## The new printing paradigm

# HP PageWide Enterprise Color MFP 780, 785 series

The lowest cost for color[1]

Minimal interruptions. Maximum uptime.

The world's most secure printing[2]

# The lowest cost for color[1]

Color printing is within every business' budget with HP PageWide Technology. Produce low cost, professional-quality color on sizes up to 12 x 18 inches (305 x 457 mm), and get the results you expect from HP for an exceptional value you can rely on.

## Breakthrough low-cost color

Get the quality you expect for a game-changing value—HP PageWide Technology delivers the lowest cost per color page.[1]

Original HP PageWide cartridges provide the consistent printing performance, quality, and affordability businesses demand. Optional high-yield cartridges offer an even better value, so you can print more pages and replace cartridges less often.[4] Quickly access and replace cartridges—simply push twice to insert or remove.
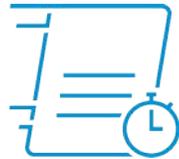
## Fast performance, economical prints

Equip employees to speed through tasks with high-performance, professional-quality printing. Print even faster—and save even more per page—by setting your MFP to General Office mode.[5] Get the quality your business needs while helping to reduce printing costs.

Minimize interruptions in productivity with an HP PageWide Enterprise MFP designed with the fewest parts in its class for the least maintenance.[6]

## Best-in-class energy efficiency[3]

Help keep energy costs down with the most efficient MFP in its class.[3] HP PageWide Technology conserves resources without compromising performance.

This MFP meets rigorous standards for ISO class 5 cleanrooms—perfect for sensitive environments. Keep noise to a minimum with a device designed to be quiet. Place it near people without disrupting work.

Help reduce your environmental impact. Consume up to 50% less paper, with automatic two-sided printing. Easily recycle your Original HP cartridges at no charge through HP Planet Partners.[7]

# Minimal interruptions. Maximum uptime.

Annoying interruptions and complex maintenance can slow down printing, and ultimately, the pace of business. Avoid pauses in productivity with an HP PageWide device designed for maximum uptime—so you can count on reliable results day in and day out.

## Move business forward

Print up to 50% faster than the competition[8]— as fast as 75 pages per minute (ppm) (Flow MFP 785 models).[9] These devices wake up and print fast, so your documents are ready quickly.

Accelerate workflow with single-pass, two-sided scanning up to 120 images per minute (ipm), simplex, and up to 240 ipm, duplex (Flow MFP 785 models).[10]

75 ppm[9]
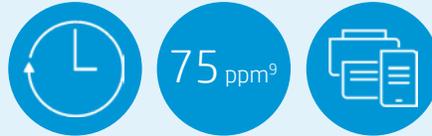
HP makes mobile printing easy with a variety of options that help users print and help IT keep the network safe. Detect nearby printers from a mobile device and quickly connect to print with Bluetooth® Low Energy.[11] Easily access, print, and share resources with Ethernet and Wi-Fi Direct®.[12]

## Launch tasks at the device

Preview and edit scans, adjust images, and launch print, scan, copy, and fax jobs[13]—all at the 8.0-inch (20.3 cm) color touchscreen. For more information, see Appendix A on page 16.

Turn paper files into digital assets and send your work to more places without using a PC. Scan documents directly to Microsoft® Office 365 and SharePoint®, plus email, USB, and network folders.[14]

## Expand your capacity

Tailor this MFP to the needs of your business with a wide range of paper-handling accessories. Optional trays support media sizes up to 12 x 18 inches (305 x 457 mm), including a 550-sheet paper tray, 550-sheet paper tray and stand, and 3x550-sheet paper tray and stand.[15,16]

Organize, staple, and collect documents with in-line finishing that helps you save time and look professional.[17]

Print up to 4,650 pages without reloading paper, using the optional 4,000-sheet high-capacity input (HCI) tray and stand, with support for up to letter (A4) size.[18]

# The world's most secure printing[2]

Only HP Enterprise printers repair themselves from attacks in real time, with built-in security to help keep your network safe. Automatically monitor threats, detect intrusions, and validate operating software with security offered only by HP.[2]

## Always on guard

Only HP Enterprise printers offer built-in security features that are always on guard.[2]

- With HP Sure Start, each device regularly checks its operating code and repairs itself from attempted hacks.
- Whitelisting checks firmware during startup to help ensure it's authentic, good code—digitally signed by HP.
- Run-time intrusion detection continually monitors activity to detect and stop attacks, then automatically reboots.
- HP Connection Inspector checks your MFP's outgoing network connections to stop suspicious requests and thwart malware. (May require a firmware update.)

Thwart potential attacks by receiving instant notification of security issues, so immediate action can be taken. This MFP works with tools like Splunk, ArcSight, and SIEMonster.

## Take security to the next level

Help protect this MFP with more than 200 embedded security features.[19] Protect information in transit over the network and stored on the device—keys, passwords, certificates, and more. Store data on the 256-bit encrypted HP High-Performance Secure Hard Disk.

Easily develop, deploy, and integrate HP and third-party solutions with HP Open Extensibility Platform (OXP). Add features such as card readers and more through the Hardware Integration Pocket (HIP).[20] Further safeguard data stored on the device, using the standard HP Trusted Platform Module.[21]

## Centralize control to help build business efficiency

Centralize control of your printing environment with HP Web Jetadmin—and help build business efficiency.[22] Optional HP JetAdvantage Security Manager offers an effective, policy-based approach to help secure HP printing and imaging devices.[23] Easily set security configuration policies and automatically validate settings for every HP printer and MFP in your fleet.

Simplify business printing with the industry's first SaaS (Software as a Service) portal[24] for managing both apps and users.[25]

Regulate color use and reduce printing costs with HP Color Access Control.[26]

Save IT time and make printing easy for the entire enterprise by using a single driver for all HP devices.[27]

# Give workgroups the speed they need

Accelerate workflow, improve accuracy, and easily connect people throughout your organization. Complete high-volume scan jobs super-fast—up to 240 ipm for Flow models[10]—and avoid extra steps with an MFP designed for maximum productivity.

## Easily scan and edit text

Capture text from documents with high accuracy. Easily scan documents, edit text, and save as a Microsoft Word or searchable PDF file with HP Scan and I.R.I.S. Readiris™ Pro OCR Software.

## Fast scanning and input

Turn stacks of paper documents into digital files. Load up to 200 pages into the automatic document feeder (ADF) for fast, unattended scanning.[28,29]

Enter data more quickly and accurately using the pull-out keyboard, one of the features available on all Flow models.[30]

## Every page, every time

Capture every page easily—with confidence. HP EveryPage gives employees smooth paper-handling capabilities to detect potential errors or missed pages on the spot—for scan jobs of all kinds.

Help ensure every scanned document is properly oriented, cropped to size, and grayscale-optimized.

## Flow MFP features[30]

**HP EveryPage** featuring ultrasonic multi-feed detection

**240 ipm[10]** — Faster scan speeds

**Automatic** page orientation, auto-crop, and auto-tone

**Pull-out keyboard[30]**

**Built-in OCR**

**75,000 RMSV[29]** — Extended-life ADF

# Get to know the HP PageWide Enterprise Color MFP 780 series

HP PageWide Enterprise Color MFP 780dns shown

8.0-inch (20.3 cm) pivoting color touchscreen

Hardware Integration Pocket[20]

Easy-access USB printing port

100-sheet multipurpose tray 1 supports media up to
12 x 18 inches (305 x 457 mm)

550-sheet tray 2 supports media up to 11.7 x 17 inches
(297 x 432 mm)

200-sheet ADF with single-pass, two-sided scanning

11.7 x 17 inches (297 x 432 mm) flatbed scanner

350-sheet inner finisher with stapler[17]

500-sheet output bin

Front door access to cartridges

Automatic two-sided printing

Host USB port, Ethernet network port, Hi-Speed USB 2.0 printing port

## Series at a glance

| | MFP 780dn | MFP 780dns | Flow MFP 785f | Flow MFP 785zs |
|---|---|---|---|---|
| Part number | J7Z09A | J7Z10A | J7Z11A | J7Z12A |
| Print speeds, black and color, letter and A4[9] | Up to 45/65 ppm, Professional/ General Office mode | Up to 45/65 ppm, Professional/ General Office mode | Up to 55/75 ppm, Professional/ General Office mode | Up to 55/75 ppm, Professional/ General Office mode |
| Fax capabilities | Optional | Optional | ✓ | ✓ |
| 100-sheet tray 1, 550-sheet tray 2 | ✓ | ✓ | ✓ | ✓ |
| 550-sheet Paper Tray[31] | Optional | Optional | Optional | Optional |
| 550-sheet Paper Tray and Stand[31] | Optional | Optional | Optional | Optional |
| 3x550-sheet Paper Tray and Stand[31] | Optional | Optional | Optional | ✓[15] |
| 4,000-sheet HCI Tray and Stand[31] | Optional | Optional | Optional | Optional |
| Advanced workflow features including pull-out keyboard, OCR, HP EveryPage, and auto-orientation[30] | Not available | Not available | ✓ | ✓ |
| Wireless networking[32] | Optional wireless direct[33] | Optional wireless direct[33] | Optional wireless direct[33] | Built-in Wi-Fi Direct[12] |
| Bluetooth Low Energy[11] | Not available | Not available | Not available | ✓ |
| 350-sheet inner finisher with stapler[17] | Not available | ✓ | Not available | ✓ |

