SpeedChex Status Tracking API

Implementation Instructions

Version 1.3

Introduction

The ***Transaction Status Tracking API*** is designed for SpeedChex merchants that want to create an automated link between their software and the SpeedChex Electronic Gateway for tracking the return status on each electronic check transaction submitted for processing. Merchants who wish to use this tool should assign a unique value to the Invoice/Reference ID field for each transaction. The best way for two separate applications to communicate is to have a unique identifier that is common to both applications.

This document is not only designed to give the technical instructions for integrating the ***Transaction Status Tracking API*** into your software, but it also presents the concepts necessary for understanding what data will be exchanged, when exchanges should take place, and what the exchanged data should mean to your software application. Please read each section carefully.

Conceptual Overview of Check Clearing

Unlike credit cards, electronic check transactions cannot be instantly verified and approved. This is due to the nature of the Federal Reserve and the fragmented structure of the current banking system. The banking industry is working now to make all forms of check processing and authorization occur in real-time, but due to political, economic, and consumer protection issues, that technology is still years away from widespread implementation.

What has been implemented instead is a system that still provides authorization, but over a period of days instead of seconds. There are several reasons for the slowness of the process, but the bottom line is that the process has been made logistically slow on purpose to prevent fraud and error.

The following chart shows a step-by-step breakdown of the authorization process for an electronic check transaction:

Steps of an Electronic Check Authorization

Event	Occurs	Special Notes
Transaction is Created	Morning of Day 1	Customer can cancel or modify a transaction until it is batched and submitted for authorization.
Transaction is Batched and Submitted to Fed Electronically for Authorization	Afternoon of Day 1	Once submitted, a transaction can no longer be modified or cancelled.
Customer's Bank Authorizes (*Clears*) or Rejects (*Returns*) Transaction	Afternoon of Day 4	Banks can still reject a transaction even after it has been approved. This is called a Charge Back.

Instead of submitting a transaction in real-time, all transactions must be batched and sent between banks overnight on banking business days only. Next, the banks typically take three to five business days to

indicate if a transaction is rejected (*returned*) and why. If no response is received within that timeframe, the transaction is considered approved (*cleared*). And finally, the bank's response also has to be batched and sent back overnight.

Please note that although banks are expected to respond within the three to five day timeframe, this is not a requirement and it is possible for funds from a *cleared* transaction to be *charged back* due to a late *return* notification (rejection). This does not happen very often, but it does occur.

As absurd as this process seems in an age of global networks and real-time information exchange, electronic check processing was designed as an extension to the proven paper check process that the banking industry has used for over 100 years.

Credit card transactions can be approved instantly because they are simply loans that can be paid back or disputed over time. Check transactions, however, provide direct access to a customer's money and are therefore currently subject to a slower and more careful authorization process.

Events and How They Affect Transaction Status

When tracking and reporting the status an electronic check transaction, it is important to understand that events (such as those detailed on the chart in previous section) progressively determine the Current Status of a transaction. This means, for example, that when a transaction is submitted for authorization or when a bank indicates that a transaction has been rejected, the Current Status of the transaction will change because of this event.

The following chart shows every possible Event that can affect the Current Status of a transaction and it shows the actual syntax used by the ***Transaction Status Tracking API*** for the Event name and for the new Current Status of the transaction:

SpeedChex Transaction Events and Current Status Values

Possible Events	Event Name	New Current Status
Transaction Created	Created	Scheduled
Transaction Cancelled	Cancelled	Cancelled
Transaction Submitted for Authorization	Submitted	In-Process
Transaction Approved	Cleared	Cleared
Transaction Failed Verification	Rejected	Failed Verification
Transaction Rejected for Non-Sufficient Funds	Returned-NSF	Returned-NSF
Transaction Rejected for Administrative Reasons	Returned-Other	Returned-Other
Transaction Rejected After Approval	Charged Back	Charged Back

This chart will be a useful reference later for knowing all of the potential status values that can be returned by the SpeedChex Electronic Gateway in response to a status query.

Understanding the Process

Integrating the SpeedChex ***Transaction Status Tracking API*** into your current application is not difficult. The following is an overview of the major components of this task:

- **Query Packet Submission –** You must create a script or program that use the HTTPS protocol to submit a query packet over the Internet. The rules for constructing the HTTPS query packet are defined in the next section of this document titled *Implementation Rules and Specifications*.

