Unmatched performance. Deepest security.

HP LaserJet Managed E50045dw
HP LaserJet Managed MFP E52545 series

Unparalleled fleet security and management

Accelerate your work and use less energy

More. Pages, Performance, and Protection.

Unparalleled fleet security and management

Trust your device is secure from power-up to power-down. Get strong protection for devices, data, and documents with embedded and optional security features while centrally managing your entire fleet.[1,2]

Built-in security for greater protection

Only HP Enterprise printers and MFPs 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 inspects outgoing network connections to stop suspicious requests like malware.

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

Opt for tighter security

Help protect your device with more than 100/200 (printers/MFPs) embedded security features.[3] 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 (standard on the Flow MFP E52545c only).[4]

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).[5] Further safeguard data stored on the device, using the optional HP Trusted Platform Module.[6]
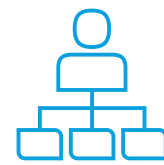
Keep fleet security covered

Centralise control of your printing environment with HP Web Jetadmin—and help build business efficiency.[7] HP JetAdvantage Security Manager offers an effective, policy-based approach to help secure HP printing and imaging devices.[8] 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[9] for managing both apps and users.[10] Save IT time and make printing easy for the entire enterprise by using a single driver for all HP devices.[11]

➡ For more information about security, please see Appendix A, page 16; for details about fleet management, please see Appendix B, page 19.

Accelerate your work and use less energy

Impressive results, small footprint. Work quickly with fast first page out from sleep—on an energy-efficient device.[12] Print, scan, copy, and fax (optional) right from the touchscreen on MFP models.

Take waiting out of your work day

Don't wait for documents. Receive your first page in as little as 8.1 seconds from energy-efficient sleep mode[13] and 6 seconds from ready mode.[14] Print two-sided documents as quickly as one-sided documents—up to 43 pages per minute (ppm), A4.[15] Print up to 65 ppm on A5.[15]

43
ppm[15]

With the MFP E52545 series, accelerate workflow with single-pass, two-sided scanning. Scan up to 45 ppm, simplex, and up to 64 images per minute (ipm), duplex, with the Flow MFP E52545c model.[16] Scan to a memory device using the easy-access USB port.[17]

Loaded for productivity

Let high-volume jobs handle themselves. This device has a substantial 2,300-sheet maximum capacity, so you can spend less time loading and reloading paper.

Make everyday work more efficient. Equip employees to breeze through tasks from the intuitive colour touchscreen—10.9 cm (4.3-inch) on the E50045dw model and 20.3 cm (8.0-inch) on the MFP E52545 series models.

Place your device where it suits your work team best—you almost won't notice it. With a 24% smaller footprint for the E50045dw and 30% smaller footprint for the MFP E52545 series models, these devices are designed to fit where you need them.[18]

Designed to conserve

Keep productivity up and energy use down. Thanks to its innovative design and specially formulated toner, this efficient device has low energy consumption—lowest in their class for the MFP models.[12]

Save energy and help cut printing costs with HP Auto-On/Auto-Off Technology[19] and HP Instant-on Technology[20]—intelligence that readies your device right when you need it and turns it off when you don't.

More. Pages, Performance, and Protection.

Bring out the best in your device. Print more consistent, high-quality pages with Managed Cartridges.[21,22] Count on the authentic HP quality you paid for—something the competition can't match.

Sharp black text

Help your HP device work its best with precision black toner—engineered to deliver consistent placement of toner particles and produce sharp text, bold blacks, and crisp graphics.

Help reduce your impact. Count on easy, free recycling through HP Planet Partners.[23]

More quality pages than ever before

Get the most prints for your money—up to 22,500 pages with Managed Cartridges.[21] Specially redesigned Original HP Toner cartridges with JetIntelligence delivers professional-quality pages and peak printing performance.

Help protect your investment

Don't put your device—and print quality—at risk. Help ensure the consistent Original HP quality you paid for with innovative, anti-fraud technology. Enable office-wide adherence to printing policies with cartridge authentication technology.

(W9017MC: ~22,500 pages[24])

Stay connected with secure mobile printing

Improve work team agility while also protecting the company network. Ethernet and optional wireless networking help users stay connected and work securely—throughout the office.[25] Add wireless direct[26] and NFC-touch-to print[27] to print directly from your mobile device (standard on the E50045dw).

Print from a variety of mobile devices

Easily print documents, emails, PDFs, and more from smartphones and tablets running iOS, Android™, Windows® 8/10, and Google Chrome™ operating systems—generally no setup or apps required.[28]

Touch-to-print convenience

Add the option to print with just a touch of your NFC-enabled smartphone or tablet to this printer.[27]

There's no need to search through a long list of devices—automatically discover the nearest printer without accessing your corporate network. Security and user access settings—like 128-bit encryption and a configurable passphrase—can be easily set up with HP Web Jetadmin[7] or the HP Embedded Web Server.

