IPpay™ Reporting Service (IPR)

Document Version 2.0
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1. Introduction

The IPpay™ gateway has an API for querying transaction data. This document describes the API to connect to retrieve transaction and tokenization data that can be used to create customized reports.

For information about the overall specifications of an IPpay™ transaction, refer to the *IPpay™ XML Specification* document.

2. Connecting

For testing:

https://rpt-test.ippay.com/ippayReport/

For production:

https://rpt.ippay.com/ippayReport/

The production gateway should not be used for test purposes, unless a test of live transaction data is deliberately planned with intent to settle that transaction data.

Note that the connection requires **TLS 1.2 or higher** and current/strong ciphers.

Stress testing is not permitted over the Internet connections without the specific consent of IPPay™. Any entity discovered to be stress testing over the Internet without consent of IPPay™ will be categorized as a Denial of Service operator and be prohibited from using these URLs without notice.

3. Request/Response Example

The following examples illustrate transaction messages, showing a sample request message with a corresponding sample response message.

Submitted data for the IPR transaction request consists of:

`<MerchantID>`	=	IPpay™ Reporting username (required)
`<TerminalID>`	=	your terminal ID, assigned by IPpay™ (optional)
`<Password>`	=	IPpay™ Reporting Password (required)
`<TransactionType>`	=	Specify credit, ach or token (required)
`<TransactionStartTime>`	=	Start time of transactions to be downloaded
`<TransactionEndTime>`	=	End time of transactions to be downloaded (required)

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The following IPR transaction demonstrates a credit card transaction request:

```
<ippayReport>
  <MerchantID>MERCHANTID</MerchantID>
  <TerminalID />
  <Password>PASSWORD</Password>
  <TransactionRange>
    <TransactionType>credit</TransactionType>
    <TransactionStartTime>2019-01-01T00:00:00</TransactionStartTime>
    <TransactionEndTime>2019-01-02T00:00:00</TransactionEndTime>
  </TransactionRange>
</ippayReport>
```

For this IPR transaction, if there was no transaction data to return, the response would be as follows:

```
<ippayReport>
  <Transactions type="credit" run=" 2019-01-03 10:30:00"
    start="2019-01-01 00:00:00" end="2019-01-01 00:00:00">No Results</Transactions>
</ippayReport>
```

For this IPR transaction, the following response illustrates how the returning XML would look if there were transactions to report.

```
<ippayReport>
  <Transactions type="credit" run=" 2019-01-03 10:30:00"
    start="2019-01-01 00:00:00" end="2019-01-01 00:00:00">
    <Transaction>
      <ipTransID>00000000000000000040299</ipTransID>
      <Merchant_Name>Test Merchant</Merchant_Name>
      <Merchant_ID>Test Merchant</Merchant_ID>
      <Terminal_ID>TESTTERMINAL</Terminal_ID>
      <Transaction_ID>E20120626154059457</Transaction_ID>
      <Request_Type>AUTHONLY</Request_Type>
      <Transaction_Type />
      <Total_Amount>87.0000</Total_Amount>
      <Auth_Code>TEST64</Auth_Code>
      <AuthDateTime>2019-01-01 10:40:59</AuthDateTime>
      <CardNum>4B3J7E7D7K2A1000</CardNum>
      <Token>4B3J7E7D7K2A1000</Token>
      <AVS_Response />
      <CardHolderName />
      <Address />
      <City />
      <State />
      <Zip />
      <Country />
      <Phone />
      <OrderNumber />
      <UD1 />
      <UD2 />
      <UD3 />
    </Transaction>
    <Transaction>
      <ipTransID>00000000000000000040300</ipTransID>
      <Merchant_Name>Test Merchant</Merchant_Name>
      <Merchant_ID>Test Merchant</Merchant_ID>
      <Terminal_ID>TESTTERMINAL</Terminal_ID>
      <Transaction_ID>E20120626154104237</Transaction_ID>
      <Request_Type>AUTHONLY</Request_Type>
      <Transaction_Type />
      <Total_Amount>87.0000</Total_Amount>
      <Auth_Code>TEST85</Auth_Code>
      <AuthDateTime>2019-01-01 10:41:04</AuthDateTime>
      <CardNum>4B3J7E7D7K2A1000</CardNum>
      <Token>4B3J7E7D7K2A1000</Token>
      <AVS_Response />
      <CardHolderName />
      <Address />
      <City />
      <State />
      <Zip />
      <Country />
```

```
      <Phone />
      <OrderNumber />
      <UD1 />
      <UD2 />
      <UD3 />
    </Transaction>
  </Transactions>
</ippayReport>
```

4. Request Format

The following table shows the logical structure of the IPpay™ transaction request message. The **Document Structure** column lists the element name and its place in the message structure in order and indentation. The **Qualifications** column explains the conditions for supplying that element to a transaction. The condition column lists any conditions that apply to the element.

Element in Document Structure	Qualifications
ippayReport	Required root element.
MerchantID	Required.
TerminalID	Optional.
Password	Required.
TransactionRange	Required.
TransactionType	Required. Values (see below)
TransactionStartTime	Required. Format is YYYY-MM-DDTHH:MM:SS
TransactionEndTime	Required. Format is YYYY-MM-DDTHH:MM:SS

4.1 Request Element Definitions

The following properties describe the request transactions.

- **ippayReport**– root element, enclosing the following transaction elements:
    - **MerchantID**– Required for all transactions. This is issued by IPpay™ when an account is set up. NOTE: this is **DIFFERENT** from the **MerchantID** provided at onboarding. Please contact support to have the correct **MerchantID** issued for the purpose of querying transaction data.
    - **TerminalID**– Optional. This value allows a merchant to filter downloaded transactions by a specific **TerminalID** used for processing transactions through IPpay™
    - **Password–** Required for all transactions. The password (coordinated with IPPay™) is used to verify that a submitted XML request is valid and that permissions are properly authenticated.
    - **TransactionRange**– Required for all transactions. Contains the specific values and ranges of the transactions being requested.
        - **TransactionType**– Required for all transactions.

            1. **credit**: Returns all auth, capt, sale, void, credit transactions.
            2. **ccsettlement**: Returns credit settlement records.
            3. **ccchargebacks**: Returns credit chargeback records.

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4. **ach:** Return check, reversal and voidach transactions.
5. **achsettlement:** Returns ach settlement records.
6. **achrejects:** Returns ach reject records.
7. **token**: Returns all token transactions.
8. **getAccountUpdaterActivity**: Returns completed account updater requests.
9. **getAccountUpdaterPendingActivity**: Returns pending account updater requests.

- **TransactionStartTime–** Start time of transactions to be downloaded. Format is YYYY-MM-DD**T**HH:MM:SS. Time is military time. To capture a transaction range starting at 6:05 AM on June 10, 2012, a value of 2012-06-10T06:05:00 would be specified in this field.

- **TransactionEndTime–** End time of transactions to be downloaded. Format is YYYY-MM-DD**T**HH:MM:SS. Time is military time. To capture a transaction range starting at 6:05 AM on June 10, 2012, a value of 2012-06-10T06:05:00 would be specified in this field.

5. Response Format Overview

The following table describes the logical structure of the IPpay™ transaction response message, sent in response to an initiating IPpay™ transaction request message.

