developer guide

XML-Transactions

heidelpay payment platform

The complete solution for Ecommerce

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Heidelberger Payment GmbH ● Gaisbergstraße 11-13 ● 69115 Heidelberg ● Germany

Tel +49 (0) 6221 65170 10 ● Fax +49 (0) 6221 65170 12 ● info@heidelpay.de

History of changes

Version	Date	Author	Comment
1.0	18.09.2009	Schuhmann	Document created
1.1	10.01.2010	Schuhmann	Update of addresses
1.2	14.08.2012	Fredrich	Minor wording corrections

Document history

Table of content

1 General

This document describes how to submit transactions to heidelpay's payment-system using the XML-interface provide to developers.

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Please be aware of possible certification requirements for your platform

(e.g. PCI DSS for credit card processing)

if you decide for integrating your solution using XML

In the latest there have been cases involving even very large companies storing information about credit-cards who have been denied by acquirers to do so any longer !!
Contact heidelpay's support if you plan for XML-integration.

2 XML Integrator Messaging

2.1 Introduction

The XML Integrator has two basic layers:

- Processing of XML requests and responses
- Transmission of XML files

The XML Integrator specification allows for processing of multiple payments methods. Following payment methods are currently supported:

Bank Transfer Methods

- Direct Debit DD
- Credit Transfer CT
- Prepayment PP
- Invoice IV

Card Payment Methods

- Credit Card CC
- Debit Card DC

Online Payment Methods

- Online Bank Transfer OT

Other Methods

- Virtual Account VA
- User Account UA
- Risk Management RM
- Collection CL

In order to transmit, encrypt and decrypt a XML file following options are currently available:

- Https POST Interface

2.2 General Structure

The complete XML Integrator specification is designed to be as easy understandable and polymorphic as possible. That means that all payment methods reuse the same tag set and coding scheme with very minor modifications.

The integration of an additional payment method just requires the change of the value of the code attribute of the Payment tag and possibly the addition of a specific tag within the Account tag. No further modifications are mandatory.

2.3 Common ID and Coding Scheme

The XML Integrator has a common scheme for IDs and codes for all payment methods. There are three different types:

- Unique IDs
- IDs
- Codes

Unique IDs (UID) have always 32 alphanumeric digits and are used to uniquely identify the physical sender, the channel, the user login, a single transaction, a specific account or customer.

IDs have the format 0000.0000.0000 and are used to represent the short ID for a transaction (non unique).

Codes are used for payment or risk management methods, types, status and reason values. All codes are given within the attribute „code" of the specific tag. They have a hierarchical structure:

- Method code format: AA e.g. DD (Direct Debit) or RM (=Risk Mngmt.)
- Type code format: AA e.g. DB (Debit) or BL (=Blacklist)
- Status code format: 00 e.g. 90 (NEW) or 20 (=NEGATIVE)
- Reason code format: 00 e.g. 00 (Successf. P.) or 80 (Acct. in Blacklist)

In order to identify a specific payment or risk management type, the method and type code are concatenated:

- Payment / Validator (RM) codes have the format: AA.AA e.g. DD.DB or RM.BL

Every processing result is determined by the processing code and return code. The processing code is simply a concatenation status and reason code:

- Processing codes have the format: 00.00 e.g. 90.00

The codes of very specific messages which help to interpret a specific processing code are given within the return tag:

- Return codes have the format: 000.000.000 e.g. 100.100.400

2.4 Request Sample

Each request contains a Header tag with transmission and security related information and one Transaction tag.

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<Request version="1.0">
	<Header>
		<Security sender="123a456b789c123d456e789f012g345" />
	</Header>
	<Transaction mode="LIVE" response="SYNC"
		channel="678a456b789c123d456e789f012g432">
		<User login="421a456b789c123d456e789f012g098"
pwd="56b789c123d456e789f" />
		<Identification>
			<TransactionID>MerchantAssignedID</TransactionID>
		</Identification>
		<Payment code="DD.DB">
			<Presentation>
				<Amount>1.00</Amount>
				<Currency>EUR</Currency>
				<Usage>Order Number 1234</Usage>
			</Presentation>
		</Payment>
		<Account>
			<Holder>Joe Doe</Holder>
			<Number>618495000</Number>
			<Bank>70070024</Bank>
			<Country>DE</Country>
		</Account>
		<Customer>
			<Name>
				<Given>Joe</Given>
				<Family>Doe</Family>
			</Name>
			<Address>
				<Street>Leopoldstr. 1</Street>
				<Zip>80798</Zip>
				<City>München</City>
				<State>BY</State>
				<Country>DE</Country>
			</Address>
			<Contact>
				<Email>info@provider.com</Email>
				<Ip>123.123.123.123</Ip>
			</Contact>
		</Customer>
	</Transaction>
</Request>
```

2.5 Response Sample

The XML response repeats some information of the request and adds additional tags to it. The most important additions are the UniqueID, ShortID and the Processing group.

```
<?xml version="1.0" encoding="UTF-8"?>
<Response version="1.0">
	<Transaction mode="LIVE" response="SYNC"
		channel="678a456b789c123d456e789f012g432">
		<Identification>
			<TransactionID>MerchantAssignedID</TransactionID>
			<UniqueID>h987i654j321k098l765m432n210o987
```

```
                    </UniqueID>
                    <ShortID>1234.5678.9876</ShortID>
              </Identification>
              <Processing code="90.00">
                    <Timestamp>2003-02-12 14:58:07</Timestamp>
                    <Result>ACK</Result>
                    <Status code="90">NEW</Status>
                    <Reason code="00">Successful Processing</Reason>
                    <Return code=„000.000.000“>Transaction
succeeded</Return>
              </Processing>
              <Payment code="DD.DB">
                    <Clearing>
                          <Amount>1.00</Amount>
                          <Currency>EUR</Currency>
                          <Descriptor>shop.de 1234.1234.1234 +49 (89)
12345 678 Order
                                Number 1234</Descriptor>
                          <Date>2003-02-13</Date>
                          <Support>+49 (89) 1234 567</Support>
                    </Clearing>
              </Payment>
        </Transaction>
</Response>
```

2.6 Methods and Types

Payment Methods and Types are the most central elements of a request, because they determine the behavior and the mandatory elements of the request.

In order to build or parse a specific method or type code, there is an easy scheme for all occurrences. All type codes come from the same general set of codes and are totally polymorphic. That means e.g. that the payment code for a direct debit (DD) transaction of type refund (RF):

```
<Payment code="DD.RF">
```

is the same for a credit card (CC) transaction of type refund (RF), except the preceding method code:

