Washington State Department of Enterprise Services

Enterprise Services Statewide Guidance

Guidelines for Managing Print Operations

A resource for agencies to minimize print costs and increase efficiency

Applies To:	State Agencies
Authorizing Sources:	State law – RCW 43.19.742 Agency management of print operations — Department rules and guidelines
	State rule –Chapter 200-380 WAC.
Information Contact:	Department of Enterprise Services
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Approved By:	
	_____/s/_____
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	Director

About these guidelines

Print is produced by a wide variety of methods. Some examples are copiers, multifunctional devices, offset print and desktop printers. These guidelines are a resource for state agencies to use in order to identify and implement managed print strategies, policies, and procedures and other tools necessary to track, manage, and minimize all types of printing.

These guidelines are used together with the requirements under state rule (Chapter 200-380 WAC) and state law (RCW 43.19.733 through RCW 43.19.757). The department adopted the rule in June of 2015.

Contents

I. Control and consolidate

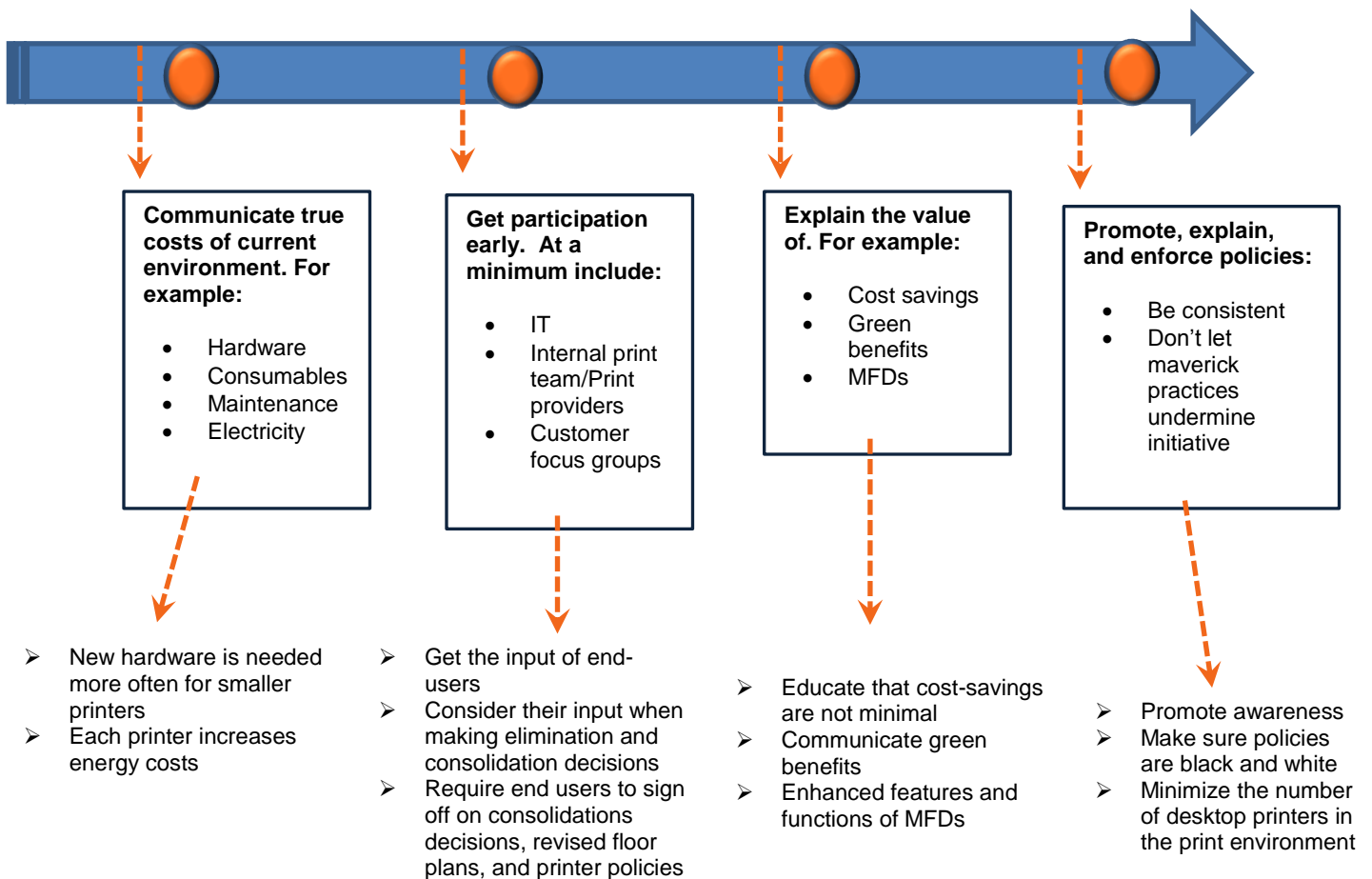*Gain control of your print equipment and users*

