Payment Device SDK for iOS/ Android

Recent Change Guide for Release 5.4.2 (Cassiopeia)

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Recent Changes

1. Introduction

This document details recent SDK additions and the changes required by integrators when upgrading the Payment Device SDK for iOS/Android to the latest version. Migration changes are included for the last four releases. If you require migration notes or assistance to upgrade from an older version please contact the support team.

2. Release 5.4.2 (Cassiopeia)

Android

- The new Smart POS features below (printing, the admin settings, the card entry timeout, card tokens, boarded currencies, masked PANs, ARC 24, the removed confirmation screen and the fixes for sales reported as declined or failed) need Transaction Initiator UI v1.4.0 or later on the device. The changed error codes apply as soon as you upgrade the SDK.
- Added support for printing receipts using `processReceipt` for Smart POS integrations. Printing requires a device with an integrated printer running ARC 23.06.01 or later. Email and SMS receipts are not supported on Smart POS and return `ReceiptSourceEmailNotSupported` or `ReceiptSourceSMSNotSupported`.
- Added support for managing kiosk mode, the notification panel and the administrator passcode through `connectAndConfigure` and `getStatus` for Smart POS integrations.
- Added merchant tipping (`TipAmount` on `startTransaction`) for VP3350 and Chipper PIN pads.
- Merchant tipping must be enabled in TMS. On a VP3350 or Chipper, `TipAmount` no longer always returns `TipAmountNotAllowed` : it can return `MerchantTippingNotSupported` , `TipAmountInvalid` or `AmountTooLarge` .
- Any surcharge is calculated on the amount before the tip.
- Added a card entry timeout for Smart POS integrations, set with `CardEntryTimeout` on `startTransaction` and `getCardDetails` .
- Added one-way card tokens (`FeatureTokens`) for Smart POS integrations. Tokens for the card are returned in `CardTokens` . For a mobile wallet or other device card number, tokens for the

funding card are also returned in the new `FundingCardTokens` when the authorization supplies the funding card.

- Added Customer Vault support (`CustomerVaultCommand` and `CustomerVaultId`) for Tap To Mobile, and `CustomerVaultId` is now returned in the transaction finished event. Credential on File parameters (`CredentialOnFileFirstStore` and `CredentialOnFileReason`) are now applied to Tap To Mobile transactions.
- Added documentation for Customer Vault, Credential on File and starting an incremental authorization.
- Masked PANs for Smart POS integrations now show the first 6 and last 4 digits for card numbers of 12 to 19 digits.
- Added support for ARC 24 for Smart POS integrations.
- Removed the amount confirmation screen from transactions for Smart POS integrations.
- Resolved issue where a Smart POS sale could be reported as declined although the customer had been charged, when the confirmation could not be completed straight away. The sale is now reported as `Committed` , and `getTransactionInformation` returns `ParameterKeys.OfflineStatus` set to `ParameterValues.OfflinePending` until the confirmation is processed, and then `ParameterKeys.OfflineCompletionState` set to `ParameterValues.OfflineCompletionProcessed` .
- Resolved issue where a Smart POS sale over Bluetooth could be reported as failed while the terminal went on to take the payment, when the connection dropped as the transaction started. The transaction now continues and reports its actual result.
- Resolved issue where the default `getCardDetails` amount configured in TMS for Miura PIN pads was not applied after the SDK restarted.
- Resolved issue where a Smart POS request over Bluetooth to an Axium that was switched off or out of range returned `ServerResponseError` . It now returns `ConnectionFailed` , as other PIN pads do, or `BluetoothNotEnabled` or `DeviceNotPaired` when the phone's Bluetooth is off or the Axium is not paired.
- The demo apps no longer include an API key. Add your own in the demo app's source before running it.

- Resolved issue where Smart POS integrations only accepted GBP and USD rather than the merchant's boarded currencies.
- `startTransaction` can now return `TMSUpdateRequired` until the currencies have been read from the terminal.
- `startTransaction` without a currency now returns `CurrencyNotSet` rather than `CurrencyNotFound`, and an unboarded currency returns `CurrencyNotSupportedForPaymentMethod`.
- `getAvailableCurrencies` can now return a `Result` of `FALSE`, with `TMSUpdateRequired` or `PinPadNotConfigured`.
- `getCardDetails` can now return `RegistrationRequired`, and checks a supplied currency against the boarded list.
- `connectAndConfigure` and `requestTmsUpdate` can now fail with `CurrencyNotFound` when the merchant has no supported boarded currencies.

