

Electronic Clearing House, Inc.

NCN TLOGX Guide for ECC

November 28, 2007



730 Paseo Camarillo
Camarillo, CA 93010
(800) 280-7677

About this document...

Purpose

This document describes the TLOGX format available from NCN and identifies best practices for using these logs.

Audience

The primary audience and users of this document are customers that want to clear and settle ECC transactions based on NCN TLOGX files.

Comments

- This document is limited in scope to the TLOGX format only.

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1. Introduction

This section contains the document's revision history and a list of other documents included by reference.

1.1 Revision History

Rev	Date	Author	Reason
1.0	28 Nov 2007	Sean Eskins	Initial release

1.2 Data Types Used In This Document

The following table defines the abbreviations used to define data types:

Modifier	Definition
a	Alpha characters, [a-z, A-Z]
n	Numeric digits, [0-9]
p	Pad character, space
h	Hexadecimal characters, [a-f, A-F, 0-9]
s	Special characters, [-_:@&+#\$/'=~^]
an	Alphabetic and numeric characters
as	Alphabetic and special characters
ns	Numeric and special characters
ans	Alphabetic, numeric and special characters
YY	Year, 00 through 99
CCYY	Same as "YY" but including century
CCYYMM	Same as "CCYY" but including month
MM	Month, 01 through 12
DD	Day, 01 through 31
hh	Hour, 00 through 23
mm	Minute, 00 through 59
ss	Second, 00 through 59
n	Fixed length of <i>n</i> characters

Modifier	Definition
..n	Variable length up to <i>n</i> characters
{ }	An empty field entry
	An "OR" symbol used to separate elements on an enumerated list. Only one element of the enumerated list may be used at a time.

Examples

- a1 One alphabetic ASCII character
- n..19 Up to 19 numeric ASCII characters
- s1 One binary special character
- ansp..26 Up to 26 alpha, numeric, binary special, or ASCII <space> characters

1.3 Data Values Used In This Document

The following table defines the abbreviations used to define various standard ASCII data values:

Name	Value	Definition
<FS>	28d 1Ch	A File Separator character is the primary method used to separate data fields.
<GS>	29d 1Dh	The Group Separator is a secondary method used to separate data within a field.
<RS>	30d 1Eh	The Record Separator is a secondary method used to separate data within a field.
<US>	31d 1Fh	The Unit Separator character is a secondary method used to separate data within a field.
<LF>	10d 0Ah	The Line Feed character is used to separate records.

2. NCN Transaction Logs

NCN Transaction Logs contain transactional information on check verification, electronic check conversion, batch results, and other requests from the POS device. This section will document the current NCN transaction log format known as TLOGX.

2.1 TLOGX Format

Description

The TLOGX format is used to record all transaction requests arriving at NCN in the SPKT format. The format is identical to TLOG with additional fields for collection fee amount (+ tax), refer to *NCN Tlog Guide for ECC* to review the TLOG format.

The TLOGX format supports immediate reversals or voids by the merchant at the point of sale. Voids/reversals should be matched to original authorizations prior to settlement to prevent impact for non-financial (voided) transactions. See **TLOGX Filtering** for an example of TLOGX void matching for next day settlement.

Filename

TlogxCCYYMMDD.csv

File Format

Individual transaction records are delimited with a trailing <LF>.

Fields within a record are comma-separated.

File Contents

Field	Field Name	Data Type	Value	Description
1	Date	an8	MM/DD/YY	Transaction Date Stamp
2	Time	an8	hh:mm:ss	Transaction Time Stamp, 24 hr. format
3	Transaction Number	n..6	1...999999	Sequential number assigned to transaction
4	Site Number	n..5	1...65535	Identifies acquirer, ISO, or agency
5	Merchant Number	n..6		Identifies merchant
6	Rule Set Number	n..4	1...999	Identifies the rule set used for real-time authorization.
7	Group Number	n..2		Identifies the merchant's group. Will be zero if no groups are defined.
8	Check Dollar Amount	{ } n..7	9999.99 Maximum value	Transaction amount. May be empty if an ID-Only transaction.
9	Cash Back Dollar Amount	{ } n..7	9999.99 Maximum value	Cash back portion of transaction amount. May be empty (e.g., if an ID-Only transaction).