Strategy 1: Show the benefits and value

Show benefits to executive management to gain their full support
- Increased performance
- Cost saving opportunities
- Green benefits
  - Reduce electrical consumption;
  - Reduce paper use;
  - Reduced hazardous waste and persistent toxic substances from consumables and devices when disposed.

Top down support and implementation is critical to success. Remember, ongoing cost tracking and reporting provides the proof that the initiative is worthwhile.

This four-step process will help you get started to achieve savings, promote acceptance and overcome barriers:

Communicate true costs of current environment. For example:

- Hardware
- Consumables
- Maintenance
- Electricity

Get participation early. At a minimum include:

- IT
- Internal print team/Print providers
- Customer focus groups

Explain the value of. For example:

- Cost savings
- Green benefits
- MFDs

Promote, explain, and enforce policies:

- Be consistent
- Don't let maverick practices undermine initiative

➢ New hardware is needed more often for smaller printers
➢ Each printer increases energy costs

➢ Get the input of end-users
➢ Consider their input when making elimination and consolidation decisions
➢ Require end users to sign off on consolidations decisions, revised floor plans, and printer policies

➢ Educate that cost-savings are not minimal
➢ Communicate green benefits
➢ Enhanced features and functions of MFDs

➢ Promote awareness
➢ Make sure policies are black and white
➢ Minimize the number of desktop printers in the print environment

Strategy 2: Educate everyone from top to bottom

Do not underestimate the difficulty of getting users to change their behaviors. Start early with educating executive management. Leverage agency executive support to educate end users and influence changes to print behavior with minimal resistance.

The key to the success of the these recommendations is making sure that everyone is educated as to why the changes are needed by the organization and to show users how the changes will affect them personally, i.e. increased budget due to savings. In addition, executive level engagement is important because staff will be more likely to recognize and respond to requested changes.

Educating the end users will help minimize confusion and resistance while they implement a phased approach to using and managing their agency print operations.

Knowledge and understanding is critical to success by promoting the value of:

- Visibility and transparency;
- Capturing and assessing data;
- Conducting workflow analysis and utilization analysis;
- Reviewing data on a periodic scheduled basis and use of new knowledge.

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3 Quick Win Strategies

1) Start planning now;
2) Get rid of desktop printers;
3) Set print defaults on printers to black & white, double sided print.

Active use of Quick Win strategies shortens the timeline to savings

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Strategy 3: Put someone in charge

Determine as soon as possible who has oversight for managing the print equipment, purchasing printing and tracking all associated costs, usage, consumable supplies and other key performance metrics.

Managers often assume that since IT manages the printer devices, they also manage all associated costs. The reality is that most costs are spread across the budgets of various silos, programs, or divisions. Because of this, it is virtually impossible to capture and aggregate costs when many unrelated programs are responsible for the different associated costs.

It is essential to assign a single program the responsibility to aggregate all agency print costs and track those costs. This makes sure that the invisible fleet of print equipment is reduced or eliminated. This also makes sure that economies of scale cost benefits are realized.

Print management software is available to help your agency track paper and ink reductions and encourage employees to reduce paper usage. This software can measure ink and paper consumption of both on and off-network printers; identify cost savings opportunities based on consumables usage; and enable the user to make immediate adjustments to their print jobs to save ink or paper.

Some software provides a heads-up display that will let the user know how much a specific print job will cost, and allow the user to make changes to reduce this cost. Some examples are: delete portions of the document prior to printing; change from color to grayscale; and eliminate pictures from a particular slide or section of the document. Once each of these options is selected, the reduced cost of the print job is reflected in the heads up display. Each user can see the savings they are earning annually, along with their reductions in carbon and the total number of trees saved by their choices.

Some print management software can also show which printing devices are used. This provides a greater visibility of printer usage in an office space which can inform decisions to eliminate inefficient or little used printers.