3. Release 5.4.1 (Cassiopeia)

Android

- Cloud Commerce SDK updated to version 6.9.0 for Tap To Mobile.
- The Cloud Commerce AAR file names have changed to `cloud-commerce-sdk-debug-6.9.0.aar` and `cloud-commerce-sdk-release-6.9.0.aar`.
- Tap To Mobile integrations using the `full` build flavour must now include the Logback and SLF4J dependencies. Update the following dependency versions in integrating apps:

```
implementation 'ch.qos.logback:logback-classic:1.5.32'
implementation 'org.slf4j:slf4j-api:2.0.18'
implementation 'com.squareup.okhttp3:logging-interceptor:4.12.0'
implementation 'com.google.code.gson:gson:2.13.2'
implementation 'com.squareup.okhttp3:okhttp-urlconnection:4.12.0'
```

- Applications packaging the full SDK must also exclude `META-INF/INDEX.LIST`, as `logback-classic` and `logback-core` both provide it:

```
packaging { resources { excludes += 'META-INF/INDEX.LIST' } }
```

- Added the ability to select the Cloud Commerce environment for Tap To Mobile by overriding `getEnvironment()` in `ChipDnaApplication`. This defaults to the live environment.

- Resolved issue where a VP3350 PIN pad reporting missing configuration was not reconfigured by the next `ConnectAndConfigure`.
- Resolved issue where connecting or pairing to a CHB30 PIN pad could time out.
- Resolved issue where `ConnectAndConfigure` could fail on BBPOS PIN pads that did not report a battery percentage.
- Deprecated `ParameterKeys.CertificateFingerprint`. This value is no longer used for Tap To Mobile and can be removed from integrations.
- Resolved issue where a linked refund by CardEase reference was rejected when the original transaction included a surcharge.

4. Release 5.4.0 (Cassiopeia)

Android

- Added support for Credential on File (Card-on-File) first store transactions for SmartPOS integrations.
- Resolved issue whereby `ConnectAndConfigure` required an online connection to succeed.
- Added support for Surcharging.
- Merchants can apply a card-present surcharge on eligible US transactions (Sale, Auth and Linked Refund). Surcharging is opt-in per transaction via the `Surcharge` parameter on `startTransaction()`; the SDK retrieves the merchant's surcharge limits from the gateway and returns them in the new `Surcharge` callback, and the amount to apply is confirmed with the new `continueSurcharge()` method. See the Surcharging section of the API document for full details.

5. Release 5.3.1 (Andromeda)

Android

- Added support for external signature verification on Smart POS integrations.
- Introduced a new signature verification flow allowing the integrating application to handle signature capture and verification outside the SDK. New `ParameterKeys` and verification modes are documented in the Smart POS Supplement.

- Added compatibility with Android 16 (API 36).
- Disabled legacy TLSv1 and TLSv1.1 protocols on Android 16 and ensured the TLSv1.2 handshake is established before the first network request, preventing Conscrypt's deferred handshake from blocking request registration.
- Resolved issue where Miura and Bluepad50 PIN pads did not close the Bluetooth connection at the inactivity timeout configured via the TMS. Behaviour now correctly handles the underlying Android API changes introduced in API 31 and API 33.
- Resolved issue where older SDK versions could poll indefinitely after a transaction when connected to a newer Axium build. Receipt deserialization now falls back to a default representation when it encounters unrecognised receipt item enumerations introduced in newer Axium releases.
- Resolved issue where calling `getCardDetails` on a Miura M20 could crash with a `NumberFormatException` when the card returned an offline decline (`0xE5`).

6. Release 5.3.0 (Andromeda)

Android

- Added support for Elavon EISOP as an acquirer for smart POS integrations.
- Enhanced `getStatus` functionality to return additional information for smart POS integrations.
- Operating system version.
- Deferred authorisation support status.
- POS GUID.
- Improved error reporting when simultaneously attempting Bluetooth and TCP connections for smart POS integrations.

7. Release 5.2.0 (Interstellar)

Android

- Added support for integrating applications running on Axium devices.
- The ChipDNA Mobile SDK now supports driving payments directly on Axium devices. Refer to the *Axium Development Guide Supplement* for details.
- Added the ability to select a PIN pad using `ParameterKey.BluetoothDeviceId` instead of `ParameterKey.PinPadName`.
- Extended `ChipDnaMobileSerializer` with a new `deserializeAvailablePinPadsWithId` method, which returns a list of `AvailablePinPad` objects containing Bluetooth information.
- Added support for OTA updates for Axium devices.
- Introduced a Device Agent application on Axium devices to provide improved control over application updates.
- OTA updates can be deferred depending on criticality or security requirements.
- OTA updates can be initiated either from the Axium device or via the ChipDNA Mobile SDK. See the *Delayed Firmware Updates* section of the API document for more details.

8. Release 5.1.0 (Fermi)

Android

- Added support for remote linked refunds on Axium devices, these are refunds where the original transaction is performed on a different payment terminal to the device performing the refund.
- Resolved issue confirming refunds on an Axium. Transaction Finished events now return states that correctly reflect the transaction state of Standalone Refunds.

