

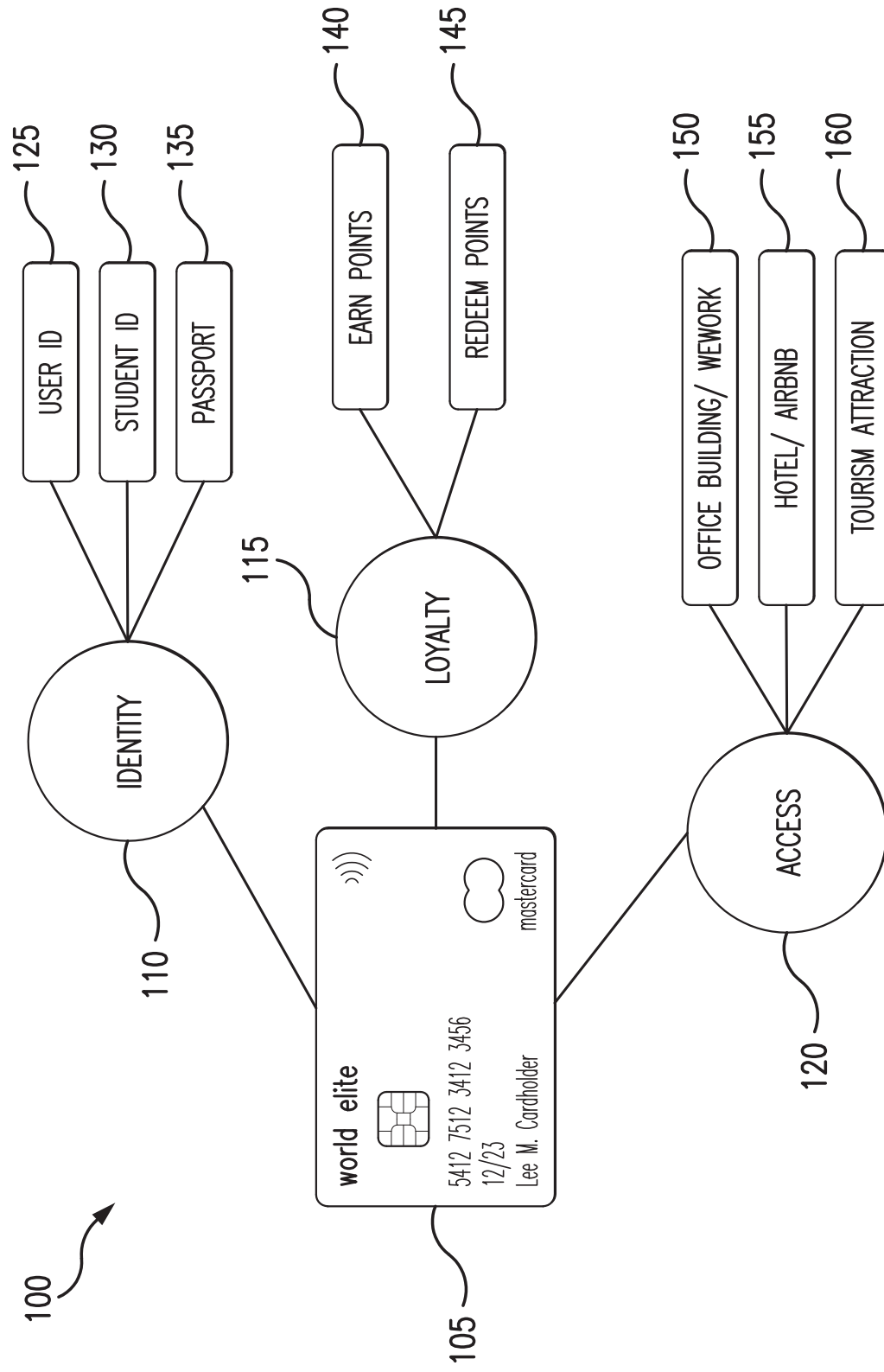


FIG. 1

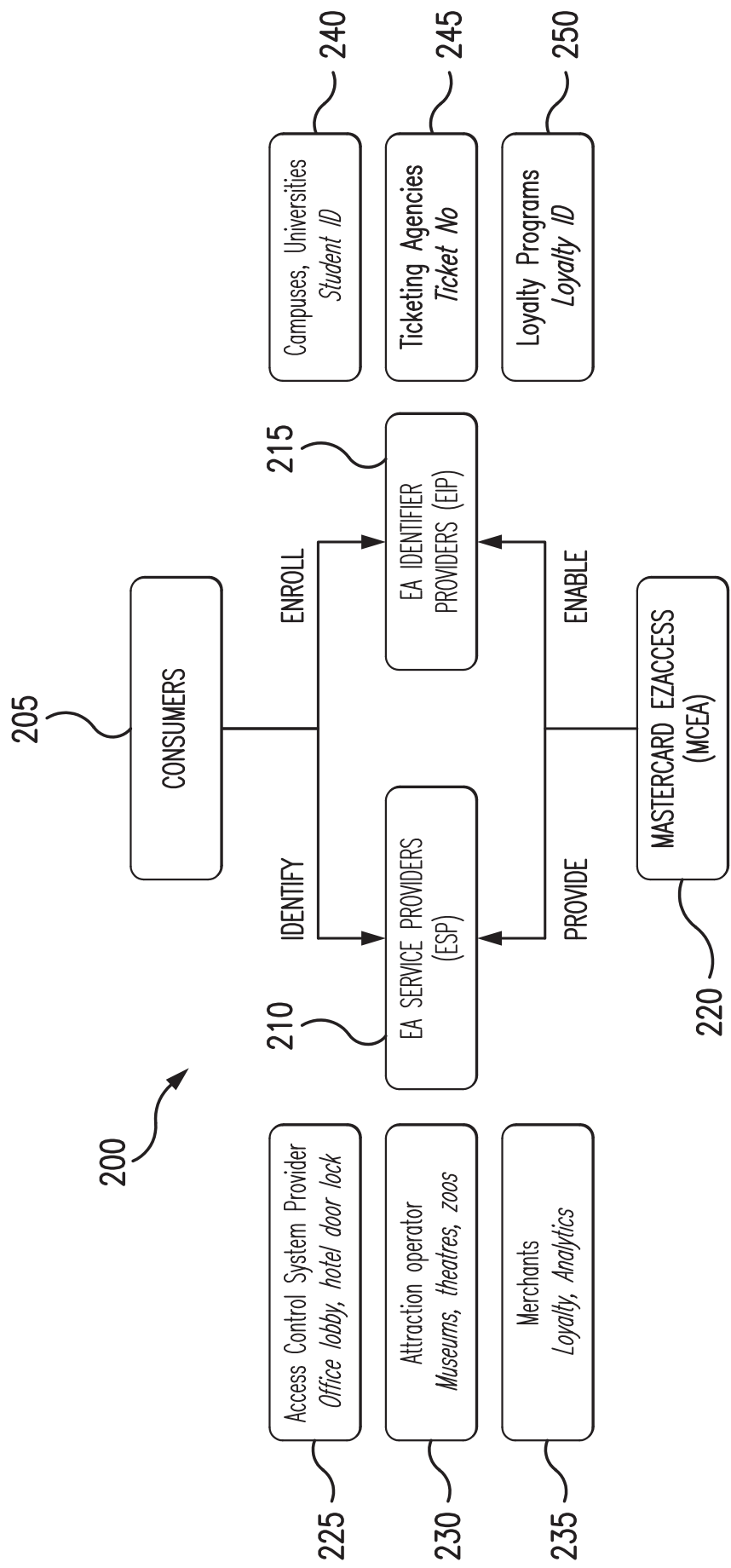


FIG. 2

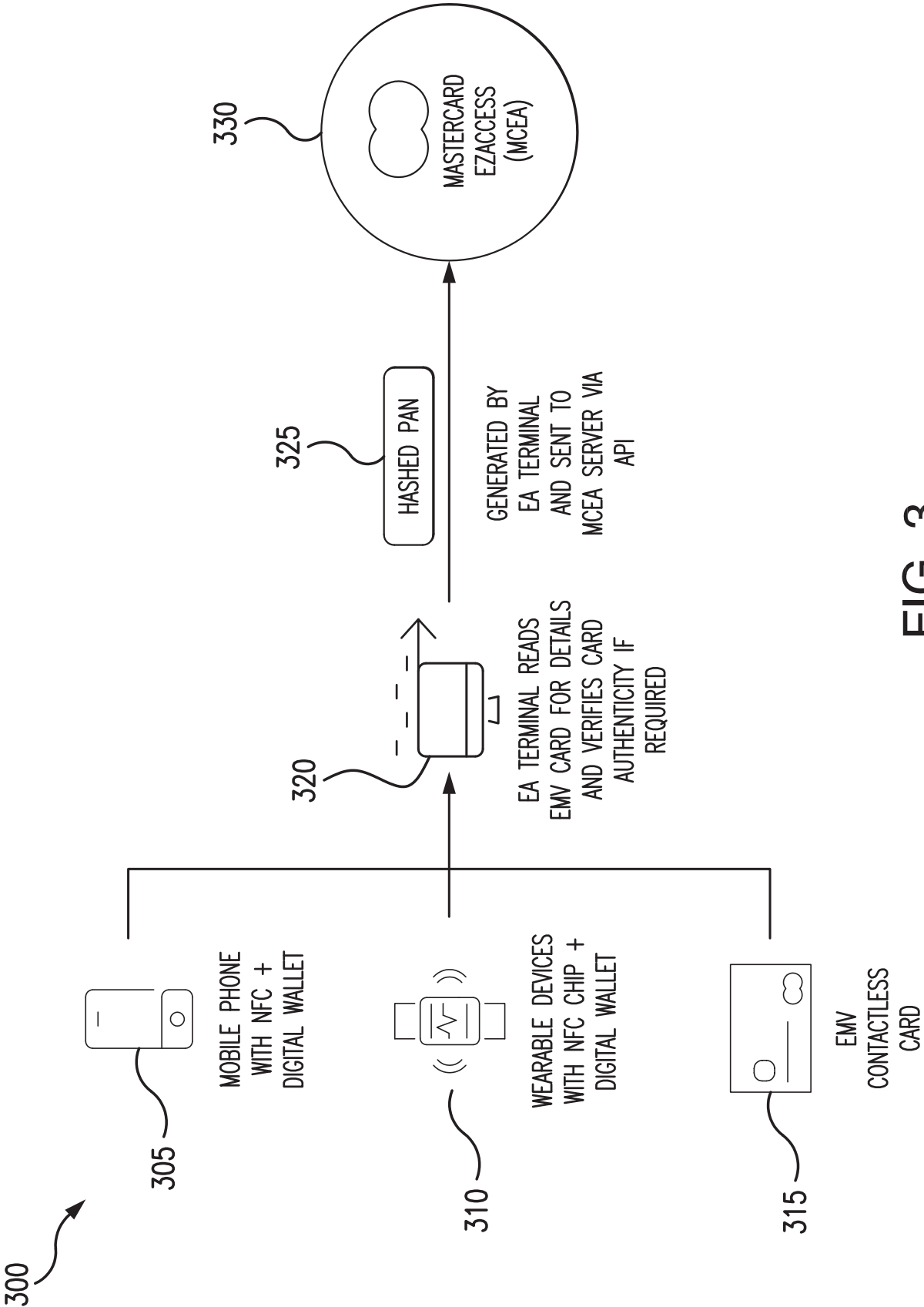


FIG. 3

EA Terminal Certification

	Category 1: Simple Access	Category 2: Free Transit	Category 3: Secure Access	Category 4: Loyalty
Type of transaction	Access	Access / Transit	Access / Identification	Payment
Credential type	Hashed PAN (No CDA)	Hashed PAN + CDA	Hashed PAN + CDA	Hashed PAN + CDA
New EzAccess solution	Read PAN and/or UID from EMV cards	Perform \$0 auth CDA transaction	Perform \$0 auth CDA transaction	Perform full EMV transactions from Terminal/CloudPOS SDK
Deployment model	EA Lite Terminal SDK	Vendor's EMV terminal implementing full EMV/EA Kernel according to EA terminal specs	Two variants of full EA Terminal SDK 1. EMV/EA Kernel in Terminal 2. EMV/EA Kernel in CloudPOS	Vendor's EMV terminal, Terminal SDK, CloudPOS hosted
ATC update required?	No	Deferred	Deferred or Real-time	Real-time
Certification required	Low (L1, Lightweight EA)	Medium (L1, L2, Full EA)	Medium (L1, L2, Full EA)	Full (L1, L2, L3, Full EA)