Extend your printing reach

Keep your office connected. Easily access, print, and share printing resources with built-in Ethernet and optional wireless connectivity.[26]

Use optional, 128-bit encrypted wireless direct printing (standard on the E50054dw) to help keep data secure in transit and at rest—without accessing the company network—using smartphones, tablets, and notebook PCs.[26]

Get to know the HP LaserJet Managed E50045dw printer

Hardware Integration Pocket[5]

Easy-access USB port[17]

100-sheet multipurpose tray 1

550-sheet tray 2

10.9 cm (4.3-inch) colour touchscreen

250-sheet output bin

Top cover (access to Original HP JetIntelligence toner cartridge)

Automatic two-sided printing

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

At a glance

Model (product number)	E50045dw (3GN19A)
Functions	Print
Print speed, black[15]	Up to 43/45 ppm, A4/letter
Automatic two-sided printing	✔
Control panel display	10.9 cm (4.3-inch) pivoting colour touchscreen
Hardware Integration Pocket[5]	✔
Paper input trays (standard)	100-sheet multipurpose tray 1 and 550-sheet tray 2
Input capacity (standard/maximum[29])	Up to 650/2,300 sheets
Output capacity	Up to 250 sheets
Recommended monthly page volume (RMPV)[30]	2,500 to 15,000 pages
Managed Cartridge[21] yields	~ 22,500 pages (black)[24]
Built-in wireless printing[26]/NFC touch-to-print[27]	✔

Get to know the HP LaserJet Managed MFP E52545 series

HP LaserJet Managed Flow MFP E52545c shown

100-sheet ADF with single-pass, two-sided scanning and HP EveryPage[31]

Hardware Integration Pocket[5]

Easy-access USB port[17]

250-sheet output bin

Top cover (access to toner cartridge)

100-sheet multipurpose tray 1

Automatic two-sided printing

550-sheet tray 2

20.3 cm (8.0-inch) pivoting colour touchscreen

Pull-out keyboard[31]

Convenience stapler[32]

Gigabit Ethernet, Host USB port, Hi-Speed USB 2.0 printing port, Hi-Speed USB 2.0 port; HP High-Performance Secure Hard Disk[4]

Series at a glance

Model (product number)	MFP E52545dn (3GY19A)	Flow MFP E52545c (3GY20A)
Functions	Print, scan, copy, and optional fax	Print, scan, copy, and optional fax
Print speed, black[15]	Up to 43/45 ppm, A4/letter	Up to 43/45 ppm, A4/letter
20.3 cm (8.0-inch) colour touchscreen	✓	✓
100-sheet multipurpose tray 1, 550-sheet input tray 2	✓	✓
Input capacity (standard/maximum[29])	Up to 650/2,300 sheets	Up to 650/2,300 sheets
Output capacity	Up to 250 sheets	Up to 250 sheets
Optional wireless printing[26]/NFC touch-to-print[27]	✓	✓
100-page ADF with single-pass, two-sided scanning	✓	✓
Advanced workflow features, including pull-out keyboard [31]	Not available	✓
Convenience stapler[32]	Not available	✓
HP High-Performance Secure Hard Disk[4]	Optional	✓
RMPV[30]	4,000 to 15,000 pages	4,000 to 15,000 pages
Managed Cartridge[21] yields	~ 22,500 pages (black)[24]	~ 22,500 pages (black)[24]

Paper-handling accessories

The HP LaserJet Managed E50045dw printer and MFP E52545 series may be configured with optional input accessories described in the table below. Other optional accessories are included in the Ordering information on page 15.

The E50045dw printer and MFP E52545 series come standard with a 100-sheet multipurpose tray and one 550-sheet tray that support media up to 216 x 356 mm (8.5 x 14 inches). In addition, all models can add up to three additional 500-sheet paper feeders, or they can add a paper feeder and cabinet. All optional accessories support media up to 216 x 356 mm (8.5 x 14 inches).

500-sheet Paper Tray (F2A72A)

Supports up to 216 x 356 mm (8.5 x 14 inches)

Optional: Add up to three, *all models*

Maximum device input with accessory:[29]

1,200 sheets (with one tray)
1,750 sheets (with two trays)
2,300 sheets (with three trays)

Paper Cabinet (F2A73A)

