

## EXHIBIT A

### Unified Push Notification Project Scope and Requirements

The following milestones and related tasks shall be completed as part of this project:

#### 1. UnifiedPush Specification

- The full specification (Android + backend) shall be licensed with the Apache-2.0 license and hosted in a public git repository
- Update the UnifiedPush backend specification to be compatible with RFC8030, RFC8291 and RFC8292
- Make sure the onboard specification is fully compatible with the updated backend specification and supports all features from the RFCs (e.g., VAPID)
- Create pull requests for all specification changes that allow for community feedback over a 2-week period
- Improve onboard specification by specifying currently unanswered implementation details to clarify edge cases and to improve security including at least the following measures:
  - Specify behavior in case the distributor is currently offline
    - E.g., Behavior if the distributor is offline and must handle a unregister request and can't inform its push-server about the unregister event
  - Specify a rate limit mechanism to prevent apps from sending too many registration requests
    - E.g., Limit maximum number of allowed registrations for an app
    - E.g., Allow the distributor to throttle
  - Specify requirements for all onboard 'extras' like registration messages, message IDs etc. to allow for input validation
    - E.g., Maximum length of the registration message
    - E.g., Minimum requirements for message IDs and tokens
  - Specify Distributor behavior in case apps do not follow the requirements for the 'extras'
  - Clearly label MUST and SHOULD behavior for apps and distributors
  - Add a mechanism to allow Distributors to only accept requests from apps that support certain features
    - E.g., only accept VAPID authenticated requests
  - Clearly specify that apps MUST check the registration token to detect 'unauthenticated' requests
  - Clearly specify how message IDs can be handled securely to prevent apps from being able to acknowledge notifications on behave of other apps

## 2. UnifiedPush Connector

- Provide an updated Android connector library that fully supports the new specification
- The connector shall be licensed with the Apache-2.0 license and hosted in a public git repository
- Create a pull request for all changes that allow for community feedback over a 2-week period
- Provide an automated CI/CD to automatically build and test the UnifiedPush Connector
- New versions of the connector shall be published to maven central
- Add UnifiedPush support to the COVESA SDK which includes automatic decryption handling to simplify the user experience compared to the raw connector-library
  - For this a pull request on the COVESA SDK GitHub page shall be created to allow for community feedback on the integration over a 2-week period
- Provide a simple Android project to show potential developers how to use UnifiedPush in an Android app following the best practices
  - Provide a version that details the usage of the UnifiedPush Connector (this could be the Example App)
  - Provide a version that shows the usage of the UnifiedPush COVESA SDK integration
- Provide extensive documentation for the UnifiedPush connector as well as the COVESA SDK integration of the UnifiedPush Connector
- Open a public GitHub discussion on Androids background work limitations on the COVESA SDK GitHub page
  - Discuss how background work limitations (esp. being prohibited from launching foreground services from the background) impacts apps

## 3. UnifiedPush Example App

- Provide an updated example app that fully supports the new specification
- The example-app shall be licensed with the Apache-2.0 license and hosted on a public git repository
- Create a pull request for all changes that allow for community feedback over a 2-week period
- Provide UI functionality to test all features supported by the new specification. Including:
  - Time-to-live
  - VAPID
  - Encryption
  - Topics
  - Urgency
  - OPTIONAL: Delivery Receipts

- Provide an automated CI/CD to automatically build and test new versions of the UnifiedPush Example app
- New versions of the example app shall be published to F-Droid
- Provide documentation for the example app and detail how users can use it to test distributors and push-servers

#### **4. Reference Implementation Push-Server**

- Provide a reference implementation of a UnifiedPush push-server based on the new UnifiedPush specification
  - Based the implementation on Mozilla's autopush-rs
- [OPTIONAL] The reference implementation supports the delivery receipts feature mentioned in RFC8030
- Create pull requests for all necessary autopush-rs changes in the autopush-rs GitHub repository
- Provide an automated CI/CD that tests and builds up-to-date artifacts of the push-server to allow self-hosting
- Provide a simple way (one-command) to self-host the modified Mozilla push-server on a desktop Linux machine
  - E.g., with a docker-compose file and publicly hosted reference images
- Provide extensive documentation on how to run the potentially modified autopush-rs push-server on a desktop Linux and how to connect it with the new distributor

#### **5. Reference Implementation Distributor**

- Provide an Android distributor fully compatible with the updated UnifiedPush specification
- [OPTIONAL] The reference implementation supports the delivery receipts feature mentioned in RFC8030
- The custom distributor shall be licensed with the Apache-2.0 license and hosted in a public git repository
- Create a pull request for all changes that allow for community feedback over a 2-week period
- Allow the distributor to connect to the public Mozilla autopush-rs servers (if Mozilla does not block unknown clients from connecting)
- Provide a CI/CD to automatically build and test new versions of the distributor
- New versions of the distributor shall be published to F-Droid
- Provide extensive documentation on the distributor
  - Detail design considerations
  - Detail the core code that is needed for a specification compliant distributor (only the service, without any UI)
- Provide a mechanism to change the minimum urgency required for notifications to wake up apps based on a signal

- E.g., The signal could be the battery power and connectivity state of the device
- Provide a UI for the distributor which supports at least the following features:
  - Change the used push-server in the distributor UI
  - See current subscriptions (application name and package name)
  - Unsubscribe individual subscriptions

### **Unified Push Notification Project Time Plan**

1. UnifiedPush Specification:
  - a. Implementation: September 2<sup>nd</sup>, 2024 – September 20<sup>th</sup>, 2024
  - b. Review Period: September 20<sup>th</sup> – October 4<sup>th</sup>
2. UnifiedPush Connector & UnifiedPush Example App:
  - a. Implementation: September 23<sup>rd</sup>, 2024 – October 25<sup>th</sup>, 2024
  - b. Review Period: November 8<sup>th</sup>, 2024 – November 22<sup>nd</sup>, 2024
3. Reference Implementation:
  - a. Implementation: October 28<sup>th</sup>, 2024 – December 20<sup>th</sup>, 2024
  - b. Review Period: December 23<sup>rd</sup>, 2024 – January 17<sup>th</sup>, 2025