Developing an effective enterprise output policy

An HP white paper

Businesses often begin the effort to improve the efficiency of their imaging and printing environment, but quickly find that sustaining improvement is the bigger challenge.

The need for effective output policies in enterprise environments

Over the last ten years, and particularly in the last five, many large businesses have moved to improve their output and print environments by taking a more holistic and strategic view of how they acquire, manage, support and dispose of print, copy and fax assets. Either focusing only on print or across the entire spectrum of print, copy and fax resources, these companies have rightsized their printer fleets, refreshed copier fleets by replacing them with multi-function devices, and increased the use of networking technologies to get the most out of their new investments.

In this improved environment, companies inevitably discover that it's not necessarily *what* technology is deployed that's important, but rather *how* it's managed following deployment.

More often than not, projects are deployed without the sustaining effort to govern the ongoing activities of end users, procurement and IT teams who touch print, copy and fax/scan assets. Typically, this shows up in unplanned changes to the asset mix (fleet size) when employees are allowed to buy or deploy more printers without regard to existing fleet utilization or the original design.

The role of governance and policy: creating mechanisms to improve the business value of output investments

For organizations to realize the expected business value (e.g., cost savings and improved productivity) of their output/print investments, experience shows that establishing governance mechanisms that create a closed-loop system increases the chances that what's been implemented will be used, what's been intended will indeed become reality, and that feedback to adjust to changing business conditions is captured early in the process. Policies support the business by defining a set of guidelines that employees can understand, follow and adapt to. Documented policies also allow management to set clear goals for measuring progress to plans, as well as communicate results throughout the organization as needed.

Covered topics: policy attributes and categories

This white paper covers the key attributes of an effective enterprise output policy, as well as what alternatives managers should consider when improving governance around print, copy and fax activities. While there is no single policy or document that applies uniformly across all organizations, the intent here is to offer considerations for the reader to leverage as appropriate within his or her own organization.

Transition versus end-state governance: a key distinction to consider in policy development

A key distinction to make early in this discussion is the difference between policies developed to facilitate a transition from a known unmanaged state to a more managed environment, and those policies meant to sustain appropriate usage and behavior within an end-state or future-state environment. Making this distinction is important to help ensure that policies required to change end-user behavior (e.g., how and when old personal printers are disposed or decommissioned) are differentiated from policies meant to sustain appropriate (desired) behavior in the new model. In some ways, transition policies can be thought of as enablers, while policies developed for end-state governance are sustainers (e.g., exception and approval policies that allow employees to purchase and use new personal printers).

This white paper is organized as follows:

- General output policy
- Multi-function product (MFP) policy
- Printing considerations
- Service and support considerations
- IT and infrastructure considerations
- Output metrics, ongoing management and infrastructure
- End-user considerations
- Environmental considerations

General output policy

General guidelines

- A Control Policy establishes the *who, what, when, where* and *how* of a general output policy:
  - Who will make the decisions?
  - How will the policy be implemented?
  - When and where will the guidelines be enforced?
  - What activities will the policy regulate (e.g., print, copy, fax, scan, etc.)?
- Use policy is a combination of the *how, where* and *what*. Some examples may include defaulting all output devices to duplex and eliminating general use personal printing devices.
- IT provides input and requirements into the output policy based on an organization's technology standards. For instance, IT has established security requirements to protect the infrastructure along with establishing standards for network protocols and internal monitoring of network nodes.
- Device age, lifecycle and refresh are cross-linked to budgets, asset management, technology standards and other areas. A policy must address how an organization treats the following phases and instances:
  - Transition process: outlines the general approach an organization will take when moving into a managed environment.
  - Decommission policy: describes when and how devices will be taken out of the fleet and no longer used.
  - Lemon policy: describes under what circumstances and what frequency of repair a device will be replaced or changed based on inadequate performance.
  - Move/add/change policy: provides rules for the ongoing optimization and relocation of devices within the environment.

Device placement

- Proximity metrics based upon business types and locations can drive where devices are placed. There may be more than one solution or approach to complex situations, but having pre-determined standards can simplify the locating process. Areas to consider include:

  – Usage volumes: including such parameters as pages per user per month, mix of color and monochrome, mix of paper sizes, etc.

  – Document types: spreadsheets, text documents, e-mail, presentations, collateral, etc.

  – Walking distance to a device: for example, 35' in high-volume/high-use areas, 75' in low-use areas

  – Peak workflow requirements: month-end reporting in finance, new product introductions, etc.

  – Cross-department sharing: co-locates shared devices between multiple departments where volumes are low

Fleet/device management: age, speed, ability to be shared

- Existing network devices can be leveraged as part of the optimized fleet if they meet certain conditions, including:

  – Compatibility with network monitoring applications.

