



STATE OF WASHINGTON
WASHINGTON TECHNOLOGY SOLUTIONS
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WaTech Governor's Agency Lean Report
January-December 2018

1. Training Data:



*It should be noted that numbers are reported from LMS. However, most improvement projects are not reported directly to LMS and therefore, we have more employees involved in improvement efforts than reported here. The project summaries include the names of all involved in each project.

2. Project Data: Total number of projects in any phase- 12

3. Strategic Project Reports-Completed as of December 2018:

Six projects have been completed in 2018. Three project reports are submitted here to Results WA. We anticipate completion of the other three reports by the 2/28/19 deadline.

A) Geospatial Open Data Project

Partners and Customers

Office of the Chief Information Officer (OCIO), Department of Social and Health Services (DSHS), Department of Health (DOH), Department of Natural Resources (DNR), Department of Transportation (DOT), Office of Superintendent of Public Instruction (OSPI), Office of Financial Management (OFM), Department of Ecology (ECY), Department of Fish and Wildlife (DFW), Department of Labor and Industries (LNI), Department of Military, State Parks and Recreation Commission (WSPRC), Recreation & Conservation Office (RCO), Department of Commerce (COM), Department of Revenue (DOR).

Project Impact

The OCIO and partners improved geospatial data sharing, resulting in reduction of individual agency websites to share information into a single, consistent, searchable portal.

This project simplified the ability of Washingtonians to find geographic data about our state and use it for applications or to explore the many features of our state, such as public water access locations, game management units and how Washington's Ice Age Floods shaped our environment.

Project Summary

Each partner agency was sharing geospatial data to the public on different sites, in different formats and in different ways. This resulted in citizens needing to go to multiple websites and there was duplicate data shared among the agencies – for example, most agencies shared county boundary data. Some agencies didn't have a mechanism to share data with citizens. There were over six different agency websites to visit to download geospatial data compared to our target of one, which we wanted to reach by 2/1/2018.

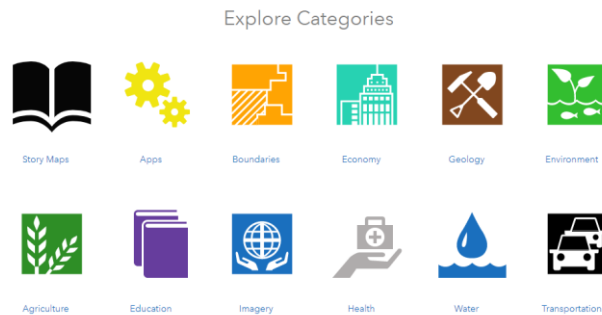
Problem Statement

Geospatial data could be found on multiple websites in a variety of ways with much duplication.

Project Results

This project (<http://geo.wa.gov/>) was extremely successful:

- We went from over six different websites sharing geospatial data to one
- We went from approximately six agencies sharing geospatial data to 15 agencies sharing on a common platform
- We have over 550 datasets or applications shared with citizens
- We had an average of 11,000 page views and 1,700 users each month for the past 10 months



Cost

Avoided storage costs from multiple agencies hosting the same dataset to a single portal.



Quality

Increased agency data sharing from six to fifteen.



Customer Satisfaction

Increased partner agency satisfaction from having to search multiple locations to a single portal for obtaining data.

Project Details

Date improvement project was initiated: 2/13/2018

Project Contact: Joanne Markert

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B) Firewall

Partners and Customers

All state network traffic. The project involved several different teams within WaTech including the Firewall, Network, Network Core Engineering, State Data Center (SDC) and Quincy Data Center (QDC) Facilities teams. Planning began in January 2018.

Project Impact

On July 25, 2018, the team successfully upgraded the SDC Edge firewalls that nearly all state internet traffic passes through with minimal to no impact to customers. The last upgrade was the SDC core firewall that is used by all State Government Network (SGN) traffic. This firewall supports almost all state agency traffic and consists of over 200 virtual firewalls. A problem here would have impacted nearly all state traffic.