Storage for paper and supplies

Optional: Add up to one, *all models*

Not applicable

Technical specifications

	HP LaserJet Managed E50045dw printer	HP LaserJet Managed MFP E52545dn	HP LaserJet Managed Flow MFP E52545c
Product number	3GN19A	3GY19A	3GY20A
Functions	Print	Print, copy, scan, and optional fax	
Control panel/data entry	10.9 cm (4.3-inch) colour touchscreen; rotating (adjustable angle) display	20.3 cm (8.0-inch) colour touchscreen; rotating (adjustable angle) display; illuminated Home button (for quick return to the Home menu)	
			Plus: Pull-out keyboard
Print speed[15]			
Single-sided	Up to 43/45 ppm (A4/letter) *(all models)*		
Two-sided	Up to 34/36 ppm (A4/letter) *(all models)*		
First page out (black)[14]	From ready:[14] as fast as 6.0/5.9 seconds (A4/letter) From sleep:[13] as fast as 8.1/8.0 seconds (A4/letter)	From ready:[14] as fast as 5.7/5.9 seconds (A4/letter) From sleep:[13] as fast as 8.7 seconds (A4/letter)	
Print resolution	Up to 1200 x 1200 optimised dpi from 600 x 600 input dpi (on Unspecified, Plain, HP Premium Presentation Matte, and HP Brochure Matte)		
Scanning resolution		Up to 600 x 600 dpi	
ADF scan speed (A4/letter)[16]			
Single-sided		Up to 43/45 ppm, black; Up to 38/40 ppm, colour	Up to 45/48 ppm, black and colour
Two-sided		Up to 43/45 ipm, black; Up to 38/40 ipm, colour	Up to 64/68 ipm, black: Up to 58/60 ipm, colour
Features			
Printing	Print preview, duplex printing, print multiple pages per sheet (2, 4, 6, 9, 16), collation, watermarks, store print jobs, easy-access USB[17]		
Scanning		Flatbed scanner, up to 216 x 356 mm (8.5 x 14 inches); 100-sheet ADF with two-sided, single-pass scanning; Advanced features: optimise text/picture, image adjustments, job build, output quality setting, selectable scan resolution 75 to 600 dpi, auto detect colour, edge erase, job notification, blank page suppression, HP Quick Sets	
			Plus: HP EveryPage; auto orientation; embedded Optical Character Recognition (OCR); auto-crop-to-page; auto-tone
Digital sending		Scan to e-mail, save-to-network folder, save-to-USB drive, send to FTP, send to Internet fax, local address book, SMTP over SSL, blank page removal, edge erase, auto colour sense, auto-crop-to-content, compact PDF	
			Plus: send to Microsoft® Sharepoint®, OCR, auto-tone, auto-orientation, multi-pick detect, auto straighten, auto-crop-to-page
File formats[33]		PDF, JPEG, TIFF, MTIFF, XPS, PDF/A	
			Plus: TEXT (OCR), unicode TEXT (OCR), RTF (OCR), searchable PDF (OCR), searchable PDF/A (OCR), HTML (OCR), CSV (OCR); scan to easy access USB: PDF, JPEG, TIFF, MTIFF, XPS, PDF/A, TEXT (OCR), unicode TEXT (OCR), RTF (OCR), searchable PDF (OCR), searchable PDF/A (OCR), HTML (OCR), CSV (OCR); print from easy access USB: PDF, PS, print ready files (.prn, .pcl, .cht)

	HP LaserJet Managed E50045dw printer	HP LaserJet Managed MFP E52545dn	HP LaserJet Managed Flow MFP E52545c
Copying		Copy resolution: Up to 600 x 600 dpi (flatbed), up to 600 x 450 dpi (ADF); Copy speed: up to 43/45 copies per minute (cpm), A4/letter; Advanced features: Auto scale, reduce/enlarge from scanner glass (25 to 400%), collate, auto colour detection, two-sided copying, image adjustments (darkness, background cleanup, sharpness), job build	
Processor	1.2 GHz *(all models)*		
Memory	Standard/maximum: 512 MB/1.5 GB[34]	Standard/maximum: 1.25 GB/2 GB[35] (printer), 500 MB/500 MB (scanner)	
Storage	4 GB eMMC	16 GB SSD	Embedded hard drive
Durability ratings			
RMPV[30]	2,500 pages to as high as 15,000 pages	4,000 pages to as high as 15,000 pages	
RMSV[36]		4,150 to as high as 6,900 pages	8,350 to as high as 13,900 pages
Duty cycle[37]	Up to 150,000 pages *(all models)*		
Media specifications			
Input capacity	Up to 650 sheets (up to 2,300 sheets maximum[29]) Tray 1: up to 100 sheets *(all models)* Tray 2: up to 550 sheets *(all models)*		
Output capacity	Up to 250 sheets *(all models)*		
Two-sided printing	Automatic *(all models)*		
Media sizes	Tray 1: A4, A5, A6, B5, 16K, post cards (JIS single and double), envelopes (DL, C5, C6, B5), 10 x 15 cm, 13 x 20 cm, 76 x 127 mm; Letter, legal, executive, 4 x 6 in, 5 x 8 in, 8.5 x 14 in, envelopes (No. 10, Monarch); Custom media: 76 x 127 to 216 x 356 mm (3 x 5 to 8.5 x 14 in)		
	Tray 2, optional trays 3-5: A4, A5, B5, 16K, 76 x 127 mm, double postcard; Letter, legal, executive, 8.5 x 14 in; Custom media: 102 x 148 to 216 x 297 mm (4.1 x 5.8 to 8.5 x 14 in)		
	Automatic Duplexer: A4; Letter		
		ADF: A4, RA4, A5, A6, B5, B6 (JIS), Postcard (JIS), DPostcard (JIS), 16K, 10 x 15 cm, 13 x 18 cm, 13 x 20 cm; Letter, legal, oficio, executive, statement; 4 x 6 in, 5 x 7 in, 5 x 8 in	
Media weights	Tray 1: 60 to 200 g/m² (16 to 53 lb) Tray 2, optional trays 3-5, HCI: 60 to 120 g/m² (16 to 32 lb)		
		ADF: 45 to 200 g/m² (12 to 53 lb) *(both MFP models)*	
Media types	Paper (bond, colour, letterhead, plain, pre-printed, pre-punched, recycled, rough), envelopes, labels, cardstock, transparencies, user-defined		
Print languages	HP PCL 6, HP PCL 5 (HP PCL 5 driver available from the Web only), HP postscript level 3 emulation, native PDF printing (v 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 fonts (Andale Mono World Type); 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	Standard: 1 Hi-Speed USB 2.0 Host; 1 Hi-Speed USB 2.0 Device; 1 Gigabit Ethernet 10/100/1000T network; Hardware Integration Pocket[5]		
Mobile printing	Standard: Apple AirPrint, HP ePrint, Mopria-certified Built-in wireless direct printing,[26] NFC touch-to-print[27]	Standard: Apple AirPrint, HP ePrint, Mopria-certified Optional: wireless direct printing,[26] NFC touch-to-print[27]	
Network capabilities	Standard: via built-in Gigabit Ethernet print server supports: 10Base-T, 100Base-Tx, 1000Base-T; 802.3az (EEE) support on Fast Ethernet and Gigabit Ethernet; IPsec (standard) Optional: 802.11a/b/g/n wireless networking (with purchase of optional HP Jetdirect 2900nw Print Server)[25]		

