

## **Innovation Award 2019**

**Purpose:** To recognize organization that has shown creative and innovative ways to improve a process or business model unique to their organization.

### **Secure Office Print Ecosystem (SOPE)**

#### **A. Summary**

The printing world is changing and so is the office print environment. Office environments remain overloaded with multiple network/local printers, copiers, and fax machines. The associated cost with maintaining and supplying the different models is astounding. Not to mention the power cost associated with old printers that do not have the power save capabilities nor any type of security or print efficiencies. In an effort to provide enhanced services to save the State of Colorado money, the State's In-plant's Copier Program transitioned into the IDS Multifunction Printer Program (MFP) – and now rebranded to the IDS Managed Print Services, Secure Office Print Ecosystem – aka SOPE.

The Copier Program was mainly a distributor of copy machines to state agencies and used the economies of scale approach. The program was successful from 1976 to 1994. In 1995 due to a department merge, the scope of work had changed for the program. The program had been reduced to a limited service area. The need to copy had started to dissipate as electronic processes, and the new way business was done threatened the program and its existence.

In 2011, the program realized an opportunity – copiers are now multifunction printers (MFP). All robust multifunction printers come with copying, scanning, faxing, and printing. The IDS Multifunction Printer Program engaged the Governor's Office of Information Technology (OIT), in regards to configuration of the new MFP fleet and launched a focus group evaluation before awarding the new MFP bid.

To ensure cost savings, the IDS MFP Program reached out to all 314 key device contracts, educating them on functionality of the devices, cost savings compared to printers, and proper configuration based on volume. By expanding the IDS MFP fleet, we will have the volumes to drive down costs making the cost per copy/print very inexpensive.

The ultimate goal of the program is a full service for Managed Print Services. The current objective for the program is to provide a cost savings blueprint on how all states can optimize their print environment effectively and to start leveraging digital workflows associated with the MFP. As the program evolves and stays on track with objectives and partnerships, goals will be reached and/or exceed past expectations with continuing to grow by serving all state agencies.

## **B. Full Description (purpose, mission, or hypothesis)**

In 2014, the Colorado Office of Information Technology (OIT) and The Colorado Department of Personnel & Administration (DPA) partnered in transferring and consolidating responsibility for printers and Multifunctional Printers (MFPs) that offered printing, copying, faxing, and scanning technology to the Division of Central Services' Integrated Document Solutions (IDS) MFP Program.

To highlight the financial and business benefits the MFP Program provides, DPA and OIT collaborated to engage an outside source to assess the current state and develop the business case for the inclusion of the executive departments that have not yet been incorporated into the program. By analyzing current usage of printers, faxes, copiers, and scanners, as well as the key business functions supported by these devices, DPA and OIT have a roadmap to optimize the number of devices and transitioning to the use of MFPs. Developing this approach involved identifying the business requirements for devices, performing an inventory analysis and developing a business case highlighting the financial and customer impact of this change.

As the program started to evolve, the division's (DCS) mission played a factor in setting new goals and where the program needed to be headed. By using the DCS mission as a guide – *DCS will provide the best value to the State in every service we offer and to every customer we service* – MFP/SOPE's mission followed suit – *To have state agencies and their employees make smarter print decisions, become more efficient, and reduce costs.*

As part of the Governor's Greening Initiative and to better serve executive agency customers, the program agreed to four initiatives that were recommended in the business case:

1. Create a centralized MFP program.
2. Standardize printers.
3. Work with IT to provide network security software for all printers.
4. Manage print service solutions.

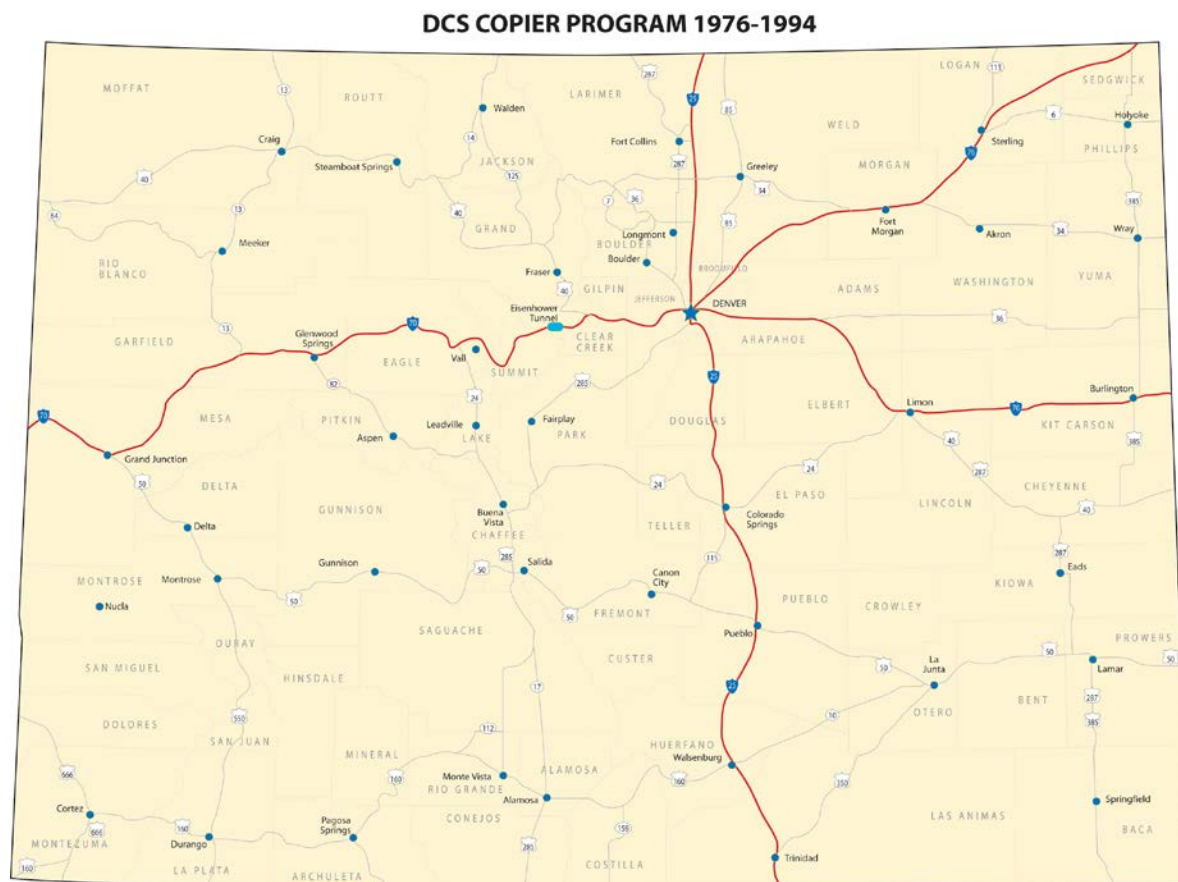
The managed print services recommendation was to provide oversight to state agencies on proactively monitoring printers on the network from a security standpoint to monitor on-time consumable ordering and to have them report remote diagnostics to the vendor for proactive maintenance. The program was also developed to enable mobile print solutions and to provide machine metrics, which would combine all state agencies' data to make better business decisions. Through the program's lean assessment, it was realized that agencies never knew how much they printed in dollar amounts. By implementing a managed print solution, this information would be available.

