



**COLORADO**

**Governor's Office of  
Information Technology**

# Virtual Call Centers

Facilitating rapid response during a pandemic  
through adaptive technology

**CATEGORY:**  
Emerging & Innovative Technologies

**STATE:**  
Colorado

**CO HELP PROJECT INITIATION DATE:**  
March 3, 2020

**CO HELP END DATE:**  
March 17, 2020

**PROJECT INITIATION DATE:**  
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**PROJECT END DATE:**  
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# Executive Summary

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In 2019, the Governor's Office of Information Technology (OIT) launched the myColorado™ mobile app. [myColorado™](#) is the State of Colorado's official mobile app, providing residents with secure and convenient access to state services anytime, anywhere. Questions regarding the app's usage were anticipated, but with the volume of calls being unknown the program team was hesitant about setting up a standard call center, which could also be costly. Instead, they chose to pilot Amazon Connect-Virtual Call Center Software for the myColorado™ mobile app, knowing that if it was successful, it could move OIT in new and more efficient directions.

The pilot proved to be a considerable time and cost saver. It provided better service, more expansion options, and remote work opportunities for agents. OIT used the virtual service desk deployment for the myColorado™ mobile app as a proof of concept to show that a new omnichannel cloud contact center concept might be a valuable engine for the State of Colorado and present a paradigm shift for our agency customers. It didn't take long for this concept to be tested when OIT was called on to rapidly stand up a call center for the public in response to Governor Jared Polis' COVID-19 emergency orders in March 2020. Since the technology was already in place, OIT's digital transformation team was able to leverage it and quickly stand up the CO HELP COVID-19 call center for the Colorado Department of Public Health & Environment (CDPHE) to address questions from the public. It took just over a week and was completed *at zero cost*. The transition to 100% remote staffing of the center was accomplished a few weeks later.

With the help of user-friendly, intuitive, administrative tools, the virtual call center system is flexible and easy to change on the fly with no third-party engagement. It offers skills-based routing and powerful real-time and historical analytics. It also works with softphones, cellphones, desk phones, and even chat.

The CO HELP call center has efficiently managed up to 700 calls per day since its implementation. It is 95% faster and 99% less expensive than available pay-for-service call center programs. The technology has been leveraged by OIT to stand up additional call centers to support Coloradans in the face of the COVID-19 pandemic. As an example, within three days the team equipped Colorado State Patrol with a call center, and in just one day OIT helped Colorado Parks and Wildlife set up their call center.

Each successful implementation of a virtual call center by OIT reveals it to be a technically superior solution that is exponentially less expensive than pay-for-service models. It is now being recommended for use across the enterprise.

# Project Narrative

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## Concept

With OIT's plan to launch the myColorado™ app in 2019, the project team needed to develop an associated customer service solution that would be fully elastic and allow agents to work from anywhere to answer questions regarding the app's features. The myColorado™ app was designed to provide secure and convenient access to state services such as health benefits on [Colorado PEAK®](#), [Division of Motor Vehicles \(DMV\) services](#), alerts, and the Colorado Digital ID™.

It was determined that the customer service solution for the app, envisioned as a call center, was needed. It would need to integrate easily with the DMV and payment processor support lines, as well as provide future support for omnichannel help. The team initially considered pay-for-service solutions, but the cost benefit analysis of using one of those solutions presented a dilemma.



“We had no idea if we would be inundated with calls, or get nothing,” says OIT Director of Digital Transformation Russell Castagnaro. “The minimum for our for-pay call center was \$3,500 per month with a minimum change order of \$1,500. If we got only two calls per day for the app, that wasn't a cost we could justify.”

The team turned to a more innovative solution: Amazon Connect. A cloud-based solution, Amazon Connect offered voice call routing, interactive voice response (IVR), artificial intelligence (AI), chatbot, and analytics, among other features. Of significance, it could be implemented and managed internally. OIT staff configured the new, virtual call center system in two weeks, including integrating it with business hours and holiday schedules. Four agents were assigned to staff it.

“Amazon Connect allowed us to set up a virtual call center with no help from consultants or implementors other than the free documentation available online,” says Castagnaro. “It operated flawlessly and the virtual service desk per-month costs are significantly less than any of the next best alternatives that are charged via a pay-as-you-go pricing model.”

The team's work was a success by every measurement (see [Table I](#)). The Agile project management approach used to determine the solution spurred the team to consider using it as a rubric to implement an enterprise product model. Other virtual call centers for state agencies soon followed, including a Division of Motor Vehicles hotline for driver license appointments and a survey tracking call center for CDPHE, among others. Implementation of these centers with multiple teams was completed in hours, not days, and ultimately drove OIT's agility in meeting a new, unforeseen challenge facing Coloradans in the new year: an international pandemic resulting in emergency Stay

at Home orders by Colorado Governor Jared Polis and the subsequent need to route and answer thousands of questions from Coloradans about COVID-19.