# Get to know the HP PageWide Enterprise Color Flow MFP 785 series

**HP PageWide Enterprise Color Flow MFP 785zs shown**

200-sheet ADF with single-pass, two-sided scanning with HP EveryPage[30]

8.0-inch (20.3 cm) pivoting color touchscreen

Hardware Integration Pocket[20]

Easy-access USB printing port

11.7 x 17 inches (297 x 432 mm) flatbed scanner

Retractable keyboard[30]

350-sheet inner finisher with stapler[17]

500-sheet output bin

100-sheet multipurpose tray 1 supports media up to 12 x 18 inches (305 x 457 mm)

Front door access to cartridges

Automatic two-sided printing

550-sheet tray 2 supports media up to 11.7 x 17 inches (297 x 432 mm)

Host USB port, Ethernet network port, Hi-Speed USB 2.0 printing port

3x550 sheet paper tray supports media up to 11.7 x 17 inches (297 x 432 mm)[15]

# Paper-handling accessories

|  | 550-sheet Paper Tray (A7W99A) | 550-sheet Paper Tray and Stand (W1B50A) | 3x550-sheet Paper Tray and Stand (W1B51A) | 4,000-sheet HCI Paper Tray and Stand (W1B52A) |
|---|---|---|---|---|
|  | Supports up to 11.7 x 17 inches (297 x 432 mm) | Supports up to 11.7 x 17 inches (297 x 432 mm) | Supports up to 11.7 x 17 inches (297 x 432 mm) | Two 2,000-sheet trays that support up to letter (A4) |
| Standard[31] |  |  | Flow MFP 785zs[15] |  |
| Optional[31] | Add up to one: *all models* | Add up to one: *all models* | Add up to one: MFP 780dn, MFP 780dns, Flow MFP 785f | Add up to one: *all models* |
| Maximum device input with acccessory[18] | 1,200 sheets | 1,200 sheets | 2,300 sheets | 4,650 sheets |

# What's new

**HP PageWide Enterprise
Color Flow MFP 785zs**

**HP PageWide Enterprise
Color Flow MFP 586z**

| | |
|---|---|
| Supports paper sizes **up to 12 x 18 in** (305 x 457 mm) | Supports paper sizes up to 8.5 x 14 inches (216 x 356 mm) |
| Up to 650/4,650 sheets input (standard/maximum[18]); up to 800 sheets output | Up to 550/2,050 sheets input (standard/maximum[18]); up to 300 sheets output |
| Single-pass, two-sided ADF scanning up to 120 ipm, simplex, **up to 240 ipm, duplex;[10] up to 200 sheets input** capacity; maximum scan size: 11.7 x 39 in (297 x 1000 mm)[28] | Single-pass, two-sided ADF scanning up to 47 ppm, simplex, up to 74 ipm, duplex;[10] up to 100 sheets input capacity; maximum scan size: 8.5 x 14 in (216 x 356 mm) |
| **350-sheet inner finisher with stapler[17]** | Not available |
| Detect nearby printers from a mobile device, quickly connect, and easily print with **Bluetooth Low Energy** connectivity[11] | Bluetooth Low Energy not available |
| **RMPV:[34]** 2,500 pages to **as high as 25,000 pages**<br>**RMSV:[29]** 2,000 pages to **as high as 75,000 pages** | RMPV: 2,000 pages to as high as 7,500 pages<br>RMSV: 8,350 pages to as high as 13,900 pages |
| **Standard** HP Trusted Platform Module **(TPM)[21]** | Optional TPM |
| **HP Connection Inspector** checks outgoing network connections (may require a firmware update) | Available with a firmware update |

# Technical specifications

| | HP PageWide Enterprise Color MFP 780dn | HP PageWide Enterprise Color MFP 780dns | HP PageWide Enterprise Color Flow MFP 785f | HP PageWide Enterprise Color Flow MFP 785zs |
|---|---|---|---|---|
| **Product number** | J7Z09A | J7Z10A | J7Z11A | J7Z12A |
| **Control panel/data entry** | 8.0-inch (20.3 cm) pivoting color touchscreen; easy-access USB;[35] Hardware Integration Pocket[20] | | | |
| | | | Plus: pull-out keyboard | |
| **Print speed (letter and A4)[9]** | | | | |
| Single-sided | Professional mode: Up to 45 ppm (black and color) General Office mode: Up to 65 ppm (black and color) | | Professional mode: Up to 55 ppm (black and color) General Office mode: Up to 75 ppm (black and color) | |
| Two-sided | Professional mode: Up to 31 ipm (black and color) | | Professional mode: Up to 38 ipm (black and color) | |
| **First page out (letter and A4)** | From ready (black and color):[36] as fast as 7.1 seconds (*all models*) From sleep (black and color): [37] as fast as 17.4 seconds (*all models*) | | | |
| **Print resolution** | Black: Up to 1200 x 1200 optimized dpi from 600 x 600 input dpi (on Unspecified, Plain, HP Premium Presentation Matte, and HP Brochure Matte); Color: Up to 2400 x 1200 optimized dpi from 600 x 600 input dpi (on HP Advanced Photo Papers) | | | |
| **Scanning resolution** | Up to 600 dpi (*all models*) | | | |
| **ADF scan speed (letter and A4)[10]** | | | | |
| Single-sided | Up to 90 ipm (black and color) | | Up to 120 ipm (black and color) | |
| Two-sided | Up to 180 ipm (black and color) | | Up to 240 ipm (black and color) | |
| **Features** | | | | |
| Printing | HP PageWide Technology with pigmented inks, HP EasyColor, print preview, automatic two-sided printing, print multiple pages per sheet (2, 4, 6, 9, 16), collation, booklet printing, cover pages, tray selection, scaling, portrait/landscape orientation, high-quality grayscale and black ink only, General Office/Professional/Presentation dpi print modes, control panel shortcuts, store print jobs; print from easy-access USB Microsoft Word and PowerPoint files, HP Mobile Apps, Google Cloud Print™ 2.0, Apple® AirPrint® | | | |
| Scanning | Flatbed scanner: 11.7 x 17 in (297 x 432 mm); 200-sheet ADF with single-pass, two-sided scanning up to 11.7 x 39 in (297 x 1,000 mm);[28] Advanced features: optimize text/picture, image adjustments, job build, output quality setting, selectable scan resolution 75 to 600 dpi,, auto detect color, edge erase, job notification, blank page suppression, Quick Sets; bit depth: 24-bit (color); 8-bit (gray); Scan file type supported by software: Bitmap (.bmp), JPEG (.jpg), PDF (.pdf), PNG (.png), Rich Text (.rtf), Searchable PDF (.pdf), Text (.txt), TIFF (.tif); TWAIN version 2.1 [38] | | | |
| | | | Plus: HP EveryPage with ultrasonic multi-feed detection, embedded optical character recognition (OCR), auto-orientation, auto-crop-to-page, auto-tone | |
| Digital sending | Scan to email with LDAP email address lookup, scan to network folder, scan to USB, send to FTP, send to Internet fax, SMTP over SSL, blank page removal, edge erase, auto color sense, auto crop to content, compact PDF, scan to Microsoft SharePoint [39] | | | |
| | | | Plus: send to LAN fax; OCR, auto-tone, auto-orientation, multi-pick detect, auto-straighten, auto-crop-to-page | |
| File formats[38] | PDF, JPEG, TIFF, MTIFF, XPS, PDF/A; Scan to easy-access USB: PDF, JPEG, TIFF, MTIFF, XPS, PDF/A; Print from easy-access USB: PDF, PS, print ready files (.prn, .pcl, .cht) | | | |
| | | | Plus (OCR): TEXT, Unicode TEXT, RTF, Searchable PDF, Searchable PDF/A, HTML, CSV; Scan to easy-access USB: TEXT, Unicode TEXT, RTF, Searchable PDF, Searchable PDF/A, HTML, CSV | |
| Copying | Copy speed: up to 45 copies per minute and first copy out as fast as 9.4 seconds;[40] Auto scale, Reduce/Enlarge from scanner glass (25 to 400%), Collate, Auto-color detection, Two-sided copying, Job build, image adjustments (darkness, background clean-up, sharpness); Copy resolution: Up to 600 x 600 dpi | | | |
| Faxing | | | Fax speed:[41] 3 seconds per page/33.6 kbps (letter/A4); fax forwarding, receive fax polling, broadcasting to up to 210 locations, speed dial up to 1000 numbers, each with 210 destinations, auto-fax reduction, auto-redialing, stored faxes, fax archiving, scale-to-fit, fax address book, LAN/Internet fax, fax number confirmation, holiday fax schedule Fax resolution: Black (standard): 204 x 98 dpi, black (fine): 204 x 196 dpi, black (photo grayscale): 300 x 300 dpi (400 x 400 dpi for received faxes only); Color: 300 x 300 dpi (400 x 400 dpi for received faxes only) | |

