

# Simplify Kubernetes and speed innovation with Intel and SUSE

**Containerized applications enhance productivity and speed innovation. But having the right partner and optimized resources are critical.**

## Key takeaways

1. Orchestrating containerized apps with Kubernetes can improve the agility and efficiency of software development but comes with increased complexity.
2. Rancher, from SUSE, simplifies Kubernetes with a complete management platform that enhances the efficiency of your application and its value to your organization.
3. Built-in features on 4<sup>th</sup> Generation Intel® Xeon® Scalable processors can improve performance and security for containerized applications.

## Summary

With a world-class suite of solutions for optimizing Kubernetes orchestration and management, Intel and SUSE are working together to help businesses maximize their return on investment for containerized applications.

## Containerization meets optimization

Responding at scale to evolving pressures such as changing business environments, technical requirements, and government regulations demands a robust and nimble containerized application environment. For a growing number of businesses, achieving the flexibility and pace of innovation they need to sustain their digital transformation means leveraging containerization with open-source Kubernetes orchestration.

Intel and SUSE are working together to help businesses move into the future by maximizing their return on investment (ROI) for containerized applications.

## Overcoming the challenges of Kubernetes

Whether it's game-changing portability, enhanced data privacy, or faster innovation through continuous delivery, implementing Kubernetes presents many advantages. It also comes with some steep technical hurdles.

Some organizations working to operate and maintain Kubernetes can run into complexities that can slow time to market and give IT and software developers more problems than efficiencies. If Kubernetes isn't configured properly, it can even lead to cost overruns, among other issues.

## Rancher sets the standard for Kubernetes consistency and efficiency

A proven enterprise container management (ECM) platform, [Rancher by SUSE](#) simplifies multi-cluster operations to ensure unified K8s-native management across all aspects of your deployment. Whether your applications are running on-prem, on-cloud, or in a hybrid, multi-cloud infrastructure, Rancher greatly reduces the complexity of configuring and maintaining Kubernetes. This allows your dev teams to move faster while focusing on delivering differentiating products.





Rancher also employs Intel® hardware plug-ins to ensure that your applications have access to the exact resources they need for optimal performance but without overprovisioning. In many cases, Intel® accelerators and optimizations can help you reduce the amount of compute and other resources your applications consume.

### Simplify Kubernetes management

Rancher dramatically simplifies multi-cluster operations with full Kubernetes life-cycle management, including provisioning, version management, and monitoring. By leveraging Intel® plug-ins, Rancher provides a customizable, centralized view of your resources and applications to allow for greater organizational visibility and to make the management of IT solutions easier. Rancher also streamlines the deployment process and automates delivery for greater control and efficiency.

### The reliability and flexibility to scale with confidence

Beyond simplification and management, Rancher can help reduce risk and improve compliance by enhancing the reliability of applications with inherent high-availability features in containerized deployments. By integrating hardware-level data security from Intel, Rancher can even improve your data security posture with Intel® technologies that speed up cryptography and give you more fine-grained tools to control access.

Unlike some ECM solutions that can lead to vendor lock-in, Rancher delivers this robust reliability while offering exceptional flexibility. For example, while Rancher provides powerful management for K3s implementations across EKS, GKE, and AKS, it doesn't require users to employ the K3s engine. Rancher and Intel allow you to choose the infrastructure you need to meet your business needs.

### A partnership built on openness

With a shared dedication to open-source software development, Intel and SUSE have partnered for decades to accelerate the pace of innovation around the world. Intel is committed to delivering products that encourage open ecosystems and give software developers the tools they need to give their businesses a competitive advantage. SUSE also drives open-source innovation with community support and a [GitHub repository](#) that contains most of the Rancher codebase.

### A new generation of application performance

4<sup>th</sup> Generation Intel® Xeon® Scalable processors bring more scalable power and advanced features into the data center than ever before. Enhanced speeds and more cores mean that your containerized applications can run on fewer resources. New built-in features on 4<sup>th</sup> Gen Intel Xeon Scalable processors are also enhancing efficiency, performance, and security. Intel® Accelerator Engines enhance server performance and efficiency, while Intel® security technologies overcome privacy hurdles and create new opportunities to leverage data.

### New ways to accelerate innovation

Intel® Quick Assist Technology (Intel® QAT) improves the performance of containerized applications which can become bogged down by cryptography. Intel QAT enhances the capability and productivity of containerized applications by accelerating encryption, decryption, and data compression. These computationally intensive tasks are offloaded from the processor core which helps reduce system resource consumption.





To support workloads that demand discreet hardware acceleration, the Intel® Data Center GPU Max Series puts up to 128 Xe cores with up to 128 GB of memory on a single package. This means that SUSE can help you seamlessly scale your containerized applications from the simplest edge devices to solutions capable of delivering high-level breakthroughs.

Regardless of the speed you're able to achieve, enhancing security for your applications and data is critical for innovation. [Intel® Software Guard Extensions](#) (Intel® SGX) allow you to establish the smallest trust boundary available in the data center. Intel SGX is the leading confidential computing technology on the market and is generating new use cases in sectors, such as in healthcare and financial services, where confidentiality is critical.

## Accelerate now

Together, Intel and SUSE are supporting transformation by improving containerization from the edge to the cloud. SUSE's software orchestration and hardware plug-ins from Intel ensure cluster consistency and continuous delivery so you can streamline your application, no matter how you deploy.

By choosing Intel in the data center, you're ensuring that you have the performance you need today, and the flexibility to move into the future.

## Learn more

- [Learn more about 4th Generation Intel® Xeon® Scalable processors](#)
- [See Intel device plugins on Github](#)



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