



Universal Payment Gateway plc

Summary of Gateway Facilities and Attributes

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Introduction

Universal Payment Gateway (UPG) is the largest IP simultaneous authorisation and settlement processing facility in the UK operating a system called TransactDirect. TransactDirect accepts credit, debit, purchase, fuel and store card transaction requests from the full spectrum of merchants including:

- Traditional Electronic Point Of Sale (EPOS) retailers.
- Call-centre retailers.
- Internet retailers via our network of re-sellers -Internet Payment Service Providers.

Universal Payment Gateway also supplies the latest hardware and associated software for Chip&PIN and swipe transactions.

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TransactDirect

This is a raw gateway interface allowing the merchant to create their own payment system. Systems that use TransactDirect typically include:

- EPOS terminals
- call-centres
- Internet web sites

TransactDirect offers real-time card processing – Authorisation only, simultaneous authorisation and settlement and settlement only. Connectivity to UPG is via leased-line, point-to-point ADSL (e.g. MPLS) and Secure Internet. TransactDirect also operates an point-to-point ADSL or leased-line batch system (option).

TransactDirect gives the merchant total flexibility in the way that they create their payment solution, providing access to every possible facility available with cards. If a merchant chooses to interface with TransactDirect via leased-line or point-to-point ADSL the methodology will be that of UPG2.1 messaging over raw IP. If merchant chooses to interface with TransactDirect using Secure Internet the methodology will be that of discreet fields forwarded to TransactDirect via https POST or GET. Although interfacing with TransactDirect is straightforward, merchants or their systems providers, typically need to have the following skills:

- The concepts and grammatical use of IP sockets.
- For those who choose the combined UPG hardware/software EMV solution, the use of Microsoft COM components.
- Optionally, for those planning to use TransactDirect directly from Internet/Intranet/Extranet sites, programming web-servers to send information via form fields or query string to the UPG gateway URL and picking up authorisation responses using query string.
- For those planning to use TransactDirect with Internet retail web sites, the installation and use of Secure Socket Layer (SSL) certificates.
- For those using the optional point-to-point ADSL or leased-line batch delivery system, the use of FTP.

For deferred dispatch transactions (Disatch=LATER) and daily/weekly/monthly rebilling using continuous authority, TransactDirect removes the need for the merchant to store card numbers on their systems. After an initial transaction on a given card, deferred dispatch and continuous authority transactions are submitted using the original transaction's Cross Reference. The Cross Reference is a unique transaction ID returned by TransactDirect for each transaction processed. Merchants keeping databases of customer orders should keep the Cross Reference for use in subsequent deferred dispatch and continuous authority transactions and audit purposes.

Note: Merchants may still store card numbers with the consent of their acquiring bank and merchants may wish to store the first four and last four digits of card numbers together with issue numbers and expiry dates to aid chargeback handling.

All TransactDirect users have the use of UPG's Transaction Management System (TMS). This is a comprehensive suite of transaction management and audit facilities and includes:

- Transaction History: Complete transaction history of every Cardholder Not Present (CNP) and Internet transaction going back 33 days.

- Transaction Summary: Daily totals for all transaction types going back 180 days enabling merchants to reconcile submitted totals with bank statement entries.
- Referred Transactions: Facility for the processing of transactions that resulted in a referral - referral processing can also be achieved by direct gateway access.
- Manual Payments: For processing ad-hoc transactions.
- Set-up AVS/CV2: For setting the merchant's AVS/CV2 acceptance conditions.

TransactDirect fully supports all the latest bank and card scheme anti-fraud initiatives including:

- EMV Chip&PIN
- Address Verification Service (AVS)
- Card Verification Value (CV2)
- Verified by Visa and Mastercard Securecode

Each merchant receives by email a Monthly summary file of all transactions conducted for the previous month. Optionally, each merchant can receive transaction reports on a daily basis for import into financial systems.

