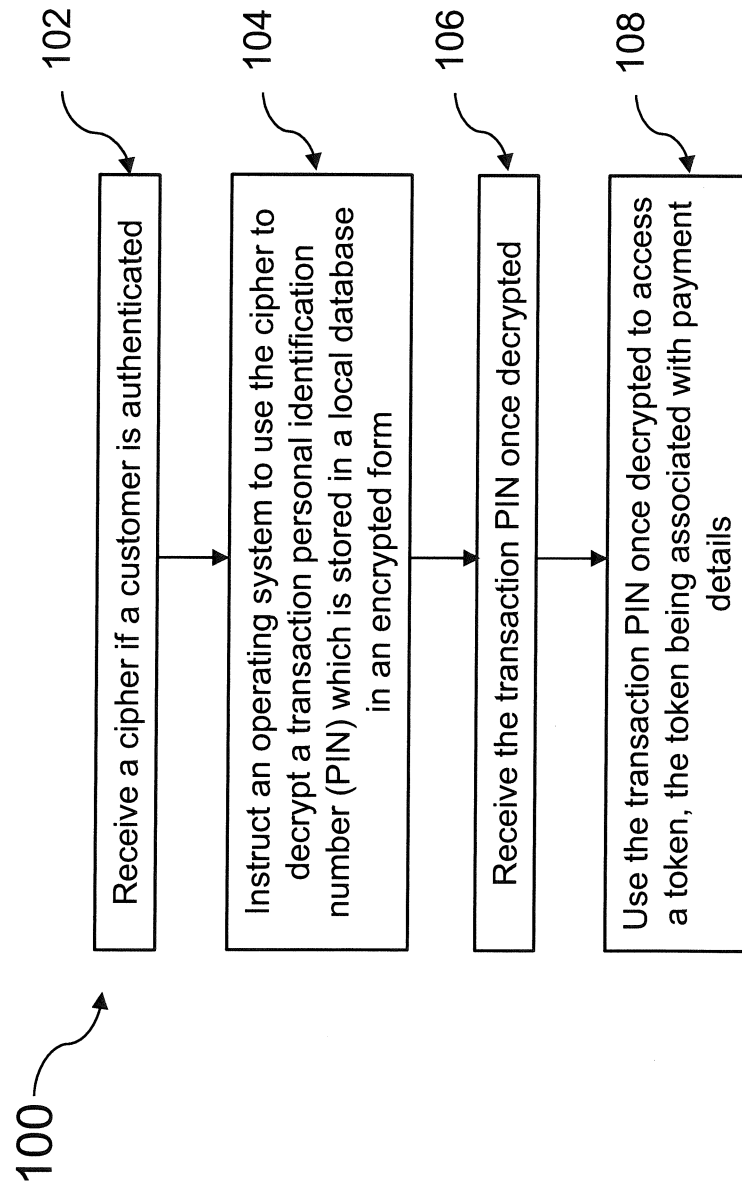
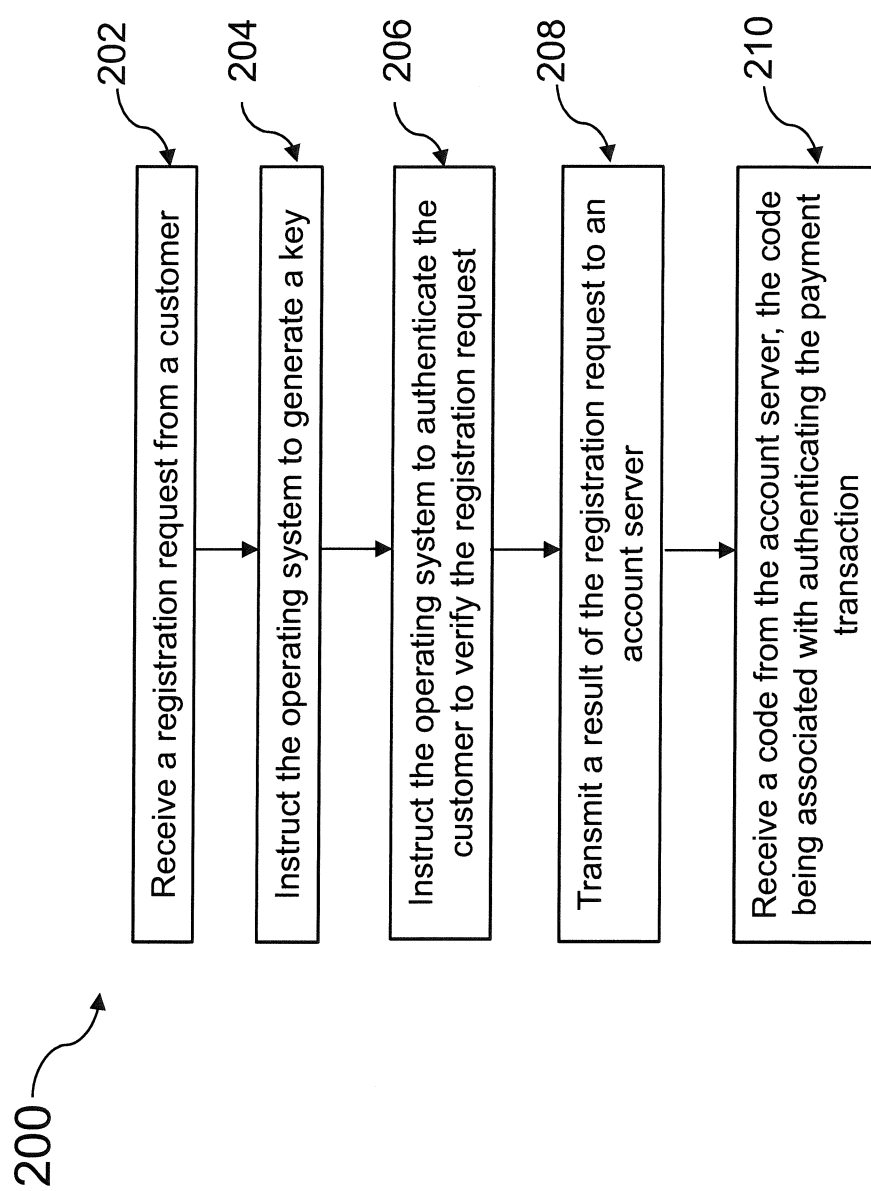