## C. Outline of Program, Process, Procedures

IDS' Secure Office Print Ecosystem (SOPE) partners with the Office of Information Technology (OIT) to provide quality all-in-one office machines to all state agencies that incorporate functionality of multiple devices. These machines include combinations of features to meet each state agency's business needs, at a reasonable price: printer, scanner, photocopier, fax, and email. All machines share the same platform, making it easier to navigate through any device at any of the agencies. SOPE also provides consulting services including print education, track analyze statistics, print assessments, digitized workflow, onramp solutions, and managed print services.

### Inception of Program, Overview, and History

The State of Colorado In-Plant, as written into law in 1976, consolidated that all single function copy machines were to be managed by the State of Colorado Printing In-plant under the Division of Central Services (DCS) – creation of the State of Colorado's Copiers Program commenced. The division was given statutory authority for all copy machine procurement and management of these machines would be handled by the State of Colorado IDS In-plant. The division would assist agencies in selecting appropriate copier services at the lowest prices. Several local governments using the State's negotiated contract also requested DCS' assistance in selecting copiers that best fit their needs.



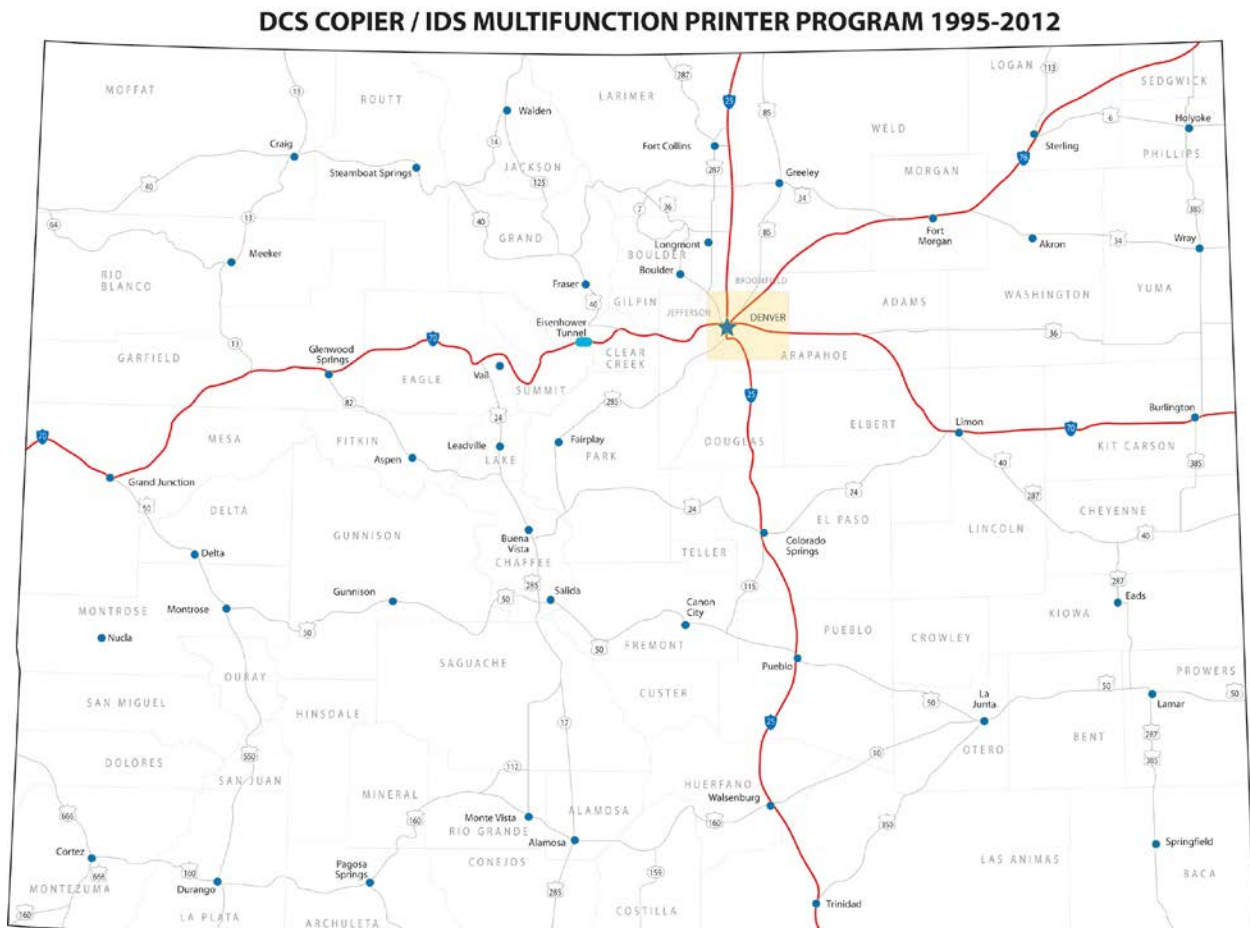
The business model which is based on utilization developed a flat rate for all customers that included the machine lease base, consumables, service and paper. The Copier Program adopted seven segments to differentiate speed for all copier models. Placement of devices was strictly based off utilization history and determined what segment of speed of copier they would be receiving. In addition, the program managed a statewide contract for not only rural state government offices, but for political subdivisions.