TransactDirect processes the following card types:

- Visa Credit
- Visa Debit
- MasterCard (Europay)
- Domestic Maestro (Switch)
- Solo
- Electron
- International Maestro
- Style
- JCB
- American Express
- Diners Club International
- Visa Purchasing
- Plus other purchasing, store and fuel cards

TransactDirect currently operates with the following acquirers:

- Barclaycard Merchant Services (BMS)
- NatWest Streamline (Royal Bank of Scotland)
- HSBC Merchant Services
- Lloyds TSB Cardnet
- Halifax Bank of Scotland
- Clydesdale (National Bank of Australia)

- Co-operative Bank
- Ulster Bank Group
- American Express (Direct)
- Diners Club International (Direct)
- Plus many other smaller acquirers/issuers

TransactDirect is fully multi-currency compliant and accepts the following transaction types:

- Cardholder present chip and PIN read
- Cardholder present swipe
- Cardholder present and not present keyed
- Cardholder and merchant not present (Internet) keyed
- Where both the cardholder and merchant are present TransactDirect will accept sale with cash-back requests - debit cards only
- TransactDirect accepts continuous authority requests - Visa Credit and Mastercard only
- TransactDirect accepts 'deferred dispatch' requests, sometimes called pre-authorisations
- TransactDirect accepts gratuity additions for use in the leisure and entertainment sectors

Transactions may be delivered using any of the following methodologies:

- Text over IP socket via leased-line using UPG2.1 format messaging
- Text over IP socket via IPSEC 3DES point-to-point ADSL using UPG2.1 format messaging
- Text over IP socket secured by 128-bit SSL V 3 or greater (port 443) via the Internet using specific form fields and query strings
- Text over FTP via leased-line or point-to-point ADSL for batch processing

For every transaction TransactDirect performs the following validation:

- Card type acceptance by merchant
- Transaction type acceptance by card type (i.e. cash-back not allowed for Visa Credit and Mastercard)
- Expiry Date
- Start Date (if appropriate)
- PAN length
- Issue number length (if appropriate)
- Track2 length, sentinel positions and checksum (for swiped transactions)
- Track2 equivalent length, sentinel positions and checksum (for EMV transactions on type 1 ICC)
- Account number length, expiry date and PAN sequence number (for EMV transactions on type 2 ICC)

- LUHN (Mod10) for account number
- Card issuer check
- Hot-card file check

Card details are then sent to the acquirer/issuer for on-line authorisation.

TransactDirect Performance

For all UK issued cards, transaction response times are around 2 seconds. Foreign issued cards authorisation times are governed by the foreign card issuer's connectivity to the card scheme networks. TransactDirect automatically times out after 20 seconds.

Risk Management

In conjunction with both EMV, AVS and CV2 checking and zero floor limit authorisation, UPG can offer FraudStop™.

UPG's FraudStop™ option does two things:

Returns a confidence rating (percentage) based on cardholder name, address and telephone number details. The submitted details are checked against the UK Electoral Register, BT Phone Book, Thompson Local and Post Code Address File.

Performs 'velocity checking' i.e. distance between outlets versus time. This is only available for traditional POS merchants.

Note: FraudStop™ is a cost option, the cost of which is determined by the number of merchants using the system as FraudStop™ uses Post Office licensed products.

Note: FraudStop™ is for use in card use fraud reduction only.

Standard Operations and Operational Support

- TransactDirect is available on two platforms; Standard and Ultra-High Availability
- 24 hour system monitoring and 24-hour fault reporting.
- Help desk is available Monday - Friday 09:00 to 17:30 excluding bank holidays. (enhanced levels of support up to 24 x 7 x 365 are available on the Ultra-High Availability platform and are charged outside the standard UPG tariff, see below.)
- All UPG systems are duplicated using clustered and enterprise level technology. Therefore no single failure in any UPG component will make the system fail.
- The whole UPG system together with its links to the banks is continually monitored and any failure is rectified by Quiss engineers within minutes at any time of the day or night. Out of hours fault reporting and support is available for the Ultra-High Availability platform, however, it's rarely needed as in theory we would always know of a failure before merchants would and the Ultra-High Availability platform uptime is guaranteed at 99.99%.



Scalability

TransactDirect can currently handle in excess of 256 simultaneous authorisations (the main restriction in this area is the capacity of the merchant's acquiring bank). Average authorisation time is 2 seconds (the main restriction in this area is the banking network infrastructure). UPG runs at between 10% and 20% capacity. High-volume merchants and resellers are encouraged to use (multiple, diversely routed) leased-line communications for transaction delivery to UPG.

