



NASCIO 2021 State IT Recognition Awards Nomination

State of Delaware

Department of Technology and Information

Pandemic Response: Build IT While You Operate IT

Category: Enterprise IT Management Initiatives

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Executive Summary

A critical success factor of any Information Technology (IT) organization is cultivating the right balance of foresight and understanding of innovative technologies; capability to deliver and operate effective solutions; and processes, procedures and partnerships that enable both prevention and timely resolution of issues. The Department of Technology and Information (DTI) was created to work with all agencies to deliver secure and effective IT solutions for the State of Delaware. The breadth and depth of DTI's impact is directly proportional to both its ability to *Deliver Technologies that Innovate*, and the quality of relationships it maintains with agency partners and technology providers.

At the onset of the Covid-19 pandemic, DTI worked with multiple state agencies and state legislators to assist them with rapid implementation of technologies and collaborative capabilities that enabled continuity of work processes and service to citizens from home or remote locations. DTI also helped develop and deliver new solutions and tools to enable emergency response leaders to manage the pandemic. While DTI does not deliver solutions without the engagement of the skilled resources from state agencies, DTI was well positioned to work simultaneously with multiple agency partners across the state to help with this crisis. Examples of solutions include:

- enabling significantly increased secure remote access to systems for state employees,
- expanding capacity to handle greater call volumes,
- enabling schools to operate remotely,
- enabling remote legislative sessions,
- developing online forms for both childcare provider reimbursements and for connecting volunteers to citizens with needs,
- helping DOL handle a significant increase in unemployment insurance claims, and
- assisting with the implementation of the Delaware Contact Tracing System.

To engage in this breadth of response, DTI's entire organization rose to the occasion by utilizing knowledge of innovative technologies and applications, expertise in infrastructure, operations, and collaborative tools, and by implementing security tools and controls for remote access. It also required quickly processing contracts and responsibly managing funds, ensuring adherence to laws and regulations, ensuring effective communications and managing change, and often providing Project Managers to ensure solutions were delivered. DTI's Covid-19 response continues to help the state manage through this pandemic.

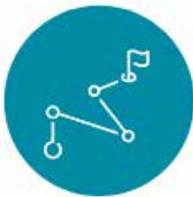


Idea

COVID-19's rapid development into a global pandemic created a situation that challenged every branch of government and everyone with a need to interact with state government. Delaware rapidly evolved its services to provide secure IT solutions for business continuity, education and more, in support of workers providing, and residents in need of, government services.

The sheer breadth and depth of the response makes this effort unlike anything ever undertaken in Delaware. Many state agency business continuity plans were developed for response to natural disasters that envisioned a workforce displaced to a single secondary location. While some employers had telework agreements with a small number of employees, few, if any, had considered the impact of a shift of the majority of their employees to full-time work from home.

For years, Delaware's Department of Technology and Information (DTI) has developed and strengthened expertise in technologies that enable remote access to systems, as well as cloud technologies for rapid implementation of solutions. DTI's proven project management methodology enabled solutions to be implemented via overlapping engagements with multiple state agencies. In the March-May 2020 timeframe, DTI partnered with agencies and organizations to utilize these and other skill sets to assist with development and implementation of solutions needed to respond to the crisis generated by the global COVID-19 pandemic. Delaware was able to leverage CARES Act funding to the best advantage, impacting multiple services and programs across the state, with long-term positive consequences for ongoing initiatives and Governor's priorities, such as the elimination of broadband "deserts" in rural Delaware.



Implementation

DTI is the state's central IT organization, chartered to deliver core services to other Executive Branch agencies and other state organizations, and exercise governance over the technology direction and investments of the state. The pandemic response project was identified as a result of the emergency generated by this global pandemic. The impact of COVID-19 on lives generated the clear priority for this work. The team's project sponsor was Delaware's Chief Information Officer (CIO). Since this was a statewide response to a global crisis, there was support from the Governor and all State Executives. The project's integrated leadership team consisted of leaders from agencies, DTI, and technology partners. They facilitated highlighting problems that needed to be solved, rapid problem resolution paths forward, activation of the resources and funding required, and frequent communication of status to Executive Leadership. Internal stakeholders were typically agency executives who needed solutions to address issues created by the pandemic. Those stakeholders provided agency specific expertise, as well as immediate funding required to quickly get solutions in place. A common denominator in this effort is agencies' need for solutions "yesterday". This created an atmosphere with little to no stakeholder resistance, but one filled with catalytic thought and recommendations. To accomplish "the impossible", DTI and agency partners alike routinely engaged vendor partners in advance, to discuss possible solutions that might be needed for specific obstacles that might arise. An extremely helpful element was that other states were engaged in similar activities, so cross-state collaboration often enabled rapid, collaborative identification of possible solutions. Once there was alignment on a needed solution, there was

unprecedented speed of implementation.

