

Avangate Feature Guide

API Notifications

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1 IP addresses for Avangate services

To secure access to and from Avangate web services such as IPN (Instant Payment Notification), LCN (License Change Notification), Electronic Delivery, and when making API SOAP calls, setup IP filtering for inbound and outbound traffic. Avangate is using the following IP networks, which need to be set as allowed in your firewalls in order to connect or receive connections from Avangate:

80.84.242.0/24

80.84.238.160/27

83.96.225.128/27

91.220.121.0/25

The IP networks, corresponding to Avangate servers, are not specific IPs but subnets as defined by RFC 917 of IETF, namely ranges of IP addresses.

Here are the ranges of IP addresses corresponding to each subnet mask:

- 80.84.242.0/24 covers all IPs ranging from 80.84.242.1 to 80.84.242.254

- 80.84.238.160/27 covers all IPs ranging from 80.84.238.161 to 80.84.238.190

- 83.96.225.128/27 covers all IPs ranging from 83.96.225.129 to 83.96.225.158

- 91.220.121.0/25 covers all IPs ranging from 91.220.121.1 to 91.220.121.126

Note: Avangate continually expands its server infrastructure and you should expect and be prepared for the expansion of IP addresses used for our services. Make sure to use the Avangate IP networks mentioned in this document to ensure continues usage of the Avangate services, minimizing potential disruptions.

If you're using a firewall that restricts inbound traffic only to a limited number of IP addresses, you will need to adapt the uses ACL (Access Control List) rules to permit connections from the Avangate IP addresses. This is valid in scenarios in which service listeners such as IPN and LCN placed behind the firewall need to receive data from Avangate's services.

Similarly, ACL (Access Control List) rules will also need to be changed accordingly if the firewall is configured to restrict outbound access only to the IP addresses currently in the DNS when connecting to Avangate API endpoints. Just as mentioned above, you'll need to allow access to the Avangate IP networks, especially in scenarios in which you're making API SOAP calls. **Note:** Provided that you're using

DNS (domain name system) to make API requests to Avangate and your firewall does not restrict outgoing traffic to a limited set of IP addresses, no action is required on your part.

1.1 Tips & tricks

Please find below several "hints" for you to take full advantage of Avangate`s features:

What currency exchange rate is Avangate using in the shopping cart?

You can instantly query the currency exchange rates used in the Avangate shopping cart by accessing:
<https://secure.avangate.com/content/exchange-xml.php?CURRENCY=USD>

This will return an XML schema holding the corresponding values for the other currencies compared to the one supplied in the CURRENCY parameter.

How can I override product prices already defined in Avangate?

We allow the possibility to setup prices on-the-fly in order to override the already defined prices in the Avangate Control Panel by sending additional parameters in the HTTPS GET request. You can either generate it using our ready-built interface ([Integration Assistant](#)) or generate it dynamically in your own website / application. A HMAC_MD5 signature is calculated and applied to the request, using a base string and the secret key generated by Avangate ([View secret key](#)). The base string is generated by prepending the parameters sequence below with its own length:

PARAMETER	DESCRIPTION
OPTIONS123456	(optional) List of pricing options codes separated by comma
PRICES123456[EUR]	Required parameter to set the price for product default currency, where 123456 is the Avangate product ID. If not sent for other billing currencies, Avangate will convert based on the submitted default price. Example: [...]&PRICES123456[EUR]=13.99&PRICES123456[USD]=14.99&[...]
PLNKEXP	(optional) UTC timestamp for link expiration.
PLNKID	(optional) Unique link identifier allowing to restrict the access to the link only to the IP address of the first user that clicks it.
PHASH	Required HMAC_MD5 signature in order to prevent the request from being exploited.

Example:

HTTPS GET request:

```
https://secure.avangate.com/order/checkout.php?CART=1&PRODS=123456&QTY=1&OPTIONS123456=option1,option2&PRICES123456[EUR]=10&PRICES123456[USD]=11.5&PLNKEXP=1286532283&PLNKID=4A4681F0E5&PHASH=26e471daffb47cccd9fb52e85c6abce1&CURRENCY=EUR&LANG=en
```

Base string for HMAC_MD5 calculation:

```
129PRODS=123456&QTY=1&OPTIONS123456=option1,option2&PRICES123456[EUR]=10&PRICES123456[USD]=11.5&PLNKEXP=1286532283&PLNKID=4A4681F0E5
```

Secret key for this example:

```
_SECRET_KEY_
```

Calculated HMAC_MD5 signature:

```
26e471daffb47cccd9fb52e85c6abce1
```

How can I send customer data to prefill order forms?

In order to send customer data already stored in your shopping cart platform, you can use Avangate's order form prefill feature. There are two scenarios you need to consider:

1. You're using the **secure.avangate.com** domain

Use Avangate's order form prefill feature to send customer data already stored in your shopping cart platform. You can transmit the details to be auto-filled via a form using either GET or POST methods to <https://secure.avangate.com/order/pf.php>.

2. You're using a custom domain such as **store.YourDomain.com**

Avangate's order form prefill feature is also designed to work with custom domains when it comes down to sending customer data already stored in your shopping cart platform. However, in this particular case make sure to use the custom domain when transmitting the details to be auto-filled via a form with either GET or POST method to <https://store.YourDomain.com/order/pf.php>.

The prefill can also be done using a custom built link, in this case the URL parameter needs to be URL-encoded as specified in the RFC 1738.

Avangate will capture the sent parameters and redirect the customer to the link set by the "URL" parameter. The parameters to be sent are as follows:

REQUIRED FIELDS	
URL	The GET request generated either in the "Sales Assistant" or dynamically
MERCHANT	Your Avangate Merchant Code (view)
AUTOMODE	(optional) Send this parameter with value = 1 to skip to the credit card details page, provided all billing information is sent as described below. If any of the fields below are incomplete, the regular form will be shown in order for the customer to fill in the missing fields.
BILLING INFORMATION (OPTIONAL)	
BILL_FNAME	Client first name
BILL_LNAME	Client last name
BILL_COMPANY	Company name for billing
BILL_FISCALCODE	Company Unique registration code(VAT ID)
BILL_EMAIL	E-mail address
BILL_PHONE	Phone number
BILL_FAX	Fax number
BILL_ADDRESS	Customer/Company physical address
BILL_ADDRESS2	Customer/Company address (second line)
BILL_ZIPCODE	Customer/Company zip code
BILL_CITY	City
BILL_STATE	State/County

BILL_COUNTRYCODE	Country code (two letter code)
DELIVERY INFORMATION (OPTIONAL)	
DELIVERY_FNAME	Client first name
DELIVERY_LNAME	Client last name
DELIVERY_COMPANY	Company name for delivery
DELIVERY_PHONE	Phone number
DELIVERY_ADDRESS	Client/company address (for delivery)
DELIVERY_ADDRESS2	Client/company address (second line)
DELIVERY_ZIPCODE	Client/company zip code
DELIVERY_CITY	City
DELIVERY_STATE	State/County
DELIVERY_COUNTRYCODE	Country code (NL for Netherlands)

Example of URL encoded string:

Not encoded:

<https://secure.avangate.com/order/cart.php?PRODS=123456&QTY=1>

Same string URL encoded:

<https%3A%2F%2Fsecure.avangate.com%2Forder%2Fcart.php%3FPRODS%3D123456%26QTY%3D1>

Example: Submitting customer email in the buy-link

https://secure.avangate.com/order/pf.php?MERCHANT=AVANGATE&BILL_EMAIL=john.doe@example.com&

URL=<https%3A%2F%2Fsecure.avangate.com%2Forder%2Fcheckout.php%3FPRODS%3D123456%26QTY%3D1>

2 Instant Payment Notification

2.1 How Instant Payment Notification (IPN) works

IPN provides an automatic notification to be sent for authorized , authenticated and completed orders from Avangate's online payment system. This notification method allows you to automatically receive the order data for future processing in your own order management systems.

