# Streamlining the adoption of edge computing

Hyperconverged infrastructure and open source are fueling the rise in edge technology

**Garrett Clark**
Practice Lead, OpenShift Virtualization, Storage and Hyperconverged Infrastructure, Red Hat North American Public Sector

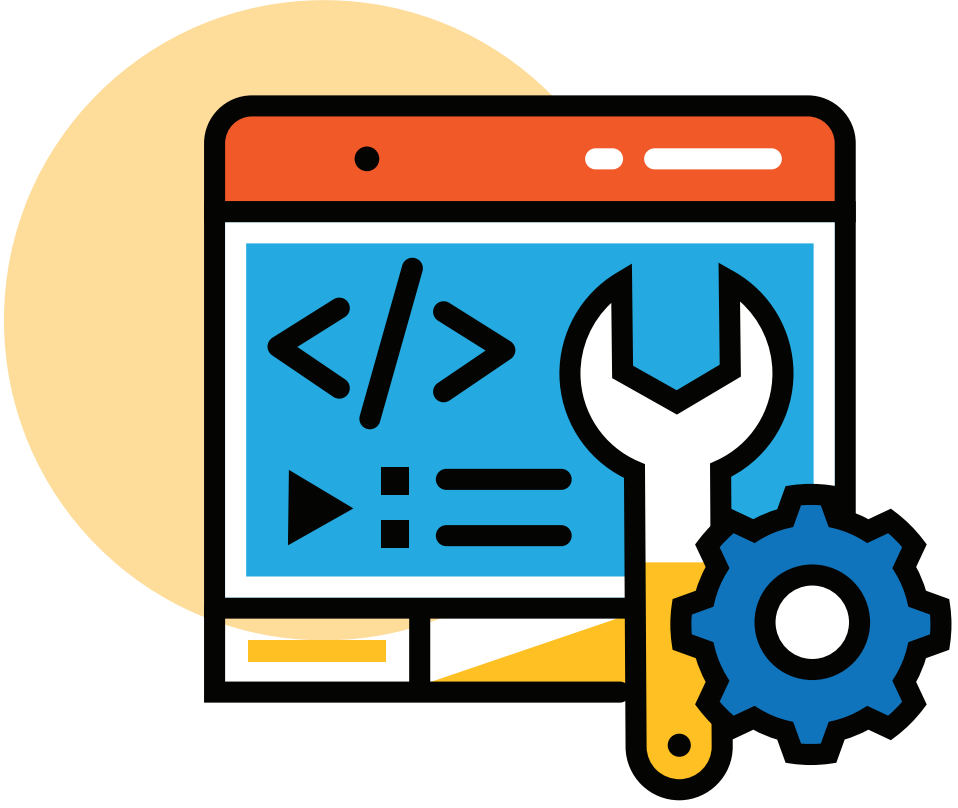
**FOR ORGANIZATIONS** at all levels of government, mission outcomes hinge on the ability to collect, analyze and make decisions based on data. That ability has implications across a broad range of scenarios, including smart cities, military operations, signal analysis in the intelligence community and the collection of weather data to keep people safe from natural disasters.

Edge computing has a vital role to play in the success of those efforts because it allows agencies to process data at the edge rather than sending it back to a data center or public cloud. By speeding analysis, it facilitates faster, better decisions. Edge computing can also lead to the collection of more targeted, relevant data.

## The role of hyperconvergence

In a traditional data center, compute, networking and storage are three separate silos, typically requiring three administrators and three sets of hardware. In edge computing, this overhead is a deal breaker. For example, it's impossible to combine all three areas into a device that fits in a backpack or military vehicle for travel to a remote site — unless we turn to hyperconverged infrastructure, which is a key element in the move to edge computing.

Hyperconverged infrastructure combines compute, networking and storage into a single package. In fact, it is the reason why edge computing can start to work. Furthermore, it streamlines the deployment of multiple environments and simplifies long-term maintenance, enabling non-technical employees to operate it.



## The innovative nature of open source

Open source is a necessary component of edge computing for two main reasons. First, open source is much more secure than its proprietary counterparts due to the increased transparency. For edge deployments with hundreds or even thousands of sites, initially securing and maintaining them are solved through Red Hat open source.

Second, open source supports a level of innovation most proprietary systems simply can't match. When thousands of people work on a technology, that gives it a substantial advantage in terms of new ideas and accelerated innovation.

Red Hat's expertise across all those components puts us in a somewhat unique position in the industry. With the various elements of Red Hat OpenShift's family of containerization software, we can run virtual machines next to containers, fully integrated with storage and packaged

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together with different application development bundles.

That can add a lot of value for edge workloads. Let's say an agency has a more traditional piece of analysis that's built for virtual machines but then wants to spin a newer piece of analysis up and down much more rapidly. Through Red Hat OpenShift, the new workload could live on containers, next to virtual machines, while being fully integrated with storage so that it's easy to use and manage.

Getting started with a new technology is always a challenge. That's why we created KubeFrame for AI-Edge, the framework for Kubernetes. It is Red Hat OpenShift, Red Hat OpenShift Container Storage, and various applications and management tools packaged into a prescriptive set of hardware.

KubeFrame for AI-Edge gives agencies a baseline and an easy button to press that can be deployed in the vast majority of scenarios to get them started. The advantage is that we've tested all the elements together, and the package makes it possible for agencies to streamline multiple deployments so they can quickly start reaping the benefits of edge computing. ■

**Garrett Clark** is the practice lead for OpenShift Virtualization, Storage and Hyperconverged Infrastructure for Red Hat North American Public Sector.

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