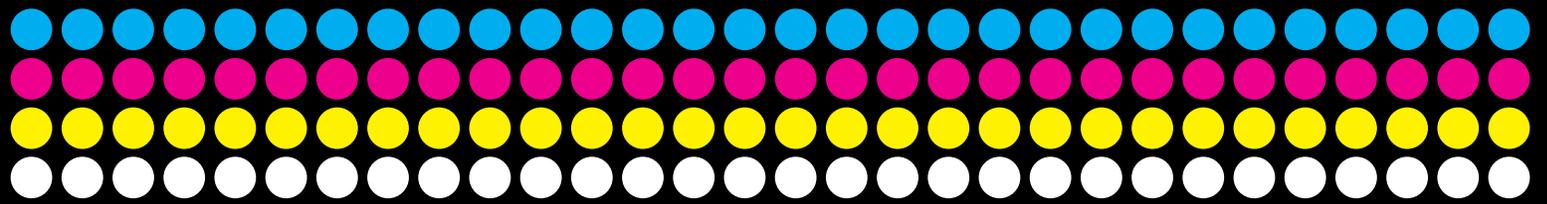


**The Changing
Needs of
Government
Printing**



RESEARCH
BRIEF



Introduction

In government today, the discussion often naturally turns toward digital innovation. Electronic data storage, online transactions, social media and online content management systems have received more and more focus as the public sector works to catch up technologically to the expectations of citizens in a Web 2.0 world.

But amid the buzz about digital services and innovation, one crucial area of relevance to government can often get lost: printing. Although most people think of the public sector moving to an all-digital purview, the fact is printing paper documents is still critically important to the services the government provides internally and to constituents.

The reality is that the public sector in general is still heavily paper-intensive, in part because many rules and regulations still require a paper-centric environment. Even as the world becomes more dependent on digital communication and electronic information, government agencies still rely on paper documents. And though there may be a perception that paper printing is going the way of the baby boomer, the new generation of government workers relies just as heavily on printed documents to do their jobs.

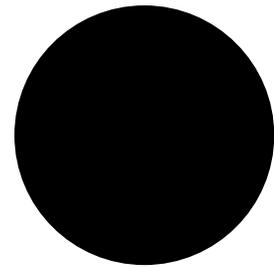
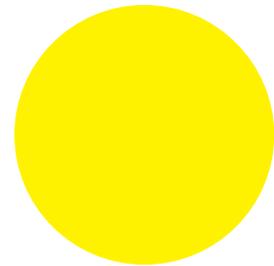
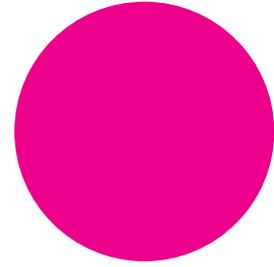
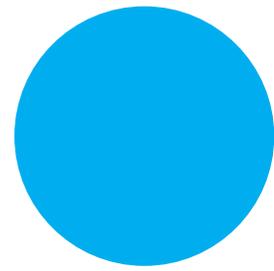
Furthermore, security around printing and printer infrastructure is more important than ever — but not discussed nearly as much as electronic files and databases, despite being just as vulnerable.

The conversation about government printing needs must change. That's why we created this research brief to help you better understand the changing needs of government printing, how to overcome current challenges in the field and more

This research brief:

- Reveals findings from a GovLoop community survey of 411 public-sector employees about their printing needs and current setups.
- Shares insights from HP Inc. experts about the importance of new printing technology.
- Details the challenges that the government is facing in printer setups and how they can be overcome.
- Helps you understand why security is critical when it comes to printers and printing.
- Shows a path forward for the future of government printing.

Printing needs for the government are more important than ever and will continue to evolve. Government employees need to take a close look at their current printing needs and setups to make sure that they will meet the needs of tomorrow's government employees.



Questions to Determine Your Printing Needs

The Changing Needs of Government Printing

It's a fact: Nearly every office in the government uses a printer every day, whether it's for printing single-page, black-and-white documents for a small work project or for large-scale, multi-page, complex color documents. But the stark reality on government printing is this: Very few agencies' printer setups match their exact printing needs. And in fact, many agency officials are probably unaware of what their real printing needs are.

