Simplifying User Experiences with Single Registration Playbook

Requirements and Specifications for Single Registration Web to Workstation Deployment

Single Registration Introduction

Passwordless Authentication using Mobile devices as authenticator enhances application security and simplifies user experiences. The users can register their mobile devices to the desktop using HYPR WFA client for passwordless login to their desktop and to the protected browser web applications. The authentication user experiences can be taken to the next level by allowing the user to register their mobile device only one time using HYPR single registration mechanism and users can have passwordless login to their desktop and protected web applications without having to register their mobile devices additionally.

Single registration could be achieved from **workstation to web** or from **web to workstation** or both directions.

Workstation to Web Single Registration

Facts

- Workstation to Web Single Registration is a one way registration traffic which allows the user to initiate and complete the registration ceremony one time using HYPR WFA Client. The user doesn't have to register explicitly to the configured web applications. Post this single registration ceremony, the user would be able to login to desktop and web applications.
- From the user's perspective, it is a one time registration experience, however from the backend's perspective, HYPR Server creates both desktop and web profiles.
- This single registration process doesn't stop the user from registering explicitly to the web application and in this case, the web registered profile is not linked with the desktop profile.
- The user could create multiple desktop profiles for the same user from multiple desktop machines, however all these desktop profiles would be linked with only one web profile.
- Desktop profile deregistration initiation from any desktop machine would delete that desktop profile and the associated web profile. Post this operation, the user would NOT be able to login to the web profile.

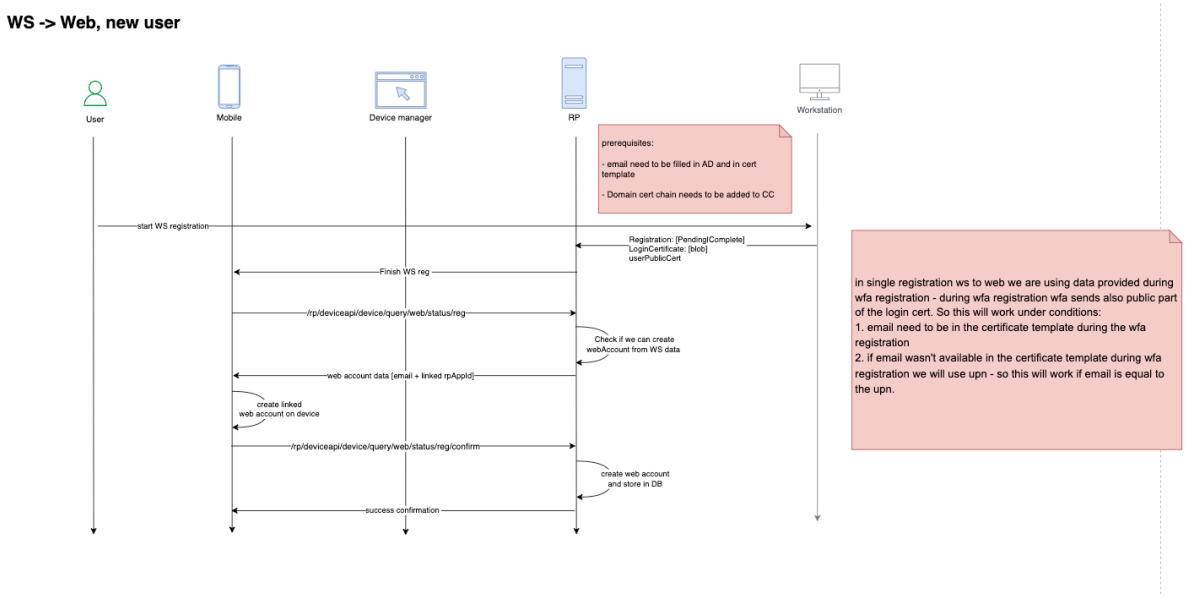
Pre-Requisites

1. Create and configure rpApp for Workstation.

2. Create and configure rpApp for all web applications which users would need to login without having to register explicitly for the web.
3. HYPR WFA Client is required to be installed.

