

# GUIDE **E-PAYMENT**

ecommerce4all.eu

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# About the platform

The ecommerce4all.eu platform is a resource and information center on key e-commerce aspects for all CEFTA markets (Albania, Bosnia and Herzegovina, N. Macedonia, Moldova, Montenegro, Serbia, and Kosovo\*). The web platform consists of relevant e-commerce data and resources, including basic e-commerce data, interactive graphs, and data on CEFTA e-commerce market development, as well as data on key aspects of doing business in e-commerce.

The data on key aspects of doing business in e-commerce is structured in five modules: e-commerce data, regulation, payment, delivery, and e-commerce success stories in all CEFTA markets. Each of these modules will contain relevant market-specific information, tutorials, manuals, topic-related documents, and video presentations, except for the first module "e-commerce data" which is meant to present the state of e-commerce in all CEFTA markets through statistics and data on the development of the e-commerce markets (interactive graphs of the state of e-commerce in each market and comparisons of e.g. customers, payment cards, digital skills, UNCTAD B2C e-commerce readiness index and other relevant Eurostat data). All data is presented in both the local language of each of the CEFTA markets and in English.

The platform is supported by the Open Regional Fund for South – East Europe – Foreign Trade project, implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH on behalf of the European Union and the German Federal Ministry for Economic Cooperation and Development (BMZ).

\*This designation is without prejudice to positions on status and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence.

# About the guide

This guide is part of Module 4: "E-Payment" of the regional web platform ecommerce4all.eu, it contains important information related to e-Payment and e-Transaction in N. Macedonia - some of the main processes in e-commerce operations. The purpose of the manual is: to inform about the possibilities and conditions for the implementation of a payment processor, to show the banks that offer the implementation of a payment processor, to explain the processing of an e-transaction and the security of e-payment and through the glossary of terms related to e-commerce, current and future e-sellers to get acquainted with the terminology that is most often used in the e-world.

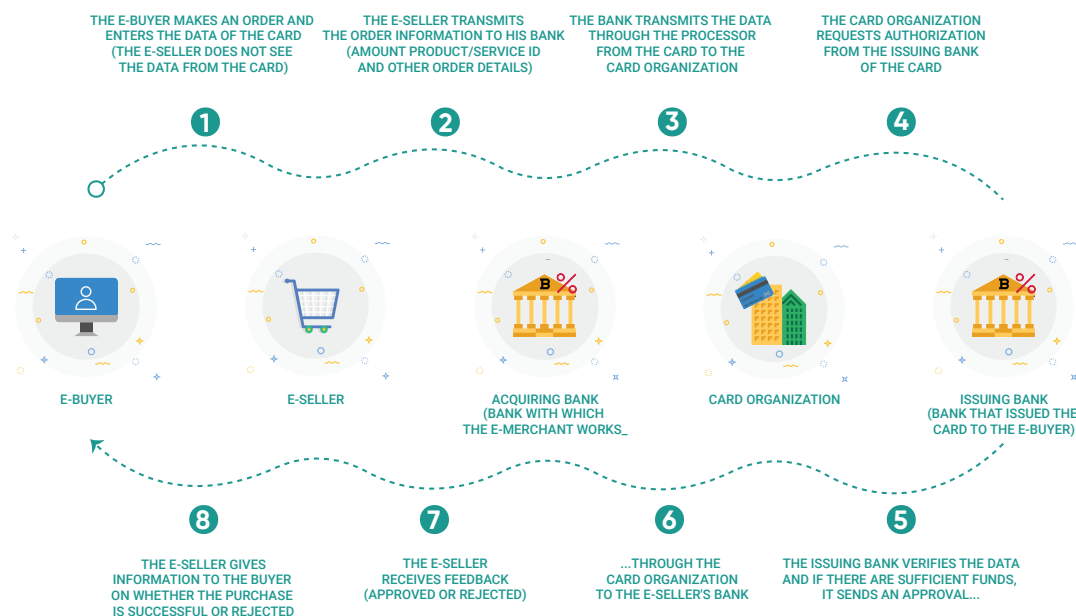
# ONLINE TRANSACTION PROCESSING

## AUTHORIZATION OF E-TRANSACTION

**5 entities** participate in the processing of the online transaction:

- E-merchant (seller);
- Buyer (the end user who performs the transaction)
- Accepting bank, i.e. “acquirer” (a bank with which the e-merchant cooperates);
- Card organization (Mastercard, Visa, Diners, etc.)
- Issuing bank, i.e. “issuer” (the bank – issuer of the end buyer’s card).