Leonard Hannemann, HP Regional Sales Manager, explained a hypothetical but common printing situation at a typical government agency:

"In many departments, most of the time a printing infrastructure is very decentralized," Hannemann said. "Each department is ordering their own devices and their own supplies in an ad hoc way. They often have an IT department that helps repair the printers when they break down, or sometimes they have to go to a third party. When they're ordering new printing devices, they may be ordering different ones or incorrect ones. Perhaps they're buying a \$20,000 copier — one that has all the bells and whistles, but they may not need all the bells and whistles."

"Why aren't these needs matching up to what they are ordering for printing capabilities?" he added. "There is not always a centralized printing solution that is meeting the proper needs of the department."

The fact that the printing solutions that agencies are purchasing often don't meet their needs may have to do with a de facto status quo attitude toward procurement of printer solutions, said Randy Hall, HP WW Managed Services Manager. Officials today are not properly analyzing their actual printing needs; they're just making assumptions based on past use.

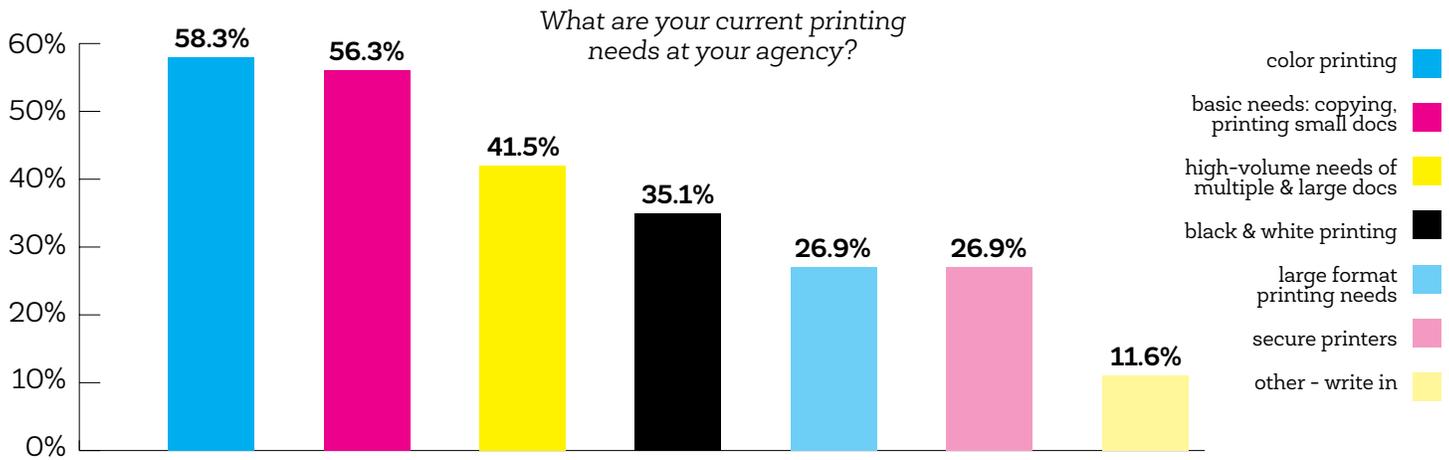
"No longer can government just go with printing services based on what you've had in the past without insight or visibility to what the actual behavior is," Hall said.

In short, one of the main issues with the government printing landscape today is that very few people doing the purchasing are clued into matching printing devices with their department's needs.

As government agencies get more data-savvy and uses analytics to make data-driven decisions in other areas, it should apply this same approach to printing.

"Government really needs to align the buying requirements to the user's needs," Hall said. "Because in absence of having visibility to the user's needs and behavior, they can't make an accurate buying decision. And therefore, they typically overspend to make sure they capture all of the requirements, whether they're real or perceived."

