General information

ING Wholesale Banking

for iDEAL

Version 2.3, April 2010.

Contents

1 Introduction

This document is intended for:

- Online shop owners who wish to integrate iDEAL into their online shop as a payment method (the so-called 'acceptors')
- For developers who are responsible for the actual integration.

1.1 Overview

- Chapter 1, Introduction and Acceptor's obligations, describes the obligations of the online shop owner
- Chapter 2, Registration process, describes all the steps required for you to register with iDEAL.
- Chapter 3, Overview, describes the parties involved in iDEAL, the different ways of connecting to iDEAL (Basic and Advanced) and the protocols supported by iDEAL.
- Chapter 4, Obligation of proactivity, deals in detail with the online shop owner's obligation to take action.

NB: You can download instructions for the integration of iDEAL Basic and iDEAL Advanced (Java, PHP, .NET) from the iDEAL Dashboard (https://ideal.secure-ing.com). The differences between the two methods of connection are explained in section 3.4 of this document. If you registered for iDEAL through a Payment Service Provider (PSP), consult your PSP.

1.2 Acceptor's obligations

You are urgently requested to read this whole document together with the integration manual relevant to you before integrating iDEAL into your online shop. We request your special attention to the following **responsibilities of the acceptor**:

- **Security**: Every iDEAL acceptor (webshop owner) is personally responsible for the secure design of his or her webshop. The software supplied by ING is integrated on all usual security best practices. Incorrect integration may, however, nevertheless lead to an insecure webshop. Your integration manuals for the supporting development platforms (Java, PHP, .NET) devote considerable attention to security aspects.
- **Obligation of proactivity**: Every iDEAL acceptor must comply with the so-called 'obligation of proactivity'. This obligation means that you are responsible for obtaining the status of a transaction before you make a delivery. For more information about the 'obligation of proactivity' see Chapter 4 of this document and the integration manual for the development platform you selected.

- **Testing**: Once iDEAL is integrated into your online shop, you are obliged to carry out a number of tests. These are described in Chapter 2, step 6.1 of this document, and in the 'Testing' chapter of the integration manual for the development platform you selected.
- **Presentation**: You will find the requirements on the presentation of iDEAL on your website at http://huisstijl.idealdesk.com. You will also find iDEAL logos and banners there.

1.3 Further questions?

If you have any further questions after reading the iDEAL documentation (including this document and the relevant integration manual), you can obtain additional information in the following ways:

- From the Frequently Asked Questions (FAQ) section of the iDEAL Dashboard at https://ideal.secure-ing.com.
- By contacting the iDEAL service desk. Our service desk can be reached between 9.00 am and 5.00 pm at ideal@ing.nl or on 020 65 225 80.

2 Registration process

Table 1 describes the entire iDEAL registration process, as shown in Figure 1.