9. Release 5.0.1 (Celestial)

Android

- Added support for keyed PAN entry for smart POS integrations.

- Added functionality to return `ParameterKeys.AcquirerResponseCode`, `ParameterKeys.CardSchemeId`, `ParameterKeys.MaskedPan` and `ParameterKeys.ExpiryDate` for smart POS integration transactions.
- Enhanced errors returned for confirm, void and linked refund smart POS transactions.
- Resolved issue where `ReceiptData` for smart POS integration transactions did not match the format of existing PIN Pads transactions.

10. Release 5.0.0 (Celestial)

Android

- Enhanced `getStatus` functionality to fully support smart POS integrations.
- Added support for `getCardDetails` for a smart POS integration.
- Resolved issue where Linked Refund transactions from smart POS integrations were not returned via `getTransactionInformation`.
- Added functionality to return `ParameterKeys.CardHashCollection`, `ParameterKeys.CardReference` and `ParameterKeys.Par` for smart POS integration transactions.
- Enhanced the transaction update events returned for smart POS integration transactions.
- Added a new `processOfflineRequest` API method.
- Added support for EMV offline smart POS integration transactions.
- Added new `ParameterValues.Unknown` which can be returned for a `ParameterKeys.TransactionResult` and `ParameterKeys.TransactionState`.

11. Release 4.1.2 (Asteroid)

iOS

- Fixed issue where Apple's Tap to Pay on iPhone Terms and Conditions were no longer presented during `connectAndConfigure`, causing Tap To Mobile transactions to fail with a General error.
- Added the `TapToMobileAccountNotLinked` error, returned when the Tap to Pay on iPhone Terms and Conditions are declined or not yet accepted.

12. Release 4.1.1 (Asteroid)

iOS

- Requesting a surcharge on a transaction type that does not support surcharging now returns `SurchargeNotSupported`.
- Fixed logging issues with `CardDetails` events during surcharging transactions.

13. Release 4.1.0 (Asteroid)

iOS

- Added support for Surcharging.
- Merchants can apply a card-present surcharge on eligible US transactions (Sale, Auth and Linked Refund). Surcharging is opt-in per transaction via the `Surcharge` parameter on `startTransaction()`; the SDK retrieves the merchant's surcharge limits from the gateway and returns them in the new `Surcharge` callback, and the amount to apply is confirmed with the new `continueSurcharge()` method. See the Surcharging section of the API document for full details.
- CloudCommerce SDK updated to version 4.1.0.
- Added iOS build flavours `full` and `lite`.
- `full`: **supports** Tap To Pay functionality. Minimum supported iOS version 18.5.
- `lite`: **doesn't support** Tap To Pay functionality. Minimum supported iOS version 17.4.

Android

- Added support for Smart POS Integration and Axium devices DX4000, DX8000, EX4000, EX6000, EX8000 and RX5000.

  For more information on how to support Smart POS within your integration please see the Smart POS Supplement.
- Added support for `SmartcardRemovePrompted` and `SmartcardRemoved` events.
- Supported on Miura, Datecs, BBPOS and ID Tech devices.

- Added Android build flavours `full` and `lite`.
- `full`: **supports** Tap To Pay functionality.
- `lite`: **doesn't support** Tap To Pay functionality.

14. Release 4.0.6 (Starfish)

iOS

- Added compatibility with iOS 26.
- Cloud Commerce SDK updated to version 2.1.1 with support for iOS 26.
- Payment Devices SDK is now built with Xcode 16.4.
- Integration using Xcode 15.3 is no longer supported. It is recommended to use Xcode 16.4 or later when integrating with this SDK.

Android

- Updated to SQLCipher 4.7.2.
- CloudCommerce SDK updated to version 5.3.1.
- Resolved issue where production Discover contactless transactions caused an `EMPTY CANDIDATE LIST` error for Tap To Mobile.
- Resolved issue where the SDK could become stuck in an active transaction state after a bad card read when using an ID TECH VP3350 device.

15. Release 4.0.5 (Starfish)

iOS

- Resolved issue where "No CVM" is displayed on receipt when CDCVM is performed for Tap To Mobile.
- Removed internal hard-coded transaction limit of 9,999,999 (minor units).

Android

- CloudCommerce SDK updated to version 5.3.0.
- Resolved issue where "No CVM" is displayed on receipt when CDCVM is performed for Tap To Mobile.
- Added support for Online PIN for Tap To Mobile and updated the required app permissions:
- `android.permission.RECORD_AUDIO`
- `android.permission.HIDE_OVERLAY_WINDOWS`
- `android.permission.NFC`
- `android.permission.VIBRATE`
- Removed internal hard-coded transaction limit of 9,999,999 (minor units).