| | HP PageWide Enterprise Color MFP 780dn | HP PageWide Enterprise Color MFP 780dns | HP PageWide Enterprise Color Flow MFP 785f | HP PageWide Enterprise Color Flow MFP 785zs |
|---|---|---|---|---|
| **Processor** | 1.2 GHz (*all models*) | | | |
| **Memory** | 3584 MB (standard/max)[42] | | 5632 MB (standard/max)[43] | |
| **Storage** | High-Performance Secure Hard Disk (AES 256 hardware encryption or greater; Secure erase capabilities: Secure File Erase-Temporary Job Files, Secure Erase-Job Data, Secure ATA Erase-Disk) | | | |
| **Durability ratings** | | | | |
| RMPV[34] | 2,500 pages to as high as 20,000 pages | | 2,500 pages to as high as 25,000 pages | |
| RMSV[29] | 2,000 pages to as high as 50,000 pages | | 2,000 pages to as high as 75,000 pages | |
| Duty cycle[44] | Up to 100,000 pages | | Up to 125,000 pages | |
| **Media specifications** | | | | |
| Input capacity | Up to 650 sheets (up to 4,650 sheets maximum[18]) Tray 1: up to 100 sheets Tray 2: up to 550 sheets | Up to 650 sheets (up to 4,650 sheets maximum[18]) Tray 1: up to 100 sheets Tray 2: up to 550 sheets | Up to 650 sheets (up to 4,650 sheets maximum[18]) Tray 1: up to 100 sheets Tray 2: up to 550 sheets | Up to 2,300 sheets (up to 4,650 sheets maximum[18][15]) Tray 1: up to 100 sheets Tray 2: up to 550 sheets 3x550-sheet feeder and stand |
| Output capacity | Up to 500 sheets | Up to 800 sheets; including 350-sheet inner finisher with stapler | Up to 500 sheets | Up to 800 sheets; including 350-sheet inner finisher with stapler |
| Two-sided printing | Automatic (*all models*) | | | |
| Media sizes | Tray 1: 12 x 18 in, 11 x 17 in, legal, oficio, letter, letter-R, executive, executive-R, 5 x 8 in, 5 x 7 in, 4 x 6 in; RA3, A3, 8K, B4 (JIS), SRA4, RA4, A4, A4-R, 16K, 16K-R, A5, A5-R, B5 (JIS), B5 (JIS)-R, B6 (JIS), A6, Japanese Postcard, Double Japanese Postcard-R; Custom media sizes: 3.9 x 5 to 12 x 18 in (99.1 x 127 to 304.8 x 457.2 mm) | | | |
| | Trays 2-5: 11 x 17 in, legal, oficio, letter, letter-R, executive, executive-R, 5 x 8 in, 5 x 7 in, 4 x 6 in; A3, 8K, B4 (JIS), SRA4, RA4, A4, A4-R, 16K, 16K-R, A5, A5-R, B5 (JIS), B5 (JIS)-R, B6 (JIS), A6, Japanese Postcard, Double Japanese Postcard-R; Custom media sizes: 8.27 x 5.83 to 11.70 x 17 in (210.1 x 148.1 to 297.2 x 431.8 mm) | | | |
| | HCI Trays 3 and 4: Letter and A4 only | | | |
| | Duplex: 12 x 18 in, 11 x 17 in, legal, oficio (8.5 x 13 in), letter, letter-R, executive, executive-R; 10 x 15 cm, RA3, A3, A4, 8K (260 x 368 mm), 8K (270 x 390 mm), 8K (273 x 394 mm), B4, SRA4, RA4, 16K (184 x 260 mm), 16K (195 x 270 mm), 16K (197 x 273 mm), A5, A5-R, B5 (JIS), B5 (JIS)-R, B6 (JIS), A6, Postcard (JIS), DPostcard (JIS), oficio (216 x 340 mm) | | | |
| | ADF: 11.7 x 39 in, legal, 8.5 x 13 in, letter; A3, ledger, B4-JIS, A4, B5-JIS, A5, B6-JIS, A6 | | | |
| Media weights | Tray 1: 16 to 58 lb (60 to 220 g/m²), 80 lb (300 g/m²) photo paper only | | | |
| | Trays 2-5, HCI: 16 to 58 lb (60 to 220 g/m²) | | | |
| | ADF: 12 to 53 lb (45 to 199 g/m²) | | | |
| Media types | Paper (plain, inkjet, inkjet brochure/glossy), photo paper, envelopes, labels, cards | | | |
| **Print languages** | HP PCL 6, HP PCL 5c, HP postscript level 3 emulation, PDF 1.7 | | | |
| **Fonts** | 105 internal TrueType fonts scalable in HP PCL, 92 internal scalable fonts in HP Postscript level 3 emulation (Euro symbol built-in); 1 internal Unicode Font (Andale Mono WorldType); 2 Internal Windows Vista® 8 Fonts (Calibri, Cambria); additional font solutions available via third-party flash memory cards; HP LaserJet Fonts and IPDS Emulation available at hp.com/go/laserjetfonts | | | |
| **Connectivity** | 1 Hi-Speed Device USB 2.0; 2 Hi-Speed USB 2.0 Host (1 easy-access and 1 external accessible); 1 Gigabit Ethernet 10/100/1000T network; 1 Hardware Integration Pocket[20] | | | |
| | | | Plus: Fax | |
| **Mobile printing** | HP ePrint,[45] Apple AirPrint,[46] Mopria-certified, Google Cloud Print™ 2.0 (*all models*) | | | |
| | Optional: Wireless direct printing[12] and NFC touch-to-print[47] (with purchase of HP Jetdirect 3000w NFC/Wireless Accessory) | | | Plus: Wi-Fi Direct[12] and Bluetooth Low Energy[11] |
| **Network capabilities** | Standard: via HP Jetdirect Ethernet embedded print server supports: 10Base-T, 100Base-Tx, 1000Base-T; 802.3az (EEE) support on Fast Ethernet and Gigabit Ethernet; IPsec | | | |
| | Optional: 802.11a/b/g/n wireless networking (with purchase of optional HP Jetdirect 2900nw Print Server)[33] | | | Plus: 802.11b/g/n wireless networking[12] |
| **Network protocols** | IPv4/IPv6: Apple Bonjour Compatible (Mac OS v10.2.4 or higher), SNMPv1/v2c/v3, HTTP, HTTPS, FTP, TFTP, Port 9100, LPD, WS Discovery, IPP, Secure-IPP, IPsec/Firewall; IPv6: DHCPv6, MLDv1, ICMPv6; IPv4: Auto-IP, SLP, Telnet, IGMPv2, BOOTP/DHCP, WINS, IP Direct Mode, WS Print | | | |