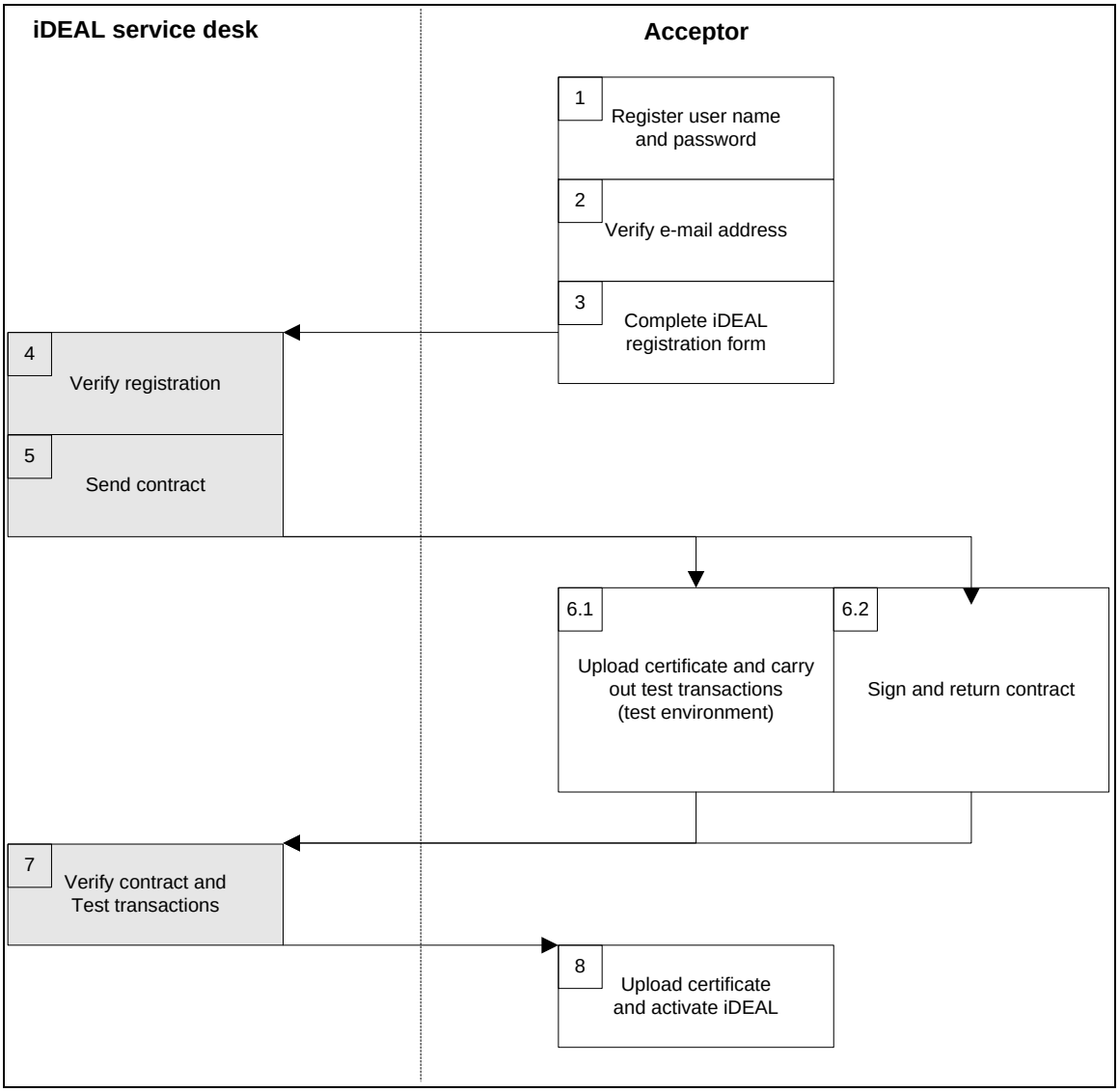

Figure 1: iDEAL registration process

Step	Description	Explanation
1	Register user name/password	The acceptor registers his or her user name, password and e-mail address through the iDEAL Dashboard: https://ideal.secure-ing.com.
2	Verify e-mail address	An activation link is sent to the e-mail address that is entered in Step 1. This e-mail address is verified by clicking on the link.
3	Complete iDEAL registration form	The acceptor logs in for the first time, completes the online registration form for iDEAL, and selects Verzenden (send).
4	Verify registration	The registration is verified by the iDEAL service desk.
5	Send contract	After positive verification, the contract is sent to the acceptor by e-mail.
6.1	Upload certificate and	After receiving the contract (Step 5), the acceptor can start integrating iDEAL into