Element in Document Structure	Qualifications
ippayReport	Required root element.
Transactions	Required.
Transaction	Optional. One element per transaction.
ipTransID	Returned.
Merchant_Name	Returned.
Merchant_ID	Returned.
Terminal_ID	Returned.
Transaction_ID	Returned.
Request_Type	Returned.
Transaction_Type	Optional
Total_Amount	Optional for Token
Fee_Amount	Optional (ACH)
Tax_Amount	
Auth_Code	Optional.
ActionCode	
Approval_Status	
AuthDateTime	Required.
CardNum	Optional if Credit transaction.
AccountNumber	Required if ACH transaction.
ABA	
CheckNumber	
Token	Required.
AVS_Response	Optional.
AddressMatch	
ZipMatch	
CVV2	

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		CardHolderName		Optional.
		Address		Optional.
		City		Optional.
		State		Optional.
		Zip		Optional.
		Country		Optional.
		Phone		Optional.
		Email		
		UserIPAddr		
		UserHost		
		OrderNumber		Optional.
		UD1		Optional.
		UD2		Optional.
		UD3		Optional.
		CustomerPO		
		ShippingMethod		
		ShippingName		
		ShippingAddr		

5.1 Response Element Definitions

1. **ipTransID –** Globally unique transaction ID that can be used in lieu of **CardNum** or **ACH** to recall the appropriate value from a prior transaction that has been run. Works with SALE, AUTHONLY, VOID, CREDIT, CHECK, REVERSAL& VOIDACH transactions.

2. **Merchant_Name** – Returned for all transactions.

3. **Merchant_ID**– Returned for all transactions. This ID is issued by IPPay Merchant Services when an account is set up with the merchant bank.

4. **Terminal_ID**– Returned for all transactions. This ID is issued by IPPay Merchant Services when an account is set up with the merchant bank.

5. **Transaction_ID**– Returned for all transactions. A unique 18-character value that identifies the transaction.

6. **Request_Type**– Returned for all transactions. Must be one of the following values: *SALE, AUTHONLY, CAPT, VOID, FORCE, ENQ, CREDIT, CHECK, REVERSAL, VOIDACH, REVERSEAUTH, TOKENIZE, PARTIALREVERSAL, INCREMENTAL, PING*or *ACK*

7. **Transaction_Type**– The manner in which this transaction was communicated to the merchant. Possible values are "**INTERNET**" (ecommerce merchants), "**POS**" (retail merchants with magnetic cardreaders), "**RECURRING**" (ecommerce and MOTO merchants), "**PHONEORDER**" (MOTO merchants), and "**MAILORDER**" (MOTO merchants). Value equals what was sent in the **Origin** tag.

8. **Total_Amount**– Purchase price to be transacted, including taxes and fees. The currency type assumed for the amount is dependent on the merchant. Value must be non-zero.

9. **Fee_Amount**– The surcharge applied to a transaction. The surcharge value within this element is assumed to be already included in **TotalAmount**.

10. **Tax_Amount**– Tax applied to a transaction. The tax value within this element is assumed to be already included in the total amount.

11. **Auth_Code**– An authorization code, six (6) alphanumeric characters long, returned by the issuing bank for credit card transactions.

12. **ActionCode**– The ActionCodeis three (3) characters. The ActionCode contains a "*000*" value to indicate that a transaction has been approved by the issuer bank. The ActionCodewill be some other value when either the issuer bank declines the transaction or if the IPpay™ server host detects an error. This is the same value as ActionCode returned in the IPPay XML.

13. **Response_Text** – Message from the IPpay™ server, describing to the ActionCode. Note that a "000" ActionCodemay have multiple ResponseTextvalues, including "APPROVED", "ACCEPTED", "CAPTURES", and "PING". Other ActionCodeswill contain a ResponseTextvalue of "DECLINED" or some similar phrase..

14. **AuthDateTime**– the time in which the transactions occurred. Return format is YYYY-MM-DD HH:MM:SS**.**

15. **CardNum**– The credit card number of PAN ("personal account number") submitted for a transaction. The PAN is thirteen to nineteen digits long, depending on the type of the credit card. For PCI compliance reasons, tokens have been substituted for the actual submitted PAN number and expiration date. No other cardholder information is associated with the token.

    Tokens are format preserving in the following respects:

    - Tokens are the same character length as submitted data
    - 1st digit of Credit Card Number is preserved in token
    - Last 4 digits of Credit Card number are preserved in token

16. **AccountNumber**– Used for ACH transactions. The account number of the target bank account

17. **ABA**– Used for ACH transactions. The nine-digit bank routing identifier for the target bank account.

18. **CheckNumber**– Used for ACH transactions. A numeric identifier for the banking transaction.

19. **Token**– See above. For credit card transactions, will be the same value as what is returned in **CardNum.** No other cardholder information is associated with the token. For ACH transactions, will return a value that can be used in place of an

    ABA & Account number. Tokens are format preserving in the following respects:

    - Tokens are the same character length as submitted data
    - Last 4 digits of account number are preserved for ACH/ECheck transactions

20. **AVS_Response**– A code indicating that AVS ("Address Verification Service") results for a transaction. Refer to "Appendix B" in this reference for an explanation of the valid result codes, "A", "B", "C", "D", "E", "F", "G", "K", "L", "M", "N", "O", "P", "R", "S", "U", "W", "X", "Y", and "Z".

21. **AddressMatch**– Code indicating the address match results for a credit card transaction. Returns "Y", "N", or "X", where:

    - **Y**– The address matches.
    - **N–** The address does not match.
    - **X**– No result available (AVS requested but not performed).

22. **ZipMatch**– Code indicating the postal code match results for a credit card transaction. Returns "Y", "N", or "X", where:

    - **Y**– The postal code matches.
    - **N–** The postal code does not match.
    - **X**– No result available (AVS requested but not performed).

23. **CVV2**– The response code to a Visa CVV2 or a MasterCard CVC2 or an American Express CID submission. Refer to "Appendix C" in this reference for a explanation of the valid result codes, "*M*","*N*", "*P*", "*S*", and "*U*".

24. **`VerificationResult`** – The response code to a Visa CAVV (VbV) or a MasterCard UCAF (SecureCode™) submission. Refer to "Appendix D" in this reference for a explanation of the valid result codes, "*0*" thru "*9*" and "*A*" thru "*D*". ***NOTE this field is currently not returned in IPReports***.

25. **CardHolderName–** The customer name, that is, the name of the cardholder.

26. **Address**– Cardholder's billing address

27. **City**– Cardholder's billing city

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28. **State**– Cardholder's billing state code abbreviation

29. **Zip**– Cardholder's billing zip code

30. **Country–** Cardholder's billing country, a valid ISO Country Code (consisting of either three alphabetic characters or three digits).

31. **Phone**– Cardholder's billing telephone number

32. **Email**– Cardholder's email address

33. **UserIPAddr–** Customer's IP address

34. **UserHost–** Customer's host name

35. **OrderNumber–** A string referencing an order. When dynamic descriptor functionality is enabled, the contents of this field shows up after the header on the cardholder statement.

36. **UDField1–** User-defined field, available for reporting purposes. Utilized by the dynamic phone number feature when up to 15 digits (number, no dashes) are appended with a # sign.