In 1980, the division managed 76 copiers that were leased directly, in addition purchased 25 and rented 51 others. In 1980 due to the increase of 15.6 million copies a year, the rate went from 3.85 to 3.65 cents per copy.

By the turn of the decade in 1989, the Copier Program had expanded to 145 copiers in the metro area with an annual of 27.4 million copies made with the rate of .035 cents for a monochrome copy.

In the early '90s, the program had reached its peak with a rate of .033 cents per monochrome copy and a record 35 million copies for the year on 189 devices.

In 1995, the program transferred the solicitation for copiers for rural areas and political subdivisions over to the department's State Procurement Office. This decision left the Copier Program with only the 4-county Denver Metro Area as its only customer base. This put a limit on growth as state agencies were moving to counties just outside the Denver Metro Area and brought new challenges by the turn of the century.



The new millennium (2000-2010) challenged the Copier Program and its existence:

- Increasing cost
- Smaller Market to Expand
- Competitive State Purchasing Price Agreement with copier minimums
- Customer Service Issues
- Procurement of desktop printers
- Changing of paper intensive work processes that led to automation
- Merger of print and copy technology
- Need for color printing

The good news first, by late 2006, the Division of Central Services was granted statewide authority over print and mail due to the success of the printing in-plant.

In 2008, Senate Bill 08-155 was passed. This historic measure created a single IT entity effective July 1, 2008, by transferring all executive branch agency CIOs to OIT and shifting the reporting structure of agency IT employees to the State of Colorado CIO. This was important as OIT would start to embark on enterprise solutions ranging across the State of Colorado.

These instances were stepping stones that would lead to the program finally extending beyond the limited service area.

By 2009, the Copier Program had a modest growth in 273 devices managed. That would be 5.6 devices a year for the past 15 years. The yearly volumes continued to dwindle and the rates for the program continued to increase. The rate was at .039 cents for a monochrome copy/print and .35 cents per color copy/print which was only offered on one segment of the seven segments of copiers due to copier pages per minute.

At this time, the program was under scrutiny and whether or not to make it part of the State's IDS In-Plant's services. After some research, the following issues were reported and documented as follows:

- Department of Agriculture leaves the Copier Program because of total cost of ownership costs.
- IT managers in each department pushing their own printing standards, very little interest in connecting copier to network for printing use.
- No regulation on personal printers.
- Customers not pleased about being engaged in the selection process, therefore would prefer to use State Price Agreement for copier needs outside the program.

It was not that the Copier Program was not successful as determined, rather a lack of innovative vision or direction to keep up with current business needs. The rules in relation to the unique statutory authority were never updated to reflect current times – letting the office printing market get out of control and giving opportunity for other vendors to enter the discussion of printing services. It was determined that the challenge in front of the program was to bring an innovation vision and a new type of management to the office print experience.

In 2012, the Copier Program began its rebranding efforts into the IDS Multifunction Printer Program. During this time the rate was still relatively high, .037 for monochrome and .35 cents for color. From 2007, the average annual volume was 34M and was reduced to 28M in 2012. As the annual copied volume on the devices were decreasing, the IDS MFP Program realized that educating the customer base on all machine functionalities needed to be the priority. As the rebranding moved forward, it meant a new beginning in how the program works with the customer. The program needed to increase the customer's knowledge of the devices provided which now included printing, digital fax solutions and scanning solutions.

At the time, the IDS MFP Program needed to identify within the program cost saving measures, as the program was spending \$300,000.00 a year in recycled paper to be delivered to the customer base. Based on the volume trends in FY12, the Copiers Program volumes were decreasing due to a change in business process. Simply, agencies were not copying as much – their business needs had changed due to email and electronic processes.

After further review, customers were taking advantage of the program by ordering an excess amount of paper, not only for the copier provided, but for their A4 printers which were out of scope. The IDS MFP Program developed a new system of paper delivery based on monthly meter reads, saving the program \$96,000.00 the first year implemented. It continues to be part of the business practice in the current state today.

The next step would be the understanding of printer methodology and costs associated with A4 MFPs. The Colorado Department of Agriculture (CDA) had made the decision to vacate the IDS MFP Program. CDA provided a total cost of ownership Excel workbook provided by the new vendor of choice, Lexmark. The total cost of ownership workbook labeled a cost per page rate at 2.5 cents for a monochrome print/copy on a Lexmark A4 Multifunction Printer based on the ISO standard. CDA believed they were going to save an estimated \$.01 per copy/print compared to the copier program.

Researching through the workbook provided by Lexmark, the cost per page was based on the ISO standard ISO/IEC 19752. This standard was sold to CDA as a standard printing page. However, after further research, the definition per ISO was quite different, see below:

ISO/IEC 19752 – Method for the determination of toner cartridge yield for monochromatic electro photographic printers and multifunction printers that contain printer components is an ISO standard method for the determination of toner cartridge yield for monochrome laser printers, introduced in June 2004.

Traditionally, printer manufacturers did not employ a standard, well-defined methodology for measuring toner cartridge yield. The most widely used description of cartridge capacity was **"number of printed pages at 5% coverage,"** with final results depending on a number of factors.

Prompting the following questions and examples on pages 8 and 9.

**So what does 5% look like on a sheet of paper? Below is an example - 8 ½ x 11:**

#### 5.0% BLACK & WHITE PAGE COVERAGE

##### LES OLSON COMPANY HISTORY

In 1929, as the great depression was just beginning to take hold, Les Olson, then 14 years old, was enjoying his first week of high school. During the school's opening assembly, he was pulled aside and informed that his father had just died of a sudden heart attack. With a mother and two sisters at home, Les assumed the responsibility for the family's support, never again to return to school.

