

WHITEPAPER

4 Reasons for the Failure of Native Push Notifications and the Catapush Solutions





What is **Catapush**?

Catapush is a **push notification solution** that allows banks to send important notifications to their customers' mobile devices.

In particular the IT solution offered by Catapush consists of software (Software as a Service – SaaS) which **guarantees the reliable, traceable, secure and confidential sending** of in-app messages and Push notifications, transactional one-to-one to the end users, even in critical situations.

Lack of sync between Application / Back-end

Add a reliable, traceable and secure in-app and push notification solution.





ISSUE



The FCM/APNs token changes and is not updated because the App does not communicate the new token to the backend. If who develops and manages the App is different from who manages the backend CRM/ERP, failures in sending notifications occur.

CATAPUSH SOLUTION

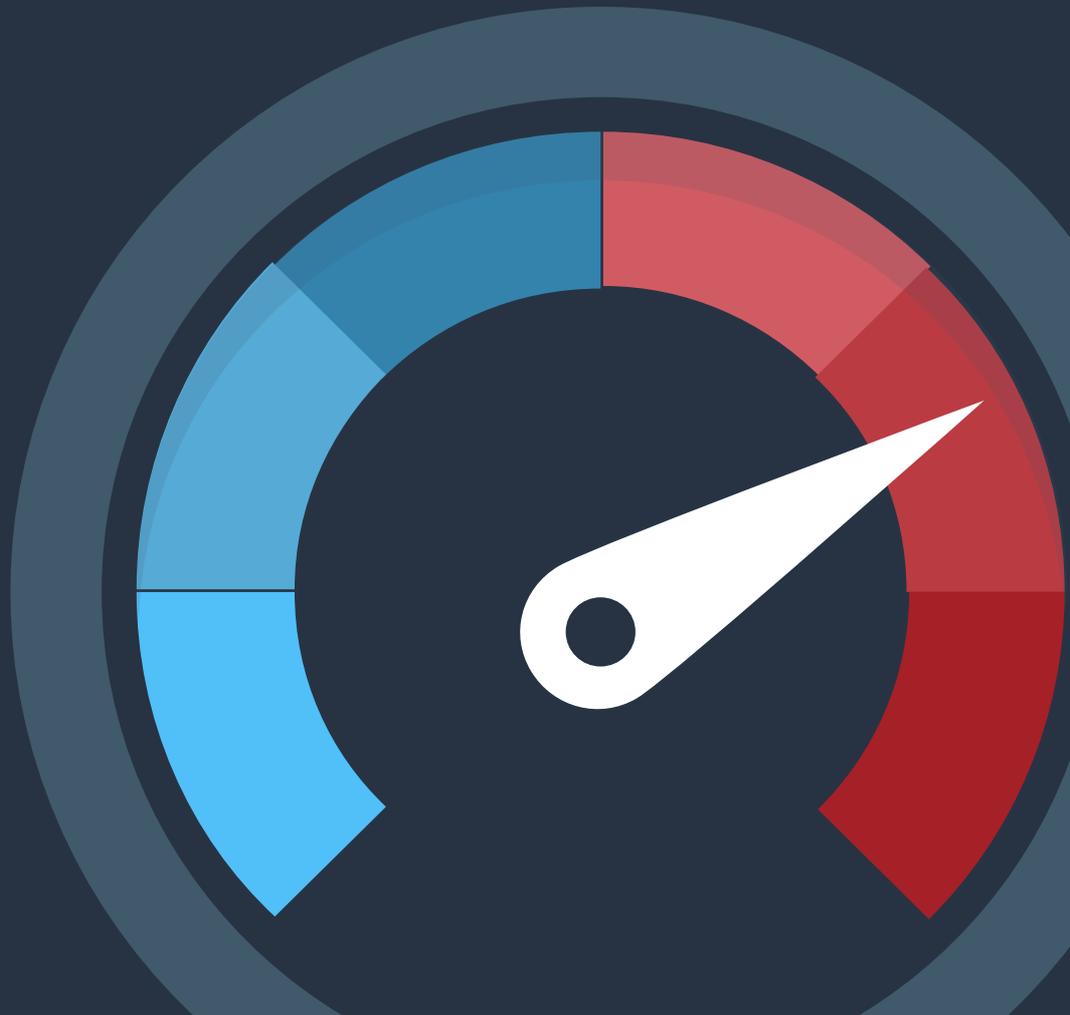
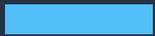


The Catapush SDK constantly **manages and updates native tokens**.

Moreover, native notifications are only used residually as silent notifications to activate the App when it is offline.

Lack of Continuous Performance Monitoring

Add a reliable, traceable and secure in-app and push notification solution.





ISSUE



At the time of release, native push notifications work, but without the implementation of continuous performance monitoring in production and the necessary optimizations on backend systems with ad hoc implementations for connecting to native push servers of Android/FCM and iOS/APNs, especially during massive sending, delays in the delivery of Push notifications can occur.

