

Transforming the Future of Print



Universal Print: Where Security Meets Scalability



Productivity | **Security** | Convenience



Introduction

In today's hybrid work environment, securing print workflows is as critical as securing digital assets. The combination of **HP Authentication Manager** and **Microsoft Universal Print** delivers a **cloud-native print management solution** that provides seamless integration with **Microsoft Entra** (formerly Azure Active Directory), ensuring that modern authentication and print security policies are enforced consistently across the organization.

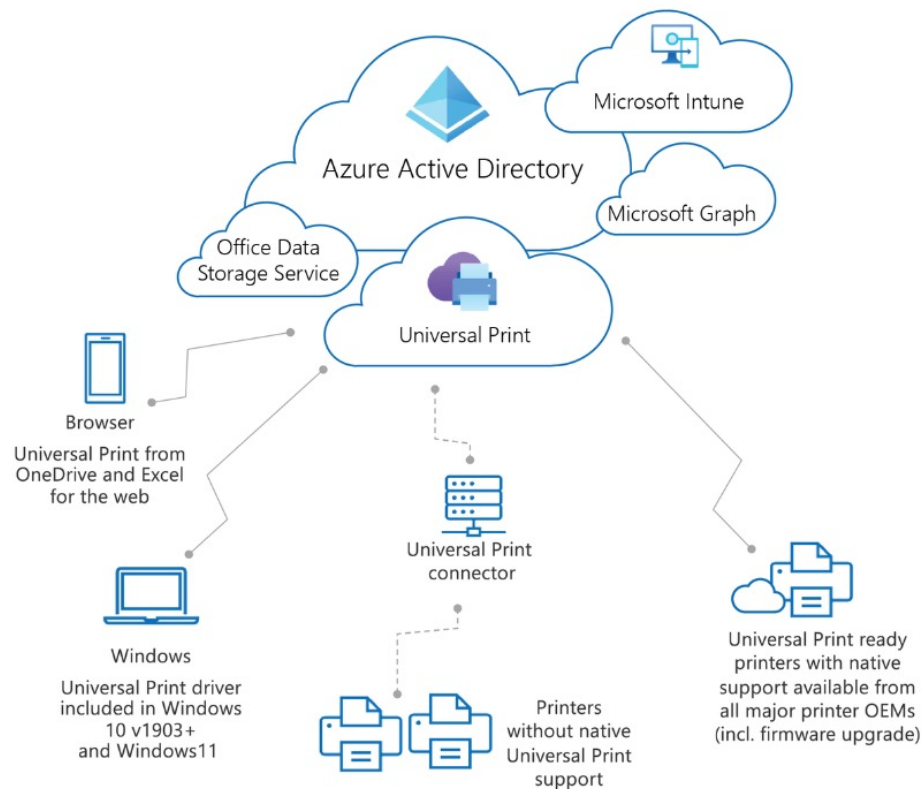
Modern Authentication and Security with Microsoft Entra

At the heart of this solution is **HP Authentication Manager**, which directly integrates with **Microsoft Entra ID** to leverage the organization's existing identity and access management infrastructure. This integration ensures that user authentication and print access are tightly controlled, governed by the same identity management and security policies that protect other business-critical applications.

With **Microsoft Entra**, admins can define detailed security policies for different users, groups, or departments. For example:

- **Conditional Access Policies** can enforce **Multi-Factor Authentication (MFA)** using **Microsoft Authenticator**, ensuring that only authorized personnel can release print jobs.
- **Role-Based Access Controls (RBAC)** ensure that only designated employees can access secure print functionalities, while limiting access for those in more sensitive roles, such as finance or HR.
- **Compliance Policies** and device health checks, enforced by **Microsoft Intune**, ensure that only compliant and secure devices can trigger print jobs, reducing the risk of unsecured endpoints.

Universal Print: Architecture



The Universal Print architecture illustrated in the diagram integrates cloud-based printing with Azure Active Directory and Microsoft services. Here's an overview:

1. Core Components:

Azure Active Directory (AAD): Universal Print integrates with Azure Active Directory for authentication and access control, ensuring secure and managed printing across an organization.

Universal Print Cloud Service: Acts as the central hub, enabling cloud-based printing without requiring traditional print servers.

2. Data and Device Management:

Office Data Storage Service: Supports storage of print jobs and related data securely in the cloud.

Microsoft Intune and Microsoft Graph: Allow administrators to manage print devices and configurations remotely through centralized policies and API integrations.

