



KONICA MINOLTA

WHITEPAPER

KONICA MINOLTA PKI CLOUD SUITE

- PKI Card Authentication Entra ID
- PKI Card Scan to OneDrive
- PKI Card Universal Print Release



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INTRODUCTION

This white paper serves as a comprehensive guide, outlining the settings and operations of the PKI Cloud Suite, a solution that adapts traditional PKI-based MFP authentication to modern, cloud-based identity environments leveraging Microsoft Entra ID, thus enabling secure authentication, printing, and scanning for government organizations with stringent security requirements.

It is designed for IT administrators, system integrators, and technical teams who require a clear understanding of the technical concepts of this Microsoft Entra Certificate-Based Authentication solution. It covers API permissions, algorithms employed, and network communications used (ports, protocols used, data transferred) for PKI authentication, scan to OneDrive and PKI-based Universal Print in US Government GCC and GCCH environments.



KONICA MINOLTA MARKETPLACE – PKI CLOUD SUITE

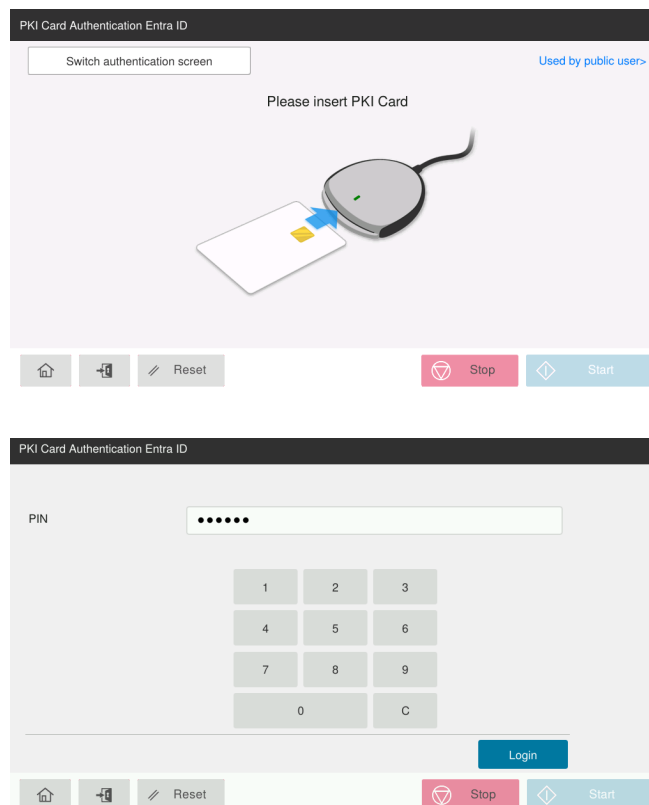
Konica Minolta Marketplace Applications - M365 Integration and Entra ID Authentication with PKI Cards

PKI Cloud Suite is comprised of three MFP-embedded applications. With Konica Minolta's PKI Cloud Suite, we offer new MFP-embedded workflow solutions to the federal government with the following use cases:

PKI Card Authentication Entra ID:

This IdP application enables certificate-based authentication (CBA) to M365 for Government via Microsoft Entra ID using PKI smart cards. Users can insert their PKI card into a card reader connected to the MFP and enter their PIN to securely access the device with multi-factor authentication. This allows organizations with strict security requirements to use MFPs as secure endpoints equipped with strong certificate-based identity authentication.

Leveraging EntraID for authentication to Government Cloud Computing has tremendous cost savings for the federal government. Active Directory Domain Controllers have server licensing and storage costs in Azure, and now that Entra ID CBA supports US federal government PKI cards, those savings can be realized. Konica Minolta has developed CAC/PIV card integration with Entra ID authentication for its office MFPs, ahead of all other OEMs in our industry.

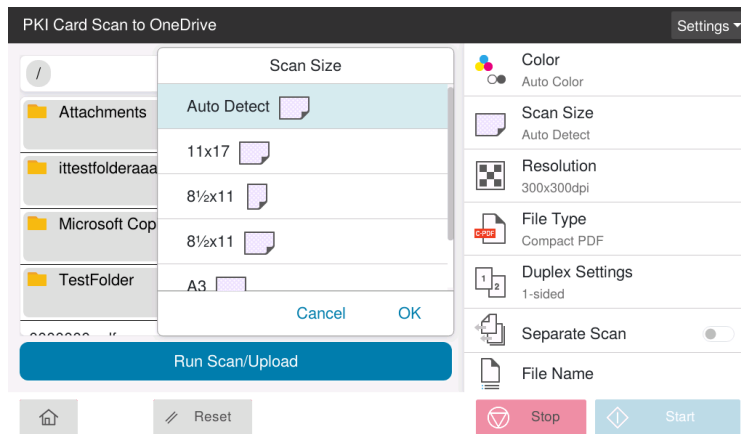


PKI Card Scan to OneDrive:



This application enables secure and seamless access to OneDrive for Business from the MFP through single sign-on (SSO). By leveraging tokens obtained via PKI card-based authentication, users can browse their OneDrive folders without re-entering credentials and securely upload scanned documents directly to their cloud storage. It supports compliance-driven environments by providing a secure data input workflow integrated with certificate-based identity authentication.