Strategy 4: Identify specific actions and approaches in your print policy

For printers and MFD's:

- Reducing the number of devices per employee. A good target to start with is 8-10 employees per device;
- Reduce the total cost of ownership;
- Streamline the acquisition process;
- Develop best practices in print management;
- Assist with behavioral changes through improved data collection and analysis;
- Drive increased visibility into print usage;
- Leverage agency volume to drive cost savings; and
- Encourage innovation in print management.

For paper, toner and ink usage:

- Reduce default margins

  The standard default margins for documents developed in word processing software (i.e., Microsoft Word®) are 1" on all sides. Reducing the default margins to 0.75" or 0.5" can save a significant amount of paper. When printing on a standard sheet of 8 ½" x 11" piece of paper, there are 93.5 square inches available for typeface. With a 1" margin on all sides, the usable space is reduced to 58.5 square inches; reducing your available print area to 63%. If you change your margins to 0.75", you increase the print area to 71%, and further reducing your margins to 0.5" increases the print area to 80% of the available space on the paper.

  This document has side margins set at 0.5".

- Reduce line spacing

  The default line spacing in Microsoft Word is 10. Reducing the line spacing by a small amount will use less ink without reducing readability.

  This document has single line spacing set at 0.9.

- Reduce font size and changing font type to save ink and toner.

  The default font size in Microsoft Word is 12 point. You can change it 11 point to shrink your document about 5%;

  This document has 11-point font.

- Use specialty fonts

  There are also special fonts designed to use less ink, by including very small, blank holes in the font that are not visible when documents are printed with typical font sizes. These specialty fonts are designed to look the same as commonly used fonts, such as Arial, Times New Roman and Verdana.

  Although these fonts need to be purchased and installed for use on a particular computer, the vendors of these fonts have calculators to help calculate your toner savings and the payback period for purchasing the fonts. One vendor estimates a savings of 50% on ink and toner in typical printing environments.

- Duplexing or double-sided printing

  Employees can immediately decrease their paper usage by duplex printing. If this default has not been set at the print hardware, you can set it for your own computer. Consider your printing requirements; very few documents need to be printed single-sided.

- Avoid color printing unless it service as an important function or business need;

- Use print preview to eliminate blank pages from documents;

- Shrink to fit or shrink to one page when printing from the internet

  When printing an article or any information directly from the internet there may be blank space on a page, or unnecessarily large text. Most internet browsers have an option called "Shrink to Fit" in their Print Preview dialog boxes which will often shrink the content down to fit on fewer pages. You can also choose a custom zoom level to fit even more on a single page.

  Other software programs may have similar functions. For instance, Microsoft Word also has an option called "Shrink One Page" which will attempt to shrink the document by one page by reducing the size and spacing of the text.

  Additionally, many printers allow the user to print more than 1 page per sheet. Experiment with software and printer options until you find a combination of settings that works for your printing needs.

- Train and educate employees about handling and storing digital documents instead of printing hard-copies;

- Delete excess advertisement/banners when printing internet articles

  Many internet browsers have plugins which can help the user reduce unwanted printing. These plugins clean up the unwanted banners, and surrounding pictures or advertisements before printing a page. You may also be able to view how the page was created, and delete information block by block if it is unnecessary for your printing needs.

  There may be restrictions at your facility on downloading or installing these plugins. In that case, you can cut and paste information from an internet browser into a blank document, delete the unwanted material, and print the document; and

- Reduce the amount of ink used during printing

  There is software which helps reduce the amount of ink used during printing. These programs use mathematical algorithms to reduce the number of pixels in a particular print job, while maintaining the readability of the item being printed. The developers of these software products have calculators to help determine the ink and cost savings in using their program.

For offset printing consider:

- Volume of work produced
- Type of stock required
- Finishing and bindery requirements
- Product use

Strategy 5: Consolidate and network

A streamlined printing process begins with the consolidation of similar functions such as agency print shops and copy centers.

Consolidation of copy centers could result in up to a 24-hour production schedule, improved job turn-around time, lower rent costs, greater capacity and a common workflow.

Consolidate to as few locations as possible. Consolidation eliminates redundant functions and leverages economies of scale by centralizing print functions.

Departmental printing devices are less expensive to operate than small, desktop printers. By positioning appropriately-sized workgroup printers and multifunction systems throughout the agency, you can increase efficiency as well as reduce overall cost.

Agencies that have in-house print shops should include specific criteria in their printing policy that direct users to route print jobs through their in-house print shop. For example, any print job of 100 pages and/or 10 or more copies of 100 + pages.