37. **UDField2**– User-defined field

38. **UDField3–** User-defined field

39. **CustomerPO**– The cardholder's purchase order number

40. **ShippingMethod**– The manner of delivering a purchase to the recipient. One of five shipping methods may be specified:

    - **SAMEDAY**: courier delivery
    - **OVERNIGHT**: next day delivery
    - **PRIORITY**: two to three days shipping time
    - **GROUND**: four or more days shipping time
    - **ELECTRONIC**: delivery of purchase by electronic means

41. **ShippingName**– The name of the recipient of the order

42. **ShippingAddr**– The destination shipping address data

6. Request / Response Example: credit

```
<ippayReport>
  <MerchantID>MERCHANTID</MerchantID>
  <Password>PASSWORD</Password>
  <TransactionRange>
    <TransactionType>credit</TransactionType>
    <TransactionStartTime>2019-01-29T16:40:00</TransactionStartTime>
    <TransactionEndTime>2019-01-29T16:45:59</TransactionEndTime>
  </TransactionRange>
</ippayReport>


<ippayResponse>
  <Transactions type="credit" run="2019-04-16 21:55:47"
    start="2019-01-29T16:40:00" end="2019-01-29T16:45:59" records="2">
    <Transaction>
      <Date>2019-01-29 16:41:35.0</Date>
      <ipTransID>00000000000000000086124999</ipTransID>
      <Merchant_Name>ABCLLC</Merchant_Name>
      <Merchant_ID>0000508999</Merchant_ID>
      <Terminal_ID>TESTTESTTEST</Terminal_ID>
      <Transaction_ID>A20195555524135440</Transaction_ID>
      <Request_Type>SALE</Request_Type>
      <Total_Amount>1.9000</Total_Amount>
      <Fee_Amount>0.0000</Fee_Amount>
      <Auth_Code>198772</Auth_Code>
      <ActionCode>000</ActionCode>
      <Response_Text>APPROVED</Response_Text>
      <CardNum>37G3555551K1006</CardNum>
      <Token>37G3555551K1006</Token>
      <AVS_Response></AVS_Response>
      <AddressMatch></AddressMatch>
      <ZipMatch></ZipMatch>
      <CVV2></CVV2>
      <CardHolderName>TEST</CardHolderName>
      <Address></Address>
      <City></City>
      <State></State>
      <Zip></Zip>
      <Country></Country>
      <Phone></Phone>
      <Email></Email>
      <UserIPAddr></UserIPAddr>
      <UserHost></UserHost>
      <OrderNumber></OrderNumber>
      <UD1></UD1>
      <UD2></UD2>
      <UD3></UD3>
      <CustomerPO></CustomerPO>
      <ShippingMethod></ShippingMethod>
      <ShippingName></ShippingName>
      <ShippingAddr></ShippingAddr>
      <alProcessorID>5727</alProcessorID>
      <altTerminalID></altTerminalID>
      <altMerchantID></altMerchantID>
      <FNA_AuthDate>2019-01-29</FNA_AuthDate>
      <FNA_AuthTime>17:41:36</FNA_AuthTime>
      <FNA_TransactionID>1549996093</FNA_TransactionID>
      <FNA_ResponseCode></FNA_ResponseCode>
      <FNA_RetRefNum>902999902572</FNA_RetRefNum>
      <CCProcessor>92999727</CCProcessor>
    </Transaction>
    <Transaction>
      <Date>2019-01-29 16:41:53.0</Date>
      <ipTransID>00000000000000000086124999</ipTransID>
      <Merchant_Name>ABCLLC</Merchant_Name>
      <Merchant_ID>0000508999</Merchant_ID>
      <Terminal_ID>TESTTESTTEST</Terminal_ID>
      <Transaction_ID>D20199999224153843</Transaction_ID>
      <Request_Type>SALE</Request_Type>
      <Total_Amount>2.5800</Total_Amount>
      <Fee_Amount>0.0000</Fee_Amount>
      <Auth_Code>128111</Auth_Code>
      <ActionCode>000</ActionCode>
      <Response_Text>APPROVED</Response_Text>
```


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```
      <CardNum>37G3H555D1K1006</CardNum>
      <Token>37G3H555D1K1006</Token>
      <AVS_Response></AVS_Response>
      <AddressMatch></AddressMatch>
      <ZipMatch></ZipMatch>
      <CVV2></CVV2>
      <CardHolderName>TEST USER</CardHolderName>
      <Address></Address>
      <City></City>
      <State></State>
      <Zip></Zip>
      <Country></Country>
      <Phone></Phone>
      <Email></Email>
      <UserIPAddr></UserIPAddr>
      <UserHost></UserHost>
      <OrderNumber></OrderNumber>
      <UD1></UD1>
      <UD2></UD2>
      <UD3></UD3>
      <CustomerPO></CustomerPO>
      <ShippingMethod></ShippingMethod>
      <ShippingName></ShippingName>
      <ShippingAddr></ShippingAddr>
      <alProcessorID>5727</alProcessorID>
      <altTerminalID></altTerminalID>
      <altMerchantID></altMerchantID>
      <FNA_AuthDate>2019-01-29</FNA_AuthDate>
      <FNA_AuthTime>17:41:54</FNA_AuthTime>
      <FNA_TransactionID>1543336473</FNA_TransactionID>
      <FNA_ResponseCode></FNA_ResponseCode>
      <FNA_RetRefNum>902944403674</FNA_RetRefNum>
      <CCProcessor>92555727</CCProcessor>
    </Transaction>
  </Transactions>
</ippayResponse>
```

7. Request / Response Example: ccsettlement

```
<ippayReport>
  <MerchantID>MERCHANTID</MerchantID>
  <Password>PASSWORD</Password>
  <TransactionRange>
    <TransactionType>ccsettlement</TransactionType>
    <TransactionStartTime>2018-07-10T17:20:07</TransactionStartTime>
    <TransactionEndTime>2018-07-10T17:21:07</TransactionEndTime>
  </TransactionRange>
</ippayReport>

<ippayResponse>
  <Transactions type="ccsettlement" run="2019-03-26 16:04:31"
    start="2018-07-10T17:20:07" end="2018-07-10T17:21:07" records="1">
    <Transaction>
      <Date>2018-07-10 17:20:07</Date>
      <ipTransID>77033015</ipTransID>
      <Merchant_Name>ABCLLC</Merchant_Name>
      <Merchant_ID>admin</Merchant_ID>
      <Terminal_ID>ABC000000001</Terminal_ID>
      <Transaction_ID>F20180333222007707</Transaction_ID>
      <Request_Type>SALE</Request_Type>
      <Transaction_Type>I</Transaction_Type>
      <Total_Amount>695</Total_Amount>
      <Fee_Amount>0</Fee_Amount>
      <Tax_Amount>0</Tax_Amount>
      <Auth_Code>090518</Auth_Code>
      <ActionCode>000</ActionCode>
      <CardNum />
      <Token>4L1D6G44443K3672</Token>
      <AVS_Response />
      <CVV2 />
      <CardHolderName>JOHN SMITH</CardHolderName>
      <Address />
      <City />
      <State />
      <Zip />
      <Country />
      <Phone />
      <Email />
      <UD1 />
      <UD2 />
      <UD3 />
      <altTerminalID />
      <altMerchantID />
      <FNA_TransactionID />
      <ProcessorID>11</ProcessorID>
      <SettlementAmount>0</SettlementAmount>
      <SettlementID>0</SettlementID>
      <ApprovalStatus>APPROVED</ApprovalStatus>
      <CardType>V</CardType>
      <SafeCardNum />
      <BankTransID />
      <ExternalTransID />
      <RetrievalReferenceNumber>0</RetrievalReferenceNumber>
    </Transaction>
  </Transactions>
</ippayResponse>
```


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8. Request / Response Example: ccchargebacks