```
<Payment code="CC.RF">
```

The complete set of method codes is listed below. If you would like to know more about a specific payment or risk management method please refer to the respective business whitepaper.

Method	Code	Description
Bank Transfer Methods		
Direct Debit	DD	The merchant collects money from the end customer account. This requires generally the approval of the end customer in any form
Credit Transfer	CT	The merchant transfers money to the bank account of the customer or to any other bank account. This method is mainly used for payout or cash management purposes.
Prepayment	PP	The end customer gets all the necessary credit transfer details and transfers money to the bank account of the merchant. The incoming money is matched and subsequently the goods or services are delivered to the end customer.
Invoice	IV	Similar to Prepayment but with the difference that the goods or

		services are delivered to the end customer before the money receipt. This is common in the B2B sector
Card Payment Methods		
Credit Card	CC	The credit card of the end customer is debited with the payment amount. In regular intervals the end customer receives an invoice from the issuing institute of the credit card.
Debit Card	DC	The debit card of the end customer is debited with the payment amount. The customer must have deposited money on his debit card or his bank account before the transaction is authorized.
Online Payment Methods		
Wallet Payment	VA	The micro payment account of the end customer is debited with the payment amount. Common wallet providers are e.g. paypal, Firstgate or T-pay.
Online Payment Methods		
Online Transfer	OT	The end customer performs an online credit transfer with the homebanking interface of his bank. The merchant receives an acknowledge as soon as the authorisation of the credit transfer was successful. Examples are IDEAL(NL), Giropay(DE) or EPS(AT)
Other Methods		
User Account	UA	A registered user in the system. Typically a Virtual Account and other payment methods will be attached to it.
Virtual Account	VA	The end customer credits a virtual account within the merchant shop and sequentially debits this account. The account can be credited with all above payment methods and is generally debited with micro payment amounts.
Risk Management	RM	If certain Risk Management checks should be performed without any relation to a real payment process, the prefix RM can be used.
Collection	CL	In case of chargebacks a disputed transaction can be forwarded to a collection institute.

All payment methods use a subset of 8 available payment types. The naming of the standard payment types always references to the account of the end customer. In order to understand the available payment types it is useful to have a look at the resulting cash flow on the merchant account, which is generated by these payment types:

Merchant Account	
Debit	**Credit**
Credit (CD)	Debit (DB)
Refund (RF)	Rebill (RB)
Chargeback (CB)	Receipt (RC)
Cashflow neutral	
Preauthorisation (PA)	
Reversal (RV)	
Reconciliation (RL)	

A detailed description of the behavior of these payment types plus all recurring and risk management types can be found in the below table:

Type	Code	Description
Payment Types		

Preauthorization	PA	Performs all risk management validations and stores the complete payment processing data for later retrieval. For credit card transactions the payment amount is additionally reserved on the credit card of the end customer (in case the underlying acquirer supports this functionality). A following Capture (CP) or Credit (CD) with reference to the Preauthorisation (PA) will trigger the actual booking.
Debit	DB	Debits the account of the end customer and credits the virtual account of the merchant.
Capture	CP	Captures a prior preauthorized (PA) amount.
Credit	CD	Credits the account of the end customer and debits the virtual account of the merchant.
Reversal	RV	Reverses an already processed Debit (DB) or Credit (CD) transaction. As consequence the end customer will never see any booking on his statement. A Reversal is just possible until a connector specific cut-off time. Some connectors don"t support Reversals.
Refund	RF	Credits the account of the end customer with a reference to a prior Debit (DB) or Credit (CD) transaction. This can be done in order to refund an already processed Debit transaction or credit again an already processed Credit transaction. The end customer will always see two bookings on his statement. A Refund is always possible and is supported by all connectors.
Rebill	RB	Debits the account of the end customer with a reference to a prior Debit (DB) transaction. This is normally used to rebill an already processed Debit (DB) transaction in case of a chargeback or to add additional products to an already processed order.
Chargeback	CB	A negative booking on the merchant account, which is generally triggered by a return of a Debit (DB) or Rebill (RB) transaction by the end customer/bank.
Receipt	RC	A positive booking on the merchant account, which is generally triggered by a return of a Credit (CD) or Refund (RF) transaction by the bank or by a credit transfer of an end customer to the merchant"s bank account. This kind of receipt is used especially in conjunction with prepayment or invoice transactions.
Reconciliation	RL	In order to verify that a Credit (CD), Debit (DB), Refund (RF) or Rebill (RB) transaction was really booked to the bank account or correctly processed to the acquirer the system automatically generates Reconciliation (RL) transactions whenever it can determine the success of the standard types by parsing special back channel files. Reconciliation is an optional feature, which can be activated to ensure total consistency. Please consult your sales contact, if you would like to apply this functionality.
Registration Types		
Registration	RG	Initial registration of an account and/or customer. Later Debit (DB) or Credit (CD) transactions can always reference to a valid registration. Through this process no sensible end customer account information has to be stored within the merchant system. A registration can optionally also contain recurring rules in order to generate future Debit (DB) or Credit (CD) transactions automatically. For some countries a PDF mandate is produced as part of the direct debit registration process.
Reregistration	RR	If the registration data of an account or customer is changing, a reregistration of this data can be performed.
Deregistration	DR	In order to deactivate a prior registration, a deregistration transaction can be submitted to the system. All following Debit (DB) or Credit (CD) transactions which reference to the registration will be rejected as soon as the deregistration has been acknowledged.

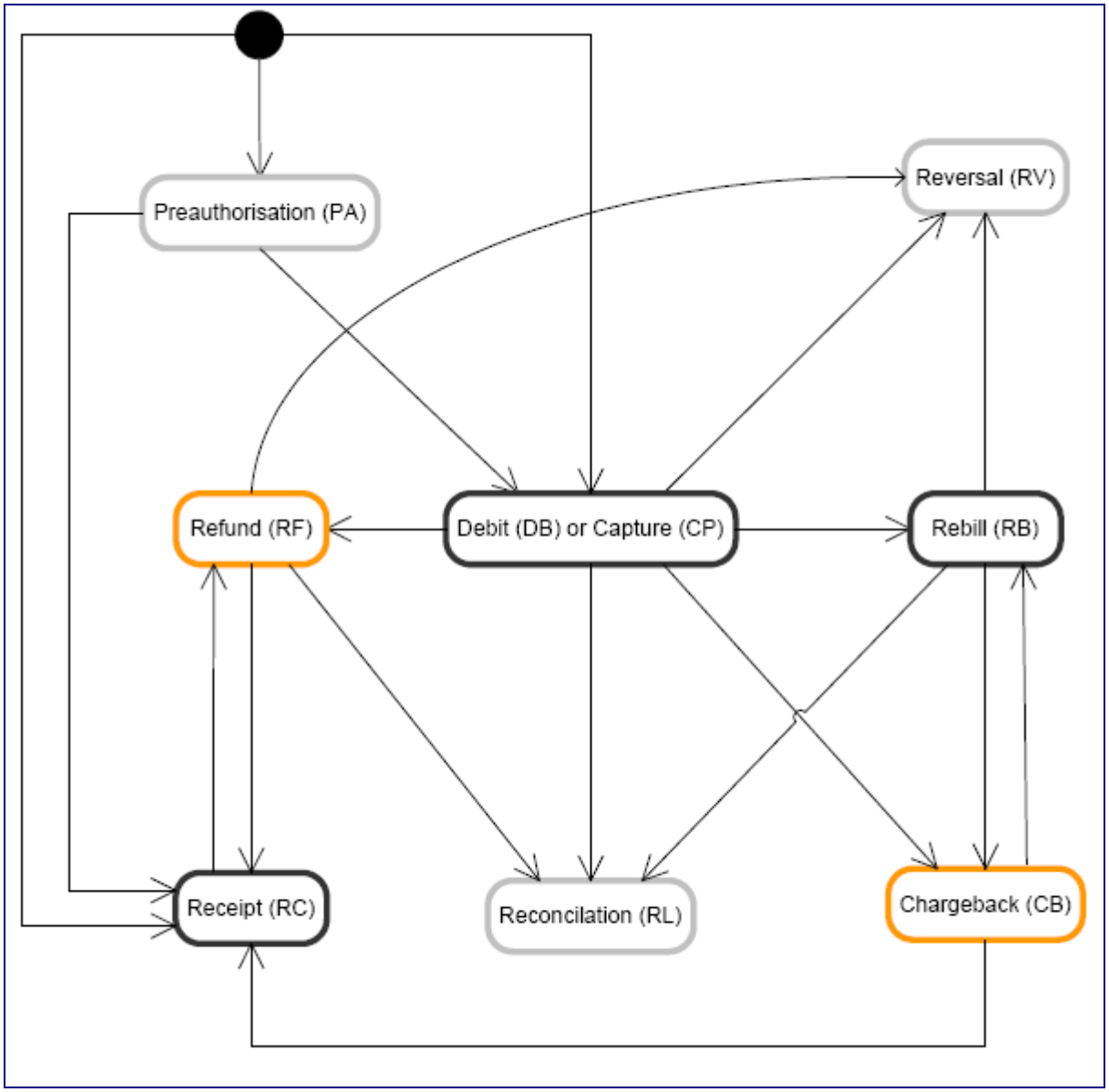
Confirmation	CF	If the registration is used for the automatic creation of PDF direct debit mandates, the receipt of an undersigned copy of such a mandate „confirms“ the registration. This Confirmation (CF) transaction is either generated automatically by the system of by a manual entry process.
Scheduling Types		
	SD	Schedules upcoming payment transactions of the same type and amount. Generally one ore more SD transactions are used to define a subscription pattern. The exact execution parameters and cancellation notice restrictions are given within the Job tag group.
Reschedule	RS	Reschedules a prior scheduled job while the job is already running. Generally used to change the execution or cancellation notice parameters of a specific subscription.
Deschedule	DS	Cancels a running job. The cancellation notice does first take effect after the period defined within the Notice tag has elapsed.

2.7 Type Logic

The type logic defines which types follow on each other and is the key instrument to model the various business processes into the payment platform.

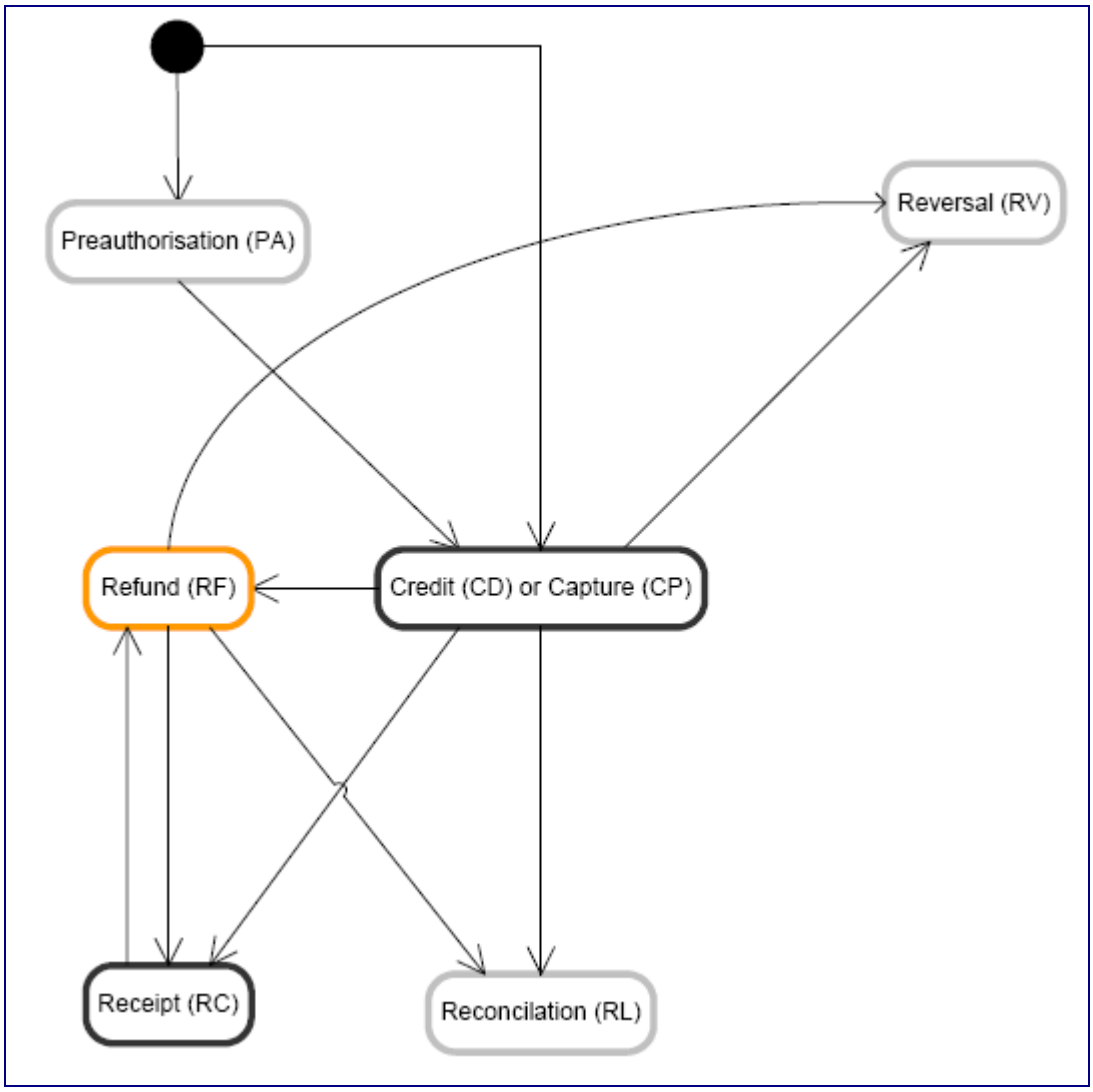
There are two primary activities: the Debit logic and the Credit logic, dependent whether the end customer account is initially debited or credited.

2.8 Debit Logic



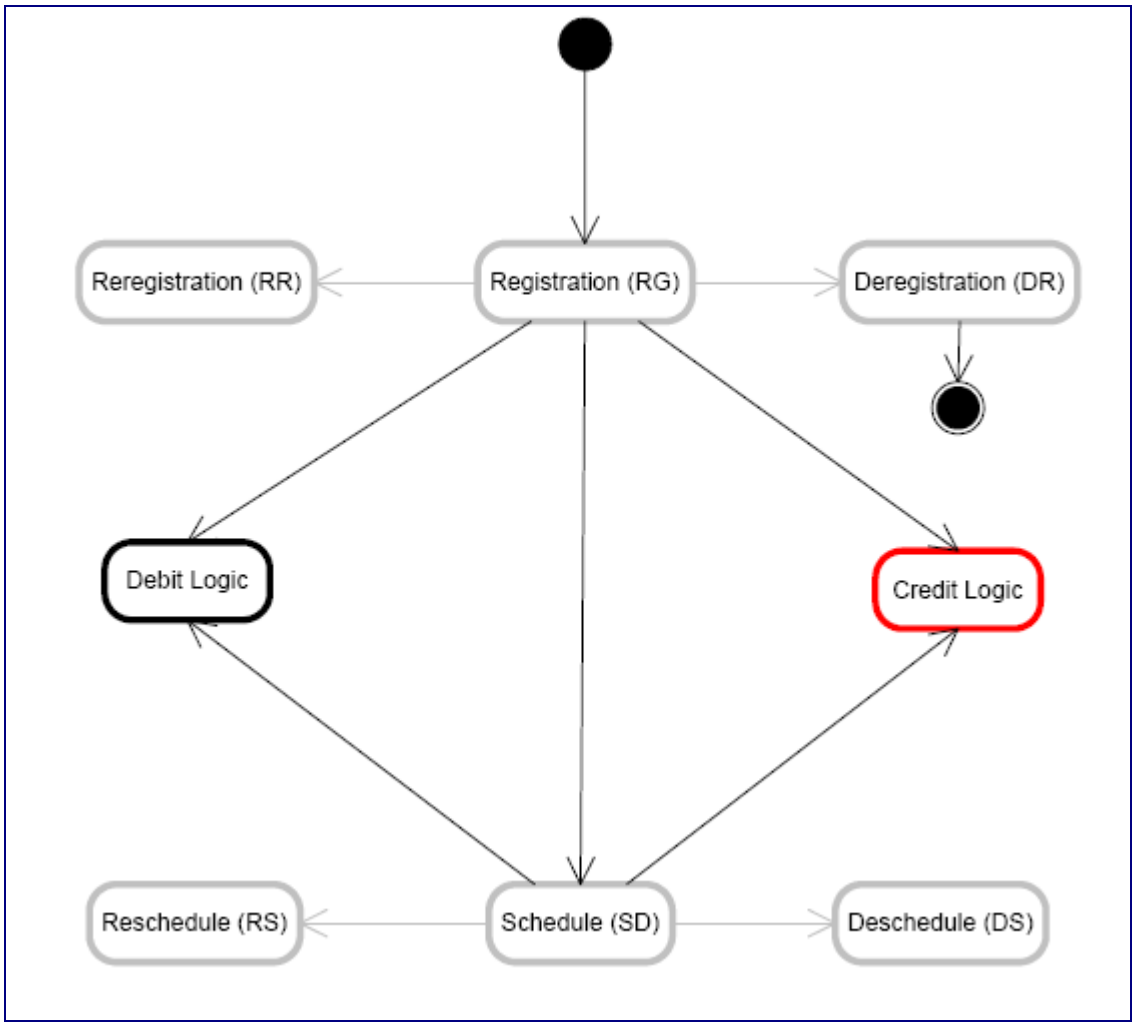
The credit logic is a little bit simpler since no Rebill (RB) or Chargeback (CB) transactions can occur.

2.8.1 Credit Logic



If payments are executed in a repeated manner the recurrence logic applies. All customer and account data of recurrent transactions has to be registered (RG) initially to be available for later credit or debit logic transactions. Generally recurrent transactions can be either triggered individually in order to have exact control over time and amount of the transactions or can be scheduled (SD) automatically to generate transactions after certain execution and cancellation notice rules.

2.8.2 Recurrence Logic



2.9 Statuses and Reasons

All status codes are listed below:

Status	Code
NEW	90
WAITING	80
REJECTED_VALIDATION	70
REJECTED_RISK	65
REJECTED_BANK	60
NEUTRAL	40
SUCCESS	00

The combination of status and reason code is always unique and is generally used for more than one payment or risk management type.

2.10 Header

The header group of the XML file holds transmission and security related information.

```
<Header>
	<Security sender="123a456b789c123d456e789f012g345"/>
</Header>
```

Value for sender	Description
Alphanumeric 32	Each Server which sends requests to the system has an own sender unique ID. The sender UID is no logical business orientated subdivision like the channel ID, but refers to physical installations of software. Please provide here the value you have received from the customer support department.

2.11 Transactions

A request or response message can contain one or more „Transaction" tags. The Transaction tag and its nested sub tags contain all information required to process a transaction.

```
<Transaction mode="LIVE"
	response="SYNC"
	channel="678a456b789c123d456e789f012g432"/>
```

The Transaction tag has three attributes which determine the processing of the transaction.

Value for mode	Description
INTEGRATOR_TEST	Transaction is just send to the Integrator and not to the Validator (Risk Management) or Connector modules. Used to test compliance against the Integrator module.
CONNECTOR_TEST	Transaction enters the Integrator module, accesses the Validator modules (Risk Management) and then goes to the Connector. The Connector operates in test mode.
LIVE	Transaction enters the Integrator module, accesses the Validator modules (Risk Management) and then goes to the Connector. The Connector operates in live mode.

Value for response	Description
SYNC	Transaction is processed in the synchronous mode, which means the client will get in the direct response the result of the processing.
ASYNC	Transaction is processed in the asynchronous mode. Typical examples are asynchronous processes like 3DSecure or Online Bank Transfer. The direct response will just acknowledge the receipt of the transaction. The result of the processing is delivered back as indirect response over another asynchronous communication channel like a SFTP repository or a POST call back method.

Value for Channel	Description
Alphanumeric 32	The channel ID is a unique key for the identification of the unit which sends transactions into the system. Every merchant can have multiple

	channels for different purposes. Possible division criteria are for example different shops, organizational units, customer groups or countries. The channel ID doesn“t refer to physical installations of the software like the sender ID but is a logical business orientated subdivision. Different channels help to analyze the entirety of transactions and to provide different system configurations for a non-uniform transaction base. The channel IDs are assigned by the account management

2.12 User Group

Especially for manually triggered transactions like all Virtual Terminal transactions, Reversal or Refund transactions it is important to track which user has issued the transaction. For all automated requests a default system user is assigned for every merchant:

```
<User login="421a456b789c123d456e789f012g098" pwd="56b789c123d456e789f"/>
```

Each user has to provide a login and password. In Virtual Terminal requests the short name for the login UID is automatically retrieved (like „lastname“).

Value for login	Description
Alphanumeric 32	The login is a unique ID for each human or system user. Each merchant or payment service provider can have several logins for system users and human users. It is not recommended to share one login between several human users.

Value for pwd	Description
	A password which fits the login UID has to be provided. It is distributed together with the login UID.

2.13 Identification Group

The identification group contains all IDs which are used for the identification of the transaction:

- Transaction ID
- Reference ID
- Unique ID
- Short ID
- Shopper ID
- Invoice ID

In the request the merchant can provide a Transaction ID for own matching purposes. For transaction types which require a reference to a former transaction (Capture, Reversal, Refund, Reregistration, Deregistraiton, Reschedule) a Reference ID has to be provided. The Shopper ID is used to group transactions of a certain shopper.

Request:

```
<Identification>
      <TransactionID>MerchantAssignedID</TransactionID>
      <ReferenceID>m123n456o789p876q543r210s123t456
      </ReferenceID>
      <ShopperID>customerid123456</ShopperID>
      <InvoiceID>2009010023</InvoiceID>
</Identification>
```

While processing the system generates a universal unique ID. This Unique ID must be used for all automated matching and search purposes. The Reference ID is the Unique ID of the referenced transaction. To provide an ID which is shorter and easy to enter manually, the Short ID is provided. The Short ID is used for the descriptor of the transaction and to search manually for transactions in the business intelligence platform. The Short ID doesn't guarantee universal uniqueness, however the probability for non-uniqueness (especially in the context it appears) is very low.

Response:

```
<Identification>
      <TransactionID>MerchantAssignedID</TransactionID>
      <UniqueID>h987i654j321k098l765m432n210o987
      </UniqueID>
      <ShortID>1234.5678.9876</ShortID>
      <ReferenceID>m123n456o789p876q543r210s123t456
      </ReferenceID>
      <ShopperID>customerid123456</ShopperID>
      <InvoiceID>2009010023</InvoiceID>
</Identification>
```

Tag of identification	Data type	Length	Mandatory ?	Description
UniqueID	Alphanumeric	32	Part of the Response, not part of the Request	Only ID where the uniqueness within the system is absolutely guaranteed. Has to be used for all automated matching and reference purposes.
ShortID	Numeric / Dots	14	Part of the Response, not part of the Request	ID which is used for manual entry and search purposes. The likelihood for uniqueness is very high, but not guaranteed.
TransactionID	Alphanumeric	0..256	Optional	Id assigned by the merchant. Uniqueness in the system or even just within the channel is not checked.
InvoiceID	Alphanumeric	0..256	Optional	Id assigned by the merchant to assign it to a certain invoice. Typically this invoice id is the id the merchant also communicates to the shopper for a certain invoice.
ShopperID	Alphanumeric	0..256	Optional	Id assigned by the merchant to

				assign it to a certain shopper. Typically the user id or customer id of the shopper within the merchant"s shop is sent in here. It can be used to search for all transactions of one shopper in the analysis backend tool.
ReferenceID	Alphanumeric	32	Cond. Mand.	References to the Unique ID of another transaction. Only needed for the submission of following transaction types: Capture, Reversal and Refund. Chargeback and Deposit transactions contain the Reference ID in the response message.

2.14 Payment Group

The Payment group determines which payment method and type to use and provides all monetary payment details of the transaction. Furthermore it contains the description of the transaction by means of the usage and descriptor tags.

