

Desktop Printer Removal and the Transition to Managed Multi-Function Printers

Benefits and Case Studies

Removing individual desktop printers is **among the most impactful ways to reduce paper use on college campuses**. Further, even greater savings can be achieved by replacing these individual desktop printers with a consolidated suite of more efficient multifunction printers (MFPs) equipped with print management software. In addition to **saving money**, the transition from desktop printers can help achieve campus **recycling, carbon neutrality**, and **zero waste** goals and commitments.

“ Organizations can save as much as **65% of total printing costs** through printer consolidation efforts.
- InfoTech ”

“ Active print management can cut your **office print costs** by 10% -30%.
- Ricoh ”

Summary of Benefits

Benefits come in many forms – paper, ink, staff time, and energy costs, to name a few – with both direct and indirect positive financial and environmental impacts:

- Fewer accidental print jobs
- Improved document security
- Default double-sided and black & white jobs
- Shorter printer downtime, improved printer functionality
- Fewer devices plugged in and using energy
- Less staff time servicing/maintaining many different kinds of personal printers
- Fewer types of toner and ink to purchase, streamlined disposal/recycling of cartridges



Case Studies: Desktop Printer Removal and the Transition to Managed Multi-Function Printers (MFPs)

Case Study Highlights

A few highlights from the case studies detailed below:

- **Alameda County General Services Agency:** 70% of desktop printers removed and **\$7,000 saved** in ink cartridge purchases
- **Environmental Protection Agency, Region 6:** 62% reduction in inkjet desktop printers, 25% reduction in paper consumption, 12% cut in printer power consumption, **\$37,200 savings** in supplies and support services
- **University of Kentucky:** Projected to save more than **\$22 million over 6 years**
- **Los Angeles Trade-Tech College:** Anticipated savings of **\$1.5 million over five years**
- **Midwestern Higher Education Compact:** More than **\$7 million in savings** since 2009
- **Millersville University:** **60% savings** in printing-related energy costs
- **The Ohio State University:** Estimated annual savings of **\$684,700 annually**
- **Oregon State:** **30% reduction** in printer and energy costs
- **Regis University:** **40% reduced print volume** and **\$166,000 of savings** the first year
- **Salt Lake City Community College:** More than **40% reduction in printing**
- **Simmons College:** **600,000 pages of paper saved** per year and eliminated burden on IT staff time



College Campus Case Studies

University of Kentucky

Printing: 130 million print impressions annually

Spending: \$6.7M annually for direct print costs

- Hardware purchases, supplies, equipment leases, maintenance, personnel

Challenges:

- Too many under-utilized devices from multiple vendors
- Decentralized procurement and management processes
- Excess waste, energy consumption
- Inefficient tracking processes

Solutions:

- Implemented networked printer system
- Clear, concise procurement strategy for printing supplies
- Onsite assessments to identify most suitable devices (MFPs, printers, etc.) for specific departments and buildings
- Default duplexing

Results

- Projected to save more than \$22M over the next 6 years
- Helped reduce energy consumption
- Standardized equipment and supplies

Los Angeles Trade-Tech College

Challenges:

- Use of desktop printers across campus
- Multiple service contracts that came with cost and reliability issues
- Outdated technology
- Alignment with sustainable goals

Solutions:

- Assess device usage
- Implement multifunction devices based on assessment of need
- Make printing accessible via web
- Provide DocuCare associate to help with printing management and user support

Results:

- Reduced number of devices, increasing the user-to-device ratio from 3:1 to 8:1
- Anticipated savings of \$1.5 million over five years
- Increased reliability, uptime and print quality
- Greener tech: solid ink printing technology with 90 percent less waste

Midwestern Higher Education Compact

Challenges:

- Reduced state and federal funding
- Complex and time-consuming procurement processes
- Need to support sustainability objectives

Solutions:

- Consider all costs associated with devices, such as supplies and energy, not just the sticker price
- A single flexible contract for devices to meet member institutions' needs
- Install fewer, but more energy-efficient multifunction devices

Results:

- More than \$7 million since 2009
- One contract - less staff time involved in RFP process
- Simplified procurement process
- Energy efficient devices support green objectives

Millersville University

Challenges:

- Hundreds of black-and-white MFPs and printers from several different vendors
- Outdated, standalone devices compromised performance
- School officials increasingly concerned about security and data integrity of standalone devices
- Maintenance was difficult as most service contracts were expired or non-existent

Solution:

- Recommended a centralized strategy and device consolidation
- Eliminate unnecessary devices by installing networked MFPs that provide better performance at a fraction of the per-page cost
- Transition from paper-based processes to an electronic workflow

Results:

- Reduced paper consumption with automatic duplexing (output approximately 1.2 million fewer pages per year)
- Operate more energy efficiently (60 percent savings in energy costs)
- Lower cost to print (from 3 cents per page to 1.2 cents)
- Overwrite latent data temporarily stored on the hard drive to help protect confidential information
- Easier maintenance of the centralized fleet

[The Ohio State University](#)

Challenges

- University has both leased MFD's through its print management program ("on-program" devices) as well as "off-program" desktop printers scattered across the University
- It was becoming challenging to track these devices and their associated costs

Solutions

- From 2014-2017 the University increased its on-program devices and reduced off-program devices
- A 2018 performance audit conducted by the Auditor of State provides support for the cost-effectiveness of MFD's. ([OSU, 2018](#)) Solutions identified in audit:
 - Consolidate and optimize underutilized copiers and printers (both on-program and off-program)
 - Shift more off-program printing to on-program printing

Results

- By moving to more MFD's over off-network desktop devices, the University saved \$410,473 (nearly 58%) over the course of 3 years (2014-2017) due to savings just from reducing off-program toner ink purchases
- Audit suggests OSU could save \$548,300 annually by greater consolidation and optimization of underutilized copiers and printers.
- Audit suggests OSU could save \$136,400 annually by shifting greater off-program desktop printing to on-program printing.
- In total, audit estimates that eliminating excess copiers and printers and ensuring that all copiers and printers operate within the system maintained by the university's printing contractor could save the university \$684,700 a year.