```
<ippayReport>
  <MerchantID>MERCHANTID</MerchantID>
  <Password>PASSWORD</Password>
  <TransactionRange>
    <TransactionType>ccchargebacks</TransactionType>
    <TransactionStartTime>2019-04-11T12:00:07</TransactionStartTime>
    <TransactionEndTime>2019-04-11T19:21:07</TransactionEndTime>
  </TransactionRange>
</ippayReport>

<ippayResponse>
  <Transactions type="ccchargebacks" run="2019-04-12 20:42:22"
    start="2019-04-11T12:00:07" end="2019-04-11T19:21:07" records="7">
    <Transaction>
      <Merchant_ID>ABC0000000000001</Merchant_ID>
      <ImportDate>2019-04-11 12:01:17.184066</ImportDate>
      <CaseNumber>1234098022633.00</CaseNumber>
      <MerchantNumber>123045474001224</MerchantNumber>
      <CaseType>1</CaseType>
      <TranCode>05</TranCode>
      <ReasonDesc>Merchandise/Services Not Received</ReasonDesc>
      <CaseAmount>6.95</CaseAmount>
      <CardBrand>1</CardBrand>
      <DateTransaction>03082019</DateTransaction>
      <ImportDateTransaction>2019-03-08 00:00:00.0</ImportDateTransaction>
      <ImportDateLoaded>2019-04-06 00:00:00.0</ImportDateLoaded>
      <DateLoaded>462019 0</DateLoaded>
      <CardholderAccountNumber>411100XXXXXX1646</CardholderAccountNumber>
      <AccountNumberPrefix>411100</AccountNumberPrefix>
      <AccountNumberSuffix>1646</AccountNumberSuffix>
      <DBAName>XYZ LLC</DBAName>
      <MerchAmount>6.95</MerchAmount>
      <MatchedTransactionID>12387775</MatchedTransactionID>
      <MatchedDate>2019-04-11 12:01:44.0</MatchedDate>
      <DateUpdated>2019-04-11 12:01:44.192202</DateUpdated>
    </Transaction>
    <Transaction>
      <Merchant_ID>ABC0000000000001</Merchant_ID>
      <ImportDate>2019-04-11 12:01:17.184678</ImportDate>
      <CaseNumber>1234098025413.00</CaseNumber>
      <MerchantNumber>123045274001479</MerchantNumber>
      <CaseType>12</CaseType>
      <TranCode>06</TranCode>
      <ReasonDesc>Does Not Recognize</ReasonDesc>
      <CaseAmount>14.00</CaseAmount>
      <CardBrand>3</CardBrand>
      <DateTransaction>01072019</DateTransaction>
      <ImportDateTransaction>2019-01-07 00:00:00.0</ImportDateTransaction>
      <ImportDateLoaded>2019-04-05 00:00:00.0</ImportDateLoaded>
      <DateLoaded>452019 0</DateLoaded>
      <CardholderAccountNumber>411100XXXXXX5799</CardholderAccountNumber>
      <AccountNumberPrefix>411100</AccountNumberPrefix>
      <AccountNumberSuffix>5799</AccountNumberSuffix>
      <DBAName>ABC.COM</DBAName>
      <MerchAmount>14.00</MerchAmount>
      <MatchedTransactionID>12343863</MatchedTransactionID>
      <MatchedDate>2019-04-11 12:01:44.0</MatchedDate>
      <DateUpdated>2019-04-11 12:01:44.188308</DateUpdated>
    </Transaction>
  </Transactions>
</ippayResponse>
```


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9. Request / Response Example: ach

```
<ippayReport>
  <MerchantID>MERCHANTID</MerchantID>
  <Password>PASSWORD</Password>
  <TransactionRange>
    <TransactionType>ach</TransactionType>
    <TransactionStartTime>2018-12-15T00:00:00</TransactionStartTime>
    <TransactionEndTime>2018-12-15T00:59:59</TransactionEndTime>
  </TransactionRange>
</ippayReport>

<ippayResponse>
  <Transactions type="ach" run="2019-04-15 20:58:42" start="2018-12-15T00:00:00"
    end="2018-12-15T00:59:59" records="2">
    <Transaction>
      <Date>2018-12-15 00:00:02.0</Date>
      <ipTransID>000000000000000000081238572</ipTransID>
      <Merchant_Name>ABC000000001</Merchant_Name>
      <Merchant_ID>ABC000000001</Merchant_ID>
      <Terminal_ID>ABC000000001</Terminal_ID>
      <Transaction_ID>B20185555060002940</Transaction_ID>
      <Request_Type>CHECK</Request_Type>
      <Total_Amount>20.0000</Total_Amount>
      <Fee_Amount>0.0000</Fee_Amount>
      <Auth_Code>000000</Auth_Code>
      <ActionCode>000</ActionCode>
      <Response_Text>CHECK ACCEPTED</Response_Text>
      <Token>J6M2J4B1B888J4B9B8565</Token>
      <CardHolderName>John Smith</CardHolderName>
      <Address></Address>
      <City></City>
      <State></State>
      <Zip></Zip>
      <Country></Country>
      <Phone></Phone>
      <Email></Email>
      <UserIPAddr></UserIPAddr>
      <UserHost></UserHost>
      <OrderNumber></OrderNumber>
      <UD1>Sonar</UD1>
      <UD2></UD2>
      <UD3></UD3>
      <alProcessorID>5716</alProcessorID>
      <altTerminalID></altTerminalID>
      <altMerchantID></altMerchantID>
      <FNA_AuthDate></FNA_AuthDate>
      <FNA_AuthTime></FNA_AuthTime>
      <FNA_TransactionID></FNA_TransactionID>
      <FNA_ResponseCode></FNA_ResponseCode>
      <FNA_RetRefNum></FNA_RetRefNum>
      <ACHProcessor>5716</ACHProcessor>
      <AccountNumber>454048593000632</AccountNumber>
      <ABA></ABA>
      <CheckNumber>15152</CheckNumber>
    </Transaction>
    <Transaction>
      <Date>2018-12-15 00:00:03.0</Date>
      <ipTransID>000000000000000000084112376</ipTransID>
      <Merchant_Name>ABC000000001</Merchant_Name>
      <Merchant_ID>ABC000000001</Merchant_ID>
      <Terminal_ID>ABC000000001</Terminal_ID>
      <Transaction_ID>G20181212340003957</Transaction_ID>
      <Request_Type>CHECK</Request_Type>
      <Total_Amount>40.0000</Total_Amount>
      <Fee_Amount>0.0000</Fee_Amount>
      <Auth_Code>000000</Auth_Code>
      <ActionCode>000</ActionCode>
      <Response_Text>CHECK ACCEPTED</Response_Text>
      <Token>F7F2F12346K3267</Token>
      <CardHolderName>Joe Schmoe</CardHolderName>
      <Address></Address>
      <City></City>
      <State></State>
      <Zip></Zip>
      <Country></Country>
```


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```
      <Phone></Phone>
      <Email></Email>
      <UserIPAddr></UserIPAddr>
      <UserHost></UserHost>
      <OrderNumber></OrderNumber>
      <UD1>Sonar</UD1>
      <UD2></UD2>
      <UD3></UD3>
      <alProcessorID>5716</alProcessorID>
      <altTerminalID></altTerminalID>
      <altMerchantID></altMerchantID>
      <FNA_AuthDate></FNA_AuthDate>
      <FNA_AuthTime></FNA_AuthTime>
      <FNA_TransactionID></FNA_TransactionID>
      <FNA_ResponseCode></FNA_ResponseCode>
      <FNA_RetRefNum></FNA_RetRefNum>
      <ACHProcessor>5716</ACHProcessor>
      <AccountNumber>454012345000632</AccountNumber>
      <ABA></ABA>
      <CheckNumber>15053</CheckNumber>
    </Transaction>
  </Transactions>
</ippayResponse>
```