Jobs were difficult to find, young Les managed to secure a position as an errand boy for ZCMI for which he was paid \$50 per month and considering the state of the economy, he was very grateful for the privilege of having any job at all. Each month for 4 years he would faithfully turn his paycheck over to his mother, keeping for himself only a small amount of spending money.

By the age of 42, Les, who was now the manager of ZCMI's office equipment department, was married to his sweetheart Reva Parry, and together they were the very proud parents of 12 beautiful, and hungry children. Les realized that his large family needed more than his current employment could provide so one evening he quietly announced around the dinner table that he had quit his job to start a family business. All 12 children were invited to get their piggy banks and "buy-in" to the new venture. As they dumped their coins on the table, Reva carefully wrote down each child's investment, for a grand total of \$63.

From the very beginning Les focused his efforts on customer service, continually reminding his employees that he was not their boss, the customer was.



**What does 10% look like on a sheet of paper? Below is an example - 8 ½ x 11:**

#### 10.0% BLACK & WHITE PAGE COVERAGE

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From the very beginning Les focused his efforts on customer service, continually reminding his employees that he was not their boss, the customer was. Les and Reva always said, "Anyone can sell a machine, but if you can't provide service you're out of business. Service is our backbone!"

Many years after the kids broke open their piggy banks and gave all they had to help Dad and Mom start the business, the Olson's continue to give all they have to carry on the legacy and provide the customer service that has made Les Olson Company one of Utah's great success stories.

##### THE NEXT GENERATION

While Les and Reva's children still work in the business, many positions are held by their Grandchildren. This 3rd generation, along with many non family member employees are doing what they can to continue the legacy left by one visionary man. The tenants of his business are deeply engrained in this generation and they are proud to carry on the tradition of great service and high integrity.

Come see how our history has made such a fantastic future for our customers. We were here innovating 55 years ago and we will be here tomorrow. Call or come by one of our locations today and let us get started on a solution for you today.

Since the A4 printing community uses double the ink to accomplish a state form which is typically 10%-page coverage, the 5% cost provided in the provided workbook would be double. Therefore, CDA traditionally would be paying \$.05 for a state form at 10%-page coverage. The IDS MFP Program realized there were no cost savings to CDA, but rather a price increase. The program continued looking at all printing vendors using the ISO formula and it was proven that MFP Program rate copier click was still more cost effective at a flat rate for any media size, compared to the variable rate associated with local printer costs based on how much toner is on the page.

A presentation was developed to educate our customers and was presented at numerous State of Colorado government conferences.

## **2011 – New Bid and Change of Methodology and Customer Service**

In an effort to continue to drive down costs in order to make the program more competitive against the A4 printers being deployed, IDS was determined to develop a multifunction printer award system that included our customers.

IDS developed a focus group to rate all participating vendors that currently were under WSCA Copier Agreement at that time (Ricoh, Konica-Minolta, and Xerox). IDS customers would rate installation, customer service, and machine performance. Nine power users were on the focus group evaluation and helped determine the award after nine months of evaluation.

The vendor awarded in at the end of 2011 was Xerox and deployment of devices started to occur during the following year. It was in this award that we made slight modifications to the current program which were never done before, including:

- Machines went on a 48-month lease due to technology being better and durable;
- Seven segments to determine speed range;
- All machines were to have color capability; and
- Contract was to have a collective monochrome pool with all the copy minimums combined. If Machine A went over its allocated copy amount, it could borrow from Machine Q in another department that did not use their allocated count of clicks.

Therefore, no overages ever existed – creating a cost savings.

In terms of internal business processes, it was built into the 2011 contract that the vendor and the MFP program manager would meet with all customers to determine customer needs and wants. Since the business was changing and it was not strictly about copying, the business process turned into a great success and led to more face-to-face customer time visits – delivering exceptional customer service.

By the end of 2011, the IDS MFP Program had grown to 314 total devices.

## 2012 – LEAN PROJECT

In the current state of the IDS MFP Program, there was little success in expanding the program and using the MFP as the primary printer. However, the program only managed the A3 Multifunction Printers and OIT still managed the A4 Printers.

IDS engaged OIT and asked their position on printers. Basically, the executive leadership at OIT “wanted out of the print business.” An opportunity was developed and both agencies entered into an interagency agreement to fund the DPA/OIT business case around the management of office print to be developed by the third party consultant group – the North Highland Group starting in December 2012.

In 2012, most agencies possess only fragmented and incomplete details regarding their printer/MFP fleets. Although some departments, divisions, or agencies keep records of device purchases, without a desk-to-desk inventory, only general estimates of the number of printers are currently available. Similarly, there are no statewide standards for printer device purchases. Some vendor agreements (e.g. DOC & Dell) and initiatives at the department level (e.g. or CDPHE’s Printer Optimization), have proven quite effective and efficient. However, far more likely to find dozens of different models of office printers are routinely purchased and deployed without statewide process or support.

After deployment, departments are unaware how much they spend on maintaining printers. Depending on print volumes, operating costs such as ink, paper, service, and support quickly overwhelm the purchase cost by a factor of up to 9-to-1 over the life of the device. For example:

- A low volume individual printer from HP like the LaserJet Pro 1102W costs about \$350 new, but actually has a Total Cost of Ownership (TCO) after 5 years of over \$16,800.
- A more efficient networked Kyocera FS 4200DN costs about \$900 new, but actually has a TCO after 5 years of just \$4,100 (including the \$900 purchase price) because that printer manages costly ink far more efficiently than its HP competition.

The State cannot reliably document the costs of printers they own with basic metrics such as how many users each printer serves and how many pages it prints a month.

The evaluation would take one year with executive stakeholders from each agency being represented to discuss everything from business need to how much does it costs per agency. By the completion of the project, the original CFO at OIT had moved on and was replaced by current Deputy Chief Information Officer and Fiscal Officer.

OIT continued to support the ongoing efforts in the development of the business case. Upon its completion, 4 out of 15 recommendations were identified that would start the birth of the Secure Office Print Ecosystem (SOPE):

1. Expansion of the current IDS MFP Program as it was deemed most cost efficient printing process with digital on-ramping solutions.
2. Standardization of printing assets.
3. Securing printing devices
4. Exploring a Managed Print Service (MPS) solution

The program entered into a joint partnership with OIT on all goals and full support with its subject matter experts in each of the areas as well as an ongoing effort to support one another in shared goals to make print standardized and secure. OIT identified the IDS MFP Program to lead the change on the print ecosystem.