3. Client-Side Integration:

Browser Support: Printing capabilities are extended to browsers through services like OneDrive and Excel for the web.

Windows Client Support: Windows 10 (version 1903 and later) and Windows 11 come with a built-in Universal Print driver for seamless integration.

4. Printer Integration:

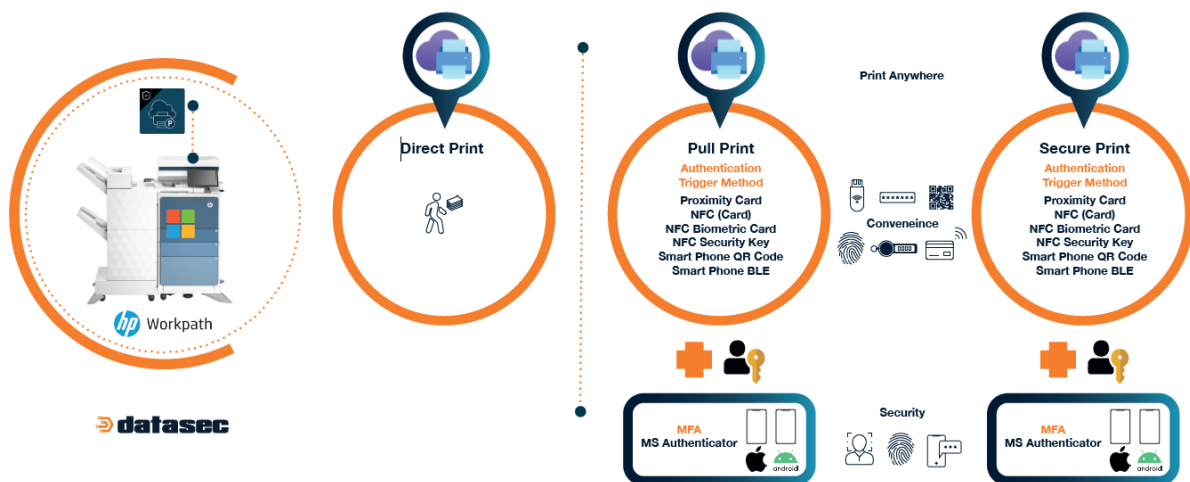
Universal Print Connector: Bridges legacy printers (without native Universal Print support) to the Universal Print cloud service, enabling compatibility with the solution.

Native Universal Print Printers: Many modern printers from major OEMs (Original Equipment Manufacturers) include built-in Universal Print support, often with the option for firmware upgrades.

Streamlined Print Workflows with HP Authentication Manager and Universal Print

Through **HP Authentication Manager**, users benefit from **secure pull printing** and **secure print release** workflows that fit within the organization's cloud-first strategy.

The system supports multiple authentication methods, including **Proximity Cards**, **NFC Cards**, **NFC Biometric Cards**, and **Smartphone Authentication** (QR codes or BLE), all of which are validated through the **Microsoft Entra** identity platform.



Here's how the solution works:

- 1. Pull Print:** Users send their print jobs to a secure queue via **Universal Print** and authenticate at the printer using their preferred method (smartphone, card, biometric, etc.). **HP Authentication Manager** interfaces directly with **Microsoft Entra**, applying conditional access policies to ensure compliance. Only after successful authentication can the user release the print job.
- 2. Secure Print:** For more sensitive documents, **MFA** (Multi-Factor Authentication) can be enforced. This means that before the job is released, the user must verify their identity via **Microsoft Authenticator** or a similar method, providing an additional layer of security to prevent unauthorized access to confidential information.