In order for the accepting bank to process the online transaction, a payment gateway and a payment processor are required.



**The payment gateway** is the portal through which the accepting bank (e-merchant’s bank) receives the customer’s card data for further processing.

**The payment processor** is a technical tool that is an intermediary between the banks and the international card organization (Visa, Mastercard, etc.) in order to carry out the online transaction. The payment processor can be owned by the bank (in-house) or the bank can use an external payment processor. The processor sends clearing data to card organizations to settle funds from card transactions

## IMPORTANT NOTICE

The e-merchant does not have any insight into the data from the buyer's payment card, and the same is transmitted through the payment gateway directly to the accepting bank – the e-merchant's bank, which then through the payment processor (own or external) transmits the information to the card organization that communicates with the customer's card issuing bank.

In the Republic of North Macedonia, there is one local payment processor – CaSys, which manages the cPay payment gateway, and a total of 5 out of 14 banks offer the e-commerce service, that is, they call themselves “acquiring” banks – these are: Halk Banka, Stopanska Banka AD Skopje, NLB Banka, Komercijalna Banka, and Uni Banka

## CLEARING & SETTLEMENT OF E-TRANSACTION

**Clearing is the exchange of transaction information** between the e-merchant's bank and the card-issuing bank, through the card organizations Visa or MasterCard.

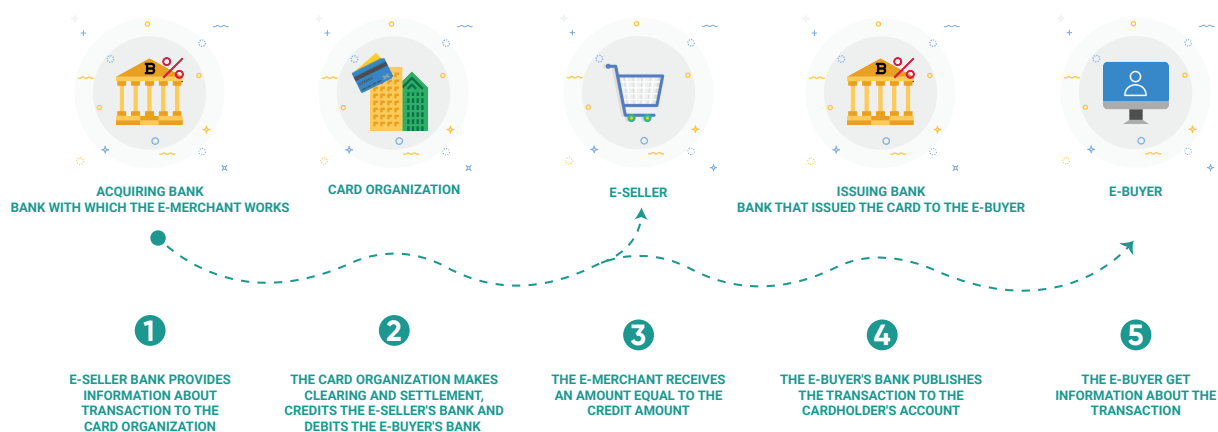
**Settlement is the process of exchanging funds** between the card issuer and the e-merchant's bank to complete the transaction.

**Card transaction clearing and settlement** is facilitated through the Transaction Data Exchange, which is the electronic infrastructure that Visa and MasterCard have put in place to process financial transactions between their member banks. Clearing and settlement of the transaction occurs subsequently.

**The settlement process** may vary slightly from one processing bank to another, but generally goes through the following stages:

- After the end of the business day, the e-merchant's bank submits the transaction information to the appropriate card organization (Visa or MasterCard).
- The card organization clears and settles and sends the transaction information to the card issuing bank and then settles it by crediting the e-merchant's bank account and debiting the card issuer's account.
  - **The amount credited to the e-merchant's bank** is equal to the amount of the transaction, minus fees and minus the commission (the fee that Visa and MasterCard charge for processing each card transaction).
  - **The amount debited from the card issuer's account** is equal to the transaction amount, minus chargeback fees determined by Visa and MasterCard.

