



Interface Specification

March 2016

CONFIDENTIAL

Product Overview

What is Express?

Express is a highly secured, scalable, and reliable payment processing platform providing low cost and high speed transaction processing for card-present (such as retail, auto rental, restaurant, etc.) and card-not-present (ecommerce, mail order, telephone order) merchants.

- It provides credit card, debit card, and check authorizations processing via the internet for all card types including Visa, MasterCard, AMEX, Discover, Diners, and JCB.
- Integrating *Express* with your software provides merchants end-to-end encryption of cardholder data, the ability to store sensitive data off-site to meet PCI DSS compliance requirements, and comprehensive Web-based reporting on their payment card transactions.
- As an added benefit, because we develop and support the platform entirely in-house, there are no third parties to chase for support.



From a technical standpoint, *Express* is a server-side Web service application where all communication takes place over secure HTTPS links to the internet. Communication is handled via XML or SOAP, which are both simple and effective methods for handling payment processing via the internet. No distribution of source code or DLLs is required, and any device that can originate an HTTPS connection can utilize payment processing through *Express*.

Integrating and certifying POS and/or eCommerce applications to *Express* is quick and easy. The *Express* processing platform doesn't require you or your customers to download, run or support additional code.

Business Needs Handled by Express

Express provides credit card, debit card, and check authorization processing via the internet for all card types including Visa, MasterCard, American Express, Discover, Diners, and JCB. Businesses can integrate this with their software or other customized applications to handle these types of payments in a safe, secure way.

Express supports transactions for the following merchant types:

- Retail
- eCommerce
- Direct Marketing
- Auto Rental
- Healthcare
- Lodging

Express has the versatility to handle additional merchant types. If you do not see what you need, or have any questions, please contact: certification@vantiv.com

Recurring transactions can be set up for monthly billing of a client's card, *TransForm* Tokenization can be used for very secure, low risk payment processing, and *Express* can alert you to any transactions that have been accidentally sent twice. *Express* also offers the service of **Hosted Payments** which takes merchants out of scope of having to collect and store sensitive customer card information.

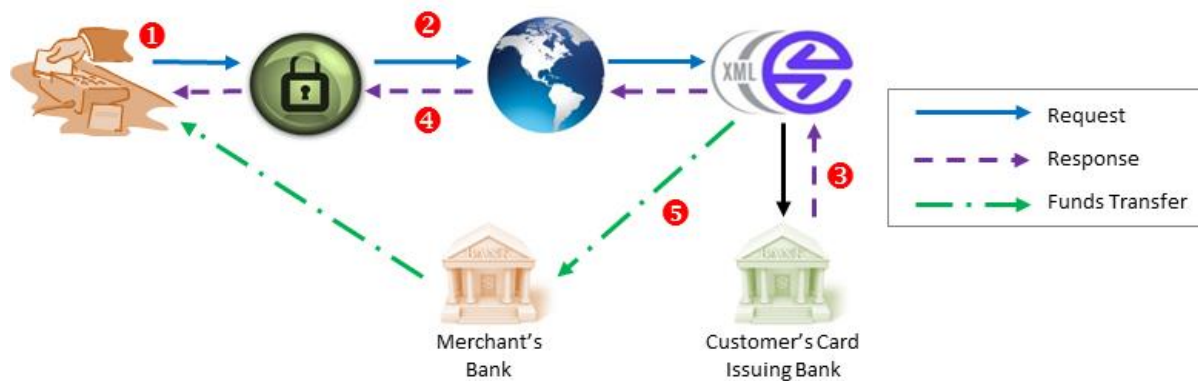
Application Program Interface (API) Overview

Interfaces Supported

- **Simple Object Access Protocol (SOAP)**
Express supports version 1.1 of the W3C SOAP specification. Using this as your interface, payment methods can be invoked remotely on Element's servers in a manner similar to Remote Procedure Calls.
- **Extensible Markup Language (XML)**
Requests can also be sent to the *Express* servers via the POST method in the HTTPS protocol to send XML data. XML data will then be returned in the reply.

Transaction Flow

The below provides a high level view of the communication path when a merchant runs a POS payment transaction:



1. The merchant swipes the customer's card, which generates an authorization request based on the purchase price.
2. The request is sent via secured payment data along the internet to *Express*.
3. *Express* forwards the authorization request to the customer's card issuing bank. The issuing bank verifies the purchase price against the customer's available credit amount, then generates either an "approval" or a "decline" response to *Express*.
4. *Express* forwards the response back to the merchant's terminal, and the transaction is either accepted or declined.
5. If the transaction is approved, a few days later the funds are transferred to the merchant's bank.

Appendix

Express Response Codes

An *ExpressResponseCode* is returned with every *Express* method call. This is the first returned variable that should be examined to determine success or failure. An *ExpressResponseCode* = 0 indicates an approval or successful request. An *ExpressResponseCode* = 5 indicates a partial approval request. An *ExpressResponseCode* <> 0 or 5 indicates a decline or non-approval.

