Government Resiliency:

How Wireless Services Keep California Strong in Times of Crisis

When health authorities in Orange County confirmed a COVID-19 infection on January 25, 2020,[1] California was vaulted to the frontlines in the battle against the pandemic. Soon after, cities and counties across the state declared local health emergencies and by mid-March Gov. Gavin Newsom allowed legislative bodies to teleconference official meetings. Soon after, the governor's office issued a statewide shelter-in-place order that essentially created a labor force of remote workers. It quickly became clear that wireless services are essential to enhance the reliability and resiliency of state and local government during the crisis.

"COVID-19 changed everything from a government perspective, and even agencies that thought they had done a lot to modernize technology and communications needed to quickly shore up support for a more mobile workforce," says Joe Panora, a senior fellow at the Center for Digital Government (CDG) and former director of enterprise information services at the California Department of Corrections and Rehabilitations.

As the pandemic continues to impact the state, agencies and public safety organizations are optimizing their wireless resources to address the ongoing COVID-19 crisis and beyond. This issue brief looks at important developments slated for 2021 that will aid those efforts. They include additional procurement options for wireless services available from the new CALNET NextGen contracting vehicle and the expansion of 5G wireless networks, which many communications experts see as a game-changing event in the evolution of wireless services. The issue brief also offers a three-step approach for updating wireless technology and policies to enhance government reliability and resiliency to support future emergencies and citizen demands.

RESILIENCY IN ACTION DURING THE PANDEMIC

For remote workforces to stay productive going forward, agencies must continue to close any performance gaps in communications as they carry on the business of government from home offices. For example, broadband connections that worked well during more normal times can slow significantly as multiple family members and neighbors vie for a share of the communications pipeline running into remote offices. To overcome these hurdles, government CIOs are finding new ways to capitalize on cellular services. One option is familiar to users

of smartphones and tablets — mobile hotspots. Remote workers may use them for secure internet connections in coffee shops or airport terminals, but now "hotspots are also playing an important role in home offices," says Tai Dinh, Marketing Manager, Public Safety at Verizon Wireless.

He notes that remote workers can quickly use a hotspot to create a dedicated wireless network to connect up to 15 nearby devices to the internet.

"Just as importantly from a government perspective, hotspots can be password protected and not accessible to anyone who isn't authorized to use it," he says.

5G: A POTENTIAL GAME CHANGER FOR CALIFORNIA GOVERNMENT

Over the next year, the use cases for wireless communications will continue to grow for agencies and first responders. The reason: the latest generation of wireless services, known as 5G, and the technology's ability to deliver peak data rates of 10 gigabits per second.

"The amount of data and throughput speeds available across 5G networks is going to be a huge game changer for state and local government," Panora says.

Speed isn't 5G's only selling point — agencies are also expected to see much denser cellular coverage.

"The coverage range of 5G offers great potential for government, particularly at the local level," says Teri Takai, CDG's co-executive director and former CIO for the states of California and Michigan and the U.S. Department of Defense. "5G will definitely be a benefit as government moves more to the Internet of Things. For example, communication systems for first responders are becoming more dependent on data than on voice communications."

Cybersecurity will also take a big step forward. 5G comes with sophisticated encryption and authentication features, such as a new Security Edge Protection Proxy (SEPP) architecture that prevents threats from less secure interconnected networks from harming 5G networks.

Together these and other 5G advancements have the potential to spawn wireless applications that have not been available before to public sector organizations in California and the rest of the nation.

For example, an augmented-reality application can use 5G networks to help firefighters see better in smoke-filled, low-visibility environments. Other types of 5G-powered applications under development include virtual training systems and 3D modeling applications that rely on AI to provide real-time insights and historical analyses of traffic patterns to help city planners, Dinh says.

"The ability to rapidly ingest, analyze and deliver information gathered from call centers, video surveillance systems and other IoT sources can improve safety and better manage planned and unplanned events," he adds.

Taken together, the rise of new use cases like these could change wireless communications. "It's going to be a very disruptive technology," Panora says. "As communications become more mobile and wireless, it's time to wonder if we really need to have land lines anymore."

THREE STEPS FOR MODERNIZING WIRELESS SERVICES

Given the importance of reliable wireless services and the technology changes coming to market, how can government decision-makers ensure they have the best infrastructure in place to meet their needs? Veterans of California government and wireless experts advise decision-makers to focus on three key areas.

1 **Understand the latest changes to CALNET. Agencies on** the current NASPO 1907 will be able to transition to a new telecommunications contracting vehicle known as CALNET NextGen in 2021. The new vehicle will continue to offer access to wireless services so government can still use legacy communications systems. More notable is the availability of additional wireless contracts from

multiple wireless services providers that will become available to California agencies and first responders.

"The new CALNET contract will be a huge evolution, with more than two dozen types of telecommunications services becoming available," Panora says. In addition, a selection of customizable calling plans will give agencies more options for managing performance and costs.

"It's going to be important for California to have flexible contracts, not only about user volume but also around devices because hardware options keep changing so often," Takai says.