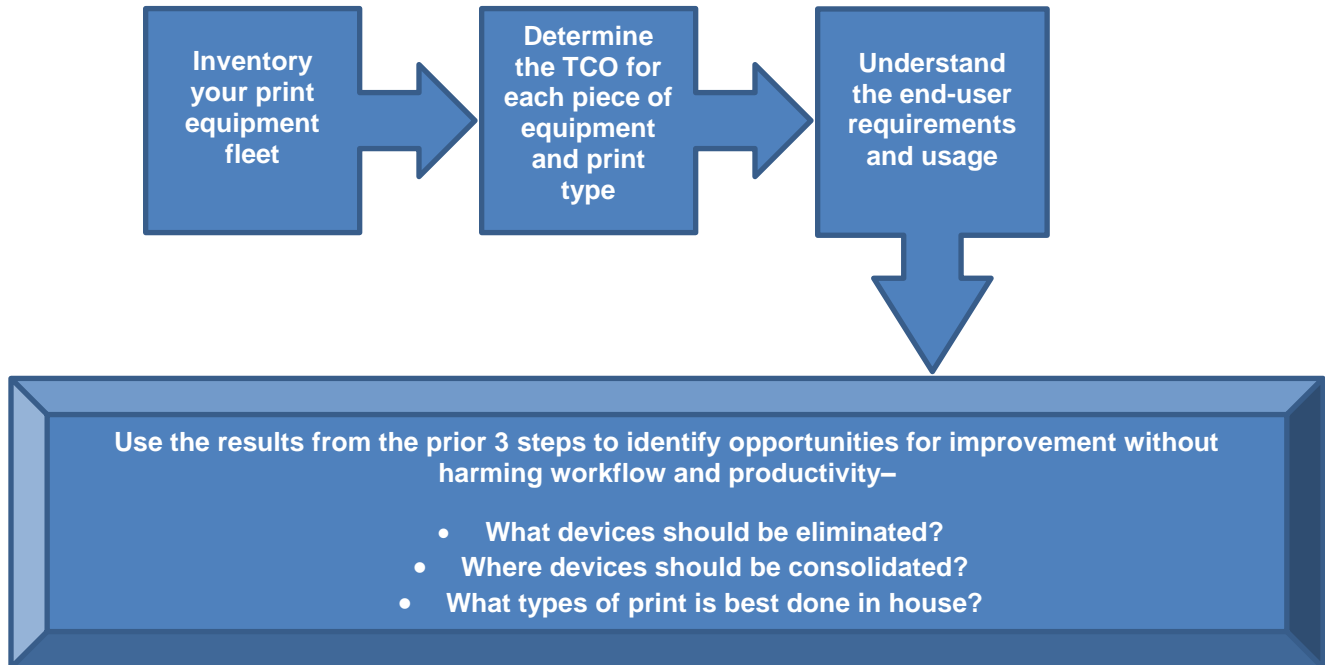## Strategy 6: Total cost of ownership (TCO) & Usage - Your critical Baselines

➢ Identify and assess your baseline print costs using TCO for both in-house (agency print devices and print shop work) and third-party companies (print shops & quick copy).

For example, the original purchase price of print equipment is typically only 15% of the total cost of ownership. Looking at it a different way, 85% of your in-house print costs are made up of:

- Physical space costs;
- Consumables and supplies (toner; staples; and paper) hard costs;
- Cost to store; manage; and control consumable and supplies inventory;
- Administrative costs;
- Maintenance costs;
- Energy costs;
- Depreciation expenses;
- Lease expenses;
- Downtime expenses;
- Acquisition and disposal expenses;
- Operator fully loaded costs (salaries, benefits, etc.)
- Transportation costs.

➢ Because usage will vary from day to day, you must track usage over a period of time to accurately establish your baseline usage.

Tracking over time you will gain you an understanding of your normal rhythms and cycles. Because tracking provides immediate feedback; changes in business activity, usage spikes (up or down), and consumable inventory shrinkage will all become readily apparent. Investigate all anomalies.

➢ Now that you have established your baselines, you are ready to start identifying opportunities for improvement.

| Inventory your print equipment fleet | → | Determine the TCO for each piece of equipment and print type | → | Understand the end-user requirements and usage |

Use the results from the prior 3 steps to identify opportunities for improvement without harming workflow and productivity–

- **What devices should be eliminated?**
- **Where devices should be consolidated?**
- **What types of print is best done in house?**

Learn more about total cost of ownership:

o Contact the manufacturer of your print equipment. Most are highly skilled at determining TCO and are more than willing to assist you.

o Use the state Managed Print Services master contract. Visit the DES Contract page for resources.

o Google "determine print costs using total costs of ownership"

A QuickWin Strategy

Use Visual Management over each print device to track "clicks", toner changes/ink usage, and paper consumption.

