

CashSender IPN Technical Reference (updated: Apr 1, 2013)

Table of Contents

- Events that trigger an IPN..... 2
- IPN Listener Script and IPN protocol 3
- IPN Variables Reference 4
 - IPN Variables Reference (General Variables) 4
 - IPN Variables Reference (Balance Transfer)..... 6
 - IPN Variables Reference (Currency Conversion) 6
 - IPN Variables Reference (Buy Now Button/Shopping cart/Invoice) 7
- Sample IPN Listener Code 9
 - Sample IPN Code (PHP) 9
 - Sample IPN Code (ASP.NET C#) 11
 - Sample IPN Code (ASP.NET Visual Basic)..... 13
 - Sample IPN Code (ASP Classic Visual Basic)..... 15
 - Sample IPN Code (Cold Fusion) 16
 - Sample IPN Code (JSP) 17
 - Sample IPN Code (PERL) 19

CashSender IPN Technical Reference (updated: Apr 1, 2013)

Events that trigger an IPN

1. Your CashSender account has received a payment.
2. A payment you received has changed status (for example, pending payments is cancelled, accepted or rejected, or a completed payment is refunded).
3. You have issued a refund.

CashSender IPN Technical Reference (updated: Apr 1, 2013)

IPN Listener Script and IPN protocol

The IPN listener script is a script that runs on your webserver and handle the IPN message sent be CashSender, it performs the following task (see [sample code](#)):

1. Wait foran HTTP post from CashSender.
2. Validate the IPN message following the IPN protocol (described below).
3. After the IPN message is verified, confirm that the payment status is completed.
4. Confirm that the receiver ID and receiver email is registered to your CashSender account.
5. Confirm that the transaction has not been processed using the transaction ID (variable txn_id).
6. Verify the price, item description or other information about the transaction, and ensure that it matches the transaction on your website.
7. Process the payment

The IPN protocol - The IPN protocol is a mechanism for the listener script to check the validity of the IPN message, it should follow the steps below:

1. CashSender sends a message to your listener script.
2. Your listener creates a HTTP request with the same IPN variables and send the message to the URL https://www.cashsender.com/ipn_listen/ (For sandbox use https://sandbox.cashsender.com/ipn_listen/)
3. Wait for a response from CashSender, which should be IPN_VERIFIED or IPN_INVALID
4. Verify that the response status is 200.
5. If the response is IPN_VERIFIED, the IPN message is valid, and your listener script can continue checking the details of the message and process it.
6. If the response is IPN_INVALID or if the response status is not 200, the IPN is invalid and it should be logged for further investigation.
7. Invalid IPNs will be sent again by CashSender, up to a maximum 10 times. (You can direct CashSender to resend a failed IPN using the IPN history tool (Under Seller Tools => IPN History)

CashSender IPN Technical Reference (updated: Apr 1, 2013)

IPN Variables Reference

IPN Variables Reference (General Variables)

Below variables are relevant to all IPN messages

Variable name	Description	Specification
msg_id	A unique ID of the IPN message	20 characters
test	Whether this message is a test message sent from the sandbox	1 = Test message 0 = Message from live CashSender site
resend	Whether this message was resent after previous failed attempts	1 = Yes, this is a resent message. 0 = No.
txn_id	Unique ID of the transaction pertained to this notification	20 characters
parent_txn_id	ID of the original transaction related to this transaction. Only available for the following transaction type: <ul style="list-style-type: none"> • Refunds 	20 characters
transaction_type	Type of transaction pertained to this notification.	<ul style="list-style-type: none"> • balance_transfer - Payment received • refund - Refund Issued
payment_type	From where the payment was originated (Only available for balance transfer)	<ul style="list-style-type: none"> • send_money - initiated by the sender using "Send Money" page on the CashSender site • invoice - CashSender invoice / money request • cart - Shopping Cart /Buy Now Button
gross	Gross amount of the transaction (exclude transaction fee)	Decimal number
fee	Transaction fee (N/A if payment is pending)	Decimal number
net	Net amount after transaction fee.	Decimal number
currency	Currency of the transaction	ISO 4217 currency code (3 letters)

