OPERATION STRATOCUMULUS

State Of Ohio
Opportunities for Ohioans with Disabilities

Information Communications Technology Innovation
2020 – 2022
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Ohio | **Opportunities for Ohioans with Disabilities**
Division of Information Technology

EXECUTIVE SUMMARY

Among the first set of priorities Ohio Governor Mike DeWine laid out for his administration was to modernize the way Ohioans interact with state government. Since signing Executive Order 2019-15D, he and Lt. Governor Jon Husted have been working closely with the state chief information officer (CIO) to make Ohio a more efficient and effective leader in the use of technology. Ultimately, the goal is to improve the lives of Ohioans.

Over the past few years, the State of Ohio Office of Information Technology (OIT) led foundational optimization initiatives that consolidated core IT infrastructure (server, storage, mainframe, and network), which provided the standardization necessary to drive economies of scale across the state. Ohio is now in the midst of pursuing IT innovation initiatives.

Mandating statewide IT innovation demonstrates the DeWine–Husted administration's bold commitment to improving the lives of Ohioans and their experiences with state government through innovative technologies. Backed by Executive Order 2019-15D, Ohio's CIO laid out the IT Innovation Technology Strategic Plan for 2020-2022, which builds on past success and aligns with the administration's vision. More specifically, IT innovation streamlines and modernizes state information technology by focusing on the digital experience, data analytics, enterprise shared services, and collaboration whether on-premises or in the public cloud.

> Continuing to improve how we serve Ohioans with disabilities is fostered by information technology. Operation Stratocumulus has brought innovation to OOD that is helping us overcome barriers, improve quality, and increase productivity.
>
> – Kevin L. Miller, Director, Opportunities for Ohioans with Disabilities

The Opportunities for Ohioans with Disabilities (OOD) agency has fully embraced both the governor's executive order and the state CIO's strategic plan. In fact, OOD's Division of Information Technology (IT) has worked with business partners and DAS OIT to completely transform the OOD technology environment. Many factors contributed to this transformation, such as culture change and user training, but **OOD's Operation Stratocumulus cloud services adoption program** is the largest driver.

Operation Stratocumulus has ensured that State of Ohio enterprise IT initiatives are the first consideration for any OOD business need. Additionally, since the entire OOD technology environment needed to be modernized, the focus was placed on moving everything to cloud services in the most cost-effective, value-added manner possible, rather than investing in newer versions of the same old solution.

The program is comprised of several large projects, including InnovateOhio Platform (IOP) migration (which has many components in the cloud), Microsoft 365 adoption with full-scale migration to all its services and features, wherever possible, Microsoft Azure migration for OOD-developed applications, and implementation of every State of Ohio Office of Information Security and Privacy (OISP) solution.

The following narrative provides additional details regarding how Operation Stratocumulus was a game-changer for OOD and the State of Ohio.

PROJECT NARRATIVE

IDEA

What problem or opportunity does Operation Stratocumulus address?

Operation Stratocumulus helped OOD solve many of the problems caused by an **aging infrastructure**, including **costly, labor-intensive maintenance** processes that, at best, yielded **unreliable and inconsistent system performance** for the business and its customers. Often, IT's work felt like it was not accomplishing much more than putting lipstick on a pig.

Migrating servers and applications to the cloud put an end to the hours wasted on maintaining an old infrastructure. This freed up time for limited IT resources to develop agency- and customer-facing solutions. In short, this program **increased the ease, speed, and efficiency of IT processes** while making it **easier for Ohioans and service providers to do business with OOD.**

Why does it matter?

Maintaining OOD's outdated infrastructure was monopolizing the whole IT operation. The entire team was consumed with keeping things running. Yet the agency continued to struggle with system reliability issues that hampered its ability to meet Ohioans' ever-evolving needs and expectations. OOD technology was lagging far behind industry standards for performance, security, and user experience.

Failure to change would prevent the agency from meeting its customer-centric goals while wasting funding that could be better spent serving Ohioans. OOD would either need to completely replace the 12–15-year-old hardware environment to the tune of $1.5M OR spend nearly $1M annually if they were to lift and shift the existing environment to new hardware in the State of Ohio private cloud.

It is not difficult to imagine why the agency had lost confidence in IT's ability to support their ongoing operations, much less their strategic priorities. All these factors formed the rationale for addressing this critical business problem through Operation Stratocumulus.

IT knew that a complete overhaul of the technology environment was the only way to rebuild trust with the business and reposition them for immediate and future success. IT also knew that modernizing servers and applications would allow the team to provide more proactive, innovative service, which ultimately adds greater business value and creates the potential for additional cost savings. Little did they know, the business would soon be counting on their success to overcome pandemic challenges.