FIG. 4

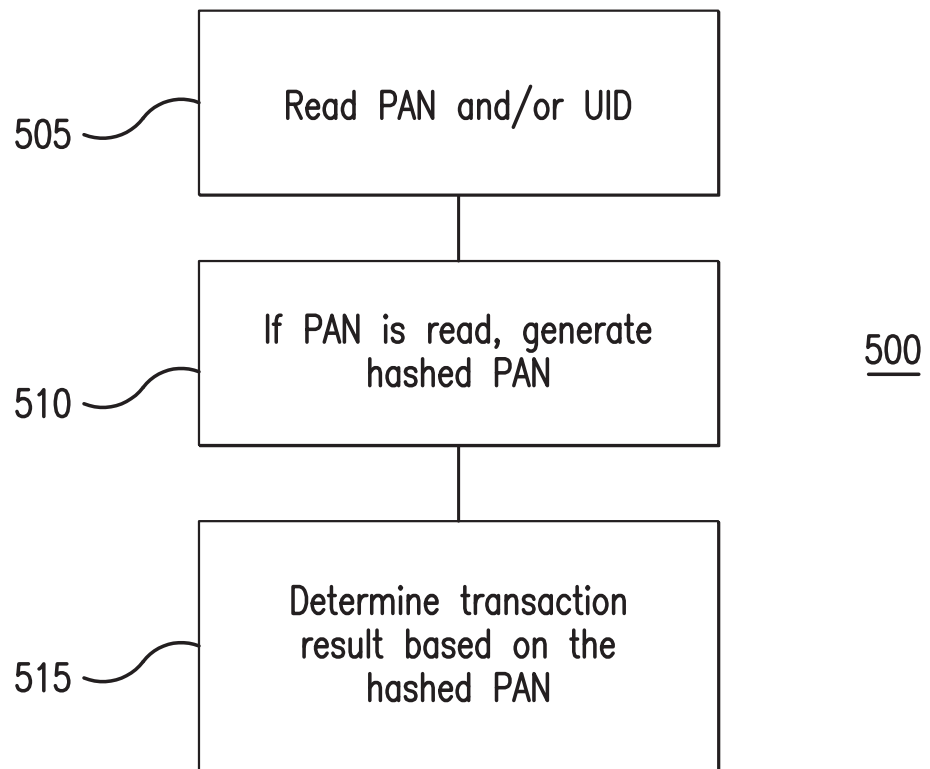


FIG. 5

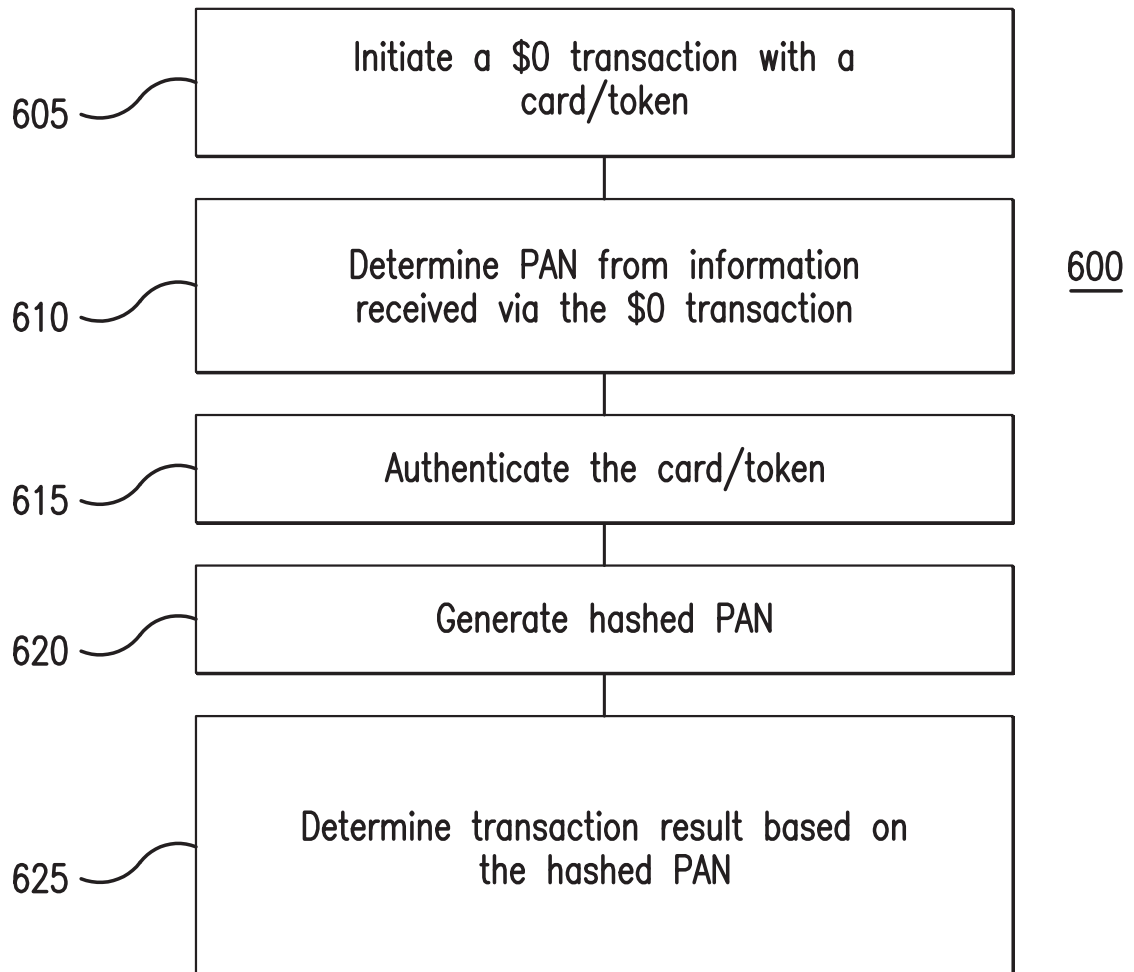


FIG. 6

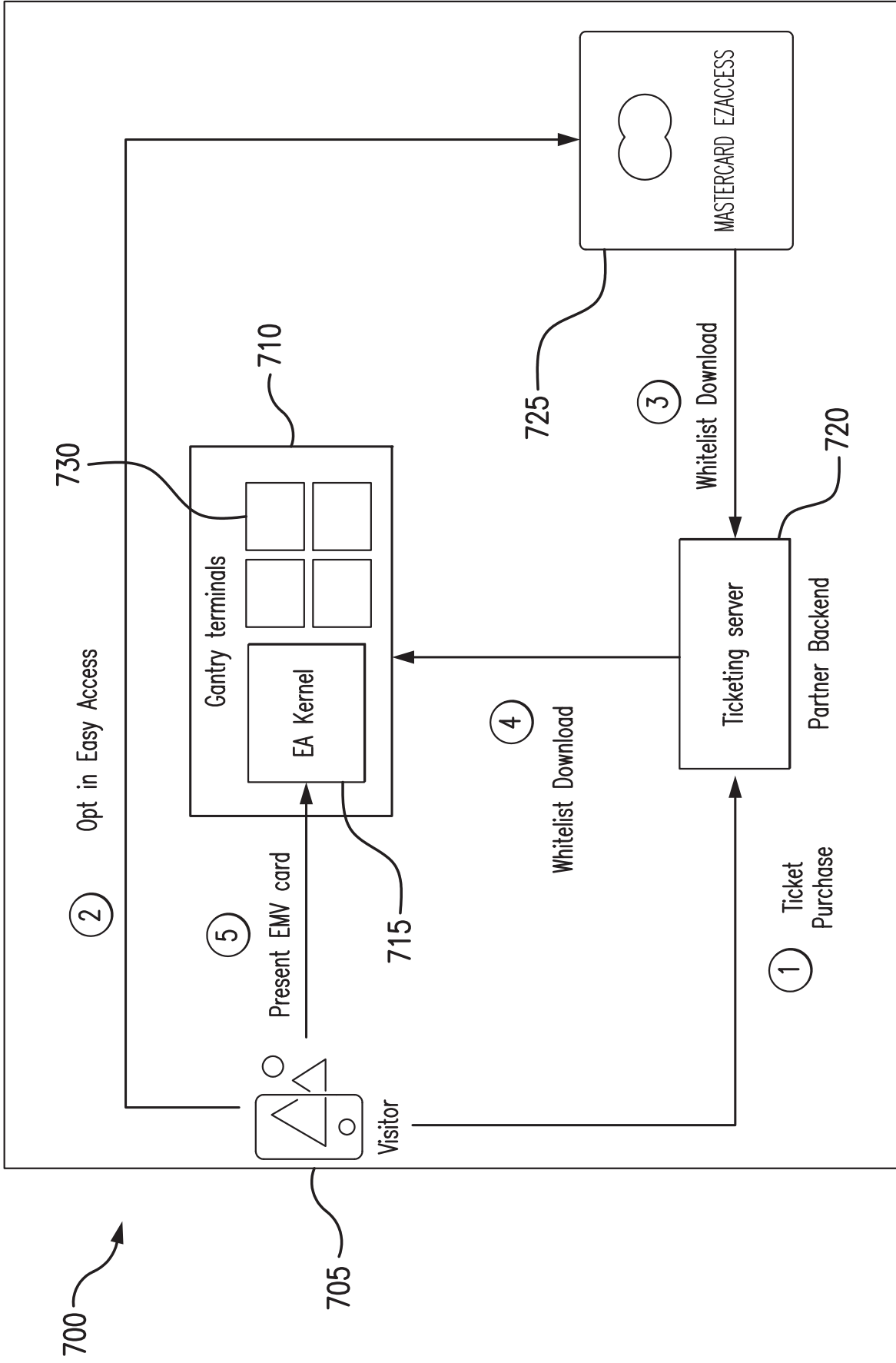


FIG. 7

SDK APIs

The following describes the APIs that are publicly available to control reading of EMV card.