Field	Field Name	Data Type	Value	Description																												
10	Verification Result	A4..12	Action [Reason+]	<p>Contains the results obtained from the NCIS verification engine in the form of an Action code followed by one or more Reason codes.</p> <table border="0"> <tr> <td>Action</td> <td>Meaning</td> </tr> <tr> <td>AUTH</td> <td>Authorized</td> </tr> <tr> <td>WRN</td> <td>Warning</td> </tr> <tr> <td>DEC</td> <td>Declined</td> </tr> <tr> <td>AUTO-AUTH</td> <td>House Authorization (Occurs if a request is received while the NCIS system is under maintenance).</td> </tr> <tr> <td>Reason</td> <td>Meaning</td> </tr> <tr> <td>a</td> <td>Account problem</td> </tr> <tr> <td>d</td> <td>Day velocity limit exceeded</td> </tr> <tr> <td>i</td> <td>ID flagged for some problem</td> </tr> <tr> <td>o</td> <td>Out of area</td> </tr> <tr> <td>t</td> <td>Transaction limit exceeded</td> </tr> <tr> <td>u</td> <td>Unpaid check limit exceeded</td> </tr> <tr> <td>w</td> <td>Window velocity limit exceeded</td> </tr> <tr> <td>y</td> <td>Young account</td> </tr> </table>	Action	Meaning	AUTH	Authorized	WRN	Warning	DEC	Declined	AUTO-AUTH	House Authorization (Occurs if a request is received while the NCIS system is under maintenance).	Reason	Meaning	a	Account problem	d	Day velocity limit exceeded	i	ID flagged for some problem	o	Out of area	t	Transaction limit exceeded	u	Unpaid check limit exceeded	w	Window velocity limit exceeded	y	Young account
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11	ABA and Account	An..28		<p>The ABA and account number obtained manually or from the MICR. The route number is the first 9 digits and includes the checksum</p> <p>NOTE: On ID-Only transactions (which contain no MICR at all), this field will contain a duplicate of field 14, the ID information. This is termed a "PSEUDO-MICR" number.</p> <p>Since the data in Field 14 starts with an ALPHA character, it is easy to differentiate PSEUDO-MICR from actual MICR numbers. In addition, these transactions will have Type set to "I" or "i".</p>																												

Field	Field Name	Data Type	Value	Description																																				
12	Transaction Code	An2	Type Condition	<p>Contains information describing the transaction in the form of a Type code followed by a Condition code.</p> <p>A lower case Type code denotes manually entered data while upper case denotes a swipe or MICR reader was used.</p> <table border="0"> <tr> <td><u>Type</u></td> <td><u>Meaning</u></td> </tr> <tr> <td>N n</td> <td>Normal personal check</td> </tr> <tr> <td>P p</td> <td>Payroll check (no ACH)</td> </tr> <tr> <td>T t</td> <td>Third party check (no ACH)</td> </tr> <tr> <td>I I</td> <td>ID-based verification (no ACH)</td> </tr> <tr> <td>B</td> <td>Blocked for ACH</td> </tr> <tr> <td>C</td> <td>Card-based transaction</td> </tr> <tr> <td>V</td> <td>VOID of previous ACH entry</td> </tr> <tr> <td>L</td> <td>Information LOG entry (ERROR IN MICR, ID REQUIRED, batch deposit record, etc.)</td> </tr> <tr> <td><u>Condition</u></td> <td><u>Meaning</u></td> </tr> <tr> <td>F</td> <td>First presentation of a check</td> </tr> <tr> <td>R</td> <td>Repeat presentation of a check</td> </tr> <tr> <td>D</td> <td>Duplicate presentation of a check (payroll only)</td> </tr> <tr> <td>U</td> <td>Un-testable presentation (no check number found)</td> </tr> <tr> <td>O</td> <td>Override transaction</td> </tr> <tr> <td>M</td> <td>Mandatory acceptance</td> </tr> <tr> <td>Q</td> <td>Query</td> </tr> <tr> <td>G</td> <td>General purpose LOG entry</td> </tr> </table>	<u>Type</u>	<u>Meaning</u>	N n	Normal personal check	P p	Payroll check (no ACH)	T t	Third party check (no ACH)	I I	ID-based verification (no ACH)	B	Blocked for ACH	C	Card-based transaction	V	VOID of previous ACH entry	L	Information LOG entry (ERROR IN MICR, ID REQUIRED, batch deposit record, etc.)	<u>Condition</u>	<u>Meaning</u>	F	First presentation of a check	R	Repeat presentation of a check	D	Duplicate presentation of a check (payroll only)	U	Un-testable presentation (no check number found)	O	Override transaction	M	Mandatory acceptance	Q	Query	G	General purpose LOG entry
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13	Check Sequence #	{ } n..10		<p>The sequence number of the check. This will be blank if no number is provided.</p> <p>NOTE: A check sequence number is mandatory for successful check conversion.</p>																																				
14	Id Used	{ } n..23		The consumer's ID presented to the merchant. Blank if none provided.																																				
15	Lane Number	{ } n..3	255 Maximum value	The terminal number is used in multi-lane applications. This will be blank if no number is provided.																																				
16	Raw MICR Data or Batch deposit record	{ } an..67	"micr data" or "batch data"	<p>If present, contains normalized MICR data enclosed in quote chars. TOAD substitution, leading and trailing spaces removed, multiples of blanks replaced with a single blank. This will be blank if no data is provided.</p> <p>NOTE: Raw MICR Data is present only for sites supporting ACH check conversion.</p>																																				
17	Collection Fee Amount	{ } n..7	9999.99 Maximum value	The total amount of collection service fee to charge if this transaction returns: fee + tax If blank or 0.00 then do not charge a fee.																																				
18	Collection Fee Tax	{ } n..7	9999.99 Maximum value	The tax associated with the collection fee. Subtract from field 17 to determine the amount of the fee prior to tax.																																				