  There are several tools available for constructing and submitting HTTP POST or GET packets. Merchants running on Linux or Unix systems have access to several different options including 'curl' and 'wget'.

  Merchants running on the Microsoft Windows platform can use a free component from Microsoft called WinHTTP. Please visit Microsoft's website and search for WinHTTP to find and download this tool.

- **Returned Information Processing** - The SpeedChex Electronic Gateway will return an HTTP text response after it receives and processes the query packet. For each transaction listed in the response, the gateway will provide the Invoice/Reference ID, the Customer ID, the customer's name, the customer's company, the description on the transaction, the date the transaction was submitted for processing, the amount, the event that occurred to the transaction on the date specified in the query, and the new status of the transaction.

  This returned status information will be easier to process if the merchant assigns each transaction a unique Invoice/Reference ID that has meaning to its internal software application. If no Invoice/ Reference ID is defined when the transaction is created, you will obviously need to use the other returned fields to figure out how to process the status results in your software.

  Please note that querying this method does not provide the status for all transactions, but instead, it returns only those transactions whose status has been changed by an event that occurred on the date specified in the query. The specifications for the layout of the HTTP text response are defined in the next section of this document titled *Implementation Rules and Specifications*.

- **The Tracking Schedule -** The SpeedChex system performs all transaction status updates every night before 12:00 AM Central Standard Time. Most merchants will want to query the ***Transaction Status Tracking API*** every night on or after 12:00 AM CST in order to update their database with the latest status changes. This is certainly not a requirement but it is a good idea.

- **Auditing and Error Handling** – There may be times when a tracking update does not occur properly. Reasons for this might include an execution failure of your application, a communication problem over the Internet, or even a problem on the SpeedChex Electronic Gateway.

  It would be wise to incorporate some form of auditing and error handling into your system that knows when the your tracking query executed successfully and when it did not. Not only will this help you know when a problem occurred, but it can also be useful if you want to automate the process of resubmitting the query.

Implementation Rules and Specifications

1. **Packet Definition and Rules** – The following table defines all data elements that are required when submitting a query to the tracking system:

Field Name	Usage	Field Value Format Constraints
MerchantID	Required	Provided to you by your Sales Rep
GateID	Required	Provided to you by your Sales Rep
GateKey	Required	Provided to you by your Sales Rep
TrackingDate	Required	The date for which you want status & event update information. (Format: MMDDYYYY).
IncludeReturnCodes	Optional	The value for this field must be either **Yes** or **No**. If the field is not included, the default value for this field is "No"

2. **Transaction Packet Submission** – To submit the data packet containing the query parameters to SpeedChex, use either HTTP POST or GET to transmit the packet to the following secure URL:

   https://www.speedchex.com/datalinks/merchants/status-tracking.asp

   If using HTTP GET, please make sure that all data values have been encoded to be URL-safe.

3. **Return Information Processing** – In response to the HTTP POST or GET, the SpeedChex Electronic Gateway will send a simple text response containing a list of all transaction status changes for the date specified in the query. Every transaction will be on a separate line and each line will be contain the following fields delimited with a vertical bar:

Return Field	Value Format Constraints	Max Length
Invoice/Reference ID	A unique ID that may have been assigned to this transaction when it was created.	25
Description	A description that may have been assigned to this transaction when it was created.	100
Date Created	The date this transaction was created. (Format: MMDDYYYY)	8
Date Scheduled	The date the user scheduled this transaction to process. (Format: MMDDYYYY)	8
Customer ID	A unique ID that may have been assigned to the customer for whom this transaction was created.	20
Customer Name	The customer for whom this transaction was created.	40
Company	The company for whom this transaction was created	55
Check Amount	The amount of this transaction. (Format: Numeric only. No commas and no dollar sign)	
Payment Direction	Possible values: 'From Customer' or 'To Customer'	13
Event Name	The event that occurred to this transaction. The possible values are defined in the chart titled **SpeedChex Transaction Events and Current Status Values** above.	20
Event Date	The date when this event occurred. (Format: MMDDYYYY)	8
Event Time	The time when this event occurred (Format: HH:MM:SS – using 24-hour military time)	8