## **2013-2014 – OIT and IDS MFP Program Partnership**

At the conclusion of the business case, the IDS MFP Program started to execute the recommendations put forth. The first was standardization of printer assets. The State currently has over 80 individual printer models with a 2.6 employee-to-device ratio. This standard list should include a limited mix of single and multifunctional devices, monochrome, and color. This list should be maintained by the MFP Program per the recommendation.

First was to meet with all the service desk managers who managed the A4 printers in each agency. Due to the Lean assessment, the A4 printer market share was heavily Hewlett-Packard (HP) printers. It was determined, due to the market share being already predominantly owned by HP, that IDS would just make HP the standard for A4. In addition, it was determined to develop a type of standards and catalog. This catalog is currently still in existence and is part of the ever changing culture in connection with the Secure Office Print Ecosystem today.

<https://www.colorado.gov/pacific/dcs/office-printer-standards>

The second was providing a secured printing platform. In the early part of 2013, after meeting with the Chief Information Security Officer at OIT, it was agreed that it was important to secure all entry points around printers – outlining the advantages of centralized management of printers, firmware patches for security, and having configuration match security baseline protocols.

In early 2014, the Managed Print Services (MPS) evaluation started to take shape and it was determined to visit each vendor site to evaluate the solution. Later that year, December 2014, OIT and the IDS MFP Program would go on to release the RFP for Managed Print Services.

## 2015 – New Bid and Focus Group Growth

At the beginning of 2015, the IDS MFP Program service had increased. The positive messaging regarding the cost benefits and technology of migrating print volume to the A3 Xerox devices was settling in with budget officers across the state. The Xerox devices managed by the program was 497, with a total volume of 37M plus, annually.

The IDS MFP Program was scheduled to award the solicitation to the new vendor in 2016. The DPA contracts manager determined that the program was instructed to do a focus group using the new terms and conditions of the new NASPO agreement, due to the success of the focus group in 2011.

At this time, the NASPO approved vendor list was not complete. Therefore, all OEMs were to participate in the focus group – seven vendors participated. Due to the expansion in the MFP customer base, the focus group was larger with 14 state agencies rating installation, machine performance, and customer service. In addition, OIT Desk Side managers participated in the award process for the first time – evaluating the web interface, print drivers, and ease of setup. OIT security was involved to do vulnerability scans and provide a level of a security audit and rate vendors accordingly.

After a 9-month evaluation period and collecting all the data from all facets of the evaluation, Xerox would continue to be the vendor. Xerox would bid the business \$2,000,000.00 under the current spend in 2015 over the next four years – creating a \$500,000.00 savings. In addition, the program had modified these changes:

- Four segments of services (A4 35 PPM) (A3 35 PPM) (A3 45 PPM) (A3 70 PPM);
- Color pool created to replicate what was being done in monochrome pool;
- IT dedicated analyst to the account;
- Ten percent flex to return equipment to vendor at no cost; and
- Hole punching now a standard function.

## Rules Change

In late 2015, the DPA IDS MFP Program solicited a state rule change to the division's adopted rules, 1 CCR 103-1 stating the inclusion of the MFP Program's functions, *"Service equipment procurement that require waivers include, but is not limited to, postage meters, mail slitters, cinders, addressing equipment, folding equipment, microfilm equipment, desktop scanners, high speed scanners, large format scanners, handheld scanners, printing presses, plate makers of any type, bindery equipment office copiers, desktop copiers, multifunction copiers, multifunction printers, desktop printers, network printers, mobile printers, and facsimile devices."* By adding the updated language to the state rules, it reflects the current state of business at the State of Colorado. The DPA IDS MFP Program was now given the authority over all printing

equipment. Therefore, as before when the Copier Program was created, providing oversight on all office print products.

This led to including the IDS MFP Program on the waiver requirement list by the State Purchasing Office on all State Price Agreements they managed for copiers/multifunction and printers for any future purchases or leases of office equipment.

## **2018 Current State – Secure Office Print Ecosystem (SOPE)**

After an intense RFP evaluation, DPA IDS MFP Program awarded Xerox as the Managed Print Services (MPS) provider in late 2016. It would be another four months of contract negotiations before the MPS contract was signed. On April 17, 2017, the DPA IDS Multifunction Printer Program name was eliminated and the Secure Office Print Ecosystem (SOPE) was born. The Secure Office Print Ecosystem would focus on the following four pillars:

- 1) Security** – SOPE would bring a security overlay to all printers in the environment. Protecting the baseline security configurations put in the device. By also implementing a two factor authentication to make sure that only state personnel will have access to devices.
- 2) Sustainability** – SOPE will bring a gamification user experience to customers educating them on printing on the right print on the right device as well as identifying end users print habits. Furthermore, allowing print governance so therefore, any print job too large would be rerouted to the State In-Plant (IDS).
- 3) Service Enhancement** – SOPE will provide proactive services for service and consumable replenishment. Customized technology to make sure the end user experience is quicker to deploy digital on ramping in to enterprise content management systems (Hyland Onbase) and Google Applications (Drive, Cloud).
- 4.) Creation of managed A4 printer platform** – Now SOPE will be able to manage all network printers like it does the A3 multifunction printers. Therefore, providing all the services listed above at a reasonable cost, lower than what customers pay today purchasing toner, per agency.