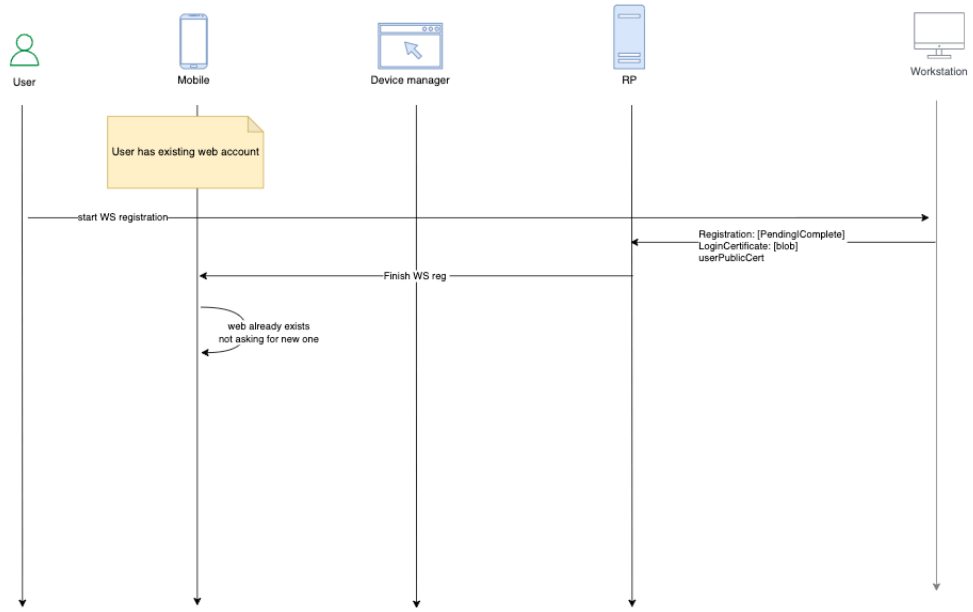
WS To Web Single Registration Sequence Diagrams