10. Request / Response Example: achsettlement

```
<ippayReport>
  <MerchantID>MERCHANTID</MerchantID>
  <Password>PASSWORD</Password>
  <TransactionRange>
    <TransactionType>achsettlement</TransactionType>
    <TransactionStartTime>2018-12-15T00:00:00</TransactionStartTime>
    <TransactionEndTime>2018-12-15T00:59:59</TransactionEndTime>
  </TransactionRange>
</ippayReport>

<ippayResponse>
  <Transactions type="achsettlement" run="2019-04-15 21:04:15"
    start="2018-12-15T00:00:00" end="2018-12-15T00:59:59" records="382">
    <Transaction>
      <Date>2018-12-15 00:00:02</Date>
      <ipTransID>84123572</ipTransID>
      <Merchant_Name>ABC000000001</Merchant_Name>
      <Merchant_ID>admin</Merchant_ID>
      <Terminal_ID>ABC000000001</Terminal_ID>
      <Transaction_ID>B20181234060002940</Transaction_ID>
      <Request_Type>CHECK</Request_Type>
      <Total_Amount>20</Total_Amount>
      <Fee_Amount>0</Fee_Amount>
      <ActionCode>000</ActionCode>
      <Response_Text>CHECK ACCEPTED</Response_Text>
      <Token>J6M2J4B1B12344B9B8565</Token>
      <CardHolderName>Joe Schmoe</CardHolderName>
      <Address></Address>
      <City></City>
      <State></State>
      <Zip></Zip>
      <Country></Country>
      <Phone></Phone>
      <Email></Email>
      <OrderNumber></OrderNumber>
      <UD1>Sonar</UD1>
      <UD2></UD2>
      <UD3></UD3>
      <ACHProcessor>5716</ACHProcessor>
      <ABA></ABA>
      <CheckNumber>25052</CheckNumber>
      <ProcessorID>0</ProcessorID>
      <SettlementDate>2018-12-17 06:00:00</SettlementDate>
      <CompletionAmount>0</CompletionAmount>
      <Invoice>4045212340632</Invoice>
    </Transaction>
    <Transaction>
      <Date>2018-12-15 00:00:03</Date>
      <ipTransID>84148576</ipTransID>
      <Merchant_Name>ABC000000001</Merchant_Name>
      <Merchant_ID>admin</Merchant_ID>
      <Terminal_ID>ABC000000001</Terminal_ID>
      <Transaction_ID>G20181123460003957</Transaction_ID>
      <Request_Type>CHECK</Request_Type>
      <Total_Amount>40</Total_Amount>
      <Fee_Amount>0</Fee_Amount>
      <ActionCode>000</ActionCode>
      <Response_Text>CHECK ACCEPTED</Response_Text>
      <Token>F7F21234E6K3267</Token>
      <CardHolderName>John Deer</CardHolderName>
      <Address></Address>
      <City></City>
      <State></State>
      <Zip></Zip>
      <Country></Country>
      <Phone></Phone>
      <Email></Email>
      <OrderNumber></OrderNumber>
      <UD1>Sonar</UD1>
      <UD2></UD2>
      <UD3></UD3>
      <ACHProcessor>5716</ACHProcessor>
      <ABA></ABA>
      <CheckNumber>15453</CheckNumber>
```


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```
      <ProcessorID>0</ProcessorID>
      <SettlementDate>2018-12-17 06:00:00</SettlementDate>
      <CompletionAmount>0</CompletionAmount>
      <Invoice>4045212340632</Invoice>
    </Transaction>
  </Transactions>
</ippayResponse>
```


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11. Request / Response Example: achrejects

```
<ippayReport>
  <MerchantID>MERCHANTID</MerchantID>
  <Password>PASSWORD</Password>
  <TransactionRange>
    <TransactionType>achrejects</TransactionType>
    <TransactionStartTime>2019-04-11T12:00:07</TransactionStartTime>
    <TransactionEndTime>2019-04-11T19:21:07</TransactionEndTime>
  </TransactionRange>
</ippayReport>

<ippayResponse>
  <Transactions type="achrejects" run="2019-04-12 20:40:42"
    start="2019-04-11T12:00:07" end="2019-04-11T19:21:07" records="21">
    <Transaction>
      <Date>2019-04-06 04:51:59</Date>
      <Status>R01</Status>
      <ipTransID>89446873</ipTransID>
      <Merchant_Name>ABC00000000000001</Merchant_Name>
      <Merchant_ID>ABC0000000000001</Merchant_ID>
      <Terminal_ID>ABC000000001</Terminal_ID>
      <Transaction_ID>060781234543600086</Transaction_ID>
      <Request_Type>CHECK</Request_Type>
      <Total_Amount>173</Total_Amount>
      <Fee_Amount>0</Fee_Amount>
      <ActionCode>000</ActionCode>
      <Response_Text>CHECK ACCEPTED</Response_Text>
      <Token>F1F6M0C123J64322</Token>
      <CardHolderName>John Deer</CardHolderName>
      <Address>123 Deer St.</Address>
      <City>Homeland</City>
      <State>TX</State>
      <Zip>76325</Zip>
      <Country />
      <Phone>555-555-7916</Phone>
      <Email>john@deer.com</Email>
      <OrderNumber>4712349</OrderNumber>
      <UD1 />
      <UD2>125345838</UD2>
      <UD3 />
      <ACHProcessor>12</ACHProcessor>
      <ABA />
      <CheckNumber>105</CheckNumber>
      <ProcessorID>0</ProcessorID>
      <CompletionDate>2019-04-11 19:30:01</CompletionDate>
      <CompletionAmount>173</CompletionAmount>
    </Transaction>
    <Transaction>
      <Date>2019-04-06 04:52:00</Date>
      <Status>R04</Status>
      <ipTransID>89446875</ipTransID>
      <Merchant_Name>ABC00000000000001</Merchant_Name>
      <Merchant_ID>ABC0000000000001</Merchant_ID>
      <Terminal_ID>ABC000000001</Terminal_ID>
      <Transaction_ID>060783123443600088</Transaction_ID>
      <Request_Type>CHECK</Request_Type>
      <Total_Amount>70</Total_Amount>
      <Fee_Amount>0</Fee_Amount>
      <ActionCode>000</ActionCode>
      <Response_Text>CHECK ACCEPTED</Response_Text>
      <Token>J9M51234F3M6698</Token>
      <CardHolderName>John Smith</CardHolderName>
      <Address>123 Smith Rd</Address>
      <City>Smithville</City>
      <State>TX</State>
      <Zip>33466</Zip>
      <Country />
      <Phone>5555556537</Phone>
      <Email>johnsmith@smith.com</Email>
      <OrderNumber>4435271</OrderNumber>
      <UD1 />
      <UD2>129032100</UD2>
      <UD3 />
      <ACHProcessor>12</ACHProcessor>
      <ABA />
```


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```
      <CheckNumber>101</CheckNumber>
      <ProcessorID>0</ProcessorID>
      <CompletionDate>2019-04-11 19:30:01</CompletionDate>
      <CompletionAmount>70</CompletionAmount>
    </Transaction>
  </Transactions>
</ippayResponse>
```