	HP LaserJet Managed E50045dw printer	HP LaserJet Managed MFP E52545dn	HP LaserJet Managed Flow MFP E52545c
Network protocols	Via built-in networking solution: TCP/IP, IPv4, IPv6; Print: TCP-IP port 9100 Direct Mode, LPD (raw queue support only), Web Services Printing, IPP 2.0, Apple AirPrint, HP ePrint, FTP Print, Google Cloud Print™; Discovery: SLP, Bonjour, Web Services Discovery; IP Config: IPv4 (BootP, DHCP, AutoIP, Manual, TFTP Config, ARP-Ping), IPv6 (Stateless Link-Local and via Router, Statefull via DHCPv6); Management: SNMPv2/v3, HTTP/HTTPs, Telnet, TFTP Config, FTP FW Download, Syslog; Security: SNMPv3, SSL Cert Management, Firewall, ACL, 802.1x		
Security	Identity Management: Kerberos authentication, LDAP authentication, 1000 user PIN codes, optional HP and 3rd 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		
	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, Intrusion Detection with Red Balloon Security Technology - Constant in-device monitoring for attacks, SureStart Secure Boot - BIOS Integrity Checking with self-healing capability, Whitelisting - loads only known good code (DLLs, EXEs, etc.)		
	Security management: Compatible with HP JetAdvantage Security Manager,[8] Device Security Syslog Messages processed and accessible in Arcsight and Splunk SIEMs		
	For more security settings, go to hp.com/ctg/Manual/c03602120		
Printer management	Printer Administrator Resource Kit (Driver Configuration Utility, Driver Deployment Utility, Managed Printing Administrator); HP Web Jetadmin Software;[7] HP Proxy Agent Software; HP JetAdvantage Security Manager[8]		
Compatible operating systems[38]	Windows OS compatible with In-Box Driver: Windows XP SP3 all 32-bit editions (XP Home, XP Pro, etc), Windows Vista all 32-bit editions (Home Basic, Premium, Professional, etc), Windows 7 all 32- and 64-bit editions, Windows 8/8.1 all 32- and 64-bit editions (excluding RT OS for Tablets), Windows 10 all 32- and 64-bit editions (excluding RT OS for Tablets)		
	Windows OS compatible with Universal Print Driver (From hp.com): Windows XP SP3 32- and 64-bit editions (XP Home, XP Pro, etc), Windows Vista all 32- and 64-bit editions (Home Basic, Premium, Professional, etc), Windows 7 all 32- and 64-bit editions, Windows 8/8.1 all 32- and 64-bit editions (excluding RT OS for Tablets), Windows 10 all 32- and 64-bit editions (excluding RT OS for Tablets)		
	Mac OS (HP Print Drivers available from hp.com and Apple Store): OS X 10.8 Mountain Lion, OS X 10.9 Mavericks, OS X 10.10 Yosemite		
	Mobile OS (In-OS drivers): iOS, Android, Windows 8/8.1/10 RT		
	Linux OS (In-OS HPLIP): SUSE Linux (12.2, 12.3, 13.1), Fedora (17, 18, 19, 20), Linux Mint (13, 14, 15, 16, 17), Boss (3.0, 5.0), Ubuntu (10.04, 11.10, 12.04, 12.10, 13.04, 13.10, 14.04, 14.10), Debian (6.0.x, 7.x)		
	Other OS: UNIX®		
Compatible network operating systems	Windows OS compatible with In-Box Driver: 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 OS compatible with Universal Print Driver (UPD) or Product-Specific drivers from hp.com: Windows Server 2003/2003 R2 32-/64-bit (SP1/SP2) Standard/Enterprise/Datacenter (+ 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)		
	Citrix (on Windows Server 2003/2003R2): Citrix MetaFrame Presentation Server 3.0, Citrix MetaFrame XP Presentation Server (Feature Release 1, 2, and 3), Citrix Presentation Server 4.0/4.5, Citrix XenApp 5.0 (Plus Feature Pack 2 & 3)		
	Citrix (on Windows Server 2008/2008 R2): Citrix XenApp 5.0 (Plus Feature Pack 2 & 3), Citrix XenApp 6.0/6.5/7.5, Citrix XenDesktop 5.6/7.0/7.5, Citrix (on Windows Server 2012/2012R2), Citrix XenApp 7.5, Citrix XenDesktop 7.0/7.5		
	Novell Servers (novell.com/iprint): Novell iPrint Appliance v1.0, Novell Open Enterprise Server 11/SP1, Novell Open Enterprise Server 2 for Linux, NetWare 6.5/SP8		
	Novell Clients (novell.com/iprint): Windows 8 (32-bit/64-bit) recommend v5.86+, 8.1 recommend v5.94+, Windows 7 (32-bit/64-bit) recommend v5.82+, Windows Vista (32-bit/64-bit) recommend v5.82+, Windows XP/SP3 (32-bit only) recommend v5.82+		
System requirements, Windows	A compatible operating system (see above); 200 MB/2 GB available hard disk space (printer/MFPs); OS compatible hardware (For OS hardware requirements see microsoft.com)		
System requirements, Macintosh	A compatible operating system (see above); 1 GB/1.3 GB available hard drive space (printer/MFPs); Internet; OS compatible hardware (For OS hardware requirements see apple.com)		
Software included[33]	For Windows OS: HP Software Installer/Uninstaller, HP PCL 6 (XPS) Printer Driver, HP Device Experience (DXP), HP Update, Product Registration Assist, HP Web Services Assist (HP Connected), online user manuals		
	For Mac OS: Welcome screen (Directs users to hp.com or OS App Store for LaserJet Software)		
Dimensions (width x depth x height)	Operating: 418 x 376 x 326 mm (16.46 x 14.80 x 12.83 in) Maximum:[39] 418 x 639 x 326 mm (16.46 x 25.16 x 12.83 in)	Operating: 482 x 496 x 497 mm (18.98 x 19.52 x 19.55 in) Maximum:[39] 507 x 631 x 497 mm (19.96 x 24.83 x 19.55 in)	
Weight (with print cartridges)	11.8 kg (25.9 lb)	21.9 kg (48.2 lb)	22.1 kg (48.6 lb)