1. New Web Profile Scenario - The user doesn't have any existing web profile.



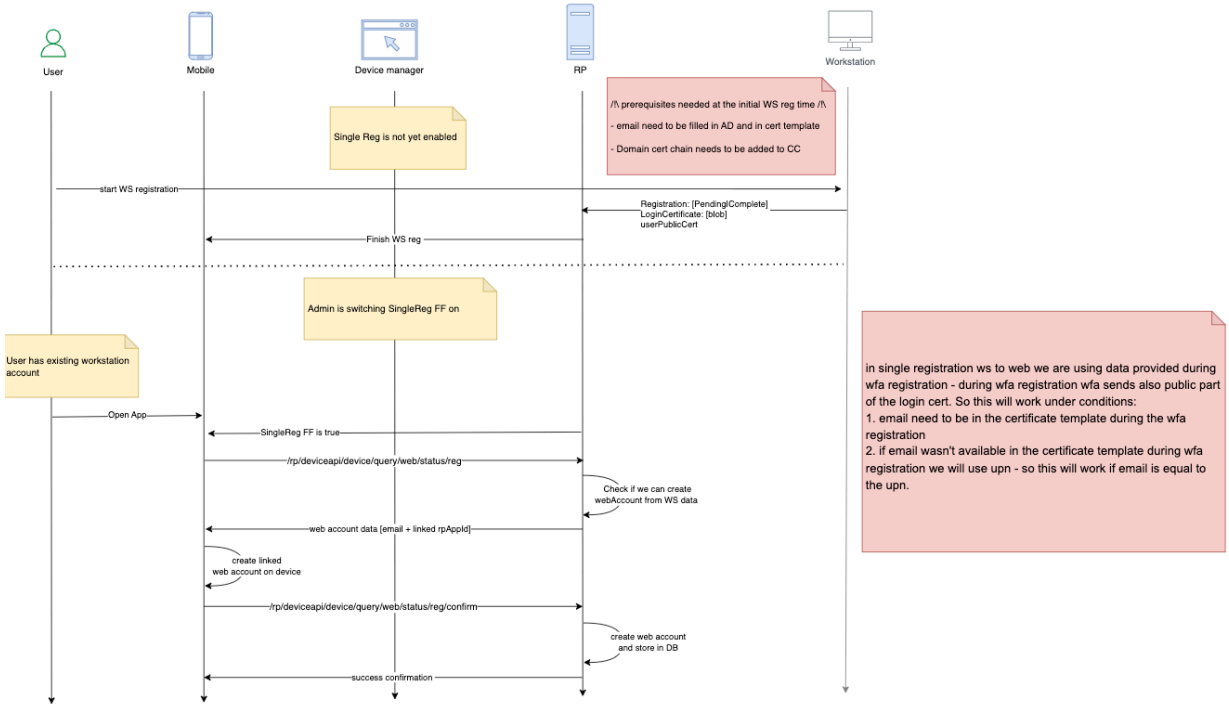
2. Existing Web Profile Scenario

WS -> Web, user has existing web reg



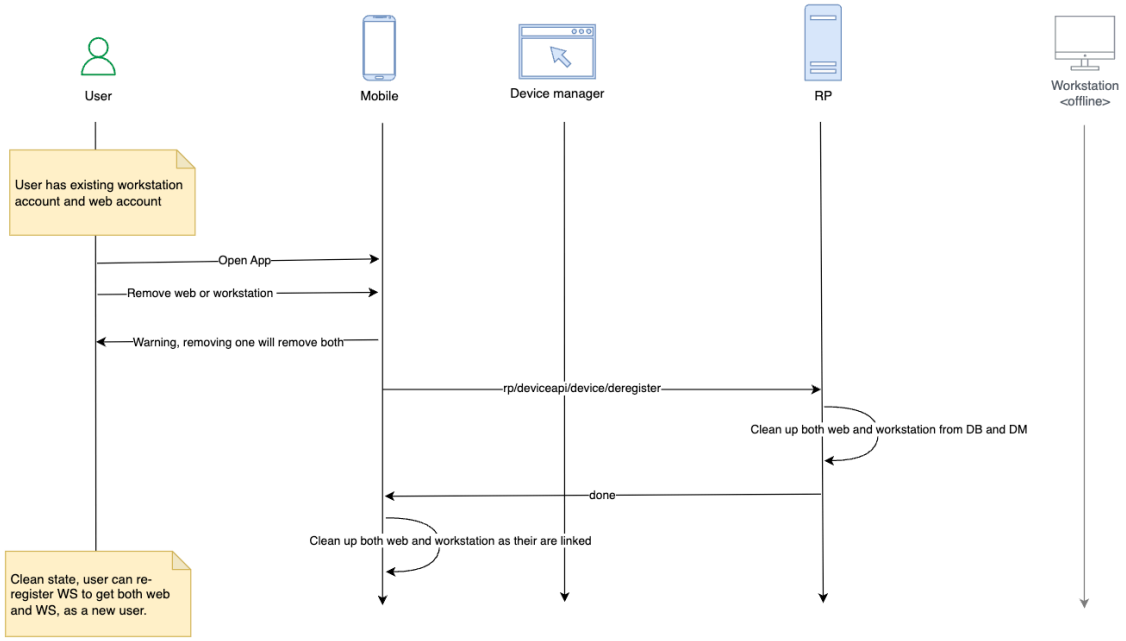
3. Existing Workstation Profile Scenario