**Fig. 1**

**Fig. 2**

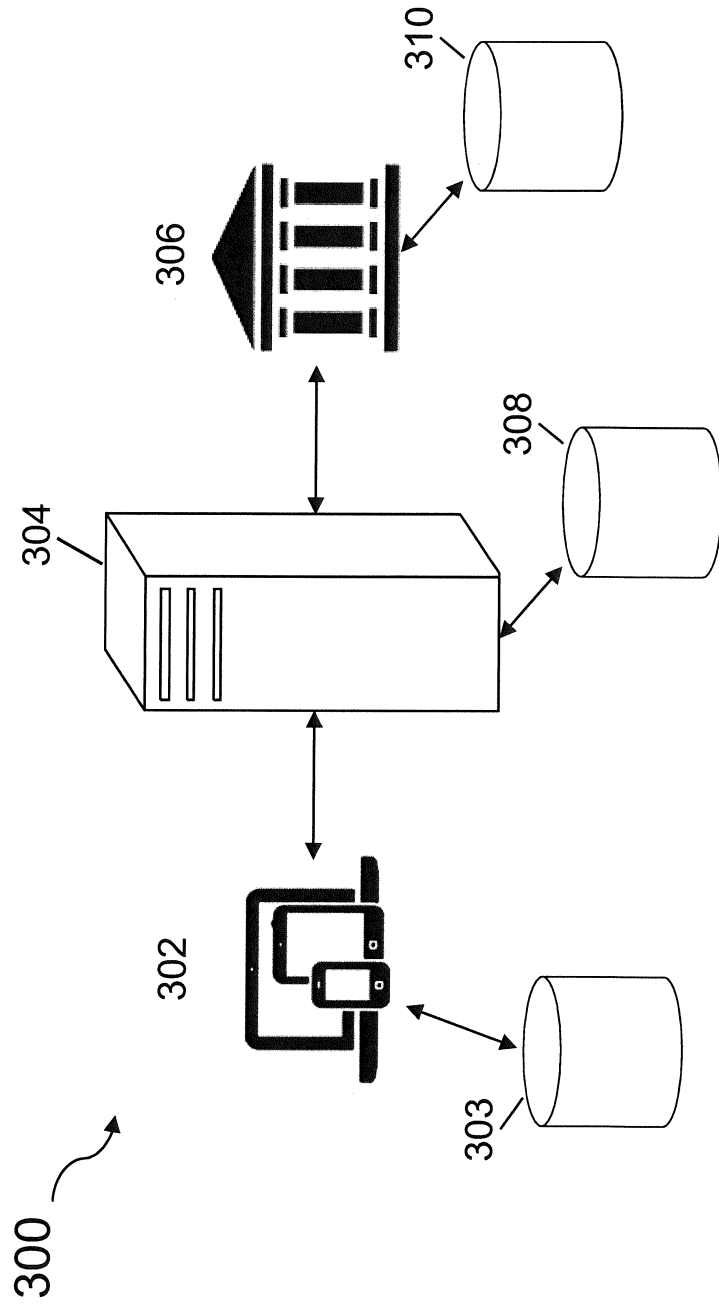


Fig. 3

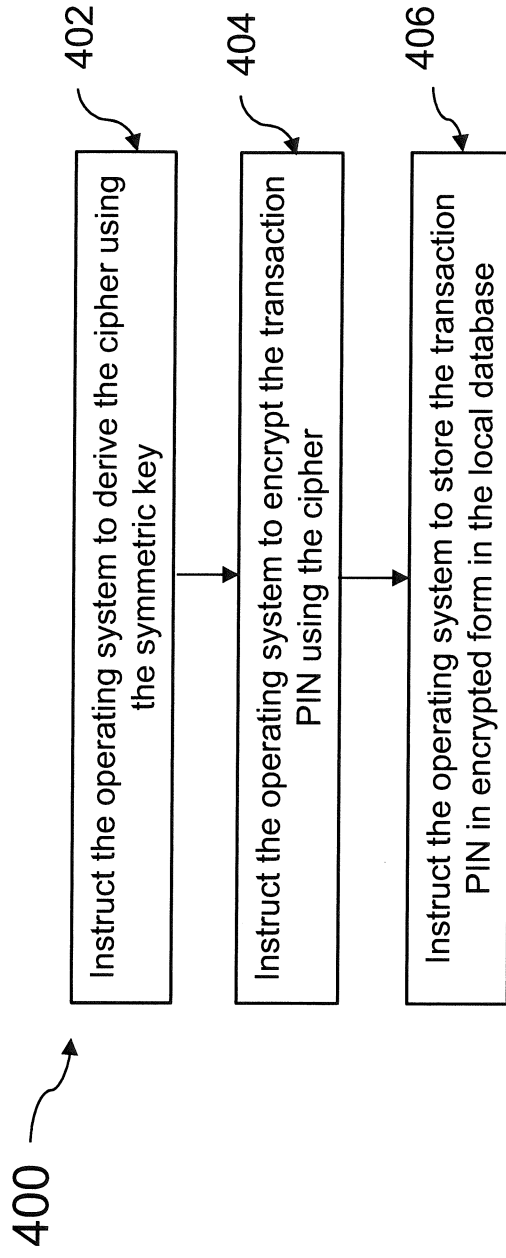


Fig. 4

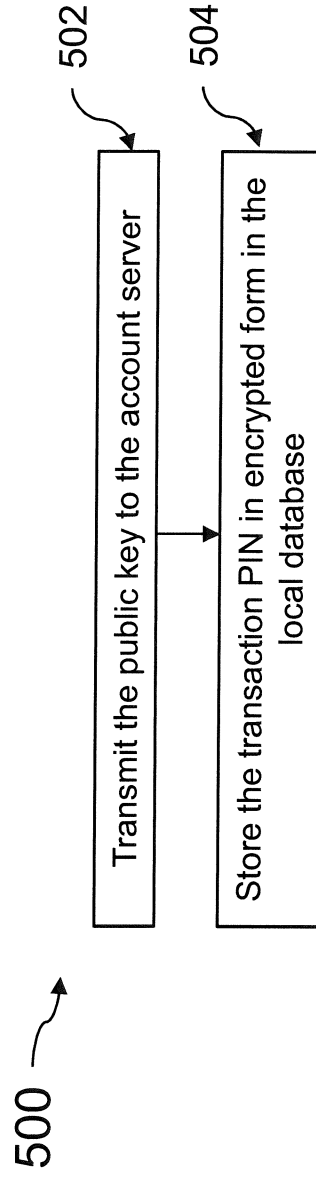


Fig. 5

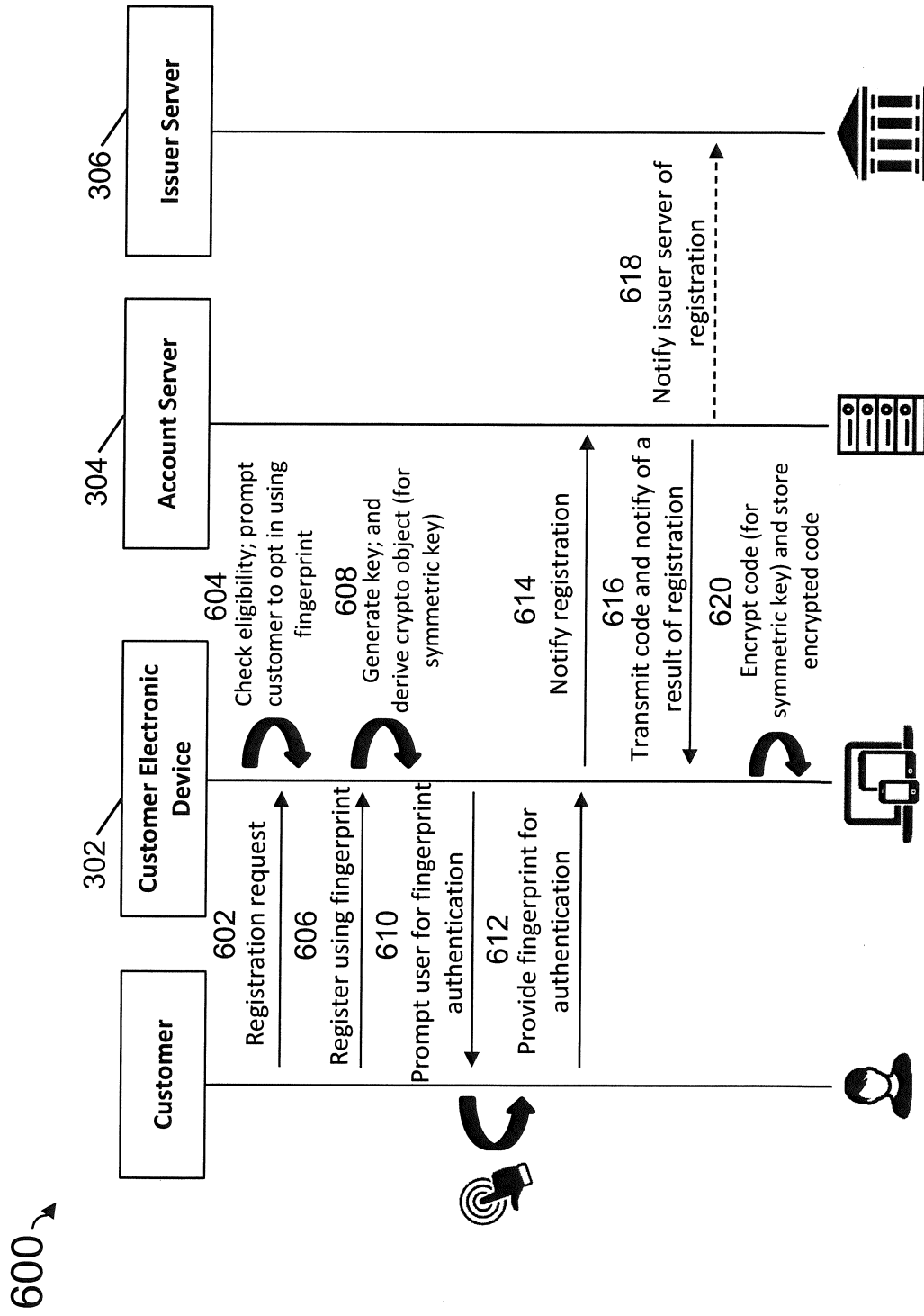


Fig. 6

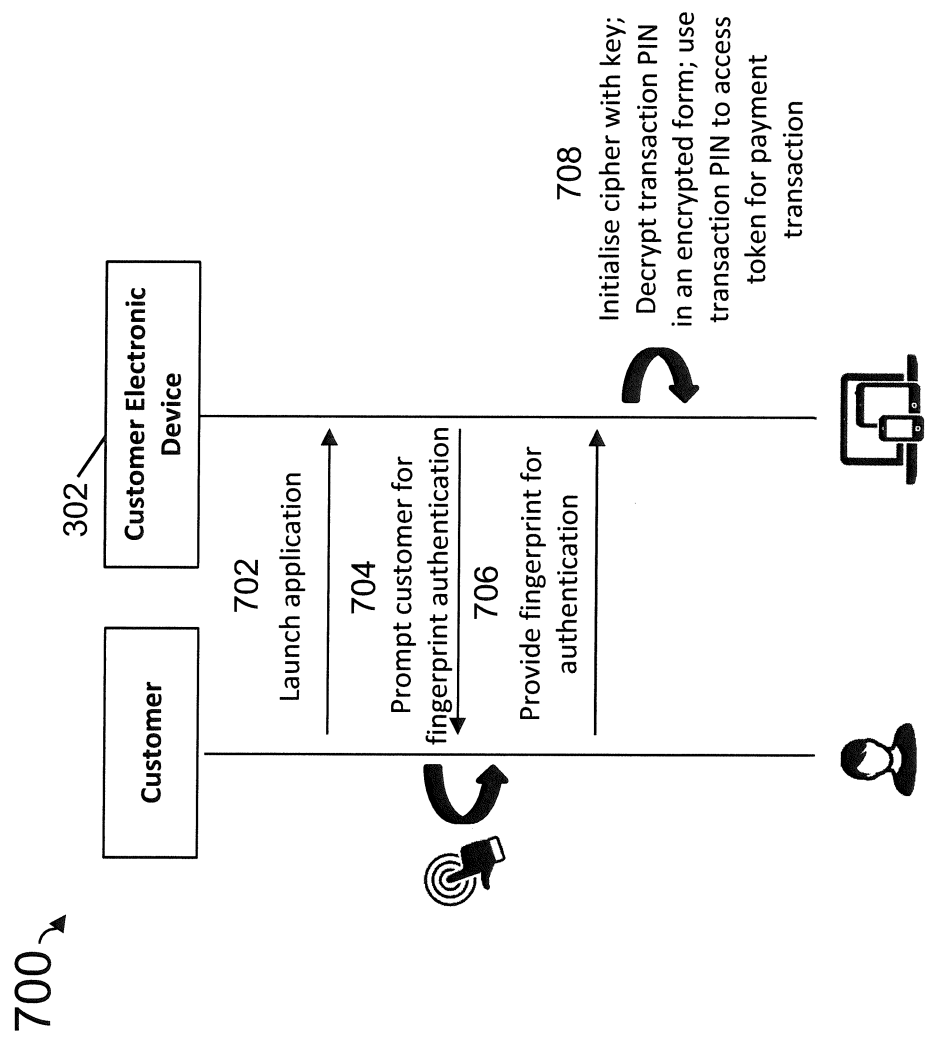


Fig. 7

API Response (Call-back)	Response Code and Scenarios	App behaviour	User Experience (UX)
onAuthenticationSucceeded	(No response code generated)	1. Authentication is successful and continue with the operation – App Launch, Single Tap, Double Tap or In-App checkout. 2. Retrieve CryptoObject from FingerprintManager.AuthenticationResult. 3. Fetch Cipher instance from CryptoObject and retrieve encrypted/decrypted transaction PIN.	Success Message: “Fingerprint recognised”