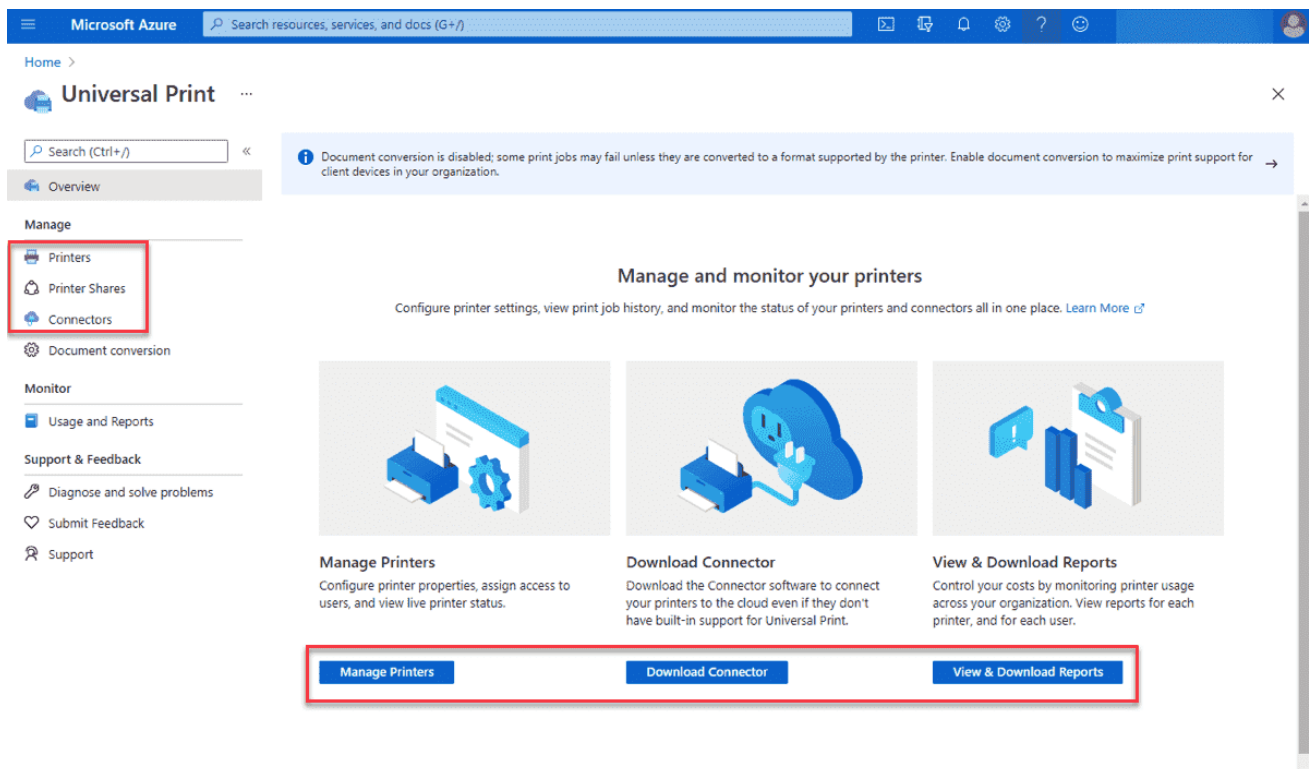
This **phishing-resistant**, passwordless approach not only improves security but also enhances the user experience by eliminating the need for traditional usernames and passwords. It reduces the attack surface by applying strong, modern authentication methods.

Policy-Driven Print Management with Universal Print

The **Universal Print** platform offers centralized management of printers and print jobs through the **Microsoft 365 environment**, extending the security policies defined in **Microsoft Entra** to the entire print infrastructure. IT administrators can easily:

- **Monitor and control print access** by applying **Microsoft Entra** identity policies directly to printers.
- Set specific policies for **guest users**, ensuring that external parties can print while adhering to the organization's security standards.
- Apply **data loss prevention (DLP)** and **encryption policies** for print jobs, ensuring that sensitive data is protected at every stage of the printing process.

Moreover, **Universal Print's** cloud-based architecture eliminates the need for on-premises print servers, reducing infrastructure costs and simplifying management while maintaining robust security through integration with **Microsoft Entra**.



Key Features and Benefits:

1. Auto Registration via MOC Settings – Large Fleet, Save Time

Overview: This feature streamlines the deployment process for organizations with a large fleet of HP printers. By leveraging the HP Command Centre Microsoft Office Connector (MOC) settings, administrators can perform automatic registration of devices across the network, significantly reducing the setup time for large deployments. This automation ensures that each device is configured to comply with organizational policies, reducing the manual effort traditionally associated with fleet setup.

Key Benefit: Time savings for IT teams, especially in environments with hundreds or thousands of devices, allowing for efficient scaling while maintaining control over authentication and print management policies.

2. Secure Release at Console, with or without MFA

Overview: HP Authentication Manager offers secure release functionality directly at the printer console, providing a secure and convenient way for users to retrieve their print jobs. Users have the flexibility to release documents either with or without Multi-Factor Authentication (MFA), depending on organizational security requirements. This adaptable approach enables enhanced security for sensitive environments while maintaining ease of access for lower-risk areas.

Key Benefit: Versatile authentication options to meet varying security needs, from basic authentication to MFA for high-security requirements, helping organizations maintain security without impacting user convenience.