CashSender IPN Technical Reference (updated: Apr 1, 2013)

status	Status of the transaction	<ul style="list-style-type: none"> • complete • pending - Payment pending your acceptance • reject - Pending incoming payment rejected • cancel - Pending incoming payment cancelled by sender • refund - Refund has been issued to sender
timestamp	Timestamp of the transaction in Unix Epoch time. Timestamp follows the time zone settings in your profile.	Integer
update_timestamp	The time when the transaction updated. Timestamp follows the time zone settings in your profile. Only applies when the notification is initiated by a change of status of the transaction.	Integer
timezone	Timezone of the timestamp	Positive or negative number (+1 or -3, for example)
recipient_id	User ID of the account	Text (max 20 characters)
recipient_email	Email addressed by this payment	Valid email address
last_name	Last name of payment sender	Text (max 128 characters)
first_name	First name of payment sender	Text (max 128 characters)
business_name	Business name of payment sender	Text (max 128 characters)
country	Country of residence of payment sender	ISO 3166 country code (2 letters)
email	Email address of payment sender	Valid email address
address_verified	Whether payment sender is address verified	1 = Address Verified. 0 = Address Unverified.
identity_verified	Whether payment sender is identity verified	1 = Identity Verified. 0 = Identity Unverified.

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CashSender IPN Technical Reference (updated: Apr 1, 2013)

IPN Variables Reference (Balance Transfer)

Below variables are relevant to balance transfer only

Variable name	Description	Specification
address_recipient	Recipient listed in the shipping address Different than sender"s name if this is a gift address	Text (max 128 characters)
address_1	Shipping Address Line 1	Text (max 256 characters)
address_2	Shipping Address Line 2	Text (max 256 characters)
address_city	Shipping Address: City	Text (max 64 characters)
address_state	Shipping Address: State/Province	Text 2 letters for Canadian or US Max 64 letters for other countries
address_zip	Shipping Address: Zip code/ Postal code	Text (max 32 characters)
address_country	Shipping Address: Country	ISO 3166 country code (2 letters)
address_status	Status of the shipping address	confirmed / unconfirmed
auction_site	Auction site (entered by sender)	Text (max 255 characters)
auction_user_id	Auction user ID (entered by sender)	Text (max 255 characters)
auction_item_id	Auction ID (entered by sender)	Text (max 255 characters)

IPN Variables Reference (Currency Conversion)

Below variables are present when currency conversion took place for the transaction

Variable name	Description	Specification
original_amount	Original amount	Decimal Number
final_amount	Converted amount	Decimal Number
original_currency	Original currency	ISO 4217 currency code (3 letters)
final_currency	Final currency	ISO 4217 currency code (3 letters)
exchange_rate	Exchange Rate	Decimal Number

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CashSender IPN Technical Reference (updated: Apr 1, 2013)

IPN Variables Reference (Buy Now Button/Shopping cart/Invoice)

Below variables are present in balance transfers originated from Buy Now Button, Shopping Cart, or CashSender Invoice

