Panasonic Corp's Heating, Ventilation and A/C Division and JFrog has been instrumental in transforming development and operations processes, resulting in not only in better security and compliance, but also enhanced efficiency and reduced costs. After streamlining its development operations, Panasonic is now better equipped to deliver secure, innovative solutions to its customers, solidifying its position as a leader for air conditioning, hot water and IoT solutions.

The JFrog Platform

Overcoming network limitations and securely deploying artifacts across various environments, deployment of the JFrog Platform ensures consistency and security throughout the development lifecycle, while providing a complete audit for regulatory and standards compliance.

We invite DevOps and Security professionals who are managing software updates to edge devices to schedule a [one-on-one demo](#) or take an [online guided tour](#) and see how the JFrog Platform changes how AI/ML software is developed and delivered to the edge.

"Centralizing our artifact management with JFrog Artifactory has transformed our DevSecOps approach. We now have a single source of truth for all binaries, ensuring consistency and security across every deployment. With JFrog Xray, we've shifted from reactive to proactive vulnerability management. This has not only reduced our security risks but also minimized costly rollbacks, streamlining our development process significantly."



Mr. Hideki Homma

Senior Engineer, Panasonic HVAC

Products

[The JFrog Platform](#), [JFrog Artifactory](#), [JFrog Xray](#), [JFrog Distribution](#)

HVAC: Heating, Ventilation, and Air Conditioning

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ABOUT JFROG

JFrog empowers thousands of DevOps organizations globally to build, secure, distribute, and connect any software artifact to any environment using the universal, hybrid, multi-cloud JFrog Platform.



Start for free at <https://jfrog.com/start-free>

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