| | HP PageWide Enterprise Color MFP 780dn | HP PageWide Enterprise Color MFP 780dns | HP PageWide Enterprise Color Flow MFP 785f | HP PageWide Enterprise Color Flow MFP 785zs |
|---|---|---|---|---|
| Security | Identity Management: Kerberos authentication, LDAP authentication, 1000 user PIN codes, optional HP and third-party advanced authentication solutions (e.g., badge readers) | | | |
| | Network: IPsec/firewall with Certificate, Pre-Shared Key, and Kerberos authentication, Supports WJA-10 IPsec configuration Plug in, 802.1X authentication (EAP-PEAP, EAP-TLS), SNMPv3, HTTPS, Certificates, Access Control List, HP Trusted Platform Module (TPM) comes standard | | | |
| | Data: Storage Encryption, Encrypted PDF & Email (uses FIPS 140 validated cryptographic libraries from Microsoft), Secure Erase, SSL/TLS (HTTPS), Encrypted Credentials | | | |
| | Device: Security lock slot, USB port disablement, Hardware Integration Pocket for security solutions,[20] Intrusion Detection with Red Balloon Security Technology (constant in-device monitoring for attacks), HP Sure Start Secure Boot (BIOS integrity checking with self-healing capability), Whitelisting (loads only known good code (DLLs, EXEs, etc.)), HP Connection Inspector (checks outgoing network connections to stop suspicious requests; may require a firmware update) | | | |
| | Security Management: Compatible with HP JetAdvantage Security Manager,[23] Device Security Syslog Messages processed and accessible in ArcSight, Splunk, and SIEMonster SIEMs | | | |
| | For more security settings go to http://h10032.www1.hp.com/ctg/Manual/c03602120 | | | |
| Printer management | HP JetAdvantage Security Manager;[23] HP SNMP Proxy Agent; HP Web JetAdmin Software;[22] HP WS Pro Proxy Agent; Printer Administrator Resource Kit for HP Universal Print Driver[27] | | | |
| Compatible operating systems[48] | Windows® OS: Windows 10 all 32- and 64-bit editions (excluding RT OS for Tablets), Windows 7 all 32- and 64-bit editions, Windows 8/8.1 all 32- and 64-bit editions (excluding RT OS for Tablets), Windows Vista all 32-bit editions (Home Basic, Premium, Professional, etc.), Windows XP® SP3 32-bit editions (XP Home, XP Pro, etc.) | | | |
| | Mac OS: 10.12 Sierra, OS X 10.10 Yosemite, OS X 10.11 El Capitan | | | |
| | Mobile OS: Android™ | | | |
| | Linux Boss (5.0), Linux Debian (7.0, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 8.0, 8.1, 8.2, 8.3, 8.4, 8.5, 8.6), Linux Fedora (22, 23, 24), Linux Mint (17, 17.1, 17.2, 17.3, 18), Linux Red Hat Enterprise (6.0, 7.0), Linux SUSE (13.2, 42.1), Linux Ubuntu (12.04, 14.04, 15.10, 16.04, 16.10) | | | |
| | Other OS: UNIX® | | | |
| Compatible network operating systems | Citrix MetaFrame Presentation Server 3.0, Citrix MetaFrame XP Presentation Server (Feature Release 1, 2, and 3), Citrix on Windows Server® 2003/2003R2, Citrix on Windows Server 2008/2008R2/2008 R2 SP1, Citrix on Windows Server 2012/2012R2, Citrix Presentation Server 4.0/4.5, Citrix XenApp 5.0 (plus Feature Pack 2 & 3) for Windows Server 2008 Terminal Services 32- and 64-bit, Citrix XenApp 6.0/6.5 (for Windows Server 2008 R2 Terminal Services, 32- and 64-bit), Citrix XenApp 6.0/6.5/7.5 (for Windows Server 2008 R2 SP1 Terminal Services, 32- and 64-bit), Citrix XenApp 7.5 (for Windows Server 2012 and 2012 R2 Terminal Services, 64-bit), Citrix XenDesktop 5.6 (for Windows Server 2008 R2 Terminal Services, 32- and 64-bit), Citrix XenDesktop 5.6/7.0/7.5 (for Windows Server 2008 R2 SP1 Terminal Services, 32- and 64-bit), Citrix XenDesktop 7.0/7.5 (for Windows Server 2012 and 2012 R2 Terminal Services, 64-bit) | | | |
| | Novell NetWare 6.5/SP8 Novell Clients novell.com/iprint, Novell iPrint Appliance v1.0, Novell Open Enterprise Server 11/SP1, Novell Open Enterprise Server 2 for Linux, Novell Servers novell.com/iprint | | | |
| | Windows Server 2003/2003 R2 32-/64-bit (SP1/SP2) Standard/Enterprise/Datacenter (+ Cluster & Terminal Services), Windows Server 2003/2003 R2 32-bit (SP1/SP2) Standard/Enterprise (+ Cluster & Terminal Services), Windows Server 2008 32-/64-bit (SP2) Standard/Enterprise (+ Cluster & Terminal Services), Windows Server 2008 R2 64-bit (SP1) Standard/Enterprise (+ Cluster & Terminal Services), Windows Server 2008/2008 R2 32-/64-bit (SP1/SP2) Standard/Enterprise/Datacenter (+ Cluster & Terminal Services), Windows Server 2012/2012 R2 64-bit Standard/Foundation/Essentials/Datacenter (+ Cluster & Terminal Services), Windows Server 2016/ 64-bit Standard/ Essential/Datacenter (+ Cluster & Terminal Services) | | | |
| System requirements, Windows | A compatible operating system (see above); 2 GB available hard disk space; OS hardware requirements (see microsoft.com) | | | |
| System requirements, Macintosh | A compatible operating system (see above); Internet; 1.3 GB available hard disk space; OS hardware requirements (see apple.com) | | | |
| Dimensions (width x depth x height) | Operating: 32 x 23.25 x 18 in (813 x 591 x 458 mm)<br>Maximum:[49] 35.25 x 23.25 x 21 in (896 x 591 x 534 mm) | Operating: 32 x 24.25 x 31.125 in (813 x 616 x 791 mm)<br>Maximum:[49] 35.25 x 28.25 x 31.125 in (896 x 718 x 791 mm) | Operating: 32 x 24.25 x 26.75 in (813 x 616 x 680 mm)<br>Maximum:[49] 37.91 x 30.31 x 35.83 in (963 x 770 x 910 mm) | Operating: 32 x 24.25 x 48.125 in (813 x 616 x 1223 mm)<br>Maximum:[49] 35.25 x 28.25 x 48.125 in (896 x 718 x 1223 mm) |
| Weight (with print cartridges) | 153 lb (69 kg) | 181 lb (82 kg) | 153 lb (69 kg) | 272 lb (123 kg) |
| What's in the box | HP PageWide Enterprise Color Multifunction Printer; HP 982 Setup Black PageWide Cartridge (~10,000 pages);[50] HP 982 Setup Cyan PageWide Cartridge, HP 982 Setup Magenta PageWide Cartridge, HP 982 Setup Yellow PageWide Cartridge (CMY composite ~6,000 pages);[50] Installation guide; Support flyer; documentation on CD-ROM; Power cord | | | |
| Warranty | One-year, next-business day, onsite warranty; Warranty and support options vary by product, country, and local legal requirements. Go to hp.com/support to learn about HP award-winning service and support options in your region. | | | |
| Software included[38] | HP Connected, HP Device Experience (DXP), HP PCL 6 (XPS) Printer Driver, HP Software Installer/Uninstaller, Mac OS Welcome Screen (directs users to 123.HP.com or OS App Source for printer software), online user manuals | | | |
| HP SureSupply supported | HP SureSupply alerts you when your print cartridge is running low and helps you purchase online or locally through HP or a participating retailer. Only available with Original HP supplies; Internet access required. To learn more, visit hp.com/go/SureSupply. | | | |

# Environmental and power specifications

| | HP Pagewide Enterprise Color MFP 780dn | HP Pagewide Enterprise Color MFP 780dns | HP Pagewide Enterprise Color Flow MFP 785f | HP Pagewide Enterprise Color Flow MFP 785zs |
|---|---|---|---|---|
| **Environmental ranges** | | | | |
| Temperatures | Recommended operating: 63 to 77º F (17 to 25º C); Operating: 59 to 86º F (15 to 30º C); Storage before initial setup (Non-Purged): -40 to 140º F (-40 to 60º C); Storage after initial setup (Purged): 32 to 140º F (0 to 60º C).[51] | | | |
| Relative Humidity | Recommended operating range: 30 to 70% RH; Operating range: 10 to 80% RH; Non-operating range: 10 to 80% RH | | | |
| **Acoustic pressure emissions[52]** | Ready mode: inaudible; Active print: 53 dB(A); Active copy: 54 dB(A); Active scan: 56 dB(A) | Ready mode: inaudible; Active print: 51 dB(A); Active copy: 54 dB(A); Active scan: 58 dB(A) | Ready mode: inaudible; Active print: 54 dB(A); Active copy: 56 dB(A); Active scan: 57 dB(A) | Ready mode: inaudible; Active print: 51 dB(A); Active copy: 54 dB(A); Active scan: 58 dB(A) |
| **Acoustic power emissions** | Ready mode: inaudible; Active print: 6.7 B(A); Active copy: 6.9 B(A); Active scan: 7.1 B(A) | Ready mode: inaudible; Active print: 6.6 B(A); Active copy: 6.9 B(A); Active scan: 7.3 B(A) | Ready mode: inaudible; Active print: 6.8 B(A); Active copy: 7.0 B(A); Active scan: 7.2 B(A) | Ready mode: inaudible; Active print: 6.6 B(A); Active copy: 6.9 B(A); Active scan: 7.3 B(A) |
| **Power specifications.[53]** | | | | |
| Power supply | Built-in; Input voltage: 100 to 240 VAC, 50/60 Hz | | | |
| Power consumption | Printing/copying: 600 watts; Ready: 42 watts; Sleep: 1.4 watts; Auto-Off/Manual On: 0.2 watts; Manual Off: 0.2 watts | | Printing/copying: 660 watts; Ready: 42 watts; Sleep: 1.6 watts; Auto-Off/Manual On: 0.2 watts; Manual Off: 0.2 watts | |
| Typical Electricity Consumption (TEC) | 1.61 kWh/week | | 2.01 kWh/week | 2.02 kWh/week |
| Energy-saving features | HP Auto-On/Auto-Off Technology[54] (*all models*) | | | |
| **Environmental specifications** | ENERGY STAR® certified; EPEAT® Silver[55] (*all models*) | | | |
| **Safety and regulatory compliance** | EN 60950-1:2006 + A11:2009 +A1:2010 +A12:2011 +A2:2013; IEC 60950-1:2005 +A1:2009 +A2:2013; EN 62471:2008/IEC 62471:2010; EN 62479:2010/IEC 62479:2010; China CCC, GS, UL Listed; Other safety approvals as required by individual countries | | | |
| **Electromagnetic emission standard** | CISPR 22:2008 Class A, CISPR 32:2012 Class A, EN 55032:2012 Class A, FCC CFR 47 Part 15 Class A/ICES-003, Issue 6 Class A, EN 61000-3-3:2013, EN 61000-3-2:2014; Other EMC approvals as required by individual countries | | | |
| | | | | Plus: EN 301 489-1 v2.1.1, EN 301 489-17 v3.1.1 |
| **Telecom compliance** | | | | ES 203 021-1 v2.1.1; ES 203 021-2 v2.1.2; ES 203 021-3 v2.1.2; FCC Rules and Regulations 47 CFR Part 68; Other Telecom approvals as required by individual countries |
| | | | | Plus: EN 300 328 v2.1.1, EN 300 330-2 v1.6.1, EN 301 893 v2.0.7 |

# Ordering information

Use accessories and supplies specifically designed for the MFP to help provide efficient performance. To order the accessories and supplies listed here, go to hp.com. To contact HP by country, please visit hp.com/go/contact. If you don't have access to the Internet, contact your qualified HP dealer or call HP (U.S.) at (800) 282-6672.