12. Request / Response Example: token

```
<ippayReport>
  <MerchantID>MERCHANTID</MerchantID>
  <Password>PASSWORD</Password>
  <TransactionRange>
    <TransactionType>token</TransactionType>
    <TransactionStartTime>2018-12-15T00:00:00</TransactionStartTime>
    <TransactionEndTime>2018-12-15T23:59:59</TransactionEndTime>
  </TransactionRange>
</ippayReport>
```

```
<ippayResponse>
  <Transactions type="token" run="2019-04-15 20:45:43"
    start="2018-12-15T00:00:00" end="2018-12-15T23:59:59" records="2">
    <Transaction>
      <Date>2018-12-15 00:00:06.0</Date>
      <ipTransID>000000000000000000084123581</ipTransID>
      <Merchant_Name>ABC000000001</Merchant_Name>
      <Merchant_ID>ABC0000000000001</Merchant_ID>
      <Transaction_ID></Transaction_ID>
      <Request_Type>CREATE</Request_Type>
      <Token>52G5C14950L43543</Token>
    </Transaction>
    <Transaction>
      <Date>2018-12-15 00:00:13.0</Date>
      <ipTransID>000000000000000000084123617</ipTransID>
      <Merchant_Name>ABC000000001</Merchant_Name>
      <Merchant_ID>ABC0000000000001</Merchant_ID>
      <Transaction_ID></Transaction_ID>
      <Request_Type>CREATE</Request_Type>
      <Token>4A7B7E12353D7696</Token>
    </Transaction>
  </Transactions>
</ippayResponse>
```


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13. Request / Response Example: getAccountUpdaterActivity

```
<ippayReport>
  <MerchantID>MERCHANTID</MerchantID>
  <Password>PASSWORD</Password>
  <TransactionRange>
    <TransactionType>getAccountUpdaterActivity</TransactionType>
    <TransactionStartTime>2019-04-11T12:00:07</TransactionStartTime>
    <TransactionEndTime>2019-04-11T19:21:07</TransactionEndTime>
  </TransactionRange>
</ippayReport>

<ippayResponse>
  <Transactions type="getAccountUpdaterActivity" run="2019-04-12 20:46:56"
    start="2019-04-11T19:20:13" end="2019-04-11T19:21:07" records="3">
    <Transaction>
      <Date>2019-04-11 19:20:13.314</Date>
      <OldCCNum>427088******8511</OldCCNum>
      <OldToken>4J3G1C8M1E8L8511</OldToken>
      <OldExpMonth>4</OldExpMonth>
      <OldExpYear>21</OldExpYear>
      <Status>0</Status>
      <Merchant_ID>0020092263</Merchant_ID>
      <ResponseCode>V</ResponseCode>
      <Customers>
        <Customer CustomerID="1200664" CustomerKey="895994098721342015"
          PaymentKey="690950150024975394" />
        <Customer CustomerID="1200665" CustomerKey="917845864110736611"
          PaymentKey="467723723878148538" />
      </Customers>
    </Transaction>
    <Transaction>
      <Date>2019-04-11 19:20:13.492</Date>
      <OldCCNum>400344******7422</OldCCNum>
      <NewCCNum>400344******8180</NewCCNum>
      <OldToken>4H3K4J8M1E7G7422</OldToken>
      <NewToken>4J3M1C7J1A6F8180</NewToken>
      <OldExpMonth>7</OldExpMonth>
      <OldExpYear>20</OldExpYear>
      <NewExpMonth>7</NewExpMonth>
      <NewExpYear>20</NewExpYear>
      <Status>2</Status>
      <Merchant_ID>0020092263</Merchant_ID>
      <ResponseCode>A</ResponseCode>
      <Customers>
        <Customer CustomerID="993500" CustomerKey="5323457"
          PaymentKey="267584893" />
      </Customers>
    </Transaction>
    <Transaction>
      <Date>2019-04-11 19:20:13.273</Date>
      <OldCCNum>425808******7749</OldCCNum>
      <OldToken>4M4L6M3J8A6D7749</OldToken>
      <OldExpMonth>3</OldExpMonth>
      <OldExpYear>23</OldExpYear>
      <Status>0</Status>
      <Merchant_ID>0020092263</Merchant_ID>
      <ResponseCode>V</ResponseCode>
      <Customers>
        <Customer CustomerID="1075459" CustomerKey="5820497"
          PaymentKey="309393562" />
      </Customers>
    </Transaction>
  </Transactions>
</ippayResponse>
```

