California DMV's Progress Continues Despite the Pandemic

The country's largest DMV shows no sign of breaking.

Challenge: Yesterday's Tech, Today's Headaches

On a hot July day two years ago, within days of being sworn into office, California Gov. Gavin Newsom announced that Steve Gordon would lead the state's Department of Motor Vehicles (DMV) — the agency's fourth chief in eight months. Newsom handpicked Gordon to make good on the promise "to improve and revamp the way the California DMV does business."

Gordon would have to conquer several major challenges. Two he knew when he took the job: overhauling and updating the DMV's information technology (IT) infrastructure, and meeting the Real ID mandate. The third challenge that arose in March 2020 was keeping the department running and on a path of continual improvement during a pandemic.

Modernizing the technological backbone of the country's largest DMV required fundamental changes. The department's infrastructure was woefully out-of-date, a patchwork of hardware and obsolete computer programs, some dating to the 1970s. As if to underscore the point, "part of the state's network that affected the DMV went down" during the news conference that introduced him, Gordon said.

Real ID, Real Challenge

Adding to the challenge was the looming deadline for Real ID, a federal mandate that imposes strict new rules for state-issued driver's licenses and identification cards. Gordon took over 14 months ahead of the Real ID deadline of Oct. 1, 2020, by which time California would need to issue more than 8 million credentials. The deadline has since been pushed back to May 2023, but residents have continued to submit applications.

Real ID requires customers to be in person at the DMV to verify multiple documents, a process that has resulted in long lines and extended wait times. Prior to the pandemic, the typical interaction time between California DMV clerks and customers was over 28 minutes. The added requirements of processing Real IDs resulted in longer lines and wait times at the field offices and often required multiple visits to a DMV field office.

The pandemic exacerbated those challenges. Overnight, its emergence forced offices to close or severely reduce operating hours. Thousands of workers who had commuted to offices and used government IT systems to do their jobs were suddenly displaced. To keep operations humming — and improving — the DMV had to quickly find a way to accommodate thousands of employees who had no choice but to work from remote locations.

Solution: **Foundation First**

Early in his tenure, Gordon and his team began looking for opportunities to make foundational changes that would support long-term improvements at the DMV.

Before the pandemic, the California DMV couldn't support large-scale remote work. At best, two dozen or so people were prepared to work remotely using a legacy desktop emulation solution. Yet in less than two weeks of the DMV's offices closing, it leveraged Amazon AppStream to enable 1,200 employees to access on-premises computers from home. AppStream is a desktop application service that provides safe and secure access to department data from home.

"Amazon Web Services (AWS) solutions allowed us to very quickly put applications in an environment that would allow people to work from home over the internet using a browser," Gordon said.

Collaborating With AWS

The DMV was able to mount a robust response to the novel challenges of the pandemic in part because of improvements made by the department before COVID-19 hit. California's DMV had engaged AWS to help establish a cloud platform on which to build out a modern IT enterprise infrastructure.

The first step was an extensive improvement to the DMV's networks. "We ripped and replaced our legacy backbone with a software-defined network that enabled us to move all our offices from low-speed circuits to 100-megabit circuits at a minimum to have reliable high-speed connections everywhere," Gordon said.

Significantly improved network capabilities also made it possible to vanquish "the nightmare" of performing mass security updates on the DMV's 7,000 or so devices.

To enable the DMV's workforce to work safely at home, the department also adopted Amazon WorkSpaces, a highly scalable, virtual desktop service that enables users to access data, applications and resources — anywhere, anytime and from any supported device. Amazon WorkSpaces, deployed in an Amazon Virtual Private Cloud (Amazon VPC), stores no data on local devices to minimize attack areas and strengthen cybersecurity.

Moving applications to the cloud was essential, because it enabled the department to add functionality quickly as needed. "We didn't have to go through the traditional process of buying hardware, putting it in the data center, getting it provisioned and getting it qualified," he said.

To further bolster the DMV's ability to process Real ID applications, the department used its new platform to give customers the option of remotely uploading their documents to the cloud, enabling the DMV to authenticate them before their appointment. As a result, the department has succeeded in shortening the time DMV staff interact with customers to complete Real ID applications from 28 to 10 minutes, a significant reduction across millions of applicants, which also reduced the wait times for everyone standing in line behind Real ID applicants.

The DMV is further shortening customers' transaction times "by using artificial intelligence, machine learning and machine vision to allow customers to upload documents, to recognize those and give them essentially a kind of a precheck experience like you might have with an airline," Gordon said.

Looking Ahead

So what's next for California's DMV?

Lessons learned from streamlining the Real ID program will make it easier to improve customer transactions by better leveraging online self-service tools. The result is faster vehicle registration and titling, as well as improvements to the call center, including integration of interactive voice response (IVR), development of applications and responsive design.

Modernizing a department of DMV's size and complexity is akin to painting the Golden Gate Bridge, Gordon said. "When we're done, we're going to look back at what we did and then we're going to start all over again."

Stats

Using Amazon AppStream, AWS and the DMV IT team were able to get **1,200 employees** including call center and field office employees online working from home in less than two weeks after offices closed, with no hardware purchases needed.

The DMV has launched and completed over **20 projects** on AWS in 2020 alone, including the digital mail room, virtual field office and a re-design of the dmv.ca.gov website.

The DMV is in the process of migrating the National Motor Vehicle Title Information System (NMVTIS) application to the cloud. Its three-year savings is expected to be near **$1 million**.

Best Practices From the California DMV

1. Challenge conventions.

Encourage staff to ask whether processes exist because they're mandated or because somebody made a decision based on data that is no longer accurate or relevant. Challenge assumptions.

2. Talk to your customers.

Do not assume that you understand your customers' experience. You don't. What you're seeing in Sacramento when making policy decisions may not be the same as what you might be seeing in El Centro. Get out and talk with people. Understand how they engage with you.

3. Use your agency's services.

Call your call center, go on your website, use your self-service tools, visit different field offices. You will be more informed about your products.

4. Be the best. Period.

Having the best retail state service in California is too low of a bar. We need to be on par with the best retail organizations in the world. Be the best of the best.

About AWS

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