- The e-merchant's bank receives its funds, usually within 24 hours of the transaction, and credits the e-merchant's account, usually within 48 hours of the transaction. The e-merchant receives an amount equal to the amount credited to the account of the bank processing the transaction, minus payment processing charges (the rates and fees the merchant has agreed to pay for card processing services).
- The card issuer informs about the transaction made on the cardholder's account.





# ONLINE PAYMENT SECURITY

One of the most important things in e-payment is security. The whole point of the online payment process is to provide the e-merchant with the ability to manage the transaction in a secure environment.

## WHAT MAKES AN E-TRANSACTION SECURE?

The payment gateway can provide e-shops with fraud prevention tools, such as address verification systems, 3DS authentication, systems for monitoring and preventing suspicious and risky transactions, and operational processes that significantly reduce fraud risks if used in combination.

Additionally, payment processors affect the security compliance process, as they must be certified to the PCI-DSS standard.

Today, several **standards and regulations** exist to protect e-merchants and buyers from online payment fraud.

- ⇒ The first layer of protection is from payment card security standards such as the 3D Secure standard. Additionally, to accept credit card payments online, e-merchants and their payment gateways need to be PCI-DSS compliant.
- ⇒ In addition to PCI compliance, e-merchants selling in Europe who wish to accept card payments must also comply with payment regulations – PSD2 (Payment Services Directive), which enforces strong authentication mechanisms in online payment processes, such as SCA (Strong Client Authentication).
- ⇒ Apart from payment regulations, online transactions are also covered by data protection regulations. Merchants in N. Macedonia need to comply with GDPR – a regulation that regulates how consumer data privacy is handled and directly affects the payment process.

Regarding the security of specific payment methods:

- **Credit cards** are among the types of payment that are considered the safest for online transactions, being covered by so many regulations, including 3DS authentication and PSD2 in Europe.
- **E-wallets** offer strict security, since their payment-only approach does not include the sharing of the user's bank details with the e-merchant and their paid portal.

## HOW TO MAKE SECURE ONLINE PAYMENTS AS AN E-SELLER?

As an e-seller, there are a number of tactics you can implement to ensure the security of your e-payments. In addition to reminding consumers about the benefits of online payments, you will teach them how to make online payments safely and what makes your brand stand out in this field.

- **Make users feel safe on your site or your application**  
You use an SSL/TLS certificate that will automatically display a lock icon – a sign that buyers are connecting to a secure transaction, which is located in the web address section of the browser (eg Google Chrome) and set your payment method icons users recognize and trust them, like Visa, Mastercard, Diners, etc. (most often in the footer of web pages).
- **Users should be in the process**  
Communicating with users about the status of their orders, delivery details and previous orders makes the entire online payment process more transparent and resistant to fraud attempts.
- **Review your orders**  
To keep track of your orders, take action to review them periodically. In this way, you will find out if there is any suspicious activity or fraud attempts on your systems.
- **You are using a paid portal with an implemented 3D Secure protocol**  
Not only does it provide an additional layer of security with two-factor authentication, it also protects e-merchants from unwanted return charges.



# OFFERS & POSSIBILITIES

## Komercijalna Banka



**Комерцијална  
банка**

**Department / responsible person:** Bank Card Division

**Contact email:** e-commerce@kb.mk

**Contact number:**

**Mobile banking:** App Store, Google Play, AppGallery

Year since e-commerce was offered	2011
Payment processor for e-transactions	Casys
Payment gateway	cPay [Casys]
Does the merchant have startup costs for e-commerce	Depending on the contract (from 0 to 500 mkd + VAT / month)
Does the merchant pay a monthly/annual e-commerce fee?	up to 500 denars + VAT / month
Transaction processing fee	up to 2.4%
3D security authentication	✓
iFrame technology	✓
Customizing the e-tailer's website with your own branding	✓
Plugins for integration with the most popular e-commerce platforms	✓
API (connection of the bank's system with external systems)	✓
Recurring payments	✓
Saving the card for future payments at the e-merchant (Card on file)	✓
E-merchant can refund transactions independently (via web interface)	✓
Possibility of partial refund of a transaction	✓
Enable payment in installments for buyers at the e-merchant	✗
Loyalty schemes (cashback) in cooperation with e-traders	✓
Additional functionalities and conditions	/

## NLB Bank



**Department / responsible person:** Centralized Sales Service  
**Contact email:** Commercial: CentraliziranaProdazba@nlb.mk;  
 Technical: ecommerce@nlb.mk  
**Contact number:** 02/5100-446 / 02/5100 455 / 02/5100 456  
**Mobile banking:** App Store, Google Play, AppGallery