	HP LaserJet Managed E50045dw printer	HP LaserJet Managed MFP E52545dn	HP LaserJet Managed Flow MFP E52545c
What's in the box	HP Managed LaserJet device, HP Black LaserJet set-up cartridge (~ 9,000 pages), CDs, User guide, Support flyers, Warranty cards, Required erratas		
Downloadable software	HP Easy Start (Guided Software Install for Windows OS and Mac), HP ePrint Software (ePrint Mobile Driver for Windows), HP ePrint Software (for Windows), HP JetAdvantage Security Manager,[8] HP Mobile Printing http://www8.hp.com/us/en/printers/mobility/overview.html, HP PCL6 print driver only (No installer for "Add Printer" installs), HP PCL6 print driver with installer, Product Documentation and Support, HP Proxy Agent Software, HP Universal Print Drivers (PCL6 & PS for Windows),[11] Linux/Unix Print Drivers, Mac Software Solution, Printer Administrator Resource Kit, SAP (PS Print Drivers), HP Web Jetadmin,[7] Windows driver only solution, Windows Full Software Solution		
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.		

Environmental specifications

	HP LaserJet Managed E50045dw	HP LaserJet Managed MFP E52545dn	HP LaserJet Managed Flow MFP E52545c
Environmental ranges			
Temperatures	Recommended operating: 18 to 25º C (63.5 to 77º F); Operating: 15 to 32.5º C (59 to 90.5º F); Storage: –20 to 60º C (–4 to 140º F)		
Relative Humidity	Recommended operating range: 30 to 70% RH; Operating range: 10 to 80% RH; Non-operating range: 10 to 90% RH		
Acoustic pressure emissions	Ready mode: 24 dB(A); Active print: 54 dB(A)	Ready mode: 25 dB(A); Active print: 54 dB(A); Active copy: 56 dB(A); Active scan: 53 dB(A)	
Acoustic power emissions[40]	Ready mode: 4.0 B(A); Active print: 6.8 B(A)	Ready mode: 4.0 B(A); Active print: 6.8 B(A); Active copy: 7.0 B(A); Active scan: 6.7 B(A)	
Power specifications[41]			
Power supply	Built-in power supply; Input Voltage: 100 to 127 VAC, 50/60 Hz or 220 to 240 VAC		
Power consumption	Printing: 741.98 watts; Ready: 13.72 watts; Sleep: 2.51 watts; Auto-Off/Manual On: 0.08 watts; Off: 0.08 watts	Printing: 671 watts; Ready: 27.8 watts; Sleep: 3.2 watts; Auto-Off/Manual On: 0.71 watt; Off: 0.06 watts	
Typical Electricity Consumption (TEC)	Blue Angel: 1.824 kWh/week; ENERGY STAR®: 1.997 kWh/week	Blue Angel: 1.702 kWh/week; ENERGY STAR: 1.692 kWh/week	Blue Angel: 1.648 kWh/week; ENERGY STAR: 1.752 kWh/week
Energy-saving features	HP Auto-On/Auto-Off Technology;[19] Instant-on Technology[20]		
Environmental specifications	Blue Angel compliant; ENERGY STAR-certified; mercury-free; CECP; EPEAT® Silver[42]		
Safety and regulatory compliance	IEC 60950-1:2005 +A1:2009 +A2:2013 (International); EN60950-1:2006 +A11:2009 +A1:2010 +A12:2011 +A2:2013 (EU); EN 60825-1:2007/IEC 60825-1:2007 (Class 1 Laser Product); EN 62479:2010/IEC 62479:2010; Low Voltage Directive 2006/95/EC with CE Mark (Europe); GS Certificate (Germany, Europe); UL/cUL Listed and UC CoC (US/Canada); CAN/CSA C22.2 No. 60950-1-07 2nd Ed. 2011-12; Compliance with Laser safety standards 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser notice No. 50, Dated June 24, 2007; Other safety approvals as required by individual countries		
Electromagnetic emission standard	CISPR 22:2008 (International) - Class A, EN 55022: 2010 (EU) - Class A, EN 61000-3-2: 2006 +A1: 2009 +A2: 2009, EN 61000-3-3: 2008, EN 55024: 2010, EMC Directive 2004/108/EC, FCC CFR 47 Part 15 Class A/ICES-003, Issue 5 Class A. Other EMC approvals as required by individual countries		