In order to successfully upgrade the SDC Core firewall with minimal customer impact, routing would have to be failed-over from our active network at the SDC to QDC and traverse the newly installed and upgraded firewalls. This has never occurred or been tested since the SDC and QDC have been in place. The SDC was completed in 2011 and the QDC was completed in 2016.

On July 31, 2018, the team successfully failed over all SGN traffic from the SDC to QDC firewalls for one hour while only losing one ping during the failover process. Not only did the cutover go smooth with no reported issues, there was not one trouble ticket opened in the following days reporting issues related to the upgrade.

Project Summary

The goal of this project was to upgrade end-of-life state firewalls at the SDC and QDC. This was an eight-month long project to upgrade the state's firewalls at SDC and QDC that all state traffic traverses.

Problem Statement

Existing firewalls were approaching end-of-life in December of 2018 and had to be upgraded.

Project Results

Improvements made:

New firewalls are now in place and will continue to be supported by the vendor.



Cost

Avoided potential costs of security breaches due to outdated and unsupported hardware and software.



Quality

Increased new firewall hardware and software deployed at the SDC and QDC to protect state sensitive data. More reliable software to reduce service impacting events.

Project Details

Date improvement project was initiated: 1/5/2018

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Project Team: Sandeep Deol, Amy Bosler, Brook Schurr, Bruce Hooker, Kim Nickell, Ben Japhet, Zack Ashliman, Faisal Farah, Greg Moore, Fred Rangel, Ron Mathews, Chris Craig

C). Colocation Communication Initiative

Partners and Customers

Office of the Chief Information Officer, (OCIO), State Data Center (SDC), Attorney General's Office (ATG), Board of Industrial Insurance Appeals (BIIA), County Road Administration Board (CRAB), Department of Social & Health Services (DSHS), Department of Health (DOH), Department of Licensing (DOL), Department of Transportation (DOT), Department Veterans of Affairs (DVA), Department of Labor & Industries (LNI), Lottery, Office of Superintendent of Public Instruction (OSPI), Secretary of State (SOS), Transportation Improvement Board (TIB), among others.

Project Impact

Many agencies with concurrent ongoing waiver extensions were meeting with WaTech annually for Colocation consults. Most of these consults would involve a variety of technical questions by the customer. Some questions or exploratory comments would remain nebulous to WaTech staff, who would be unable to answer on the spot or unsure how to address them. After discussing this issue with the Customer Account Managers (CAMs) and the OCIO, it became evident that agencies (regardless of their perceived intentions) were seeking waivers in a somewhat "natural" fashion, sometimes due to unanswered questions, uneasiness, or even a sense of incompleteness after leaving a WaTech Colocation consult. These internal discussions prompted a campaign to follow up on every question, concern, or unusual comment expressed by the customer. The Colo Manager and CAMs utilized internal staff including Space Management, OCIO, Network, Office of Cyber Security (OCS), Physical Security, and several project managers to answer these questions and concerns, bouncing them off of the customers in order to ensure their satisfaction and comfort in moving forward with both WaTech's staff and the Colocation process.

Project Summary

There were a number of problems this project sought to address, some of which were difficult to measure or even detect. The symptom of the issue was the uneasiness of potential customers, and their seeming eagerness and occasional outright blatant effort to postpone movement into the data center. Occasionally, this lack of movement was due to funding issues, although funding denials by the legislature often found its roots in the way some agencies were "asking" for funding. Some funding requests displayed the uneasiness of our customers, which began with a historical distrust in WaTech and WaTech's involvement with the SDC. Much of this distrust appeared to compound via WaTech's slow internal (and therefore external) communication processes between various services. These perpetual communication issues enhanced the distrust of many customers. Some of those customers openly confessed this distrust, along with their intentions to delay any compliance to OCIO policies.