What makes it different?

The scope and execution of this program make it stand out. Conventional thinking favored simply replacing the aging hardware and keeping everything we had in the environment. Even progressively moving what we had in the environment to the State of Ohio private cloud was considered forward-thinking.

Instead, OOD IT made a different choice—the cloud. They **migrated 85% of the technology environment to cloud services**, allowing them to **decommission 185 out of 208 total servers.**

Table 1. Decommissioned Servers	by 2020	by 2021	by 2022
Remote servers	43	45	60
Central office servers	52	76	76
State data center	32	35	49

A large majority of functionality was moved to **Software as a Service (SaaS)** solutions, and the remaining functionality has been moved to **Platform as a Service (PaaS)** solutions.

It took courage and tenacity to make a move this bold all at once. It also took a strong, dedicated program and organizational change management (OCM).

What makes it universal?

Operation Stratocumulus directly aligns with the governor's mandate for Ohio agencies, boards, and commissions laid out in Executive Order 2019-15D, and it addresses several of the State CIO Top 10 Priorities.

Cybersecurity and Risk Management – Adopted FedRAMP compliant solutions that meet National Institute of Standards and Technology Special Publication 800-53 configurations and many Center for Internet Security (CIS) Critical Security controls.

Cloud Services – Migrated to cloud-based solutions, such as the InnovateOhio Platform, Microsoft 365, and Microsoft Azure, leading the way for other state agencies, boards, and commissions.

Consolidation and Optimization – Optimized the technology infrastructure by decommissioning 85% of OOD servers, reducing the overall State of Ohio technology footprint.

Budget, Cost Control, and Fiscal Management – Realized savings of nearly $2M annually ($900K+ hardware and $800K+ software), helping the agency and state during the pandemic.

Legacy Modernization – Modernized the OOD technology environment, which consisted of hardware that was 12-15 years old and software that was six-eight years old.

Innovation and Transformation through Technology – Adopted innovative cloud services (e.g., Microsoft 365) that positioned IT to provide more effective mission-critical support and the agency to collaborate from anywhere, allowing IT to move the entire agency to work from home in a matter of days when the pandemic hit. It was a seamless transition with no downtime.

IMPLEMENTATION

What was the roadmap?

The primary program goal is holistic adoption of State of Ohio enterprise IT services, focusing on using public cloud resources wherever possible. The overarching effort was large enough to be launched as a program with separate projects organized around each milestone. **Strategic planning, project governance, and diligent documentation ensured continual business and enterprise alignment.**

Integrated OCM helped accelerate the adoption of program changes through a dual project manager collaboration — one focused on delivering technical milestones and the other focused on supporting the people side of change. This PM–OCM partnership has been a critical success factor for the program.

The separate project statuses are reported independently to stakeholders and rolled up into a program view for IT Management. This oversight ensures the work is completed on time and within budget while meeting all business and technical requirements.

Who was involved?

State of Ohio Governor, Lieutenant Governor, and State CIO – Executive Order 2019-15D and the IT Innovation Technology Strategic Plan for 2020-2022 provided the needed mandate and overarching messaging that drove **sponsorship** at every level.

OOD CIO and CTO – This duo created a powerful **sponsor coalition** with executive stakeholders by first having the courage to support something so transformational, then tirelessly communicating to stakeholders, pursuing executive support, and maintaining visibility with executives, partners, and project teams throughout the life of the program.

OOD IT staff – OCM has been key to mitigating resistance and closing knowledge gaps for everyone impacted by the program—especially IT team members.

- Effective **sponsor messaging** focused on how the project benefits the agency (e.g., greater system reliability and performance at a reduced cost in a safer and more secure environment), while also highlighting what advantages there would be for the IT team itself (e.g., less time spent fixing problems and more time building innovative solutions).
- Active, visible **sponsorship** throughout the program helped to cultivate a quick win/fail-safe environment for the team. This was achieved through department meetings, timely emails, SharePoint Online site content and regular personal conversations with the project team.
- With demos and Q&A sessions, technology roadshows built **awareness** and **knowledge** across the division, while group and 1:1 training filled **knowledge** and **ability** gaps.
- Formal policy and procedure updates empowered IT staff with the **ability** to perform differently and **reinforced** the importance of changing.

OOD Executive Team – The agency director and assistant director were the first to join the **sponsor coalition**. They acted as important **communicators** and **influencers** with the executive team, consistently role modeling supportive **engagement** throughout the life of the program.

OOD staff – After the first few projects succeeded, there was a ground swell of support from OOD staff who were part of the program team, especially as they saw the business benefits unfold. These individuals then naturally became **change agents** within the business where their grass roots campaign could have the biggest impact on program adoption.