**Table I - AWS-Amazon Connect Virtual Call Center - RESULTS**

Metric	Criterion (vs. conventional solution)	Evaluation Goal	Result	Details
Customer Evaluation	Net Promoter Score	8, 9 or 10	9	Agent evaluation
Agency Evaluation	Net Promoter Score	8, 9 or 10	10	Executive sponsor
Speed of Implementation	Time to implement	< 50%	5%	95% faster than conventional solutions
Speed of Adaptation	Time to adapt / change	< 50%	5%	95% faster than conventional solutions
Cost of Implementation	Cost to implement	< 50%	OIT Staff (2%)	Cost: employee time to read the docs (~\$10,000 per flow v. in-house)
Cost of Operations	Cost to maintain	< 50%	1%	99% less expensive (\$3,500/mo v. ~\$20/mo)
Cost of Adaptation	Cost to adapt / integrate / change	< 50%	1%	99% less expensive since driven by demand and OIT or customer staff (\$150/hr v. in-house)

## Significance

In the face of the pandemic, the state's objective was to route all COVID-19 public health questions through one trusted channel, and then route callers to the appropriate experts who could help them. A system was needed that could be deployed quickly under OIT's administration; one that could change based on demand and the need for staff to work entirely virtually. It also needed to be robust enough to support automation like Interactive Voice Response (IVR) and additional capabilities such as Natural Language Processing and Artificial Intelligence.

CDPHE reached out to OIT for support to stand up a new COVID-19 call center. Because OIT had stood up the myColorado™ mobile app virtual service desk in October, we quickly provided CDPHE with an inexpensive technology solution that was flexible and in many ways superior to other virtual IVR solutions. CDPHE was already working with OIT on a new virtual call center for the medical marijuana program, but the COVID-19 situation created the need for the CO HELP call center.



Prior to March 1, 2020, the call volume to the state's Disease Control and Public Health Response (DCPHR) main line averaged 20-30 calls a day during regular business hours. All calls were handled by a single receptionist and routed to the appropriate staff. The anticipated volume of calls in response to COVID-19 would not have been manageable given this structure.

On March 3, an internal virtual call center was stood up to handle the influx of novel coronavirus-related calls flowing in through the DCPHR main line. Designed and built by OIT's digital transformation project team, the new CO HELP call center was staffed and operated from 8 a.m. to 7 p.m., seven days a week. Call volume quickly accelerated, ranging between 250 and 600 calls a day, and eventually reaching a peak volume of 698 calls on March 16, 2020. As of April 1, 90% of the calls were COVID-19 related.

When Stay at Home orders were issued by Governor Polis, the CO HELP call center began transitioning in phases to a completely remote-capable system. This was possible due to the virtual call center model. Since then, a component to the system has been added to handle non-coronavirus questions that were previously routed to the state lab in order to relieve some of the call volume they were receiving. CO HELP calls have since stabilized at a current average of 150 per day. Operational hours are still seven days a week but have been adjusted to 8 a.m. to 5 p.m. daily. As of June 8, 2020, the call center had managed a total of 14,437 calls, with the bulk (83.37%) categorized as COVID-19 calls.

The system continues to evolve. In March, chat support was added to the call center's services with no effect on costs. This was followed by the addition of connections to COVID-19 testing lab resources.

## Impact

Leveraging virtual call center/virtual IVR capabilities allows OIT to help state agencies better serve Coloradans. Shifting from an inflexible and cumbersome-to-administer system to a practically effortless solution has had a significant impact on OIT's ability to build customer and agency support systems quickly and efficiently throughout the state. Case in point: the technology was in place when COVID-19 hit the United States, allowing OIT to stand up a COVID-19 call center within a week's time for the Colorado Department of Public Health & Environment in order to funnel questions through a central source for current and accurate information.

Financially, the impact has been tremendous. When compared to third-party service providers, OIT's virtual call center solution has resulted in a 95+% cost savings. In situations where the number of calls cannot be adequately estimated ahead of time it has been especially beneficial.

The remote capabilities of this system were magnified when the Stay at Home orders were issued. Agents were seamlessly transferred to remote work within a few weeks of standing up the CO HELP call center, with the ability to answer calls via softphone, cell, or desk phone.

COVID-19 has placed huge demands on applications such as unemployment insurance, benefits for the vulnerable, and public health services. State’s must be able to quickly deploy emergency IT services and Colorado’s virtual call center model has proven to be a critical component for crisis response, allowing us to better serve our agencies and residents.