For example, your system might not check the number of connections that can be had between the backend and the native Push service servers to avoid slowdowns, delays, and missed deliveries.

Today, by continuously monitoring the service, it is possible to open more connections on iOS/APNs so that if the first connection has problems or delays, it could be interrupted and a new one could be made.

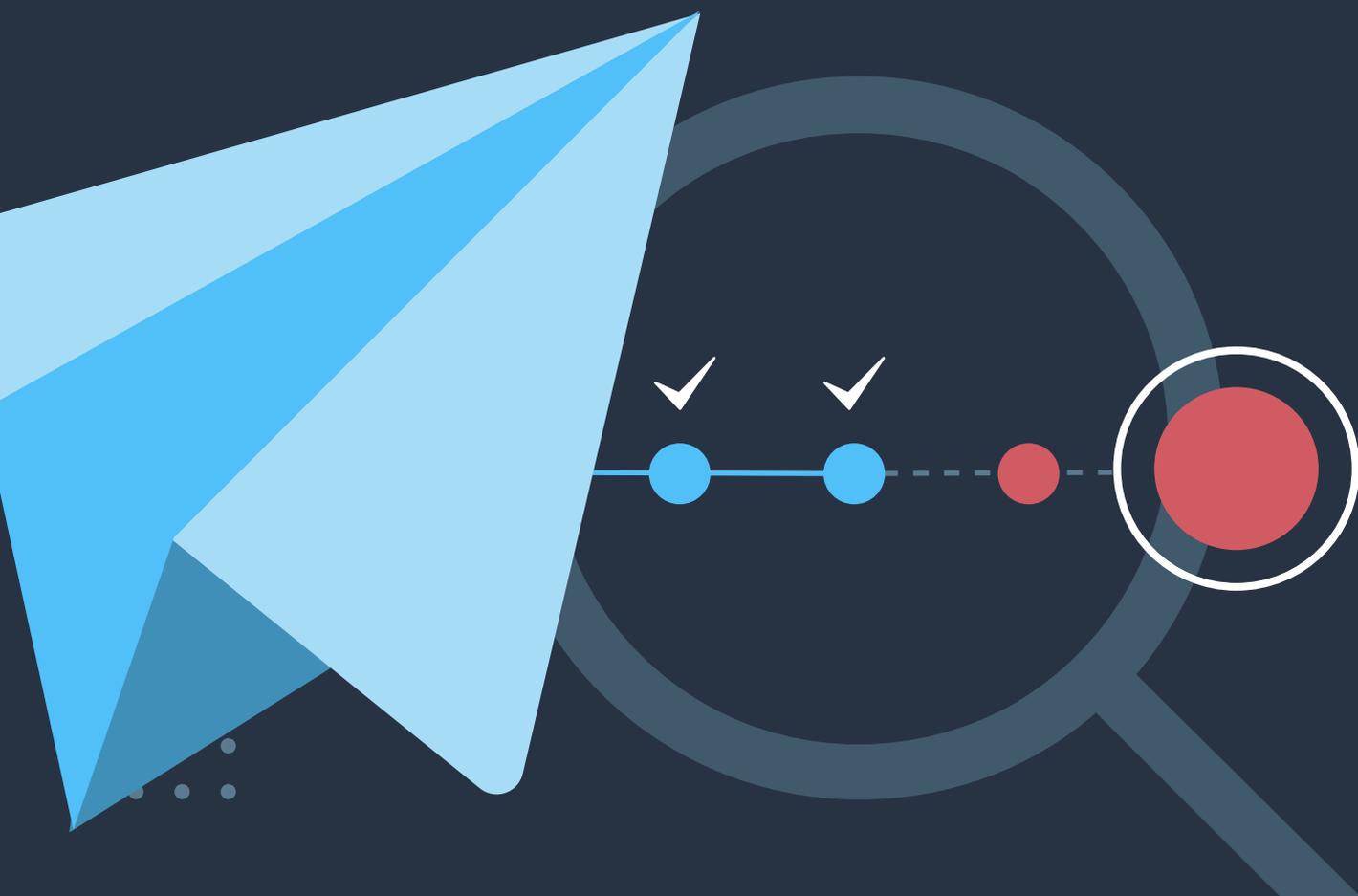
CATAPUSH SOLUTION



Catapush's proprietary notification platform constantly **monitors the performance** of the service and rapidly implements the necessary **optimizations** to reduce delays in the delivery of native Push notifications that in any case are used only residually and as silent notifications to activate the App when it is offline.

Absence of Real-Time Tracking

Add a reliable, traceable and secure in-app and push notification solution.





ISSUE



The absence of real-time tracking of notifications can lead to losses of information about failed deliveries if the App does not communicate adequately with the backend.