| Product | | |
|---|---|---|
| | HP PageWide Enterprise Color MFP 780dn | J7Z09A |
| | HP PageWide Enterprise Color MFP 780dns | J7Z10A |
| | HP PageWide Enterprise Color Flow MFP 785f | J7Z11A |
| | HP PageWide Enterprise Color Flow MFP 785zs | J7Z12A |

| Supplies[50] | | |
|---|---|---|
| | HP 982A Black Original PageWide Cartridge (~10,000 pages) | T0B26A |
| | HP 982X High Yield Black Original PageWide Cartridge (~20,000 pages) | T0B30A |
| | HP 982A Cyan Original PageWide Cartridge (~8,000 pages) | T0B23A |
| | HP 982X High Yield Cyan Original PageWide Cartridge (~16,000 pages) | T0B27A |
| | HP 982A Yellow Original PageWide Cartridge (~8,000 pages) | T0B25A |
| | HP 982X High Yield Yellow Original PageWide Cartridge (~16,000 pages) | T0B29A |
| | HP 982A Magenta Original PageWide Cartridge (~8,000 pages) | T0B24A |
| | HP 982X High Yield Magenta Original PageWide Cartridge (~16,000 pages) | T0B28A |
| | HP PageWide Printhead Wiper Kit (~150,000 pages) | W1B43A |
| | HP PageWide Service Fluid Container (~150,000 pages) | W1B44A |
| | HP PageWide Roller Kit (~150,000 pages) | W1B45A |
| | HP PageWide ADF Maintenance Kit (~150,000 pages) | J8J95A |
| | HP Staple Cartridge Refill (5,000 staples) | J8J96A |

| Accessories | | |
|---|---|---|
| | HP PageWide 550-sheet Paper Tray | A7W99A |
| | HP PageWide 550-sheet Paper Tray and Stand | W1B50A |
| | HP PageWide 3x550-sheet Paper Tray and Stand | W1B51A |
| | HP PageWide 4000-sheet HCI Paper Tray and Stand | W1B52A |
| | HP 1 GB DDR3 x 32 144-Pin 800 MHz SODIMM | E5K48A |
| | HP Foreign Interface Harness | B5L31A |
| | HP Jetdirect 2900nw Print Server | J8031A |
| | HP Jetdirect 3000w NFC/Wireless Accessory[47] | J8030A |
| | HP LaserJet MFP Analog Fax Accessory 500 | CC487A |
| | HP Internal USB ports | B5L28A |

| HP Services | | |
|---|---|---|
| Boost performance—it's your choice. HP Care provides options to help you manage imaging and printing—from Care Pack services to customizable and advisory services. With HP Managed Print Services, we oversee everything for you. | Make sure your imaging and printing investments are protected with Care Pack, part of HP Care. Pick your package of services to keep your MFP running and your business moving. Now your office can spend less time trouble-shooting and more time getting things done. For a complete listing of HP Care Pack Service offerings, visit hp.com/go/cpc. [56] | |
| | HP Installation Service with Network Workgroup Printer | U9JT2E |
| | HP 3 year Next Business Day Onsite | U9NP3E |
| | HP 4 year Next Business Day Onsite | U9RJ7E |
| | HP 5 year Next Business Day Onsite | U9NP5E |
| | HP 3 year 4 Hour 9x5 Onsite | U9NP6E |

| Solutions | |
|---|---|
| | HP Web Jetadmin: hp.com/go/wja |
| | HP Universal Print Driver: hp.com/go/upd |
| | HP JetAdvantage Security Manager: hp.com/go/securitymanager |
| | HP JetAdvantage On Demand Cloud Solutions: hp.com/go/jetadvantageondemand |
| | HP LaserJet Fonts, Barcodes, and IPDS Emulation available at hp.com/go/laserjetfonts |
| | To learn more about available infrastructure, management, and workflow solutions, visit hp.com/go/printing solutions |

# Appendix A: Control panel features

## Upgrade to a modern interface

The HP PageWide Enterprise Color MFP 780, 785 series is powered by HP FutureSmart 4.0 firmware. Its modern, tablet-like interface keeps things simple and intuitive across your fleet of Enterprise devices. A scalable control panel interface improves future extensibility and allows for customization, along with a robust set of new apps and usability features. You can even customize with your own wallpaper image and company logo. The new Message Center, with more detailed information and helpful animations, makes it easy to address device events. The simplified home screen displays just four core apps by default (three apps for products without fax). Additional apps are easily accessed by swiping right to left, like with a smartphone or tablet.
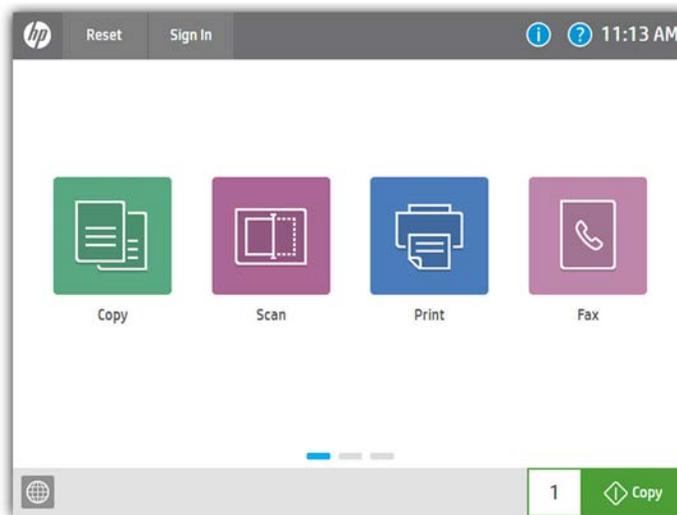


## Edit jobs right at the MFP

The control panel features an enhanced image preview—now for both copies and scans. Right from the device's 8.0-inch (20.3 cm) color touchscreen control panel, you can easily preview and edit scans before sending them. You can apply changes (like rotating) to a single page, or to multiple pages at once. Batch separation allows users to create separate PDF or PDF/A files from scanned pages. The Flow MFP 785f and 785zs models can also create PDF OCR and PDF/A OCR files.

The new user interface enables **swiping**, **rotate**, and **drag-and-drop** capabilities
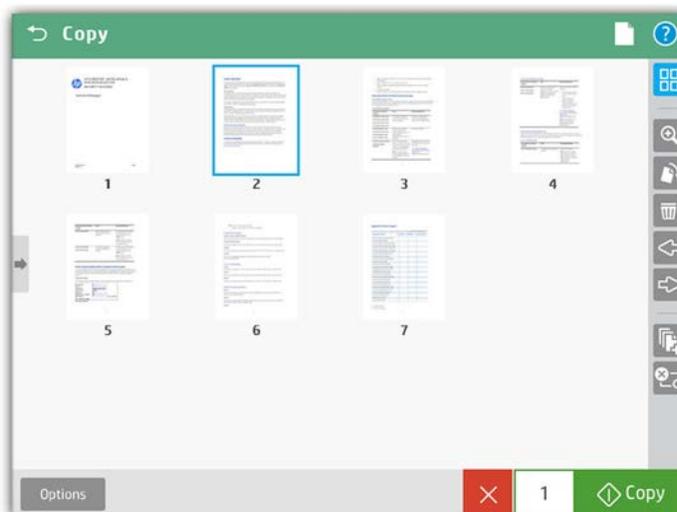


- Zoom
- Rotate pages
- Delete pages
- Change page order
- Add pages (job build)
- Cancel job

You can start a **preview** prior to committing to the copy job

# Use Quick Sets to launch automated workflows

The MFP's digital sending capability allows users to route documents to a variety of destinations like email recipients, network folders, fax, FTP, a USB device, or Microsoft SharePoint.

Quick Sets automate all of the steps of a complicated workflow and provide easy access to the configurations you use most, such as page size, resolution, and file format. You can also specify security settings, such as encrypted PDFs to be delivered through encrypted and signed emails.

Help users find what they need by moving individual Quick Sets to any screen or folder using the home screen customization feature. With Quick Sets, IT can promote or block access to certain device features. Calls to the helpdesk can be reduced when users have everything they need and are restricted from accessing settings they shouldn't tamper with.