[Oregon State University](#)

Challenges:

- Fleet consisted of about 400 devices from different vendors
- Only 15 percent of the machines connected to the network
- Difficult to track usage, use rates, and chargebacks for printing

Solutions:

- With centralized device monitoring and management, IT could monitor and maximize uptime (percentage of time a machine, typically a computer, has been working and available) and lower costs
- Replaced nearly all inkjet printers with MFPs
- Set default duplexing option to save paper

Results:

- Reduced printer and energy costs by about 30 percent

Regis University

Challenges:

- High volume of printing devices
- Outdated devices
- Resistance to change - people were afraid of losing their inkjet printers

Solutions:

- Update to MFP to eliminate the need for standalone devices, like fax machines
- Print management software to track usage and printing charges
- Meet with staff to explain how to use the new system, address privacy concerns, and hear and respond to feedback about new system
- Enable MFP locked print feature that requires authentication at the machine to secure confidential printing

Results:

- \$166,000 of savings the first year
- Reduced print volume by nearly 40%

Salt Lake Community College

Challenge:

- The printing System Administrator and Lab Administrator estimated that “For every 7 or 8 cartons of paper printed...only one carton's worth of paper was actually leaving the labs with students.”
- Printers were wearing out more quickly due to the high volume of printing
- People were not charged for printer usage

Solutions:

- Use UniPrint to charge for printing and monitor printer usage
- Provided 100 pages of free printing. Beyond that, charged 2¢ for each monochrome page they printed
- In order to release a job for printing, students had to swipe their OneCard at the Uniprint release station

Results:

- Estimated 40% or greater reduction in printing
- The printing charge is connected to OneCard system, so students are learning about other student benefits, such as free access to public transportation, that are available through OneCard

Simmons College

Challenges

- MFPs were already in place, but paper waste was high due to unclaimed print jobs
- Liberal use of printing led to frequent emptying of printing paper and printer ink
- A dedicated employee had to be hired simply to replenish paper and toner supplies

Solutions

- Features were added to MFP to create more accountability among students
- Student ID based authorisation to give print jobs
- Fixed funding for free printing was authenticated via an online account/prepaid card
- Online printing account helped students keep track of their printing volume, printing fund and their environmental footprint

Results

- Over the course of a year, nearly 600,000 pages of paper were saved
- Reduced the burden on IT staff and eliminated the need to hire extra personnel to manage print jobs

Non-Campus Case Studies

Environmental Protection Agency

Challenges:

- EPA Region 6 office had 161 desktop inkjet printers
- Desktop printers perceived as confidential and more convenient
- Networked printers weren't placed conveniently for everyone
- Worried about excess load on network printers if everyone gave up their personal devices
- Resistance to giving up devices without receiving anything in return
- Concerns for people with mobility issues

Solutions:

- Rearrange printers to be convenient for everyone
- Made desktop exceptions for those with mobility issues
- Analysis determined that printers would not be overloaded
- Instituted policy of no replacements or new purchases of desktop printers
- Analyzed each department's needs and ability to give up personal printers
- Set goal for printer reduction (62%)

Results:

- Achieved goal of a 62% reduction of inkjet desktop printers
- \$37,200 in savings on supplies and support services
- Reduced paper consumption by 25%
- Reduced printer power consumption by 12%

Alameda County General Services Agency

Challenges:

- Resource intensive personal desktop printers were putting a strain on office budget and wasting taxpayer dollars

Solution:

- Top-down Approach - General Services Agency's executives were supportive of the idea and gave up their own printers to set an example to other staff members
- Making the Transition Easy for Staff: The IT department helped staff during the transition
 - The MFP was set as the 'default printer' on all computers
 - Detailed instruction and training was given to adapt to the new system including double-sided printing, secure printing etc
- Going the extra mile - Removed desktop printers were donated to families and small businesses who were in need of them

Results

- The pilot campaign successfully removed 70% of the desktop printers in the office
- Reduced ink-cartridges purchase resulting in approximate annual savings of \$7000

Additional Resources

InfoTech Research Group

<https://www.infotech.com/research/ss/reduce-costs-through-printer-consolidation--2>

- Various templates; requires login: Printer consolidation business case template, printer consolidation action plan tools, stakeholder analysis template and more

Paper Cut for Education

<https://www.papercut.com/solutions/education/>

- Case studies, testimonials, fact sheets

Pharos Community Marketing Resources

<https://community.pharos.com/community/marketing-resources>

- Case studies, White papers, videos and webinars,

Ricoh Case Studies

https://www.ricoh-usa.com/en/insights/library/case-studies/_/N-1z13ylkZ1z140wd

Xerox Insights

<https://www.xerox.com/en-us/insights>

- Case studies, infographics, brochures, reports, blogs, articles, guides, etc.