The Avangate server will send to a predefined URL an HTTP POST which encapsulates a data structure with all data referencing that order.

The IPN URL path as well as the IPN fields can be setup from within the Avangate Control Panel, in the "IPN settings" area (https://secure.avangate.com/cpanel/ipn_settings.php). When you save the URL path, Avangate does a check to verify that the path can be accessed, and that notifications can be properly sent.

In order to validate the origin of the HTTP POST, a signature is realized using an HMAC_MD5 algorithm and it is calculated using the data sent and a common secret key established between Avangate and the seller. The algorithm is described in RFC 2104 (<http://www.ietf.org/rfc/rfc2104.txt>).

The secret key is communicated to you when your account with Avangate is opened. You can always retrieve the secret key information from the "Account settings" section in the Control Panel (https://secure.avangate.com/cpanel/account_settings.php).

After receiving a valid IPN notification, the script you have setup as a receiver must output a "read receipt confirmation", by generating a response anywhere in the page, response built according to the specifications in Chapter 4.

If the notification is not properly received / confirmed, the Avangate server resends it every few minutes with increasing intervals between attempts, until acknowledged.

If an IPN notification fails to be sent/confirmed you will see an error output in the Control Panel Dashboard.

2.2 What does the IPN consist of?

The order information is sent as an HTTP POST and will be sent in the exact order as shown below.

IPN fields to be sent can be customized at any time from Avangate Control Panel -> System Settings -> IPN Settings (https://secure.avangate.com/cpanel/ipn_settings.php).

Additional parameters might be added in time but will not be sent by default via IPN. To receive a newly added parameter, this should be specifically added to the parameters list on the above settings page.

ORDER PROCESSING INFORMATION	
GIFT_ORDER	<p>Allows the customer to divert the licensing information to the person defined in delivery details. Possible values:</p> <ul style="list-style-type: none"> - 0 :the buyer is the owner of the license - 1 :the buyer is not the one to register the product, instead, the license should be generated for the delivery contact.
SALEDATE	The sale date in the Y-m-d H:i:s format (ex: 2008-06-22 19:33:28)
PAYMENTDATE	Payment completion date in the Y-m-d H:i:s format (ex: 2008-06-22 14:30:24)
COMPLETE_DATE	Order completion date in the Y-m-d H:i:s format (ex: 2008-06-22 14:41:30)
REFNO	The Avangate global order reference.
REFNOEXT	The order reference code (max. 100 chars) provided by seller.
ORDERNO	Seller order number (numeric, incremental)
ORDERSTATUS	<p>The current order status. Possible values are:</p> <ul style="list-style-type: none"> • PENDING - Order was placed, waiting bank authorization • PAYMENT_AUTHORIZED - Payment has been authorized by the bank • PROCESSING - Order is waiting Avangate approval • SUSPECT - Currently reviewed for possible fraud by the

	<p>Avangate risk department</p> <ul style="list-style-type: none"> • INVALID - Billing/Delivery information is not valid • COMPLETE - Order has been successfully finalized • REFUND - The amount has been returned to the customer • REVERSED - The amount has been released back to the customer • TEST - Notification sent for Test orders • PURCHASE_PENDING - An order placed using Purchase order as payment method is awaiting approval • PAYMENT_RECEIVED - Notification sent when payment is received for offline orders (e.g. Bank transfer)
PAYMETHOD	Order payment method - string value
PAYMETHOD_CODE	<p>Payment method code.</p> <p>Possible values:</p> <ul style="list-style-type: none"> • CCVISAMC - Visa/MasterCard/Eurocard • WIRE - Bank/Wire transfer • CCAMEX - American Express • CCDINERS - Diners Club • CCJCB - JCB • PAYPAL - PayPal • FAX - Fax • VENDOR2VENDOR - Vendor to vendor • PURCHASE_ORDER - Purchase order • TRIALPAY - TrialPay Checkout • DISCOVER - Discover/Novus • CHECK - Check • DIRECT_EBANKING - DIRECTebanking.com • CARTE_BLEUE - Carte Bleue • FREE - Payment not required • SOLO - Solo

	<ul style="list-style-type: none"> • ALIPAY - 支付宝 (Alipay) • DIRECT_DEBIT - Direct Debit • GIROPAY - Giropay • IDEAL - iDEAL • WEBMONEY - WebMoney • PAYNEARME - Pay cash at 7-Eleven • KONBINI = Konbini • IPS=IPS • BOLETO=Boleto Bancário • CASHU=CashU • UKASH=Ukash • SANTANDER=Barcode Santander • FACIL=Pago Fácil
CARD_TYPE	The card type used by the shopper. If multiple cards are used, only the type of the last one is sent via the IPN - e.g. "Visa" (empty for non-card transactions).
CARD_LAST_DIGITS	The last 4 digits of the credit/debit card used by the shopper. In scenarios involving multiple cards, only the last four digits of the last one used are sent via the IPN - e.g. "Visa" (empty for non-card transactions).
CHARGEBACK_RESOLUTION	<p>Chargeback status information. Possible values:</p> <ul style="list-style-type: none"> · OPEN (chargeback is in progress); · WON (chargeback won by you); · LOST (chargeback won by the customer); · NONE (no chargeback initiated for the order). <p>To manage chargeback notifications navigate to Account settings, click to Edit System settings and select the IPN settings tab on the next screen.</p> <p>In the Notification Settings area make sure to check the checkboxes next to the following options:</p>

	<ul style="list-style-type: none"> · chargeback open (IPN is sent when a chargeback dispute is opened); · chargeback closed - (IPN is sent when a chargeback dispute is resolved). <p>Also check the checkbox next to the CHARGEBACK_RESOLUTION parameter featured in the Notification Details area.</p>
GATEWAY_RESPONSE	<p>Forwards the payment gateway response received as a part of the card authorization process. Contact Avangate directly if the GATEWAY_RESPONSE parameter is not available in the list under the Notification Details area on the IPN settings page.</p>

CUSTOMER BILLING INFORMATION

FIRSTNAME	Customer first name(maximum 40 characters allowed)
LASTNAME	Last Name (maximum 40 characters allowed)
IDENTITY_NO	Customer ID card number
IDENTITY_ISSUER	Customer ID card issuing authority
IDENTITY_CNP	Customer personal number
COMPANY	Company Name (maximum 40 characters allowed)
REGISTRATIONNUMBER	Company registration number
FISCALCODE	Company VAT ID / Tax ID
CBANKNAME	Company bank name (maximum 40 characters allowed)
CBANKACCOUNT	Company bank account (maximum 50 characters allowed)
ADDRESS1	Address (maximum 100 characters allowed)
ADDRESS2	More address information (maximum 100 characters allowed)