Variable name	Description	Specification
num_items	Total number of items in shopping cart	Integer
item_desc_n	Item description	Text (max 128 characters)
item_id_n	Item ID	Text (max 128 characters)
item_quan_n	Item quantity	Integer
item_price_n	Item unit price If "discount_ipn" is 1 – unit price before discount is applied. If "discount_ipn" is 0 – unit price after discount is applied	Decimal number
item_discount_n	Item discount (in percentage) Only shown if "discount_ipn" is 1	Integer (0 – 100)
item_amount_n	Total cost of item (Unit price X Quantity) If "discount_ipn" is 1: Total cost before discount is applied (Unit price X Quantity X (100 – Discount)/100) If "discount_ipn" is 0: Total cost after discount is applied	Decimcal number
item_taxable_n	Is item taxable	1 = True 0 = False
item_on_1_n	Name of item option field 1	Text (max 255 characters)
item_ov_1_n	Value of item option field 1	Text (max 255 characters)
item_on_2_n	Name of item option field 2	Text (max 255 characters)
item_ov_2_n	Value of item option field 2	Text (max 255 characters)
item_on_3_n	Name of item option field 3	Text (max 255 characters)
item_ov_4_n	Value of item option field 4	Text (max 255 characters)
item_on_1_n	Name of item option field 1	Text (max 255 characters)
subtotal	Subtotal of all items (before shipping and tax)	Decimal Number
shipping_total	Total shipping cost	Decimal Number
shipping_taxable	Is shipping taxable?	1 = True 0 = False
tax_total	Total amount of tax	Deciaml Number
total	Total amount (subtotal + tax + shipping)	Alphanumeric
saving	Total amount of savings (before tax) if here is a discount Only shown if "discount_ipn" is 1	Decimal Number
invoice_id	Invoice ID	Text (max 255 characters)
ref_1	Reference passback variable 1	Text (max 255 characters)

CashSender IPN Technical Reference (updated: Apr 1, 2013)

ref_2	Reference passback variable 2	Text (max 255 characters)
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CashSender IPN Technical Reference (updated: Apr 1, 2013)

Sample IPN Listener Code

Sample IPN Code (PHP)

```
$msg = "";

// Retrieve IPN message from POST fields
foreach ($_POST as $key => $value) {
    $value = urlencode($value);
    $msg .= "&$key=$value";
}

// Remove the extra & sign at the beginning
if ($msg != "")
{
    $msg = substr($msg, 1);
}

// Sandbox
$url = "https://sandbox.cashsender.com/ipn_listen/";

// Production site
//$url = "https://www.cashsender.com/ipn_listen/";

// Post back IPN to CashSender for verification
    $ch = curl_init();
    curl_setopt($ch, CURLOPT_URL, $url);
    curl_setopt($ch, CURLOPT_RETURNTRANSFER, 1);    // return response
    curl_setopt($ch, CURLOPT_TIMEOUT, 20);
    //curl_setopt ( $ch , CURLOPT_SSL_VERIFYPEER, 0 ); // Uncomment if you have
problem with SSL certificate validation
    //curl_setopt ( $ch , CURLOPT_SSL_VERIFYHOST, 0 ); // Uncomment if you have
problem with SSL certificate validation
    curl_setopt($ch, CURLOPT_POSTFIELDS, $msg);
    $return = curl_exec($ch);

    $curl_info = curl_getinfo($ch);

    if ($return == "IPN_VERIFIED")
    {

        // Assign variables from IPN
        $status = $_POST['status'];
        $gross = $_POST['gross'];
        $currency = $_POST['currency']; // So on and so forth

        // check payment status, make sure it is completed
        // check transaction ID (txn_id) and make sure it has not been processed
        // check recipient_id AND/OR recipient_email and make sure this transaction
is processed to your account
```

CashSender IPN Technical Reference (updated: Apr 1, 2013)

```
        // verify amount and currency
        // process payment
    }
    elseif ($return == "IPN_INVALID")
    {
        // Log for investigation
    }
    else
    {
        // Most likely HTTP error, check HTTP response code from $curl_info
    }
}
```

CashSender IPN Technical Reference (updated: Apr 1, 2013)

Sample IPN Code (ASP.NET C#)

```
// ASP .NET C# CashSender IPN sample code

using System;
using System.IO;
using System.Text;
using System.Net;
using System.Web;
using System.Security.Cryptography.X509Certificates;

// Required if using https in sandbox due to invalid certificate

internal class AcceptAllCertificatePolicy : ICertificatePolicy
{
    public AcceptAllCertificatePolicy()
    {
    }

    public bool CheckValidationResult(ServicePoint sPoint,
        X509Certificate cert, WebRequest wRequest, int certProb)
    {
        // Always accept
        return true;
    }
}

public partial class CashSenderIPN : System.Web.UI.Page
{

    protected void Page_Load(object sender, EventArgs e)
    {

        // Uncomment below line if you have problem with certifacte
validation
        //ServicePointManager.CertificatePolicy = new
AcceptAllCertificatePolicy();

        // Sandbox
        string url = "https://sandbox.cashsender.com/ipn_listen/";

        // Live site
        //string url = "https://www.cashsender.com/ipn_listen/";
        HttpWebRequest webreq = (HttpWebRequest)WebRequest.Create(url);
```