Problem Statement

The lion's share of agencies delayed migration plans, hampering our target to initiate most of their moving efforts into the SDC, which we hoped to achieve by the middle of 2018.

Project Results

WaTech improved communications and follow-ups with perspective Colocation customers, resulting in approximately 15 agencies beginning first-time server migrations from their data centers to the State Data Center.

Impact to Washingtonians

Consequential Savings: Simply put, there is an economy of scale the SDC offers agencies, and therefore the taxpayer dollar is stretched. With that said, the sooner agencies consolidate, the sooner the savings will take place. It appears that the improvements made in communication with our customers has removed many of the perceived blockades of our customers. Although it is difficult to determine the precise taxpayer savings when an agency finalizes an IT migration towards consolidation, we can see into the legislative vision behind the SDC buildout via savings through consolidation and improved security.

Logical Savings: When agencies turn their equipment up at the SDC and close their private data centers, there is an overall drop in server power usage, air conditioning, space costs, as well as FTE time. In the same way FTE time demands drop when agencies move data to the cloud for others to bear the burden in monitoring infrastructures, FTE time is saved when equipment is consolidated in the SDC on behalf of state agencies, sharing the burden of oversight with dozens of other electronically monitored servers.

Visible Savings: For those agencies who do not directly pay their own power bills, their budgets may show only the new added cost of leasing enclosure space in the SDC. Agencies with visibility into their operational utility costs should recognize their operational savings. One agency, not receiving legislative funding made plans to pay for their upcoming SDC colocation fees by reallocating funds from other departments in order to comply with OCIO Policy 184. Months after their migration, they found that their own power savings was greater than their combined Colo fees coming from the SDC. With power savings, and a redistribution of FTE time, combined with space resources, an agency cannot deny the visible savings to the taxpayers of Washington.

Overlooked Savings: Security costs for any given agency comes at an immediate and high cost. Because of the State's prior investment in the SDC, this statement is no longer necessarily true. It is common knowledge that most private data centers housed within the various state agencies across Washington are greatly lacking both physical security and monitoring. The main reason for this is the great monetary cost that comes with securing state data. Many datacenters have little oversight outside of business hours, including weekends. Migration to the SDC presents a great opportunity to increase security, usually adding 14 to 16 hours of close monitoring per day, including weekends, while simultaneously saving in utility costs as mentioned above.

Improvements made

In tandem with the CAMs, including upper management, OCIO, and a couple of insightful project managers:

- We circumvented historical internal communication cul-de-sacs on behalf of outside agencies, directly increasing WaTech's unified front of communications to potential Colocation customers.
- A team approach is still in process of replacing an isolated service mentality, encouraging agency communication toward the Colocation manager, turning "the occasional questions" into ongoing conversations, leading to efforts to migrate equipment.
- We have utilized team efforts to increase the number of contacts made to customers, aligning our efforts from multiple angles, while decreasing communications that lead to dead ends.



Safety

Increased security from partially monitored mini-data rooms, to 24 hour monitored and guarded data within the SDC by decommissioning several unsecure data storage rooms.



Cost

Decreased state funds spent on FTEs, utilities, hardware, DCIM software and the high-cost utilities of independent agencies by consolidating utilities and shared scaled hosting services.



Quality

Increased monitoring time for multiple terabytes of state data-rich servers from roughly 2800 hours per year to 8,760 hours per year, at a lower cost, and with vastly increased physical security.



Time

Decreased multiple agencies' FTE time spent on IT oversight from dozens of hours per week per agency to as low as a few minutes per week at a lower cost.



Customer Satisfaction

Increased multiple customers' trust in WaTech from very skeptical to very pleased, leading to very high compliments paid during "Lessons Learned" at the end of the Colo process.



Employee Engagement

Increased communications, often from a few times a year, to ongoing open communication whereby some customers will seek WaTech as a resource for information and answers.

Project Details

Date improvement project was initiated: 2/1/2018

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