- **What is my user-to-device ratio?**
- **What are the average page volumes per user per month?**
- **What type of paper is actually required — letter, legal, ledger, other?**
- **Do I have visibility and insight across my print enterprise?**
- **Do I print the right amount on the right device?**
- **Does the device have the right capabilities?**
- **Is the device over- or underused?**
- **Do the metrics and analytics deliver the value to continue to understand what my fleet is doing, and if it's doing it in the most cost-effective manner?**



GovLoop Community Survey Results: Printer Setups, Common Challenges & How to Overcome Them

To get some insight into the government's current printing needs and landscape, GovLoop surveyed 411 public-sector workers about their printing needs, challenges and attitudes.

Far and away, two needs dominated our public-sector audience's wishes: the ability to fulfill basic printing needs such as copying and printing small documents (56 percent) and the ability to do color printing (58 percent).

Although many respondents said that their current printers can handle their most basic tasks, dozens complained that color printing — a need that today's printers should easily meet — was not available.

"I really need my printer to be able to do color and high-quality," one respondent said. "I print flyers and brochures in too small of [a] quantity to send to an outside printer. I also print many items for outside community member use. I really need something that can produce cleaner copies. We really should leave our customer (the taxpayer) with a better impression from our printed materials."

Eric Simon, HP Regional Sales Manager, said that color printing should not be such a hurdle for the public sector to overcome.

"In the past, color printing was perceived as prohibitively expensive and therefore the public sector doesn't have a lot of those printers," he explained. "That perception still lingers today. But the fact is that today

there are newer devices and newer technology that come with the ability to manage and mitigate that color usage — and today it is more affordable as well. So you can still have access to color, but we have the toolsets and capabilities to be able to mitigate someone printing color with something unnecessary like an email."

The other most common challenge our survey respondents face? The ability of their printers to do high-volume, complex printing jobs.

"I have high-volume, multifunction printing needs for my job, but my current printer only prints one-sided and is hard to do large print jobs on," one respondent explained.

Others said they had to go to one device to scan, another to print on standard 8.5-by-11-inch paper and another to print at an 11-by-17-inch size.

The reason why this is so prevalent in government? It has to do both with the former status quo attitudes toward printing and budgetary concerns.

"Often, rather than viewing their environment holistically, government agencies view it on very budgetary lines," Simon said. "So they buy printers out of [a] certain segmented IT budget, they buy their copiers from a different budget, which is usually handled through the procurement office. And those lines don't often merge together."

This results in agencies' IT managers not wanting to buy a multifunction printer,

because they believe that these varied devices spread throughout a department are sufficient.

"But that's not really true," Simon said. "In this case, you have very decentralized procurement practices to whether print, copy, scan [and] fax are all handed...under one budget vs. spread across multiple."

Hannemann agreed. "A lot of it has to do with the status quo," he said. "Government may think, 'Well, we've always had one copier per floor, and that's where you do any copying, scanning, etc. And then you'll just have the single-function printers everywhere else.'"

However, this results in a situation in which someone needs to scan something, but then has to go to another floor because the nearest device does not offer multifunction capabilities.

"A lot of the environments that these government entities have are archaic," Hannemann said. "It's the status quo that they've always had. But what we at HP would like to help them understand is that we can really determine what their requirements are, and help them figure out the right questions to ask."

Again, a perfect printing solution depends on first understanding a department's needs. "We can help them figure out what fits an agency's needs and requirements," Hannemann said. "Then we go in and provide a solution that matches them."

Survey Methods

How many people were surveyed?
411 public sector employees

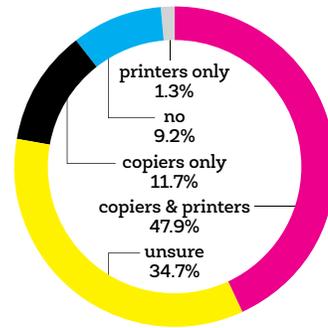
How long was the survey open?
9/27/15-10/18/15

How were these public-sector employees chosen?
Members of the GovLoop community could take this survey on a volunteer, anonymous basis.

What methods were used?
GovLoop uses surveygizmo.com via email promotion

How was the data collected?
Online survey

Do you have a managed print services contract?



Government Voices on What They Need from Their Printers

In our survey of 411 public-sector employees, many expressed frustration with the fact that they cannot get the things they need from their agencies' current printer setups. Here are a handful of the responses we received.