Beginning in March 2020, DTI moved rapidly to provide enterprise-wide support after the Governor declared a State of Emergency that shuttered most state office buildings to the public and locked down the state.

DTI, like many state agencies, had to quickly enable the majority its workforce to work remotely, while simultaneously mounting an emergency response to support the implementation of needed COVID-19 solutions for other agencies. DTI's core primary functions—operating the state's primary Data Center and critical state systems (networks, state phone and email systems), support of fiscal operations and employee pay processing—all had to continue uninterrupted while DTI addressed the pandemic-related tasks. DTI also rapidly engaged many technology providers and consultants to ensure the State of Delaware received priority service, as many entities were competing for resources to enable remote working capabilities for continuity of business execution and solutions to manage and respond to the COVID-19 pandemic.

Team members were selected based on the cross-sectional organizational capabilities required to understand specific critical needs of various state agencies, and establish partnerships to rapidly design, develop, and deploy effective technology solutions. In this tragically unique situation, the severity and widespread impact of the COVID-19 virus created immediate urgency and unity of purpose for the team.

The project team operated as a collection of high performance workstreams, with an integrated leadership team to ensure consistency and alignment. Strong engagement partnerships with each agency enabled open dialogue on critical needs and quick assembly of knowledgeable resources to determine the most effective course of action for problem resolution. Often, deciding factors in decisions made included balancing the speed of solution delivery with both effectiveness and impact on citizens.

The team operated in workstreams, often utilizing "patchwork" methodology as if constructing a pieced quilt. To respond to an agency's urgent, the team simultaneously worked on ensuring the agency had the computers and devices needed, networking and connectivity, accounts, and credentials for accessing systems, all while working with technology providers and agency partners to procure/build/implement the actual solutions. This strategic approach was executed simultaneously with/for multiple agencies over a period of months. The team used tools like Microsoft Teams and Zoom for collaboration, as well as cloud technology tools/platforms like Salesforce, ServiceNow, and Amazon Web Services for rapid development and implementation of systems. While the team had prior experience with many tools, the team quickly learned other tools, e.g., Amazon Connect for software-based telephones, and facilitated training for that tool to enable rapid implementation of Delaware National Guard's contact tracing calls.

In addition to the health-related obstacles and remote working conditions created by the COVID-19 virus, two other major challenges were time and variation in agency contingency plans. When an agency identified a need, the timeframe for the required solution was often extremely short, since citizens were negatively impacted until that solution was implemented. The team had to implement solutions that were sometimes just "good enough" — providing immediate assistance to Delawareans when deliver speed was paramount, while realizing these weren't optimal long-term solutions—thus overcoming team desires to take additional time to design the ideal solution. Additionally, agencies' contingency/business continuity plans typically reflected disaster scenarios in which crisis-impacted employees would continue their work activities from a single alternate location. COVID-19 generated a novel scenario where each employee needed

to work from home, thus creating a situation with challenges many orders of magnitude greater that DTI had to resolve, including new requirements for significantly more connection points, collaborative tools, security controls, etc.

Three extremely time-critical and very broad problems needed to be solved:

- (1) Enable the state's workforce, legislators, and educators to operate from home or remote locations, e.g., significantly increase capacities for remote access to systems, collaboration capabilities and remote learning for students.
- (2) Help agencies respond to significantly increased volumes of requests for existing or new services, e.g., unemployment insurance claims or emergency payments to childcare providers to keep them sustainable while shut down.
- (3) Deploy innovative technologies and solutions to enable leaders to manage the pandemic, e.g. systems for contact tracing or website metrics, data collection and reporting, maps, websites, and video capabilities for communicating information to the public during the pandemic

Workstream technologists developed specific solutions or options, and the integrated leadership team quickly aligned on the best path forward. With most team members, agency partners, and technology partners working from home, collaborative execution became a way of life, often using collaborative technologies like audio/video conferencing, as well as leveraging common document repositories for continuity of thought and action amongst workstreams.

DTI quickly supplied a [remote work webpage](#) to provide State of Delaware employees with a single location to find support and tools for their transition to fully remote work. DTI acquired, imaged, and deployed 5,000 computers to state employees to enable them to work remotely.