Easily access **Quick Sets**
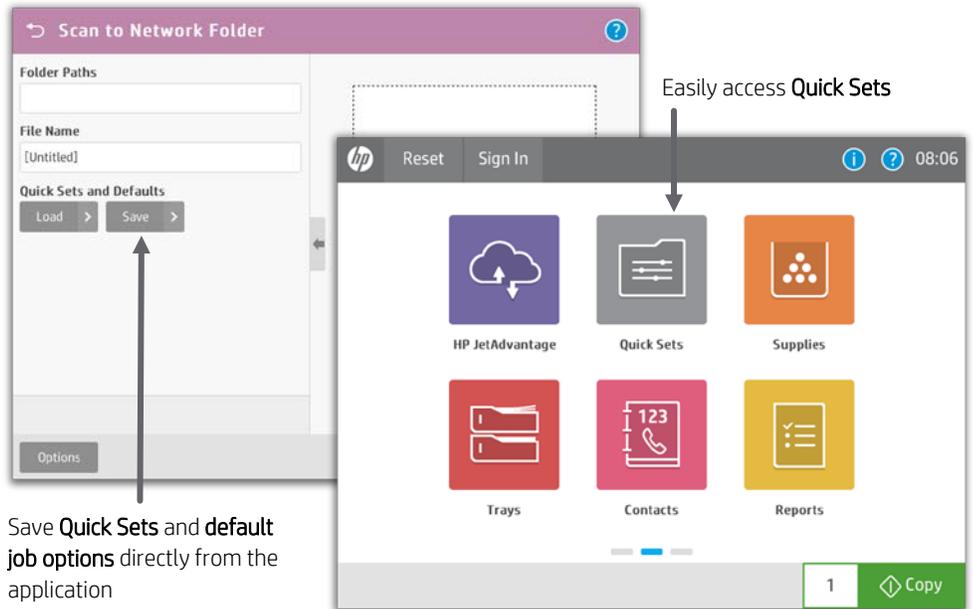
Save **Quick Sets** and **default job options** directly from the application

# Troubleshoot with ease

The HP PageWide Enterprise Color MFP 780, 785 series can help save your IT department valuable time when it comes to troubleshooting problems. The Remote Control Panel allows users to operate the user interface remotely, so IT can troubleshoot problems without running to the MFP.[57] Users can also quickly troubleshoot technical issues with HP's innovative, cloud-based Online Help services that are relevant and up to date. Easily solve problems from your PC or mobile device. A Quick Response (QR) code on the touchscreen links to Online Help using smart phones and tablets.[58] You can also find these links in the HP Embedded Web Server event log.
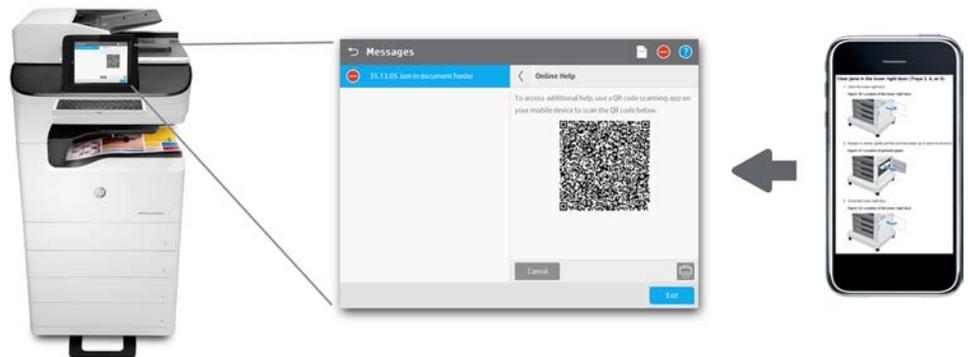
# Appendix B: Security features

## The world's most secure printing[2]

The HP PageWide Enterprise Color MFP 780, 785 series is designed to work together with security solutions to help reduce risk, improve compliance, and protect your network from end to end. Protect your device, data, and documents with built-in and optional security features.[19]

**Protect your device**
As capabilities expand and devices become more integrated into your work, device security becomes increasingly important. These features help protect the 780, 785 series:

- **Embedded protection:** Multi-level, built-in features help protect your MFP against complex security threats from boot up to shut down. For details, see hp.com/go/PrintersThatProtect.
  - HP Sure Start helps the device BIOS to boot up properly every time with unaltered HP genuine code and without corruption. If an anomaly is detected, the device can repair itself by rebooting.
  - Whitelisting helps the device firmware to load properly with HP genuine code—without corruption—every time.
  - Run-time intrusion detection guards against malware, by continually monitoring activity to detect and stop attacks. If an anomaly is detected, the device automatically reboots.
  - HP Connection Inspector checks your MFP's outgoing network connections to stop suspicious requests and thwart malware by automatically triggering a self-healing reboot. (May require a firmware update.)
- **Encrypted storage with secure erase:** The MFP comes with built-in encryption to protect data. When stored data is no longer needed, use built-in device capabilities to securely overwrite data and safely remove sensitive information. HP offers multiple mechanisms to erase stored data, including functionality that is designed to conform to U.S. National Institute of Science and Technology (NIST) Special Publication 800-88.
- **Ports and protocols:** FTP and Telnet are closed by default to help prevent unsecure protocols from being used. Unused physical ports (such as host USB ports or network ports) can be disabled to prevent unauthorized use.
- **Administrator access control for device:** You can set administrator passwords so only IT staff or other authorized personnel can set up and configure device settings.
- **Common Criteria Certification:** HP Enterprise devices are certified as compliant with internationally recognized security standards, such as Common Criteria Certification (CCC) and FIPS 140.

**Protect your data**
Your MFP harbors sensitive information—make sure it's not at risk.

- **Network protection:** 802.1x or IPsec encrypted network standards can help protect data travelling over the network between the device and management tools such as HP Web Jetadmin[22] or the Embedded Web Server.
- **Encrypt data in transit:**
  - Protect print jobs traveling to the device with encryption such as Internet Print Protocol over TLS (IPPS). Or, Secure Encrypted Print with HP Universal Print Driver[27] provides true symmetric AES256 print job encryption and decryption from the client to the page based on a user-defined password using FIPS 140 validated cryptographic libraries from Microsoft.
  - Use CipherSuite Encryption Strength to select encryption strength to prevent the use of legacy or insecure protocols for data in transit.
  - Scanned PDFs and emails can be encrypted using built-in FIPS 140 validated cryptographic libraries from Microsoft.
  - HP offers a rich portfolio of HP JetAdvantage Workflow Solutions that provide advanced capture and route capabilities with enterprise level security. For more information, visit hp.com/go/documentmanagement.
- **Encrypt data at rest:**
  - The HP High-Performance Secure Hard Disk provides full 256-bit AES hardware encryption to protect sensitive business information, such as print jobs or passwords.
  - The HP Trusted Platform Module (TPM) helps strengthen protection of encrypted credentials and data by automatically sealing device encryption keys to the TPM. It provides secure device identity by generating and protecting certificate private keys.[21]

**Resources**

HP JetAdvantage Security Solutions:

- Web site: hp.com/go/printsecurity
- Solution brief:
  http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA3-1295ENW.pdf
- Video:
  http://hp.brightcovegallery.com/products/detail/video/4270905124001/

HP JetAdvantage Security Manager:[23]

- Web site: hp.com/go/securitymanager
- Brochure:
  http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA3-9275ENW.pdf
- Video:
  http://hp.brightcovegallery.com/products/detail/video/4270837770001/

- **Firewall:** Prevent malware and viruses from entering your network by limiting printer access to computing devices in network.
- **Authentication and authorization:** Manage user access using native features or optional solutions.
  - With native user authentication, you can require users to sign in with PIN/PIC, LDAP, or Windows/Kerberos authentication. You can also integrate these with Active Directory.
  - With optional authentication solutions like HP Access Control, you can enable advanced authentication using proximity cards or NFC-enabled mobile devices. To learn more, visit hp.com/go/hpac. The Hardware Integration Pocket enables integration of select card readers.[20]
- **Role-based access controls:** Restrict access to management utilities, avoid unwanted device configurations, and help reduce costs and security risks through printer feature restrictions.
  - With HP FutureSmart 4, you have more control than ever before over device security and permission settings. IT administrators can decide who can interact with certain device capabilities.
  - Optional HP Access Control Rights Management allows you to give different capabilities to different users, or even entire departments, depending on their needs. For example, you can limit who can fax, scan to email, or scan to fax.
- **Mobile printing:** Wi-Fi Direct,[12] Bluetooth Low Energy,[11] and NFC touch-to-print[47] allow mobile users to connect to the MFP without accessing the company network. HP also offers server-based mobile print solutions that provide secure pull printing, as well as advanced management and reporting capabilities. For more information about HP JetAdvantage Connect and HP Access Control, please visit hp.com/go/businessmobileprinting.
- **CA and Device Identity Certificates:** This MFP supports identity certificates signed by a corporate certificate authority, which provides verification of identity and authenticity. This device also supports CA certificates for validation of identity certificates. Certificates can enable secure end-to-end communications with the device when used with features like IPsec, Secure-IPP, HP ePrint, and more. Additional certificates can be stored for validating S/MIME email servers and 802.1x authentication. Save time by using HP JetAdvantage Security Manager to automatically install and renew certificates.[23]

### Safeguard your physical documents
HP offers several solutions to help keep documents from falling into the wrong hands and help prevent fraud.

- **PIN/Pull printing:** Have documents held and released only to the person who printed them. Pull printing solutions help protect sensitive data by requiring authentication at the device, and give users the flexibility of pulling the documents from any device that is enabled with the solution.
  - Built-in PIN printing: When users send confidential print jobs, they assign a PIN which they must enter at the device to release the job.
  - HP JetAdvantage Secure Print: With this affordable solution designed for SMB, jobs can be stored in the cloud or on the user's desktop. It's easy to set up and use, allows users to release jobs from a mobile device, and supports multi-vendor devices. For more information, visit hp.com/go/JetAdvantageSecurePrint.[59]
  - HP JetAdvantage Private Print: With HP's free cloud-based solution you get the advantages of pull printing, without the complexity. It is simple to set up and does not require a server, installation, or maintenance. To learn more, visit hp.com/go/JetAdvantagePrivatePrint.[60]
  - HP Access Control Secure Pull Printing: This optional robust server-based solution offers multiple forms of authentication including badge release, as well as enterprise level security, management, and scalability. To learn more, visit hp.com/go/hpac.