Year since e-commerce was offered	2009
Payment processor for e-transactions	Bankart
Payment gateway	IXOPAY
Does the merchant have startup costs for e-commerce	Depending on the agreement with the merchant
Does the merchant pay a monthly/annual e-commerce fee?	Depending on the agreement with the merchant
Transaction processing fee	from 2% to 3%
3D security authentication	✓
iFrame technology	✓
Customizing the e-tailer's website with your own branding	✓
Plugins for integration with the most popular e-commerce platforms	✓
API (connection of the bank's system with external systems)	✓
Recurring payments	✓
Saving the card for future payments at the e-merchant (Card on file)	✓
E-merchant can refund transactions independently (via web interface)	✓
Possibility of partial refund of a transaction	✓
Enable payment in installments for buyers at the e-merchant	✓
Loyalty schemes (cashback) in cooperation with e-traders	✓
Additional functionalities and conditions	/

## Stopanska Banka



**Department / responsible person:** Sector for picture products and direct banking / Stefan Peposki and Ljupcho Ivanov

**Contact email:** stefan.peposki@stb.com.mk / Ljupcho.ivanov@stb.com.mk

**Contact number:** 071/351-960 – Stefan Peposki | 072/713-714 – Ljupcho Ivanov

**Mobile banking:** Google Play, AppGallery

Year since e-commerce was offered	2009
Payment processor for e-transactions	Casys
Payment gateway	cPay [Casys]
Does the merchant have startup costs for e-commerce	Yes - one-time cost of 3100 denars which includes technical support during implementation
Does the merchant pay a monthly/annual e-commerce fee?	Yes
Transaction processing fee	from 1,95% to 2,45%
3D security authentication	✓
iFrame technology	✓
Customizing the e-tailer's website with your own branding	✓
Plugins for integration with the most popular e-commerce platforms	✓
API (connection of the bank's system with external systems)	✓
Recurring payments	✓
Saving the card for future payments at the e-merchant (Card on file)	✓
E-merchant can refund transactions independently (via web interface)	✓
Possibility of partial refund of a transaction	✓
Enable payment in installments for buyers at the e-merchant	✓
Loyalty schemes (cashback) in cooperation with e-traders	✗
Additional functionalities and conditions	/

## UniBanka



**Department / responsible person:** Sector for digital banking and deposits for corporate clients;

**Contact email:** verica.serafimov@unibank.com.mk

**Contact number:** 070/727-447

**Mobile banking:** App Store, Google Play

Year since e-commerce was offered	2008
Payment processor for e-transactions	Casys
Payment gateway	cPay [Casys]
Does the merchant have startup costs for e-commerce	Yes (one-time cost of 1,200 denars)
Does the merchant pay a monthly/annual e-commerce fee?	Yes, from 600 denars / monthly
Transaction processing fee	from 2.2% to 2.6%
3D security authentication	✓
iFrame technology	✓
Customizing the e-tailer's website with your own branding	✓
Plugins for integration with the most popular e-commerce platforms	✗
API (connection of the bank's system with external systems)	✗
Recurring payments	✓
Saving the card for future payments at the e-merchant (Card on file)	✓
E-merchant can refund transactions independently (via web interface)	✓
Possibility of partial refund of a transaction	✓
Enable payment in installments for buyers at the e-merchant	✓
Loyalty schemes (cashback) in cooperation with e-traders	✗
Additional functionalities and conditions	/

## HalkBank



**Department / responsible person:** Directorate for alternative channels of distribution-marketing; Directorate for alternative channels of distribution-operations;  
**Contact email:** E-Commerce@halkbank.mk ; CardsMarketing@halkbank.mk  
**Contact number:** 02/3296 330  
**Mobile banking:** App Store, Google Play, AppGallery

Year since e-commerce was offered	2009
Payment processor for e-transactions	In-house
Payment gateway	Payten [Asseco]
Does the merchant have startup costs for e-commerce	No
Does the merchant pay a monthly/annual e-commerce fee?	Yes, monthly/annual fee
Transaction processing fee	from 2.5% to 6%
3D security authentication	✓
iFrame technology	✓
Customizing the e-tailer's website with your own branding	✓
Plugins for integration with the most popular e-commerce platforms	✗
API (connection of the bank's system with external systems)	✓
Recurring payments	✓
Saving the card for future payments at the e-merchant (Card on file)	✓
E-merchant can refund transactions independently (via web interface)	✓
Possibility of partial refund of a transaction	✓
Enable payment in installments for buyers at the e-merchant	✓
Loyalty schemes (cashback) in cooperation with e-traders	✓
Additional functionalities and conditions	/

# GLOSSARY OF TERMS FOR E-PAYMENTS

*\*The glossary is structured in A-Z order*

**A Acquirer** - A financial institution or Merchant Service Provider (MSP) that processes and operates credit card transactions for a business or other merchant customer.

