



Case Study

Dudek

Engineering and design/build firm strengthens competitive advantage with Workspot cloud workstations on Microsoft Azure

DUDEK

COMPANY OVERVIEW

Dudek's environmental planners, scientists, engineers and contractors help clients plan, design, permit, construct and manage projects that improve communities' infrastructure and natural resources. Founded in 1980, Dudek is based in Encinitas, California and has more than 400 employees.

CHALLENGE

Primary goals included accelerating drone data processing time, improving GIS app performance for remote engineers

On-premises infrastructure was constraining the firm's growth.

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Brian Nordmann
CIO

When CIO Brian Nordmann joined Dudek, he and his team soon realized that their on-premises data center was not going to take the firm into the future envisioned by the business. The team started with the guiding principle that they wanted out of the data center business. Initially, they took a hybrid approach, with some workloads running on Managed Service Provider (MSP) infrastructure, and some running on-premises. However, they discovered that the provider could not support GPU-accelerated virtual desktops, and as a heavy user of graphics-intensive applications, that was a show stopper. Since some of their data was already in Azure, they decided that their GPU workstations should be as well, and that is how their cloud-first approach began to take shape. Three primary use cases were the initial focus:

1. Drone Survey Program: Image processing time took as long as 5 days, delaying client deliverables
2. Remote GIS Survey Engineers: File read/write times for their GIS app was painfully slow, inhibiting productivity
3. Replace legacy VDI for non-GPU users: Costly and complex legacy solution is too time consuming for IT, and does not perform well for users

Use Case #1: Drone Survey Program

The most strategic of the three use cases is the use of drones for capturing survey data used in land and infrastructure development projects. When Dudek launched their drone survey practice, they gained the ability to quickly mobilize and collect large and varied datasets. Using these environmentally friendly, low-cost devices allowed the firm to innovate its planning and design processes and deliver greater value to clients.

However, by mid-2018, this successful practice brought in work faster than Dudek could fly missions and process the images collected. Depending on flight acreage, processing drone data for a single job using physical workstations could take up to five days. To maintain its competitive advantage, Dudek needed to differentiate its services by delivering quality outcomes to

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Brian Nordmann
CIO

clients – faster. Although desktide GPU workstations have traditionally set the performance standard for design applications, the significant delays Dudek experienced processing this data was frustrating for its engineers and expensive for the firm.

Use Case #2: Remote GIS Survey Engineers

Survey engineers in remote offices experienced performance issues when trying to access their GIS application. Since the very nature of their work is mobile, improving application performance for this use case could result in significant ROI through additional billable hours and happier engineers.

Use Case #3: Replace Legacy VDI for Non-GPU Users

A legacy VDI and app virtualization solution was being used to give non-GPU users remote access to apps and data. As the firm retires its data center assets and moves workloads to Azure, it's the perfect opportunity to shed this complexity as well, since it utilizes IT resources that could otherwise be allocated to more strategic projects. Application performance is also a complaint among these users, so solving for the latency they experience is a priority for improving productivity and employee satisfaction.

SOLUTION

Time-to-project-delivery is accelerated

With the firm's heavy use of GPU-intensive apps, including AutoCAD and specialty GIS software, delivering a solution that features outstanding performance was essential. There could be no compromises on performance. After completing financial due diligence on their cloud-first approach, Dudek concluded that both their data and their virtual workstations needed to be in Azure. Nordmann and his team conducted an extended pilot with Workspot and Panzura to validate their theory that placing virtual workstations close to project data in Azure would result in great performance for their power users. During the pilot, a drone operator would send a drone out to collect data at a project site. The data was then uploaded to a cluster of Workspot Workstations in Azure. Specialized software was used to process the data in parallel on this cluster; then the same cluster was used for visualizing the data at the edge.

What Nordmann's team discovered is that Workspot Workstation Cloud GPU workstations surpassed the performance of Dudek's physical workstations. Putting the GPU power next to project data in the cloud has changed everything when it comes to performance, productivity and time-to-value for Dudek's clients. With Workspot cloud workstations on Microsoft Azure, processing data collected by drones dropped from up to five days to about six hours!

In addition to the productivity gains achieved by reducing data processing time for drone flight data, survey engineers are also able to be more productive because of app performance improvements. Using their device of choice, they

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now access the ArcGIS application via Workspot cloud workstations in Azure, from any location. “Our survey engineers, whether they are in our headquarters location, in a remote office, or out in the field, are delighted with the performance they are seeing when using ArcGIS,” Nordmann said. These power users are also experiencing better-than-physical-workstation performance, accelerating time to project delivery.

Dudek’s goal of getting out of the data center business is moving its hybrid model to an all-cloud model firmly and steadily. “Having already experienced what is possible with cloud workstations and the outstanding performance our power users are seeing, we also plan to move away from our on-premises VDI solution and deploy cloud desktops to the rest of our employees for secure, fast access to all their corporate apps, whether they are working in one of our offices, at home or when traveling.” Given the impressive user experience for GPU users, the employees who will be using Workspot Desktop Cloud anticipate performance and productivity improvements as well.

“Workspot solutions have become the centerpiece of our overall cloud strategy.”

MEASURABLE BUSINESS RESULTS

Very straightforward ROI with Workspot

For the drone data processing use case alone, the initial savings from Dudek’s deployment of Workspot’s solution is expected to be \$80,000/year on an ongoing basis. “Using Workspot, the drone data processing use case showed very straightforward ROI and addressed our business challenge of maintaining our competitive edge,” says Nordmann.

Additional use cases are also expected to generate a healthy return, through cost savings, greater IT efficiency and user productivity. For example, as Dudek moves away from physical workstations and legacy VDI, remote offices can be opened quickly without the need to purchase servers and other IT infrastructure. In some cases, opening a branch office can be avoided altogether. Survey engineers are using low-cost devices instead of expensive, desk-side workstations that require maintenance and periodic refreshes. A dramatic reduction in file read/write times produced productivity gains that translate into more billable hours. Finally, once Dudek replaces its existing VDI infrastructure with Workspot Desktop Cloud for its non-GPU users, the IT team expects to see additional operational efficiency as they avoid the cost and complexity of managing legacy VDI, along with the ability to reallocate IT resources to more strategic projects.

Saving money and streamlining IT operations is just part of the story, however. The business agility that comes with Workspot’s cloud PC solutions is unprecedented, giving Dudek the ability to respond quickly to changing project requirements and pursue new business without the geographical boundaries that once constrained the firm’s growth.

“Workspot is giving us a competitive advantage,” says Nordmann.

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ADDITIONAL RESOURCES



Video: [Workspot Introduction](#)



Solution Brief: [Workspot Workstation Cloud](#)



Blog: [Workspot Blog](#)

ABOUT WORKSPOT

Workspot is a cloud-native Desktop as a Service (DaaS) solution delivered as a turnkey, enterprise-ready service, exclusively on Microsoft Azure. The Workspot service places Windows 10 desktops and GPU workstations at the edge of the cloud region nearest users for better-than-PC performance. IT can expect fast-time-to-value and on-demand, global scalability. Business leaders can respond faster to changing market dynamics, pursue new opportunities globally and hire the best talent anywhere, while fulfilling cloud-first mandates that position the company for accelerated growth. The service features flat-rate monthly pricing, which includes the cost of Microsoft Azure compute, Go-Live Deployment Services and ongoing support. For more information on Workspot solutions please visit: www.workspot.com.