For example, there could be a bug in the mobile App upon the arrival of a notification. The App loses the notification and does not return the “Not delivered/Expired” status to the backend for some reason, which therefore does not retry with a second sending.

Furthermore, even if tracking was present during the delivery status communication, a network error could occur and if the App does not subsequently retry to send that delivery status would be lost.

Finally, mechanisms for resending native Push notifications with the OSs where possible must be implemented.

CATAPUSH SOLUTION

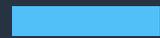


Implementation of **real-time tracking** for each delivery status for each individual message such as “Taken in Charge”, “Sent”, “Delivered”, “Read”, “Not Delivered/Expired” through real-time API callbacks.

The Catapush SDK also **handles network errors** and implements a mechanism for resending native push notifications with Google/FCM.

Problems with the Deletion of Expired Notifications

Add reliable push and in app messaging to your app





ISSUE



“Not Delivered/Expired” native push notifications, after the validity period has passed, may not be deleted, causing, in the case of resending through another fallback channel such as SMS, double communications to the customer that compromise the user experience, for example, in the case of receiving duplicate OTPs.

CATAPUSH SOLUTION



Implementation of **automatic deletion** of “Not Delivered/Expired” notifications to prevent any possible duplication of communications in case of resending in Fallback via SMS or another channel.

A CASE OF SUCCESS



In 2018 Unicredit, with millions of active customers on their mobile apps, **integrated Catapush platform** with its backend systems and iOS/Android mobile apps, phasing out the native push services provided by IBM Worklight.

Unicredit communicates today through Catapush with over **4 millions customers** on its mobile app, sending more than **1.000.000.000 messages per year** growing.

BENEFITS OBTAINED BY UNICREDIT



SIGNIFICANT SMS REDUCTION

SMS fallback lower than 10%



SMS COST SAVINGS

over €10.000.000/year growing



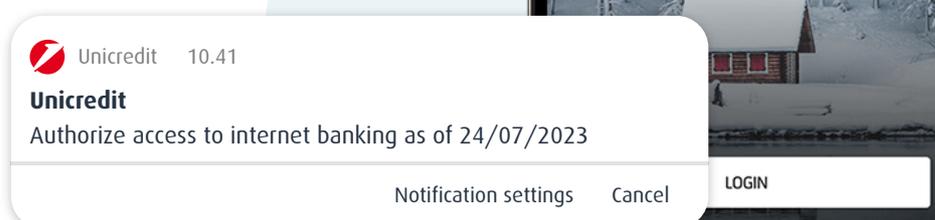
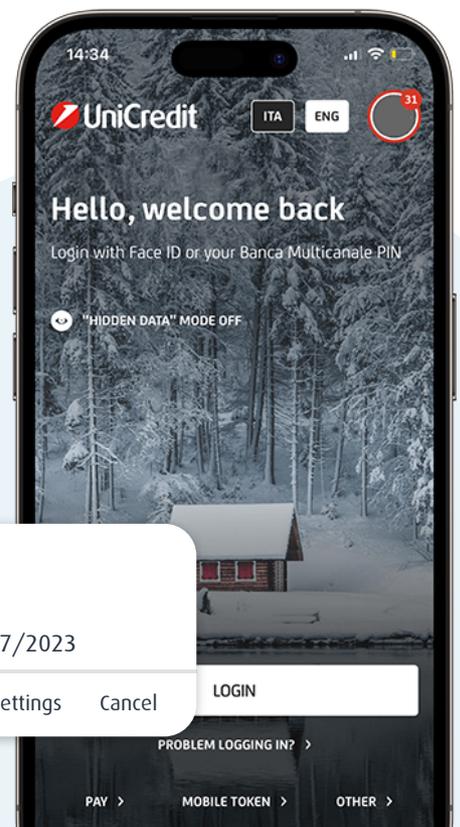
IMPROVED SECURITY

thanks to end-to-end content encryption support (not available on the SMS) for sending OTP for 2FA, etc



HIGH DELIVERY RELIABILITY AND REAL TIME DELIVERY STATUSES

with exact click through rates for CRM campaign automation



USE CASES

ALREADY IMPLEMENTED:



PAYMENTS CARDS ALERTS

Sending of push and in-app messages on payments of all cards transaction notifications for fraud prevention. Storage of the notifications in the app's "inbox". SMS fallback if push delivery failed.



OTP FOR SA/2FA

Push and in-app messages with encrypted OTP delivery for 2FA related to all online payment arrangements and for bank account access and consultation as per PSD2 requirements.



MASSIVE INFO/PROMOTIONAL CAMPAIGN

Massive sending of push with reporting of "Delivered" and "Read" statuses for exact click-through rate and message/campaign performance.



TRANSACTIONAL COMMUNICATION

Push and in-app messages to notify end users of process status changes or other significant step during customer journeys.

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