Notes

1. Voids of a previous ACH entry are accepted after a Batch Deposit transaction has occurred. This could result in a negative batch amount if the merchant voids a transaction but does not obtain an authorized transaction to offset the void.
2. The following events will block a transaction from ECC approval:
 - The check has no check sequence number in the MICR line;
 - The check is already encoded with a \$ amount in the MICR line. (An amount in the MICR line is an indication the check has probably passed through the banking system already.);
 - The check ABA, routing number, and sequence number are manually keyed instead of read via a MICR reader;
 - The ABA number is present in the NCIS Blocking file. (All routing numbers under this ABA number will be blocked);
 - The ABA and account number combination is present in the NCIS Blocking File. (This particular checking account number will be blocked);
 - A payroll check is presented;
 - An ID-only transaction is presented.

Example ECC Transactions

Filename: Tlogx20071114.csv

Multi-lane Transaction

11/14/07,14:34:31,213875,500,120,5,10,367.89,10.00,AUTH,12345678912345,NF,101,DL=OK-445678934,12,"T123456789T 12345 101",26.35,1.35

Filename: Tlogx20071114.csv

Single-lane Transaction

11/14/07,14:34:31,213875,500,120,5,10,367.89,,AUTH y,12345678912345,nF,101,DL=OK-445678934,,,"T123456789T 12345 101",25.00,0.00

Other Transactions

Filename: Tlogx20071114.csv

Deposit Batch Transaction

11/14/07,00:54:50,245250,999,8103,350,1,0.00,,??.ACH-LOG-ENTRY,LG,,,,,"Na=7,aa=\$140.03,NV=0,aV=\$.0",,,

Field Explanations in the Batch Deposit transaction

- Na = Number of Authorized transactions (includes overrides)
- aa = Dollar amount of the Authorized transactions
- NV = Number of Void transactions
- AV = Dollar amount of Void transactions

3. Transaction Log ACH Filtering Guidelines

The following sections document TLOGX filtering guidelines when used as the input to an ACH processing system for the purpose of clearing and settlement to the merchant.

3.1 TLOGX Filtering

Data contained in a TLOGX requires filtering before it should be used to initiate clearing and settlement of funds. One standard filter is documented below. This filter removes all transactions not appropriate for ACH processing. The residual, of course, are those that can be used for clearing and settlement to a merchant:

ACH only one transaction for any route, account, and sequence number presented to a single merchant. Do not ACH any voided transactions.

If there are duplicate "route, account, sequence" combinations then the latest transaction is used on the assumption that the merchant was correcting a sales transaction amount.

Because merchants may void transactions from the previous day up to the first few hours of the next day, process two days of transaction data as follows:

1. DAY1 transactions processing:
 - a) Obtain the previous day's transactions from 00:00:00 to 23:59:59.
 - b) Remove transactions without a Verification Result = "AUTH".
 - c) Remove transactions without the following transaction codes:
 - i) "NF" MICR swiped personal check, First Presentation.
 - ii) "NO" MICR swiped personal check, Override Transaction
 - iii) "VR" MICR swiped personal check, Repeat Presentation
2. DAY2 transactions processing:
 - a) Obtain the current day's transactions from 00:00:00 to 03:00:00.
 - b) Remove transactions without a Verification Result = "AUTH".
 - c) Remove transactions without the following transaction codes:
 - i) "NO" MICR swiped personal check, Override Transaction
 - ii) "VR" MICR swiped personal check, Repeat Presentation
 - d) Convert all "NO" transactions to "VR" transactions.
3. Concatenate filtered DAY1 and DAY2 transactions.
4. Sort the concatenated file by site #, merchant #, route, account, sequence, and date/time to group all transactions against a single check item into date/time order.
5. Submit to the ACH system only if the last transaction on an item (i.e., the site, merchant, route, account, and sequence number of the check are identical) has the following transaction codes:
 - a) "NF" MICR swiped personal check, First Presentation.
 - b) "NO" MICR swiped personal check, Override Transaction