# Easily manage security across the fleet

**HP JetAdvantage Security Manager**
Easily set security configuration policies and automatically validate settings for every HP printer in your fleet. Optional HP JetAdvantage Security Manager offers an effective, policy-based approach.[23]

- Automate many tedious tasks so you can free up time for your IT staff and protect the data and documents that matter most to your business.
- Streamline the process to securely deploy and monitor devices by applying a single security policy across the fleet.
- Easily create a print security policy for your environment by leveraging the HP Security Manager Base Policy template.
- Secure new HP devices as soon as they are added to your network, or after a reboot, with HP Instant-on Security. The software automatically configures settings to comply with your corporate security policy.
- Improve the security of your infrastructure and device communications by deploying unique identity certificates and monitoring to ensure they remain valid. With HP Security Manager's efficient fleet management of certificates, the administrative overhead to install certificates across your fleet is now less than manually installing on a single device.
- Actively maintain and verify compliance with your defined security policies by using HP Security Manager automated monitoring and risk-based reporting.



| Create/review policy | Add devices | Assess devices | Remediate devices | Renew certificates | Review results |

**HP JetAdvantage Security Manager**

To learn more about HP JetAdvantage Security Manager, please visit hp.com/go/securitymanager.

**Works with SIEM tools**

Get instant notification of potential security issues so immediate action can be taken to prevent potential attacks. Event data from HP Enterprise devices can be sent to Security Information and Event Management (SIEM) tools such as ArcSight, Splunk, or SIEMonster for real-time monitoring. IT security can easily view printer endpoints as part of the broader IT ecosystem to detect and resolve printer security alerts.

# HP security best practices

Since 2005, HP has published security best practice checklists for networked environments common to enterprises and small to medium businesses. For more information on HP security solutions and checklists, please visit hp.com/go/printsecurity.

**HP JetAdvantage Security Manager**
Secure your HP printing fleet with the solution Buyers Laboratory (BLI) calls trailblazing.[23]

# Appendix C: Fleet management features

## Efficiently manage from a central location

The HP PageWide Enterprise Color MFP 780, 785 series is supported by HP Web Jetadmin,[22] an HP JetAdvantage Management Solution. This single solution allows you to efficiently manage a wide variety of networked and PC-connected devices, including printers, multifunction products, and scanners. Remotely install, configure, troubleshoot, safeguard, and manage your devices— ultimately increasing business productivity by helping you save time, control costs, protect your assets, and provide a better return on your investment. Easily integrate new HP LaserJet Pro and Enterprise devices without having to upgrade HP Web Jetadmin. A universal plug-in lets you support most features of new devices and apply corporate policies in one step—helping to save time and simplify device management.[22]

HP Web Jetadmin enables you to:

- Gain a clear picture of how many and what kinds of devices you have.
- Get visibility into your supplies usage, so you can make smarter purchasing decisions, reduce spending, and even track and allocate printing costs to individual departments or users.
- Simplify, and, in many cases, automate routine tasks. For example, you can apply fleet-wide policies to automatically configure new devices with the right printing and security settings when they're added to your network.
- Give your help desk staff the tools they need—such as automatic alerts—to resolve problems quickly, and often proactively, before a call is even received.
- Verify that your devices are up-to-date with the latest firmware and are properly configured (especially important for organizations that need to meet regulatory requirements).
- Use robust tracking and reporting tools to help you make better decisions about how your devices are deployed across your organization, so you can make the most of your IT investments.
- Take advantage of additional options, like the HP Database Connectivity Module, which works together with Web Jetadmin to help you establish and help achieve environmental goals.
- Get the ultimate in investment protection with HP Web Jetadmin Premium Support. This expanded service option gives your staff access to HP's dedicated software support engineers, who provide advice, usage recommendations, problem diagnosis, and more.

HP Web Jetadmin can benefit IT-managed print environments of all sizes, from large enterprises managing thousands of devices to small businesses with just a handful. For more information—or to download this software tool at no additional charge—visit hp.com/go/wja.

## Make it easy for all to print with one common driver

The HP Universal Print Driver (UPD) enables both mobile Microsoft device users and traditional desktop users to access the full features of nearly every HP device in your managed printing environment without the need for assistance.[27]

Eliminate the clutter on your computer by replacing multiple print drivers with one versatile solution. Empower IT by dramatically reducing the number of drivers they have to manage—and by giving them the tools they need to improve efficiency. With the HP UPD, your IT team can easily adjust device settings to help reduce printing costs, improve security, and help meet environmental goals. For example, it's simple to push two-sided printing or quicker sleep times across the fleet. Plus, the valuable tools in the HP UPD Printer Administrator's Resource Kit help you save time and money by streamlining IT tasks, implementing printing policies, and monitoring usage across the enterprise. You can also use the HP UPD in tandem with HP Web Jetadmin to create fleet-wide managed printer lists, reports, and more.

You can download this valuable fleet driver solution and the tools in the Printer Administrator's Resource Kit for no additional charge. For more information about how the HP Universal Print Driver can help you protect your imaging and printing investment, simplify management, and boost productivity, visit hp.com/go/upd.

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**Simple one-to-one device management**
The MFP can also be managed using the HP Embedded Web Server. Use a web browser to monitor status, configure network parameters, or access device features.

**Control color access**
Use HP Web Jetadmin[22] and the HP Universal Print Driver[27] to assign color access by user, time of day, or application, or disallow color output completely until it's needed for special projects. People who truly need to leverage the power of color—such as your sales team and marketing department—can, while others automatically default to black-and-white output.[26]

**Resources**
HP Web Jetadmin:

- Web site: hp.com/go/wja
- Solution brief: http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA5-2718ENW.pdf
- Video: http://hp.brightcovegallery.com/solutions/detail/video/4271055504001/

HP Universal Print Driver:

- Web site: hp.com/go/upd
- Solution brief: http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA2-4781ENW

[1] Lowest cost per color page claim applies to devices that are not sold under contract: Comparison of HP PageWide A3 devices with the majority of in-class color ink/laser MFPs ($3,000–$7,499), and color ink/laser single function printers ($1,500-$2,999) as of January/February 2017; market share as reported by IDC as of Q4 2016. Cost per page (CPP) reported by Gap Intelligence Pricing & Promotions Report January/February 2017, comparisons for devices/supplies not sold under contract are based on published specifications of the manufacturers' highest-capacity cartridges, inclusive of long-life consumables and page yield. Average HP yield based on ISO/IEC 24711 and continuous printing in default mode. Actual yield varies based on content of printed pages and other factors. For more information, see hp.com/go/learnaboutsupplies and hp.com/go/PageWideClaims.

[2] HP's most advanced embedded security features are available on HP Enterprise-class devices with FutureSmart firmware 4.5 or above and is based on HP review of 2016-2017 published embedded security features of competitive in-class printers. Only HP offers a combination of security features for integrity checking down to the BIOS with self-healing capabilities. For a list of compatible products, visit: hp.com/go/PrintersThatProtect. For more information, visit: hp.com/go/printersecurityclaims.

[3] Energy claim based on TEC data reported on energystar.gov as of March 2017. Data normalized to determine energy efficiency of in-class A3 color laser printers ($1,500-$2,999) and MFPs ($3,000–$7,499) as of February 2017, excluding other HP PageWide products. Subject to device settings. Actual results may vary.

[4] High-yield cartridges are not included in printer purchase; purchase separately. Comparison is based on ISO 24711 cartridge yields for HP 982X series High-Yield Original PageWide Cartridges compared with HP 982A series Original PageWide Cartridges. Learn more at hp.com/go/learnaboutsupplies.

[5] Comparison based on printing in Professional Mode.

[6] Fewer service parts claim based on BLI analysis of leading in-class A3 MFPs as of August 2016; calculations use publicly available and/or published manufacturer rated yields for long-life consumables and assume 600,000 pages printed (using a 60% black/40% color ratio). Learn more at hp.com/go/pagewideclaims.

[7] Program availability varies. For more information, visit hp.com/recycle.

[8] Comparison of HP PageWide A3 devices with the majority of in-class color ink/laser MFPs ($3,000-$7,499 and €2,820-€7,049), and color ink/laser single function printers ($1,500-$2,999 and €1,410-€2,819) as of April 2017; market share as reported by IDC as of Q4 2016, excluding other HP PageWide products. HP PageWide speeds based on General Office mode and exclude first page. Learn more at hp.com/go/printerspeeds.

[9] The HP PageWide Enterprise Color MFP 780 series prints up to 45/65 ppm, letter and A4, simplex (Professional mode/General Office mode). The HP PageWide Enterprise Color Flow MFP 785 series prints up to 55/75 ppm, letter and A4, simplex (Professional mode/General Office mode). ISO speeds measured using ISO/IEC 24734. Excludes first page or first set of ISO test pages. For details see hp.com/go/printerclaims

[10] Scan speed measured from ADF at default 300 dpi (black-and-white, grayscale, and color). Actual processing speeds may vary depending on scan resolution, network conditions, computer performance, and application software.

[11] Bluetooth® Low Energy is standard only on the HP PageWide Enterprise Color Flow MFP 785zs, and it cannot be added to other models.