"The printer is a network one and doesn't adjust properly to multiple users. If more than one person is printing, instead of waiting, everyone's job is mixed in all together."

"Numerous people share numerous printers. We often run out of toner and no one takes the out-of-toner printer offline. This results in lots of wasted paper when we unknowingly send long reports to the out-of-toner printer."

"I print large volumes of confidential/military documents. The printed documents get mixed in with the rest of the building's prints and I have to chase them down."

"I work in multiple offices so frequently have to map to different printers, which has recently been a problem due to the frequent changes in server addresses. Often I have to utilize a copier with color scanning capabilities to scan 11"x17" documents which I need for multiple counties — and only one county has a machine that will do this. I do not have access to printers/plotters that will print larger than 11"x17" and not all counties that I work in have that size capability in printer[s] that I can access."

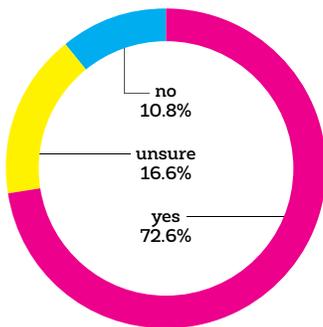
"Printing requires leaving the computer and going, in essence, to another building to retrieve your material. If you're printing sensitive information, it will be accessible to anyone who has access to that particular printer."

"There is no good color printing option. The one color printer we have is not industrial size and capacity."

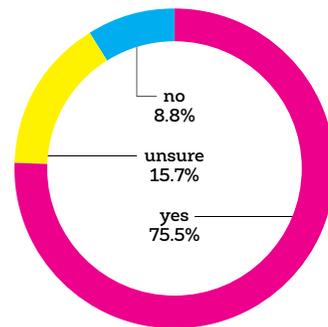
"We have frequent printer breakdowns."

"I am not able to print in color when it is needed."

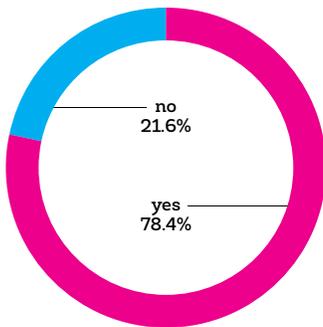
Does your organization need the ability to print on 11" x 17" paper?



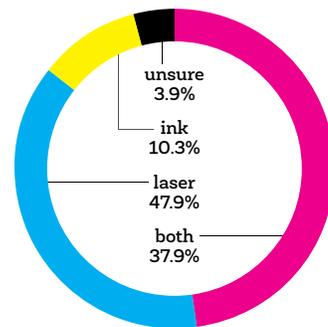
Does your agency have access to an A3 printer (11" x 17" paper size)?



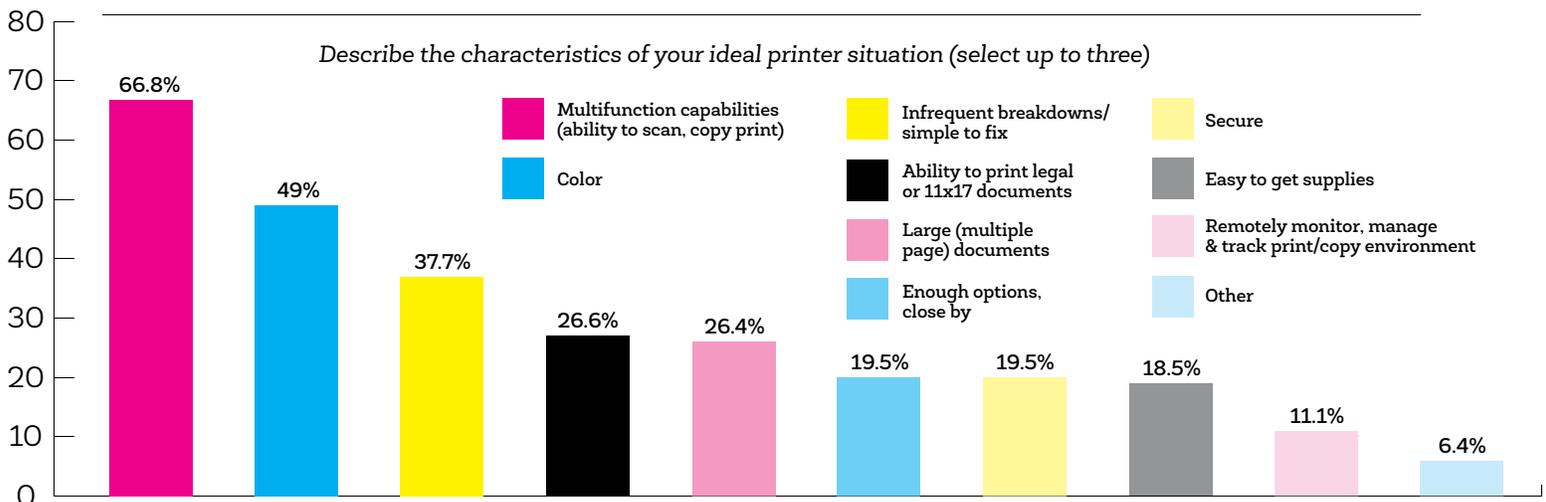
Do you know the difference between ink & laser printers?