API	Description
EzaSDK.init(Context context)	Related configuration data are read from the default JSON file named AppConfig.json in the assets resource folder. See the required configuration files in the next section.
EzaSDK.onNewIntent(Activity activity, Intent intent)	When an Android Intent event happens, such as on detection or removal of native NFC card, the SDK will start processing the EMV card.
EzaSDK.onResume(Activity activity, EzaTransactionListener listener)	When the Android application is launched from the background and becomes active, the SDK will activate the NFC module.
EzaSDK.stop()	Stop listening to NFC events on the Android device.

Supported configuration fields in AppConfig.json
The fields below describe the options available to use the SDK for access control.

Key	Value(s)	Description
hashedPanSalt	Random string with a suitably long length.	A salt value that is appended to the PAN and hashed to generate unique EMV card values across different terminals.
terminalMode	hashedPan	The SDK will return the hashed PAN from reading an EMV card.
	auth	The SDK will return the hashed PAN and transaction data from a \$0 auth.
	fullTransaction	The SDK will request for a transaction amount, perform a full EMV transaction, and return the outcome of the transaction.
nfcMode	internal	When set, the SDK uses the internal NFC module of the host Android device.
	external	When set, the SDK uses an external UDB NFC driver.

810 FIG. 8 continued



```
new EzaTransactionListener () {  
    @Override  
    public void onTransactionSuccess (TransactionOutcome transactionOutcome) {  
        Timber.d("+++ onTransactionSuccess +++");  
        Timber.d("getHashedPan: %s", transactionOutcome.getHashedPan ());  
        Timber.d("slot: %s", transactionOutcome.getSlotNum());  
        Timber.d("serial: %S", transactionOutcome.getSerialNumber ());  
    }  
  
    @Override  
    public void onTransactionFailure (TransactionOutcome transactionOutcome) {  
        ...  
    }  
};
```