3. Support for Secure Print, Direct Print and Pull Print Simultaneously

Overview: HP printers, with Authentication Manager and Universal Print, can now operate both Secure Print and Direct Print alongside Pull Print functionality. This dual capability allows users to choose between immediate direct printing or secure print release from any enabled device, enhancing flexibility and meeting diverse workflow requirements.

Key Benefit: Increased flexibility for users who may need to print sensitive documents securely or choose direct print for less critical jobs, reducing wait times and supporting varied work styles within the same environment.





Key Features and Benefits:

4. Support for No-Mobile Needed – Soon to be Released (No-MFA) (Cards)

Overview: An upcoming feature will allow for secure print release without the need for a mobile device. By enabling the use of physical cards (such as ID or access cards) to authenticate at the printer, users can securely release their print jobs without relying on mobile-based MFA. This approach is ideal for environments where mobile device use is restricted or impractical.

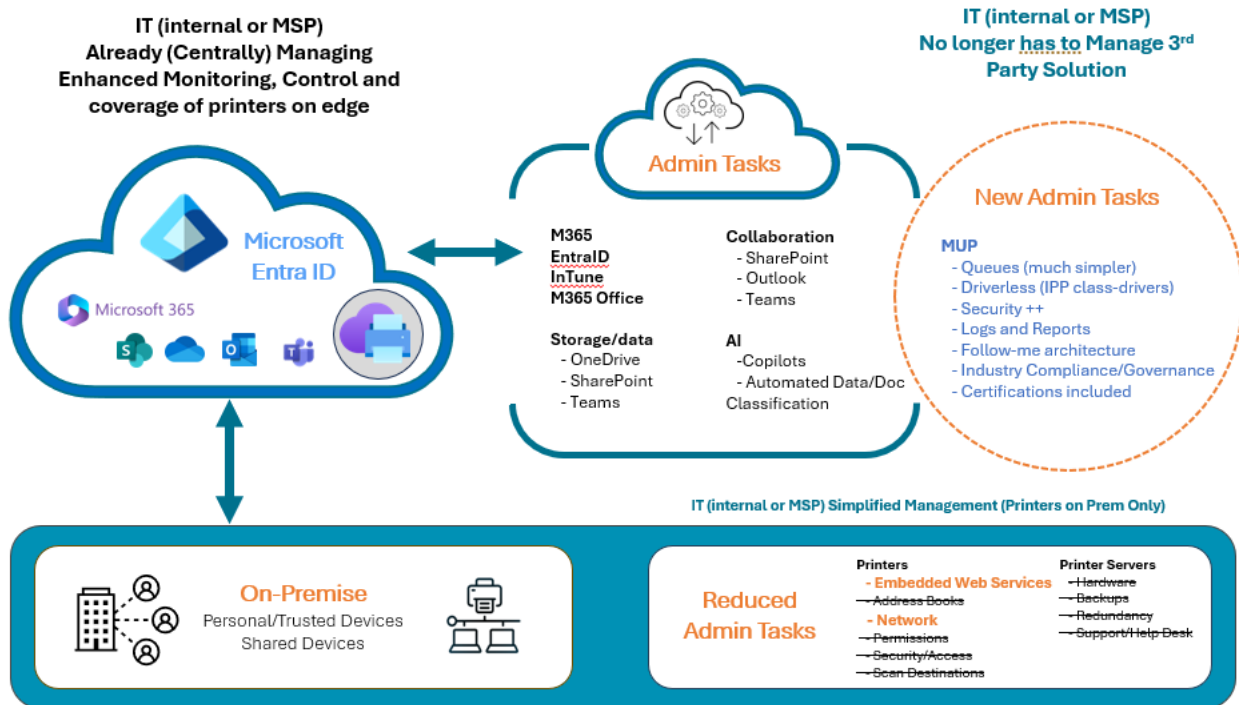
Key Benefit: User convenience and accessibility, especially in high-security or restricted areas, enabling passwordless secure printing without the need for mobile device authentication.

5. Support for Print Anywhere via Console – Soon to be Released – With and Without MFA, Including Pull Print/VirtualQ

Overview: This feature will allow users to print from any location via the console, supported by both MFA and non-MFA options. Print Anywhere enables virtual queues (VirtualQ) and Pull Print functionality, allowing documents to be released on-demand at any compatible device in the network. Users gain flexibility to securely print documents regardless of their location or device, with the added security option of MFA.