Ordering information

Product	HP LaserJet Managed E50045dw	3GN19A
	HP LaserJet Managed MFP E52545dn	3GY19A
	HP LaserJet Managed Flow MFP E52545c	3GY20A
Supplies	**All models:**	
	HP Black Managed LaserJet Cartridge[21] (~22,500 pages)[24]	W9017MC
	MFP E52545 series models only:	
	HP ADF Maintenance Kit (~75,000 pages)[43]	W5U23A
Accessories	**All models:**	
	HP LaserJet 500-sheet Paper Tray	F2A72A
	HP LaserJet 500-sheet Paper Feeder and Cabinet	F2A73A
	1GB DDR3 DIMM	G6W84A
	HP High-Performance Secure Hard Disk Drive	B5L29A
	HP Trusted Platform Module Accessory	F5S62A
	HP Internal USB Ports	B5L28A
	HP Foreign Interface Harness	B5L31A
	HP Jetdirect 2900nw Print Server	J8031A
	HP Jetdirect 3000w NFC/Wireless Accessory	J8030A
	MFP E52545 series models only:	
	HP LaserJet MFP Analog Fax Accessory	B5L53A
	HP LaserJet Keyboard Overlay Kit for Simplified Chinese & Traditional Chinese	A7W12A
	HP LaserJet Keyboard Overlay Kit-Danish/French-Switzerland/German-Switzerland	A7W13A
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: Security features

The world's most secure printing[2]

The HP LaserJet Managed E50045dw printer and MFP E52545 series are 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.[3]

Protect your device
As capabilities expand and devices become more integrated into your work, device security becomes increasingly important. These features help protect the E50045dw printer and MFP E52545 series models:

- **Embedded protection:** Multi-level, built-in features help protect your device 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 genuin HP 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 Connector Inspector stops malware from "calling home" to malicious servers, stealing data, and compromising your network. It evaluates outgoing network connections to determine what's normal, stop suspicious requests, and automatically trigger a self-healing reboot.

- **Encrypted storage with secure erase**: The device 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 unauthorised use.

- **Administrator access control for device:** You can set administrator passwords so only IT staff or other authorised personnel can set up and configure device settings.

- **Common Criteria Certification**: HP Enterprise devices are certified as compliant with internationally recognised security standards, such as Common Criteria Certification (CCC) and FIPS 140.

Protect your data
Your device harbours 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[7] or the Embedded Web Server.

- **Encrypt data in transit:**

  – Protect print jobs travelling to the device with encryption such as Internet Print Protocol over TLS (IPPS). Or, Secure Encrypted Print with HP Universal Print Driver[11] 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[4] provides full 256-bit AES hardware encryption to protect sensitive business information, such as print jobs or passwords.

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

HP JetAdvantage Security Manager:[8]
- Web site: hp.com/go/securitymanager
- Brochure: http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA3-9275EEW.pdf
- Video: http://hp.brightcovegallery.com/products/detail/video/4270837770001/

- The optional 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.[6]

- **Firewall:** Prevent malware and viruses from entering your network by limiting printer access to computing devices in network.

- **Authentication and authorisation:** 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.[5]

- **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:** Wireless direct printing[26] and NFC touch-to-print[27] (standard on the E50045dw and optional on the MFP E52545 series models) allow mobile users to connect to the device 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, please visit hp.com/go/businessmobileprinting.

- **CA and Device Identity Certificates:** This device 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.[8]

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.[44]

  - 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.[45]

  - 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 and MFP in your fleet. Optional HP JetAdvantage Security Manager offers an effective, policy-based approach.[8]

- 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.

Appendix B: Fleet management features

Efficiently manage from a central location

The HP LaserJet Managed E50045dw printer and MFP E52545 series are supported by HP Web Jetadmin,[7] 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.[7]

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 organisations 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 organisation, 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.[11]

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.

Appendix C: Control panel features

Upgrade to a modern interface

The HP LaserJet Managed E50045dw printer and MFP E52545 series are powered by HP FutureSmart 4.0 firmware. The modern, tablet-like interface 20.3 cm (8.0-inch) on the MFP models, 10.9 cm (4.3-inch) on the E50045dw printer) keeps things simple and intuitive across your fleet of Enterprise devices. A scalable control panel interface improves future extensibility and allows for customisation, along with a robust set of new apps and usability features. You can even customise 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 a few core apps by default. Additional apps are easily accessed by swiping right to left, like with a smartphone or tablet.

To access additional apps on the new printer user interface, simply swipe right to left
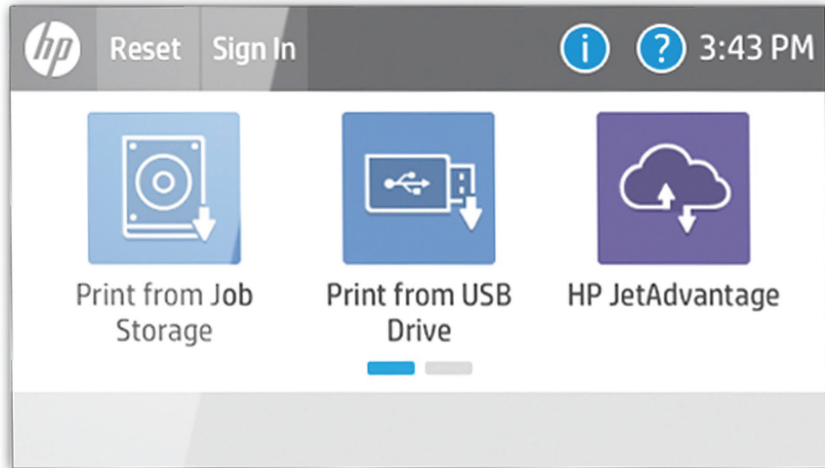
Edit jobs right at the MFP

The control panel on the MFP E52545 series features an enhanced image preview—now for both copies and scans. Right from the MFP's 20.3 cm (8.0-inch) colour 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. Flow models can also create PDF OCR and PDF/A OCR files.

