Wallet NFC Pass Validation for Apple VAS and Google Smart Tap

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Validating NFC Wallet Passes and Tickets

CodeREADr supports NFC validation for Apple Wallet and Google Wallet passes, using Apple's VAS and Google's Smart Tap protocols with certified hardware from Zebra and VTAP. NFC validation uses short-range wireless communication (Near Field Communication) between an attendee’s phone or wearable device and an NFC Wallet-certified reader.

The process involves several security components:

Encrypted credential data: When an attendee taps a certified device, the wallet securely transmits an encrypted payload to the NFC reader.

Certified NFC hardware: CodeREADr supports certified Zebra and VTAP hardware that serves as the interface between the attendee’s wallet credential and the CodeREADr validation workflow. [On request, additional certified readers will likely be added in the future.]

Reader keys: Account administrators must provision the devices' reader keys required to access the encrypted pass data. These reader keys allow the credential information to be securely retrieved without exposing the issuer’s signing credentials.

For Zebra devices, these keys are provisioned directly through the CodeREADr app. [Email support@codereadr.com to learn how this is done.]

For VTAP devices, we currently support VTAP Direct, where administrators or their users add the reader key directly to the device. [If you need to use VTAP Cloud, please contact CodeREADr support.]

Note: Reader keys are used to access credential data, not to create or sign new passes. Therefore, possession of a reader key does not allow someone to generate valid tickets.

Validate Passes and Tickets

The underlying rules for access control, duplicate prevention, attendance tracking, ticket status, and attendee information can remain consistent regardless of whether the pass credential is presented by NFC or QR code.

Three Ways to Validate Passes

Organizations do not need to move from their existing access control methods to Wallet NFC validation all at once. CodeREADr can support several implementation approaches.

1. Barcode-First Wallet Passes

Digital wallet passes can display a barcode or QR code for conventional scanning.

No NFC hardware is required, and organizers can continue using their existing CodeREADr-compatible scanning devices. Attendees receive the convenience of storing tickets in their digital wallets while the event retains its current barcode-validation process.

2. Hybrid NFC and Barcode Validation

Organizations can introduce NFC while continuing to support existing barcode workflows, whether presented as a Wallet pass, traditional e-ticket, or physical ticket.

For example, an event may add tap-enabled lanes using compatible Zebra or VTAP hardware while maintaining barcode lanes for other attendees. NFC may initially be offered to VIPs, season-ticket holders, staff members, or selected groups before a wider rollout.

A hybrid model also provides a fallback method when attendees are unable to use an NFC credential.

3. Full-Scale NFC Access

Organizations with higher security requirements may choose to equip every entry lane with compatible NFC hardware and issue NFC-enabled wallet passes to all attendees.

This approach can provide a streamlined tap-based entry experience and greater protection against casual ticket sharing. It may be appropriate for high-volume events, restricted-access environments, or programs in which credential security is a primary concern.
Even in an NFC-focused deployment, organizers may wish to retain barcode or manual lookup procedures as an operational fallback.