Agencies will also be able to tailor telecommunications services according to which departments are using them. For example, public safety organizations, including police, fire and ambulance services, will be able to include Quality of Service, Priority and Preemption (QPP) provisions that ensure first responders always receive the highest available performance levels.

Adaptability will be further enhanced by the subscription models that will be available for some of the services under the new contracting vehicle. Similar to how cloud computing services work, pay-as-you-go telecommunications services reduce the need for large capital expenditures every few years to refresh equipment and service levels. The subscription model "allows agencies to ramp services up or down depending on how their needs change," Panora explains. "This model will offer the state much more flexibility."

How can officials ensure a smooth transition from the old NASPO contract that will expire at the end of 2020? Start by gathering a cross-functional team of telecom managers, procurement professionals, and agency heads to review and address telecom requirements and budgets. The group should then map out communications needs going forward, not only for existing applications but also for new use cases that may develop over the multiyear spans of wireless contracts.

Panora also advises telecom managers to keep a close eye on new wireless contracts. While subscription-based services may relieve IT departments of some management tasks, internal staffs must continue to ensure vendors meet the performance and delivery SLAs within contracts.

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Joe Panora, Senior Fellow, Center for Digital Government

2 Identify the right wireless provider to partner with going forward. The evaluation process begins by comparing data for coverage, uptime and other essential performance details. Decision-makers should also review vendor track records for customer service.

"Consider coverage not only where an agency's main offices are located but also for any field offices," says Andrew Armani, CEO of a technology consulting firm and former California deputy secretary for information technology.

In addition to speaking with other government clients to track down performance insights, agencies can also check ratings of third-party evaluation firms that cover the telecommunications industry, Panora says. Possible sources include J.D. Power, Nielsen Opensignal and RootMetrics.

Third parties can provide quantitative data about performance, but qualitative information is also important. That means analyzing customer service reputations and consulting expertise. Identify which vendors have the best resources for becoming trusted telecom advisors to help government continuously optimize wireless capabilities.

"There needs to be a partnership between telecom vendors and the state," Armani says.

As wireless technology continues to evolve with 5G and other innovations, "the burden is on telecom companies to educate state and local organizations about what new types of applications will become available," he adds.

To assess how well a vendor may work with state agencies, government decision-makers should discuss with vendors their ability to help clients develop proofs of concept and pilot projects designed to validate new use cases.

"Especially today, with COVID and tight budgets, it's important for wireless providers to help find solutions to actual problems that California faces," Armani says.

3 Update telecommunications and mobile workforce policies to address evolving requirements and opportunities enabled by technology innovation.
Assess how wireless communications and mobility strategies may evolve in the months ahead. When the pandemic hit, department managers had to quickly enable remote workforces without fully reviewing existing telework policies. These practices may need comprehensive reviews as some government observers say a large segment of the state's workforce may continue to operate remotely to some degree even after the pandemic subsides.

"Telework wasn't getting a lot of traction until COVID happened," says Armani, who was a telework proponent during his tenure in California state government. "The virus is a terrible thing, but a positive thing that has come out of it is that a lot of people are thinking we should continue to do the telework beyond the pandemic."

He says he has spoken with agency managers who used to resist telework for their staffs, but since the pandemic are happy with the way remote offices are working. "Even the managers themselves say they're feeling much more productive working remotely," Armani reports.

If large segments of the workforce do continue to telework, the state will need to adjust how many facilities and offices it needs to maintain. Downsizing physical locations will accelerate the move away from wireline telecommunications in favor of wireless services.

Crystal-balling the future of wireless is a prime area where wireless vendors can help guide pilot projects to gauge how 5G, for example, may impact remote workforces and overall government productivity.

Even now, some heads of agencies and departments are reviewing and updating their strategic plans, Panora says.

"Managers are going through the process of determining which activities are part of the organization's core mission," he says. "They're then taking a look at how they're going to change their business models and how they deliver services."

WIRELESS EVOLUTION CONTINUES DURING THE PANDEMIC AND BEYOND

The logistical challenges of keeping government services running effectively during a pandemic, along with the potential of 5G to favorably disrupt how California serves its citizens, are setting the stage for big changes in the services the state uses for internal communications and those with the public. A new contracting vehicle for statewide telecommunications appears to be arriving at the right time to help California further move to more resilient, flexible and innovative operations. With a three-pronged approach to wireless modernization that encompasses procurement, technology and policies, the state can position itself for an era of new opportunities.

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Teri Takai, Co-Executive Director, Center for Digital Government

It's important to recognize how California government may evolve in 2021.

"Clearly, for a variety of reasons, there's a movement toward more and more mobile applications," says CDG Co-Executive Director Takai. "And for the most part, that means more wireless services."

This piece was written and produced by the Center for Digital Government Content Studio, with information and input from Verizon Enterprise Solutions.

Endnote:
1. https://www.ocregister.com/2020/01/25/case-of-coronavirus-confirmed-in-orange-county/

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