CITY	City (maximum 30 characters allowed)
STATE	State/County (maximum 30 characters allowed)
ZIPCODE	Zip code (maximum 30 characters allowed)
COUNTRY	Country (maximum 50 characters allowed)
COUNTRY_CODE	Country code, 2 characters.
PHONE	Phone number (maximum 40 characters allowed)
FAX	Fax number (maximum 40 characters allowed)
CUSTOMEREMAIL	Customer email address (maximum 40 characters allowed)
CUSTOMER DELIVERY INFORMATION	
FIRSTNAME_D	First Name (maximum 40 characters allowed)
LASTNAME_D	Last Name (maximum 40 characters allowed)
COMPANY_D	Company Name (maximum 50 characters allowed)
ADDRESS1_D	Address (maximum 100 characters allowed)
ADDRESS2_D	Extra address information (maximum 100 characters allowed)
CITY_D	City (maximum 30 characters allowed)
STATE_D	State/County (maximum 30 characters allowed)
ZIPCODE_D	Zip code (maximum 20 characters allowed)
COUNTRY_D	Country (maximum 50 characters allowed)
COUNTRY_D_CODE	Country code, 2 characters.
PHONE_D	Telephone number (maximum 40 characters allowed)
EMAIL_D	Email address for delivery
IPADDRESS	Customer IP address (maximum 250 characters allowed)

IPCOUNTRY	Country name, based on the user IP address
CUSTOM ORDER INFORMATION	
TIMEZONE_OFFSET	The time zone you selected or the default GMT+02:00 time zone of the Avangate system.
CURRENCY	<p>Currency used in order.</p> <p>Possible values:</p> <ul style="list-style-type: none"> • USD • EUR • GBP <p>Depending on your account settings, other currencies might be available.</p>
LANGUAGE	<p>Payment interface language.</p> <p>Current possible values:</p> <ul style="list-style-type: none"> • cs - Czech • de - German • en - English • es - Spanish • fr - French • it - Italian • nl - Dutch • ro - Romanian • ru - Russian • zh - Chinese Simplified • zy - Chinese Traditional • ja - Japanese • da - Danish • no - Norwegian • pl - Polish

	<ul style="list-style-type: none"> • pt - Portuguese • fi - Suomi • sw - Swedish • ar - Arabic • ko - Korean
IPN_PID[]	Array of products codes, within current order, from Avangate system (Avangate reference codes)
IPN_PNAME[]	Array with products names from current order
IPN_PCODE[]	Array with seller reference code for order products. (seller reference)
IPN_INFO[]	Array with extra information for each product within current order.
IPN_QTY[]	Quantities array
IPN_PRICE[]	Array with prices for each product (no VAT), with dot as float separator.
IPN_VAT[]	VAT values array for each product.
IPN_VER[]	Array with version of each product.
IPN_DISCOUNT[]	Array with discount values within a promotion. It includes VAT values.
IPN_PROMONAME[]	Array with promotions names for the above discounts.

IPN_SKU[]	Array with SKU code for order products.
IPN_LICENSE_PROD[]	Array with product IDs purchased as a subscription (either new license or renewal)
IPN_LICENSE_TYPE[]	<p>Array with the type of subscription purchased for each product.</p> <p>Possible values:</p> <ul style="list-style-type: none"> • REGULAR (new license); • RENEWAL (renewal for an old license) • UPGRADE (an upgrade to an existing license) • TRIAL
IPN_LICENSE_REF[]	Array with Avangate references for the purchased license. Can be used to build a link for a renewal
IPN_LICENSE_EXP[]	Array with products expiration dates
IPN_DELIVEREDCODES[]	Array with codes delivered to the customer when using Avangate Delivery.
IPN_DOWNLOAD_LINK	Download link delivered to the customer
IPN_BUNDLE_DETAILS[]	Array with products included in the bundle package
IPN_BUNDLE_DELIVEREDCODES[]	Array with delivery information for each product included in the

	bundle
IPN_ORDER_COSTS[]	Array with sale costs per each product in the order (values are expressed in the order currency)
IPN_PCOMMISSION[]	Affiliate product commission, using dot(.) as float separator
IPN_TOTAL[]	Partially total on order line (including VAT), using dot (.) as float separator
IPN_TOTALGENERAL	Total transaction sum, including shipping and VAT, using dot (.) as float separator, expressed in the same currency as the CURRENCY field.
IPN_SHIPPING	Shipping costs, expressed in the same currency as the CURRENCY field, using dot (.) as float separator.
IPN_GLOBALDISCOUNT	Global order discount. It is an optional field that is sent only for values greater than 0.
IPN_COMMISSION	Avangate commission, using dot (.) as float separator.
IPN_CUSTOM_TEXT[]	Array with all the custom fields texts set per order.
IPN_CUSTOM_VALUE[]	Array with all client input corresponding for the text.

IPN_CUSTOM_1234_TEXT[]	Array with all the custom fields texts set per product, where 1234 represents the product ID.
IPN_CUSTOM_1234_VALUE[]	Array with all client input corresponding for the text, where 1234 represents the product ID.
IPN_PRODUCT_OPTIONS_1234_TEXT[]	Array with all the price options names, where 1234 represents the product ID.
IPN_PRODUCT_OPTIONS_1234_VALUE[]	Array with unique codes set up for the pricing options, where 1234 represents the product ID.
IPN_PRODUCT_OPTIONS_1234_OPTIONAL_VALUE[]	Array with optional codes (unique for pricing option group) , where 1234 represents the product ID.
IPN_PRODUCT_OPTIONS_1234_PRICE[]	Array with all the prices corresponding for each option (prices are in the order currency) , where 1234 represents the product ID
IPN_PRODUCT_OPTIONS_1234_OPERATOR[]	Array with all the prices operators corresponding for each price option, where 1234 represents the product ID Possible values:

	<ul style="list-style-type: none"> • ADD • SUBTRACT
IPN_REFERRER	HTTP referrer of the sale
IPN_LINK_SOURCE	The link source for the sales.
IPN_RESELLER_ID	Affiliate ID that has referred the sale
IPN_RESELLER_NAME	Affiliate name (max 50 chars)
IPN_RESELLER_URL	Affiliate website (max 100 chars)
IPN_RESELLER_COMMISSION	Affiliate total commission, using dot(.) as float separator
IPN_LICENSE_LIFETIME	<p>Array indicating whether the products have been purchased with the lifetime license option.</p> <p>Possible values:</p> <ul style="list-style-type: none"> • YES = lifetime license is enabled for the product • NO = lifetime license is not enabled for the product
IPN_PARTNER_CODE	<p>Possible values:</p> <ul style="list-style-type: none"> • Empty = ecommerce order • Partner code
VALIDATION INFORMATION	
IPN_DATE	IPN notification date in the YmdHis format. (ex: 20081117145935)
HASH	Calculated HMAC_MD5 signature based on the sent IPN fields and

	the secret key.
--	-----------------

2.3 Read receipt response for Avangate

In order to confirm the complete the notification process, Avangate expects an inline response anywhere in the document (in the script output), in the following format:

<EPAYMENT>DATE|HASH</EPAYMENT>

The parameters are as follows:

DATE	Date in the YmdHis format. (ex: 20081117145935)
HASH	HMAC_MD5 signature calculated from IPN_PID[0], IPN_PNAME[0], IPN_DATE and DATE (the above field) and the secret key

The fields used in the HMAC_MD5 signature are captured from the IPN just received:

IPN_PID[0]	First product ID from the IPN_PID[] array.
IPN_PNAME[0]	First product name from the IPN_PNAME[] array.
IPN_DATE	IPN date in the YmdHis format (ex: 20081117145935)
DATE	Response issuing date (server time) in the YmdHis format (ex: 20081117145935)

2.4 HASH signature building example

Look at the example below to understand how to correctly receive and confirm the IPN notifications from Avangate:

Field name	Field length	Field value
SALEDATE	19	2004-06-01 12:22:09
REFNO	7	1000037
REFNOEXT	0	
ORDERNO	2	13
ORDERSTATUS	8	COMPLETE
PAYMETHOD	13	Wire transfer

FIRSTNAME	4	John
LASTNAME	5	Smith
IDENTITY_NO	9	BV-667788
IDENTITY_ISSUER	0	
COMPANY	0	
REGISTRATIONNUMBER	0	
FISCALCODE	0	
CBANKNAME	0	
CBANKACCOUNT	0	
ADDRESS1	15	101 Main Street
ADDRESS2	0	
CITY	8	New York
STATE	8	New York
ZIPCODE	6	500365
COUNTRY	24	United States of America
PHONE	12	951-121-2121
FAX	0	
CUSTOMEREMAIL	19	johnsmith@email.com
FIRSTNAME_D	4	John
LASTNAME_D	5	Smith
COMPANY_D	0	
ADDRESS1_D	15	101 Main Street

ADDRESS2_D	0	
CITY_D	8	New York
STATE_D	8	New York
ZIPCODE_D	6	500365
COUNTRY_D	24	United States of America
PHONE_D	12	951-121-2121
IPADDRESS	14	213.233.121.50
CURRENCY	3	USD
IPN_PID[0]	1	1
IPN_PNAME[0]	16	Software program
IPN_PCODE[0]	5	PM_11
IPN_INFO[0]	0	
IPN_QTY[0]	1	1
IPN_PRICE[0]	5	29.00
IPN_VAT[0]	4	0.00
IPN_VER[0]	0	
IPN_DISCOUNT[0]	4	0.00
IPN_PROMONAME[0]	0	
IPN_DELIVEREDCODES[0]	0	
IPN_TOTAL[0]	5	29.00
IPN_TOTALGENERAL	5	34.00
IPN_SHIPPING	4	5.00

IPN_COMMISSION	4	3.38
IPN_DATE	14	20050303123434

The HMAC_MD5 source string is built by adding in front of each value its own length in bytes (for UTF-8 characters the length in bytes might be longer than the string length). For the above data, the following HMAC source string (new lines are added only for visibility) is calculated:

192004-06-01 12:22:097100003702138COMPLETE13Wire transfer4John5Smith9BV-66778800000015101 Main Street, nr.208New York 8New York65003658 United States of America12951-121-2121019johnsmith@email.com4John5Smith015101 Main Street, nr.208New York8New York65003658 United States of America12951-121-212114213.233.121.503USD1116Software program5PM_11011529.0040.00040.0000529.00534.0045.0043.381420050303123434

The secret key in this example is :**AABBCCDDEEFF**

For this source string, the MD5 HASH value is:

f87d96c8b5daa65b63cae5171280b7eb

For this example, the response is built in the same way, only using shorter data formats for date values.

HMAC source string is built from the following:

Field name	Length	Field value
IPN_PID[0]	1	1
IPN_PNAME[0]	16	Software program
IPN_DATE	14	20050303123434
DATE	14	20050303123434

Therefore, the HMAC source string will be:

1116Software program14200503031234341420050303123434

while the HMAC MD5 string will be:

7bf97ed39681027d0c45aa45e3ea98f0

The response to output anywhere in the page defined as the IPN URL has to be:

<EPAYMENT>20050303123434|7bf97ed39681027d0c45aa45e3ea98f0</EPAYMENT>

If the string above is valid, and acknowledged by Avangate, the notification is marked in the Avangate system as "successfully sent".

Contrary to this situation, the IPN notification will be re-sent at increasing time intervals, until successfully confirmed. Also, an error notification will be displayed in the Control Panel Dashboard area.

2.5 Tips & tricks

- HASH fields values are case insensitive.
- If you need to view or debug the IPN notification, you can do so by generating a TEST order from the Avangate Control Panel, from the "Integration assistant" section. After you have received the initial notification, you can go to the "Orders & Reports" section, and use the filters to locate the recently placed test order. In the list of orders, click on the reference number of the order, to see the order details screen. In this screen, you need to click the "Resend notifications" button, and select "Yes" when asked about IPN Debug session in the next screen. You can have a visual output of the IPN content sent to you, and use the information to fine tune your script.
- It is recommended to increase security by restricting access to the IPN script only to [these IP networks](#), corresponding to Avangate servers.
- We recommend using the already built examples stored in our "Documentation" area, to give you a quick start in implementing this type of notification.

3 Instant Refund Notification

3.1 How does it work?

Instant Refund/Reverse Notification (IRN) allows for refund/reverse requests for orders paid through the Avangate system to be sent directly from your own management interface/platform.

The process consists of using a POST HTTP to send order information validated with a HMAC_MD5 signature, at the following address:

<https://secure.avangate.com/order/irn.php>

This process must be executed for every reverse or total/partial refund.

3.2. What data needs to be sent to Avangate?

The identification data contained in the HTTP POST is described in the following table and must be sent in the following exact order:

ORDER INFORMATION	
MERCHANT	Merchant ID. This is available in the "Account administration" / "Account settings" section of the Control Panel
ORDER_REF	The order reference number in the Avangate system.
ORDER_AMOUNT	The value of the initial order (the total costs customers incurred for the order) that is reversed/refunded as received from Avangate. Please note that the value of the order can be different than the costs refunded to customers that are controlled through the AMOUNT parameter (details below).
ORDER_CURRENCY	The currency used to show the order value.
IRN_DATE	The date of the reverse request in the following format: Y-m-d H:i:s

	<p>(le: 2008-05-10 17:30:56)</p> <p>If you changed the time zone for the Avangate API by editing system settings under Account settings, then the IRN_DATE will be calculated according to your custom configuration. Avangate will use your custom set time zone for the IRN_DATE when calculating the HASH, and it's important that you also use the same datetime stamp, also per the custom time zone. Note: The default Avangate API time zone is GMT+02:00</p>
ORDER_HASH	<p>The HMAC_MD5 signature for the transmitted data. (HMAC is defined in RFC 2104)</p>
REF_URL (optional)	<p>The URL the response will be sent to, using the GET method (if needed). The answer will be shown on the page if the parameter is not sent or if the value is incorrect. (i.e.: http://www.my-site.com/irn.php)</p>
PRODUCTS_IDS	<p>Array with the product(s) ID for which the REVERSE/REFUND request is made.</p>
PRODUCTS_QTY	<p>Array with corresponding quantities for product(s) mentioned in PRODUCTS_IDS</p>
REGENERATE_CODES	<p>Array with codes to be reallocated to the static list associated with the product</p>
LICENSE_HANDLING	<p>Array containing the action that needs to be carried out regarding the license. License_handling can have the values</p>

	'Cancel' or 'None'.
AMOUNT	<p>The specific amount that will be refunded to customers.</p> <ul style="list-style-type: none"> - When the amount of money paid back to customers is smaller than the value of the initial order (ORDER_AMOUNT), specify the value of the refund using AMOUNT. - If AMOUNT is missing, then the entire value of the order (ORDER_AMOUNT) will be refunded. - If the refund process involves multiple products, AMOUNT needs to be an array of values representing the money paid back to customers for each item.