onAuthenticationHelp	FINGERPRINT_ACQUIRED_GOOD - The image acquired was good.	Fingerprint image acquired but not processed. https://android.googlesource.com/platform/frameworks/base/+9f0753f/core/java/android/service/fingerprint/FingerprintManager.java	Failure Message: “Fingerprint not recognised. Try again.”
	FINGERPRINT_ACQUIRED_IMAGE_DIRTY - The fingerprint image was too noisy due to suspected or detected dirt on the sensor. FINGERPRINT_ACQUIRED_INSUFFICIENT - The fingerprint image was too noisy to process due to a detected condition. FINGERPRINT_ACQUIRED_PARTIAL - Only a partial fingerprint image was detected. FINGERPRINT_ACQUIRED_TOO_FAST - The fingerprint image was incomplete due to quick motion. FINGERPRINT_ACQUIRED_TOO_SLOW - The fingerprint image was unreadable due to lack of motion.	Display Appropriate error message to user and allow user to retry	Failure Message: “Fingerprint not recognised. Try again.”

Fig. 8a

API Response (Call-back)	Response Code and Scenarios	App behaviour	User Experience (UX)
onAuthenticationError	FINGERPRINT_ERROR_CANCELED - The operation was cancelled because the fingerprint sensor is unavailable.	This call-back is received when, 1. User presses "Power" key of the system and turns off the screen. 2. Another application comes onto the foreground and request for fingerprint sensor. Action: This is a notification from Android™ platform and No action is required on this error.	
	FINGERPRINT_ERROR_HW_UNAVAILABLE - The hardware is unavailable.	Refer ***FINGERPRINT_ERROR_LOCKOUT***	
	FINGERPRINT_ERROR_LOCKOUT - The operation was cancelled because the application programming interface (API) is locked out due to too many attempts.	▪ Android™ app to opt-out from Fingerprint based authentication on receiving "Lockout" Error code from Android™ platform. Clear all the keys and encrypted data attached from Android™ device and fallback to standard personal identification number (PIN)	
	FINGERPRINT_ERROR_NO_SPACE - Error state returned for operations like enrollment; the operation cannot be completed because there's not enough storage remaining to complete the operation.	These are edge cases, display error message as described in User Experience (UX) column.	Failure Message: "System memory full. Close other apps and try again"
onAuthenticationFailed	FINGERPRINT_ERROR_TIMEOUT - Error state returned when the current request has been running too long.		Failure Message: "Fingerprint not recognised. Try again."
	FINGERPRINT_ERROR_UNABLE_TO_PROCESS - Error state returned when the sensor was unable to process the current image.		Failure Message: "Fingerprint not recognised. Try again."
	(No response code generated)	Error Scenario	Failure Message: "Fingerprint not recognised. Try again."