Visual Management will:
- Inform management;
- Educate users;
- Provide immediate feedback.

Active use of QuickWin strategies shortens the timeline to savings

II. Optimize
Make sure your print equipment is deployed in the most efficient and effective manner

Strategy 1: Use the state master contract for Managed Print Services (MPS)

Under the state master contract for managed print services, a vendor will manage your printer and copier fleet in order to optimize your print environment and reduce document spend. This is done through:

- The consolidation of print assets (hardware and software); and
- A balanced deployment of multifunction devices.

The main components of MPS are:

- A needs and workflow assessment
- Selective or general replacement of document and scanning capture equipment, and
- The service, parts and supplies (excluding paper and staples) needed to operate the equipment

Read rule WAC 200-380-020(7) for a definition of managed print services. Read the current state master contract for your options for using the contract, services offered, and pricing information.

While use of a state master contract for managed print services is required for agencies with 1000 or more employees, agencies with less than 1000 employees may use the state contract at their discretion.

Strategy 2: Standardize

It is not uncommon for new devices to be brought into service without old devices being taken out of service. In a mixed environment of old and new devices, the management of each of those devices can be very different.

By standardizing device platforms, management of your printing equipment can be made much simpler. Moreover, end users will not need to learn how to operate multiple hardware types and can focus on their day-to-day tasks instead of wondering how to print their documents.

Standardization benefits:

- Reduced training costs when using a single brand/type;
- Ability to quickly redeploy device and associated supplies in line with agency needs/changes;
- Reduced supply costs (inventory, management, logistics, acquisition)

Consider the following when standardizing:

- Standardize to as few models as possible;
- High end MFD's can be less expensive than a mid-range MFD when it is less costly to operate in a total cost of ownership per-page environment;
- Choose MFD's over standalone printers. This promotes the elimination of redundant devices (and associated costs) such as fax machines and scanners.

> ### *3 Quick Win Strategies*
>
> 1) Put in place user quotas;
> 2) Train users on self-support;
> 3) Enable print roaming and ID verification.
>
> *Active use of Quick Win strategies shortens the timeline to savings*

Strategy 3: Eliminate non-networked devices

Cost savings can frequently be found by simply eliminating all non-networked devices. Non-networked devices typically have the highest operating cost and are low hanging fruit. However, because these devices are not networked, they can be difficult to find. Desktop printers (typically high cost ink-jet printers) are difficult to discover because their low purchase cost allows them to be purchased informally and they are small.

To identify all non-networked devices, it will be necessary to physically scrutinize all areas under your agency's control for desktops, standalones, and other non-networked devices. Once you find and inventory all non-networked devices, document usage and associated costs (maintenance, supplies, downtime, etc.) in order to identify those that are cost-inefficient.

There may be legitimate needs for keeping a non-networked device. Before you eliminate any devices, adopt rigorous criteria that must be followed for a non-networked device to remain. Those that do not meet the criteria must be eliminated. If there are non-networked devices that meet the criteria and there is no identifiable current or near future need, these must be eliminated as well.

Strategy 4: Assess again for continuous improvement

Continuous improvement is critical to long-term success. Continuous improvement processes include:

- Redeploying your fleet of print equipment;
- Reviewing usage and needs;
- Conducting quarterly assessment reviews;
- Adjusting the mix of available strategies.

Strategy 5: Aggressively use software

Automating print management is critical to identifying and taking advantage of cost savings opportunities.

A variety of software is available to support implementation and identify continuous improvement opportunities:

- Print management software to manage the volume and nature of print and authenticate users;
- Device management software to monitor and manage the print devices in an environment;
- Discovery and design software to analyze and plan for the change required in implementing a MPS environment;
- Scan routing software to route scans to various destinations including fax servers, network folders, email or workflows;

- Use web-to-print or job submission software

Most software solutions enable:

- Granular cost control;
- Streamlined print management;
- Behavior management.

Software capability and functionality must be proportionate to agency size and needs of the print environment in order to achieve on-going savings. Once you choose and implement your software, **aggressively** use it because you cannot improve without data:

- Needed to determine who purchases/who owns; how/why;
- Needed to provide an agency-wide print database (usage, location, physical characteristics of the printed product);
- Provides a highly developed reporting capability.