Note:

For the PRODUCTS_IDS array the following validations are carried out:

- PRODUCTS_IDS array must not to be empty
- PRODUCTS_QTY array must not to be empty
- PRODUCTS_QTY and PRODUCTS_IDS must have the same dimension
- Quantities from PRODUCTS_QTY must not exceed those of the initial order

Parameters LICENSE_HANDLING, REGENERATE_CODES, PRODUCTS_IDS, PRODUCTS_QTY are not mandatory but if sent they will be taken into account when generating the HASH signature.

If REGENERATE_CODES is present, no error is generated in the case of dynamic lists.

When calculating the HASH use the parameters in the following order: 'MERCHANT', 'ORDER_REF', 'ORDER_AMOUNT', 'ORDER_CURRENCY', 'IRN_DATE', 'PRODUCTS_IDS', 'PRODUCTS_QTY', 'REGENERATE_CODES', 'LICENSE_HANDLING', 'AMOUNT'.

Example of array sent via POST:

```
$irn = array(
'MERCHANT' => $_GET["MERCHANT"],
'ORDER_REF' => 3954142,
```

```
'ORDER_AMOUNT' => 39.99,
'ORDER_CURRENCY' => 'USD',
'PRODUCTS_IDS' => array(35386, 35387),
'PRODUCTS_QTY' => array(1,2),
'REGENERATE_CODES' => array('1234-5678-9012-3456'),
'LICENSE_HANDLING' => array('CANCEL'),
'IRN_DATE' => date('Y-m-d H:i:s'),
'ORDER_HASH' => 603ced7568f22d656937e8bf0b1b44a9
);
```

3.3. What's the difference between Reverse and Refund?

A REVERSE is the cancellation procedure of an order before the merchant sends the delivery confirmation and before delivering the products to the buyer. In case of a REVERSE, the amount corresponding to the transaction that has been blocked immediately after payment confirmation will be unblocked by Avangate following approval from the financial department.

The merchant will not be charged the transaction processing commission by Avangate and the transaction will have the status REVERSE in the Avangate Control Panel as well as in all notifications regarding the REVERSE.

A REFUND is the cancellation procedure of an order after the merchant has already sent the delivery confirmation. Once the procedure for REVERSE/REFUND has been approved, an email / IPN notification containing the status corresponding to the cancelled transaction - REVERSE or REFUND respectively - and the total cancelled amount will be displayed as negative value.

3.4 How to build the request to be sent to Avangate?

Example data:

Field name	Length	Field value
MERCHANT	4	TEST
ORDER_REF	7	1000500
ORDER_AMOUNT	4	22.5
ORDER_CURRENCY	3	RON
IRN_DATE	19	2009-01-30 11:33:37

In order to validate the information you send, you must create a HMAC_MD5 signature, encrypted with the secret key attached to your account. Your secret key is available in the Control Panel, section "Account administration" / "Account settings". [[click here](#)]

The source string needed to create the HMAC_MD5 signature is built by prefixing each parameter with its byte length, without "new line" characters (for UTF-8 characters, the length in bytes may be higher than the actual number of characters).

As such, the source string for the above data is: **4TEST71000500422.53RON192009-01-30 11:33:37**

The secret key needed to validate data in this example is: **AABBCCDDEEFF**

The HMAC_MD5 signature for the above data is: **466b8bbd329f003c1d4e5b1003ab50ae**

3.5. How do I receive the answer from Avangate?

Avangate validates your request by showing a response on the page that receives the information, under the following format:

```
<EPAYMENT>ORDER_REF|RESPONSE_CODE|RESPONSE_MSG|IRN_DATE|ORDER_HASH
</EPAYMENT>
```

The parameters in the validation signature sent by Avangate are:

ORDER_REF	The order reference in the Avangate system, received through IRN
RESPONSE_CODE	The answer code for the order reverse request
RESPONSE_MSG	The answer to the order reverse request
IRN_DATE	<p>The date of the answer to the order reverse request, in the following format: YYYY-MM-DD HH:mm:ss (24 hour format)</p> <p>(Ex: 2009-01-30 11:33:37)</p> <p>If you changed the time zone for the Avangate API by editing system settings under Account settings, then the IRN_DATE will be calculated according to your custom configuration. Avangate will use your custom set time zone</p>

	for the IRN_DATE when calculating the HASH, and it's important that you also use the same datetime stamp, also per the custom time zone. Note: The default Avangate API time zone is GMT+02:00
ORDER_HASH	The HMAC_MD5 data validation signature

If the Avangate response is set to be sent to a specific URL (the REF_URL parameter contains a valid URL), the reply will be sent as follows:

REF_URL = <http://www.mysite.com/callback.php>

http://www.mysite.com/callback.php?ORDER_REF=value&RESPONSE_CODE=value&RESPONSE_MS=value&IRN_DATE=value&ORDER_HASH=value

3.6 What answer will Avangate send me?

The interpretation of response codes and messages is:

Error	Description
OK	OK
ORDER_REF missing or format incorrect	Order reference missing or format incorrect
ORDER_AMOUNT missing or format incorrect	Order amount missing or format incorrect
PRODUCTS_IDS missing or format incorrect	Products ids missing or format incorrect
PRODUCTS_QTY missing or format incorrect	Products quantity missing or format incorrect
ORDER_CURRENCY is missing or format incorrect	Order currency is missing or format incorrect
IRN_DATE is not in the correct format	IRN date is not in the correct format
Error cancelling order	Error cancelling order
Order already cancelled	Order already cancelled

Unknown error	Unknown error
Invalid ORDER_REF	Invalid Order reference
Invalid ORDER_AMOUNT	Invalid order amount
Invalid ORDER_CURRENCY	Invalid order currency
Invalid PRODUCTS_QTY	Invalid products quantity.
Invalid REGENERATE_CODES	Invalid regenerate codes
Invalid LICENSE_HANDLING	Invalid license handling
AMOUNT missing or format incorrect	AMOUNT missing or format incorrect
Invalid AMOUNT	Invalid amount

4 Avangate delivery

4.1 About Product Activation

For digital products like software and phone cards, product activation means sending the client an email message containing either a binary key (especially for software products) or an activation alphanumeric code. The key or the code is used for unlocking the license or getting access to website content.