WS -> Web, user has existing workstation reg



4. Deregistration Scenario

WS -> Web, user remove Web or Remove Workstation under SingleReg



Configuration

1. Enable below listed FFs on Workstation rpApp level
    a. `WEB_LOGIN_WITH_WFA_REGISTRATION`
2. Enable below listed FFs on Web apApp level
    a. `WEB_TO_WS_SINGLE_REGISTRATION_TRANSLATION`
    b. `RP_APP_WORKSTATION_ENABLED`
3. Upload AD CS domain CA certificate to HYPR CC
    a. Login to AD CS and export the domain certificate in DER format (base64-encoded).
    b. Make HYPR CC API Call to upload the certificate
        i. API URL - https://<**HOST**>/rp/api/domaincertificate
        ii. Request Type - POST
        iii. Request Payload - {"domainCertificate":"<**Base64Encoded**>"}
        iv. Authorization - Bearer <**AdminToken**>

```
None
curl
--location
--request POST "https://HOST/rp/api/domaincertificate"
--header "Authorization: Bearer hypap-edba607b-b400-4c57-9d3d-839a6e07a6f1"
--header "Content-Type: application/json"
--data '{
  "domainCertificate":
"MIIDczCCAlugAwIBAgIQS0n13f/8s5Np+dFMzF++0TANBgkqhkiG9w0BAQsFADBM-RMwEQYKCZImiZ
PyLGQBGRYDbmV0MRcwFQYKCZImiZPyLGQBGRYHaHlwcmxhYjEcMBoGA1UEAxMTaHlwcmxhYi1BRFNFU
lZFUi1DQTAeFw0yMjA4MTEyMzQ4MTZaFw0zMjA4MTEyMzU4MTVaMEwxEzARBgoJkiaJk/IsZAEZFgNu
ZXQxFzAVBgoJkiaJk/IsZAEZFgdoeXBybGFiMRwwGgYDVQQDExNoeXBybGFiLUFEU0VSVkVSLUNBMII
BIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAuDnPO/GZ1HeNMj1X+yDu46oK1x4mnC8aBDUwVl
pzcEv4heLuAWZT/dFVFKKZSNQxbAMubuNwFepySrgp7ThBVp4BGBq7b/LmjZJD9oeqpBhKnryIfYSqL
bxY3J2h5YtjQiR7nRr9iNyfT+8I91yyhn95sdtNEyeENlyI+dz41bAj/PksJVtdxhI/ClnJTVSCHFid
42jcta0VKgfnmRfvvobX2rOpgmKhAYr9fNZ67TlzTTjji8Hz4vpQGm/9fiLKim4idAksTo1x/w0mOLS
baHTZ/qAUdTyye6aDDw1g9xap3cXPRX82Lstq/4CbhNZRHg1QfFMamghb6siX9KXOhQIDAQABo1EwTz
ALBgNVHQ8EBAMCAYYwDwYDVR0TAQH/BAUwAwEB/zAdBgNVHQ4EFgQUG9IOpL+oXX7mlkOKNqFPWb/hm
p0wEAYJKwYBBAGCNxUBBAMCAQAwDQYJKoZIhvcNAQELBQADggEBAEGU/5V1evJKwTFaac6MnA02Pgwv
maer8Gycun4cAJbd9HUtenKcw8+oryojouniJ7Bm7NTrGPHDFgTxg1P9fdA8DE8nVCidCYiN3iJOzQ5
v593eK08SxExEGOIcFveOZf0uAXgtr2UkqTBp2K8RYUT5nTpjBXUMcQdHO1fXYJ/cKqH25CiGqMwUQx
+aNWzc7/LT4nX9A9zMiwALD1IbTZOlzU7R8mt0A3IZClJJvCl9PdAcpqiHqAUnq8ojJN0neeANJyiXi
xedrTp6gxEpGWV7tR2NuYesnwjFtV2jV0VdcYVmDQVtqdpkxbx93re2IGhNqO+H0Pujtie2TTv7J4kE
="
}'
```

Web to Workstation Single Registration

Facts

- Web to Workstation Single Registration is a one way registration traffic which allows the user to initiate and complete the registration ceremony one time using browser web application interface. The user doesn't have to register explicitly to the desktop using HYPR WFA Client. Post this single registration ceremony, the user would be able to login to desktop and web applications.
- From the user's perspective, it is a one time registration experience, however from the backend's perspective, HYPR Server creates both desktop and web profiles.

Pre-Requisites

1. Create and configure rpApp for Workstation.
2. Create and configure rpApp for all web applications which users would need to login without having to register explicitly for the web.
3. HYPR Enrollment Service Deployment and Configuration
4. HYPR WFA Client Installation (Optional)

Configuration

1. Enable below listed FF on Global level
    a. `WINDOWS_WEB_ENROLLMENT`
2. Enable below listed FFs on Web rpApp level
    a. `ASYNC_REGISTRATION`
    b. `WINDOWS_WEB_ENROLLMENT`
    c. `RP_APP_WORKSTATION_ENABLED`
    d. `WEB_TO_WS_SINGLE_REGISTRATION_TRANSLATION`
    e. `VIRTUAL_DESKTOP_INFRASTRUCTURE`
    f. `ENDPOINT_API_SECURITY_TOKEN_DEVICE (Enabled by Default)`
    g. `ENDPOINT_API_SECURITY_TOKEN_WORKSTATION (Enabled by Default)`
3. Enable below listed FFs on Workstation rpApp level
    a. `WINDOWS_WEB_ENROLLMENT`
    b. `RP_APP_WORKSTATION_ENABLED`
    c. `VIRTUAL_DESKTOP_INFRASTRUCTURE`
    d. `ENDPOINT_API_SECURITY_TOKEN_DEVICE (Enabled by Default)`
    e. `ENDPOINT_API_SECURITY_TOKEN_WORKSTATION (Enabled by Default)`

HYPR Enrollment Service - Facts

- HYPR Certificate Enrollment Service is designed to manage authentication certificates for end users enrolling with the web application registration interface or Device Manager.
- When users add a new mobile device to the web application using the registration interface, HYPR CC Server queues up the certificate request.
- Enrollment Service is expected to interact with HYPR CC Server in terms of polling for pending cert requests and it sends back the encrypted certificate to the CC server.
- CC Server transports the certificate to the user's mobile device.