Costs

Standard Credit, Debit, Purchase, Store and Fuel Card Transaction Delivery and Processing Costs:

- Single-merchant number annual gateway charge for Standard Platform is £2,500 + VAT payable annually in advance (merchant numbers and TIDs -Terminal Identifiers - must be registered to the entity or be a subsidiary of the entity taking out the TransactDirect contract). The annual gateway charge includes the use of the TMS. Transaction delivery is via secure Internet (point-to-point ADSL and leased-line options are available, see below). In addition to the annual gateway charge there is a monthly transaction throughput charge, see below.
- Multiple-merchant number annual gateway charge for Standard Platform is £10,000 + VAT payable quarterly in advance (an unlimited number of merchant numbers and TIDs -Terminal Identifiers - may be used under this agreement). The annual gateway charge includes the use of the TMS. Transaction delivery via secure Internet (point-to-point ADSL and leased-line options are available, see below). In addition to the annual gateway charge there is an amalgamated monthly transaction throughput charge, see below.
- Single-merchant number annual gateway charge for Ultra-High Availability Platform is £20,000 + VAT payable quarterly in advance (merchant numbers and TIDs - Terminal Identifiers - must be registered to the entity or be a subsidiary of the entity taking out the TransactDirect contract). The annual gateway charge includes the use of the TMS. Transaction delivery is via point-to-point ADSL or leased-line, see below. Also, included is 24-hour fault reporting and a guaranteed uptime of 99.99% in any one calendar month. In addition to the annual gateway charge there is a monthly transaction throughput charge.
- Multiple-merchant number annual gateway charge for Ultra-High Availability Platform is £40,000 + VAT payable quarterly in advance (an unlimited number of merchant numbers and TIDs -Terminal Identifiers - may be used under this agreement). The annual gateway charge includes the use of the TMS. Transaction delivery is via point-to-point ADSL or leased-line, see below. Included also is 24-hour fault reporting and a guaranteed uptime of 99.99% in any one calendar month. In addition to the annual gateway charge there is an amalgamated monthly transaction throughput charge.
- For both Standard and Ultra-High Availability platforms, transaction throughput is based upon aggregated, settled (i.e. no charge for pre-auths, declines, referrals etc) monthly throughput. For traffic volumes of less than 10,000 per month, the throughput charge is 5p per transaction. For traffic volumes greater than 10,000 per month, throughput charges are calculated using the following formula:

$$y = 126,000/(x + 26,000) + 1$$
 where y is the per transaction charge in pence and x is the monthly settled transaction volume. Throughput charges are taken monthly in arrears by Direct Debit.

For reference – monthly transaction throughput:

>1,000,000	1.10 pence per transaction
500,000	1.24 pence per transaction
250,000	1.45 pence per transaction
100,000	2.00 pence per transaction
50,000	2.65 pence per transaction
30,000	3.25 pence per transaction
20,000	3.74 pence per transaction
10,000	4.50 pence per transaction
<10,000	5.00 pence per transaction

Throughput is measured on a month by month basis.

- For those who choose to deliver transactions to UPG via leased-line(s) or point-to-point ADSL, the customer is responsible for ordering and paying for the line(s) - 64K is recommended for leased-lines and 265K MPLS for point-to-point ADSL. For the Standard platform, a charge of £1,500 + VAT per annum per router payable in advance is made for the provision of a managed firewalled router at the UPG premises. For the Ultra-High Availability platform, a charge of £2,950 + VAT per annum per router payable in advance is made for the provision of a managed firewalled enterprise-level router with redundant PSU at the UPG premises. One router is needed per leased line. UPG can also supply fully configured routers for the customer premises.
- (Option) The daily report option is £1,250 + VAT per annum payable annually in advance.
- (Option) FraudStop™ (Anti fraud confidence rating and velocity checking system using UK Electoral Register, BT Phone Book, Post Code Address File, Thompson Local) - Parameter specific costs ranging from £10,000 per year to £50,000 per year.



UPG INFORMATION

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