This feature is implemented by storing the keys or codes using two different types of lists:

- Static Lists
- Dynamic Lists

4.2 Static Lists

Static lists can be created within the Avangate Control Panel by manually adding the codes that will be delivered for approved electronic order.

Note: To add Static lists go to "Delivery" in the left side menu .

4.3 Dynamic lists

These codes are generated in real time by querying your web server and delivering to the client by Avangate.

Dynamic lists don't need to be stored in the Avangate system. Dynamic codes or keys are built "on the fly" by your server. For each approved order, the Avangate system will query your server with certain parameters (defined in the table below) that can be used in codes / binary keys generation.

Depending on the code or key format (alphanumeric or binary) the Avangate system expects either a XML file (alphanumeric code or key) or a binary file response (binary code or key).

Note: To add Dynamic lists click on "Delivery" menu item.

The following parameters will be sent by the Avangate server to your server within HTTP POST to the URL that generates the code / key.

Field Name	Description
PID	Product ID from Avangate system.
PCODE	Product code.
INFO	Additional information sent with the order.
REFNO	Order reference from Avangate system. (maximum 9 characters)
REFNOEXT	Order reference from your own system, sent when the order has been

Field Name	Description
	generated
PSKU	Product SKU
TESTORDER	Specifies if the order is for testing purpose. The only possible values are YES or NO.
QUANTITY	Ordered products quantity. (number of licenses for example)
FIRSTNAME	Client first name. (maximum 40 characters allowed)
LASTNAME	Client last name. (maximum 40 characters allowed)
COMPANY	The company name that ordered the product.
EMAIL	Clients email address. (maximum 40 characters allowed)
LANG	The Language used for transaction. ("en" or "ro" for example")
COUNTRY	Clients country. (maximum 50 characters allowed)
CITY	Clients city. (maximum 30 characters allowed)
ZIPCODE	Clients zip code. (max 20 characters allowed)
LICENSE_TYPE	Sent only for products with Renewal system enabled. Possible values: <ul style="list-style-type: none"> • REGULAR: for new subscriptions/licenses • TRIAL: for paid trial subscriptions/licenses • RENEWAL: for renewed subscriptions/licenses • UPGRADE: for upgraded subscriptions/licenses
LICENSE_REF	Sent only for products with Renewal system enabled. Represents the license reference number in the Avangate system. Maximum 10 characters allowed.
LICENSE_EXP	Sent only for products having the renewal system enabled. Represents the license expiration date in the format: 2003-12-25 02:30:45 When the product has been purchased with the "lifetime license"

Field Name	Description
	<p>options enabled, the value will be: 9999-12-31 23:59:59</p> <p>The LICENSE_EXP datetime stamp takes into account the custom time zone you selected via system settings under Account settings, or Avangate's default GMT+02:00</p>
LICENSE_LIFETIME	<p>This parameter indicates whether a lifetime license has been generated for the product.</p> <p>It gets the following values:</p> <ul style="list-style-type: none"> • 1 = lifetime license is on for the product; • 0 = lifetime license is off for the product;
PARTNER_CODE	<p>Possible values:</p> <ul style="list-style-type: none"> • Empty = ecommerce order • Partner code <p>If sent, the partner code is also included when the HMAC is calculated.</p>
TIMEZONE	<p>The time zone you selected or the default GMT+02:00 time zone of the Avangate system.</p>

If additional order fields are set and collected during the checkout process, they will also be transmitted as follows:

Additional Field Names for Orders	
Field Name	Description
CUSTOM_FIELD_TEXT[]	Array with all the custom fields texts set per order.
CUSTOM_FIELD_VALUE[]	Array with all clients input corresponding for the text.
Additional Field Names for Products	
Field Name	Description
CUSTOM_FIELD_714585_TEXT[]	Array with all the custom fields texts set per product.
CUSTOM_FIELD_714585_VALUE[]	Array with all clients input corresponding for the text.

If product price options are set and collected during the checkout process, they will be transmitted as well.

Example: Avangate product ID (PID):714585

Field Name	Description
PRODUCT_OPTIONS_714585_TEXT[]	array with all the price options texts set per product.
PRODUCT_OPTIONS_714585_VALUE[]	array with all client input corresponding for the text.
PRODUCT_OPTIONS_714585_PRICE[]	array with all the prices corresponding for each option (prices are in the order currency)
PRODUCT_OPTIONS_714585_OPERATOR[]	array with all the prices operators (ADD, SUBTRACT) corresponding for each price option

4.4 Generating the output

The expected response can be in one of the following types:

- XML, for alphanumerical codes; (**Basic XML** or **Advanced XML** answer)
- **Binary Attachment**, for binary keys;
- Error code sent in the HTTP headers;

4.4.1 HTTP Headers

HTTP servers use a large number of response and status codes, usually transparent for the navigator. These codes tell the browser if there was an error or not. The codes are embedded in the HTTP header of the client / server communication.

Note:

The success status code is 200 while any other code is an error. For example, 400 means "Bad Request" and 403 means "Forbidden".

HTTP response header examples:

HTTP/1.0 400 Bad Request

HTTP/1.0 200 OK

4.4.2 Content-type

In the XML header response, the Content-Type field has to be set up with "text/xml" value like below:

Content-Type: text/xml

For any other value, the content will be assumed to be a binary key.

4.4.3 Basic XML Answer format sample:

The XML file has to respect the following template:

```
<?xml version="1.0" encoding="UTF-8"?>
<data>
<code>SIMPLE_CODE 1</code>
<code>SIMPLE_CODE 2</code>
...
<code>SIMPLE_CODE N</code>
</data>
```

The meaning of the tags used in XML is the following:

<code> - represents the key which is delivered for the product

<description> - is an *optional field* which represents a global description per delivery

The number of sent codes is the same as the number of *<code> </code>* tags.

4.4.4 Binary Attachment format

If you want to deliver a binary file, instead of XML answer, the following HTTP header must be sent. The attached file that contains the key will be included in the body of the message. The filename is set in "Content-Disposition" field:

Content-Disposition: attachment; filename=key.bin

4.4.5 Advanced XML Answer format

If you need to attach additional installation instructions or details to the delivered codes, you can use the XML structure detailed below:

```
<?xml version="1.0" encoding = "UTF-8" ?>
<data>
<description>General description (for all codes below)</description>
<code>
<description>Description for CODE 1 and/or the binary.key</description>
<key>CODE1</key>
<file name="binary.key" content_type = "text/plain">
```

```
UklGRhTsCABBVkkgTEITVCQBAABoZHJsYXZpaDgAAABqBAEAgPQDAAAAAAAAQAAEALQAAAAAA
AAACAAAAGD4AAEABAADwAAAAAAAAAAAAAAAAAAAAAAAAAAExJU1R0AAAAc3RybHN0cmD4MQAA
```

```
</file>
```

```
</code>
```

```
<code>
```

```
<description>Description for CODE 2</description>
```

```
<key>CODE 2</key>
```

```
</code>
```

```
<code>
```

```
<description>Description for the the binary_2.key</description>
```

```
<file name = "binary_2.key" >
```

```
UklGRhTsCABBVkkgTEITVCQBAABoZHJsYXZpaDgAAABqBAEAgPQDAAAAAAAAQAAEALQAAAAAA
AAACAAAAGD4AAEABAADwAAAAAAAAAAAAAAAAAAAAAAAAAAExJU1R0AAAAc3RybHN0cmD4MQAA
```

```
</file>
```

```
</code>
```

```
</data>
```

<key> represents each key delivered for the product

<description>- if it is contained in the <data></data> node, then it is treated as a global description per delivery

- if it is embedded in the <code></code> node, then it is a description for that code

<file> is an optional field and represents a base64-encoded file

A <code> tag answer must contain at least one of the elements <key> or <file>.