- Interaction of the Enrollment Service with the HYPR CC Server is controlled by FF (`WINDOWS_WEB_ENROLLMENT`).

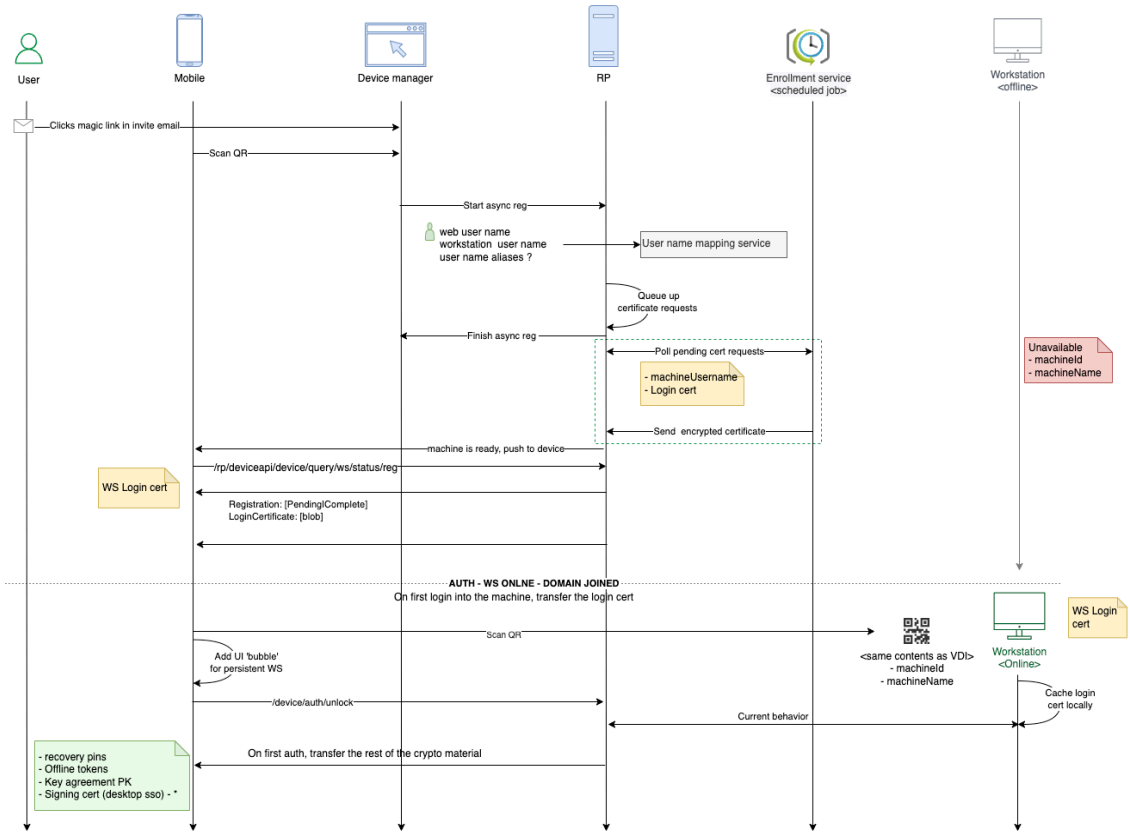
HYPR Enrollment Service - Installation Requirement

1. The Enrollment Service is distributed as an MSI installer package which has no user interface (HyprEnrollmentService_x64.msi).
2. It can be installed on a Windows Server with network connectivity to Active Directory Certificate Services (AD CS).
3. Windows Server is required to have .NET Framework enabled.
4. It can't be installed on the Domain Controller or the AD CS server.
5. HYPR Public Documentation Guide could be referred for the steps to be followed for installation of the enrollment service.