Step	Description	Explanation
	carry out test transactions (test environment)	the webshop. See the integration manual for iDEAL Basic or iDEAL Advanced (Java, PHP or .NET). All integration manuals can be downloaded from the iDEAL Dashboard. **NB:** If you have decided to work with a Payment Service Provider (PSP), you should contact the PSP to implement the integration with your webshop. After integration is completed, the acceptor has to carry out 7 **mandatory** tests (or have them carried out by the PSP). These tests are performed as follows: – Log into the test environment (https://idealtest.secure-ing.com), using the same combination of user name and password as in Step 1. – Upload your own certificate/public key to the test environment, as described in the relevant integration manual (iDEAL Basic; iDEAL Advanced Java, PHP or .NET). – Send 7 test orders to https://ideal**test**.secure-ing.com/ideal/iDeal. If integration has been performed correctly, these test orders deliver the following results: o Transaction with `amount` = 100: expected result `Success` o Transaction with `amount` = 200: expected result `Cancelled` o Transaction with `amount` = 300: expected result `Expired` o Transaction with `amount` = 400: expected result `Open` o Transaction with `amount` = 500: expected result `Failure` o Transaction with `amount` = 700: expected result `SO1000 Failure in system` (this is not a real error message, but the desired response) o Execute a Directory Request.; expected result `Issuer Simulator` – All test results are sent automatically to iDEAL for verification several times a day. – Check the test results using the menu option *Registration process (Aanmeldproces)*, tab *Status*. This can only be done in the **test** environment. **N.B.** If problems arise during the tests (e.g. different test results), contact the iDEAL service desk. **N.B.** Steps 6.1 and 6.2 can be carried out simultaneously.
6.2	Sign and return contract	The acceptor signs the copies of the contract and returns one copy to the iDEAL service desk. Address details of the iDEAL service desk are in the e-mail received by the acceptor in Step 5. **N.B.** Steps 6.1 and 6.2 can be carried out simultaneously.
7	Verify contract and test transactions	The test results and the contract are verified by the iDEAL service desk.
8	Upload certificate and activate iDEAL.	Following positive verification, the acceptor has to upload his own certificate/public key to the production environment, as described in the relevant integration manual (iDEAL Basic; iDEAL Advanced Java, PHP or .NET).

Step	Description	Explanation
		The acceptor can then activate iDEAL for his or her own online shop through the iDEAL Dashboard.

Table 1: iDEAL registration process

3 About iDEAL – an overview

Every consumer who uses an Internet banking product from a bank that offers iDEAL is in principle able to pay with iDEAL. Every webshop owner can take advantage of this by integrating iDEAL into his or her webshop as a method of payment.

An iDEAL payment through a webshop always consists of the same steps, based on fixed protocols that are conducted between four parties. The external details of the transaction may differ depending on the online shop and the method of connection (iDEAL Basic or iDEAL Advanced).

This chapter describes the parties involved, the most important protocols and the possible methods of connection.

3.1 A model payment

Once iDEAL Advanced is integrated into a webshop, the screens displayed to the consumer may, for example look as follows:

Step 1: Select article and payment method: iDEAL

Step 2: Select bank and pay by Internet banking

Step 3: Confirm iDEAL platform and redirect back to webshop

3.2 The '4-party' model

The iDEAL system is based on bilateral relationships within the so-called '4-party' model.

The 4 parties involved in the model are as follows:

- The acceptor: the online shop owner
- The acquirer: the acceptor's bank (ING)
- The consumer: the customer who wants to buy a product from the acceptor's webshop
- The issuer: the consumer's bank

Figure 2 demonstrates these parties' mutual primary relationships in the context of iDEAL:

- Acquirer-Acceptor: the acceptor has an account with the acquirer. This account is used for iDEAL credits. The acquirer offers the acceptor the opportunity to accept iDEAL payments from consumers. They exchange messages for this purpose.
- Issuer-Acquirer: the issuer and acquirer have a bank-to-bank relationship. They make transfers to and from each other and process these in their account systems.
- Issuer-Consumer: the consumer has an account with the issuer. This account is used for iDEAL debits. The issuer offers the consumer the opportunity to make iDEAL payments to acceptors on the basis of its Internet banking product.
- Consumer-Acceptor: the consumer makes purchases from the acceptor who delivers the purchases upon payment.

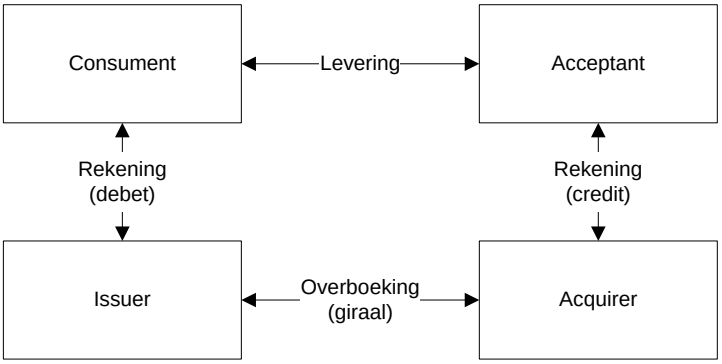

Figure 2: The 4-party model

3.3 The iDEAL protocols

iDEAL enables an acceptor to present a transaction to his or her acquirer and to have it approved by the consumer through his or her issuing bank. In doing so, iDEAL uses a number of so-called *protocols*, of which those below are of importance:

- Directory protocol: the directory protocol enables the acceptor to request an overview from his or her acquirer of issuers who have relationships with that acquirer. With this overview the acceptor can put together a pick list from which the consumer can select a bank.
- Payment protocol: the payment protocol enables the acceptor to present a transaction to his or her acquirer and to have it approved by the consumer at the selected issuer.
- Query protocol: the query protocol enables an acceptor to ask about the status of a transaction.

3.4 Connection methods

ING Bank and Postbank offer two connection methods:

- **iDEAL Basic** is suitable for start-up online shops which have small numbers of transactions and only offer physical products. The integration of iDEAL Basic into the acceptor's own online shop requires a minimal knowledge of HTML and scripting. It is hosted by ING iDEAL Acquiring platform. An acceptor can launch an iDEAL payment by directing a consumer to the iDEAL Acquiring platform through an HTML Post form (including transaction details). There, the entire iDEAL payment is transacted, after which the consumer is redirected to a predefined static URL belonging to the webshop. The acceptor must then request the status of the transaction through the iDEAL Dashboard. iDEAL Basic
- **iDEAL Advanced** is suitable for larger online shops with higher transaction frequencies. It enables the acceptor to carry out directory, payment and query requests from his or her own online shop. The complete transaction is carried out in the online shop's *look&feel* and the status of a transaction can be obtained automatically. Moreover, iDEAL Advanced supports the sale of both physical and virtual products (downloads). iDEAL Advanced therefore offers maximum flexibility, but also requires a technical knowledge of Java, PHP or ASP.NET.

NB: If you are using a Payment Service Provider (PSP), you must contact your PSP in order to activate iDEAL.

Table 2 and Figure 3 give an overview of the differences between iDEAL Basic (part of the iDEAL Acquiring platform) and iDEAL Advanced (part of the webshop).

	iDEAL Basic	**iDEAL Advanced**
Payment process in the online shop's *look&feel*	—	✓
Downloads transaction status automatically	—	✓
Required technical skills	HTML & scripting	Java, PHP or ASP.NET
Security	SHA1 hashcode or product list	SHA1_RSA (OpenSSL required on web server)