Fig. 8b

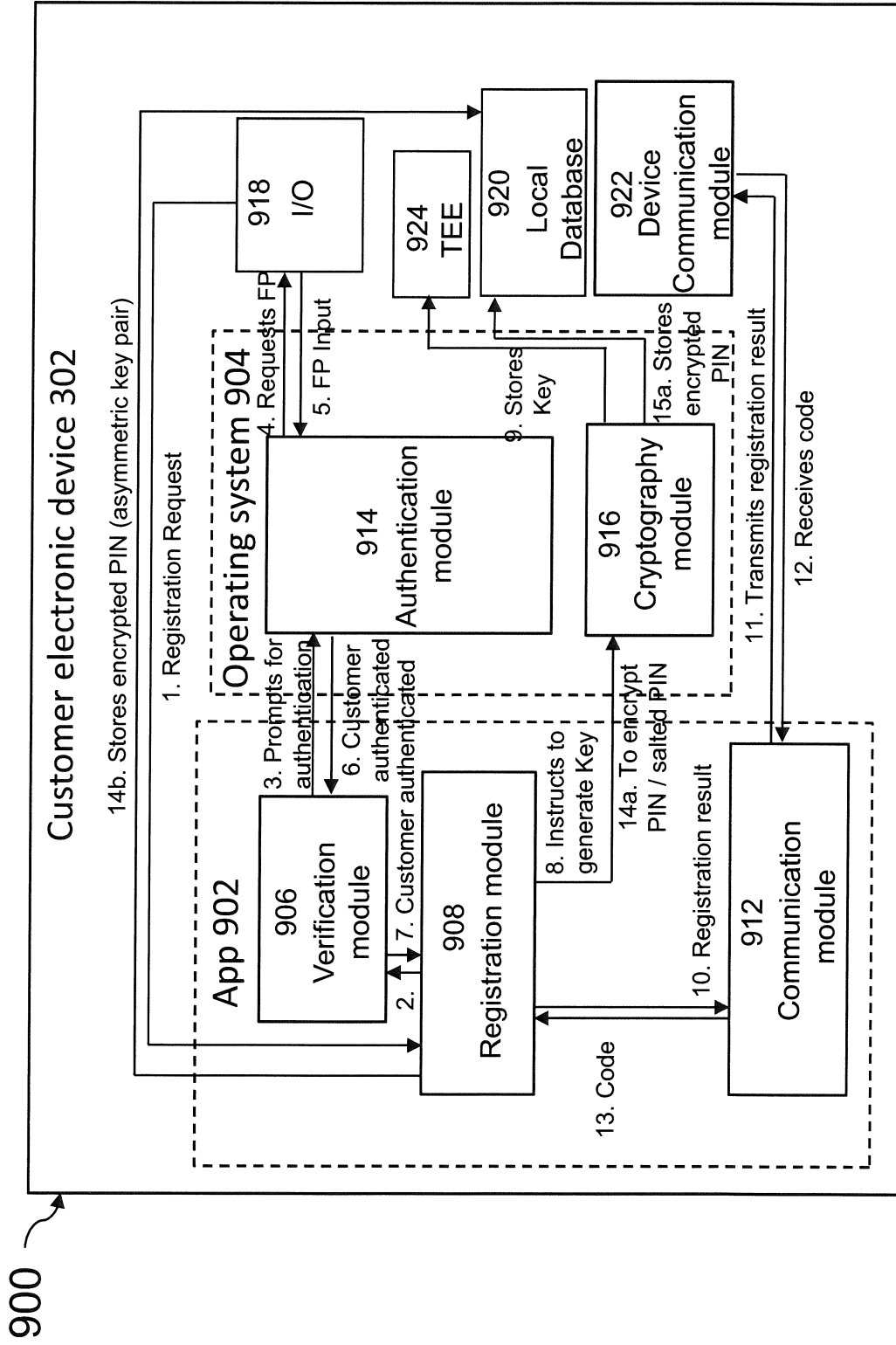


Fig. 9a