```
<Payment code="DD.DB">
...
</Payment>
```

If you want to use certain payment methods, please ensure that the applied Channel ID has been activated for these methods by the account management.

Depending on the chosen payment method, there are specific types available:

	Bank transfer				Card payment		Online		Other	
	DD	CT	PP	IV	CC	DC	MP	OT	VA	RM
Payment types										
Preauthorization (PA)	x	x	x	x	x	x	x	x	x	x
Debit (DB)	x				x	x	x	x	x	
Credit (CD)		x					x		x	
Reversal (RV)	x	x			x	x			x	
Refund (RF)	x	x	x	x	x	x	x	x		
Rebill (RB)	x				(x)	(x)				
Chargeback (CB)	x				x			x		
Receipt (RC)	x	x	x	x			x	x		
Registration Types										
Registration (RG)	x	x	x	x	x	x		x	x	
Confirmation (CF)	x									
Reregistration (RR)	x	x	x	x	x	x		x	x	
Deregistration (DR)	x	x	x	x	x	x		x	x	

In the request the Payment group has to include the Presentation tag, while the response gives back the Clearing tag. The Clearing tag contains all data as the end customer obtains it on his credit card or bank statement.

Request:

```
<Payment code="DD.DB">
      <Presentation>
            <Amount>1.00</Amount>
            <Currency>EUR</Currency>
            <Usage>Order Number 1234</Usage>
      </Presentation>
</Payment>
```

Response:

```
<Payment code="DD.DB">
      <Clearing>
            <Amount>0.50</Amount>
            <Currency>GBP</Currency>
            <Descriptor>shop.de 1234.5678.9876 +49 (89) 1234 567
Order
                  Number 1234</Descriptor>
            <FxRate>0.500000</FxRate>
            <FxSource>FTX</FxSource>
            <FxDate>2003-02-12</FxDate>
      </Clearing>
</Payment>
```

All tags within the Presentation tag are mandatory:

Tag of presentation	Data type	Length	Mandatory ?	Description
Amount	#0.00	1..10,2	Mand.	Presentation Amount in currency of the Currency tag. The dot is used as decimal separator.
Currency	Alpha	3	Mand.	Currency code according to the ISO 4217 specification plus the currency "PTS" for Points (e.g. used for loyalty programs).
Usage	Alphanumeric	0..128	Mand.	Provides the dynamic part of the descriptor, which appears on the end customer"s statement. Enables the end customer to associate the transaction on the statement to the online transaction.

The BankName tag just appears for direct debit or credit transfer transactions in countries where the name of the clearing bank can be retrieved. The Fx ... tags within the Clearing tag are just given if a currency conversion had to take place.

Tag of clearing	Data type	Length	Mandatory ?	Description
Amount	#0.00	1..10,2	Mand.	Settlement amount on the end customer"s account in currency of the Currency tag. The dot is used as decimal separator.
Currency	Alpha	3	Mand.	Currency code according to the ISO 4217

				specification plus the currency "PTS" for Points (e.g. used for loyalty programs).
Descriptor	Alphanumeric	14..256	Mand.	Appears on the statement of the end customer. The Descriptor is a concatenation of the Short ID, system defined text and the Usage tag. Enables the end customer to associate the transaction on the statement with the online transaction.
FxRate	#0.000000	1..6,6	Cond. Mand.	If the currency provided in presentation tag is not equal to the currency of the end customer"s account, Direct Debit and Credit Transfer transactions have to be converted. The applied Foreign Exchange Rate is shown with a precision of 6 decimal places after the dot.
FxSource	Alphanumeric	0..256	Cond. Mand.	The Source of the applied Foreign Exchange Rate.
FxDate	Date	10	Cond. Mand.	The applied rates are fixed rates of the applied Foreign Exchange Source for a certain date.
	#0.00	1..10,2	Optional	Returns the remaining balance on the account. This field is only set for accounts (e.g. loyalty cards) that support this feature.

Please note that in case of a chargeback the presentation amount is the amount given by the bank and not by the merchant.

2.15 Recurrence Group (Manual Recurrence)

Recurring transactions are flagged with the <Recurrence> tag.

For initial transaction (containing CVV code) send the following XML tag:

```
<Recurrence mode="INITIAL"/>
```

All recurring transactions (without a CVV code) are sent with this tag:

```
<Recurrence mode="REPEATED"/>
```

Tag and attributes	Data type	Length	Mandatory ?	Description
@mode	Alphanumeric	0..64	Mandatory	One of "NONE", "INITIAL" or "REPEATED"

This tag will only take affect if the used Merchant Account is supporting recurring transaction and is configured for recurring transactions in the BIP.

Please check with your account manager if the used acquirer is supporting recurring transactions!

2.16 Job Group (Automatic Recurrence)

The scheduling logic is generally used for payments which are executed in a repeated manner like subscriptions or regular payouts. See chapter 7 Scheduling Types (Automatic Recurrence) for an

overview of typical Scheduling requests and responses. The document "Recurrence Scenarios" shows real life examples and usages of recurrences and subscriptions.
The Job group contains all essential details which describe the contractual parameters between merchant and customer.
In other words if the amount given within the Presentation tag ought to be cleared several times, the Schedule (SD) type should be put inside the payment code attribute.

```
<Payment code="CC.SD">
```

In this case a job is scheduled which automatically generates recurrent transactions with the data provided within the Payment tag. The execution and cancellation notice rules are given within the Job tag.
The following example describes a Job group which can be used for a 3 months subscription, whereof on every 13th of a month a Debit (DB) transaction with the presentation amount and usage is triggered. The cancellation notice is 3 days until the end of the subscription period. If no cancellation has taken place, the subscription period restarts for another 3 months.

```
<Payment code="DD.SD">
      <Presentation>
            <Amount>19.90</Amount>
            <Currency>EUR</Currency>
            <Usage>Standard Subscription</Usage>
      </Presentation>
</Payment>
<Job name="Standard Monthly Subscripton">
      <Action type="DB" />
      <Execution>
            <DayOfMonth>13</DayOfMonth>
            <Month>*</Month>
      </Execution>
      <Notice>
            <Number>3</Number>
            <Unit>DAY</Unit>
      </Notice>
      <Duration>
            <Number>3</Number>
            <Unit>MONTH</Unit>
      </Duration>
</Job>
<Account registration="678a456b789c123d456e789f012g432" />
```

If a customer wants to cancel the scheduled recurring process, a transaction of type Deschedule (DS) has to be triggered, which stops the contractually defined recurring process at the next possible cancellation point. Please refer to chapter 7 „Scheduling" and the document "Recurring Scenarios" for more details.

If a recurrence scenario contains transactions with different payment amounts or generally spoken different contents of the Payment tag group, several Schedule transactions can be chained which allows modeling very advanced recurrence scenarios.

Please refer to the document „Recurrence Scenarios" to get numerous recurrence examples and how to model them with the provided framework.

Some external providers (e.g. PayPal or T-Pay) also support scheduling mechanisms. Please check the document "Asynchronous Workflows" for more details.

The following is a list of possible entries:

Tag and attributes	Data type	Length	Mandatory ?	Description
Job/@name	Alphanumeric	0..64	Mandatory	Name of the Job. Used for identification purposes within the

				Business Intelligence Platform.
Job/@start	Timestamp	19	Optional	The request timestamp of the transaction is the default starting point of the recurring period. If a later starting point is desired a different timestamp can be provided within the start attribute. The start attribute must be before the first desired execution time! ATTENTION: If you provide a start date in the past the job might fire (only ONCE) immediately depending on your <Execution> settings.
Job/@end	Timestamp	19	Optional	Timestamp which indicates the absolute end of the job. If no end attribute is provided the Job automatically restarts after the end of the period defined within the Duration tag. If no automatic prolongation is desired the end attribute should be equal to the timestamp after the subscription duration.
Action/@type	PA, DB, CD	2	Mandatory	Defines the type of the action which is executed periodically by the job. If the payment code of the scheduled transactions should be e.g. CC.DB, the payment code of the Scheduling transaction has to be CC.SD and the type attribute of the Action tag „DB“.
Execution/Second	0-59 , - * /	1..64	Optional	The default value is „0“. Please see below for an explanation of the quoted special characters.
Execution/Minute	0-59 , - * /	1..64	Optional	The default value is „0“
Execution/Hour	0-23 , - * /	1..64	Optional	The default value is „0“
Execution/ DayOfMonth	1-31 , - * ? / L W C	1..64	Optional	The default value is „1“. Be aware to use L instead of 29, 30 or 31 if you want to fire every month (not every month has 31 days)
Execution/Month	1-12 or JAN-DEC , - * /	1..64	Optional	The default value is „1“
Execution/ DayOfWeek	1-7 or SUN-SAT , - * ? / L C #	1..64	Optional	The default value is „1“
Execution/Year	empty, 1970-2099 , - * /	1..64	Optional	The default value is „*“
Execution/ Expression	Alphanumeric	1..256	Optional	All above values can optionally also be given as a Cron-Expression. A Cron-Expression is a string comprised of the 7 above fields, while the Year field can be left out. All fields are separated by white space. Below

				examples are given as Cron-Expression.
Duration/Number	Alpha	1..16	Optional	The duration of the job period. As soon as the job period is elapsed and no cancellation has taken place or end attribute does take effect, the job is restarted.
Duration/Unit	HOUR, DAY, WEEK, MONTH, YEAR		Optional	The job period can be defined within different units.
Notice/Callable	ANYTIME, DURATION_END		Optional	Defines the reference point for the cancellation notice. Either the notice period references to the end of the duration or the notice is callable anytime (this is the default). If the duration is DURATON_END, Duration Number and Unit must be specified.
Notice/Number	Alpha	1..16	Optional	The Notice group defines how much time in advance a cancellation notice has to be given in order to avoid a prolongation of the job period.
Notice/Unit	HOUR, DAY, WEEK, MONTH, YEAR		Optional	Unit within the notice period is defined.

Character	Description
*	is used to specify all values. For example, "*" in the minute field means "every minute".
?	is allowed for the day-of-month and day-of-week fields. It is used to specify 'no specific value'. This is useful when you need to specify something in one of the two fields, but not the other. See the examples below for clarification.
-	is used to specify ranges For example "10-12" in the hour field means "the hours 10, 11 and 12".
,	is used to specify additional values. For example "MON,WED,FRI" in the day-of-week field means "the days Monday, Wednesday, and Friday".
/	is used to specify increments. For example "0/15" in the seconds field means "the seconds 0, 15, 30, and 45". And "5/15" in the second field means "the seconds 5, 20, 35, and 50". You can also specify '/' after the '*' character - in this case '*' is equivalent to having '0' before the '/'.
L	is allowed for the day-of-month and day-of-week fields. This character is short-hand for "last", but it has different meaning in each of the two fields. For example, the value "L" in the day-of-month field means "the last day of the month" - day 31 for January, day 28 for February on non-leap years. If used in the day-of-week field by itself, it simply means "7" or "SAT". But if used in the day-of-week field after another value, it means "the last xxx day of the month" - for example "6L" means "the last Friday of the month". When using the 'L' option, it is important not to specify lists, or ranges of values, as you'll get confusing results.
W	is allowed for the day-of-month field. This character is used to specify the weekday (Monday-Friday) nearest the given day. As an example, if you were to specify "15W" as the value for the day-of-month field, the meaning is: "the

	nearest weekday to the 15th of the month". So if the 15th is a Saturday, the trigger will fire on Friday the 14th. If the 15th is a Sunday, the trigger will fire on Monday the 16th. If the 15th is a Tuesday, then it will fire on Tuesday the 15th. However if you specify "1W" as the value for day-of-month, and the 1st is a Saturday, the trigger will fire on Monday the 3rd, as it will not 'jump' over the boundary of a month's days. The 'W' character can only be specified when the day-of-month is a single day, not a range or list of days.
LW	The 'L' and 'W' characters can also be combined for the day-of-month expression to yield 'LW', which translates to "last weekday of the month".
#	is allowed for the day-of-week field. This character is used to specify "the nth" XXX day of the month. For example, the value of "6#3" in the day-of-week field means the third Friday of the month (day 6 = Friday and "#3" = the 3rd one in the month). Other examples: "2#1" = the first Monday of the month and "4#5" = the fifth Wednesday of the month. Note that if you specify "#5" and there are not 5 of the given day-of-week in the month, then no firing will occur that month.
C	is allowed for the day-of-month and day-of-week fields. This character is short-hand for "calendar". This means values are calculated against the associated calendar, if any. If no calendar is associated, then it is equivalent to having an all-inclusive calendar. A value of "5C" in the day-of-month field means "the first day included by the calendar on or after the 5th". A value of "1C" in the day-of-week field means "the first day included by the calendar on or after Sunday".

Below are some full examples in Cron-Expression form:

Expression	Meaning
0 0 12 * * ?	Fire at 12pm (noon) every day
0 44 14 ? 3 WED	Fire at 2:44pm every Wednesday in the month of March
0 15 10 15 * ?	Fire at 10:15am on the 15th day of every month
0 15 10 L * ?	Fire at 10:15am on the last day of every month
0 15 10 ? * 6L	Fire at 10:15am on the last Friday of every month
0 15 10 ? * 6#3	Fire at 10:15am on the third Friday of every month

If you want to know more about the scheduling framework and about the usage of the Cron expressions in the Execution tag, please refer to http://www.opensymphony.com/quartz/wikidocs/TutorialLesson6.html

2.17 Account Group

The Account group holds all information regarding a credit card, wallet or bank account. Many tags depend on the chosen payment method.

The credit card account tag looks like this:

```
<Account>
      <Holder>Joe Doe</Holder>
      <Number>1234 1234 1234 1234</Number>
      <Brand>VISA</Brand>
      <Expiry month="09" year="2005"></Expiry>
      <Verification>123</Verification>
</Account>
```

An example for a direct debit account tag group is shown here:

```
<Account>
      <Holder>Joe Doe</Holder>
      <Number>618495000</Number>
      <Bank>70070024</Bank>
      <Country>DE</Country>
</Account>

and a User Account account tag looks like this:
<Account>
      <Id>joe.doe@mailserver.net</Id>
      <Brand>TESTPAY_WALLET</Brand>
      <Password>1234abcd</Password>
</Account>
```

For a complete list of all possible values and more specific length restrictions see the later chapters about the different payment methods:

Tag of account	Data type	Length	Mandatory ?	Description
Holder	Alpha	4..128	Cond. Mand.	Holder of the credit card or bank account. If it can be assumed that end customer is the holder of the account this field can be concatenated from the given and family name of the Name tags.
Number	Alphanumeric	3..64	Cond. Mand.	Number of the credit card or domestic bank account. Includes also possible check digits.
Id	Alphanumeric	3..128	Cond. Mand.	Typically emails address uniquely identifying a User Account.
Password	Alphanumeric	8...32	Cond. Mand.	The password for the Id. Only used for User Accounts.
Brand	Alpha	3..10	Cond. Mand.	Name of the credit or debit card brand.
Expiry/@month	Numeric	2	Cond. Mand.	Expiration month of the used card.
Expiry/@year	Numeric	4	Cond. Mand.	Expiration year of the used card.
Start/@month	Numeric	2	Cond. Mand.	Start month of the used card, mandatory for Switch/Solo if printed on card
Start/@year	Numeric	4	Cond. Mand.	Start year of the used card, mandatory for Switch/Solo if printed on card
CardIssueNumber	Numeric	1..2	Cond. Mand.	Number of the issued card. Typically this is mandatory for Switch/Solo or MAESTRO processing and is printed on the front of these cards.
Verification	Numeric	3..4	Cond. Mand.	The verification number of the credit card (CVV2, CVC2, FDBC).
Bank	Alphanumeric	0..12	Cond. Mand.	The domestic code of the bank which holds the direct debit or credit transfer account.
BankName	Alphanumeric	0..50	Cond. Mand.	The bank name of the bank. Mandatory for Online Bank Transfer (OT) in Austria (EPS) and Netherlands (NL). See document "Asynchronous Workflows" for details.

Iban	Alphanumeric	15..28	Cond. Mand.	International Bank Account Number. Can be provided instead of the domestic Number tag if available.
Bic	Alphanumeric	8 or 11	Cond. Mand.	Bank Identifier Code (SWIFT). Can be provided instead of the domestic Bank tag if available.
Country	Alpha	2	Cond. Mand.	Country code according to the ISO 3166-1 specification.
Limit	#0.00	1..10,2	Cond. Mand.	Maximum preauthorization (PA), debit (DB) or credit (CD) amount for a single transaction on a specific account. Generally this tag is optional, yet certain direct debit schemes require the declaration of a limit (e.g. Norway).
Identification	Alphanumeric	1..16	Cond. Mand.	Certain direct debit processes require a custom identification number. Currently used for Norway, Belgium and Italy.
Balance	#0.00	1..10,2	Optional	The Balance of a Virtual Account. Only set in response messages to queries.
RegistrationUrl	Alphanumeric	10..256	Cond. Mand.	Especially used for paper based direct debit schemes in order to give the end customer a URL where he can to download the corresponding paper mandate, which he can fill in and sign. This parameter can only be found in response messages.

2.18 Customer Group

The customer group contains all customer specific information like name, address and contact details. The name and address tags are used basically for risk management purposes while the contact tag is important for collection, call back validations and transmission of the mandate templates for direct debit countries which require a written confirmation.

The customer tag is mandatory. If you do not have customer data available send in dummy data instead. Doing that – of course – means you cannot be configured to use any customer data related risk management methods.

The details tag contains very specific customer information, which is necessary for some advanced risk management checks or dedicated direct debit schemes (e.g. domiciliation bancaria in Spain).