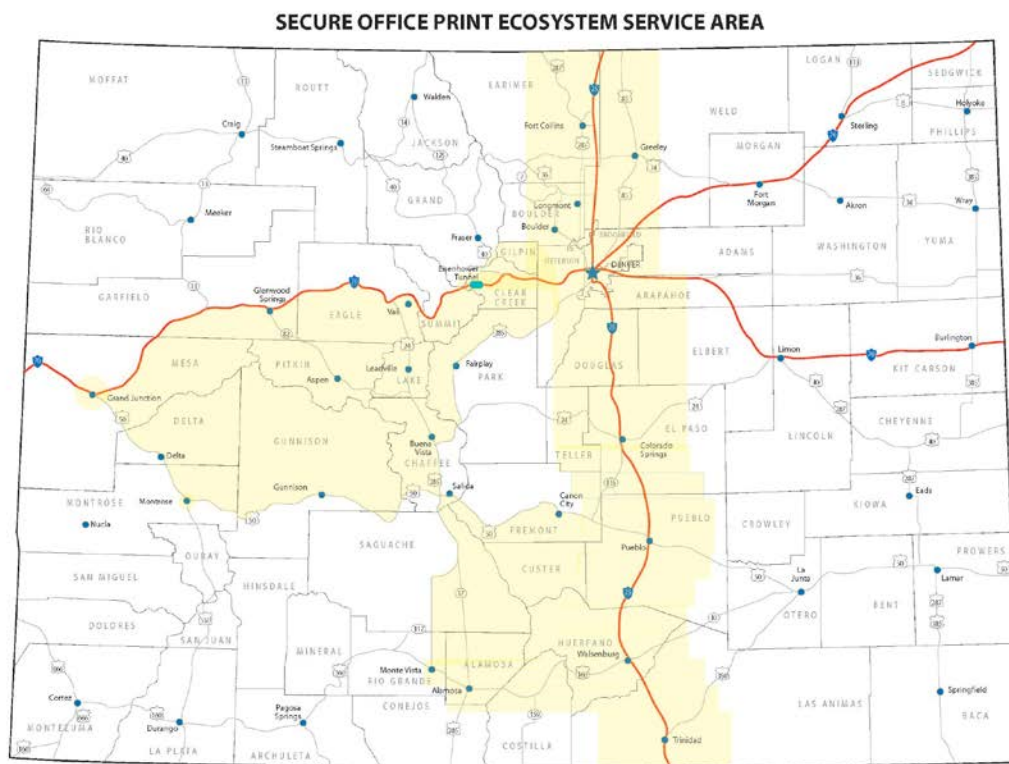
## **Printer Policy Developed and Technical Standards**

For the first time under DPA, IDS' SOPE will issue the department's first Printer Policy due to their new statutory authority. In addition, IDS' SOPE has partnered with the Governor's Office OIT to develop technical standards for all printers going forward, which will tie in to the departments Print Policy.

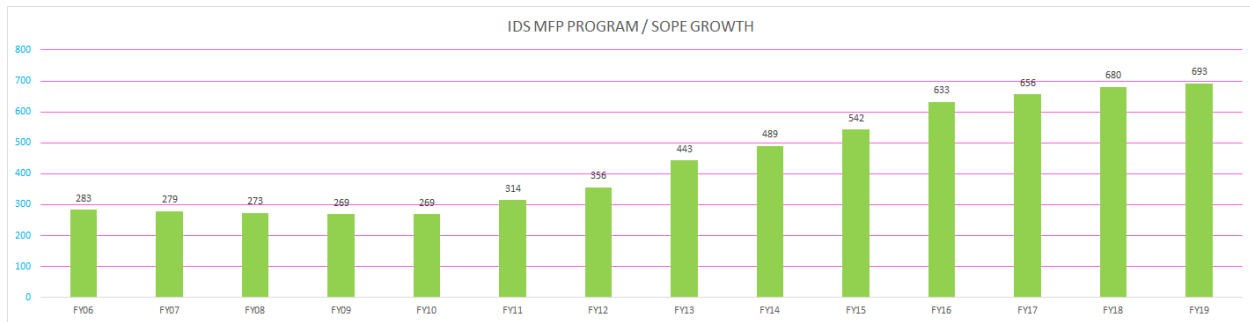
## The Current MFP/SOPE Fleet Today

2018 was another successful year. SOPE will continue to grow past its 693 devices it manages today and encourage more agencies within Colorado's executive branch to come on board and experience the benefits. As of today, with the partnership with OIT, the program has enforced the standardized platform based on the need to secure the print network.

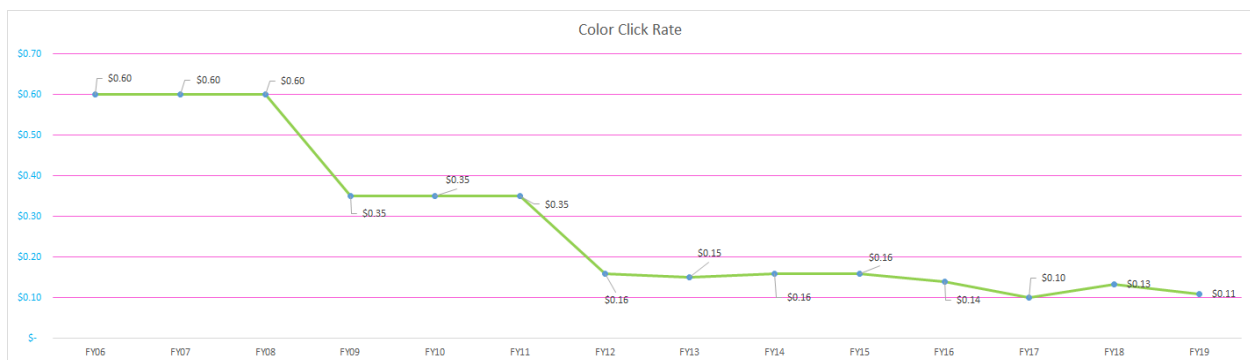
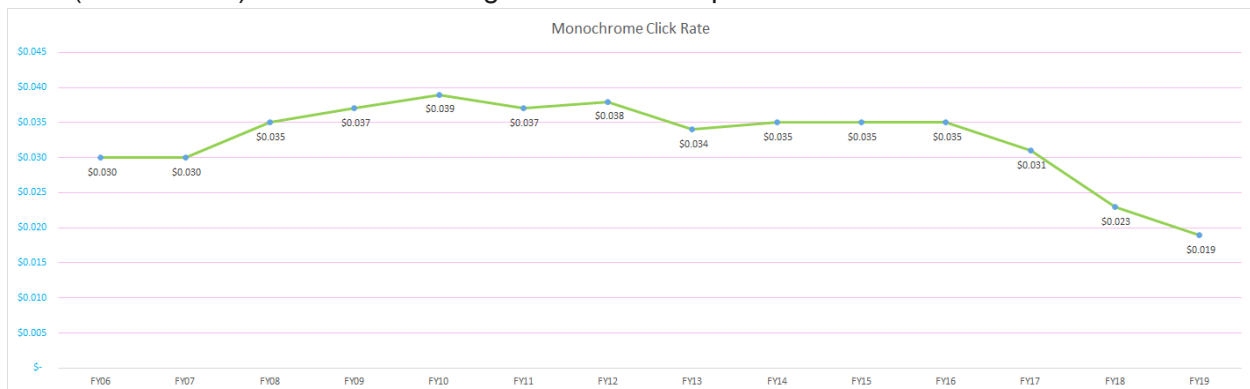
The Secure Office Print Ecosystem has expanded per the coverage map below and now service agencies in southern and western Colorado. Starting first with southern hubs in Pueblo and Colorado Springs. In the current state, IDS has expanded service for the southwestern part of the state.



