



Case Study: United States Special Operations Command (USSOCOM)

By eliminating print servers and GPOs through PrinterLogic, an IT-services provider and its major defense customer improved print availability, streamlined printer deployments and future-proofed their print environment.

Challenges

- Ongoing issues associated with Windows print servers caused prolonged print downtime, interruptions in print availability and a steady stream of print-related support calls.
- Using Group Policy to deploy printers according to organizational unit (OU) proved frustratingly unreliable and overly complex.
- A significant network consolidation effort led to concerns about how disparate print environments would be merged smoothly and efficiently.

Results

- The number of support calls for printer issues has plummeted to zero while uptime has increased, thanks to the inherent robustness of PrinterLogic's unique direct-IP printing model.
- PrinterLogic's seamless integration with Active Directory allows for consistent OU-dependent printer deployments without the need for Group Policy and its shortcomings.
- The remarkable scalability, simplicity and flexibility of PrinterLogic's serverless print infrastructure provided a platform that can adapt quickly and easily to major changes in the print environment.

Charged with overseeing the individual Special Operations Commands of the United States Army, Navy, Air Force and Marine Corps, the United States Special Operations Command (USSOCOM) works to ensure efficient cooperation and unified communication among these otherwise autonomous forces during high-level covert and clandestine missions, including special reconnaissance, counterterrorism and counternarcotics operations.

General Dynamics Information Technology, or GDIT, is headquartered in Fairfax, VA and provides USSOCOM as well as several other government, defense and intelligence organizations with next-generation IT solutions and professional services. One of these services includes managing its customers' vital print infrastructure.

For USSOCOM, GDIT maintains two enterprise networks at different levels of classification. One of these has around fifty printers, most of them Hewlett-Packard, and 400 users. Like many other enterprise

scenarios, this print environment was backboned for several years by a single print server running Windows Server 2012 supported by a failover server for redundancy.

However, around the time of a migration to Windows Server 2016, the question arose as to whether the USSOCOM print environment would be better served by a different enterprise printing solution—one that provided greater print availability and more reliable printer deployments.

“One of my guys was at a show somewhere and saw [PrinterLogic](#),” says Chris Spradley, a systems engineering lead at GDIT-owned ARMA Global Corporation. “He brought a brochure back and said, ‘Hey, you know, this could really help us out.’”

“Fast forward a couple of years and we’re trying to streamline our failover and availability capabilities. And I still had that brochure that he brought back from that show. After looking into it, I took it to our government customer, and they said, ‘If you say this is what we need, then let’s do it.’”

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GDIT rolled out PrinterLogic on one USSOCOM network at the end of 2018. The solution's integration with the VMware environment was "extremely seamless," and implementation was rapid, despite Spradley and his team having only had one demo.

"When it came time for me to do it, I basically did the same thing as when we walked through it the first time. It was just a matter of importing printers and things from our Windows print server and targeting OUs. Once the PrinterLogic client was out there, it was all done. It was just that simple."

In fact, the eventual ease of deployment and configuration was surprising even to Spradley himself.

"I'll be honest," he says. "Moving away from Windows print servers, especially in our environment, I was still a bit skeptical. I've worked with that solution for years. It has its quirks. It's a pain in the neck. We were constantly having to fix stuff. But I know it. How could PrinterLogic possibly be that easy? Well, now I'm a believer."



"We're basically doing it the same way, just without having to try and apply the Group Policy. We're still targeting the same OUs, but the way PrinterLogic does it just works infinitely better. I can't even express how easy it is compared to the way we used to do it."

Challenge #1—Increasing Print Redundancy, Availability and Uptime

Spradley estimates that, even after the migration from Server 2012 to Server 2016, the Windows print server suffered from issues "three or four times or more per week."

These issues were often serious enough to warrant sustained troubleshooting, and despite having redundancy measures in place, this led to anything from minor interruptions in print availability to extended periods of downtime.

"If my print server conked out, and I didn't have a good snapshot or a backup of it, I'd be hosed," says Spradley. "The biggest piece of the failover, aside from rebuilding the server, was during the actual failover scenarios. We used VMware Site Recovery Manager to fail the print server over. That in and of itself took a while, but the time it would take for print jobs to spool and then actually print was always elongated when we had our print server failed over to our alternate site."

Solution

Because PrinterLogic's unique centrally-managed direct-IP printing model avoids the issues that turn print servers into single points of failure, Spradley and his team no longer have to struggle to maintain print availability for their end users. They can oversee and administer the entire print environment from a single pane of glass, yet PrinterLogic's robust client-to-printer connections remain intact even if the server is offline.

"The way it works with PrinterLogic is that everything is done locally between the workstation and printer once the client is on the machine. So even if we have to make changes, the end user doesn't see any degradation in service," he says.

"I've switched back and forth between our primary site and our alternate site multiple times throughout a day, testing various things, and I've never received one phone call from anybody complaining because they couldn't print."