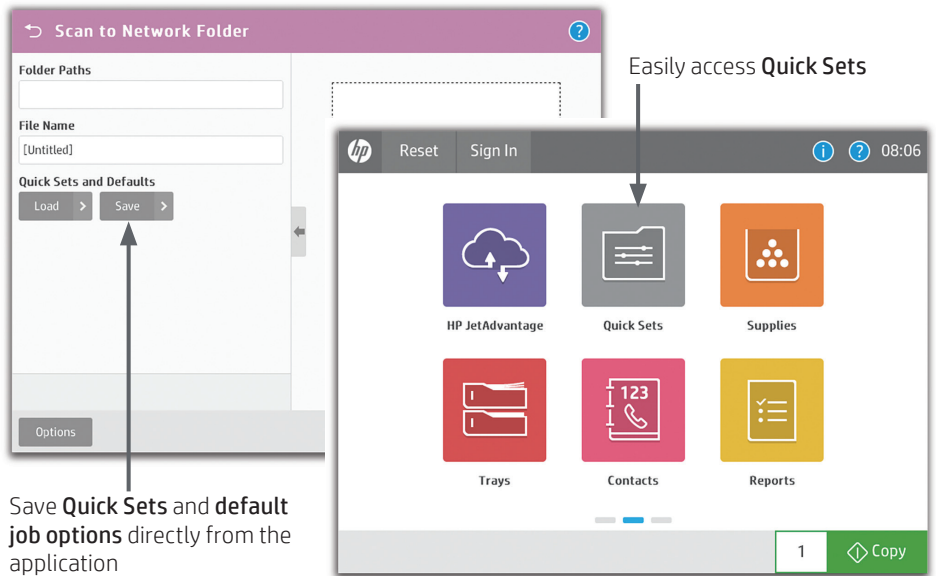The new MFP user interface enables **swipe**, **rotate**, and **drag-and-drop** capabilities
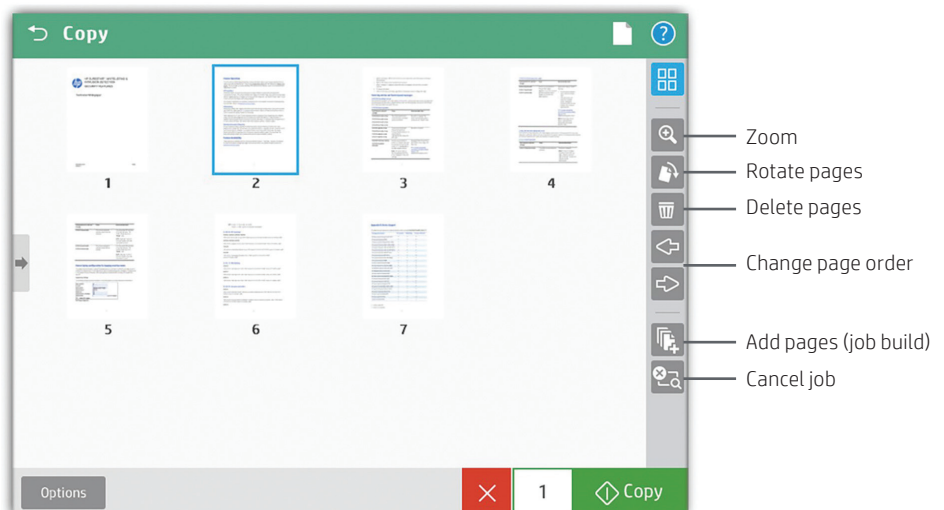
You can start a **preview** prior to committing to the copy job

Use Quick Sets to launch automated workflows

The digital sending capability on MFP E52545 models 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 customisation 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 LaserJet Managed E50045dw printer and MFP E52545 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 printer or MFP.[46] 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.[47] You can also find these links in the HP Embedded Web Server event log.
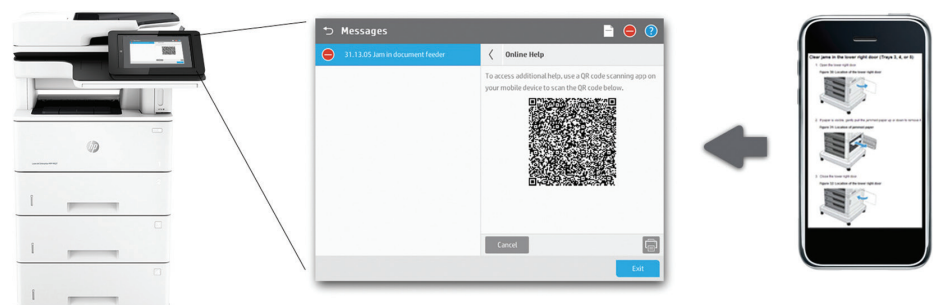
[1] Only HP offers a combination of security features for integrity checking down to the BIOS with self-healing capabilities. Some features require additional purchase. A FutureSmart service pack update may be required to activate security features. Learn more at hp.com/go/printersthatprotect.