Table 2: Comparison of connection methods

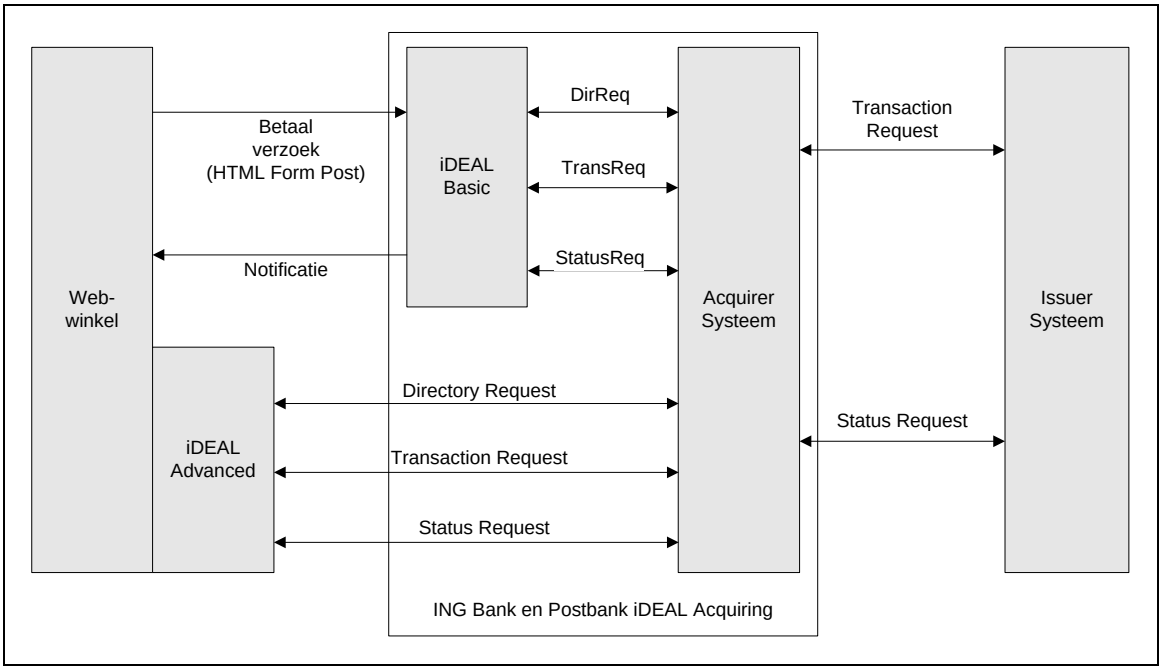

Figure 3: Functional overview of iDEAL Basic and iDEAL Advanced

4 Obligation of proactivity

A transaction carried out through iDEAL can have different statuses. It is the acceptor's responsibility to request the current status of a transaction. This is called the *obligation of proactivity*. The acceptor should only make delivery to the consumer if the transaction has been successful.

4.1 Transaction statuses

Any transaction offered to iDEAL passes through various statuses during processing, always resulting in exactly one final status. The current status can be requested at any time through the iDEAL Dashboard or from the acceptor's own webshop (when using iDEAL Advanced). Further details on requesting the status can be found in section 4.2.

From the point of view of the webshop, transactions can be grouped on the possible interim and final statuses as follows, partly depending on the so-called `expirationPeriod` (period of validity of a payment request):

Processing not yet completed	The status of the transaction is **Open**. This may be the case, for example, if the transaction is linked to an `expirationPeriod` that has not yet expired. Please note: this is an interim status, not a final status.
Processing successfully completed	The transaction has been successful. The acceptant can make delivery. The status is **Succes (Success)**.
Processing not successfully completed	The transaction has been completed, but has not been successful. Several final statuses are possible here: - **Verlopen (Expired)**: The `expirationPeriod` of the transaction has expired. - **Geannuleerd (Cancelled)**: The payment has been cancelled by the consumer. - **Mislukt (Failed)**: A (technical) fault has occurred during the processing of the payment.

NB: ING offers as standard the unique opportunity to have your transactions periodically updated on your account as one total, recognizable by a unique `batchId` per total update. This saves on update costs as well as on the amount of copies. This option is called reconciliation. If you use the reconciliation option, a successful transaction passes through two additional statuses after the status 003 (succes (success)): 007 (gereconcilieerd (reconciled)) and 009 (uitbetaald (paid)). These statuses also indicate a successful transaction. You can therefore make delivery. For more information on reconciliation see the iDEAL Dashboard.

4.2 Status request

The way in which the status of a presented transaction can be requested is partly dependent on the connection method used.

When using **iDEAL Basic**, there is only one way of obtaining a guaranteed transaction status, i.e. through the *Betalingen (Payments)* menu option on the iDEAL Dashboard. Additional information on this subject can be found in the iDEAL Basic manual.

When using **iDEAL Advanced**, the acceptor can obtain the status *automatically* within his or her webshop using the Query protocol. In doing so, you must take into account that the consumer is *not* always automatically redirected to the webshop after initiating a transaction, for example if the consumer closes the browser window early. In this case, too, the obligation of proactivity still applies. The acceptor therefore then has to request the status *afterwards* in a different way, for example through the iDEAL Dashboard or an additional request mechanism in his or her own webshop. Details about this can be found in the integration manual for the selected development platform (Java, PHP, .NET).

NB: You can also subscribe for periodic status overviews through the iDEAL Dashboard, menu option *Rapporten (Reports)*. These reports are made available as downloads or by e-mail as comma separated values (CSV) which you can open, for example, in Microsoft Excel. For more information on this option see the iDEAL Dashboard.