  – Meet minimum technical requirements for the organization.

  – Meet driver and client application requirements.

  – Meet the refresh lifecycle age restrictions.

Ongoing and exceptions management

- Varying business conditions and requirements will require adaptations or exceptions to a company's general output policy. These areas include:

  – Clearly defined exceptions process, allowing variations where appropriate

  – Timelines for a review of the policy and a process to update the policy where required

  – A process to communicate the new policy and allow feedback and input from business owners

Multi-function product policy

As companies replace copiers with digital multi-function products (MFPs), the need for usage guidelines becomes more important. When followed, usage guidelines can help an organization achieve an ideal balance between device capacity and device utilization, ultimately improving the return on investment. End-user behavior must also be addressed, since the new MFPs require an integrated approach to implementation. Instituting policies that reinforce appropriate usage helps yield longer term benefits for the organization.

General

• Transition—Stand-alone copiers, faxes and scanners should be consolidated into MFPs, based upon contract terms and business requirements.

• Basic functionality—Devices should be capable of network printing, copying, analog and digital faxing, and network scanning.

Copying

• Copy functions should be consolidated into network-connected MFPs.

• Users should leverage Central Reproduction Departments (CRDs), local off-site providers and commercial printing for larger and/or specialty jobs not met by the existing office fleet (see CRD section for additional information).

Scanning

• A standardized MFP fleet should provide network scanning.

• Separate scan solutions should be provided for business applications and specialized use cases.

• Document management solutions should utilize the networked MFPs as the digital on-ramp for scanning requirements.

• Specific business applications should utilize off-site scanning solutions provided by a third party.

Faxing

• The introduction and availability of a network scanning solution, as provided by the MFPs, can have a significant impact on an organization's fax requirements. Workflows that currently utilize fax technology may be migrated to a scan solution or re-engineered to reduce paper and use an all-digital solution.

• General office fax machines should be consolidated into MFPs.

• Fax-centric workflows should be migrated to a local-area network (LAN) fax server platform (in source versus outsource).

• MFPs should be capable of both LAN fax and analog.

• The business may approve desktop faxing via the LAN fax server where appropriate.

Printing considerations

In the last decade, print volumes have become the primary output type, accounting for 70 percent or more of an organization's volume. There is also a broad variety of devices available in the marketplace, from inexpensive inkjets to fast color laser printers. Additionally, printers are the most common device type, comprising 80 percent or more of an organization's fleet. Print devices are a critical part of the environment and deserve special consideration when building a policy for an organization.

Personal printing

A personal printer is a device, either networked or locally attached, that is dedicated to one user.

- A subset of the main Control Policy, dedicated to personal devices, is typically required to migrate to a managed environment. It is critical that this policy drive behavioral changes and have actionable consequences if the policy is ignored. The Control Policy may have two stages, one for the transition and one for steady state. Behavioral considerations will also need to be addressed in the Control Policy. These are focused on changing end-user behavior through the use of incentives and penalties. Areas for consideration include:

- Legal compliance
  - Access for workers with disabilities
  - Regulatory requirements as dictated by government bodies or industry groups, such as the Department of Defense and the Heath Insurance Portability and Accountability Act (HIPAA)
- Business needs
  - Senior management: Determine what level of management will have discretionary decision-making power or will be systematically exempt from rules regarding personal printing.
  - Human resources: Where appropriate and where technology (e.g. private printing) is not enough, HR or other departments may have business-specific needs for personal printers.
  - Site or location-specific (no LAN, etc): Some locations may have constraints which limit or virtually eliminate the ability to share network devices. For instance, a large warehouse with a single worker 1,000 feet from the front office, or a production plant with a manager's office out on the floor. Additionally, some locations may not have a LAN and will therefore require the use of personal devices.

- Transition
  - Chargebacks for toner and consumables, where the end user's budget will directly incur all of the costs for the personal device
  - Higher internal support charges for personal devices during the transition phase, applying the added cost for personal devices back to the end user rather than hiding these costs in a general budget

> The line between what should be printed down the aisle versus what should be sent out has blurred.

  - No reimbursement for non-approved personal device expenses, toner, services, etc.
- Steady state
  - Ongoing control policy: Business rules and process for helping to ensure the appropriate output fleet design is maintained on an annual basis. Includes review schedule and management direction.
  - No support for personal devices: Personal devices will no longer be supported, and purchasing will not allow sourcing of personal devices and consumables.