With Entra ID integration, Konica Minolta has direct MFP scan capability to OneDrive, which does not require any server-based solution or token registration. As soon as a user authenticates at the MFP, their OneDrive is accessible at the panel.



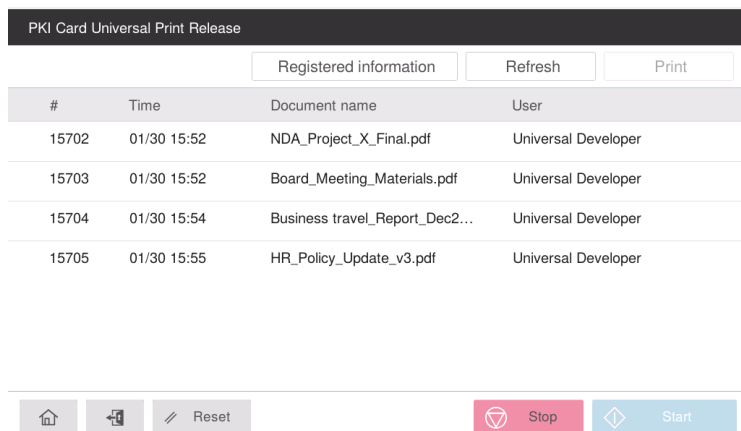
PKI Card Universal Print Release:



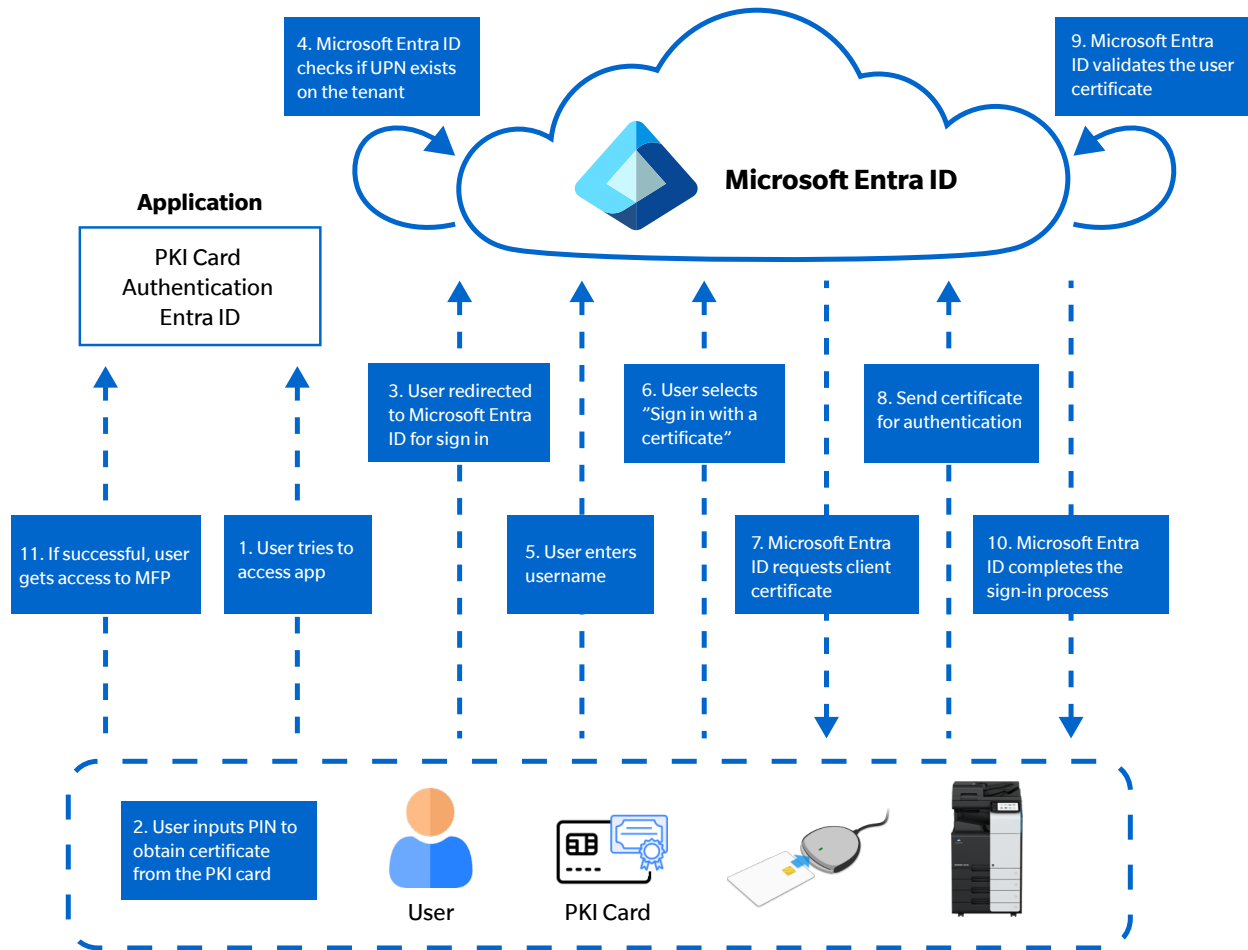
Microsoft Universal Print (MUP) Secure Print Release with Entra ID PKI authentication - With Entra ID integration, Konica Minolta has developed a server-less secure print release solution so that when a user submits a print job to MUP, they can retrieve it at any networked Konica Minolta MFP.