```
<Customer>
      <Name>
            <Given>Joe</Given>
            <Family>Doe</Family>
            <Birthdate>1970-06-13</Birthdate>
            <Sex>F</Sex>
      </Name>
      <Address>
            <Street>Leopoldstr. 1</Street>
            <Zip>80798</Zip>
            <City>München</City>
            <State>BY</State>
            <Country>DE</Country>
      </Address>
      <Contact>
            <Email>info@provider.com</Email>
```

```
            <Ip>123.123.123.123</Ip>
        </Contact>
        <Details>
            <Identity paper="IDCARD">1234567890</Identity>
        </Details>
    </Customer>
```

Tag of Name	Data type	Length	Mandatory ?	Description
	Alpha	1..20	Optional	Salutation of the end customer.
Title	Alphanumeric	1..20	Optional	Title of the end customer.
Given	Alpha	2..40	Mandatory	Given name of the end customer.
Family	Alpha	2..40	Mandatory	Family name of the end customer.
Sex	Alpha	1	Optional	Sex of the shopper, „M“ for male or „F“ for female
Birthdate	Alphanumeric	10	Optional	Date in the format yyyy-MM-dd, e.g. 1970-09-12
Company	Alphanumeric	2..40	Optional	Company name of the end customer.

Tag of Address	Data type	Length	Mandatory ?	Description
Street	Alphanumeric	5..50	Mandatory	Street and house number of the end customer.
Zip	Alphanumeric	1..10	Mandatory	ZIP code of the city of the end customer.
City	Alpha	2..30	Mandatory	City where the end customer lives.
State	Alpha	2..8	Optional	State of the city of the end customer. Not required for many countries.
Country	Alpha	2	Mandatory	Country code according to the ISO 3166-1 specification.

Tag of Contact	Data type	Length	Mandatory ?	Description
Phone	Alphanumeric	8..64	Optional	Used for risk management and collection. Has to start with a digit or a '+', at least 7 and max 25 chars long
Mobile	Alphanumeric	10..64	Optional	Used for risk management and collection. Has to start with a digit or a '+', at least 7 and max 25 chars long
Email	Alphanumeric	6..128	Mandatory	Used for risk management, collection and transmission of direct debit mandates.
IP	000.000.000.000	15	Mandatory	IP number of end customer. Used for statistics and collection.

Element of Details	Data type	Length	Mandatory ?	Description
Identity/@paper	IDCARD PASSPORT	5..12	Cond. Mandatory	Type of identity paper

	TAXSTATEMENT			
Identity	Alphanumeric	8..64	Cond. Mandatory	Number of identity paper

2.19 Authentication Group

This tag group allows the merchant to send in any kind of Authentication information that authenticates the transaction itself like 3-D-Secure, SMS-identification and the like.

Currently this tag group is used to send in authentication information gathered from a Verified by Visa (VbV) or Mastercard Secure Code (MSC) request performed by a merchant himself.

See the document “Asynchronous Workflow” for more details about 3-D-Secure processes.

```
<Authentication type="3DSecure">
      <Parameter name="VERIFICATION_ID">AAACAgSRBklmQCFgMpEGAAAAAAA=
      </Parameter>
      <Parameter name="VERIFICATION_TYPE">2</Parameter>
      <Parameter name="XID">CAACCVVUlwCXUyhQNlSXAAAAAAA=
      </Parameter>
      <ResultIndicator>05</ResultIndicator>
</Authentication>
```

The Authentication group has one value to determine the type of Authentication.

Values for Type	Description
3DSecure	Use this value for the type if the authentication was a 3DSecure process.

Tag of Authentication	Data type	Length	Mandatory ?	Description
	Alphanumeric	1..128	Conditional	Contains the name and value of a parameter of the specified Authentication type
ResultIndicator	Alphanumeric	1..128	Optional	Contains the result of the Authentication process. For 3D-Secure this must be one of the following (ECI-Value): 01 = MASTER_3D_ATTEMPT 02 = MASTER_3D_SUCCESS 05 = VISA_3D_SUCCESS 06 = VISA_3D_ATTEMPT 07 = DEFAULT_E_COMMERCE

Values for Parameter name	Description
VERIFICATION_ID	Verification Id for the 3D-Secure authentication. This is the CAVV value for VISA or the UCAF value for Mastercard. Must be Base64 encoded.
VERIFICATION_TYPE	The Verification Type for the 3D-Secure authentication. Must be one of the following: 0 = HMAC 1 = CVV 2 = CVV_ATN 3 = MASTERCARD_SPA
XID	XID for Verified By Visa (VbV) or Mastercard Secure Code (MSC) transactions. Must be Base64 encoded.

2.20 Frontend Group

The Frontend group is used for two scenarios:

- for merchants that are (potentially) using any kind of asynchronous workflow like Online Bank Transfer, Verified By VISA or Mastercard Securecode.
- to specify a Response URL to be notified if the state of a Registration has been changed.

For any asynchronous workflow like Wallet payments (PayPal, Moneybookers, …)

This tag group is mandatory in the XML request message if the merchant is participating in one of the asynchronous processes available.

Please refer to the document "Asynchronous Workflow" for an explanation how these tags must be processed by the merchant to fulfill the workflow requirements of the asynchronous process.

```
<Frontend>
< ResponseUrl >https://myshop.com/payment/result.php</ResponseUrl>
<SessionID>89asdg89sdg98sfksdf8907</SessionID>
</Frontend>
```

Tags of Frontend	Data type	Length	Mandatory ?	Description
ResponseUrl	Alphanumeric, URL	255	Mandatory	The response URL of the merchant where the asynchronously generated result of the transaction is posted to. The ResponseUrl MUST use either port 443 (https) or port 80 (http). Other ports are not supported and will not work! In case of a Registration (RG) or Reregistration (RR) the response XML of the Confirmation (CF) is sent to this Url only if the RG was not confirmed immediately (refer to <ConfirmationStatus> in the tag group ProcessingResult)
SessionID	Alphanumeric	255	Mandatory	The session id of the merchant"s shop. This session id will be passed back to the merchant as part of the asynchronously generated result of the transaction at the end of the workflow (asynchronous xml response). Can be useful at the end of the payment process to reload the correct session for the end user.

2.21 Analysis Group

The Analysis group gives the freedom to add additional customized attributes to the transaction, which are not available by the standard set of XML tags.

With the help of these freely definable „Criteria" a customized statistics and analysis can be performed on the base of the transactions which have these tags included.

Possible examples are the turnover of different affiliates, age groups or any other imaginable value or subdivision which should be available in the analysis front end later.

```
<Analysis>
      <Criterion name="affiliate">ExternalShopXY</Criterion>
      <Criterion name="age">30-40</Criterion>
      <Criterion name="known">yes</Criterion>
      <Criterion name="customerid">1234567</Criterion>
</Analysis>
```

The Analysis group has a purely statistical and informative value and should not be confused with the Channel ID. The Channel ID is the central reference for all kinds of configuration information of the payment process as well as for the pricing and billing process.

Also the Channel ID can exclusively be assigned by the customer support department, while the different Criteria can be defined dynamically by the merchant, without any consultation of the payment service provider.

Tag of Analysis	Data type	Length	Mandatory ?	Description
Criterion	Alphanumeric	0..1024	Optional	Freely definable value for a specific criterion. The value can be entered in the web front end to retrieve all transactions with this criterion value. If several differently named criteria have the same values, also the name of the criteria must be provided in the web front end in order to retrieve the right transactions (see below).

Value for name	Description
Alphanumeric 1..32	Freely definable name for a specific criterion. The same name must be entered in the web front end to retrieve all transactions which have this criterion.

Note: If you add Analysis information to a Schedule (SD) Transaction, the fired Transactions also contain this Analysis tag group.

Criterions are also used for special features of payment methods like PayPal or Moneybookers. See the document “Asynchronous Workflows” for details.

2.22 Processing Group

The processing group contains a summary of the result of the complete processing. The structure of the status and reason codes is hierarchical while the return code is an independent, internal value which is used for very specific return messages. Any merchant side matching should be performed on the processing code or status and reason codes.

```
<Processing code="DD.DB.90.00">
      <Timestamp>2003-02-12 14:58:07</Timestamp>
      <Result>ACK</Result>
      <Status code="90">NEW</Status>
      <Reason code="00">Successful Processing</Reason>
      <Return code="000.000.000">Transaction succeeded</Return>
      <Risk score="-20"></Risk>
</Processing>
```

The result derives from the status of the transaction, which means that a transaction which has the status REJECTED or FAILED has the result NOK, while all other statuses result in an ACK. For each status there are one or several reasons.

Please refer to the appendices for a complete list of all status and reason codes.

Tag of Processing	Data type	Length	Mandatory ?	Description
Timestamp	Timestamp	19	Mandatory	Date and time when the transaction was processed.
Result	ACK, NOK	3	Mandatory	In the case of the status REJECTED or FAILED the result is NOK (Not OK). In all other cases the result is ACK (Acknowledge).
Status	Alphanumeric	0..16	Mandatory	Status message which belongs to the Status code (e.g. NEW, REJECTED …). Please use the code and not the message for matching purposes.
Reason	Alphanumeric	0..64	Mandatory	Reason message which belongs to the Reason code. (e.g. Successful Processing, Account Validation, Bank
Return	Alphanumeric	0..256	Mandatory	Return message which belongs to the Return code (e.g. Validation Algorithm DE102 failed, …). Please do not match on return messages or codes.
ConfirmationStatus	CONFIRMED, PENDING	0..20	Optional	In case of a response to a Registration (RG) or Reregistration (RR) request, this status message tells if the registration was auto-confirmed immediately (CONFIRMED) or is waiting (PENDING) for a confirmation. A debit request (DB) can only be sent in, if the Registration was confirmed.
InfoMessage	Alphanumeric	0..256	Optional	Additional Information for the integrator. Can only occur on the test system while testing integration. May contain information that the returned error code was forced by the integrator. More about forcing error codes in "heidelpay Integration Basics "
Risk/@score	Numeric		Optional	Contains the risk score for the executed transaction (for a payment transaction the score of the corresponding RM.RI transaction). This value is only returned if risk operations (e.g. blacklist, velocity checks …) were executed.

Values for Processing code	Description
AA.AA.00.00	The processing code of a transaction. It"s a simple concatenation of method, type, status and reason code. It provides the context within a status or reason has appeared and contains together with the return code all information about the processing of a transaction.
Values for Status code	**Description**
00	The status code of a transaction.

Values for Reason code	Description
00	The reason code of a transaction. Every status has one or several
Values for Reaturn code	**Description**
	The return id of a transaction.

2.22.1 Asynchronous Response Processing Group

For asynchronous response messages an additional subgroup called “Redirect” is part of the response message.

```
<Transaction … response="ASYNC" …>
      …
      <Processing code="CC.DB.80.00">
            <Timestamp>2003-02-12 14:58:07</Timestamp>
            <Result>ACK</Result>
            <Status code="80">WAITING</Status>
            <Reason code="00">User enrolled, awaiting 3D ...</Reason>
            <Return code="000.200.000">Transaction succeeded.
...</Return>
            <Redirect url="https://www.mybank.com/3D_validation">
                  <Parameter name="TermUrl">https://test-
heidelpay.hpcgw.net/payment/3D_response
                  </Parameter>
                  <Parameter
name="PAReq">m123n456o789p876q543r22323145346576
                  </Parameter>
                  <Parameter
name="MD">2435843297590832475890432758943 4
                  </Parameter>
</ Redirect>
</Processing>
```

Depending on the type of the asynchronous process (i.e. Online Bank Transfer, Verified By VISA, Mastercard Securecode, …) the Redirect subgroup contains a number of different tags.

Typically the merchant redirects the end user‟s browser to the Redirect Url and passes the other parameters in this subgroup as parameters to the Redirect Url.

Please refer to the document “Asynchronous Workflow” for an explanation how these tags must be processed by the merchant to fulfill the workflow requirements of the asynchronous process.

Attributes and Tags of Redirect	Data type	Length	Mandatory ?	Description
URL	Alphanumeric, URL	2048	Mandatory	URL that must be called by the merchant in order to proceed. The merchant redirects the browser to this URL.
Parameter	Alphanumeric	4096	Optional	Any kind of parameter needed for the workflow. Each Parameter needs to be posted to the URL.

2.23 Connector Group

Within the Connector group information about the connector which was selected for processing of the transaction is given back. This is especially used in conjunction with Prepayment (PP) or Invoice (IV) transactions, where the end customer needs to know to which bank account he has to direct his payment. Furthermore it is necessary to identify the receiving bank account in the context of mandate registrations (DD.RG).