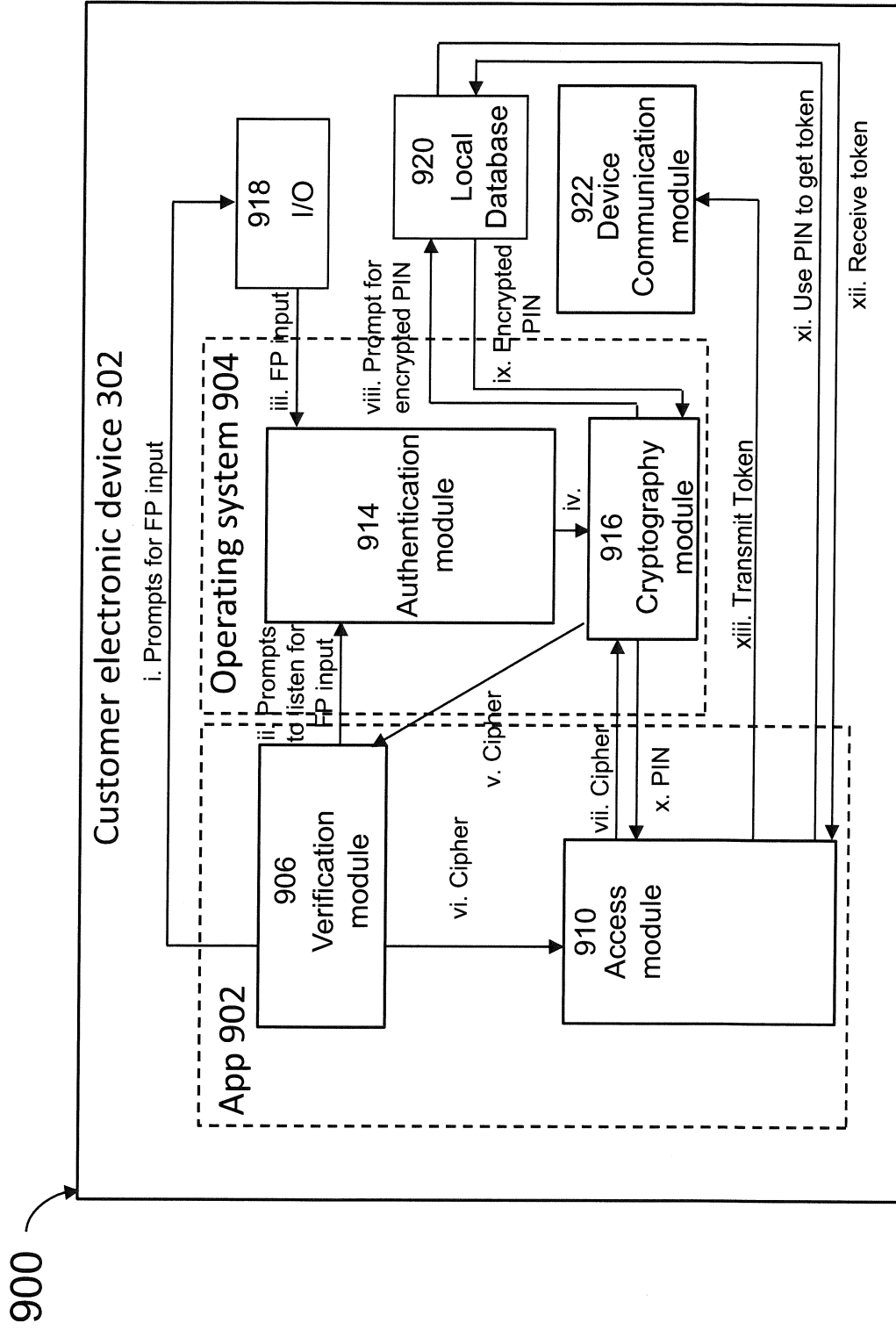


Fig. 9b

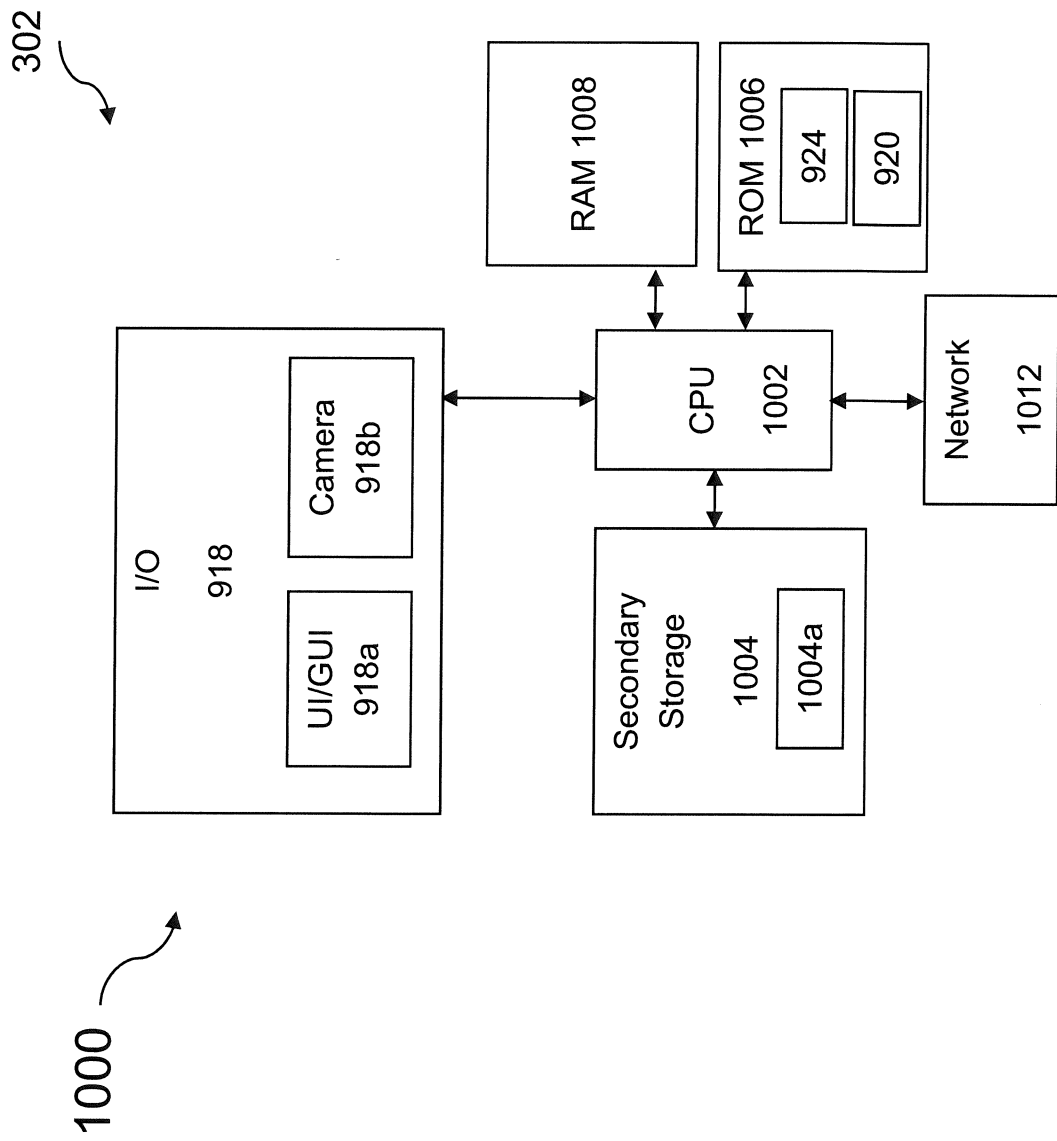