CashSender IPN Technical Reference (updated: Apr 1, 2013)

```
//Set values for the posting back IPN
webreq.Method = "POST";
webreq.ContentType = "application/x-www-form-urlencoded";
byte[] param =
Request.BinaryRead(HttpContext.Current.Request.ContentLength);
string msg = Encoding.ASCII.GetString(param);

webreq.ContentLength = msg.Length;

//if you use proxy
//WebProxy proxy = new WebProxy(new Uri("http://url:port#"));
//webreq.Proxy = proxy;

//Send the msg to CashSender and get the response
StreamWriter streamOut = new StreamWriter(webreq.GetRequestStream(),
System.Text.Encoding.ASCII);
streamOut.Write(msg);
streamOut.Close();
StreamReader streamIn = new
StreamReader(webreq.GetResponse().GetResponseStream());
string strResponse = streamIn.ReadToEnd();
streamIn.Close();

if (strResponse == "IPN_VERIFIED")
{
// check payment status, make sure it is
completed
// check transaction ID (txn_id) and make sure it has not been
processed
// check recipient_id AND/OR recipient_email and make sure this
transaction is processed to your account
// verify amount and currency
// process payment
}
else if (strResponse == "IPN_INVALID")
{
// Log for investigation
}
else
{
// Log for investigation
}
}
}
```

CashSender IPN Technical Reference (updated: Apr 1, 2013)

Sample IPN Code (ASP.NET Visual Basic)

```
Imports System.Net
Imports System.IO
Imports System.Web
Imports System.Text

Imports System.Security.Cryptography.X509Certificates

' Required if using https in sandbox due to invalid certificate
Public Class MyPolicy
    Implements ICertificatePolicy

    Public Function CheckValidationResult(ByVal srvPoint As ServicePoint, _
        ByVal cert As X509Certificate, ByVal request As WebRequest, _
        ByVal certificateProblem As Integer) _
        As Boolean Implements ICertificatePolicy.CheckValidationResult
        'Return True to force the certificate to be accepted.
        Return True
    End Function
End Class

Partial Class CashSenderIPN
    Inherits System.Web.UI.Page

    Protected Sub Page_Load(ByVal sender As Object, ByVal e As System.EventArgs)
        Handles Me.Load

        'Sandbox
        Dim url As String = "https://sandbox.cashsender.com/ipn_listen/"

        'Live site
        'Dim url As String = "https://www.cashsender.com/ipn_listen/"
        Dim webreq As HttpWebRequest = CType(WebRequest.Create(url), HttpWebRequest)

        ' Uncomment below line if you have problem with certifacte validation
        'System.Net.ServicePointManager.CertificatePolicy = New MyPolicy()

        'Set values for the posting back IPN
        webreq.Method = "POST"
        webreq.ContentType = "application/x-www-form-urlencoded"
        Dim Param() As Byte = Request.BinaryRead(HttpContext.Current.Request.ContentLength)
        Dim msg As String = Encoding.ASCII.GetString(Param)

        webreq.ContentLength = msg.Length

        'for proxy
        'Dim proxy As New WebProxy(New System.Uri("http://url:port#"))
        'webreq.Proxy = proxy
    End Sub
End Class
```