This application enables secure release printing with Microsoft Universal Print in PKI-enabled environments. Users can authenticate to the MFP using a PKI smart card and PIN, then securely retrieve and release their own print jobs directly from the device panel.

By ensuring that only the authenticated user can access and print their documents, it helps prevent misprints and unauthorized document pickup, supporting compliance-driven workspaces with strict security requirements.



MICROSOFT ENTRA CERTIFICATE – BASED AUTHENTICATION TECHNICAL CONCEPTS



<https://learn.microsoft.com/en-us/entra/identity/authentication/concept-certificate-based-authentication-technical-deep-dive>



API PERMISSION FOR PKI CARD AUTHENTICATION ENTRA ID

Microsoft Graph > Delegated permissions

PERMISSION	VALUE	DETAILS
OpenId permissions	Openid "Sign users in"	Allows users to sign in to the app with their work or school accounts and allows the app to see basic user profile information.
OpenId permissions	Profile "View users' basic profile"	Allows the app to see your users' basic profile (e.g., name, picture, username, email address)
User	User.Read "Sign in and read user profile"	Allows users to sign-in to the app and allows the app to read the profile of signed-in users. It also allows the app to read basic company information of signed-in users.

Note: Application permissions are not required.

API PERMISSION FOR PKI CARD SCAN TO ONEDRIVE

Microsoft Graph > Delegated permissions

PERMISSION	VALUE	DETAILS
Files	Files.ReadWrite.All "Have full access to all files user can access"	Allows the app to read, create, update and delete all files the signed-in user can access.
OpenId permissions	offline_access "Maintain access to data you have given it access to"	Allows the app to see and update the data you gave it access to, even when users are not currently using the app. This does not give the app any additional permissions.

Note: Application permissions are not required.

API PERMISSION FOR PKI CARD UNIVERSAL PRINT RELEASE

Universal Print API > Delegated permissions

PERMISSION	VALUE	DETAILS
Printer	Printers.Create	Create(register) new printers.

Note: Microsoft Graph's permissions are not required.

Universal Print API > Application permissions

PERMISSION	VALUE	DETAILS
Printers	Printers.Read	Read printers.
Printer Properties	Printer Properties.Read Write	Read and write the properties and attributes of printers.
Printer Properties	Printjob.Read Write Basic	Read and write the metadata of users' print jobs.
	Printjob.Read	Read the metadata and payload users' print jobs.

Note: Microsoft Graph's permissions are not required.

NETWORK COMMUNICATION

SOURCE	DESTINATION	URL	PORT	PROTOCOL	DIRECTION	DATA TRANSFERRED	PURPOSE
PKI Card Authentication Entra ID							
MFP	EntraID	GCC: login.microsoftonline.com GCCH: login.microsoftonline.us	443	TCP	Bidirectional	Authentication	Login
PKI Card Scan to OneDrive							
MFP	OneDrive	GCC: graph.microsoft.com GCCH: graph.microsoft.us	443	TCP	Bidirectional	Files	Load files stored in OneDrive
MFP	OneDrive	GCC: graph.microsoft.com GCCH: graph.microsoft.us	443	TCP	Bidirectional	Files	Scan File Upload
PKI Card Universal Print Release							
MFP	Microsoft Entra	GCC: login.microsoftonline.com GCCH: login.microsoftonline.us	443	TCP	Bidirectional	Authentication	Login
MFP	UP Registration Service	GCC: register.print.microsoft.com gcc-register.print.azure.us GCCH: register.print.azure.us	443	TCP	Bidirectional	Registration	Print registration
MFP	UP Service	GCC: print.print.microsoft.com gcc-print.print.azure.us GCCH: print.print.azure.us	631	IPPS	Bidirectional	Users' print jobs	Receive MUP print jobs, update output device attribute

Note: Application permissions are not required.

For complete information on Konica Minolta products and solutions, please visit: [CountOnKonicaMinolta.com](https://www.koniaminolta.com)

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