Web To WS Single Registration Sequence Diagrams

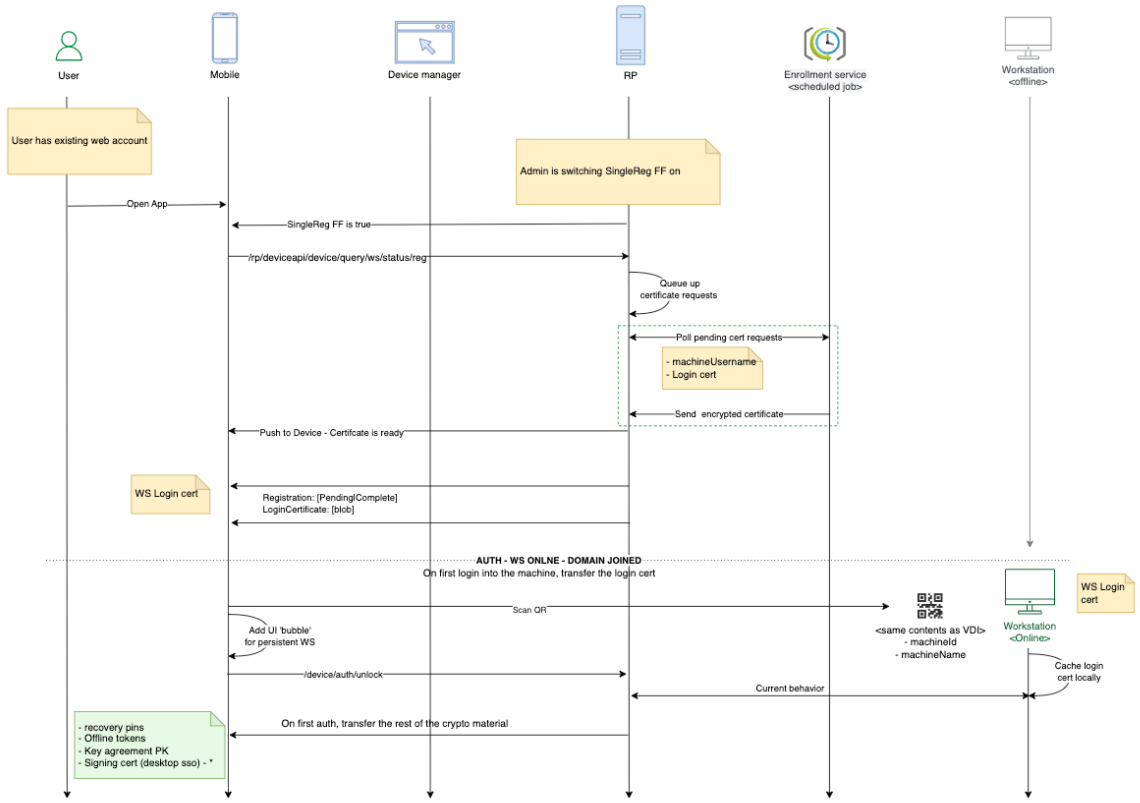
1. **New Web Profile Scenario - The user doesn't have any existing web profile.**