FIG. 9

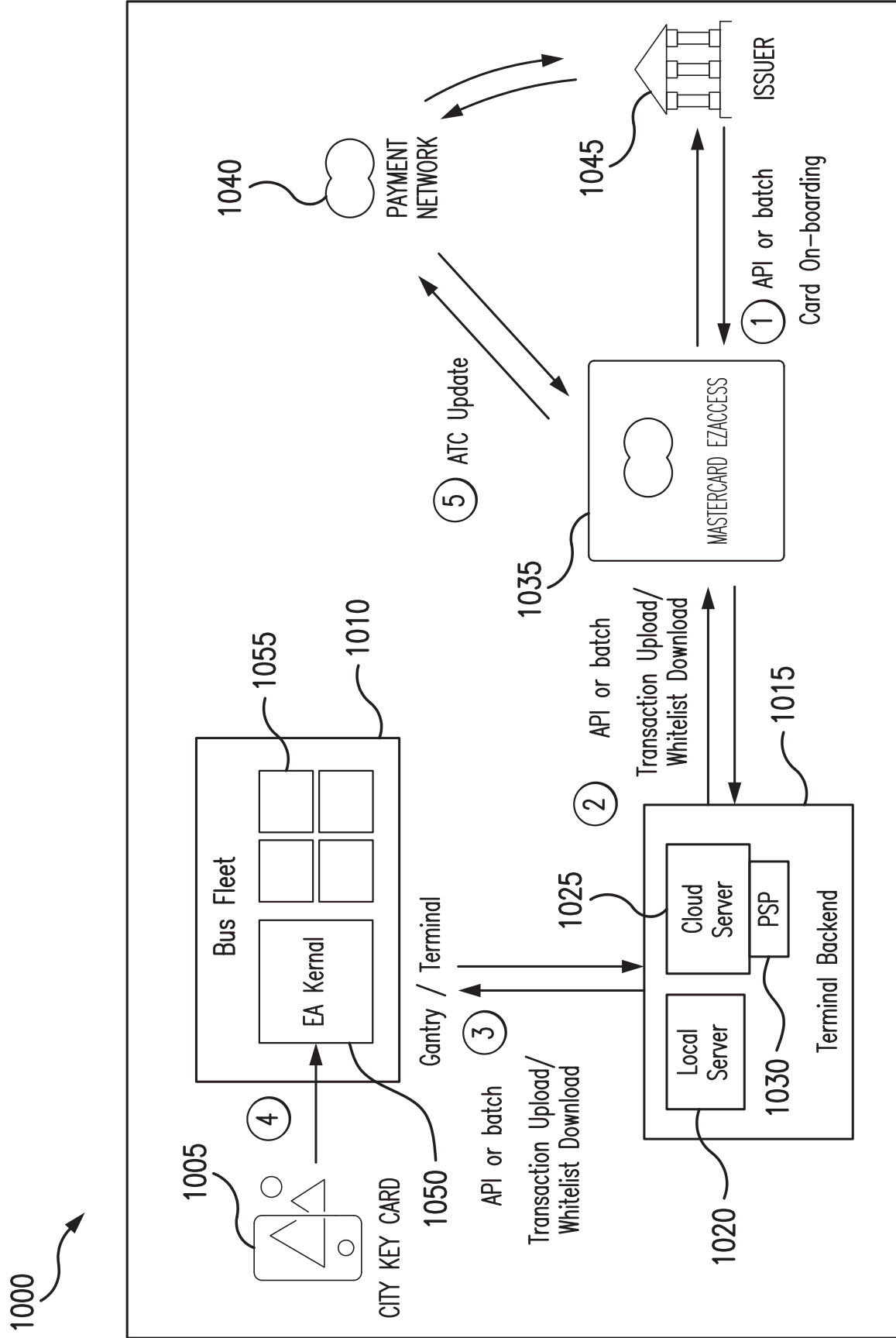


FIG. 10

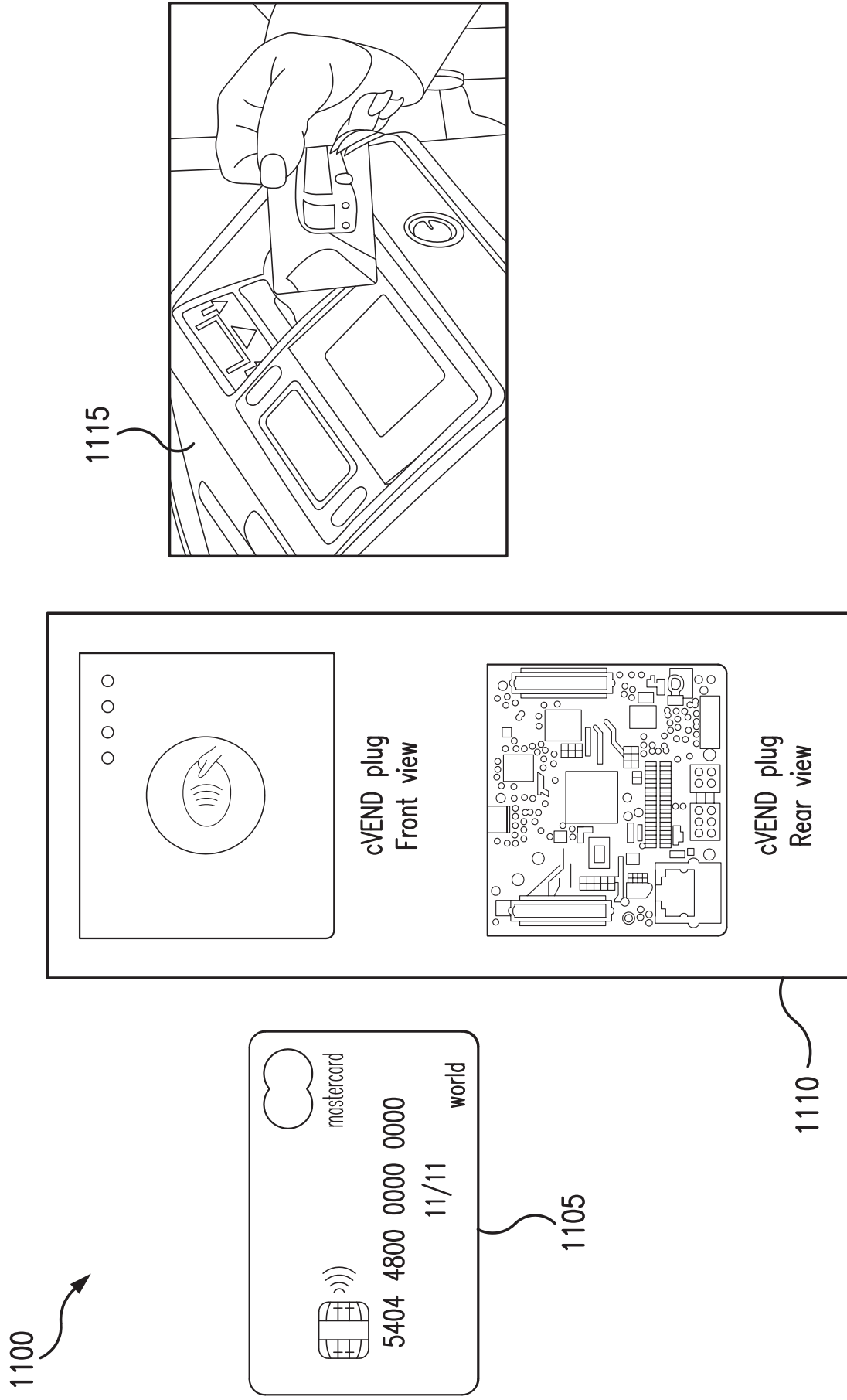


FIG. 11

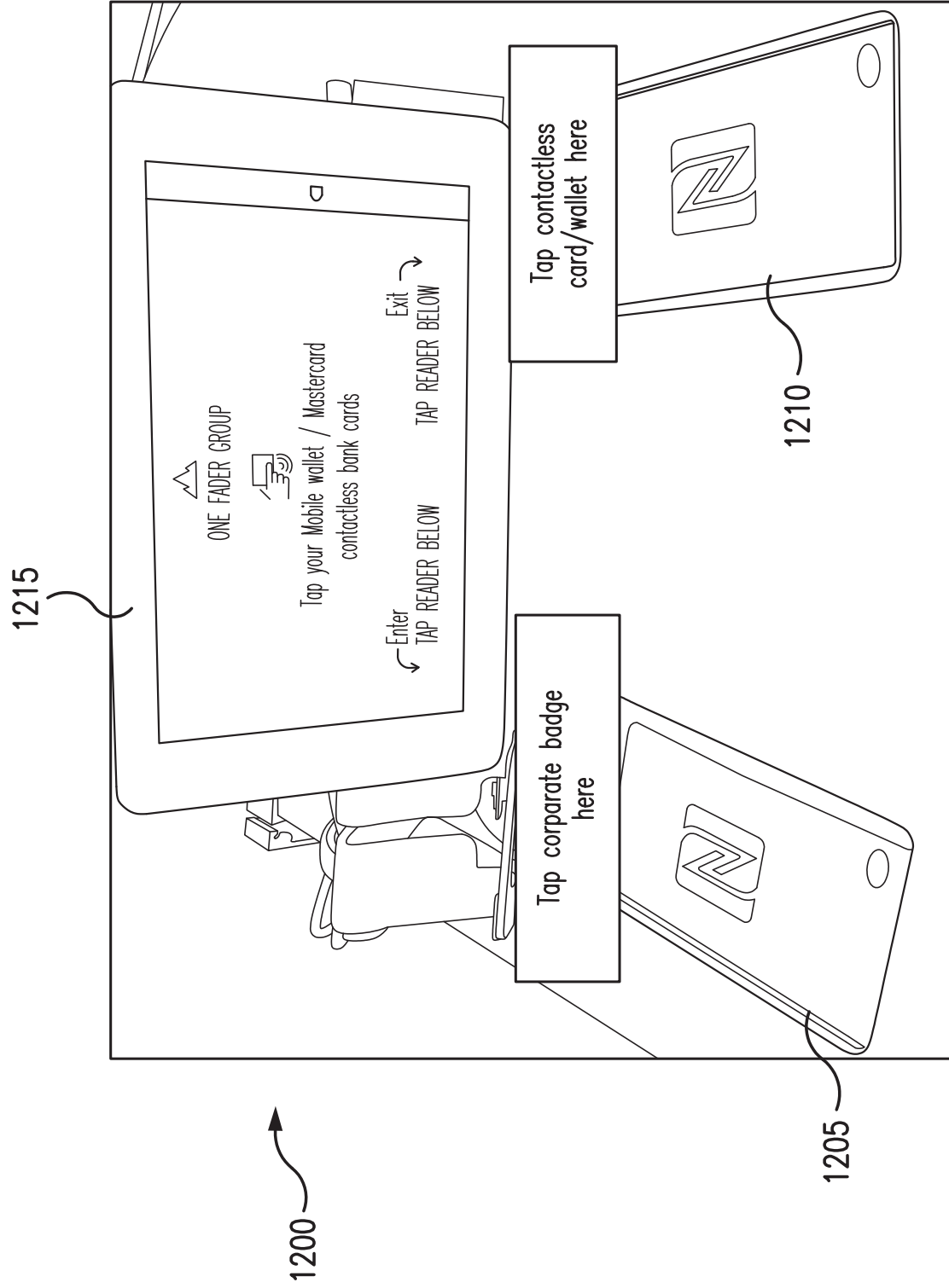


FIG. 12

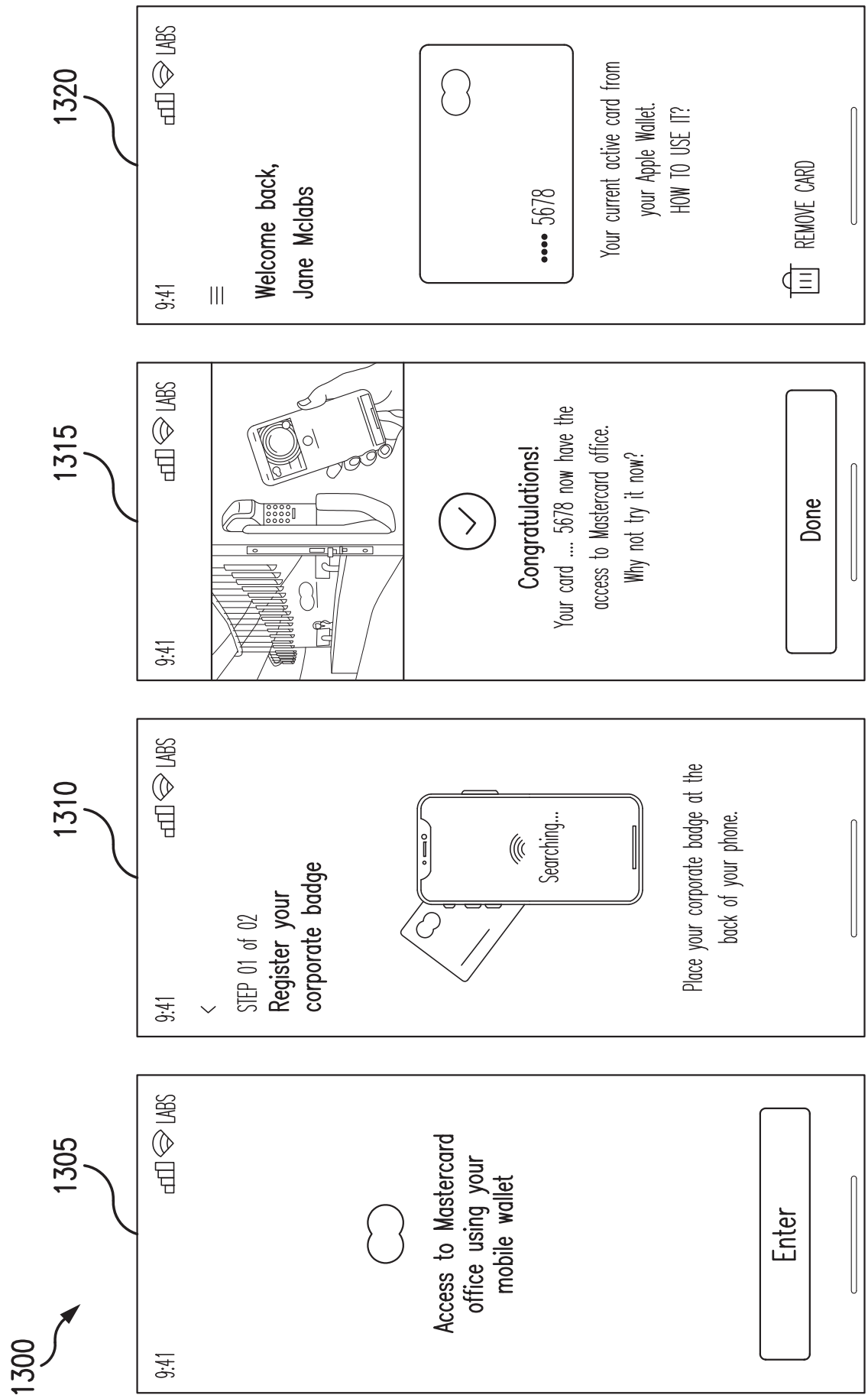


FIG. 13

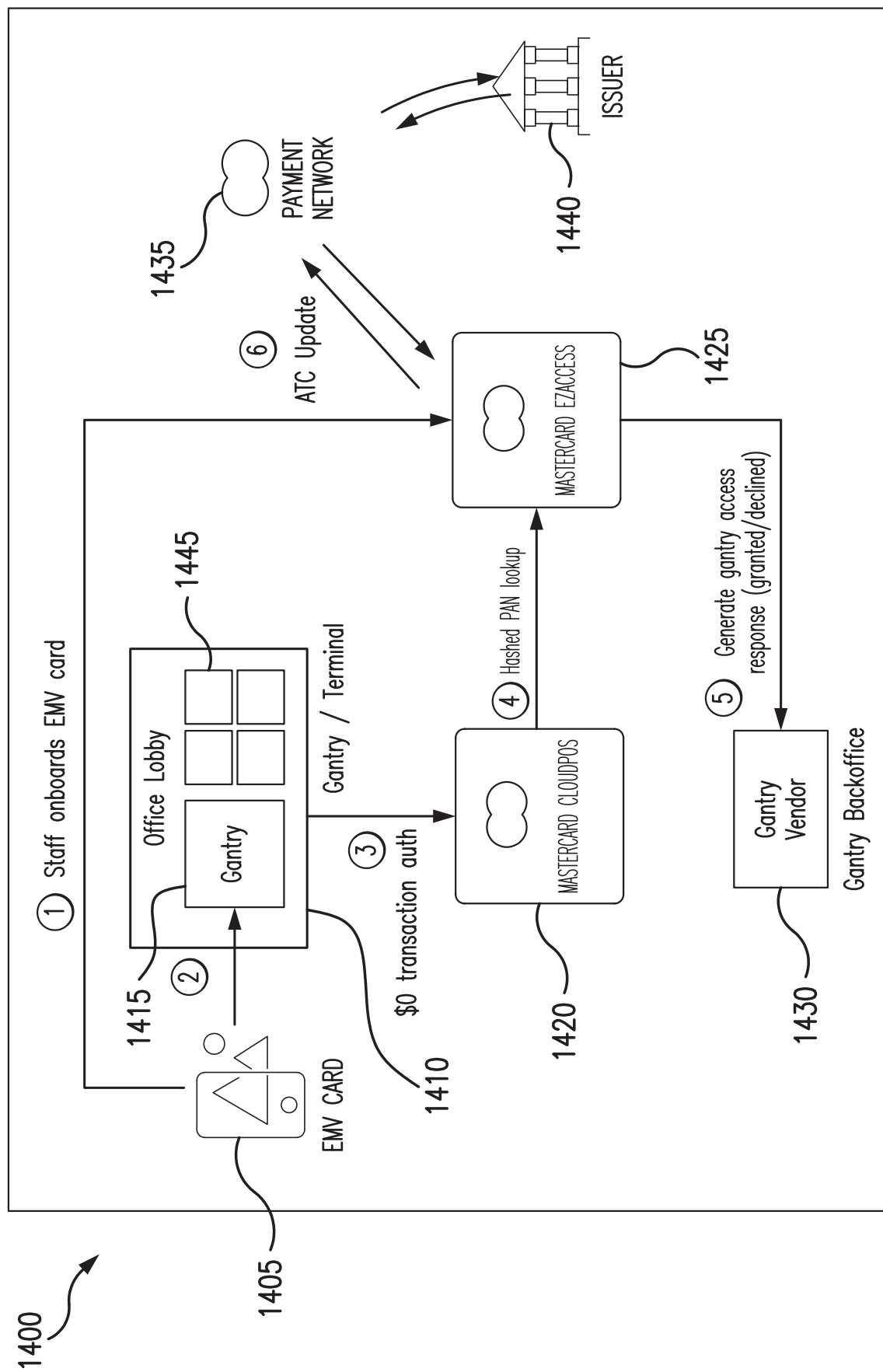


FIG. 14

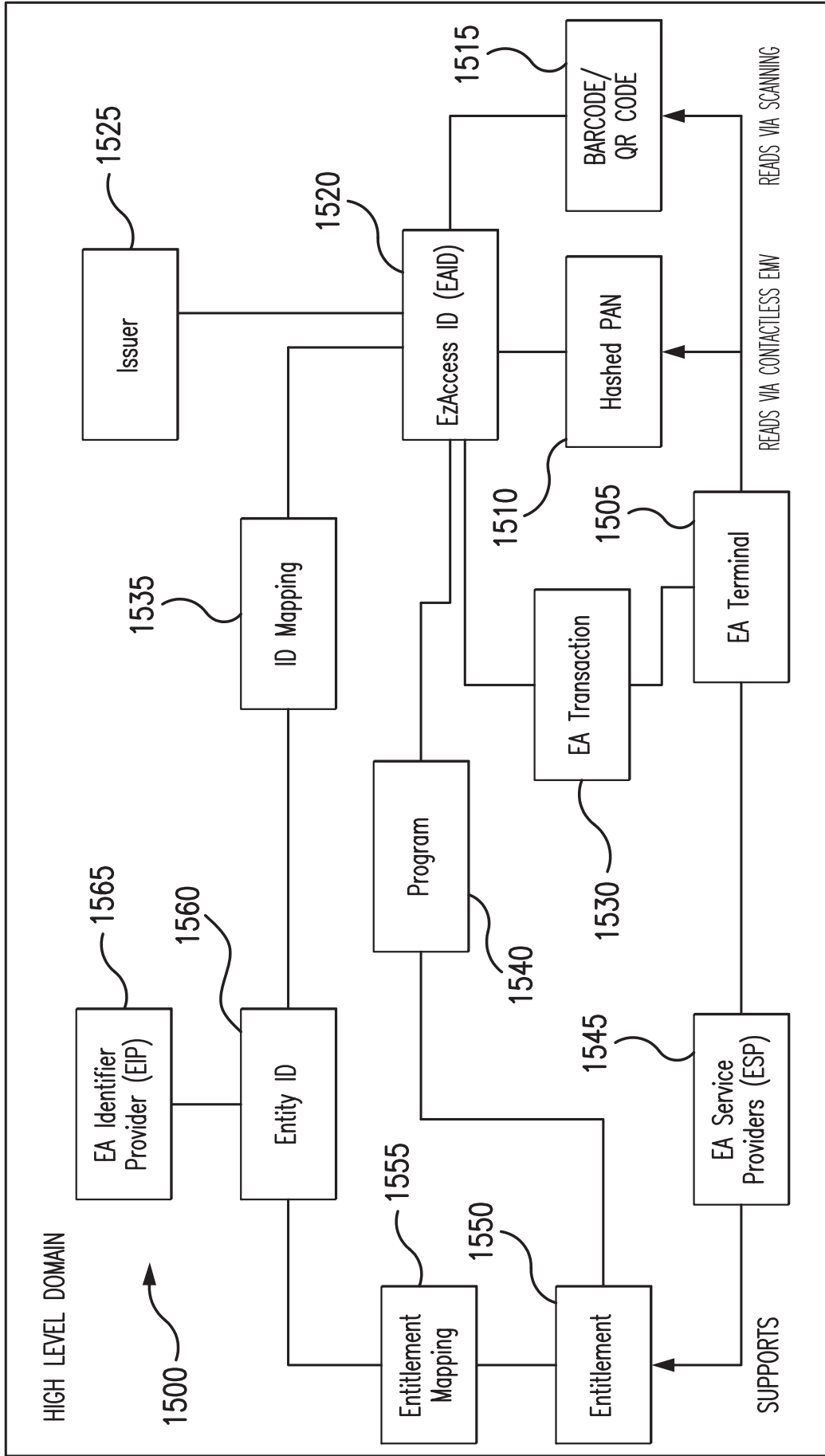


FIG. 15

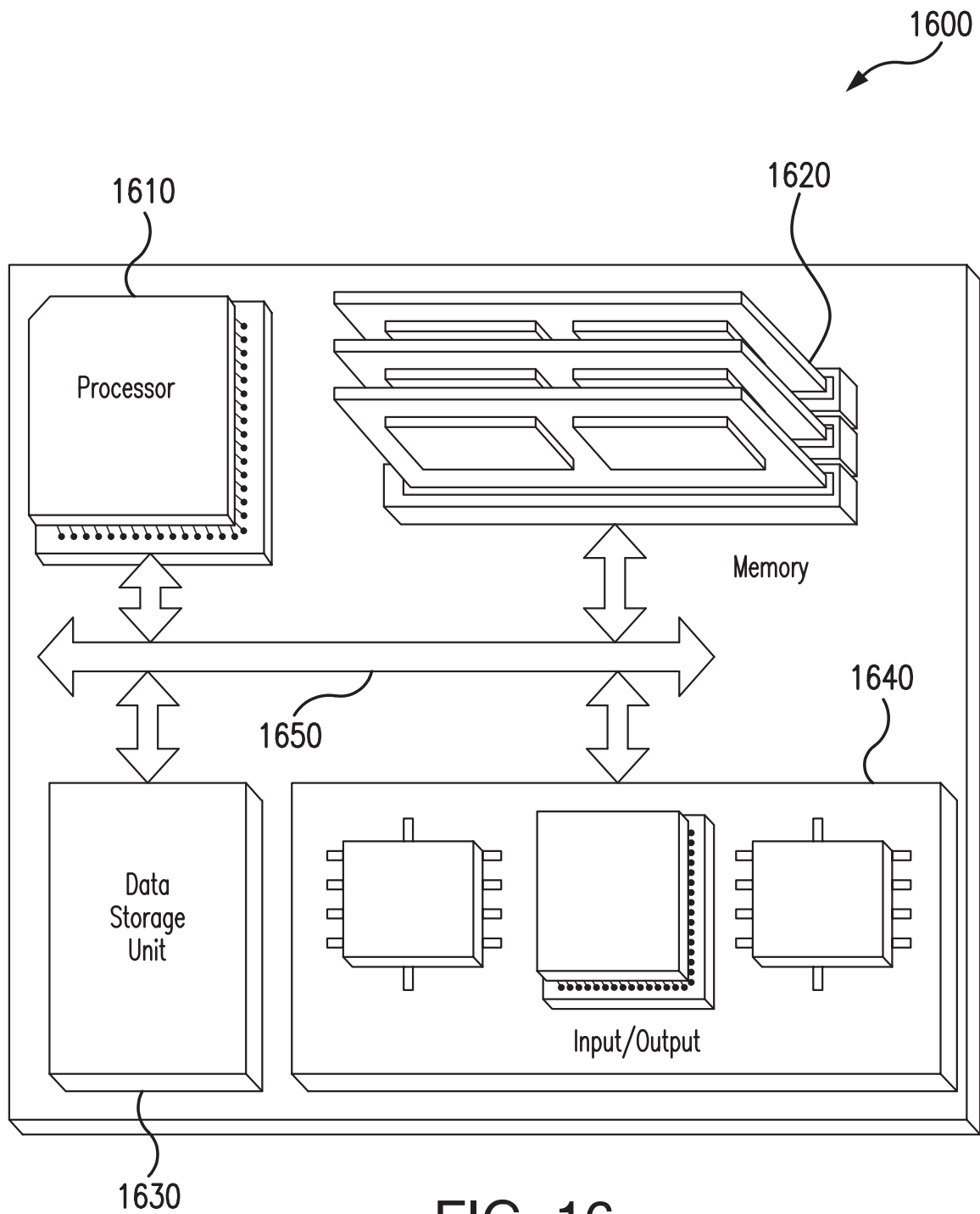


FIG. 16



MCEA TERMINAL		EA Terminal Certification	