4.5 Security Issues

- For security reasons we strongly recommend that you limit access to the key generator URL used to generate access codes or keys and grant access only to the [these Avangate server IP networks](#).

- Additionally, Avangate sends a HASH field, which can be used to verify the information integrity:

Field Name	Description
HASH	HASH signature md5 HMAC created using all the above fields (all the fields sent through HTTP POST).

How to calculate the signature (HASH) on a data set

Example using the following data:

Field name	Length	Field value
PID	6	189645
PCODE	3	123
REFNO	7	1250747
REFNOEXT	0	
TESTORDER	3	YES
QUANTITY	1	1
FIRSTNAME	4	John
LASTNAME	3	Doe
COMPANY	0	
EMAIL	17	info@avangate.com
LANG	2	en
COUNTRY	11	Netherlands
COUNTRY_CODE	2	nl
CITY	10	Amstelveen
ZIPCODE	4	1181

Source string for HMAC_MD5 will be calculated by adding the length of each field value at the beginning of the field value. In this way, the source string for the data above will be:

6189645312307125074703YES114John3Doe017info@avangate.com2en11Netherlands2nl10Amstelveen41181

The secret key for this example is: **SECRETKEY**.

For all the data in the example, the HASH value is:

76b194c0eb8aa3d4032126b68fbfb50e

Suggestion: don't forget to check if the received order reference matches a valid reference order from your system.

4.6 Tips & Tricks

- In order to test the electronic delivery system, place a test order from the Control Panel (within the "Integration Assistant" section) which contains a product linked to a dynamic code delivery list.

Note: In this case, the TESTORDER parameter will be set to YES. It is highly recommended to reply with testing codes or keys whenever receiving the above mentioned parameter in the server request.

- XML files have certain reserved characters that must be escaped in a certain way when used. The reserved characters and their corresponding escape sequences are:

& (ampersand) converted to &

< (less than) converted to <

> (greater than) converted to >

" (double quote) converted to "

' (single quote) converted to '

When XML files are created, please replace these characters in the attributes and inside the nodes with the correct escape sequence to have a syntactically correct XML document. These characters are documented in the XML specification: <http://www.w3.org/TR/REC-xml/>

5 Instant Delivery Notification

5.1 About Instant Delivery Notification (IDN)

The Instant Delivery Notification facilitates automatic delivery confirmations from your system directly to the Avangate system which automatically registers these confirmations on the Avangate servers. As soon as your orders made to the Avangate system are confirmed, a POST must be sent through your administration system to a URL provided by Avangate, containing the identification data for transaction about to be confirmed.

The Internet address where the delivery is automatically confirmed

is: <https://secure.avangate.com/order/idn.php>

Notes:

- A separate HTTP POST needs to be sent for each order than needs to be confirmed within the Avangate system
- Each HTTP POST will be authenticated by using a HMAC_MD5 signature, based on the identification data contained in the POST and a shared key (Avangate / Merchant)

5.2 POST Details

The identification data contained in the POST is found in the following table and it is sent in the following exact order:

Code	Description
MERCHANT	Represents the merchant code from the Avangate system
ORDER_REF	Represents the Avangate order reference
ORDER_AMOUNT	Represents the total of the order about to be confirmed as it was received from the Avangate system
ORDER_CURRENCY	Represents the currency in which the order was made.
IDN_DATE	Represents the date on which the delivery confirmation request is transmitted. It has the <<Y-m-d H:i:s>> format where: Y - Represent the year. 4 digit number. M - Represents the month. 2 digit number. D - Represents the day. 2 digit number. H - Represents the hour. Values from 00 to 24. 2 digit number.

	<p>I - Represents the minute. 2 digit number.</p> <p>S - Represents the second. 2 digit number.</p> <p>If you changed the time zone for the Avangate API by editing system settings under Account settings, then the IDN_DATE will be calculated according to your custom configuration. Avangate will use your custom set time zone for the IDN_DATE when calculating the HASH, and it's important that you also use the same datetime stamp, also per the custom time zone. Note: The default Avangate API time zone is GMT+02:00.</p>
ORDER_HASH	Represents the requests signature. This signature is a HMAC_MD5 type signature built from all fields above (1-5).
REF_URL*	<p>* This field is not mandatory. If this parameter is not sent or it is empty, the reply will be sent INLINE.</p> <p>Represents the URL address where the reply will be sent with the GET method. The URL address must begin with the <<http://>> syntax.</p>

About HASH Signature

This chapter shows how the HASH signature is calculated.

Example:

Field Name	Length	Field Value
MERCHANT	4	Test
ORDER_REF	7	1000500
ORDER_AMOUNT	6	225000
ORDER_CURRENCY	3	ROL
IDN_DATE	19	2004-12-16 17:46:56

The source string for the MAC calculation is given by adding the string length at the beginning of the field. Giving the input data, the source string is:

4TEST7100050062250003ROL192004-12-16 17:46:56

If you changed the time zone for the Avangate API by editing [system settings](#) under [Account settings](#), then the IDN_DATE will be calculated according to your custom configuration. Avangate will use your custom set time zone for the IDN_DATE when calculating the HASH, and it's important that you also use the same datetime stamp, also per the custom time zone. **Note:** The default Avangate API time zone is GMT+02:00.

The secret key for this example is: **AABBCCDDEEFF**

The final MD5 value is: **3d37f0d7819dbde48ff4c8910bb153ec**

The answer for the above data is calculated similarly but contains fewer information. The source string for the answer contains following data:

Filed Name	Length	Field Value
ORDER_REF	7	1000500
RESPONSE_CODE	1	1
RESPONSE_MSG	9	Confirmed
IDN_DATE	19	2004-12-16 17:46:58

Results:

String:	71000500119Confirmed192004-12-16 17:46:58
MD5 HASH Value:	d317bb75d8f1d7fd203314914621c17c

The HASH fields can contain both lowercase and uppercase characters. (hexadecimal string)

The INLINE reply of the server to whom the request was sent to is:

```
<EPAYMENT>1000500|1|Confirmed|2004-12-16
17:46:58|d317bb75d8f1d7fd203314914621c17c</EPAYMENT>
```

The GET reply for will be:

```
http://www.mysite.com/prel.php?ORDER_REF=1000500&RESPONSE_CODE=1&RESPONSE_MSG=Confirmed&IDN_DATE=2004-12-16
17:46:58&ORDER_HASH=d317bb75d8f1d7fd203314914621c17c
```

Notes

- The return carriage characters are inserted for visual improvement only in this document.
- In case of invalid reply, the order is not confirmed.