**Acceptor** - A merchant or other entity that accepts a payment instrument presented by a client in order to transfer funds to that merchant or other entity.

**Acquiring processor** - The credit card processor that an acquirer uses so that the acquirer can offer merchants various credit services, including billing, reporting, clearing, and settling. so that the acquirer can offer merchants various credit services, including billing, reporting, clearing, and settling

**Alternative Payments** - Refers to payment methods that are used as an alternative to credit card payments. Most alternative payments have been developed specifically for eCommerce. They can be stored value cards, digital wallets, and other alternative payment methods that are specific to geographic regions and target audiences.

**API** - application programming interface

**Authentication** - A security mechanism for verifying: 1) the identity of an individual or other entity (including verification by means of a computer or computer application); and 2) the level of authority of that person or entity (i.e. the ability of that person or entity to perform specific tasks or activities).

**Authorization** - Process through which merchants request approval for a credit or debit card transaction from the customer's bank. The bank verifies if the account is active and has enough credit or funds to make the transaction.

**Authorization Code** - The code assigned to the transaction once it has been approved by the processor.

**B Backup system** - A system designed to replace the primary system in the event of the primary system being unable to function for whatever reason.

**Bank Account Number (BAN)** - The number of a bank account provided for a given transaction. For any eCheck charge or refund transaction, a full bank account number must be provided.

**Bank Account Type** - This indicates the type of bank account provided by a customer for an eCheck transaction. The valid values for this field are Checking or Savings.

**Bank Identification Number (BIN)** - The first six digits of any credit card, debit card, or other similar financial instrument. A BIN can not only identify the bank from which the card was issued, but it can also identify the ACH network to which the card belongs.

**Bill of exchange** - A written order from one party (the drawer) to another (the drawee) instructing it to pay a specified sum on demand or on a specified date to the drawer or a third party specified by the drawer. These are widely used to finance trade and, when discounted with a financial institution, to obtain credit.

**C Card Data / Customer Card Data** - At a minimum, card data includes the primary account number (PAN), and may also include the cardholder name and expiration date. The PAN is visible on the front of the card and encoded into the card's magnetic stripe and/ or the embedded chip. Also referred to as cardholder data.

**Card Issuer** - 1) The financial institution or retailer that authorizes the issuance of a card to a consumer (or another organization), and is liable for the use of the card. The issuer retains full authority over the use of the card by the person to whom the card is issued.

2) Any bank or organization that issues, or causes to be issued, bankcards to those who apply for them.

3) Any organization that uses or issues a personal identification number (PIN).

**Card Verification Code (CVC)** - A unique value calculated from the data encoded on the magnetic stripe of a card, validating card information during the authorization process.

**CVC2/CVV2 (Card Verification Code and Card Verification Value)** - These are terms used for the codes printed on the cardholder signature panel following the full or partial account number as a security feature. When provided by the cardholder and contained in the authorization record, it allows the issuer to verify the physical presence of the card. Merchant has re-presentment rights and additional protection for specific chargeback codes when issuer approval and authentication of this value occur. Applicable to card-not-present transactions.

**Card Verification Value (CVV)** - A unique value calculated from the data encoded on the magnetic stripe of a VISA card, validating card information during the authorization process.

**CVV2 Status** - This value indicates the level of match between the CVV2 code entered on a transaction and the value that is on file with a customer's credit card company. A code and narrative description are provided indicating the results returned by the processor.

**Cardholder** - The person to whom a bank card is issued or an additional person authorized to use the card.

**Chip** - A small square of thin semiconductor material, such as silicon, that has been chemically processed to have a specific set of electrical characteristics such as circuit storage, and/or logic elements.

**D Data Encryption Standard** - The method that is used to scramble a message or other data into a coded series of bits before transmission.