Color printing

Color printing costs have decreased substantially over the last few years while the availability of color devices has grown. Despite this availability, however, the cost and complexity of color still require proper management, and an organization's color policy needs to consider two main areas:

- Availability versus cost (value)
  - The additional cost of color documents requires a balance between availability and cost containment.
  - Small sites may utilize one color MFP for a single, complete solution.
  - Standardize on monochrome output for all low-value documents.
  - Deploy color devices at sites with validated color needs.
  - Design color solution based upon approved color needs.

- Usage
  - Define color requirements per business use and value.
    - Marketing materials
    - Customer material
    - Financial materials

Commercial printing: general

Improved technology has greatly increased the printing speed of office devices, enabling end users to print at levels previously only found in copy centers or with commercial providers. While this is a benefit, it also requires oversight since the line between what should be printed down the aisle versus what should be sent out have blurred. Standards should be established to guide the user community towards what devices are appropriate for larger jobs, and when and where to send out print jobs that exceed an office device's capabilities.

- Define requirements per business use, set standards for off-site versus in-house production, build job profile, define turnaround times
  - Marketing materials
  - Customer material
- Large volume runs
- Custom paper types
- Bindery and finishing requirements
- List vendors

CRD or local off-site printing

- Define requirements per business use, set standards for off-site
  - Low-volume jobs
  - Quick-turn, time-sensitive runs
- List of vendors with parameters for where, when and how to utilize

Service and support considerations

One of the largest and most frequently overlooked parts of an output environment is the support infrastructure. The support infrastructure helps keep the devices up and running and helps verify that work can continue as the business requires. Special attention should be paid to placing the right devices in the right areas so expected workloads can be met. A properly balanced solution will help verify that devices run properly for their expected lifespan and avoid abuse that can lead to early failure. Additionally, care should be taken to provide support that reduces downtime while balancing the higher cost of quick-response service or onsite technicians. Lastly, supplies are usually unmanaged and sourced through multiple sources by multiple individuals, at times leading to shortages or wasted inventory once the device is retired. Providing a standard, centralized program to source supplies for end users can help lower costs and reduce searches for supplies during business-critical jobs.

Device utilization and service-level agreements

- Devices should be properly utilized based upon the manufacturer's recommended monthly page volumes.
  - Device utilization reports should be reviewed on a quarterly basis.
  - Device placement should be modified based on data and business needs.

Service-level agreements

- Service levels vary by location and output requirements. It is important for a policy to balance the uptime requirements with the additional cost. Considerations should include:

  - Providing the right level of support for the right location
  - Utilizing alternate network devices for failover capacity, enabling a less costly service level while providing access to output
  - Identifying business-critical areas or applications that may have more demanding service requirements.

Supplies, stocking and inventory management

- Supplies are one of the more important and often overlooked components of an output environment. They are usually ordered, delivered, stored and recycled from multiple vendors by multiple employees and billed to various budgets. This complexity makes managing consumables and consumables usage difficult.

- A policy should standardize and streamline the sourcing vendor, as well as establish rules and processes for helping to ensure cost containment and proper management and utilization of the supplies.

- Vendor management should also include overall tracking and allocation of the supplies to help ensure proper usage and to reinforce other related policies. For example, if personal printers are no longer allowed in the environment, end users should not be allowed to continue purchasing supplies for those devices.

- Additionally, supplies usage data should be monitored and used to identify areas that may require additional or different output technology. For example, a high usage of color consumables in an area may indicate the need for an off-site or CRD color solution for high-volume color runs.

IT and infrastructure considerations

Network devices have a long list of positive attributes. For example, they can be remotely managed by IT personnel, and they provide redundant, alternate devices during hardware failures. At the same time, network devices also require a structured approach to managing the connectivity options and protocols. New MFPs are more than just network printers—most contain a hard disk and memory similar to a laptop computer and will require some administration to protect them and the network. It is recommended to have policies in place to drive consistency in deployment, simplify communication within IT and among user groups, and help minimize support impact.

Security

While security within the imaging and printing environment is a robust topic in and of itself, there are a number of general security issues you should consider when drafting an output policy. Security standards and protocols help safeguard your business with capabilities that better secure your devices, protect critical information on the network, and simplify the way you monitor and maintain your printing and imaging environment. Other areas to consider are Internet Protocol (IP) security, strong authentication, confidentiality and integrity of communications, and secure network printing and scanning protocols. You may also need to consider the security needs of your specific industry, such as health care, financial services and government. Additional security information is available from the National Institute of Standards and Technology (NIST). Below is a list of areas to review:

- When and who should have access to scanning?
- What LAN protocols should be disabled?
- Password protection of network access to devices Embedded Web Server/ Network Interface Card (EWS/NIC)
- Physical security (i.e., Are there areas where limited access is required)?
- Hard drive data erase schedules and stored job aging guidelines
- All MFPs should support secure log-in
- All MFPs should support integration with Active Directory, Novell or LDAP