```
<Connector>
      <Account>
            <Holder>Internal Account Holder</Holder>
            <Number>618495000</Number>
            <Bank>70070024</Bank>
            <Iban>DE82700202700666898869</Iban>
            <Bic>HYVEDEMM</Bic>
            <Country>DE</Country>
      </Account>
</Connector>
```

Tag of Account	Data type	Length	Mandatory ?	Description
Holder	Alpha	4..128	Mand.	Holder of the bank account. This is generally a company name.
Number	Alphanumeric	3..64	Cond. Mand.	Account number of the processing bank account. Includes also possible check digits.
Bank	Alphanumeric	0..12	Cond. Mand.	The domestic code of the bank which holds the direct debit or credit transfer account.
Iban	Alphanumeric	15..28	Cond. Mand.	International Bank Account Number. This number can be used by foreign customers to make cross-border credit transfers.
Bic	Alphanumeric	8 or 11	Cond. Mand.	Bank Identifier Code (SWIFT). This bank code can be used by foreign customers to make cross-border credit transfers.
Country	Alpha	2	Cond. Mand.	Country code according to the ISO 3166-1 specification.

2.24 Relevance Group

The Relevance group is an optional possibility to describe in which relevance a transaction is processed.

Typically this is only used in the context of User Accounts or Virtual Accounts.

If you have a registered User Account with two registered Credit Card Accounts for it. One of the two Credit Card Accounts could be marked as the default account for payments (think of “One-Click-Buy”)

A typical example for that looks like this:

```
<Relevances>
<Relevance>DEFAULT_PAY</Relevance>
</Relevances>
```

Values of	Description

Relevance	
	Marks a payment registration as the default payment method for the User Account.
DEFAULT_CREDIT	Marks a credit registration as the default transfer payment method for the User Account.
DEFAULT_UNLOAD	Marks a payment registration as the default account to unload the Virtual Account to.
DEFAULT_LOAD	Marks a payment registration as the default account from where the Virtual Account should be loaded.
SOURCE	Marks a payment transaction (debit) as a transaction that was used to load a Virtual Account.
TARGET	Marks a payment transaction (credit) as a transaction that was used to unload a Virtual Account.

3 Direct Debit (DD) Transactions

For the payment method Direct Debit (DD) following transaction types can be used:

- Debit (DB)
- Reversal (RV)
- Refund (RF)

When a direct debit is returned either by the bank (rejection) or by the end customer (revocation) a chargeback is initiated, which is delivered back as a response xml file.

- Chargeback (CB)

For all transactions replace values of the following tags with your test or live parameters:

- SECURITY SENDER
- USER LOGIN
- USER PWD
- TRANSACTION CHANNEL

See document “heidelpay-Integration Basics” for more details.

3.1 Debit (DB)

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<Request version="1.0">
      <Header>
            <Security sender="123a456b789c123d456e789f012g345" />
      </Header>
      <Transaction mode="LIVE" response="SYNC"
            channel="678a456b789c123d456e789f012g432">
            <User login="421a456b789c123d456e789f012g098"
pwd="56b789c123d456e789f" />
            <Identification>
                  <TransactionID>MerchantAssignedID</TransactionID>
                  <ShopperID>shopper00001234</ShopperID>
            </Identification>
            <Payment code="DD.DB">
                  <Presentation>
                        <Amount>1.00</Amount>
                        <Currency>EUR</Currency>
                        <Usage>Order Number 1234</Usage>
                  </Presentation>
            </Payment>
            <Account>
                  <Holder>Joe Doe</Holder>
```

```
                  <Number>618495000</Number>
                  <Bank>70070024</Bank>
                  <Country>DE</Country>
            </Account>
            <Customer>
                  <Name>
                        <Given>Joe</Given>
                        <Family>Doe</Family>
                  </Name>
                  <Address>
                        <Street>Leopoldstr. 1</Street>
                        <Zip>80798</Zip>
                        <City>München</City>
                        <State>BY</State>
                        <Country>DE</Country>
                  </Address>
                  <Contact>
                        <Email>info@provider.com</Email>
                        <Ip>123.123.123.123</Ip>
                  </Contact>
            </Customer>
      </Transaction>
</Request>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<Response version="1.0">
      <Transaction mode="LIVE" response="SYNC"
            channel="678a456b789c123d456e789f012g432">
            <Identification>
                  <TransactionID>MerchantAssignedID</TransactionID>
                  <UniqueID>h987i654j321k098l765m432n210o987
                  </UniqueID>
                  <ShortID>1234.5678.9876</ShortID>
                  <ShopperID>shopper00001234</ShopperID>
            </Identification>
            <Processing code="DD.DB.90.00">
                  <Timestamp>2003-02-12 14:58:07</Timestamp>
                  <Result>ACK</Result>
                  <Status code="90">NEW</Status>
                  <Reason code="00">Successful Processing</Reason>
                  <Return code="000.000.000">Transaction
succeeded</Return>
            </Processing>
            <Payment code="DD.DB">
                  <Clearing>
                        <Amount>1.00</Amount>
                        <Currency>EUR</Currency>
                        <Descriptor>shop.de 1234.1234.1234 +49 (89)
12345 678 Order
                              Number 1234</Descriptor>
                        <Date>2003-02-13</Date>
                        <Support>+49 (89) 1234 567</Support>
                  </Clearing>
            </Payment>
      </Transaction>
</Response>
```

3.2 Risk Management

The risk management is currently exclusively configured by the system.

3.3 Reversals (RV)

Request:

```
<Transaction mode="LIVE" response="SYNC"
      channel="678a456b789c123d456e789f012g432">
      <User login="421a456b789c123d456e789f012g098"
pwd="56b789c123d456e789f" />
      <Identification>
            <TransactionID>MerchantAssignedID</TransactionID>
            <ReferenceID>m123n456o789p876q543r210s123t456
            </ReferenceID>
      </Identification>
      <Payment code="DD.RV" />
</Transaction>
```

Response:

```
<Transaction mode="LIVE" response="SYNC"
      channel="678a456b789c123d456e789f012g432">
      <Identification>
            <TransactionID>MerchantAssignedIDofReferencedTransaction
            </TransactionID>
            <UniqueID>h987i654j321k098l765m432n210o987
            </UniqueID>
            <ShortID>1234.5678.9876</ShortID>
            <ReferenceID>m123n456o789p876q543r210s123t456
            </ReferenceID>
      </Identification>
      <Processing code="DD.RV.00.05">
            <Timestamp>2003-02-12 14:58:07</Timestamp>
            <Result>ACK</Result>
            <Status code="00">SUCCESS</Status>
            <Reason code="00">Transaction Reversed</Reason>
            <Return code="000.000.000">Transaction succeeded</Return>
      </Processing>
      <Payment code="DD.RV">
            <Clearing>
                  <Amount>1.00</Amount>
                  <Currency>EUR</Currency>
                  <Descriptor>shop.de 1234.1234.1234 +49 (89) 12345
678 Order
                        Number 1234</Descriptor>
                  <Date>2003-02-13</Date>
                  <Support>+49 (89) 1234 567</Support>
            </Clearing>
      </Payment>
</Transaction>
```

3.4 Refunds (RF)

Request:

```
<Transaction mode="LIVE" response="SYNC"
      channel="678a456b789c123d456e789f012g432">
      <Identification>
            <TransactionID>MerchantAssignedID</TransactionID>
            <ReferenceID>m123n456o789p876q543r210s123t456
            </ReferenceID>
      </Identification>
      <Payment code="DD.RF">
            <Presentation>
                  <Amount>1.00</Amount>
                  <Currency>EUR</Currency>
                  <Usage>Order Number 1234</Usage>
            </Presentation>
      </Payment>
</Transaction>
```

Response:

```
<Transaction mode="LIVE" response="SYNC"
      channel="678a456b789c123d456e789f012g432">
      <Identification>
            <TransactionID>MerchantAssignedIDofReferencedTransaction
            </TransactionID>
            <UniqueID>h987i654j321k098l765m432n210o987
            </UniqueID>
            <ShortID>1234.5678.9876</ShortID>
            <ReferenceID>m123n456o789p876q543r210s123t456
            </ReferenceID>
      </Identification>
      <Processing code="DD.RF.90.00">
            <Timestamp>2003-02-12 14:58:07</Timestamp>
            <Result>ACK</Result>
            <Status code="90">NEW</Status>
            <Reason code="00">Successful Processing</Reason>
            <Return code="000.000.000">Transaction succeeded</Return>
      </Processing>
      <Payment code="DD.RF">
            <Clearing>
                  <Amount>1.00</Amount>
                  <Currency>EUR</Currency>
                  <Descriptor>shop.de 1234.1234.1234 +49 (89) 12345
678 Order
                        Number 1234</Descriptor>
                  <Date>2003-02-13</Date>
                  <Support>+49 (89) 1234 567</Support>
            </Clearing>
      </Payment>
</Transaction>
```

3.5 Chargebacks (CB)

Chargeback transactions are not triggered by the merchant but retrieved from the bank by the system by a scheduled job. The daily CSV file with all Chargeback transactions can be downloaded from the Business Intelligence Platform or queried with XML via the query API.

Please note, that a chargeback transaction is a new transaction of its own with a new Unique ID. The given Reference ID refers to the Unique ID of the transaction which was returned. The Presentation amount is the amount given back by the bank and not necessarily the same as the presentation amount of the referencing transaction. (Important if a currency conversion had to take place)

```
<?xml version="1.0" encoding="UTF-8"?>
<Response version="1.0">
      <Transaction mode="LIVE" response="ASYNC"
            channel="678a456b789c123d456e789f012g432">
            <Identification>

      <TransactionID>MerchantAssignedIDofReferencedTransaction
                  </TransactionID>
                  <UniqueID>h987i654j321k0981765m432n210o987
                  </UniqueID>
                  <ShortID>1234.5678.9876</ShortID>
                  <ReferenceID>m123n456o789p876q543r210s123t456
                  </ReferenceID>
            </Identification>
            <Processing code="DD.CB.00.10">
                  <Timestamp>2003-02-12 14:58:07</Timestamp>
                  <Result>ACK</Result>
                  <Status code="00">SUCCESS</Status>
                  <Reason code="10">Reason not Specified</Reason>
                  <Return code="000.000.000">Transaction
succeeded</Return>
            </Processing>
            <Payment code="DD.CB">
                  <Clearing>
                        <Amount>1.00</Amount>
                        <Currency>EUR</Currency>
                        <Descriptor>1234.1234.1234 - Order Number
1234
                        </Descriptor>
                  </Clearing>
            </Payment>
      </Transaction>
</Response>
```

4 Credit Transfer (CT) Transactions

A credit transfer (CT) transaction is a standard bank transfer transaction, which credits the bank account of the end customer and debits the merchant account.

Note: Credit Transfers are currently only supported within one country and not cross-boarder!

Credit Transfer Transaction Types

- Credit (CD)
- Reversal (RV)
- Receipt (RC)

For all transactions replace values of the following tags with your test or live parameters:

- SECURITY SENDER
- USER LOGIN
- USER PWD
- TRANSACTION CHANNEL

See document “heidelpay-Integration Basics” for more details.

4.1 Credit (CD)

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<Request version="1.0">
      <Header>
            <Security sender="123a456b789c123d456e789f012g345" />
      </Header>
      <Transaction mode="LIVE" response="SYNC"
            channel="678a456b789c123d456e789f012g432">
            <User login="421a456b789c123d456e789f012g098"
pwd="56b789c123d456e789f" />
            <Identification>
                  <TransactionID>MerchantAssignedID</TransactionID>
            </Identification>
            <Payment code="CT.CD">
                  <Presentation>
                        <Amount>1.00</Amount>
                        <Currency>EUR</Currency>
                        <Usage>Order Number 1234</Usage>
                  </Presentation>
            </Payment>
            <Account>
                  <Holder>Joe Doe</Holder>
                  <Number>618495000</Number>
                  <Bank>70070024</Bank>
                  <Country>DE</Country>
            </Account>
```

```
                <Customer>
                      <Name>
                            <Given>Joe</Given>
                            <Family>Doe</Family>
                      </Name>
                      <Address>
                            <Street>Leopoldstr. 1</Street>
                            <Zip>80798</Zip>
                            <City>München</City>
                            <State>BY</State>
                            <Country>DE</Country>
                      </Address>
                      <Contact>
                            <Email>info@provider.com</Email>
                            <Ip>123.123.123.123</Ip>
                      </Contact>
                </Customer>
          </Transaction>
    </Request>
```

Response:

```
    <?xml version="1.0" encoding="UTF-8"?>
    <Response version="1.0">
          <Transaction mode="LIVE" response="SYNC"
                channel="678a456b789c123d456e789f012g432">
                <Identification>
                      <TransactionID>MerchantAssignedID</TransactionID>
                      <UniqueID>h987i654j321k0981765m432n210o987
                      </UniqueID>
                      <ShortID>1234.5678.9876</ShortID>
                </Identification>
                <Processing code="CT.CD.90.00">
                      <Timestamp>2003-02-12 14:58:07</Timestamp>
                      <Result>ACK</Result>
                      <Status code="90">NEW</Status>
                      <Reason code="00">Successful Processing</Reason>
                      <Return code="000.000.000">Transaction
    succeeded</Return>
                </Processing>
                <Payment code="CT.CD">
                      <Clearing>
                            <Amount>1.00</Amount>
                            <Currency>EUR</Currency>
                            <Descriptor>shop.de 1234.1234.1234 +49 (89)
    12345 678 Order
                                  Number 1234</Descriptor>
                            <Date>2003-02-13</Date>
                            <Support>+49 (89) 1234 567</Support>
                      </Clearing>
                </Payment>
          </Transaction>
    </Response>
```

4.2 Risk Management

The risk management is currently exclusively configured by the system.

4.3 Reversal (RV)

Request:

```
<Transaction mode="LIVE" response="SYNC"
      channel="678a456b789c123d456e789f012g432">
      <User login="421a456b789c123d456e789f012g098"
pwd="56b789c123d456e789f" />
      <Identification>
            <TransactionID>MerchantAssignedID</TransactionID>
            <ReferenceID>m123n456o789p876q543r210s123t456
            </ReferenceID>
      </Identification>
      <Payment code="CT.RV" />
</Transaction>
```

Response:

```
<Transaction mode="LIVE" response="SYNC"
      channel="678a456b789c123d456e789f012g432">
      <Identification>
            <TransactionID>MerchantAssignedIDofReferencedTransaction
            </TransactionID>
            <UniqueID>h987i654j321k098l765m432n210o987
            </UniqueID>
            <ShortID>1234.5678.9876</ShortID>
            <ReferenceID>m123n456o789p876q543r210s123t456
            </ReferenceID>
      </Identification>
      <Processing code="CT.RV.00.05">
            <Timestamp>2003-02-12 14:58:07</Timestamp>
            <Result>ACK</Result>
            <Status code="00">SUCCESS</Status>
            <Reason code="05">Transaction Reversed</Reason>
            <Return code="000.000.000">Transaction succeeded</Return>
      </Processing>
      <Payment code="CT.RV">
            <Clearing>
                  <Amount>1.00</Amount>
                  <Currency>EUR</Currency>
                  <Descriptor>shop.de 1234.1234.1234 +49 (89) 12345
678 Order
                        Number 1234</Descriptor>
                  <Date>2003-02-13</Date>
                  <Support>+49 (89) 1234 567</Support>
            </Clearing>
      </Payment>
</Transaction>
```

4.4 Receipt (RC)

Receipt transactions are not triggered by the merchant but retrieved from the bank by the system by a scheduled job. The daily XML file with all Receipt transactions can be fetched via the XML Integrator (Queries) interface or downloaded from the Business Intelligence Platform.

Please note, that a Receipt transaction is a new transaction of its own with a new Unique ID. The given Reference ID refers to the Unique ID of the transaction which was returned. The Presentation amount is the

amount given back by the bank and not necessarily the same as the presentation amount of the referencing transaction. (Important if a currency conversion had to take place)

```
<?xml version="1.0" encoding="UTF-8"?>
<Response version="1.0">
      <Transaction mode="LIVE" response="ASYNC"
            channel="678a456b789c123d456e789f012g432">
            <Identification>