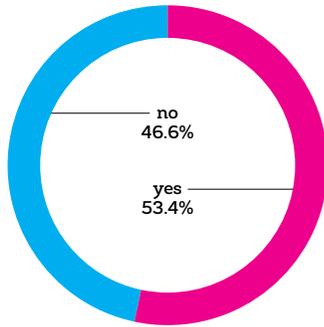


Are you using ink based or laser (toner) based printers in your organization, or both?

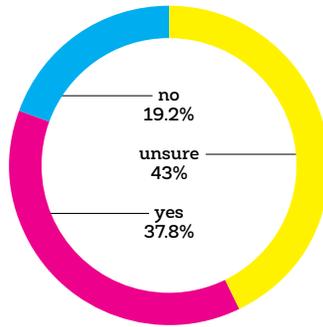


Describe the characteristics of your ideal printer situation (select up to three)

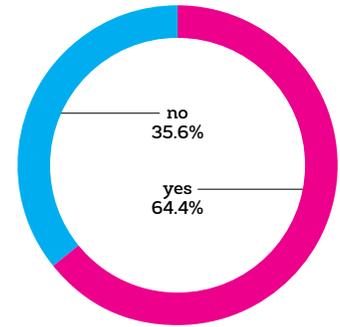




Does your agency have a printing security policy?



Do you believe that printers are an area of security concern?



Do you print confidential documents (financial, HR, health-related, etc) to a shared or a network printer?

Printing & Security: The Real Challenge

Color printing, large-volume print jobs, multifunction capabilities — all of these printing needs are critical and ever-evolving for the public sector, as our audience survey proves. But one of the most important things about government printing needs is rarely discussed: printer security.

Looking at a basic printer, you might not view it as a possible launch pad for a hacker looking to get onto your network — but it is. Michael Howard, HP worldwide Security Practice manager, set the scene:

“An average printer today has over 250 possible security settings,” Howard said. “And as with all manufacturers, whether it’s PCs, desktops or printers, everything comes to a customer wide open and vulnerable. So it’s important that the end users know how to set security policies, how to build those standard policies and how to make sure that all our devices are locked down in the same way.”

When you take a printer on your network, Howard explained, that opens windows to hackers. And once they come in through that device, they may not launch an attack from there, but they can use the printer as the platform to get into and attack the rest of the network.

Unfortunately, according to the recent Gov-Loop survey, printer security is either not on many respondents’ radar or is simply not a concern. Only 19.5 percent said their ideal printer would be properly

secured, and 47 percent said they did not believe that printers are an area of security concern for the public sector.

Additionally, only 38 percent of respondents knew if their agency had a printing security policy. Nineteen percent said they did not have one, and 43 percent were not sure.

There are two reasons for this lack of understanding about printers and security vulnerabilities, Howard said: an absence of education about the issue and a belief that if a printer is behind a firewall, it is secure.

“The buyers of printers aren’t necessarily security-savvy people,” Howard explained. “But when we do talk to them and get them together with their security team, we find it very beneficial and eye-opening for them to discuss these issues and the needs around security.”

