Driving Innovation with Mobility

Kevin Tunks, chief architect and national technology adviser for Red Hat, discusses innovative approaches to integrate mobile-centric workloads, secure mobile applications and prepare for 5G.

What mobility trends are you seeing in state and local government?

We're seeing a broad spectrum of workloads and trends, especially post-pandemic as residents use mobile devices as their go-to channel for interacting with state or local government. Looking at health and human services, for example, people expect everything from Medicaid interactions to child welfare activities to be available on mobile devices. For organizations, that doesn't mean just transferring an activity from a website where you need a big screen to see the content. Now it means looking at ways to do those things from a mobile-first perspective, where interactions are intended and designed to be mobile from the start.

What challenges do these trends present?

Most of this technology has been built on legacy technology stacks, so making information available at the speed and scalability that mobile phones enable is a challenge. Users expect mobile digital experiences to be much more seamless and well-designed. Organizations really have to think through the orchestration of their services and how to deliver data and applications at a speed and in a way that creates a satisfying user experience even when they're delivered via mobile.

What should organizations consider when they integrate mobile apps with the rest of their enterprise?

It comes down to identity and Zero-Trust concepts. Strongly authenticating someone and having confidence in their identity is especially important as organizations work with sensitive or private information. Organizations need to consider how users move through sensitive data from a strong authentication and authorization standpoint. That brings us to Zero-Trust development models. How do you architect to create a safe landing space for people to come in and then traverse into legacy systems where critical information is stored? How do you set up safe, well-orchestrated and known boundaries, so employees and the public don't have challenges when they try to access data? That's critical in your systems.

How can organizations make the best use of time and resources when developing enterprise-wide or multi-channel apps?

It's important to have products that rely on open standards. With these products, you can incrementally add pieces because they're loosely coupled but tightly aligned around open standards. That capability also enables systems to evolve, which is important considering most systems last 15 to 20-plus years. Containerization of those pieces is also important. Given the flow of information for all those pieces — from developing and testing something, to running and scaling it in production — you need to manage the risk to underlying technology and address environmental differences to ensure a smooth, seamless experience.
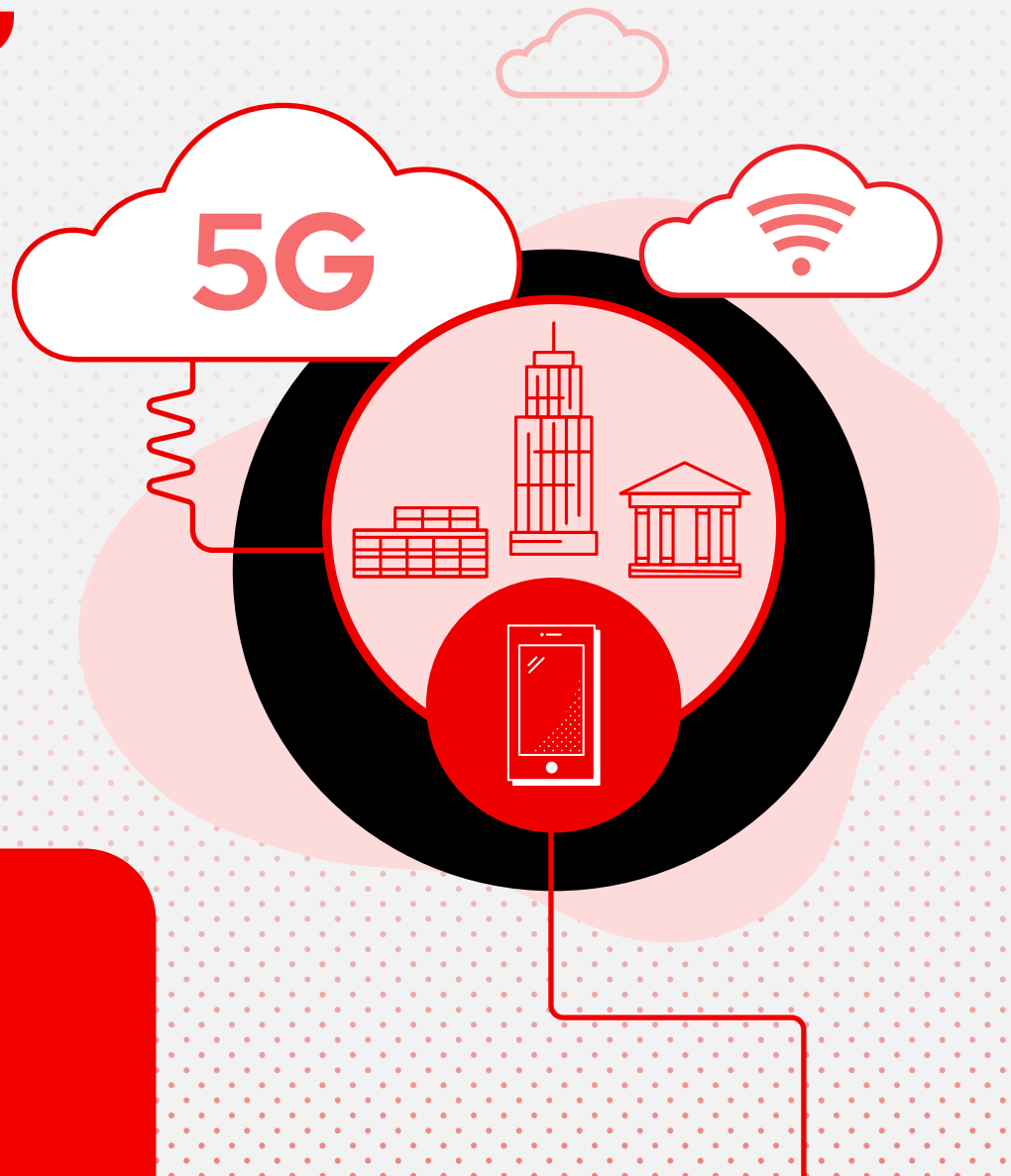
How does 5G impact mobile initiatives?

There's not much impact on most transactions and workflows. Where it gets interesting is in the delivery of support and services — to employees in particular — to share knowledge or highly technical capabilities to remote areas. If I'm a technician repairing critical infrastructure, I can now use things like augmented reality and wearable technologies to collaborate in real time with experts who are not physically there with me, but can help guide me through that repair process. 5G provides the speed and bandwidth to do that kind of thing. 5G also enables you to have more intelligence at the edge of your architecture. You can run business applications, rules engines and machine learning workloads on local devices that process incoming information right there — which allows things like connected autonomous vehicles and smart objects to communicate in more meaningful ways.

How can organizations prepare for the transition to 5G?

This is an inflection point where you can rethink and enhance business processes, service design and staffing concepts. Update your plans to provide just-in-time training to equip people to use the powerful bandwidth that 5G offers. 5G-enabled wearable devices, for example, will let staff collaborate remotely in entirely new ways. The technology is the technology. The bigger challenge is designing your business processes to leverage 5G capabilities to positively impact your organization in a deep and fundamental way.

Modernizing application infrastructure for 5G

5G