In addition, DTI helped support a number of agency-specific crisis responses, including:

- Assisting Delaware Emergency Management Agency (DEMA) with internal and external dashboards, mapping, and data sharing for reporting;
- Assisting with Livestream capabilities for press conferences for early COVID-19 communications;
- Implementing Microsoft Teams collaboration capabilities for the State Health Operations Center (SHOC) and the Joint Information Center (JIC) operation;
- Helping with the implementation of online forms "I can help with supplies", "I need help with supplies" to connect citizens in need with citizens volunteering supplies, as part of the community call to action;
- Helping Delaware's Department of Labor (DOL) implement solutions to handle a significant increase in unemployment claims;
- Helping Delaware's Department of Education (DOE) and Department of Health and Social Services (DHSS) implement a form to enable childcare providers to receive emergency payments;
- Within 24 hours, helping DHSS's Division of Public Health (DPH) implement online telephony capabilities to enable the Delaware National Guard (DNG) to begin making calls for Delaware's initial COVID-19 contact tracing efforts, then helping with the implementation of the Delaware Contact Tracing System (DCTS) final solution.

- Enabled and facilitated secure virtual sessions, with public viewing, of Delaware’s State Senate, House and General Assembly proceedings. This enabled getting the Budget, Capital Improvement, Grant-in-Aid bills, and other key pieces of legislation enacted while Legislative Hall was closed due to the declared State of Emergency.

Several of the solutions that were initially implemented were completed in 24 hours to one week and they were “stop gap” solutions to provide immediate functionality for agencies. DTI then worked with some agencies to implement more robust solutions in the weeks that followed. While many solutions are fully implemented, ongoing enhancements and maintenance of these systems continues, with a variety of support models deployed by the agencies.



Impact

Before the pandemic, the majority of the state workforce performed their jobs from state facilities and the public obtained services by visiting or calling those facilities. Team’s work helped deliver specific solutions for agencies and organizations on the front lines fighting the pandemic, while also enabling state employees to continue performing their jobs remotely. The team’s activities enabled state employees to maximize their efficiency and effectiveness in providing services to customers, given the constraints of the modified working conditions. The team increased the state’s capacity to remotely access systems by 400%. This helped keep the State operating when most state employees, residents, and legislators were forced to work from home as a result of the COVID-19 pandemic restrictions. More importantly, the team helped state agencies implement solutions to respond to unprecedented spikes in service demands by residents and businesses generated by the pandemic.

Project methodology and workstream organization increased the speed of solution delivery from months/years to days/weeks, setting a new performance bar for IT service delivery going forward. The team reinforced its proven project management methodology, and its utilization of workstreams for simultaneous execution of tasks required for rapid solution delivery. The team also deployed, documented, and shared new security tools for remote access to systems and rapid provisioning of user accounts. New tools for enabling rapid deployment of telephone technology via cloud based soft phones was implemented, documented, and continues to be used. Collaborative tools and document repositories, e.g., Microsoft Teams, were both deployed and utilized by the team to capture and communicate best practices and key learnings described above. The solutions the team helped implement continue to be used to serve Delaware residents and have greatly accelerated Delaware’s transformation to digital government. Rapid adoption of new collaboration tools is demonstrating to government agencies that productivity can be supported and maintained in a remote work environment. The capacity increases and security enhancements made by the team continue to enable remote connectivity, system access, and remote education. The Contact Tracing solution the team helped implement is used daily to quash the COVID-19 virus’ spread.

Delaware residents ultimately benefited from the team’s work, as a result of the solutions and collaborative capabilities that were implemented to enable processing of unprecedented increases in services requested from several agencies, as well as solutions that supported officials managing the pandemic. While public tools like Zoom gained popularity for virtual

meetings, the team's work enabled state agencies and employees to make a steep change in their utilization of collaborative tools like Teams, Skype and Webex for virtual execution of structured agency work processes and personalized communications. These new operating models offer possibilities for improved, flexible post-pandemic work arrangements, remote learning, and enhancements to the avenues available to residents for interacting with their government.

As a result of the innovative solutions, collaborative tools, and capacity increases for remote connectivity the team helped implement, there are potentially new employment and education models that can be established long term. Many state agencies and businesses have implemented new operating models with potential long term positive impact on the cost to operate, overall effectiveness of work groups, and the ability to handle much larger volumes of demand. Additionally, the concept of "school days off for inclement weather" could shift to "remote learning days", and greatly enhanced availability of remote learning tools will be transformative for any student who may be homebound in the future due to health or other challenges. Another benefit is the state has significantly accelerated the implementation and use of collaborative technologies for work groups. Lastly, DTI's rapid response and engagement to help deliver need solutions for state agencies help strengthen the partnerships with those agencies. This will result in improved ability to deliver future digital government solutions to better serve Delaware residents.