14. Request / Response Example: getAccountUpdaterPendingActivity

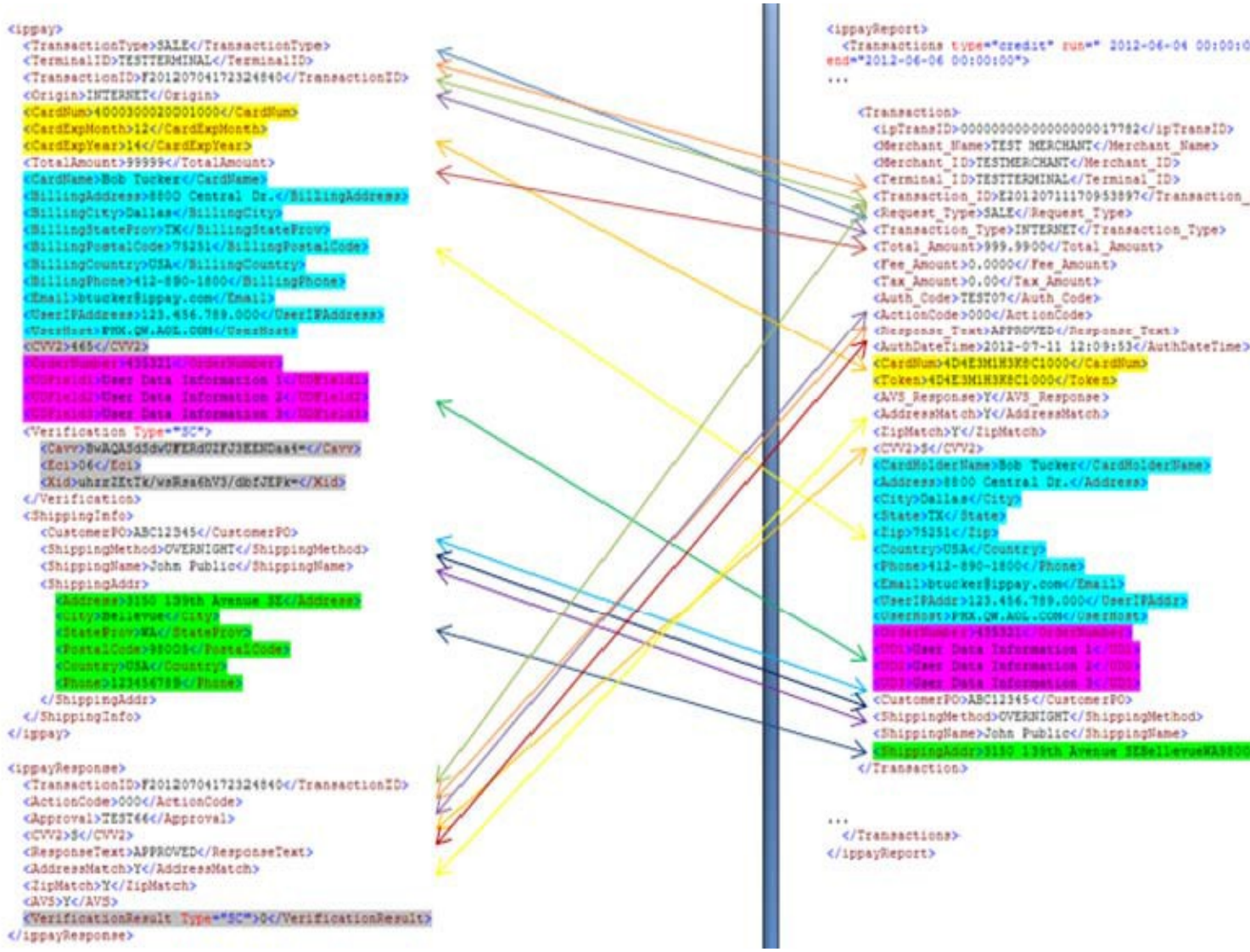
```
<ippayReport>
  <MerchantID>MERCHANTID</MerchantID>
  <Password>PASSWORD</Password>
  <TransactionRange>
    <TransactionType>getAccountUpdaterPendingActivity</TransactionType>
    <TransactionStartTime>2019-04-18T00:00:00</TransactionStartTime>
    <TransactionEndTime>2019-04-18T23:59:59</TransactionEndTime>
  </TransactionRange>
</ippayReport>

<ippayResponse>
  <PendingTransactions type="getAccountUpdaterPendingActivity"
    run="2019-04-18 16:00:30" start="2019-04-18T00:00:00" end="2019-04-18T23:59:59"
    records="2">
    <PendingTransaction>
      <RequestDate>2019-04-18 10:58:45.911</RequestDate>
      <ScheduledDate>2019-04-18 12:29:05.0</ScheduledDate>
      <OldCCNum>402400******0364</OldCCNum>
      <OldToken>4J2D2E2H5J1G0364</OldToken>
      <OldExpMonth>4</OldExpMonth>
      <OldExpYear>19</OldExpYear>
    </PendingTransaction>
    <PendingTransaction>
      <RequestDate>2019-04-18 10:58:45.911</RequestDate>
      <ScheduledDate>2019-04-18 12:29:05.0</ScheduledDate>
      <OldCCNum>492981******5742</OldCCNum>
      <OldToken>4E4E6E3L8J4F5742</OldToken>
      <OldExpMonth>4</OldExpMonth>
      <OldExpYear>19</OldExpYear>
    </PendingTransaction>
  </PendingTransactions>
</ippayResponse>
```

Appendix A: Credit Card Transaction Field Mappings

The following table provides a data mapping guide of the IPpay™ transaction response message fields against their appropriate IPpay™ Credit Card XML Request and Response fields.

Element in Document Structure					
ippayReport					
	Transactions				
		Transaction		XML Request Tag	XML Response Tag
		ipTransID			<ipTransID>
		Merchant_Name		IPPay Generated	
		Merchant_ID		IPPay Generated	
		Terminal_ID		<TerminalID>	
		Transaction_ID		<TransactionID>	<TransactionID>
		Request_Type		<TransactionType>	
		Transaction_Type		<Origin>	
		Total_Amount		<TotalAmount>	
		Fee_Amount		<FeeAmount>	
		Tax_Amount		<TaxAmount>	
		Auth_Code			<Approval>
		ActionCode			<ActionCode>
		Response_Text			<ResponseText>
		AuthDateTime		IPPay Generated	
		CardNum		<Token>	
		AccountNumber		N/A	
		ABA		N/A	
		CheckNumber		N/A	
		Token		<Token> or IPPay Generated	
		AVS_Response			<AVS>
		AddressMatch			<AddressMatch>
		ZipMatch			<ZipMatch>
		CVV2			<CVV2>
		CardHolderName		<CardName>	
		Address		<BillingAddress>	
		City		<BillingCity>	
		State		<BillingStateProv>	
		Zip		<BillingPostalCode>	
		Country		<BillingCountry>	
		Phone		<BillingPhone>	
		Email		<Email>	
		UserIPAddr		<UserIPAddress>	
		UserHost		<UserHost>	
		OrderNumber		<OrderNumber>	
		UD1		<UDField1>	
		UD2		<UDField2>	
		UD3		<UDField3>	
		CustomerPO		<ShippingInfo>.<CustomerPO>	
		ShippingMethod		<ShippingInfo>.<ShippingMethod>	
		ShippingName		<ShippingInfo>.<ShippingName>	
		ShippingAddr		<ShippingInfo>.<ShippingAddr>	

Credit Card Transaction Field Mappings: Visual Diagram



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Appendix B: ACH Transaction Field Mappings

The following table provides a data mapping guide of the IPpay™ transaction response message fields against their appropriate IPpay™ Credit Card XML Request and Response fields.

Element in Document Structure					
ippayReport					
	Transactions				
		Transaction		XML Request Tag	XML Response Tag
		ipTransID			<ipTransID>
		Merchant_Name		IPPay Generated	
		Merchant_ID		IPPay Generated	
		Terminal_ID		<TerminalID>	
		Transaction_ID		<TransactionID>	<TransactionID>
		Request_Type		<TransactionType>	
		Transaction_Type		N/A	
		Total_Amount		<TotalAmount>	
		Fee_Amount		<FeeAmount>	
		Tax_Amount		N/A	
		Auth_Code			<Approval>
		ActionCode			<ActionCode>
		Response_Text			<ResponseText>
		AuthDateTime		IPPay Generated	
		CardNum		N/A	
		AccountNumber		<ACH>.<AccountNumber>	
		ABA		<ACH>.<ABA>	
		CheckNumber		<ACH>.<CheckNumber>	
		Token		<Token> or IPPay Generated	
		AVS_Response		N/A	
		AddressMatch		N/A	
		ZipMatch		N/A	
		CVV2		N/A	
		CardHolderName		<CardName>	
		Address		<BillingAddress>	
		City		<BillingCity>	
		State		<BillingStateProv>	
		Zip		<BillingPostalCode>	
		Country		<BillingCountry>	
		Phone		<BillingPhone>	
		Email		<Email>	
		UserIPAddr		<UserIPAddress>	
		UserHost		<UserHost>	
		OrderNumber		<OrderNumber>	
		UD1		<UDField1>	
		UD2		<UDField2>	
		UD3		<UDField3>	
		CustomerPO		N/A	
		ShippingMethod		N/A	
		ShippingName		N/A	
		ShippingAddr		N/A	

Appendix C: AVS Result Codes

IPpay™ offers cardholder address verification through AVS, a system available widely throughout North America and much of Europe. With address verification, the merchant submits a customer's address and postal code information in a transaction and the credit card issue verifies and validates the address information against their internal billing address data. The result code sent by an issuer advises the merchant of a customer's billing integrity when completing the credit card transaction.