Also, Howard added, most workers still feel that if everything sits behind a firewall, it’s secure. And printers are always behind a corporation’s firewall.

“I still get a lot of [chief information officers] that tell me, ‘Oh, well, since it’s behind a firewall, we don’t really perceive any risks,’” Howard said. “But the reality is that you must secure every endpoint, everything that touches your network, whether it’s a printer, an HVAC system, even down to where we’re seeing the Internet of Things now. Vending machines, refrigerators — anything that is connected to the network needs to have security policies.”

It’s not just that hackers can use printers or that they are vulnerable to attack. It’s that incredible amounts of valuable and often sensitive information are printed on a daily basis on government printers.

“For the most part, most people printing don’t have any authentication set up on their devices, which means I can normally walk into an organization, I can print, scan, copy or fax, and worse yet, I can even send an email from that device, without ever having to authenticate to the network,” Howard explained. “However, if I had a desktop or a laptop, it would require that I would log on before I could do anything within that internal network. So that’s another big area. When you don’t have authentication, it means you also don’t have audit logs, you don’t have any way to track who printed where, when, so you lose control of that valuable data within your organization.”

This is a clear problem, as evidenced by our survey, which found that 64 percent of respondents print confidential or secure materials on their work printers.

In short, agencies need to work together to build a strong printing security policy that lets them secure the infrastructure from all the unused protocols, and then move through more advanced solutions such as authentication, which leads to secure printing, mobility and workflow.

Case Study:

California Department of Corrections & Rehabilitation

The California Department of Corrections and Rehabilitation (CDCR) operates one of the world's largest correctional systems, managing more than 130,000 inmates, most in 34 state prisons. Within these prisons, the department operates several dozen divisions, including legal services, health care, accounting, human resources, rehabilitation services and many more — each with its own complex printing needs.

For example, CDCR's transportation unit moves up to 900 inmates a day and relies on printed schedules of buses and passengers. A corrections counselor will hand a teacher a printed evaluation of the skills an inmate needs to learn. Staffers print out the list of inmates scheduled for release each day.

Most of CDCR's printing is standard stuff, but some departments have unique needs, such as the large-format printers that facilities managers rely on or the mobile printers that attorneys who travel to and from court use.

With these myriad needs, CDCR was dealing with issues that plague many agencies: siloed printing situations, orders from a variety of departments and disparate management of printer supplies and repairs. This led to a proliferation of single-use devices

and warehouses full of both original and re-manufactured toner, some of which was left on shelves long after a printer or device was gone. And while inventory became obsolete, no one ordered replacement items for heavily used devices. What's more, because many programs ordered devices, there was no overall view of what exactly was installed throughout the department.

CDCR officials decided to consolidate their printer services and turned to HP for help.

At the outset, CDCR had 9,000 printers statewide and 19,000 to 20,000 total machines, including other single-use devices. The goal became to pare that number down to about 3,000 multifunction printers.

HP's Managed Print Services (MPS) combine hardware, software and services to help organizations manage, optimize and improve printing and digital workflows. CDCR used HP MPS in a three-stage process: initial discovery, design review and implementation.

Initial discovery includes an on-site assessment of the existing print environment. HP then created a floor map of the recommended future layout. During design review, CDCR IT staff met with decision-makers in each affected program to discuss

whether the recommended deployment met current and future workflow needs.

After making adjustments, they moved to implementation. CDCR consolidated the number of models serviced from hundreds to 15, covering the full range of enterprise requirements. Standard options include both mono and color printers; small workgroup devices and high-capacity machines with stapling, collating and three-hole punching; mobile printers; and large-format printers for printing facility design documents.

When the migration to MPS is complete, the entire CDCR enterprise will reap the advantages: new devices with new productivity-enhancing digital features; network attachment for visibility, manageability and shared usage; committed service-level agreements for service and repair; automated monitoring of supplies; print policy enforcement; and fixed pricing from a single vendor.

CDCR will also have saved taxpayer money, used internal resources more efficiently and helped the department run better.