Key Benefit: Enhanced mobility and flexibility for users to print and release documents from anywhere within the organization, supported by secure access options to maintain data integrity and control.

Admin Cost Savings Comparison: Universal Print vs Traditional Print Management



Reduced Server and Hardware Costs:

Traditional print management requires on-premise print servers, including setup, maintenance, and backup solutions. With Universal Print, these costs are eliminated because Microsoft handles the infrastructure via the cloud.

Simplified Printer Configuration:

Universal Print leverages IPP class drivers and cloud-based printing, which reduces the complexity of managing multiple printer models and software. In traditional setups, managing a variety of printer types requires complex configurations and additional maintenance.

Reduced Administrative Overhead:

The administration of print queues, security, permissions, and reporting in Universal Print is simplified, thanks to cloud integration and Microsoft's enterprise tools (Entra ID, M365, etc.). Traditional solutions require more manual intervention, including troubleshooting, software updates, and security patches.

Less Dependency on Third-party Solutions:

Traditional print management solutions often require third-party solutions, resulting in licensing, support, and integration costs. Universal Print consolidates the solution, reducing the need for additional vendors.

AI and Automation Benefits:

Universal Print's integration with Microsoft's AI services (such as Copilots) helps automate workflows and document classification, saving significant time for administrative staff. Traditional print management doesn't benefit from such advanced automation, requiring more manual processes.

Compliance and Security:

Universal Print includes built-in compliance features and integrates with Microsoft's security architecture, reducing the administrative burden of ensuring printers meet industry standards. Traditional solutions may require additional compliance certifications, audits, and security configurations.

Universal Print Pricing Tiers:

The pricing models for Universal Print are presented in two tiers, offering varying levels of functionality and features:

This tier is designed for organizations that require essential print management and authentication capabilities at a lower cost.

This tier is perfect for organizations focused on robust security, in-depth analytics, and complete print management solutions.

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| <div style="background-color: #0072bc; color: white; padding: 10px; border-radius: 15px; text-align: center;"> <h3>Universal Print Standard</h3> <p>(\$5 per month/per device)</p> <div style="background-color: #003366; color: white; padding: 10px; border-radius: 15px; margin-top: 20px;"> <p>HP Auth Manager Application</p> <p>Universal Print Application</p> <p>Basic Authentication</p> <p>Basic Reporting via Microsoft Entra ID</p> </div> </div> | <div style="background-color: #0072bc; color: white; padding: 10px; border-radius: 15px; text-align: center;"> <h3>Universal Print Professional</h3> <p>(\$10 per month/per device)</p> <div style="background-color: #003366; color: white; padding: 10px; border-radius: 15px; margin-top: 20px;"> <p>HP Auth Manager Application</p> <p>Universal Print Application</p> <p>Basic Authentication</p> <p>Basic Reporting via Microsoft Entra ID</p> <p style="text-align: center; color: orange; font-size: 2em; margin: 10px 0;">+</p> <p>Zero-Trust Authentication - 2FA/MFA</p> <p>Advanced Reporting via Copilot Analytics</p> </div> </div> |
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Key Differentiators:

- The **Professional** plan offers additional security with 2FA/MFA and Zero-Trust Authentication.
- Enhanced reporting features via **Copilot Analytics** are exclusive to the Professional tier, providing more granular insights into print usage and performance.

These tiers allow organizations to choose a plan that aligns with their budget and security or reporting requirements.

The Complete Cloud-Native Print Solution

Together, **HP Authentication Manager** and **Microsoft Universal Print** provide organizations with a **complete cloud-native print management solution** that aligns with their broader security and compliance strategies. The direct integration with **Microsoft Entra** allows organizations to apply security policies uniformly across both digital and physical environments, ensuring that every print job, from initiation to release, meets the organization's security and compliance standards.

- **Convenience:** Passwordless workflows with multiple authentication options ensure that users can securely print from anywhere, enhancing productivity.
- **Security:** Policies defined in **Microsoft Entra** are consistently applied to all print workflows, enforcing **MFA**, **role-based access**, and **conditional access** to meet compliance requirements.
- **Scalability:** The cloud-native architecture of **Universal Print** allows organizations to easily scale their print infrastructure without the need for additional hardware or complex on-premises configurations.

By leveraging the combined capabilities of **HP Authentication Manager**, **Microsoft Universal Print**, and **Microsoft Entra**, organizations can create a modern, secure, and efficient print environment that supports both hybrid workforces and stringent security policies.



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