Resulting Status	The new status of this transaction resulting from the event that occurred. The possible values are defined in the chart titled **SpeedChex Transaction Events and Current Status Values** earlier in this document. If the optional *IncludeReturnCodes* query parameter was set to **Yes** and the value of the Event Name field is Returned-Other, Returned-NSF or Charged Back, this field will contain the Resulting Status and the corresponding Return Code separated by a colon. Example: Returned-Other:R03 A complete listing of all possible return codes and their meaning can be found later in this document under the section entitled **Return Codes Reference List**.	20
Verification Status	Returns one of three possible responses from the SpeedChex *Express Verify* system: POS – account found in good standing NEG – account invalid or has negative status UNK – bank not participating/ account status unknown This field will only contain data if transaction was verified using SpeedChex *Express Verify*.	3
Verification Code	Please see document entitled **SpeedChex Express Verify Response Codes** for all possible values for this field. This field will only contain data if transaction was verified using SpeedChex *Express Verify*.	3
Verification Text	Please see document entitled **SpeedChex Express Verify Response Codes** for all possible values for this field. This field will only contain data if transaction was verified using SpeedChex *Express Verify*.	100

Very Important: Since it is possible that the query response may be empty (null), the very last line of every response will be "-999|EOF". If the response text contains this as the first line, this means there is nothing to process (no events that effected a status change) for the date specified in the query.

The Invoice/Reference ID field, the Customer ID field, the Company field, and the Description field are optional input fields when the transaction is created. If these fields do not return a value because a value was never defined by the user, SpeedChex will still include the field in the text response, but it will be empty (meaning there will be nothing between the vertical line delimiters for this field).

The following is an example of a text response from the tracking system:

```
16334|Dues|02142003|02142003|1123|Joe Buyer|Sales, Inc.|123.10|From Customer|Cleared|02202003|01:00:00|Cleared|POS|P70|Validated
16337||02142003|02172003|1157|Jane Doe||52.50|From Customer|Rejected|02202003|15:00:00|Failed Verification|NEG|P01|Account Closed
16341||02202003|02202003||John Smith|Media Co.|25.00|To Customer|Submitted|02202003|15:00:00|In-Process|UNK|P50|Non Participant
16341||02202003|02202003||John Smith|Media Co.|25.00|To Customer|Submitted|02202003|15:00:00|Returned-NSF:R01|UNK|P50|Non Participant
-999|EOF
```

Return Codes Reference List

Return Code	Explanation	Source
I00	PREVIOUSLY RECEIVED R02,R03,R04,R20 ON THIS ACCOUNT (RCK)	Internal
I01	Invalid Amount	Internal
I02	Transaction Still Pending	Internal
I03	Check Represented Maximum Times	Internal
I04	Max Check Amount Exceeded	Internal
I05	Max Fee Exceeded	Internal
I06	Invalid Date	Internal
I07	Transaction Too Old	Internal
I08	Invalid Routing Number	Internal
I09	Duplicate in Batch	Internal
I10	Duplicate from Other Customer	Internal
I11	Fee Rejected for Invalid Check	Internal
I12	Duplicate in POS Batch	Internal
I13	VOIDED POS Transaction	Internal
I14	Invalid Account Number	Internal
I15	Invalid Check Number	Internal
I16	Missing Amount	Internal
I17	Invalidated per Request	Internal
I18	Item PAID	Internal
I19	Reserved	Internal
I20	Item Refunded	Internal
I24	PREVIOUSLY RECEIVED R02,R03,R04,R20 ON THIS ACCOUNT (RCK)	Internal
I25	PREVIOUSLY RECEIVED R02,R03,R04,R20 ON THIS ACCOUNT (EFT)	Internal
I26	EFT Received within Window	Internal
I27	EFT Too old	Internal
I28	Void Transaction Successful	Internal
I29	Void Could Not Be Matched	Internal
I30	POS Batch Duplicated (re-processed)	Internal
I31	LOCKBOX AMT OVER 5000	Internal
I40	Internal Return Code	Internal
I41	DRAFT Batch Rejected	Internal
R01	Insufficient Funds	NACHA
R02	Account Closed	NACHA
R03	No Account, Unable to Locate Account	NACHA
R04	Invalid Account Number	NACHA
R06	Returned per ODFI's Request	NACHA
R07	Authorization Revoked by Customer	NACHA
R08	Payment Stopped	NACHA
R09	Uncollected Funds	NACHA
R10	Customer Advises not Authorized	NACHA
R11	Check Truncation Entry Return	NACHA
R12	Branch Sold to Another DFI	NACHA
R13	RDFI not qualified to participate	NACHA
R14	Representative Payee Deceased or Unable to Continue in that Capacity	NACHA
R15	Account Holder Deceased	NACHA