CashSender IPN Technical Reference (updated: Apr 1, 2013)

```
'Send the msg to CashSender and get the respons
Dim streamOut As StreamWriter = New StreamWriter(webreq.GetRequestStream(),
Encoding.ASCII)
streamOut.Write(msg)
streamOut.Close()
Dim streamIn As StreamReader = New
StreamReader(webreq.GetResponse().GetResponseStream())
Dim strResponse As String = streamIn.ReadToEnd()
streamIn.Close()

Dim objReader As StreamWriter = New StreamWriter("c:\\inetpub\\wwwroot\\test2.txt")

If strResponse = "IPN_VERIFIED" Then

    ' check payment status, make sure it is completed
    ' check transaction ID (txn_id) and make sure it has not been processed
    ' check recipient_id AND/OR recipient_email and make sure this transaction is
processed to your account
    ' verify amount and currency
    ' process payment

ElseIf strResponse = "IPN_INVALID" Then

    'Log for investigation

Else

    'Log for investigation

End If

objReader.Close()

End Sub
End Class
```

CashSender IPN Technical Reference (updated: Apr 1, 2013)

Sample IPN Code (ASP Classic Visual Basic)

```
<%@LANGUAGE="VBScript"%>
<%
Dim transaction_status, gross, transaction_currency
Dim httpObj, str

' read ipn from CashSender IPN
str = Request.Form

' post back msg to CashSender for validation
set httpObj = Server.CreateObject("Msxml2.ServerXMLHTTP")

'Sandbox
httpObj.open "POST", "https://sandbox.cashsender.com/ipn_listen/", false

'Live site
'httpObj.open "POST", "https://www.cashsender.com/ipn_listen/", false

httpObj.setRequestHeader "Content-type", "application/x-www-form-urlencoded"
httpObj.Send str

' assign value from IPN to local variables
transaction_status = Request.Form("status")
gross = Request.Form("gross")
transaction_currency = Request.Form("currency")
'So on and so forth

Response.Write httpObj.responseText

' Check notification validation
if (httpObj.status <> 200 ) then

' handle HTTP error
' log for manual investigation

elseif (httpObj.responseText = "IPN_VERIFIED") then

' check payment status, make sure it is completed
' check transaction ID (txn_id) and make sure it has not been processed
' check recipient_id AND/OR recipient_email and make sure this transaction is
processed to your account
' verify amount and currency
' process payment

elseif (httpObj.responseText = "IPN_INVALID") then
' log for manual investigation

else
' error
end if

set httpObj = nothing
%>
```

CashSender IPN Technical Reference (updated: Apr 1, 2013)

Sample IPN Code (Cold Fusion)

```
<!-- COLDFUSION CashSender IPN Sample Code -->

<!-- read variables from IPN-->
<cfset req = GetHttpRequestData()>
<CFSET msg= req.content>

<!-- post back msg to CashSender for validation -->

<!-- Sandbox -->
<CFHTTP URL="https://sandbox.cashsender.com/ipn_listen/?#msg#" METHOD="GET"
RESOLVEURL="false"></CFHTTP>

<!-- Live site -->
<!--
<CFHTTP URL="https://www.cashsender.com/ipn_listen/?#msg#" METHOD="GET"
RESOLVEURL="false"></CFHTTP>
-->
<!-- assign posted variables to local variables -->

<CFIF IsDefined("FORM.status")>
<CFSET status=FORM.status>
</CFIF>
<CFIF IsDefined("FORM.gross")>
<CFSET griss=FORM.gross>
</CFIF>
<CFIF IsDefined("FORM.currency")>
<CFSET currency=FORM.currency>
</CFIF>
<!-- So on and so forth -->

<!-- check notification validation -->
<CFIF #CFHTTP.FileContent# is "IPN_VERIFIED">
  <!-- check payment status, make sure it is completed -->
  <!-- check transaction ID (txn_id) and make sure it has not been processed -->
  <!-- check recipient_id AND/OR recipient_email and make sure this transaction is
processed to your account -->
  <!-- verify amount and currency -->
  <!-- process payment -->
<CFELSEIF #CFHTTP.FileContent# is "IPN_INVALID">
<!-- log for investigation -->
<CFELSE>
<!-- log for investigation -->
</CFIF>
```


CashSender IPN Technical Reference (updated: Apr 1, 2013)