      <TransactionID>MerchantAssignedIDofReferencedTransaction
                  </TransactionID>
                  <UniqueID>h987i654j321k098l765m432n210o987
                  </UniqueID>
                  <ShortID>1234.5678.9876</ShortID>
                  <ReferenceID>m123n456o789p876q543r210s123t456
                  </ReferenceID>
            </Identification>
            <Processing code="CT.RC.00.10">
                  <Timestamp>2003-02-12 14:58:07</Timestamp>
                  <Result>ACK</Result>
                  <Status code="00">SUCCESS</Status>
                  <Reason code="10">Reason not Specified</Reason>
                  <Return code=„000.000.000“>Transaction
succeeded</Return>
            </Processing>
            <Payment code="CT.RC">
                  <Clearing>
                        <Amount>1.00</Amount>
                        <Currency>EUR</Currency>
                        <Descriptor>1234.1234.1234 - Order Number
1234
                        </Descriptor>
                  </Clearing>
            </Payment>
      </Transaction>
</Response>
```

5 Prepayment (PP) and Invoice (IV) Transactions

Prepayment (PP) and Invoice (IV) transactions follow exactly the same payment process. In both cases the end customer triggers a credit transfer to the account of the merchant. The only difference is that the service / goods is delivered before (Invoice) or after (Prepayment) the receipt of the money.

In order to allow an algorithm to match the incoming receipt to a customer, the system has to be notified and the customer has to receive a descriptor which he can use on his bank statement.

Subsequently every incoming end customer credit transfer generates a Receipt (RC) transaction, which contains a reference to the prior Preauthorisation or Registration.

If a received prepayment amount should be returned to the customer, a Refund (RF) transaction can be triggered, so they are overall 3 supported payment types for Prepayment / Invoice:

- Preauthorisation (PA)
- Receipt (RC)
- Refund (RF)

All following examples are done for Prepayment transactions. In case of Invoice transactions only „PP" inside the payment code has to be replaced by „IV".

For all transactions replace values of the following tags with your test or live parameters:

- SECURITY SENDER
- USER LOGIN
- USER PWD
- TRANSACTION CHANNEL

See document “heidelpay-Integration Basics” for more details.

5.1 Preauthorisation (PA)

In general Preauthorisation (PA) is always used to preauthorise a credit card transaction. This means that all Risk Management checks are performed and additionally the credit card issuer validates the payment and in case of a credit card payment the amount of the transaction gets “reserved” and deducted from the shopper"s spending limit. By using a Preauthorisation transaction for all other payment methods except credit card means that all Risk Management checks are performed. For all Preauthorised transactions the Descriptor tag is given back, which contains the exact text the end customer should quote on his credit transfer.

Request:

```
<Request version="1.0">
      <Header>
            <Security sender="xxx" />
      </Header>
      <Transaction mode="LIVE" channel="xx" response="SYNC">
            <Identification>
                  <TransactionID>Merchant Assigned ID</TransactionID>
            </Identification>
```

```
                <User login="xx" pwd="xx" />
                <Payment code="PP.PA">
                      <Memo>Please send me more infos</Memo>
                      <Presentation>
                            <Amount>11.11</Amount>
                            <Currency>EUR</Currency>
                            <Usage />
                      </Presentation>
                </Payment>
                <Customer>
                      <Name>
                            <Family>Portisch</Family>
                            <Given>Hugo</Given>
                            <Company />
                            <Salutation />
                            <Title />
                      </Name>
                      <Contact>
                            <Email>bob@kosel.com</Email>
                            <Ip>178.158.237.155</Ip>
                            <Mobile>+49 98 520 2990</Mobile>
                            <Phone>+49 179 520 2990</Phone>
                      </Contact>
                      <Address>
                            <City>Wien</City>
                            <Country>AT</Country>
                            <State>AT13</State>
                            <Street>Stephansplatz 2</Street>
                            <Zip>1011</Zip>
                      </Address>
                </Customer>
          </Transaction>
    </Request>
```

Response:

```
    <Response version="1.0">
          <Transaction mode="LIVE" channel="xxx" response="SYNC">
                <Identification>
                      <ShortID>8255.8459.7000</ShortID>
                      <UniqueID>d225a9fe00be7daa0100bfeb89f20b3e
                      </UniqueID>
                      <TransactionID>3146</TransactionID>
                      <ReferenceID />
                </Identification>
                <Payment code="PP.PA">
                      <Clearing>
                            <Amount>11.11</Amount>
                            <Currency>EUR</Currency>
                            <Descriptor>8255.8459.7000</Descriptor>
                            <FxDate>2004-12-11 02:18:32</FxDate>
                            <FxRate>1.0</FxRate>
                            <FxSource>INTERN</FxSource>
                      </Clearing>
                </Payment>
                <Processing code="90.00">
                      <Timestamp>2004-12-11 02:18:32</Timestamp>
                      <Result>ACK</Result>
                      <Status code="90">NEW</Status>
```

```
                  <Reason code="00">Successful Processing</Reason>
                  <Return code="000.000.00">Request successfully
processed in
                        'Merchant in Integrator Test Mode'</Return>
            </Processing>
            <Connector>
                  <Account>
                        <Number>0078954321</Number>
                        <Holder>Demomerchant GmbH</Holder>
                        <Bank />
                        <Iban>NL89INGB0672920301</Iban>
                        <Bic>INGBNL2A</Bic>
                        <Country>NL</Country>
                  </Account>
            </Connector>
      </Transaction>
</Response>
```

5.2 Receipt (RC)

A receipt is an incoming credit transfer on the merchant account. If the receipt is matched against a prior Preauthorisation transaction, the Reference ID of the receipt is the Unique ID of this Preauthorisation. Another option is to match the transaction against a permanent expected descriptor given within a prior Registration transaction. In this case the Reference ID contains the Unique ID of the Registration.

A Receipt is not triggered by the merchant, but can be fetched either via the export menu inside the BIP or by using the XML Integrator (Queries) specification.

Response:

```
<Response version="1.0">
      <Transaction mode="LIVE" response="ASYNC"
            channel="678a456b789c123d456e789f012g432">
            <Identification>

      <TransactionID>MerchantAssignedIDofReferencedTransaction
                  </TransactionID>
                  <UniqueID>h987i654j321k098l765m432n210o987
                  </UniqueID>
                  <ShortID>1234.5678.9876</ShortID>
                  <ReferenceID>m123n456o789p876q543r210s123t456
                  </ReferenceID>
            </Identification>
            <Processing code="00.80">
                  <Timestamp>2003-02-12 14:58:07</Timestamp>
                  <Result>ACK</Result>
                  <Status code="00">SUCCESS</Status>
                  <Reason code="80">Matched Consumer Credit
Transfer</Reason>
                  <Return code="000.000.000">Transaction
succeeded</Return>
            </Processing>
            <Payment code="PP.RC">
                  <Clearing>
                        <Amount>1.00</Amount>
                        <Currency>EUR</Currency>
```

```
                        <Descriptor>1234.1234.1234 - Order Number
1234
                        </Descriptor>
                  </Clearing>
            </Payment>
      </Transaction>
</Response>
```

5.3 Refund (RF)

Every Receipt can be refunded by giving the Unique ID of the Receipt as Reference ID.

Request:

```
<Request version="1.0">
      <Header>
            <Security sender="123a456b789c123d456e789f012g345" />
      </Header>
      <Transaction mode="LIVE" response="SYNC"
            channel="678a456b789c123d456e789f012g432">
            <Identification>
                  <TransactionID>MerchantAssignedID</TransactionID>
                  <ReferenceID>m123n456o789p876q543r210s123t456
                  </ReferenceID>
            </Identification>
            <Payment code="PP.RF">
                  <Presentation>
                        <Amount>1.00</Amount>
                        <Currency>EUR</Currency>
                        <Usage>Order Number 1234</Usage>
                  </Presentation>
            </Payment>
      </Transaction>
</Request>
```

Response:

```
<Response version="1.0">
      <Transaction mode="LIVE" response="SYNC"
            channel="678a456b789c123d456e789f012g432">
            <Identification>

      <TransactionID>MerchantAssignedIDofReferencedTransaction
                  </TransactionID>
                  <UniqueID>h987i654j321k098l765m432n210o987
                  </UniqueID>
                  <ShortID>1234.5678.9876</ShortID>
                  <ReferenceID>m123n456o789p876q543r210s123t456
                  </ReferenceID>
            </Identification>
            <Processing code="90.00">
                  <Timestamp>2003-02-12 14:58:07</Timestamp>
                  <Result>ACK</Result>
                  <Status code="90">NEW</Status>
                  <Reason code="00">Successful Processing</Reason>
                  <Return code="000.000.000">Transaction
succeeded</Return>
```

```
            </Processing>
            <Payment code="PP.RF">
                  <Clearing>
                        <Amount>1.00</Amount>
                        <Currency>EUR</Currency>
                        <Descriptor>shop.de 1234.1234.1234 +49 (89)
12345 678 Order
                              Number 1234</Descriptor>
                        <Date>2003-02-13</Date>
                        <Support>+49 (89) 1234 567</Support>
                  </Clearing>
            </Payment>
      </Transaction>
</Response>
```

6 Credit Card (CC) Transactions

Credit Card Transaction Types

- Debit
- Preauthorisation
- Capture
- Reversal
- Refund
- Chargeback

For all transactions replace values of the following tags with your test or live parameters:

- SECURITY SENDER
- USER LOGIN
- USER PWD
- TRANSACTION CHANNEL

See document “heidelpay-Integration Basics” for more details.

6.1 Debit (DB)

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<Request version="1.0">
      <Header>
            <Security sender="123a456b789c123d456e789f012g345" />
      </Header>
      <Transaction mode="LIVE" response="SYNC"
            channel="678a456b789c123d456e789f012g432">
            <User login="421a456b789c123d456e789f012g098"
pwd="56b789c123d456e789f" />
            <Identification>
                  <TransactionID>MerchantAssignedID</TransactionID>
            </Identification>
            <Payment code="CC.DB">
                  <Presentation>
                        <Amount>1.00</Amount>
                        <Currency>EUR</Currency>
                        <Usage>Order Number 1234</Usage>
                  </Presentation>
            </Payment>
            <Recurrence mode="INITIAL" />
            <Account>
                  <Holder>Joe Doe</Holder>
                  <Number>1234 1234 1234 1234</Number>
                  <Brand>VISA</Brand>
```

```
                        <Expiry month="09" year="2009"></Expiry>
                        <Verification>123</Verification>
                  </Account>
                  <Customer>
                        <Name>
                              <Salutation>MR</Salutation>
                              <Title>Dr.</Title>
                              <Given>Joe</Given>
                              <Family>Doe</Family>
                              <Company>SampleCompany</Company>
                        </Name>
                        <Address>
                              <Street>Leopoldstr. 1</Street>
                              <Zip>80798</Zip>
                              <City>München</City>
                              <State>BY</State>
                              <Country>DE</Country>
                        </Address>
                        <Contact>
                              <Phone>+49-89-1234566</Phone>
                              <Mobile>+49-172-1234566</Mobile>
                              <Email>info@provider.com</Email>
                              <Ip>123.123.123.123</Ip>
                        </Contact>
                  </Customer>
                  <Analysis>
                        <Criterion
      name="affiliate">ExternalShopXY</Criterion>
                        <Criterion name="age">30-40</Criterion>
                        <Criterion name="known">yes</Criterion>
                        <Criterion name="customerid">1234567</Criterion>
                  </Analysis>
            </Transaction>
      </Request>
```

Response:

```
      <?xml version="1.0" encoding="UTF-8"?>
      <Response version="1.0">
            <Transaction mode="LIVE" response="SYNC"
                  channel="678a456b789c123d456e789f012g432">
                  <Identification>
                        <TransactionID>MerchantAssignedID</TransactionID>
                        <UniqueID>h987i654j321k0981765m432n210o987
                        </UniqueID>
                        <ShortID>1234.5678.9876</ShortID>
                  </Identification>
                  <Processing code="CC.DB.90.00">
                        <Timestamp>2003-02-12 14:58:07</Timestamp>
                        <Result>ACK</Result>
                        <Status code="90">NEW</Status>
                        <Reason code="00">Successful Processing</Reason>
                        <Return code="000.000.000">Transaction
      succeeded</Return>
                  </Processing>
                  <Payment code="CC.DB">
                        <Clearing>
                              <Amount>1.00</Amount>
                              <Currency>EUR</Currency>
```

```
                        <Descriptor>shop.de 1234.1234.1234 +49 (89)
12345 678 Order
                              Number 1234</Descriptor>
                        <Date>2003-02-13</Date>
                        <Support>+49 (89) 1234 567</Support>
                  </Clearing>
            </Payment>
      </Transaction>
</Response>
```

6.2 Preauthorizations (PA)

Request:

```
<Transaction mode="LIVE" response="SYNC"
      channel="678a456b789c123d456e789f012g432">
      <User login="421a456b789c123d456e789f012g098"
pwd="56b789c123d456e789f" />
      <Identification>
            <TransactionID>MerchantAssignedID</TransactionID>
      </Identification>
      <Payment code="CC.PA">
            <Presentation>
                  <Amount>1.00</Amount>
                  <Currency>EUR</Currency>
                  <Usage>Order Number 1234</Usage>
            </Presentation>
      </Payment>
      <Account>
            <Holder>Joe Doe</Holder>
            <Number>1234 1234 1234 1234</Number>
            <Brand>VISA</Brand>
            <Expiry month="09" year="2005"></Expiry>
            <Verification>123</Verification>
      </Account>
      <Customer>
            <Name>
                  <Salutation>MR</Salutation>
                  <Title>Dr.</Title>
                  <Given>Joe</Given>
                  <Family>Doe</Family>
                  <Company>SampleCompany</Company>
            </Name>
            <Address>
                  <Street>Leopoldstr. 1</Street>
                  <Zip>80798</Zip>
                  <City>München</City>
                  <State>BY</State>
                  <Country>DE</Country>
            </Address>
            <Contact>
                  <Phone>+49-89-1234566</Phone>
                  <Mobile>+49-172-1234566</Mobile>
                  <Email>info@provider.com</Email>
                  <Ip>123.123.123.123</Ip>
            </Contact>
      </Customer>
```

```
            <Analysis>
                  <Criterion name="affiliate">ExternalShopXY</Criterion>
                  <Criterion name="age">30-40</Criterion>
                  <Criterion name="customerid">1234567</Criterion>
            </Analysis>
      </Transaction>
```

Response:

```
      <Transaction mode="LIVE" response="SYNC"
            channel="678a456b789c123d456e789f012g432">
            <Identification>
                  <TransactionID>MerchantAssignedID</TransactionID>
                  <UniqueID>h987i654j321k098l765m432n210o987
                  </UniqueID>
                  <ShortID>1234.5678.9876</ShortID>
            </Identification>
            <Processing code="CC.PA.90.00">
                  <Timestamp>2003-02-12 14:58:07</Timestamp>
                  <Result>ACK</Result>
                  <Status code="90">NEW</Status>
                  <Reason code="00">Successful Processing</Reason>
                  <Return code="000.000.000">Transaction succeeded</Return>
            </Processing>
            <Payment code="CC.PA">
                  <Clearing>
                        <Amount>1.00</Amount>
                        <Currency>EUR</Currency>
                        <Descriptor>shop.de 1234.1234.1234 +49 (89) 12345
678 Order
                              Number 1234</Descriptor>
                        <Date>2003-02-13</Date>
                        <Support>+49 (89) 1234 567</Support>
                  </Clearing>
            </Payment>
      </Transaction>
```

6.3 Reauthorization (PA)

The Reauthorization allows you to update the authorized amount of a Preauthorization.

Please ask your account manager if the configured Credit Card acquirer supports this functionality or not!