Fig. 10

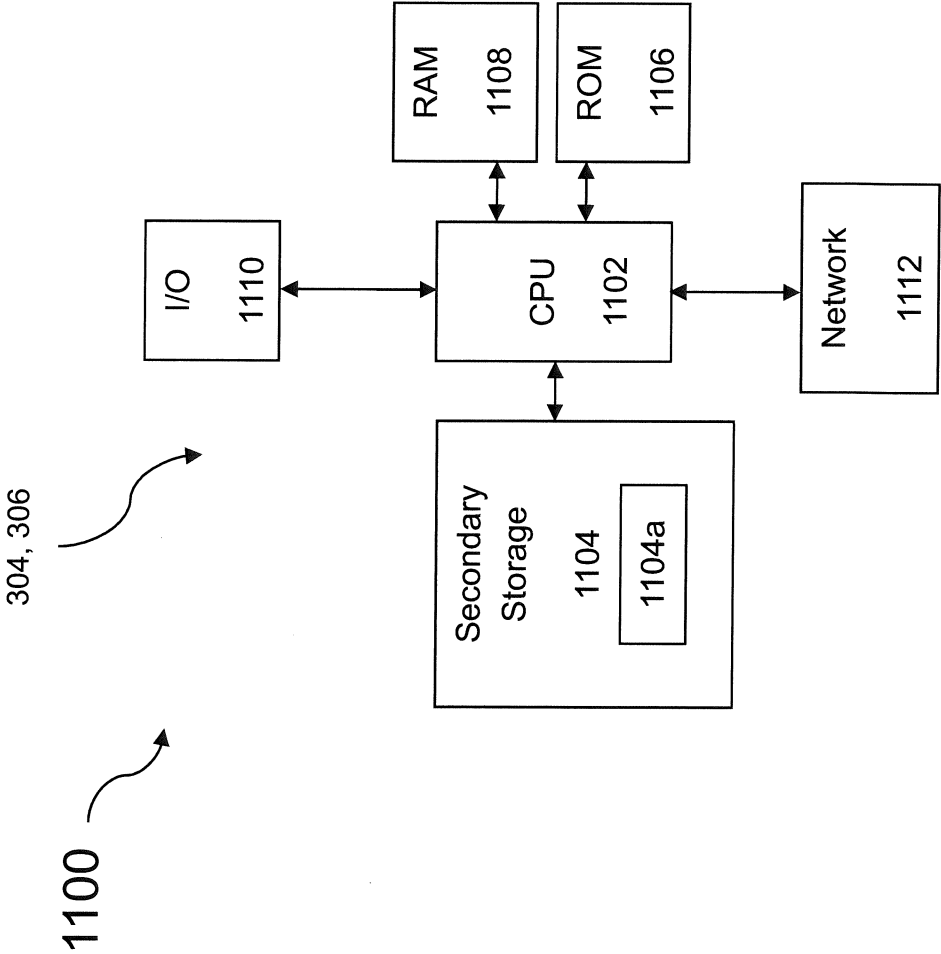


Fig. 11