

The benefits of building a software factory with Red Hat OpenShift

The modern software supply chain

Most companies in today's digital world have a software supply chain—the processes, tools, and platforms that support developing, deploying, and updating software, which includes:

1. **Runtimes.** Products, tools, and components for developing and maintaining cloud-native applications.
2. **Assembly.** Building, testing, and securing applications.
3. **Production.** The delivery of finished software applications.

A software factory supports an effective software supply chain.

A modern software factory supports **velocity**.

What is a software factory?

Modern software delivery relies on speed, consistency, and quality. A software factory is part of a modern software supply chain and supports, accelerates, and enforces the behavior changes organizations need to adopt a DevSecOps culture. A software factory is the digital equivalent of an assembly line, but instead of physical parts, assembly automation, and quality checks, it has multiple software pipelines. These pipelines are equipped with a set of tools, process workflows, scripts, and environments to produce consistent, reliable applications with reduced human intervention through automation and controls.

A modern software factory shifts your perspective from project to **product focus**.

Remove manual processes that restrict software development and deployment

Developing and deploying high-quality software at scale while adhering to security, compliance, and quality standards is a challenge for many organizations. Manual processes and sign-offs create inconsistent security practices and result in slower, less controlled software delivery. The lack of consistent or transparent processes leads to inefficient work and distrust between teams. The more complicated the implementation, the more distracted developers become by tangential issues. Security and compliance concerns arise late in the project, adding more friction to an already stressful phase.

Building applications with manual processes is less productive than the alternative—a software factory approach. This transforms the sequence of processes involved throughout the development and deployment of software. Adopting a software factory approach connects teams to consistent and automated developers and operations workflows. Teams work with a trusted software supply chain and enforced sequence.

Boost the speed of development and deployment with quality and consistency

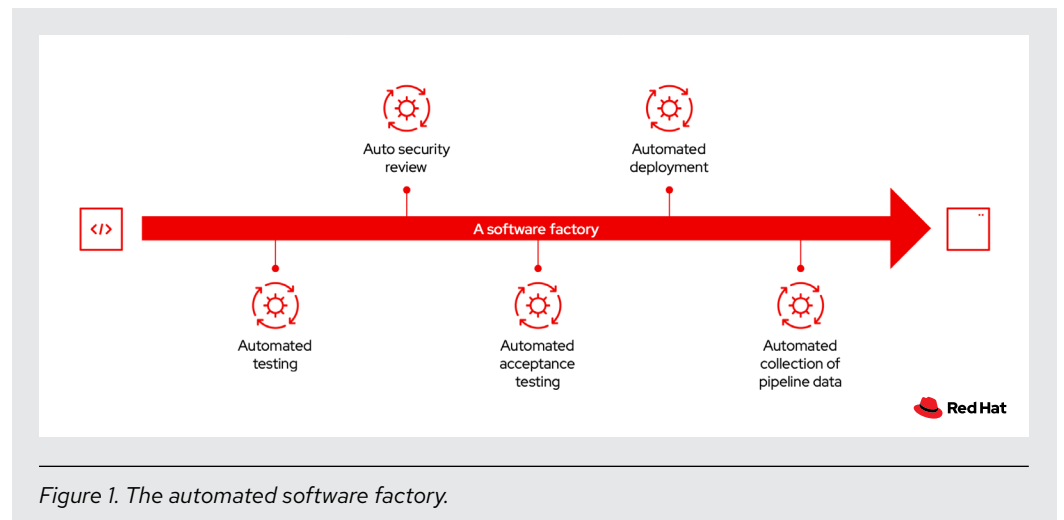
The develop, build, test, release, and deliver phases in a software factory are automated to help teams ship updates consistently. Automated phases with a software factory include:

- ▶ Testing.
- ▶ Security and quality review.
- ▶ Acceptance testing.
- ▶ Deployment.
- ▶ Collection of pipeline data.

What you need for a software factory:

Unlock the power of technology, such as containers and Kubernetes, while minimizing complexity.

- ▶ Standardize on a security-focused platform.
- ▶ Support automation and consistency.
- ▶ Use automation to focus on speed to market while increasing agility and stability.
- ▶ Build a consistent pipeline.



Organizations that have implemented a software factory can ship software efficiently and with fewer defects and get applications to market more efficiently and at higher quality. Studies have shown that this can result in dramatic improvements, allowing teams to deploy software over 95 percent faster with far fewer errors (see Figure 2).

Software delivery performance metric	With a software factory	Without a software factory
Deployment frequency	On demand (multiple deployments per day)	Once every 1-6 months
Lead time for changes	Less than one hour	1-6 months
Time to restore services	Less than one hour	Between one day and one week
Change failure rate	0%-15% ¹	16%-30% ¹

Figure 2. The impact of a software factory.

¹ Google Cloud. [“Accelerate State of DevOps 2021.”](#) Sept. 2021.

Accelerate time to market while maintaining consistency

A software factory approach helps organizations shift from a project to a product focus and gain greater trust in the software pipeline. Increasing stability and using automation boosts speed to market. Small changes can be rolled out in minutes with quality by default, helping developers focus on coding and innovating.

During development, security and compliance measures are applied automatically, with documented processes and policies to help teams gain clarity on expectations and prevent surprises. Feedback is immediate, speeding up how efficiently changes can be deployed daily while reducing risk.

A security-focused platform that supports automation and consistency is key for all the benefits of a software factory approach to work for an organization. Red Hat® OpenShift® helps organizations adopt this approach by providing a single, hybrid cloud platform for enterprises to build, deploy, run, and manage intelligent applications at scale.

Red Hat OpenShift helps companies unlock the power of containers and Kubernetes while reducing the complexity of adopting these technologies. That lets you focus on what matters most—getting your applications to market first and efficiently responding to your customers’ needs.

Get started with [Red Hat OpenShift Platform Plus](#) and adopt the benefits of a software factory approach.



About Red Hat

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