Conclusion

The era of broken printers, devices on multiple floors and lack of color printing seems like it should be over, but it is not. Many public-sector workers still deal with significant printer setup challenges that impede their efficiency, reduce the services they can offer to citizens and imperil security at all levels.

But there are solutions. Deploying managed print contracts with reliable vendors, using metrics and data to assess your actual printing needs, and investing in the latest printing technology can bring your agency into 21st-century printing.

"We're truly here to help manage these print environments," Hannemann said of HP. "We provide reports that give IT departments the insight that they need in order for them to optimize their environment. That could mean swapping devices,

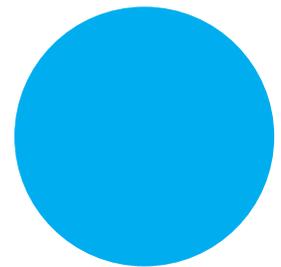
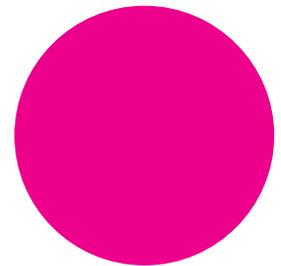
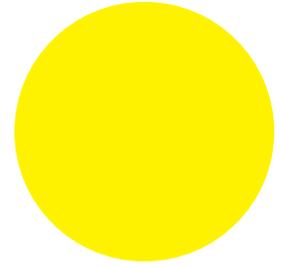
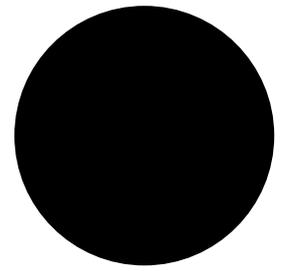
or it could be getting rid of some of these 15-year-old devices and replacing those with these new devices. Perhaps it's getting rid of some of these old color printers that cost 18 cents a page to print and replacing them with new color devices that cost 4 cents a page to print."

"In short, we do the assessments and management of your printing situation, then we help you optimize it and then we bring in the solutions that address your needs, from workflow to security."

Figuring out your printing needs and then aligning them with good printing technology can boost productivity through security, mobile printing and intelligent workflows. Capitalize on printing innovation today — and you can help move government printing infrastructure into the 21st century.

"In short, we do the assessments and management of your printing situation, then we help you optimize it and then we bring in the solutions that address your needs, from workflow to security."

Leonard Hannemann
HP Regional Sales Manager





About HP Inc.

HP creates new possibilities for technology to have a meaningful impact on people, businesses, governments and society. With the broadest technology portfolio spanning printing, personal systems, software, services and IT infrastructure, HP delivers solutions for customers' most complex challenges in every region of the world.

More information about HP (NYSE: HPQ) is available at <http://www.hp.com>

Disclaimer: This article contains expressed opinions of the HP employee during an interview with GovLoop and HP does not necessarily share the same views.

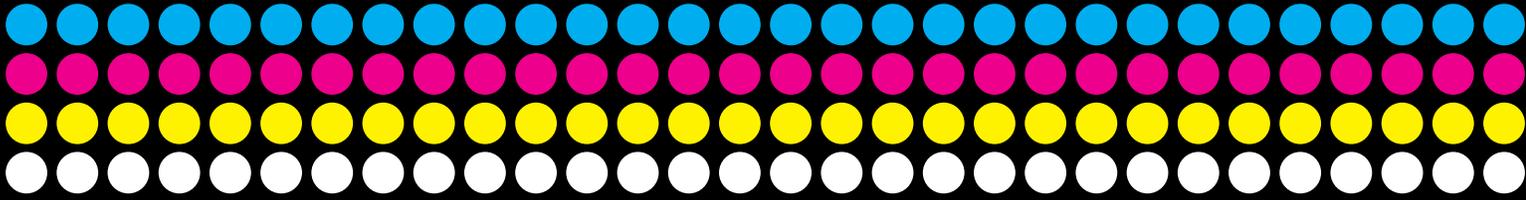


About GovLoop

GovLoop is the "Knowledge Network for Government" – the premier online community connecting over 200,000 public sector professionals. It's an essential resource to connect with peers, share best practices, and find career-building opportunities.

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