

Washington State Auditor's Office



The mission of the Washington State Auditor's office (SAO) is to provide citizens with independent and transparent examinations of how state and local governments use public funds. It also develops strategies to make government more effective and is led by the State Auditor, currently Pat McCarthy, who is an independently elected executive of the Government of Washington. Formed in 1889 when Oregon's Washington Territory became an independent state, the watchdog has 450 employees working in 16 state-wide locations to conduct thousands of audits a year.

Aiming to Reduce Footprint and Increase Performance

To deliver business-critical applications to all 16 offices, SAO rents space at a colocation data center in the state capital, Olympia. Previously, its environment was 70% virtualized and included a 40TB EMC Storage Area Network (SAN), four Dell servers running VMware and several HPE standalone servers with direct-attached storage. This meant renting space and paying power costs for eight enclosures, so when it was time for a routine refresh, SAO planned to save money by reducing its footprint.

"We were also having performance issues in our virtual environment where some virtual machines were running slow," says IT Operations Manager, Matt Welling. "We were only 70% virtualized so with our routine refresh we wanted to grow that to 100% and to increase performance and capacity from both compute and storage standpoints."

Another requirement was to introduce a more responsive and higher performing environment that would enable SAO to reduce long maintenance window time

Return to a trusted and Responsive Partner

Having been associated with Right! Systems for many years in his previous job, Welling once again reached out to them for help with the refresh. He says: "I wanted to continue to use them because they have always

Customer Snapshot

- Industry: Public Sector
- Location: Washington State, USA
- Company Size: 450 employees
- Website: www.sao.wa.gov

The Challenge

- Lower co-location costs by reducing data center footprint
- Improve performance and system responsiveness
- Achieve 100% virtualization and reduce maintenance window times

The Solution

- FlashStack converged infrastructure featuring Cisco UCS and Pure Storage
- Microsoft Hyper-V

been good to work with and very responsive. I wanted to build a similar relationship with them over here at the SAO.”

“The agency I was with before had a Cisco Unified Computing System (UCS) which we had been happy with so I wanted to replace the existing HPE and Dell hardware with Cisco UCS. However, the storage was up in the air. Storage platforms and technologies had drastically changed since the last time we had gone through a storage refresh, so that is where we wanted Right! Systems to offer some suggestions based on what we were looking for.”

The engagement started with a kick-off call that enabled Right! Systems to get a general understanding of SAO’s requirements. Meetings were also held with engineers who could right-size a solution that would best meet those needs. Right! Systems then went away to pull together some options.

Unified Compute and Storage in a FlashStack Configuration

Right! Systems’ suggestion for SAO was a FlashStack converged infrastructure which teams Cisco UCS with all-flash Pure Storage. This single integrated architecture is designed to accelerate deployment times, reduce implementation risks, and lower overall IT costs.



Because of FlashStack’s modular design, it’s easy to add more storage and compute capacity and to conduct non-disruptive software and firmware updates, while daily management is easier and costs are reduced.

Right! Systems worked with SAO on the FlashStack procurement and delivery and on creating a statement of work and project plan before configuring and implementing the new platform. It brought in a team from Pure Storage to ensure that the storage element was set up appropriately and that FlashStack was properly configured.

Once the systems were up and running, Right! Systems continued the engagement by installing Microsoft Hyper-V and building SAO’s virtual environment, which currently consists of 70 virtual machines.

Redundancy and Resilience

SAO’s UCS has eight blade slots, seven of which are in use. Six are populated to run the Hyper-V environment with 10Gbit iSCSI network connections to the Pure Storage array. This has 16Tb raw capacity, but with the set-up of the Purity operating system claiming a 5:1 compression and dedupe ratio, the environment actually delivers approximately 80Tb of available capacity.

The seventh blade is used for Veeam backups which are written off to an ExaGrid system then copied to the Microsoft Azure cloud to ensure off-premise security.

“The whole engagement took less than a week and went really smoothly,” says Welling. “They walked us step by step through all the configuration and we got hands-on keyboards so we were learning right along

“We enjoy working with Right! Systems because they put a value on gaining a good understanding of our requirements. They want to ensure that what they are going to provide for us is really going to meet those needs.”

– Matt Welling, IT Operations Manager, Washington State Auditor’s Office

with them. There was good knowledge transfer as they were writing up the documentation so that when they walked out the door, we had a well-documented configuration of our environment.

Dramatic Increase in Performance

“One of the biggest benefits of FlashStack is the incredible improvement in performance which means we have seen an increase in productivity,” says Welling. “With the old system, we used to spend a good portion of our time moving things around. It would take us a couple of days to get through all our host patching and those types of things. Now, we typically do it every other Friday and some 16 hours of work has been reduced to four hours - even though we have a bigger environment.”

“Also, we’ve been able to drastically minimize our maintenance windows. Because we now have the ability to move our VMs around and free up hosts, a lot of jobs such as upgrades can be done during the day with no impact on customers. Being able to eliminate after-hours working has been an incredible benefit for us and is fantastic for the technical team who don’t like to work evenings or weekends.”

SAO has now achieved its aim of 100% virtualization, and it’s Pure Storage delivers double the previous capacity in just 3u of rack space. Implementing FlashStack has consolidated the last seven enclosures down to just one, bringing a corresponding reduction in co-location costs.

Since SAO is a constantly expanding organization, FlashStack’s scalability is a significant benefit. Having started with four blades, it then increased that to six to accommodate growth. It also anticipates storage expansion soon without the need to buy additional hardware.

The Value of a Trusted Relationship

“Working with Right! Systems has always been a fantastic experience,” concludes Welling. “What we really enjoy about working with them is that the team is always responsive. They gain a good understanding of what it is that we are looking for and they are not afraid to call us if they have questions. They put value on doing that up front rather than going straight to a solution without exactly understanding our needs.”

“Also, they always spend a lot of time on knowledge transfer and make sure that, when they walk out of the door, there is a well-documented guide of how things are set up and how the environment looks.”



To learn more about Right! Systems, visit: www.rightsys.com

Our Mission

To provide world-class IT solutions that help our customers manage costs, people, and processes associated with the technology needs of their business.

Locations

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