Code	Description
0	Approved / Success
5	Partial Approval
20	Decline
21	Expired card
22	Duplicate approved
23	Duplicate
24	Pick up card
25	Referral / Call Issuer
30	Balance Not Available
90	Not defined
101	Invalid data
102	Invalid account
103	Invalid request
104	Authorization failed
105	Not Allowed
120	Out of Balance
1001	Communication error
1002	Host error
1009	Error

AVS Response Codes

Code	Description
A	Address: Address matches, zip does not match. For Discover, when using TSYS or Paymentech platforms, both address and zip code match. For Discover, when using Global, First Data, or Vantiv platforms, only address matches.
B	Incompatible formats (postal code): Street addresses match. Postal code not verified due to incompatible formats (Acquirer sent both street address and postal code)
C	Incompatible formats (all information): Street address and postal code not verified due to incompatible formats. (Acquirer sent both street address and postal code.
D	Street addresses and postal codes match
E	Edit error: For example, AVS not allowed for this transaction
F	International Transaction: Street address and postal code match
G	Global non-AVS participant.
I	International Transaction: Address information not verified for international transaction.
J	American Express only. Card Member Information and Ship-To information Verified – Fraud Protection Program.
K	American Express only. Card Member Information and Ship-To Information Verified – Standard.
M	Match: Street addresses and postal codes match.
N	No: Address and zip code do not match
P	Postal codes match. Street address not verified due to incompatible formats (Acquirer sent both street address and postal code)
R	Retry: System unavailable or timed out
S	Service not Supported: Issuer does not support AVS and Visa, INAS, or the issuer processing center
T	Nine-digit zip code matches, address does not match
U	Unavailable: Address information not verified for domestic transactions
W	Whole zip: Nine-digit zip code matches, address does not match. For Discover, no data provided.
X	Exact: Address and nine-digit zip code match
Y	Yes: Address and five-digit zip code match. For Discover, when using TSYS or Paymentech platforms, only address matches. For Discover, when using Global, First Data, or Vantiv platforms, both the address and five-digit zip code match.
Z	Zip: Five-digit zip code matches, address does not match
0	No address verification has been requested (TSYS only).

CVV Response Codes

Code	Description
M	Match
N	No Match
P	Not Processed
S	CVV value should be on the card, but the merchant has indicated that it is not present (Visa & Discover only)
U	Issuer is not certified for CVV processing
X	Service provider did not respond

CAVV Response Codes

Code	Description
Space	CAVV not present
0	CAVV authentication results invalid
1	CAVV failed validation – authentication
2	CAVV passed validation – authentication
3	CAVV passed validation – attempt
4	CAVV failed validation – attempt
6	CAVV not validated, issuer not participating in CAVV validation
7	CAVV failed validation – attempt (US issued card, non-US merchant)
8	CAVV passed validation – attempt (US issued card, non-US merchant)
9	CAVV failed validation – attempt (US issued card, non-US merchant, issuer authentication server not available)
A	CAVV passed validation – attempt (US issued card, non-US merchant, issuer authentication server not available)
B	CAVV passed validation – information only, no liability shift

Commercial Card Response Codes

The *CommercialCardResponseCode* value may be returned for Visa and MasterCard commercial cards on the TSYS or FDC or Vantiv platform only.

Code	Description
B	Business Card
D	Visa Commerce (reserved for future use)
R	Corporate Card
S	Purchasing Card
T	Unable to obtain information
0	Non-commercial Card
Space	Non-commercial Card or request error

The below table works with the following transaction types: *CheckSale*. This provides integrators the ability to view CheckSale transactions in various status values they may encounter.

Dollar Amount	Express Response Code/Message	Transaction Status Code / Status
\$33.33	0 / Success	9 / Returned
\$33.34	0 / Success	10 / Pending
\$33.35	0 / Success	11 / Queued
\$33.36	0 / Success	12 / Unknown
\$33.37	0 / Success	13 / Error
\$33.38	0 / Success	14 / Originated
\$33.39	0 / Success	15 / Settled

AVS Response Values

Billing Address 1	Billing Zipcode	AVS Response Code / Meaning
4	Any Other Zipcode	A / Address Match
4	30329	M / Address and Zipcode Match
Any Other Address	Any Other Zipcode	N / No Match
4	30330	Y / Address and Zipcode Match
Any Other Address	30330	Z / Zipcode Match

CVV Response Values

CVV Value	CVV Response Code / Meaning
123	M / Match
321	N / No Match
333	P / Not Processed

Terminal Settings

For a list of suggested Terminal settings, please contact the Express Certification team.

Interface URL's

Interface	Platform	Type	URL
Transaction	Certify	XML	https://certtransaction.elementexpress.com/
Transaction	Certify	SOAP	https://certtransaction.elementexpress.com/express.asmx
Reporting	Certify	XML	https://certreporting.elementexpress.com/
Reporting	Certify	SOAP	https://certreporting.elementexpress.com/express.asmx
Services	Certify	XML	https://certservices.elementexpress.com/
Services	Certify	SOAP	https://certservices.elementexpress.com/express.asmx

Express Certification Team

To contact the Express Certification team, please email certification@vantiv.com