The Secure Office Print Ecosystem managed 693 multifunction printers and is continuing to grow both the A3 platform and the newly managed A4 platform.



With the implementation of SOPE, the new MFP rate is at a competitive .019 for a monochrome click (lowest ever!) and .111 for a single sided color impression.



In addition, SOPE now covers all single function network printers in the program and developed a blended rate to charge for office print.

This new revenue stream will continue to drive down the costs for State of Colorado and the executive branch.



## Benefits of SOPE Services

- Savings to the State. The program has saved the State of Colorado over \$1.1 million during the past five years.
- A standard configuration for MFP devices allows for greater control on pre-configurations to ensure that all MFPs meet minimum cybersecurity requirements.
- User access logs serve as intrusion detection systems, revealing unauthorized access.
- Failover and recovery plans can be managed at an enterprise level from a central location.
- Automated device monitoring for on-time consumable ordering and automated remote diagnostics for proactive maintenance eliminate or reduce downtime.
- Enabled mobile print solutions will better support the State staff needs.
- MFPs provided by SOPE continue to add value by implementing new applications to our digital on-ramp.
  - Google Drive
  - Single Touch Individualized Workflows
  - Translation Services
- The availability of statewide data will inform business decisions and leverage the State's purchasing power.

## D. Quantitative Analysis of Results

(productivity increases, cost savings, contribution to parent company's mission)

**Efficiency:** The Secure Office Print Ecosystem has delivered not only in service and capability, but now is able to provide security benchmarks, proactive services, and sustainability practices.

**SOPE is able to quantify the savings to 4 key areas.**

**Security, Management of Network Printers and Decrease in Program Cost**

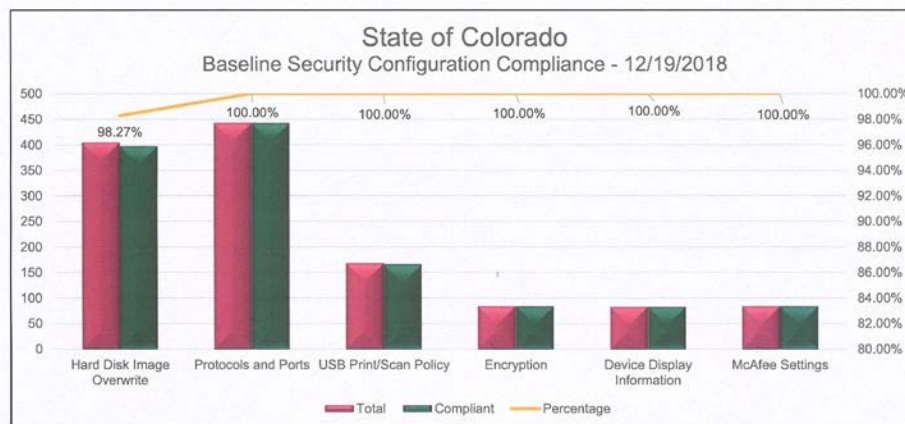
### 1.) Security

**Secured Printing Platform:** In the current state the DPA-Secure Office Print Ecosystem (SOPE) managed 693 multifunction printers in 16 executive branch agencies. All devices in the program reside on each agency's network. Therefore, DPA is responsible for securing the printer platform and its entry points into the State network.

Securing the printer platform will ensure cost avoidance. DPA/SOPE is taking the precautionary and required steps to make sure the multifunction printer devices are not a target point for hackers. If any breach were to happen to unsecured printing devices, the estimates in fines from a data breach could be at average cost of [3.86 million](#) according to the 2017 Cost of Data Breach Study.

Managed Print Services will offer an overlay in security that will have devices reference the security baseline to make sure no devices are out of compliance. Firmware will automatically update in devices to ensure they have the latest security patches.

Below is an example of the DPA/SOPE security baseline report to make sure we are always in compliance with security.



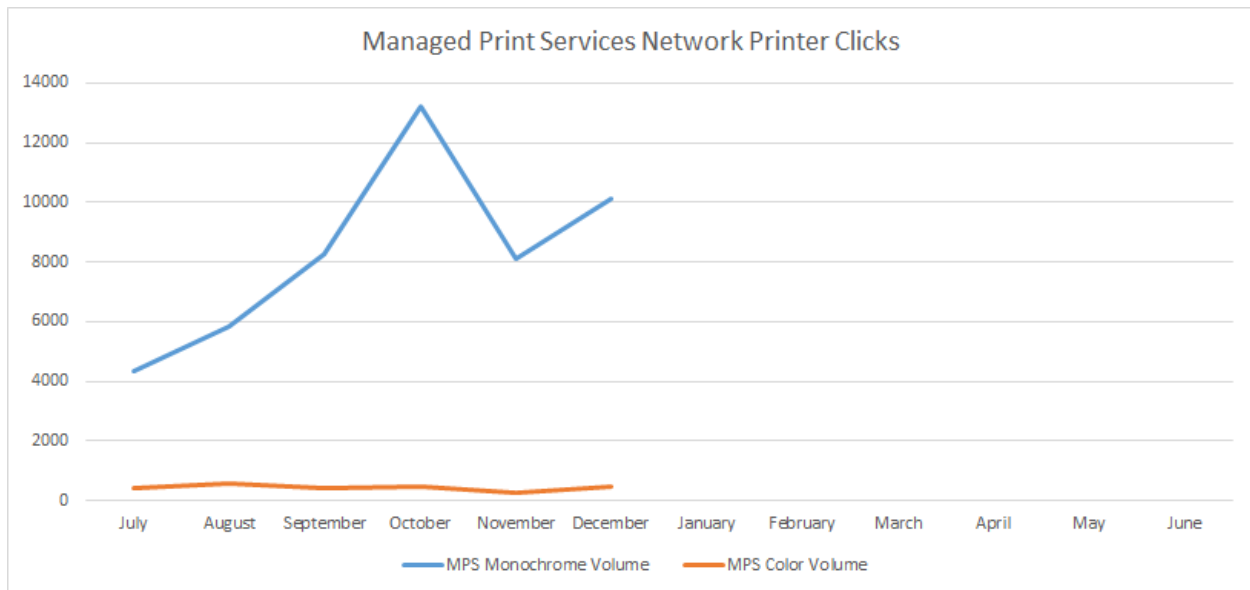
- Two devices that need setting updates.
- 80+ devices being monitored.