Return Codes Reference List (continued…)

Return Code	Explanation	Source
R16	Account Frozen	NACHA
R17	File Record Edit Criteria	NACHA
R18	Improper Effective Entry Date	NACHA
R19	Amount Field Error	NACHA
R20	Non-Transaction Account	NACHA
R21	Invalid Company Identification	NACHA
R22	Invalid Individual ID Number (CIE-MTE)	NACHA
R23	Credit Entry Refused by Receiver	NACHA
R24	Duplicate Entry	NACHA
R25	Addenda Error	NACHA
R26	Mandatory Field Error	NACHA
R27	Trace Number Error	NACHA
R28	Routing Number Check Digit Error	NACHA
R29	Corporate Customer Advises Not Authorized	NACHA
R30	RDFI Not Participant in Check Truncation Program	NACHA
R31	Permissible Return Entry (CCD and CTX only)	NACHA
R32	RDFI Non-Settlement	NACHA
R33	Return of XCK Entry	NACHA
R34	Limited Participation DFI	NACHA
R35	Return of Improper Debit Entry (CIE)	NACHA
R36	Return of Improper Credit Entry (RCK)	NACHA
R37	Source Document Presented for Payment	NACHA
R40	Return of ENR Entry by Federal Government Agency (ENR only)	NACHA
R41	Invalid Transaction Code (ENR only)	NACHA
R42	Routing Number/Check Digit Error (ENR only)	NACHA
R43	Invalid DFI Account Number (ENR only)	NACHA
R44	Invalid Individual ID Number/Identification Number (ENR only)	NACHA
R45	Invalid Individual Name/Company Name (ENR only)	NACHA
R46	Invalid Representative Payee Indicator (ENR only)	NACHA
R47	Duplicate Enrollment (ENR only)	NACHA
R50	State Law Affecting RCK Acceptance	NACHA
R51	The Amount of the RCK Entry was not Accurately Obtained from the Item	NACHA
R52	Stop Payment on Item (adjustment entries)	NACHA
R53	Item and ACH Entry Presented for Payment	NACHA
R61	Misrouted Return	NACHA
R62	Incorrect Trace Number	NACHA
R63	Incorrect Dollar Amount	NACHA
R64	Incorrect Individual Identification	NACHA
R65	Incorrect Transaction Code	NACHA
R66	Incorrect Company Identification	NACHA
R67	Duplicate Return	NACHA
R68	Untimely Return	NACHA
R69	Multiple Errors	NACHA
R70	Permissible Return Entry Not Accepted	NACHA

Return Codes Reference List (continued…)

Return Code	Explanation	Source
R71	Misrouted Dishonored Return	NACHA
R72	Untimely Dishonored Return	NACHA
R73	Timely Original Return	NACHA
R74	Corrected Return	NACHA
R80	Cross-Border Payment Coding Error	NACHA
R81	Non-Participant in Cross-Border Program	NACHA
R82	Invalid Foreign Receiving DFI Identification	NACHA
R83	Foreign Receiving DFI Unable to Settle	NACHA
R84	Entry Not Processed by OGO	NACHA
RET	Paper Draft Return	Internal
S01	Invalid ABA Number	Internal
S02	Blocked ABA/Account Number	Internal
S10	Invalid Account Number	Internal

Implementation Support

If you need any help understanding this documentation or with any of the details of integrating the ***Transaction Status Tracking API*** into your application, please do not hesitate to contact our support staff by email at support@speedchex.com.

If you need to speak to a support team member, please put your name and phone number on the email and the best time to call.

Version Changes

Version 1.1 - Modified September 5, 2003

Added three new response tracking data fields for verification results.

These new fields allow merchants using the *SpeedChex Express Verify* system to track the verification status of each transaction they submit. Merchants who are not using the *SpeedChex Express Verify* system will see delimiters for these 3 new fields, but no data in these fields.

Version 1.2 - Modified August 18, 2005

Added the optional query parameter IncludeReturnCodes. When this field value is set to Yes, the Resulting Status field will contain both the Resulting Status text and the corresponding Return Code defining the reason for the return.

A list of all Return Codes and their meaning has also been included to for reference.

Version 1.3 - Modified July 17, 2007

All references to SpeedChex *bank account verification* services have been changed to reflect the new product name which is S*peedChex Express Verify*.