Request:

```
      <Transaction mode="LIVE" response="SYNC"
            channel="678a456b789c123d456e789f012g432">
            <User login="421a456b789c123d456e789f012g098"
pwd="56b789c123d456e789f" />
            <Identification>
                  <TransactionID>MerchantAssignedID</TransactionID>
                  <ReferenceID>UniqueId of a Preauthorization</ReferenceID>
            </Identification>
            <Payment code="CC.PA">
                  <Presentation>
                        <Amount>2.00</Amount>
                        <Currency>EUR</Currency>
                        <Usage>Order Number 1234</Usage>
```

```
            </Presentation>
      </Payment>
</Transaction>
```

Response:

```
<Transaction mode="LIVE" response="SYNC"
      channel="678a456b789c123d456e789f012g432">
      <Identification>
            <TransactionID>MerchantAssignedID</TransactionID>
            <UniqueID>h987i654j321k098l765m432n210o987
            </UniqueID>
            <ReferenceID>m123n456o789p876q543r210s123t456
            </ReferenceID>
            <ShortID>1234.5678.9876</ShortID>
      </Identification>
      <Processing code="CC.PA.90.00">
            <Timestamp>2003-02-12 14:58:07</Timestamp>
            <Result>ACK</Result>
            <Status code="90">NEW</Status>
            <Reason code="00">Successful Processing</Reason>
            <Return code="000.000.000">Transaction succeeded</Return>
      </Processing>
      <Payment code="CC.PA">
            <Clearing>
                  <Amount>1.00</Amount>
                  <Currency>EUR</Currency>
                  <Descriptor>shop.de 1234.1234.1234 +49 (89) 12345
678 Order
                        Number 1234</Descriptor>
                  <Date>2003-02-13</Date>
                  <Support>+49 (89) 1234 567</Support>
            </Clearing>
      </Payment>
</Transaction>
```

6.4 Captures (CP)

Request:

```
<Transaction mode="LIVE" response="SYNC"
      channel="678a456b789c123d456e789f012g432">
      <User login="421a456b789c123d456e789f012g098"
pwd="56b789c123d456e789f" />
      <Identification>
            <TransactionID>MerchantAssignedID</TransactionID>
            <ReferenceID>m123n456o789p876q543r210s123t456
            </ReferenceID>
      </Identification>
      <Payment code="CC.CP">
            <Presentation>
                  <Amount>1.00</Amount>
                  <Currency>EUR</Currency>
                  <Usage>Order Number 1234</Usage>
            </Presentation>
      </Payment>
      <Analysis>
```

```
            <Criterion name="affiliate">ExternalShopXY</Criterion>
            <Criterion name="age">30-40</Criterion>
            <Criterion name="known">yes</Criterion>
            <Criterion name="customerid">1234567</Criterion>
      </Analysis>
</Transaction>
```

Response:

```
<Transaction mode="LIVE" response="SYNC"
      channel="678a456b789c123d456e789f012g432">
      <Identification>
            <TransactionID>MerchantAssignedIDofReferencedTransaction
            </TransactionID>
            <UniqueID>h987i654j321k098l765m432n210o987
            </UniqueID>
            <ShortID>1234.5678.9876</ShortID>
            <ReferenceID>m123n456o789p876q543r210s123t456
            </ReferenceID>
      </Identification>
      <Processing code="CC.CP.90.00">
            <Timestamp>2003-02-12 14:58:07</Timestamp>
            <Result>ACK</Result>
            <Status code="90">NEW</Status>
            <Reason code="00">Successful Processing</Reason>
            <Return code="000.000.000">Transaction succeeded</Return>
      </Processing>
      <Payment code="CC.CP">
            <Clearing>
                  <Amount>1.00</Amount>
                  <Currency>EUR</Currency>
                  <Descriptor>shop.de 1234.1234.1234 +49 (89) 12345
678 Order
                        Number 1234</Descriptor>
                  <Date>2003-02-13</Date>
                  <Support>+49 (89) 1234 567</Support>
            </Clearing>
      </Payment>
</Transaction>
```

6.5 Risk Management

The risk management is currently exclusively configured by the system.

6.6 Reversals (RV)

Please ask your account manager if the configured Credit Card acquirer supports this functionality or not!

The Reversal voids a previous Debit(DB) or Preauthorization(PA).

Request:

```
<Transaction mode="LIVE" response="SYNC"
      channel="678a456b789c123d456e789f012g432">
      <User login="421a456b789c123d456e789f012g098"
pwd="56b789c123d456e789f" />
```

```
        <Identification>
              <TransactionID>MerchantAssignedID</TransactionID>
              <ReferenceID>m123n456o789p876q543r210s123t456
              </ReferenceID>
        </Identification>
        <Payment code="CC.RV" />
  </Transaction>
```

Response:

```
  <Transaction mode="LIVE" response="SYNC"
        channel="678a456b789c123d456e789f012g432">
        <Identification>
              <TransactionID>MerchantAssignedIDofReferencedTransaction
              </TransactionID>
              <UniqueID>h987i654j321k098l765m432n210o987
              </UniqueID>
              <ShortID>1234.5678.9876</ShortID>
              <ReferenceID>m123n456o789p876q543r210s123t456
              </ReferenceID>
        </Identification>
        <Processing code="CC.RV.00.00">
              <Timestamp>2003-02-12 14:58:07</Timestamp>
              <Result>ACK</Result>
              <Status code="00">SUCCESS</Status>
              <Reason code="05">Transaction Reversed</Reason>
              <Return code="000.000.000">Transaction succeeded</Return>
        </Processing>
        <Payment code="CC.RV">
              <Clearing>
                    <Amount>1.00</Amount>
                    <Currency>EUR</Currency>
                    <Descriptor>shop.de 1234.1234.1234 +49 (89) 12345
  678 Order
                          Number 1234</Descriptor>
                    <Date>2003-02-13</Date>
                    <Support>+49 (89) 1234 567</Support>
              </Clearing>
        </Payment>
  </Transaction>
```

6.7 Refunds (RF)

Refund Request:

```
  <Transaction mode="LIVE" response="SYNC"
        channel="678a456b789c123d456e789f012g432">
        <User login="421a456b789c123d456e789f012g098"
  pwd="56b789c123d456e789f" />
        <Identification>
              <TransactionID>MerchantAssignedID</TransactionID>
              <ReferenceID>m123n456o789p876q543r210s123t456
              </ReferenceID>
        </Identification>
        <Payment code="CC.RF">
              <Presentation>
                    <Amount>1.00</Amount>
```

```
                    <Currency>EUR</Currency>
                    <Usage>Order Number 1234</Usage>
              </Presentation>
        </Payment>
</Transaction>
```

Refund Response:

```
<Transaction mode="LIVE" response="SYNC"
      channel="678a456b789c123d456e789f012g432">
      <Identification>
            <TransactionID>MerchantAssignedIDofReferencedTransaction
            </TransactionID>
            <UniqueID>h987i654j321k098l765m432n210o987
            </UniqueID>
            <ShortID>1234.5678.9876</ShortID>
            <ReferenceID>m123n456o789p876q543r210s123t456
            </ReferenceID>
      </Identification>
      <Processing code="CC.RF.90.00">
            <Timestamp>2003-02-12 14:58:07</Timestamp>
            <Result>ACK</Result>
            <Status code="90">NEW</Status>
            <Reason code="00">Successful Processing</Reason>
            <Return code="000.000.000">Transaction succeeded</Return>
      </Processing>
      <Payment code="CC.RF">
            <Clearing>
                  <Amount>1.00</Amount>
                  <Currency>EUR</Currency>
                  <Descriptor>shop.de 1234.1234.1234 +49 (89) 12345
678 Order
                        Number 1234</Descriptor>
                  <Date>2003-02-13</Date>
                  <Support>+49 (89) 1234 567</Support>
            </Clearing>
      </Payment>
</Transaction>
```

6.8 Chargebacks (CB)

Chargeback transactions are not triggered by the merchant but retrieved from the bank by the system by a scheduled job. The daily XML file with all Chargeback transactions can be fetched from a predefined SFTP directory or downloaded from the Business Intelligence Platform.

Please note, that a chargeback transaction is a new transaction of its own with a new Unique ID. The given Reference ID refers to the Unique ID of the transaction which was returned. The Presentation amount is the amount given back by the bank and not necessarily the same as the presentation amount of the referencing transaction. (Important if a currency conversion had to take place)

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<Response version="1.0">
      <Transaction mode="LIVE" response="ASYNC"
            channel="678a456b789c123d456e789f012g432">
            <Identification>
```

```
      <TransactionID>MerchantAssignedIDofReferencedTransaction
                  </TransactionID>
                  <UniqueID>h987i654j321k098l765m432n210o987
                  </UniqueID>
                  <ShortID>1234.5678.9876</ShortID>
                  <ReferenceID>m123n456o789p876q543r210s123t456
                  </ReferenceID>
            </Identification>
            <Processing code="CC.CB.00.00">
                  <Timestamp>2003-02-12 14:58:07</Timestamp>
                  <Result>ACK</Result>
                  <Status code="00">SUCCESS</Status>
                  <Reason code="40">Revocation or Dispute</Reason>
                  <Return code=„000.000.000“>Transaction
succeeded</Return>
            </Processing>
            <Payment code="CC.CB">
                  <Clearing>
                        <Amount>1.00</Amount>
                        <Currency>EUR</Currency>
                        <Descriptor>shop.de 1234.1234.1234 +49 (89)
12345 678 Order
                              Number 1234</Descriptor>
                        <Date>2003-02-13</Date>
                        <Support>+49 (89) 1234 567</Support>
                  </Clearing>
            </Payment>
      </Transaction>
</Response>
```

7 Registration Types

Registration types can be used for all payment methods and are generally used for recurring transactions where data like account or customer information is registered for later retrieval in an initial Registration (RG) transaction. A registration transaction looks exactly like the corresponding Preauthorisation (PA), Debit (DB) or Credit (CD) transaction, except that the type is replaced by „RG" and there is no Presentation tag with an amount and usage.

After this Registration later Preauthorisation (PA), Debit (DB), Credit (CD) or Receipt (RC) Transactions can reference to the registered information. By giving the „registration" attributes within the Account or Customer tag all subordinate tags, which would be required for a normal PA, CD or DB transaction can be omitted. The Unique ID of the registration response is used as registration reference in following PA, DB, CD or RC transactions. A reference to an account registration would for example look like this:

```
<Account registration="678a456b789c123d456e789f012g432"/>
```

Registration information can also be altered or disabled by sending in a Reregistration (RR) or Deregistration (DR) transaction. Registrations are either confirmed automatically in most scenarios or explicitly by a Confirmation (CF) transaction.

Instead of triggering each recurring PA, CD or DB individually, transactions which are predictable in amount and date like it is the case for subscriptions can also be triggered by Scheduling (SD) transactions. Please refer to the chapter Job Group and Scheduling Types for more information about automated Scheduling.

7.1 Registration (RG)

All following examples use the payment method direct debit (DD) for demonstration purposes. Instead of DD also the payment methods credit card (CC) or credit transfer (CT) can be used for registration.

Request:

```
<Request version="1.0">
      <Header>
            <Security sender="123a456b789c123d456e789f012g345" />
      </Header>
      <Transaction mode="LIVE" response="SYNC"
            channel="678a456b789c123d456e789f012g432">
            <User login="421a456b789c123d456e789f012g098"
pwd="56b789c123d456e789f" />
            <Identification>
                  <TransactionID>MerchantAssignedID</TransactionID>
            </Identification>
            <Payment code="DD.RG" />
            <Account>
                  <Holder>Joe Doe</Holder>
                  <Number>618495000</Number>
                  <Bank>70070024</Bank>
                  <Country>DE</Country>
                  <Limit>1000.00</Limit>
            </Account>
            <Customer>
                  <Name>
                        <Given>Joe</Given>
                        <Family>Doe</Family>
                  </Name>
                  <Address>
                        <Street>Leopoldstr. 1</Street>
                        <Zip>80798</Zip>
```

```
                        <City>München</City>
                        <State>BY</State>
                        <Country>DE</Country>
                  </Address>
                  <Contact>
                        <Email>info@provider.com</Email>
                        <Ip>123.123.123.123</Ip>
                  </Contact>
            </Customer>
            <Frontend>
< ResponseUrl
>https://myshop.com/payment/registrationStatus.php</ResponseUrl>
</Frontend>
</Transaction>
</Request>
```

Response:

```
<Response version="1.0">
      <Transaction mode="LIVE" response="SYNC"
            channel="678a456b789c123d456e789f012g432">
            <Identification>
                  <TransactionID>MerchantAssignedID</TransactionID>
                  <UniqueID>h987i654j321k0981765m432n210o987
                  </UniqueID>
                  <ShortID>1234.5678.9876</ShortID>
            </Identification>
            <Processing code="DD.RG.90.00">
                  <Timestamp>2003-02-12 14:58:07</Timestamp>
                  <Result>ACK</Result>
                  <Status code="90">NEW</Status>
                  <ConfirmationStatus>
                        CONFIRMED
                        </ConfirmationStatus>
                  <Reason code="00">Successful Processing</Reason>
                  <Return code=”000.000.000“>Transaction
succeeded</Return>
            </Processing>
            <Payment code="DD.RG" />
            <Account>
                  <Identification>Customer account specific
identification
                        number</Identification>
                  <RegistrationUrl>
                        https://test-
heidelpay.hpcgw.net/payment/registration?id=4028e4ee00a7bc470100a7bc6
a05000d
                  </RegistrationUrl>
            </Account>
            <Connector>
                  <Account>
                        <Holder>Internal Account Holder</Holder>
                        <Number>618495000</Number>
                        <Bank>70070024</Bank>
                        <Iban>DE82700202700666898869</Iban>
                        <Bic>HYVEDEMM</Bic>
                        <Country>DE</Country>
                  </Account>
            </Connector>
```

```
      </Transaction>
</Response>
```

7.2 Debit on Registration (DB)

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<Request version="1.0">
      <Header>
            <Security sender="123a456b789c123d456e789f012g345" />
      </Header>
      <Transaction mode="LIVE" response="SYNC"
            channel="678a456b789c123d456e789f012g432">
            <User login="421a456b789c123d456e789f012g098"
pwd="56b789c123d456e789f" />
            <Identification>
                  <TransactionID>MerchantAssignedID</TransactionID>
            </Identification>
            <Payment code="DD.DB">
                  <Presentation>
                        <Amount>1.00</Amount>
                        <Currency>EUR</Currency>
                        <Usage>Order Number 1234</Usage>
                  </Presentation>
            </Payment>
            <Account registration=" h987i654j321k098l765m432n210o987"
/> <!—UniqueId of the previous RG response -->
      </Transaction>
</Request>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<Response version="1.0">
      <Transaction mode="LIVE" response="SYNC"
            channel="678a456b789c123d456e789f012g432">
            <Identification>
                  <TransactionID>MerchantAssignedID</TransactionID>
                  <UniqueID>h987i654j321k098l765m432n210o987
                  </UniqueID>
                  <ShortID>1234.5678.9876</ShortID>
            </Identification>
            <Processing code="DD.DB.90.00">
                  <Timestamp>2003-02-12 14:58:07</Timestamp>
                  <Result>ACK</Result>
                  <Status code="90">NEW</Status>
                  <Reason code="00">Successful Processing</Reason>
                  <Return code="000.000.000">Transaction
succeeded</Return>
            </Processing>
            <Payment code="DD.DB">
                  <Clearing>
                        <Amount>1.00</Amount>
                        <Currency>EUR</Currency>
                        <Descriptor>shop.de 1234.1234.1234 +49 (89)
12345 678 Order
```

```
                                    Number 1234</Descriptor>
                              <Date>2003-02-13</Date>
                              <Support>+49 (89) 1234 567</Support>
                        </Clearing>
                  </Payment>
            </Transaction>
      </Response>
```

7.3 Reregistration (RR)

The Reference ID references the Unique ID of the original Registration.