Sample IPN Code (JSP)

```
<%@ page import="java.util.*" %>
<%@ page import="java.net.*" %>
<%@ page import="java.io.*" %>

<%
// read ipn from CashSender IPN
Enumeration vars = request.getParameterNames();

String msg = "";

//Set values for the posting back IPN
int i = 0;
while(vars.hasMoreElements()){
String paramName = (String)vars.nextElement();
String paramValue = request.getParameter(paramName);
if (i == 0)
    {
        msg = paramName + "=" + URLEncoder.encode(paramValue) ;
    }
else
    {
        msg = msg + "&" + paramName + "=" + URLEncoder.encode(paramValue);
    }
    i++;
}

// post back msg to CashSender for validation

//Sandbox
URL u = new URL("https://sandbox.cashsender.com/ipn_listen/");

//Live site
URL u = new URL("https://www.cashsender.com/ipn_listen/");

URLConnection uc = u.openConnection();
uc.setDoOutput(true);
uc.setRequestProperty("Content-Type", "application/x-www-form-urlencoded");
PrintWriter pw = new PrintWriter(uc.getOutputStream());
pw.print(msg);
pw.close();

BufferedReader in = new BufferedReader(
new InputStreamReader(uc.getInputStream()));
String res = in.readLine();
in.close();

// assign value from IPN to local variables
String status = request.getParameter("status");
String gross = request.getParameter("gross");
```

CashSender IPN Technical Reference (updated: Apr 1, 2013)

```
String currency = request.getParameter("currency");

//check notification validation
if(res.equals("IPN_VERIFIED")) {
    // check payment status, make sure it is completed
    // check transaction ID (txn_id) and make sure it has not been processed
    // check recipient_id AND/OR recipient_email and make sure this transaction is
processed to your account
    // verify amount and currency
    // process payment
}
else if(res.equals("IPN_INVALID")) {
// log for investigation
}
else {
// log for investigation
}

java.util.Date datetime = new java.util.Date();

System.out.println(msg);
System.out.println(datetime);

%>
```

CashSender IPN Technical Reference (updated: Apr 1, 2013)

Sample IPN Code (PERL)

```
#!/usr/bin/perl

# CashSender IPN PERL sample code

# read variables from IPN
read (STDIN, $msg, $ENV{'CONTENT_LENGTH'});

# post back msg to CashSender for validation
use LWP::UserAgent;

# To user SSL, install the Net::SSL module

$user_agent = new LWP::UserAgent;

#Sandbox
$http_request = new HTTP::Request
'POST', 'http://sandbox.cashsender.com/ipn_listen/';

#Live site
$http_request = new HTTP::Request 'POST', 'http://www.cashsender.com/ipn_listen/';

$http_request->content_type('application/x-www-form-urlencoded');
$http_request->content($msg);
$return = $user_agent->request($http_request);

# assign posted variables to local variables
@pairs = split(/&/, $msg);
$count = 0;
foreach $pair (@pairs) {
    ($name, $value) = split(/=/, $pair);
    $value =~ tr/+// ;
    $value =~ s/%([a-fA-F0-9][a-fA-F0-9])/pack("C", hex($1))/eg;
    $variable{$name} = $value;
    $count++;
}

# assign posted variables to local variables
$status = $variable{'status'};
$gross = $variable{'gross'};
$currency = $variable{'currency'};
#So on and so forth

if ($return->is_error) {
    # HTTP error, log for investigation
}
elsif ($return->content eq 'IPN_VERIFIED') {
    # check payment status, make sure it is completed
    # check transaction ID (txn_id) and make sure it has not been processed
```

CashSender IPN Technical Reference (updated: Apr 1, 2013)

```
    # check recipient_id AND/OR recipient_email and make sure this transaction is
processed to your account
    # verify amount and currency
    # process payment
}
elseif ($return->content eq 'IPN_INVALID') {
    # log for investigation
}
else {
    # log for investigation
}
print "content-type: text/plain\n\n";
```