Visa and MasterCard both call this feature AVS, which stands for "Address Verification Service." American Express calls this feature AAV, which stands for "Address Authentication and Verification."

Almost all North American issuers support AVS using Visa and MasterCard association rules. According to these rules, an issuer compares the numeric digits within a cardholder's address and postal information with their own stored billing information. All alphabetic information is ignored. The address and postal code match (or fail to match) and an AVS result code is generated by the issuer. This is returned to the merchant during an authorization.

American Express adds cardholder name matching to their AAV. A merchant can submit their customer's name in addition to the billing address information and may receive a number of additional AVS result codes. Shipping address information may also be submitted in an Amex transaction, and additional result codes are anticipated from Amex in the future.

For most issuers, the AVS works independent of the action code. In other words, a transaction may be approved even though billing address information doesn't match. Because transaction approval is independent of billing address integrity, it's up to the merchant to decide the importance of correct billing address information when completing a sale. A merchant may simply allow a transaction to proceed, or a merchant might independently discontinue the sale in spite of an approval.

IPpay™, based on the AVS result code, automatically fills the AddressMatchand ZipMatchelements. The possible AddressMatch and ZipMatch values are "Y", "N", or "X", and the value is determined with the AVS result code.

IPpay™ offers an "Automatic AVS Rejection" feature, where merchants may automatically decline transactions showing degraded AVS results. Automatic AVS Rejection is an optional service that requires a merchant to subscribe before IPpay™ will automatically reject transaction on behalf of the merchant.

A result code indicating the AVS ("Address Verification Service") results for a transaction may be "A"; "B"; "C"; "D"; "Y"; "M"; "X"; "F"; "G"; "I"; "K"; "L"; "N"; "O"; "P"; "R"; "S"; "U"; "W"; "Z".

AVS Result		Description	
A	(all)	Address matches, postal code absent or does not match.	(All)
D	(all)	Street address and postal code match. CM Name incorrect, postal code matches.	(Visa/MC) (Amex)
M	(all)	Street address and postal code match. CM Name, street address and postal code match.	(Visa/MC) (Amex)
N	(all)	Neither address nor postal code matches.	(All)
R	(all)	Retry.	(All)

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S (all)	AVS unavailable. (All)
U (all)	AVS unavailable. (All)
Z (Visa) W (MC/Amex)	W was replaced by Z. (Visa) Postal code matches, address absent or does not match. (MC) CM Name, street address and postal code are all incorrect. (Amex)
Y (all)	Street address and postal code match. (All)
Z (all)	Postal code matches, address absent or does not match. (All)
B (Visa/MC) E (Amex)	Street address match. Postal code has invalid format. (Visa/MC) CM Name incorrect. Street address and postal code match. (Amex)
C (Visa/MC) K (Amex)	Street address and postal code have invalid formats. (Visa/MC) CM Name matches. (Amex)
G (Visa/MC) L (Amex)	Non-AVS participant outside U.S. Address not verified. (Visa/MC) CM Name and postal code match. (Amex)
I (Visa/MC) O (Amex)	Street address not verified for international transaction. (Visa/MC) CM Name and address match. (Amex)
P (Visa/MC) F (Amex)	Postal code match. Street address has invalid format. (Visa/MC) CM Name incorrect. Street address matches. (Amex)
X (Visa/MC)	Nine-digit postal code match in U.S. Postal code and address match for outside U.S. (Visa/MC)
F (Visa)	Street address and postal code match for U.K. only (Visa)

Appendix D: CVV2 Result Codes

IPpay™ enables credit card validation through the CVV2 feature, a system widely supported throughout the credit card industry. With this feature, every physical credit card has a three- or four-digit value imprinted on the credit card in addition to the card number. Submitting this three- or four-digit "security code" enhances fraud detection for a transaction, ensuring that a genuine physical credit card is present during that transaction.

Visa cards have a three-digit CVV2 value, MasterCard cards have a three-digit CVC2 value, and American Express uses a four-digit CID value to enable card validation. This three- or four- digit value is found imprinted on the back side of a credit card, usually inside the signature block (it may also be imprinted on the front side of the card).

The response code to a Visa CVV2 or a MasterCard CVC2 or an American Express CID submission may be "M"; "N"; "P"; "S"; "U" or "Y"

- **M** – CVV2 match
- **N** – CVV2 Not Match
- **P** – Unable to Process
- **S** – The CVV2 should be on the card but merchant indicates it is not
- **U** – The Issuer is not certified or has not provided Visa with encryption keys.
- **Y** – Invalid CVV1 Track Present

Participation in CVV2/CVC2 is optional for issuers. The subscribing issuers submit their CVV2/CVC2 keys to Visa and MasterCard, and these keys are kept secret. The individual CVV2/CVC2 implementation policies of the tens of thousands of issuers are confidential, and issuers may changes their internal CVV2/CVC2 policies without notification. Statistics are unavailable as to how many issuers subscriber (or don't subscribe) to CVV2/CVC2.

Issuers may decide to return a "806" action code, indicating that a Visa issuer has declined a transaction due to the submission of an invalid CVV2 value. The "806" action code (a response allowed under Visa's association rules) enables issuers to independently decide a policy of rejecting transactions having invalid CVV2 values.
An "806" action code may have a "N" or "U" or "P" response, but never an "M" response.

Another factor that may affect CVV2 result codes is stand-in processing. When Visa or MasterCard performs stand-in processing for an issuer (because the issuer is otherwise unable to respond directly for a transaction), Visa/MC will perform the CVV2 calculations on behalf of any issuers who subscribe to CVV2.

Appendix E: CAVV Result Codes

Cardholder authentication is now available in the credit card industry through Visa's Verified by Visa program and MasterCard's SecureCode program. Using these systems, an ecommerce merchant enables their customer to submit an account ID and a password to authenticate their presence during an online transaction. The authentication process generates a token; the token is submitted within an authorization for a transaction.

IPPay supports these two programs, allowing CAVV and UCAF data to be submitted to IPPay. The merchant receives a CAVV result code after a transaction is approved.

The response code to a Visa CAVV or a MasterCard UCAF submission is "0" through "9" or "A" through "D", where:

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

5 – Not used (reserved for future use)

6 – CAVV not validated, issuer not participating in CAVV validation

7 – CAVV failed validation – attempt (US –issued cards only)

8– CAVV passed validation – attempt (US –issued cards only)

9– CAVV failed validation – attempt (US –issued cards only) A

– CAVV passed validation – attempt (US –issued cards only)

B– CAVV passed validation – information only, no liability shift

C– CAVV was not validated – attempt

D– CAVV was not validated – authentication