

Edge computing with Red Hat OpenShift Container Platform

Innovation closer to the users and the data sources

Edge computing with Red Hat OpenShift can contribute to your business success.

Customers who have deployed Red Hat OpenShift benefited from:

44%

more new applications

33%

faster application updates

21%

more efficient IT teams

Source: [An IDC Business Value Snapshot, sponsored by Red Hat, The Business Value of Red Hat OpenShift, Doc #US47539121, Mar 2021](#)

Delivering better experiences through data-powered applications

As customer expectations rise, so does the demand for increased access to devices, data, and applications to power new experiences. Every interaction between company and customer is now a hybrid mix of technologies and touchpoints. For organizations, this presents a unique opportunity to derive insights by analyzing data locally to initiate actions like anomaly detection in manufacturing, predictive maintenance on an oil rig, new service offerings within smart cities, or contactless retail stores. Data also helps organizations offer new, modernized applications with enhanced user experiences like augmented reality / virtual reality (AR/VR) and video streaming in industries like telecommunications, healthcare, and education. However, gathering and analyzing data at a speed that captures patterns quickly or delivers the application experience users demand, requires a different approach to a traditional centralized IT architecture. This is where edge computing can help.

Speed of relevance requires faster processing

Edge computing helps organizations extend their infrastructure to remote locations—closer to users and data sources. Faster response times and a better application experience result when application and data processing no longer have to take place back at a central site.

With edge computing, you can place artificial intelligence / machine learning (AI/ML)-powered applications closer to data sources like sensors, cameras, and mobile devices to gather insights faster, identify patterns, then initiate actions based on your business use cases.

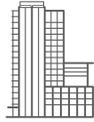
When processing is closer to users, organizations can adopt new, modernized applications to create new revenue streams and offer differentiated experiences while meeting data sovereignty requirements when data cannot traverse geographical boundaries.

At the same time, edge computing helps scale centralized datacenter resources by placing smaller infrastructure locally—reducing the requirements of both the central site infrastructure for processing, as well as the connections back to that central site. But with the benefits of edge computing also come with complexities:

- **Scale.** Edge deployments can range up to thousands of sites that may have minimal-to-no IT staff on-site and can vary in physical and environmental requirements.
- **Interoperability.** Edge stacks consist of various hardware and software elements requiring that multiple technologies from different vendors work together to address use case needs.
- **Manageability.** A highly distributed edge architecture can quickly become very difficult to manage, challenging existing IT and development teams to scale as infrastructure scales out.



www.facebook.com/redhatinc/
[@RedHat](https://twitter.com/RedHat)
[linkedin.com/company/red-hat](https://www.linkedin.com/company/red-hat)



Red Hat OpenShift powers the edge

Red Hat® OpenShift® extends the capabilities of Kubernetes to the edge of the network helping organizations consistently manage infrastructure at scale, even to the most remote edge locations, without sacrificing security or stability. As part of a hybrid cloud environment, it extends processing closer to users and data sources.

A flexible set of topology options, including remote worker nodes and 3-node clusters, lets organizations mix and match architectures based on the needs of edge sites that can vary in physical size, power, and cooling capabilities, as well as those located in areas with intermittent connectivity.

As a hybrid cloud platform, Red Hat OpenShift allows developers to write code once and deploy it anywhere for application portability across private and public clouds and edge locations. This gives organizations the flexibility to evolve an entire deployment, inclusive of edge sites, as business strategies change—all while maintaining consistent operations.

With Red Hat OpenShift, applications can be developed and their life cycle managed at scale more securely with consistency and reliability across a wide variety of systems. Best of all, it is all done using the same tools and processes developers are already familiar with. AI/ML-powered intelligent applications developed centrally can run in edge locations to gather and analyze data faster, while integrated DevOps capabilities provide frequent AI model updates to ensure prediction accuracy. Red Hat OpenShift supports hardware acceleration for inference use cases, a broad ecosystem of AI/ML and application development tools, and integrated security and operations management capabilities.

Red Hat OpenShift, together with Red Hat's broad portfolio, form the foundational building blocks that, together with our ecosystem of partners, helps customers create a distributed architecture to edge computing. This provides organizations with the ability to engage with customers more deeply and develop new business models by using data and applications.

About Red Hat

Red Hat is the world's leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers integrate new and existing IT applications, develop cloud-native applications, standardize on our industry-leading operating system, and automate, secure, and manage complex environments. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500. As a strategic partner to cloud providers, system integrators, application vendors, customers, and open source communities, Red Hat can help organizations prepare for the digital future.

North America

1 888 REDHAT1

www.redhat.com

Europe, Middle East, and Africa

00800 7334 2835

europa@redhat.com

Asia Pacific

+65 6490 4200

apac@redhat.com

Latin America

+54 11 4329 7300

info-latam@redhat.com



facebook.com/redhatinc

@Redhat

linkedin.com/company/red-hat