Request:

```
      <Request version="1.0">
            <Header>
                  <Security sender="123a456b789c123d456e789f012g345" />
            </Header>
            <Transaction mode="LIVE" response="SYNC"
                  channel="678a456b789c123d456e789f012g432">
                  <User login="421a456b789c123d456e789f012g098"
pwd="56b789c123d456e789f" />
                  <Identification>
                        <TransactionID>MerchantAssignedID</TransactionID>
                        <ReferenceID>m123n456o789p876q543r210s123t456
                        </ReferenceID>
                  </Identification>
                  <Payment code="DD.RR" />
                  <Account>
                        <Holder>Joe Doe</Holder>
                        <Number>618495000</Number>
                        <Bank>70070024</Bank>
                        <Country>DE</Country>
                        <Limit>1000.00</Limit>
                  </Account>
                  <Frontend>

            <ResponseUrl>https://myserver.com/payment/confirmationCheck
                        </ResponseUrl>
                  </Frontend>
            </Transaction>
      </Request>
```

Response:

```
      <Response version="1.0">
            <Transaction mode="LIVE" response="SYNC"
                  channel="678a456b789c123d456e789f012g432">
                  <Identification>
                        <TransactionID>MerchantAssignedID</TransactionID>

            <UniqueID>h987i654j321k098l765m432n210o987</UniqueID>
                        <ShortID>1234.5678.9876</ShortID>
                  </Identification>
                  <Processing code="DD.RR.00.00">
                        <Timestamp>2003-02-12 14:58:07</Timestamp>
                        <Result>ACK</Result>
```

```
                  <Status code="00">SUCCESS</Status>
                  <ConfirmationStatus>PENDING</ConfirmationStatus>
                  <Redirect
                        url="https://test-
heidelpay.hpcgw.net/payment/ActiveRegistrationConfirmation.jsp?hpcgw.
tx.ID= h987i654j321k098l765m432n210o987" />
                  <Reason code="00">Successful Processing</Reason>
                  <Return code=„000.000.000“>Transaction
succeeded</Return>
            </Processing>
            <Payment code="DD.RR" />
      </Transaction>
</Response>
```

7.4 Deregistration (DR)

Request:

The Reference ID references to the Unique ID of the Registration transaction which is to be deregistered.

```
<Request version="1.0">
      <Header>
            <Security sender="123a456b789c123d456e789f012g345" />
      </Header>
      <Transaction mode="LIVE" response="SYNC"
            channel="678a456b789c123d456e789f012g432">
            <User login="421a456b789c123d456e789f012g098"
pwd="56b789c123d456e789f" />
            <Identification>
                  <TransactionID>MerchantAssignedID</TransactionID>

      <ReferenceID>m123n456o789p876q543r210s123t456</ReferenceID>
            </Identification>
            <Payment code="DD.DR" />
      </Transaction>
</Request>
```

Response:

```
<Response version="1.0">
      <Transaction mode="LIVE" response="SYNC"
            channel="678a456b789c123d456e789f012g432">
            <Identification>
                  <TransactionID>MerchantAssignedID</TransactionID>

      <UniqueID>h987i654j321k098l765m432n210o987</UniqueID>
                  <ShortID>1234.5678.9876</ShortID>
            </Identification>
            <Processing code="DD.DR.00.05">
                  <Timestamp>2003-02-12 14:58:07</Timestamp>
                  <Result>ACK</Result>
                  <Status code="00">SUCCESS</Status>
                  <Reason code="00">Successful Processing</Reason>
                  <Return code=„000.000.000“>Transaction
succeeded</Return>
            </Processing>
            <Payment code="DD.DR" />
```

```
        </Transaction>
    </Response>
```

8 Confirmation on Registration

If there is no Risk Management Process involved, Registrations are auto-confirmed with a Confirmation (CF) transaction and can therefore immediately be used to do payments.

In case of direct debit there are a few countries that have mandate based processes like France, Switzerland, Norway, Belgium and a few others. In this case a custom identification number is generated and needs to be confirmed explicitly in a second step. Therefore the response also contains this ID and a URL for downloading the Registration confirmation document. In the case of an account registration for paper based direct debit schemes this URL would contain a paper mandate, which must be signed by the end customer:

```
<Account>
<Identification>Customer Account specific Identification
Number</Identification> <RegistrationUrl>https://test-
heidelpay.hpcgw.net/payment/registration?id=4028e4ee00a7bc470100a7bc6
a05000d</RegistrationUrl>
</Account>
```

As soon as a valid Registration confirmation document is received, a Confirmation (CF) transaction must be sent in. In the example of an account registration this document would be a signed paper mandate. For some countries like Norway the system generates a Confirmation request as soon as the clearing house has given a notice.

Other processes return a URL in the parameter <RegistrationUrl> that contains a link to a page where a code needs to be entered that the end user just received via email or SMS.

If no explicit Confirmation is required for a specific Registration type the system automatically generates a Confirmation.

For all transactions replace values of the following tags with your test or live parameters:

- SECURITY SENDER
- USER LOGIN
- USER PWD
- TRANSACTION CHANNEL

See document “heidelpay-Integration Basics” for more details.

8.1 Confirmation (CF)

Confirmations are generated by the system depending on the configured registration mode of the channel you are processing.

By default your channel will be configured for auto-confirmation. This means, you do not need to worry at all about the confirmation and your registration response will already contain the information CONFIRMED in the Processing Result group.

In some countries the Confirmation request is generated by the system, as soon as the clearing house has received the Registration.

If the confirmation is handled asynchronously, you will be notified via POST and receive the confirmation response at the Url you specified initially in the Registration request in the tag <ResponseUrl>.

```
<Response version="1.0">
```

```
        <Transaction mode="LIVE" response="SYNC"
              channel="678a456b789c123d456e789f012g432">
              <Identification>

        <TransactionID>MerchantAssignedIDofReferencedTransaction
                    </TransactionID>
                    <UniqueID>h987i654j321k098l765m432n210o987
                    </UniqueID>
                    <ShortID>1234.5678.9876</ShortID>

        <ReferenceID>m123n456o789p876q543r210s123t456</ReferenceID>
              </Identification>
              <Processing code="DD.CF.00.05">
                    <Timestamp>2003-02-12 14:58:07</Timestamp>
                    <Result>ACK</Result>
                    <Status code="00">SUCCESS</Status>
                    <Reason code="00">Successful Processing</Reason>
                    <Return code=„000.000.000“>Transaction
succeeded</Return>
              </Processing>
              <Payment code="DD.CF" />
        </Transaction>
</Response>
```

9 Scheduling Types (Automatic Recurrence)

Payments which follow a certain predefined scheme like subscriptions can be scheduled, in order to let the system automatically generate all upcoming transactions until a Deschedule (DS) transaction is sent in, which finalizes the Schedule. There are following scheduling types:

- Schedule (SD)
- Reschedule (RS)
- Deschedule (DS)

A Schedule (SD) transaction simply replaces the usual type like DB, CD or PA inside the payment code attribute with SD and starts a Job, which is described inside the Job tag. The Job tag contains all parameters which are essential to define the Action, Execution Scheme, Cancellation Note and Duration of the Job. All scheduled transactions have the same Payment and Presentation tag as the initial Schedule transaction, only the Action/@type attribute - commonly DB, CD, or PA - replaces SD inside the payment code attribute.

As all recurring transactions, a Schedule transaction needs to refer to a prior registration (RG) of the customer and account data, in order to be able to generate automatically transactions. Please refer to the Chapter „Registration Types" for more information about the registration process.

Registration (RG)Reregistration (RR)Deregistration (DR)Debit LogicCredit LogicSchedule (SD)Deschedule (DS)Reschedule (RS)

For all transactions replace values of the following tags with your test or live parameters:

- SECURITY SENDER
- USER LOGIN
- USER PWD
- TRANSACTION CHANNEL

See document “heidelpay-Integration Basics” for more details.

9.1 Schedule (SD)

All following examples use the payment method direct debit (DD) for demonstration purposes. Instead of DD also the payment methods credit card (CC) or credit transfer (CT) can be used for scheduling. Please refer to the Chapter „Job Group" and the document „Recurrence Scenarios" for more examples and details.

Request:

```
<Request version="1.0">
      <Header>
            <Security sender="123a456b789c123d456e789f012g345" />
      </Header>
      <Transaction mode="LIVE" response="SYNC"
            channel="678a456b789c123d456e789f012g432">
            <User login="421a456b789c123d456e789f012g098"
pwd="56b789c123d456e789f" />
            <Identification>
                  <TransactionID>MerchantAssignedID</TransactionID>
```

```
                </Identification>
                <Payment code="DD.SD">
                      <Presentation>
                            <Amount>10.00</Amount>
                            <Currency>EUR</Currency>
                            <Usage>Order Number 1234</Usage>
                      </Presentation>
                </Payment>
                <Job name="Trial Subscripton">
                      <Action type="DB" />
                      <Execution>
                            <Second>0</Second>
                            <Minute>15</Minute>
                            <Hour>10</Hour>
                            <DayOfMonth>?</DayOfMonth>
                            <Month>*</Month>
                            <DayOfWeek>6L</DayOfWeek>
                            <Year />
                      </Execution>
                      <Notice>
                            <Callable>DURATION_END</Callable>
                            <Number>3</Number>
                            <Unit>DAY</Unit>
                      </Notice>
                      <Duration>
                            <Number>3</Number>
                            <Unit>MONTH</Unit>
                      </Duration>
                </Job>
                <Account registration="678a456b789c123d456e789f012g432"
/>
      </Transaction>
</Request>
```

Response:

```
<Response version="1.0">
      <Transaction mode="LIVE" response="SYNC"
            channel="678a456b789c123d456e789f012g432">
            <Identification>
                  <TransactionID>MerchantAssignedID</TransactionID>
                  <UniqueID>h987i654j321k0981765m432n210o987
                  </UniqueID>
                  <ShortID>1234.5678.9876</ShortID>
            </Identification>
            <Processing code="00.00">
                  <Timestamp>2003-02-12 14:58:07</Timestamp>
                  <Result>ACK</Result>
                  <Status code="00">SUCCESS</Status>
                  <Reason code="00">Successful Processing</Reason>
                  <Return code=„000.000.000“>Transaction
succeeded</Return>
            </Processing>
            <Payment code="DD.SD" />
      </Transaction>
</Response>
```

9.2 Reschedule (RS)

A Reschedule request can be used to alter the payment and job parameters, while the job is running. Please take thoroughly care that the consequences of your Reschedule request are the ones you have intended.

Request:

```
<Request version="1.0">
      <Header>
            <Security sender="123a456b789c123d456e789f012g345" />
      </Header>
      <Transaction mode="LIVE" response="SYNC"
            channel="678a456b789c123d456e789f012g432">
            <User login="421a456b789c123d456e789f012g098"
pwd="56b789c123d456e789f" />
            <Identification>
                  <TransactionID>MerchantAssignedID</TransactionID>

      <ReferenceID>h987i654j321k0981765m432n210o987</ReferenceID>
            </Identification>
            <Payment code="DD.RS">
                  <Presentation>
                        <Amount>10.00</Amount>
                        <Currency>EUR</Currency>
                        <Usage>Order Number 1234</Usage>
                  </Presentation>
            </Payment>
            <Job name="Trial Subscripton">
                  <Action type="DB" />
                  <Execution>
                        <Second>0</Second>
                        <Minute>15</Minute>
                        <Hour>10</Hour>
                        <DayOfMonth>?</DayOfMonth>
                        <Month>*</Month>
                        <DayOfWeek>6L</DayOfWeek>
                        <Year />
                  </Execution>
                  <Notice>
                        <Callable>ANYTIME</Callable>
                        <Number>3</Number>
                        <Unit>DAY</Unit>
                  </Notice>
                  <Duration>
                        <Number>3</Number>
                        <Unit>MONTH</Unit>
                  </Duration>
            </Job>
            <Account registration="678a456b789c123d456e789f012g432"
/>
      </Transaction>
</Request>
```

Response:

```
<Response version="1.0">
      <Transaction mode="LIVE" response="SYNC"
            channel="678a456b789c123d456e789f012g432">
            <Identification>
```

```
                  <TransactionID>MerchantAssignedID</TransactionID>
                  <UniqueID>h987i654j321k098l765m432n210o987
                  </UniqueID>
                  <ShortID>1234.5678.9876</ShortID>
                  <ReferenceID>h987i654j321k098l765m432n210o987
                  </ReferenceID>
            </Identification>
            <Processing code="00.00">
                  <Timestamp>2003-02-12 14:58:07</Timestamp>
                  <Result>ACK</Result>
                  <Status code="00">SUCCESS</Status>
                  <Reason code="00">Successful Processing</Reason>
                  <Return code=„000.000.000“>Transaction
succeeded</Return>
            </Processing>
            <Payment code="DD.RS" />
      </Transaction>
</Response>
```

9.3 Deschedule (DS)

Request:

```
<Request version="1.0">
      <Header>
            <Security sender="123a456b789c123d456e789f012g345" />
      </Header>
      <Transaction mode="LIVE" response="SYNC"
            channel="678a456b789c123d456e789f012g432">
            <User login="421a456b789c123d456e789f012g098"
pwd="56b789c123d456e789f" />
            <Identification>
                  <TransactionID>MerchantAssignedID</TransactionID>
                  <ReferenceID>h987i654j321k098l765m432n210o987
                  </ReferenceID>
            </Identification>
            <Payment code="DD.DS" />
      </Transaction>
</Request>
```

Response:

```
<Response version="1.0">
      <Transaction mode="LIVE" response="SYNC"
            channel="678a456b789c123d456e789f012g432">
            <Identification>
                  <TransactionID>MerchantAssignedID</TransactionID>
                  <UniqueID>h987i654j321k098l765m432n210o987
                  </UniqueID>
                  <ShortID>1234.5678.9876</ShortID>
                  <ReferenceID>h987i654j321k098l765m432n210o987
                  </ReferenceID>
            </Identification>
            <Processing code="DD.DS.00.00">
                  <Timestamp>2003-02-12 14:58:07</Timestamp>
                  <Result>ACK</Result>
                  <Status code="00">SUCCESS</Status>
```

```
                    <Reason code="00">Successful Processing</Reason>
                    <Return code=„000.000.000“>Transaction
succeeded</Return>
            </Processing>
            <Payment code="DD.DS" />
      </Transaction>
</Response>
```

10 Transmission Options

10.1 Https Post Interface

The Https Post Interface is the simplest and fastest integration option available.

Authorization and Login
Each physical server which wants to access the HTTPS interface needs his own sender ID. The Https gateway will service any requests only if it can validate the sender ID inside the header of the xml message:

```
<Security sender="123a456b789c123d456e789f012g345" />
```

Please get back to customer support if you haven't received any sender ID yet. For the configuration of our firewall, please be prepared also to provide the IP address of your sending server.

Especially for manually triggered transactions like all Virtual Terminal transactions, Reversal or Refund transactions it is important to track which user has issued the transaction. For all automated requests a default system user has to be included:

```
<User login="421a456b789c123d456e789f012g098"
pwd="56b789c123d456e789f"/>
```

Since Https is a stateless protocol, the client application needs to resend the sender, login and password on each request by including the Security und User tag.

Please remark, that the xml message must be sent inside a POST request as parameter „load" and – of course – must be url encoded.

The payment system is working with the UTF-8 character set. All incoming request must be fully UTF-8 encoded.

The content-type of your message must be set to:

```
application/x-www-form-urlencoded;charset=UTF-8
```

In contrast to the sender ID the channel ID is a purely logical subdivision of the business context and should not be confused with the sender ID. In other words each sender ID can route several channel IDs and each channel ID can go over several sender IDs.

Before a merchant can access the live gateway, he must successfully pass some basic transaction tests on the test gateway. The link for the downloading the test account is located in the „Implementation Packages" document. Once you are ready with testing, please consult the customer support to get the permission to send transactions to the live gateway.

11 Links

11.1 Test Gateway

URL : https://test-heidelpay.hpcgw.net/sgw/xml

Content-Type : `application/x-www-form-urlencoded;charset=UTF-8`

11.2 Live Gateway

URL : https://heidelpay.hpcgw.net/sgw/xml

Content-Type : application/x-www-form-urlencoded;charset=UTF-8