



# Legal leader boosts system performance with hyper-converged infrastructure

**Law firm Bradley uses a DataON solution with Intel® Select Solution for Microsoft Azure Stack HCI to enhance application performance today and prepare for a hybrid cloud future**

## **Bradley**

Transitioning from a traditional IT environment to a hyper-converged infrastructure can be challenging. However, the potential for greater performance, flexibility and scalability convinced Bradley, a large law firm based in the southern United States, to make the change. Wanting to ensure seamless continuity and the ability to support ongoing growth, Bradley chose to work with DataON, a hybrid cloud solution provider that specializes in Microsoft environments powered by Intel® technology. The new, hybrid cloud-ready infrastructure means legal and IT users receive a fast, reliable service, and the company has a solid foundation to support ongoing business development.

### **Challenge**

Bradley wanted to enable greater security capabilities, support future growth, and manage IT costs. To do this, the firm needed to move away from its existing IT infrastructure, which was based on a traditional storage area network (SAN). Bradley wanted to replace this SAN with an infrastructure that would offer the flexibility needed to support a Microsoft environment and enable future growth and development.

### **Solution**

Bradley chose DataON to provide a hyper-converged infrastructure (HCI). DataON offers close ties to Microsoft and provides a solution that is entirely based on Intel® technology. In this case, the Intel® Select Solution for Microsoft Azure Stack HCI enabled Bradley to deploy a pre-verified HCI environment quickly, while providing the interoperable building blocks to allow the Bradley IT team to make adjustments and additions over time, in line with business need.

### **Results**

Replacing the SAN with an HCI environment featuring Intel® Optane™ technology, Bradley has seen improvements in its IT performance. SQL backup time and virtual desktop infrastructure (VDI) startup times have both been significantly reduced. End users have also reported improvements in the performance and response times of their business-critical applications.

## Time to change

As part of a forward-looking and innovative company, Bradley's IT team prides itself on working hard to deliver solutions that effectively meet business users' needs today while also allowing for growth in the future.

In anticipation of new security requirements, the company was looking for a solution that would enable it to add capabilities such as network segmenting to its existing VMware infrastructure. After some investigation, it became clear that adding the required security measures to its existing environment would incur significant cost, so the team began to explore alternative options. They found that by adding a hypervisor solution to run on the company's existing Microsoft environment, they could meet their security needs simply by using capabilities already built into that stack.

With the decision made to go down the hypervisor route, Bradley next investigated whether it made sense to stay with a traditional storage area network (SAN)-based environment, or to move towards a hyper-converged infrastructure (HCI) model. "We were green fielding a new data center in our co-location facility and wanted to make a good investment for our firm," explains Ellen Kirby, manager of technical operations, Bradley. "It made sense for us to really interrogate all our options as we wanted a solution that would last, that would provide high performance over time, and that would enable us to scale out and up depending on our needs in the future."

This need for future flexibility was critical. With plans for growth, and an ongoing focus on optimizing IT operations and costs, the company knew it might need to move business-critical workloads, such as its document management and Microsoft Exchange systems over time. Something running in the cloud today might need to come in-house in the future, or vice versa. Whatever solution Bradley chose would need the high performance and flexibility to support a hybrid cloud environment.

As a Microsoft shop, Bradley also needed a solution certified by Microsoft, quick and simple to integrate with existing IT architecture, and would provide Kirby and her team with visibility into the long-term roadmap for the Microsoft technologies that underpin its business.

## DataON provides a specialized solution

Bradley explored a range of options before choosing to work with hybrid cloud solution provider DataON, which specializes in building HCI systems optimized for Microsoft Windows Server and running on Intel® technology. The decision was based on the combination of DataON's close ties to Microsoft and use of high-performance Intel technology. Bradley also considered the financial differences between the solutions and saw that the DataON and Intel® solution would enable high performance and scalable compute resources without the need to spend on additional chassis, shelves and data center space.

DataON is an Intel Platinum Partner and is committed to working with Intel as a solution provider. Howard Lo, VP sales and marketing, DataON, explains why: "Firstly, Intel is a technology leader in the data center, and as such is able to bring technologies to market quickly. We work well together because Intel can bring the innovative technology and we can work closely with our customers to help get the best possible results. Secondly, the certification process that is part of all Intel Select Solutions gives us and our customers peace of mind – we know the whole infrastructure is pre-validated by Intel so we can focus on using that technology to solve IT teams' challenges."

The solution DataON delivered was based on the Intel Select Solution for Microsoft Azure Stack HCI, enabling Bradley to deploy on an optimized infrastructure. A pre-validated combination of hardware and software, the Intel Select Solution provided the building blocks needed to set up and launch Bradley's HCI deployment quickly and smoothly. The entire infrastructure, covering compute, storage and network, was optimized to work together for strong performance. "Our team likes to get under the hood of our technology and make adjustments, so we liked the fact that the solution is already certified for our Microsoft workloads. It's also very helpful that the whole thing is composed of Intel technologies, which give us the building blocks we need to easily make changes when we want to," says Kirby. "We won't run into driver issues or challenges with anything not running the way we expect as it's all built on the same platform."