Data must be shared with the agency from top to bottom (See Education). Sharing the data reinforces the need for a system wide database and aggressive use of the software to maximize the usage, location, and physical characteristics of the printed product.

Be aware that your data can be fairly complex – take the time to understand the data in order to optimize the print environment and fully achieve all available cost savings and efficiencies.

Only those agencies with a mature agency-wide print strategy will achieve all of the benefits of a full control solution:

Cost Savings Opportunity	Tools You'll Need
- Absolute enforcement of policies and restrictions to support print optimization - Quotas at user, job, type level, redirect - Define common usage patterns and have software intervene when settings are not optimized	- Print tracking and monitoring - Analysis & reporting - Centralized management - Program billing - Inventory listing - Restrictions - Print redirect - Usage scheduling

Strategy 6: Use cost effective, available resources if not printing in-house

Print outsourcing is one of the components of your long-term print strategy, requiring the capture of agency-based printing costs and print equipment costs. In-house total cost of ownership and value added components, such as quality, reliability, and customer service need to be assessed and compared with the cost for a similar level of service provided by an outside print provider.

Outsourcing (private sector offset print shops, quick copy services, and DES Printing and Imaging) may take care of some printing needs for a total cost of ownership that cannot be matched by the agency's print equipment fleet or agency-based print shops. In-house or agency-based print shops often have a significant number of pre-qualified vendors that compete for bids, enabling customers to achieve maximum savings.

Consult with DES Printing and Imaging for your print needs. This required service will often times will reduce the cost of printing. Experienced state customer service representatives can provide efficient, innovative and cost effective methods for producing printed materials.

Additionally, established, well-qualified print buyers provide added expertise to the print buying process, eliminating potentially costly errors.

Outsourcing is most appropriate for high-volume, high-quality print jobs, with growing levels of output and agencies with customer facing print jobs that include mailing.

Another area where outsourcing may be appropriate is quick copy services. A typical candidate for quick copy outsourcing is:

- Non-confidential; and
- 100 or more copies of a single page; or
- A combination of blank pages and copies that exceeds 300 pages.

Of note, quick copy outsourcing is generally only cost effective under a total cost of ownership environment when pick-up and delivery services are included in the service.

III. Enhance
Enhance your business processes by using document workflow and document management solutions

Strategy 1: Follow me printing

Sometimes referred to as pull printing or push printing, follow me printing is a feature where a user's print job is held in a single global virtual queue. The user can release his print job at any printing device which supports this feature

Before a user can release a print job, they must first authenticate themselves at the printer, either using a pin code or an external device such as a smartcard. Some systems also allow the user to access other user's print job.

Strategy 2: Actively promote and use web-to-print

Web-to-print or electronic job submission is a business practice that enables users to place print orders using a web site in order to reduce administration and streamline the procurement process. Web-to-print is used by printers, including the DES Printing and Imaging with both offset and digital production. Agencies can easily access an electronic job submission application and submit requests for print.

Most aspects of the traditional face-to-face print environment are available using web-to-print including:

- Graphic design;
- Editing;
- Prepress reviews; and
- Approvals.

> ### *3 Quick Win Strategies*
>
> 1) Scan and archive - Put in place other device types (i.e. scanning devices) in conjunction with paper output only devices;
> 2) Share and manage documents on the web and let multiple users access documents simultaneously;
> 3) Increase electronic distribution – Reduce hard copy distribution.
>
> *Active use of Quick Win strategies promotes a shorter timeline to savings*

Strategy 3: Implement a document management system

A document management system (DMS) is a type of software used to manage paper-based documents, pictures, photographs, published material, etc. DMS's are related to content management and records management systems.

A DMS consolidates all of your agency's core document-centric information into one place. A DMS literally is a searchable, retrievable, printable and shareable electronic library of documents. Because of this, a DMS can provide the greatest opportunities for cost savings and efficiency gains when a paper-based document-driven system is eliminated.

Some examples of savings and efficiency improvements are:

- Reduced printing and photocopying;
- Lower postage costs;
- Reduces physical space needs;
- Find things faster;
- Avoided filing and shredding costs;
- Faster and more efficient audits;
- Better decision making;
- Greater security and access control.

Your agency documents can be accessed any time via an on-premise, cloud, or hybrid approach. Access, protection and control of the data are enhanced.

History

First Effective Date:

- December 15, 2014

Amended:

- April 14, 2017

Questions? E-mail judy.lorenzo@des.wa.gov

Additional resources are located on the DES Print Management web site.