



# OPEN SOURCE: A COMMON STANDARD FOR CLOUD, EDGE AND IOT



In this Q&A, Red Hat's **Dwight Chamberlain**, senior director and head of sales for state and local government and education, discusses the crucial role that open source technology plays in edge computing, IoT and cloud innovation.

**Where do you see the biggest potential for state and local agencies to leverage IoT, cloud, edge computing and similar technologies to improve service delivery and performance?**

The biggest potential is focusing on a platform for these technologies. When you say IoT, or cloud, or edge, we're talking about physical locations of applications and data that are different for each technology. You need to tie those together with a platform, a common substrate that is consistent and reusable no matter which of those technologies is being used. Then you focus on the best applications of those technologies and where they can help the most.

For instance, this approach can support field devices that enable subway maintenance crews to enter the status of projects offline and then update that information to edge devices once workers are above ground. Or drones that can inspect the condition of powerlines or other infrastructure, automatically sending imagery and other data to base stations without putting human employees at risk.

**How will open source technologies and tools support the growing demand among state and local agencies for real-time data analysis and decision-making?**

As an example, let's look at emergency response, where real-time data analysis and decision-making is critical. Each of the various entities involved, including police, fire, first responders and hospitals, has a different way of handling data — whether it's the application interface they use, the data format they use or something else. Open source is the reference implementation of open standards, so agencies can more easily enable real-time communication and data sharing across these applications. That's very difficult to do with proprietary solutions.

**How will open source technologies and tools enable government agencies to manage increasingly complex hybrid and multi-cloud environments?**

In addition to open standards allowing agencies to pivot flexibly to the best environment

for any given use case, there is another important advantage. Many of the tools that have grown up around cloud computing have been developed in the open source community. Containerization is one example; it's probably the most modern computing construct running workloads in the cloud today. The more that government organizations embrace open source, the more likely they'll be able to leverage complex cloud environments as opposed to restricting themselves with tools and technologies that haven't been cloud native from the beginning. Open source also can help them transition to the cloud faster and move from cloud to cloud without experiencing vendor lock-in.

**How does a move toward open source in these areas improve efficiency?**

The most obvious way is the idea that many eyes solve problems faster. Just look at Ansible, which has about 2,500 individuals who have submitted code, documentation or bug discoveries. They're finding and solving problems very fast; innovation happens very quickly with open source technologies.

**What advice do you have for state and local agencies interested in implementing open source strategies?**

Be sure you have a thorough understanding of open source methods, technologies and culture. Develop your internal capabilities by hiring employees that have open source experience, but don't go it alone; work with systems integrators and industry partners that understand open source. Finally, remember that your peers have already solved many problems for you. Before you decide to develop your own unique solution, find out what your peers have done or refer to existing government open source resources such as California's Open Source Portal.

# OPEN, INNOVATIVE, AND SECURE

Red Hat technologies use the power of open source communities to make you more efficient, meet critical IT demands, and improve service delivery—all without vendor lock-in.

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