The initial deployment in the company's primary data center, replaced its existing SAN with Windows Server 2016 Storage Spaces Direct for software-defined storage, based on Intel® Optane™ SSDs and Intel® 3D NAND NVMe SSDs. Then, to optimize its SQL database infrastructure, Intel Optane technology was added as a cache tier to help accelerate performance, while also enabling the low-latency all-flash storage environment that Bradley needed. Bradley plans to use NVMe SSDs for the capacity storage tier across other locations, creating a consistently cost-effective and performance-driven HCI environment.

## Saving time for IT and business users

By replacing its traditional SAN infrastructure with an HCI based on the Intel Select Solution for Microsoft Azure Stack HCI, Bradley has enhanced the overall performance of its IT environment. For example, Kirby explains: "SQL backup has been a big win for us. Before, it was a huge effort to back up and maintain our SQL environments, and we often struggled to complete backup windows. When we ran backup for the first time in the new HCI environment, we actually thought something had gone wrong because it did it so quickly. We just weren't used to the process completing that fast. We haven't seen any performance degradation since then either. This is a great benefit of Intel Optane technology for us."

Bradley is running multiple third-party applications in its Azure Stack-based HCI environment today. Paul Maune, junior systems architect, says: “We’re also running major apps like SQL Server, some components of Exchange, and our Active Directory infrastructure are all in there, and we’re setting up Virtual Desktop Infrastructure (VDI) at the moment. In tests, the VDI environment starts up in less than 30 seconds now, whereas in the old environment with a traditional SAN it took about a minute and a half!”

“We just weren’t used to the [backup] process completing that fast. We haven’t seen any performance degradation since then either. This is a great benefit of Intel® Optane™ technology for us.”

—Ellen Kirby  
manager of technical operations, Bradley

From an end-user perspective, the new environment is also making things easier. “People comment on how fast everything is now,” remarks Kirby. “Previously any bottlenecks to performance could usually be traced back to our compute and storage resources being overloaded, but that isn’t a problem anymore.”

Bradley expects to complete the initial roll out of HCI to all of its 10 locations in the coming months. After that, it will continue to work with DataON to map IT resourcing to business needs over time, adding more storage and compute as needed to scale out or up its current cluster, or to build out a secondary cluster. “We have the ability to be flexible in how we move forward, which is exactly what we needed,” concludes Kirby. “There’s always more to do, and whatever the business needs, we’ll be ready.”

## Spotlight on Bradley

Birmingham, Alabama-based Bradley is a national law firm that works with clients around the world, offering legal services in dozens of industries and practice areas. It operates ten offices throughout the south-eastern United States and employs over 1,000 people. The firm prides itself on its reputation for skilled legal work, exceptional client service, and impeccable integrity.

## Learn More

- **Solution Brief:**  
[Intel® Select Solution for Microsoft Azure Stack HCI](#)
- **Webpage:**  
[Intel® Select Solutions](#)
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[DataON](#)

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<sup>1</sup> Configurations:

Citrix Legacy VDI on NetApp SAN: Hardware: Storage Network: 4Gb/s fibre channel; VM Traffic Network: 10GbE; Capacity Disk Model: NetApp X447A-R6; Capacity Disk Size: 800 GB SSD; Caching Disk Model: N/A; Caching Disk Size: N/A; Disk Configuration: NetApp RAID-DP (RAID 6); CPU Model: Intel Xeon processor E5-2680; CPU Clock Frequency: 2.7 GHz. Citrix Virtual Desktop: CPU Quantity: 16 vCPU per VM; RAM: 48GB per VM; Operating System: Windows Server 2012 R2; Session Type: Multi-user; Citrix VDA Version: 7.15; Profile Management: Citrix UPM; Hypervisor: Hyper-V on Windows Server 2016.

Citrix VDI on S2D HCI: Hardware: Storage Network: 40 GbE RDMA; VM Traffic Network: 10GbE; Capacity Disk Model: Intel SSDSC2KB038T701; Capacity Disk Size: 3.8 TB SSD; Caching Disk Model: Intel Optane SSDPE21K375GA01; Caching Disk Size: 375 GB; Disk Configuration: 20% Mirror-accelerated Parity; CPU Model: Intel Xeon Gold 6132; CPU Clock Frequency: 2.6 GHz. Citrix Virtual Desktop: CPU Quantity: 4 vCPU per VM; RAM: 16 GB per VM; Operating System: Windows 10 Pro; Session Type: Single-user; Citrix VDA Version: 1909; Profile Management: Microsoft FSLogix; Hypervisor: Hyper-V on Windows Server 2016.

Testing conducted by Bradley, 6th December 2019

Performance results are based on testing as of the date in the configurations and may not reflect all publicly available security updates. See configuration disclosure for details. No product or component can be absolutely secure.

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