6 License Change Notification

6.1 About License change notification

LCN is a protocol that provides an automatic notification to be sent for authorized and refunded orders from Avangate system. This notification method allows you to automatically receive the license data for future processing in your internal license management systems. The Avangate server will send to a predefined URL an HTTP POST which encapsulates a data structure with all data referencing that order. To enable and configure License Change Notifications, make your way to [System settings](#) under [Account settings](#), select the [LCN settings](#) tab and check the box next to the **Enable LCN** option. Make sure to also enter the LCN URL path, and click Save. The system will verify that the URL provided is valid and can be accessed before saving the new settings. You can configure notifications to be sent for license changes and for license expirations.

You are here: [Dashboard](#) > [Settings](#) > [System settings](#) > LCN Settings

LCN settings

[System settings](#)
[IPN settings](#)
[LCN settings](#)

i When the details of a licence change, the Avangate server will send to a predefined URL an HTTP POST which encapsulates a data structure containing the information about the modified licence. That information will be assigned a signature for authentication. The signature is realized using an HMAC_MD5 signature and a common secret key established between Avangate and the seller. The HMAC algorithm is applied to all data set. [RFC 2104](#)). For more details on LCN please read the [technical documentation](#).

URL

☒ Enable LCN

LCN URL:

[« Back to System Settings](#)
[Save](#)

Notification settings

Send the notifications for:

☒ licenses changes
☒ licenses expires

[Save](#)

The Avangate system regularly checks the status of subscriptions/licenses to identify expired items and modifications. Notifications are sent for expirations as well as for licensing changes that occurred in the last 24 hours prior to the moment when the check is performed. Once a notification was sent, it will not be repeated unless the status of the subscription/license changes or additional modifications are identified.

Note:

- When you save the URL path, Avangate does a check to verify that the address can be accessed and that notifications can be properly received.

In case of a communication error (notification is not properly received or confirmed), the Avangate server resends it every few minutes with increasing intervals between attempts, until acknowledged. If an LCN notification fails to be sent / confirmed you will be notified on the Control Panel Dashboard. Following the details links you can evaluate the communication output logs.

6.2 What does LCN consist of?

The license information is sent as an HTTP POST and will be sent in the exact order as shown below. Additional parameters might be added in time but will not be sent by default via LCN.

LICENSE PROCESSING INFORMATION	
FIRST_NAME	Customer first name (maximum 40 characters)
LAST_NAME	Customer last name (maximum 40 characters)
COMPANY	Company name (maximum 40 characters)
EMAIL	Customer email address (maximum 40 characters)
PHONE	Phone number (maximum 40 characters)
FAX	Fax number (maximum 40 characters)
COUNTRY	Country (maximum 50 characters)
STATE	State/County (maximum 30 characters)
CITY	City (maximum 30 characters)
ZIP	Zip code (maximum 20 characters)
ADDRESS	Customer address (maximum 100 characters)
LICENSE_CODE	Avangate License Reference - a unique identifier for the generated license/subscription (maximum 50 characters)
EXPIRATION_DATE	The date when the license/subscription expires. For lifetime licenses/subscriptions the value will always be: 9999-12-31 23:59:59
DATE_UPDATED	The date when the license/subscription was updated.

TEST	Sent only for Test orders. Value = 1.
CHANGED_BY	Reveals the author of license/subscription modifications. Possible values: CUSTOMER, VENDOR or SYSTEM.
LICENSE_TYPE	Possible values: REGULAR or TRIAL.
DISABLED	License/subscription status can have 2 values: 1 for Disabled; 0 for Enabled.
RECURRING	The renewal license type: 1 for license renewal automatically triggered; 0 for license renewal that requires manual input from the customer.
LICENSE_PRODUCT	Product ID
START_DATE	The purchase date. The initial date when the license/subscription was purchased.
LICENSE_LIFETIME	This parameter indicates whether a lifetime license/subscription was generated for the product or not. It gets the following values: · 1 = lifetime license for the product; · 0 = no lifetime license for the product;
PARTNER_CODE	Possible values: · Empty = ecommerce order · Partner code
PSKU	Product SKU (stock keeping unit)
ACTIVATION_CODE	Sends out the last used activation code.
STATUS	The status of the license/subscription. Possible values: - ACTIVE (for licenses/subscriptions still in use) - CANCELLED (for cancelled licenses/subscriptions) - EXPIRED (for expired licenses/subscriptions)

	- PASTDUE (for licenses/subscriptions in the grace period)
EXPIRED	Can have 2 values: 1 - subscriptions/licenses expired. 0 - active subscriptions/licenses suffered modifications.
TIMEZONE_OFFSET	The time zone you selected or the default GMT+02:00 time zone of the Avangate system.
HASH	Calculated HMAC_MD5 signature based on the sent LCN fields and the secret key.

6.3 Read receipt response for Avangate

In order to validate the correct receipt of the LCN notification, Avangate expects an inline response anywhere in the document (in the script output), in the following format:

<EPAYMENT>DATE|HASH</EPAYMENT>

The parameters are as follows:

DATE	Date in the YmdGis format. (ex: 20081117145935)
HASH	HMAC_MD5 signature calculated using the secret key for your account and the values received for : <ul style="list-style-type: none"> • LICENSE_CODE • EXPIRATION_DATE • DATE (the above field)

HMAC_MD5 signature building example:

The HMAC_MD5 algorithm is described in RFC 2104 (<http://www.ietf.org/rfc/rfc2104.txt>).

Field name	Field length	Field value
FIRSTNAME	4	John
LASTNAME	5	Smith
COMPANY	0	
EMAIL	19	johnsmith@email.com
PHONE	12	951-121-2121

FAX	0	
COUNTRY	24	United States of America
STATE	8	New York
CITY	8	New York
ADDRESS	15	101 Main Street
LICENSE_CODE	10	3C343D0FAF
EXPIRATION_DATE	10	2005-03-03
STATUS	8	DISABLED

For the above data received in LCN , the following signature is calculated:

DATE (when LCN is received by your script)	20081117145935
HMAC_MD5 source string	103C343D0FAF102005-03-031420081117145935
Secret key	AABBCCDDEEFF
HMAC_MD5 signature	cb34fe2991668eb82364edf62f845a34
Inline response	<EPAYMENT>20081117145935 cb34fe2991668eb82364edf62f845a34</EPAYMENT>

Notes:

- HASH will NOT be included with the string needed for calculating the HMAC_MD5 signature
- The string used for the HASH signature will use the variables **in exactly the same order** as described in the above table
- The HMAC_MD5 source string is built by adding in front of each value its own length in bytes (for UTF-8 characters the length in bytes might be longer than the string length).
- HASH fields values are case insensitive.

- The inline response has to be output anywhere in the page receiving the notification.
- In case of an invalid inline response, the LCN notification will be re-sent at increasing time intervals, until successfully confirmed. Also, an error notification will be displayed in the Control Panel Dashboard area.

Tips & Tricks

We recommend that you increase security by restricting access to the LCN script only to [these IP networks](#), corresponding to Avangate servers.

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