[12] Wi-Fi Direct printing is embedded in the HP PageWide Enterprise Color Flow MFP 785zs model. All other models can add wireless direct by purchasing the optional HP Jetdirect 3000w NFC/Wireless Direct Accessory. Mobile device needs to be connected directly to the signal of a Wi-Fi Direct® supported MFP or printer prior to printing. Depending on mobile device, an app or driver may also be required. For details, see hp.com/go/mobileprinting. Wi-Fi Direct is a registered trademark of Wi-Fi Alliance®.

[13] Fax capability is optional on the HP PageWide Enterprise Color MFP M780 series; it is included on the Flow MFP 785 series models.

[14] Requires an Internet connection to the printer. Services may require registration. App availability varies by country, language, and agreements. For details, see hpconnected.com.

[15] The 3x550-sheet Paper Tray and Stand comes standard with the HP PageWide Enterprise Flow MFP 785zs. Optional accessories can be purchased and used in place of 3x550-sheet Paper Tray and Stand. Only one accessory Tray/Stand can be used.

[16] Standard and optional paper-handling accessories vary by model. See Series at a glance tables, page 7, for details.

[17] 350-sheet inner finisher is available on the HP PageWide Enterprise Color MFP 780dns and Flow MFP 785zs models only. Those models have a maximum output capacity of 800 sheets. Models without the inner finisher have a maximum output capacity of 500 sheets.

[18] Purchase of optional paper tray required to reach maximum input capacity.

[19] Some features require additional purchase. A FutureSmart service pack update may be required to activate security features. Learn more at hp.com/go/printsecurity.

[20] Solutions deployed through the Hardware Integration Pocket (HIP) may require additional purchase.

[21] Use of the standard HP Trusted Platform Module accessory may require a firmware upgrade.

[22] HP Web Jetadmin is available for download at no additional charge at hp.com/go/wja.

[23] HP JetAdvantage Security Manager must be purchased separately. For details, see hp.com/go/securitymanager. Competitive claim based on HP internal research on competitor offerings (Device Security Comparison, January 2015) and Solutions Report on HP JetAdvantage Security Manager 2.1 from Buyers Laboratory LLC, February 2015.

[24] Based on an HP assessment of print manufacturers SaaS offerings as of September 1, 2016, no other print manufacturer offers a single cloud portal for user and app management.

[25] Requires Internet access. Supported browsers include Microsoft® Internet Explorer® 9-11, Google Chrome™ 9 and newer, Mozilla® Firefox® 4 and newer, and Safari® 5 and newer. Compatible with select HP LaserJet, PageWide, OfficeJet Pro, and Digital Sender Flow devices that can connect to the Internet. Some apps support multi-vendor environments. May require a firmware upgrade. Learn more at hp.com/go/jetadvantageondemand.

[26] Color access control capabilities vary from device to device.

[27] The HP Universal Print Driver is available for download at no additional charge at hp.com/go/upd.

[28] The 200-sheet ADF can scan documents up to 11.7 x 17 in (297 x 432 mm), as well as up to 11.7 x 39 in (297 x 1000 mm) when "long scan size" is selected.

[29] The HP PageWide Enterprise Color MFP 780 series has a recommended monthly scan volume (RMSV) of 2,000 to 50,000 pages. The HP PageWide Enterprise Color Flow MFP 785 series has an RMSV of 2,000 to 75,000 pages. HP recommends that the number of scanned pages per month be within the stated range for optimum device performance, based on factors including supplies replacement intervals and device life over an extended warranty period.

[30] The pull-out keyboard and HP EveryPage are only available on the HP PageWide Enterprise Color Flow MFP 785f and 785zs models.

[31] The HP PageWide Enterprise Color MFP 780, 785 series supports paper sizes up to 12 x 18 inches (305 x 457 mm) in the 100-sheet multipurpose tray, which comes standard with all models. All models also include one standard 550-sheet tray that supports up to 11.7 x 17 inches (297 x 432 mm). The Flow MFP 785zs also comes standard with the 3x550-sheet paper tray and stand that supports up to 11.7 x 17 inches (297 x 432 mm), but optional accessories can be purchased and used in place of 3x550-sheet Paper Tray and Stand. All other models can add one of the following paper-handling accessories: 550-sheet paper tray, 550-sheet paper tray and stand, 3x550-sheet paper tray and stand, or 4,000-sheet HCI paper tray and stand. The 550-sheet trays support up to 11.7 x 17 inches (297 x 432 mm). The optional HCI tray supports up to letter (A4) size. The maximum number of trays that the HP PageWide Enterprise Color MFP 780, 785 series can support is five.

[32] Wireless performance is dependent on physical environment and distance from access point. Wireless operations are compatible with 2.4 GHz routers only.

[33] The HP PageWide Enterprise Color MFP 780 series and Flow MFP 785f models can add wireless networking with the purchase of the optional HP Jetdirect 2900nw Print Server. Wireless performance is dependent on physical environment and distance from access point, and may be limited during active VPN connections.

[34] Recommended Monthly Page Volume: HP recommends that the number of printed pages per month be within the stated range for optimum device performance, based on factors including supplies replacement intervals and device life over an extended warranty period.

[35] An administrator must enable the easy-access USB port before use.

[36] Measured using ISO/IEC 17629. Exact speed for first page out varies depending on the system configuration, software application, driver, and document complexity. Learn more at hp.com/go/printerclaims.

[37] Measured after 15 minutes in sleep. Exact speed varies depending on the system configuration, software application, driver, document complexity, and time in sleep.

[38] Scan software not included in box. HP Scan and TWAIN driver available for download: hp.com/support.

[39] An administrator must enable the Scan to SharePoint feature before use.

[40] First Copy Out and Copy Speed measured using ISO/IEC 29183, excludes first set of test documents. For more information see hp.com/go/printerclaims. Exact speed varies depending on the system configuration, software application, driver, and document complexity.

[41] Based on standard ITU-T test image #1 at standard resolution and MMR encoding, the HP fax device can transmit at 3 sec/page for V.34 and 6 sec/page for V.17.

[42] Future firmware updates may support 4608 MB by adding DIMM memory module.

[43] Future firmware updates may support 6656 MB by adding DIMM memory module.

[44] Duty cycle is defined as the maximum number of pages per month of imaged output. HP recommends that the number of printed pages per month be within the stated range for optimum device performance, based on factors including supplies replacement intervals and device life over an extended warranty period.

[45] Printer requires ePrint account registration. App or software may be required. Wireless operations are compatible with 2.4 GHz operations only. Learn more at hp.com/go/mobileprinting.

[46] Supports the following devices running iOS 4.2 or later: iPad®, iPad 2, iPhone® (3GS or later), iPod® touch (3rd generation or later). Works with HP's AirPrint®-enabled printers and requires the printer be connected to the same network as your iOS device. Wireless performance is dependent on physical environment and distance from the access point.

[47] Touch-to-print capability is optional for all models (except the Flow 785zs) with the purchase of the optional HP Jetdirect 3000w NFC/Wireless Direct Accessory. Mobile device must support Near Field Communication (NFC)-enabled printing. For more information, see hp.com/go/businessmobileprinting.

[48] Full solution software available only for Windows 7 and newer, UPD software available only for Windows 7 and newer, HP Software for Mac and Windows is no longer included on the CD, but can be downloaded from 123.hp.com, Legacy Windows Operating Systems (XP, Vista, and equivalent servers) get print and scan drivers only with a reduced feature set, Windows RT OS for Tablets (32- and 64-bit) uses a simplified HP print driver built into the RT OS.

[49] Maximum dimensions of the device are measured with all paper trays folded out and standard accessories installed.

[50] Toner cartridge yields established using ISO/IEC test standards. Actual yields and costs vary considerably depending on images printed, number of color pages printed, and other factors.

[51] If stored below the lowest specified operating temperature, unit must slowly warm up to an approved operating temperature (HP recommends waiting 24 hours at approved operating temperature prior to using the printer).

[52] Printing mono simplex A4 at 46 ppm (780 series) and 56 ppm (785 series). Scanning mono simplex A4 at 114 ipm (780 series) and 129 ipm (785 series). Acoustic values are subject to change. For current information, see hp.com/support.

[53] Power requirements are based on the country/region where the printer is sold. Do not convert operating voltages. This will damage the printer and void the product warranty.

[54] HP Auto-On/Auto-Off Technology capabilities are subject to printer and settings.

[55] EPEAT® registered where applicable. EPEAT registration varies by country. See epeat.net for registration status by country.

[56] Service levels and response times may vary depending on your geographic location. Service starts on date of hardware purchase. Restrictions and limitations apply. For details, visit hp.com/go/cpc.

[57] Availability dependent on firmware or software updates or upgrades.

[58] Online Help must be enabled on the printer or MFP. Mobile device must have an Internet connection to access online services.

[59] HP JetAdvantage Secure Print works with any network-connected printer or MFP. On-device authentication is available for many HP LaserJet, PageWide, and OfficeJet Pro devices and selected non-HP devices. Some devices may require a firmware upgrade. Internet connection required for cloud storage and retrieval of print jobs. Print-job release from a mobile device requires a network connection and QR code. For more information and a list of supported printers and MFPs, see hp.com/go/JetAdvantageSecurePrint.

[60] Available only in North America and select European countries. Card reader is available for separate purchase for selected HP printers and MFPs with touchscreens. Learn more at hp.com/go/JetAdvantagePrivatePrint.

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