He also highlights the inherent "recoverability" of PrinterLogic: "Even if we had a worst-case scenario and I had to rebuild one side of the network, PrinterLogic is just so much easier to work with. I just export a

database here, import it on the other side, and nobody knows the difference after I change the DNS records. End users never even realize."

Challenge #2—Eliminating Group Policy to Streamline Printer Management

"We consistently had issues" with GPO-based deployment, Spradley says. And those issues weren't only related to advanced printer deployments or unusual printer assignments. They sprang up even during routine management.

"Even if all we wanted to do is change the name of a printer or change the IP address of a printer, in some cases we would have to go in and manually remove all of those printers from every user and workstation at a given location. Then we'd have to go back and reapply that Group Policy as if it had never been applied before and hope that would actually map the printers so the users would be able to actually use them."

Instead of functioning as a valuable tool to overcome the challenges of printer deployment, Group Policy proved restrictive and limiting.

"With GPOs, there was a certain sequence in which you had to do things in order to get it to work. If you didn't follow that sequence, it wouldn't apply the way it was supposed to," he says. The inevitable result was a steady stream of productivity-sapping support calls for basic printing issues.

Solution

PrinterLogic integrates with Active Directory to replicate the functionality of Group Policy without the complexity or uncertainty that's so common with GPO-based deployments. That has allowed Spradley and his team to continue using organizational units (OUs) as the primary printer-deployment criteria but with more confidence and greater ease of use.

"We're basically doing it the same way, just without having to try and apply the Group Policy. We're still targeting the same OUs, but the way PrinterLogic does it just works infinitely better. I can't even express how easy it is compared to the way we used to do it," he says.

The elimination of Group Policy has benefits beyond simplified deployments. It's also enabled the administrative team to transfer routine print-management responsibilities to the service desk.

"Our service desk is the one that adds the new printers and does everything now. The only time we get called now is when something's really broken. Now those guys handle it all. The time saved is just immense."

Challenge #3—Introducing Future Scalability and Flexibility to the Print Environment

Enterprise-scale organizations like USSOCOM and GDIT regularly engage in process optimization with a view to reducing unnecessary infrastructure, minimizing costs and simplifying administration. Unfortunately, the limited scalability and flexibility of legacy print-management applications can likewise hinder efforts to make the print environment more efficient.

Currently, GDIT is in the planning stages of a far-reaching IT consolidation effort. This would mean merging multiple networks across multiple classification levels along with adding a third datacenter for additional redundancy.

“When it’s all said and done, one network is going to be somewhere around 1,500 users and the other one’s going to be somewhere between 3,500 and 4,500. To support those, obviously we’re going to experience a significant growth in printers,” Spradley explains.

This caused concern among some of his colleagues, who were familiar with the challenges of consolidation when dealing with a print-server infrastructure.

Solution

PrinterLogic’s serverless architecture endows it with impressive scalability for growth along with the ability to merge entire print environments quickly and easily.

“As I’m sitting there and talking to my team about this consolidation, I’m like, ‘You know what? The whole printer thing is going to be super easy.’ And they wanted to know how I could say that. Well, it’s really easy,” he says.

“With PrinterLogic, all I need to be able to do is to access the Windows print server for those other networks. That’s all I need. Because I know I can import all of that information into PrinterLogic and then go in and target the OUs. And I’m done. I don’t have to rebuild anything. I don’t have to worry about doing a manual migration. None of that. It’s that simple.”

That’s turned the printing component of the consolidation into “low-hanging fruit” and freed the administrative team to concentrate on the challenges of amalgamating other parts of the IT environment. Spradley also says that integrating PrinterLogic into the third datacenter will likely involve little more than a simple export–import.

Conclusion and Savings Summary

Given that the size and topology of the print environment is still in flux, neither USSOCOM nor GDIT has yet put any resources toward calculating concrete ROI figures.

“To be honest,” says Spradley, “we just haven’t had time to do any quantitative analysis. All I know is that I don’t get calls daily. That’s the best way I can describe our success. When we were on the Windows print server, I was constantly receiving calls, but I don’t get those calls anymore. Come to think of it, I don’t even remember getting a single phone call about any of the printers since we deployed PrinterLogic. That’s proof that it works.”

In addition to the dramatic reduction in support calls, PrinterLogic has reduced the time both the admin team and the service desk spend on print management, vastly improved print availability for end users and prepared the print environment for future evolution and expansion.

“We now have a better print infrastructure with more functionality, and it’s easier to deploy and manage,” he says. “What more could I want?”

About PrinterLogic

PrinterLogic helps IT professionals completely eliminate print servers in favor of a highly available serverless print infrastructure. With PrinterLogic’s centrally managed direct-IP printing platform, organizations can empower their end users with mobile printing, secure release printing and many advanced features that legacy print-management applications simply can’t provide. The company has been included multiple times on the Inc. 500 and Deloitte Fast 500 lists of the fastest-growing companies in North America.

For more information, or for a free trial, please visit www.printerlogic.com. Questions? Watch our video, connect with us on Twitter at @PrinterLogic or follow us on Facebook, LinkedIn, YouTube, and Instagram.

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