Web -> WS, new user



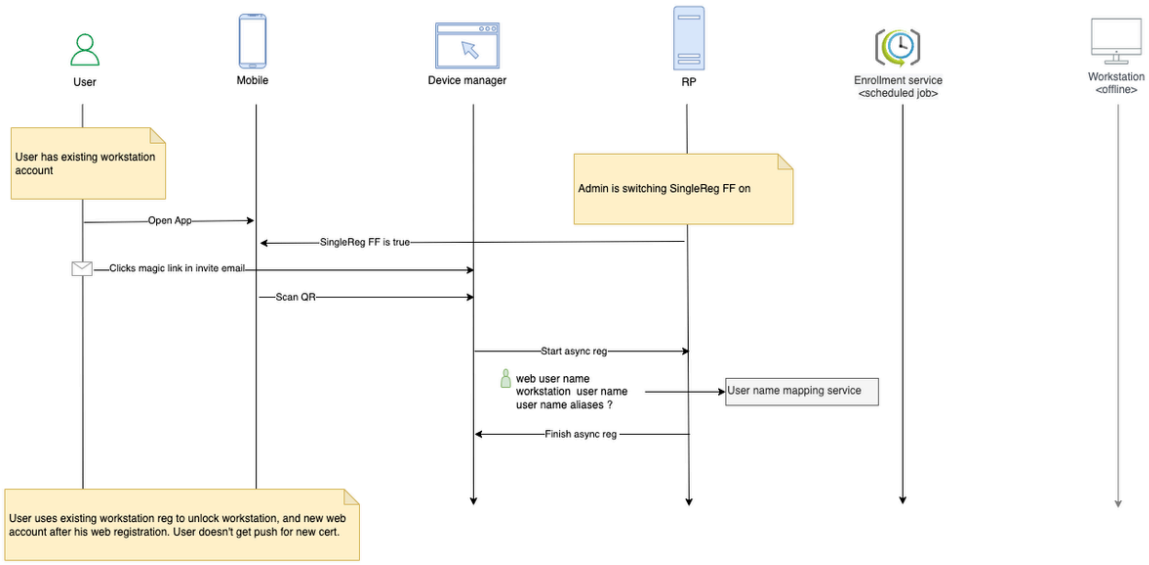
2. Existing Web Profile Scenario

Web -> WS, user has existing web reg



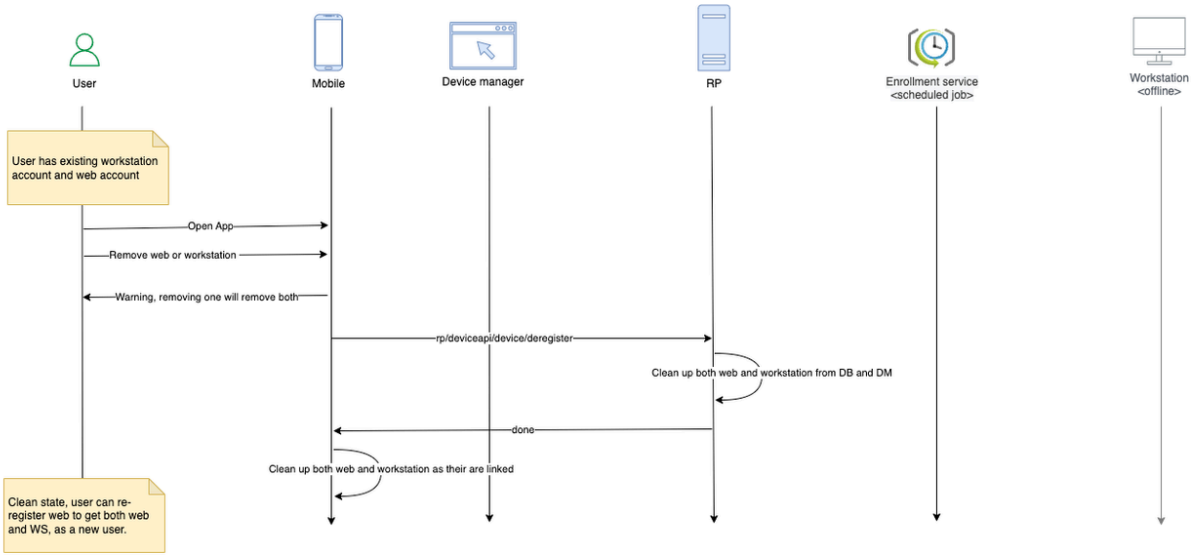
3. Existing Workstation Profile Scenario

Web -> WS, user has existing workstation reg



4. Deregistration Scenario

Web -> WS, user remove Web or Remove Workstation under SingleReg



Testing the Workflow

1. HYPR CC Console could be leveraged to create a magic link for the web application.
    a. Enter the user's email in the Username field. This is the same email address that is associated with the user profile on Active Directory.
    b. Click Create Magic Link
2. The user could navigate to Magic link Web Link UR which would redirect the user to device manager.
3. The user selects 'Register mobile device' which makes a call to HYPR Server to initiate the web registration.
4. Wait a few minutes for server to process certificate
5. The User could tap on the Pending Computer bubble.
6. The user could scan QR code on the Windows lock screen to complete the WFA pairing.

Deployment Strategy

1. **Customer has the existing footprint of passwordless login to desktop** - Workstation to Web single registration could be enabled so that web profiles would be created for all existing desktop profiles.
2. **Customer has the existing footprint of passwordless login to web application** - Web to Workstation single registration could be enabled so that workstation profiles would be created for all existing web profiles.
3. **Customer has no footprint - Both** Workstation to Web and Web to Workstation single registration could be enabled.

Logs and Audit Trail

1. HYPR CC Console provides administrators with an Audit Trail mechanism for tracking events that flow through the HYPR components. HYPR Public Documentation could be referred for the details.
2. The Audit Trail events are stored in the HYPR database for a limited time. Customers can integrate their existing SIEM footprint with HYPR Server for permanent storage of these audit events.