Configuration Set	Total	Compliant	Percentage
Hard Disk Image Overwrite	404	397	98.27%
Protocols and Ports	442	442	100.00%
USB Print/Scan Policy	168	166	100.00%
Encryption	84	84	100.00%
Device Display Information	83	83	100.00%
McAfee Settings	84	84	100.00%

## Management of Network Printers

As we continue to onboard, the following new revenue uptick graphic shows the network printer clicks as we start to manage network printers for each executive branch agency for Fiscal Year 2019 – all new net business.



In this small sample, DPA/SOPE is able to quantify savings of 34 printers managed for State Treasury, History Colorado, Department of Personnel & Administration, and Health Care Policy and Financing.

- An average of 8,318 Monochrome Clicks a month
- An average of 425 Color Network Printer Clicks a month

### Agency Costs with Print Managed by Agency

#### Print coverage at 10% for monochrome using HP Color Laserjet M477fdn

$$8,318 \times .0383 = \$318.58$$

#### Print coverage at 20% total color using HP Color Laserjet M477fdn

$$425 \times .188 = \$79.90$$

**Total monthly costs of \$398.48**

## Under SOPE

### Print coverage at 10% for monochrome using HP Color Laserjet M477fdn

$8,318 \times .019 = \$158.04$

### Print coverage at 20% total color using HP Color Laserjet M477fdn

$425 \times .188 = \$47.18$

Flat rate with ink coverage not being a factor

**Total monthly costs of \$175.22**

**A total cost savings of \$223.26 a month.**

If we extrapolate the data based on this instance, the State of Colorado, once we onboard other agencies, will save 70% of their printing network printer costs.

## Secure Office Print Ecosystem Overall Savings

Most of the platform managed by SOPE is A3 Equipment which currently is the Xerox platform. With Lowering the rate and continued growth, DPA/SOPE has seen an overall savings in monochrome from FY17 to Current State in the amount of \$446,320.34.

The color savings, due to rate fluctuation from fiscal year to fiscal year, have netted a savings from FY17 to Current State in the amount of \$212,143.73.

A total savings in just lowering the click rate of \$658,464.08 – due to program expansion and more impressions continually being printed on the A3 Platform.

Total Annual FY 17 Monochrome Volume	32,241,940	Total Annual FY 18 Monochrome Volume	31,295,964	Total Annual FY 19 Monochrome Volume	16,746,218
FY16 Monochrome Rate	\$ 0.035	FY17 Monochrome Rate	\$ 0.031	FY18 Monochrome Rate	\$ 0.023
FY16 Monochrome Annual Costs	\$ 1,128,467.90	FY17 Monochrome Annual Costs	\$ 970,174.88	FY18 Monochrome Annual Costs	\$ 385,163.01
FY17 Monochrome Rate	\$ 0.031	FY18 Monochrome Rate	\$ 0.023	FY19 Monochrome Rate	\$ 0.019
FY17 Monochrome Annual Costs	\$ 999,500.14	FY18 Monochrome Annual Costs	\$ 719,807.17	FY19 Monochrome Annual Costs	\$ 318,178.14
<b>Savings</b>	<b>\$ 128,967.76</b>	<b>Savings</b>	<b>\$ 250,367.71</b>	<b>Savings</b>	<b>\$ 66,984.87</b>
Total Annual FY17 Color Volume	12,164,842	Total Annual FY17 Color Volume	13,092,220	Total Annual FY17 Color Volume	8,348,801
FY16 Color Rate	\$ 0.14	FY17 Color Rate	\$ 0.10	FY18 Color Rate	\$ 0.13
FY16 Color Annual Costs	\$ 1,703,077.88	FY16 Color Annual Costs	\$ 1,309,222.00	FY18 Color Annual Costs	\$ 1,085,344.13
FY17 Color Rate	\$ 0.10	FY18 Color Rate	\$ 0.13	FY19 Color Rate	\$ 0.11
FY17 Color Annual Costs	\$ 1,265,143.57	FY18 Color Annual Costs	\$ 1,701,988.60	FY19 Color Annual Costs	\$ 918,368.11
<b>Savings</b>	<b>\$ 437,934.31</b>	<b>Savings</b>	<b>\$ (392,766.60)</b>	<b>Savings</b>	<b>\$ 166,976.02</b>
<b>Total Savings</b>	<b>\$ 566,902.07</b>	<b>Total Savings</b>	<b>\$ (142,398.89)</b>	<b>Total Savings</b>	<b>\$ 233,960.89</b>

In conclusion, DPA/SOPE has saved the State of Colorado in printing hard costs – State executive branch agency savings of \$658,464.08 in the last three years.

As we start to expand the management of network printers in the other ten agencies, we will see a 70% savings in network printing and additionally adding a revenue stream to the in-plant.

In addition, a soft cost of 3.6 million dollars in savings in securing our printing ecosystem from possible security breaches and a strong partnership with our Governor's Office of Information Technology.