[2] Based on HP review of 2018 Published security features of competitive in-class printers. Only HP offers a combination of security features that can monitor to detect and automatically stop an attack then self-validate software integrity in a reboot. For a list of printers, visit hp.com/go/printersthatprotect. For more information; hp.com/go/printersecurityclaims.

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

[4] The encrypted HP High-Performance Secure Hard Disk is optional on the HP LaserJet Managed E50045dw and MFP E52545dn and standard on the HP LaserJet Managed Flow MFP E52545c model.

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

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

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

[8] HP JetAdvantage Security Manager must be purchased separately. For details, see hp.com/go/securitymanager.

[9] 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.

[10] 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, 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.

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

[12] Based on HP testing using the ENERGY STAR® programme's Typical Electricity Consumption (TEC) method or as reported in energystar.gov versus the top three leading competitors as of 8/2015. Actual results may vary. For details see hp.com/go/Ljclaims.

[13] Measured after 15 minutes in sleep. Exact speed varies depending on the system configuration, software application, driver, document complexity, and time in sleep. FPO varies by model; see Technical specifications table on page 10 for more details.

[14] 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. FPO varies by model; see Technical specifications table on page 10 for more details.

[15] ISO speeds measured using ISO/IEC 24734. Excludes first page or first set of ISO test pages. For details see hp.com/go/printerclaims.

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

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

[18] HP LaserJet Managed E50045dw printer compared with the HP LaserJet Managed P3015 and HP LaserJet Managed MFP E52545 series compared with the HP LaserJet Managed MFP M525.

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

[20] HP LaserJet products with Instant-on Technology use an innovative, quick-heating fuser system that warms rapidly and cools quickly, helping you conserve energy compared with products that use traditional fusing.

[21] More pages versus predecessor cartridges claim based on page-yield comparison of HP 87X High Yield Original LaserJet Toner Cartridges with HP Black Managed LaserJet Toner Cartridges. For more information, see hp.com/go/learnaboutsupplies.

[22] HP Managed Cartridges are not included in printer purchase; purchase separately. Learn more at hp.com/go/learnaboutsupplies.

[23] Programme availability varies. For more information, visit hp.com/recycle.

[24] Average black declared yields based on ISO/IEC 19752 and continuous printing. Actual yields vary considerably based on images printed and other factors. For details see hp.com/go/learnaboutsupplies.

[25] Wireless networking is optional with purchase of the 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.

[26] Wireless direct printing is standard on the HP LaserJet Managed E50045dw only. Requires purchase of optional HP Jetdirect 3000w NFC/Wireless Direct Accessory for the HP LaserJet Managed MFP E52545 series. Mobile device needs to be connected directly to the WiFi network of a wireless direct–capable MFP or printer prior to printing. Depending on mobile device, an app or driver may also be required. Wireless performance is dependent on physical environment and distance from the access point in the MFP or printer. For details, see hp.com/go/businessmobileprinting.

[27] Touch-to-print capability is standard on the HP LaserJet Managed E50045dw only. Requires purchase of optional HP Jetdirect 3000w NFC/Wireless Direct Accessory for the HP LaserJet Managed MFP E52545 series. Mobile device must support Near Field Communication (NFC)–enabled printing. For more information, see hp.com/go/businessmobileprinting.

[28] Wireless operations are compatible with 2.4 GHz operations only. App or software and HP ePrint account registration may also be required. Some features require purchase of an optional accessory. Learn more at hp.com/go/mobileprinting.

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

[30] 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.

[31] Advanced workflow features are available on the Flow MFP E52545c model only and include HP EveryPage, a pull-out keyboard, embedded capture functionality, built-in OCR, plus automatic page orientation, cropping, and tone adjustment.

[32] The convenience stapler is only available on the Flow MFP E52545c model.

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

[34] Expandable to 1.5 GB through 90-pin 1 GB SlimDIMM accessory.

[35] Maximum memory is with 1 GB DIMM installed. The maximum the FW can use is 2 GB so 250 MB is unused in this configuration.

[36] The HP LaserJet Managed MFP E52545dn model has a recommended monthly scan volume (RMSV) of 8,350 to 13,900 pages. The HP LaserJet Managed Flow MFP E52545c model has an RMSV of 4,150 to 6,900 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.

[37] 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.

[38] Not all "Compatible Operating Systems" are supported with inbox software; Full solution software available only for Windows 7 and newer; Legacy Windows Operation Systems (XP, Vista, and equivalent servers) get print and Scan drivers only; Windows RT OS for Tablets (32- and 64-bit) uses a simplified HP print driver built into the RT OS; UNIX model scripts are available on HP.com (Model scripts are printer drivers for UNIX operating systems); Linux systems use in-OS HPLIP software.

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

[40] Acoustic values are subject to change. For current information, see hp.com/support.

[41] 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.

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

[43] Stated yield is based on 5% coverage and may vary based on coverage and media type used, media size, short edge feed on A3 devices, and job size.

[44] HP JetAdvantage Secure Print works with any network-connected printer or MFP. On-device authentication is available for many HP LaserJet, 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.

[45] 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.

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

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