	Category 5: Simple Access	Category 6: Secure Access	
Type of transaction	Access	Access	
Credential type	EzAccess ID or PAR (No CDA)	Hashed PAN + CDA	
New EzAccess solution	Read EzAccess ID (tag 9F6E [Third Party Data]) or PAR (tag 9F24) from EMV cards & tokens	Perform \$0 auth CDA transaction using EA Full Terminal SDK	
Deployment model	EA Lite Terminal SDK 1. Android 2. Windows	EA Full Terminal SDK ● Based on Contactless Reader SDK ● Android-powered phone/tablet/Pi	
ATC update required?	No	Deferred or Real-time	
Certification required	Low (L1, Lightweight EA)	Medium (L1, L2, Full EA)	

To FIG. 17 continued

FIG. 17

From FIG. 17

	Category 7: Open Transit	Category 8: Retail Innovation
	Access/Transit	Access/Payment
	Hashed PAN + CDA	Hashed PAN + CDA
	Perform \$0 auth CDA transaction with existing EMV certified terminals	Perform full EMV transaction using EA Full Terminal SDK
	Vendor's EMV terminal implementing full EMV/EA Kernel according to EA terminal specs	EA Cloud Terminal SDK ● Based on CloudPOS ● Android-powered phone/TBC
	Deferred	Real-time
	Full (L1, L2, L3, Full EA)	Full (L1, L2, L3, Full EA)

FIG. 17 continued

1800
↘

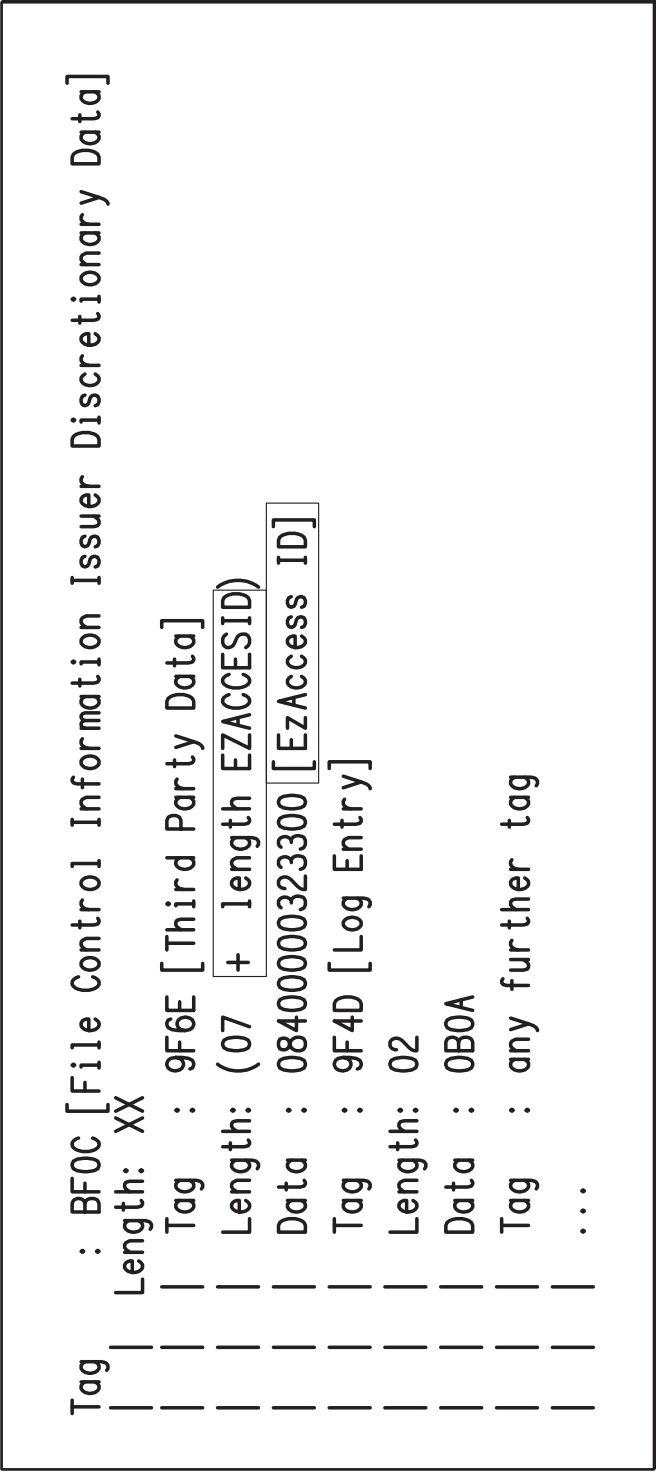


FIG. 18

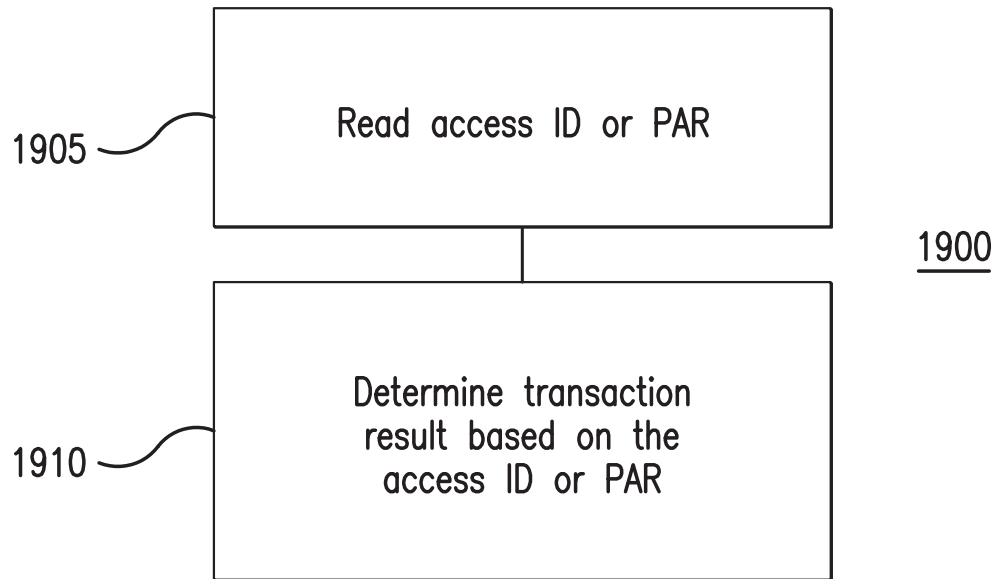


FIG. 19