State of Ohio technical teams (DAS OIT, OISP, IOP) – These partner teams not only helped with certain phases of project implementation as OOD onboarded to enterprise IT services, but they also served as strong **advocates** of the program, especially when **sponsorship** was first developing.

How did you do it?

Funding	People	Time	Expertise
• Two new costs: DAS OIT server storage & Microsoft Azure monthly charge • DAS OIT costs continue to reduce with minimal increase in Azure costs. • Greatest savings came from getting more out of Microsoft E5 licenses	• All work done by OOD IT staff and consultants • Heavy lift from Data, Development, & Systems Management teams • State of Ohio tech teams provided resources as part of their services	• 50% of first year for all IT staff spent solely on cloud adoption program • 25% of second year for 75% of IT spent on the program • 25% of the last year for 25% of IT staff spent on program initiatives	• Two consultants augmented staff to fill skill gaps • Technical architect to provide oversight & navigate enterprise IT environment • Program/project management specializing in OCM

The entire cloud concept is still quite new for many State of Ohio government agencies and is considered an emerging technology at the state level. Consequently, this OOD program implementation laid the groundwork for future agency migrations by following industry and vendor best practices, as well as federal and state standards and controls for security and privacy.

Core program architecture includes:

InnovateOhio Platform – OOD public websites https://ood.ohio.gov and https://oodworks.ohio.gov were migrated to IOP Portals, and OOD-developed applications were migrated to IOP Digital Identity (OH|ID). Both features ensure maximum security and full accessibility for Ohioans.

Microsoft 365 – Full-scale adoption of every feature in the E5 license ensured that OOD was getting the maximum benefit from something for which it is already paying. This also allowed 50% of on-premises servers to be decommissioned. Most notably, all SharePoint farms were migrated to SharePoint Online and all network shares were migrated to OneDrive and Groups/Teams sites.

Microsoft Azure – Microsoft Azure adoption was focused on migration to a select set of PaaS features: Front Door, App Services, SQL, Automation/Logic Apps, Log Analytics, Key Vaults, and Storage. Infrastructure as a Service (IaaS) use was not permitted.

DAS OISP solutions – DAS OISP provides several enterprise security solutions from various vendors. Although the solutions are not all cloud based, OOD is taking advantage of most cloud offerings.

IMPACT

## What did Operation Stratocumulus make better?

IT has transformed OOD's technology landscape and culture, earning back the trust of agency staff, building momentum for innovation, expanding OOD's ability to serve Ohioans, and improving end-user experiences.

Before...	After...
• Aging and outdated technology infrastructure was causing significant performance and reliability issues for the business.	• Cloud migration has remedied performance and reliability issues, while increasing security and privacy across the entire technology landscape.
• IT staff was fully dedicated to maintaining and providing reactive support for the existing environment with no time to prevent issues or develop new solutions.	• IT staff spends <20% of their time supporting the environment, and the rest is spent on proactive automation, innovation, and modernization.
• OOD was paying for costly, labor-intensive maintenance of outdated infrastructure.	• Most on-premises solutions are in the cloud and 85% of the servers are gone.
• The agency had lost confidence in IT's ability to support their operational needs and help them reach their business goals.	• OOD executives and staff are collaborating closely with IT to find new solutions to business challenges and opportunities.
• OOD staff and consultants were dependent upon office locations to conduct business.	• OOD staff, consultants, and contractors can work and collaborate securely from anywhere.
• OOD's IT staff was siloed by function, content with the status quo, and resistant to stepping out of their comfort zones.	• IT is developing a reputation for change adaptability while working as one team to deliver new solutions and develop new skills.
• There was little understanding of OOD's system footprint and no overarching technology strategy guiding the decision-making or work of the IT division.	• OOD's technology landscape is fully documented, and a go-forward technology strategy is in place to carry on the work started through this program.

How do you know?

$1.5M one-time cost avoidance from not replacing servers
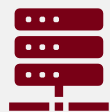
$900K annual hardware savings from server decommissions

$800K annual software savings from cloud migration

OOD can continue to improve services to more than 130,000 Ohioans seeking Social Security benefits every year and more than 28,000 Ohioans served through Vocational Rehabilitation.

What now?

OOD now has nearly all solutions in the cloud. On-prem resources will be needed until all remaining inputs or outputs from OOD services connecting to non-OOD on-prem services are accounted for. The goal is to finish decommissioning the last 15% of OOD servers in the next few years and then launch Operation Altocumulus, where OOD will explore how Microsoft Azure can further enhance OOD's business capabilities (e.g., Service Bus for batch scheduling) and how integrated data analytics can empower greater business intelligence.