Remote manageability: network IT
- All devices adhere to common SNMP MIB standards for storing key device-related information
- All devices are capable of being reset via the embedded web server
- All devices should be managed through a centralized management tool
- Automated device tracking and metrics reporting through centralized server

Client and application policies: driver management and testing
- All desktops should be set to draft mode and duplex as defaults
- Monochrome should be the primary output type
- Defined testing procedures

Output metrics, ongoing management and infrastructure

Once the output environment is migrated to an optimized solution, it is imperative to maintain and manage it in an ongoing fashion. It is not uncommon for many enterprises to slip back into old habits over time, eventually resulting in an environment with unchecked growth and escalating

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costs. To avoid this, organizations must rigorously manage the environment, using quarterly and annual evaluations to review targets and metrics, and ultimately update the policy as required.

Metrics

Metrics provide a snapshot of the activity inside the output environment, enabling IT to track and identify trends and then use this data to make decisions and plan for changes. Metrics help ensure that the output environment is meeting the needs of the business while identifying and controlling costs.

- Print, copy, fax and scan data shows trends that are impacting the business.
- Print, copy, fax and scan data can also highlight areas where color abuse is occurring or where a different solution is required.

Management

Management oversight is a key component and is assumed throughout the context of this document. Executive sponsorship is a critical requirement for the successful implementation of any policy and solution. This sponsorship must be communicated early on and from the top down, and must clearly state the business value and positive impacts on productivity and efficiency. Metrics provide the management team with the information to make sound decisions that balance cost with requirements. Additionally, it's important to have ongoing quarterly and/or annual reviews of the policy. Once the data and information is gathered from the metrics, they can be used to:

- Establish trends and create future versions of the policy.
- Institute ongoing reviews to help ensure that the policy adapts to changing business needs.
- Fine tune policy and evaluate new solutions, especially as technology improvements become available.
- Create policies for change management and inform the organizations of how the new environment will support the business goals.
- Continue to review and update enforcement policies to help ensure compliance.
- Designate an output manager who will oversee the policy, environment, supplies, etc.
- Communicate the policy from the highest level within the organization.

Control process

Ongoing management should require a control policy to outline who will add devices to the standards, how they will be ordered, and who will approve them. Additionally, a process should be in place to address users who deviate from the policy with clear actions and consequences for the infraction.

Infrastructure

For the purposes of this section, the output fleet should be viewed as a component of the location's infrastructure. Once an output solution is implemented within the company's standard guidelines, a new approach to moves and department ownership is needed. In many cases, the standardization of devices reduces the need to move devices when people move within buildings, because the devices they leave behind are most likely the same as what they'll find in their new location. Some guidelines for treating output devices as part of the infrastructure are:

- Build a standard core fleet solution that is the basis for most areas of the environment.
- Add specialized or additional devices as needed for specific business needs.
- Move only those specialized devices with the group or business function, and leave the core set of devices in place for the next group.

End-user considerations

Training and education

With standardization and a base core fleet of devices comes the ability to leverage a centralized training program for end users. This allows rapid adoption of new technologies, transformation of workflows and the reinforcement of policy components. Educational areas include:

- Type of end-user training—classroom, web-based, etc.
- Job aids—determine what kinds of aids should be created to assist users in completing such common tasks as scanning to e-mail, changing driver settings, etc.
- Training levels—admin, department owners, IT, etc.
- Support and supplies education—phone numbers to call, websites, supplies stocking locations, toner delivery, etc.
- Reporting—report usage and availability for departments.

Environmental considerations

Environmental impact

Organizations have an increasing awareness of and role in environmental stewardship. Companies should consider power efficiency, ENERGY STAR ratings and carbon impacts when implementing an output solution. Environmental areas include:

Device lifecycle

- Selected suppliers should have programs in place that consider the environment throughout the output device's lifecycle, from design, manufacturing and distribution to customer use, reuse and recycling.

Disposal solutions

- Equipment disposal options such as the following should be considered:
  – Trade in
  – Asset recovery
  – Donation
  – Recycling

Conclusion

This white paper has covered the key attributes of an effective output policy and the choices or alternatives organizations should consider when improving governance around print, copy and fax activities. While there is no single policy or document that applies uniformly across all organizations, this document should serve as a helpful starting point, highlighting several key areas that deserve consideration. Recommended next steps may include: reviewing your organization's goals and objectives; gathering data on your environment; determining a course of action; and finally, building a policy. Lastly, it's important to view the policy as a living document that will adapt to your changing needs as your organization evolves.

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