**Debit** - A charge to a customer's bank card account.

**Debit Card** - Any card that primarily accesses a Deposit Account.

**Digital payment token** - A digital representation of value backed by claims or assets denominated in euro or redeemable in euro, or referring to other digital assets that are accepted under the rules of an electronic payment instrument scheme for payment purposes or to discharge payment obligations in euro, and which enables the transfer of value between end users. Depending on the underlying design, digital payment tokens can be used to effect a transfer of value without necessarily involving a central third party and/or using payment accounts. The term digital payment token excludes the "tokenization" of sensitive data by a surrogate value which is conducted for security reasons to protect the original data and where the token does not represent an asset or claim recorded elsewhere.

**Digital Wallets** - Digital wallets are online payment tools, usually in the form of a mobile app. Also known as an electronic wallet, e-wallet, or mobile wallet. The wallet securely stores virtual versions of payment information - including bank accounts, debit cards, and credit cards, so the customer doesn't need to enter card details or carry a physical card at all to make payments.

**E EFTPOS terminal** - A terminal that captures payment information by electronic means and transmits such information either online or offline.

**Electronic Banking** - A form of banking in which funds are transferred through an exchange of electronic signals between financial institutions, rather than an exchange of cash, checks or other negotiable instruments.

**Electronic Bill Payment (E-Pay)** - An alternative to paper checks for paying bills. Consumers can use PCs, telephones, screen phones, or ATMs to send electronic instructions to their bank or bill payment provider to withdraw funds from their accounts and pay merchants. Payments may be made either electronically or by a paper check issued by the bill payment provider.

**E-commerce** - The sale or purchase of goods or services through electronic transactions conducted via the internet or other computer-mediated networks.

**Electronic Bill Presentment and Payment (EBPP; electronic invoicing)** - Process that companies use to collect payments electronically. It has become a core component of online banking at many financial institutions today. Other industries—including insurance providers, telecommunications companies, and utilities—depend on EBPP services as well.

**Electronic money** -. Electronic money (e-money) is broadly defined as an electronic store of monetary value on a device that may be widely used for making payments to entities other than the e-money issuer. The device acts as a prepaid bearer instrument which does not necessarily involve bank accounts in transactions.



**Electronic payment instrument** - Umbrella term used to describe any physical or digital instrument that is used to make cashless transactions, facilitating the movement from the customer's bank account to the merchant's. Commonly used examples include Credit cards, Debit cards, Direct debits, Payment Service Providers (like Paypal), and E-wallets.

**Electronic payment instrument scheme** - A set of formal, standardized, and common rules enabling the transfer of value between end users by means of electronic payment instruments. It is managed by a governance body.

**Encryption** - The technique of scrambling data automatically in the terminal or computer before data is transmitted for security/anti-fraud purposes.

**End-to-End Encryption** - Uninterrupted protection of the integrity and confidentiality of transmitted data by encoding it at the start and decoding it at the end of the transaction.

**End User** - A natural or legal person making use of an electronic payment instrument governed by a scheme/arrangement for the transfer of value, in the capacity of the payer, payee, or both.

**F Firewall** - Hardware and/or software that protects network resources from unauthorized access. A firewall permits or denies communication between computers or networks with different security levels based on a set of rules and other criteria.

**H Hosting Provider** - Offers various services to merchants and other service providers, where their customers' data is "hosted" or resident on the provider's servers. Typical services include shared space for multiple merchants on a server, providing a dedicated server for one merchant, or web apps such as a website with "shopping cart" options.

**I Issuing Bank** - A bank or other financial institution that issues all kind of cards (debit, credit, prepaid, e-money) to customers. The terms "Card Issuing Bank" and "Issuer" are often used in place of Issuing Bank.

**M Malware** - Malicious software is designed to infiltrate a computer system to steal data or damage applications or the operating system. Such software typically enters a network during many business-approved activities such as via email or browsing websites. Malware examples include viruses, worms, Trojans (or Trojan horses), spyware, adware, and rootkits.

**Merchant Bank** - A bank or financial institution that processes credit and/or debit card payments on behalf of merchants. Also called an "acquirer," or "acquiring bank,".

**Merchant Account** - An account from a bank or a financial institution that a merchant uses specifically to accept funds in a variety of ways including from electronic payments such as credit or debit cards.

**Mobile payment (m-payment)** - A payment where a mobile device is used at least for the initiation of the payment order and potentially also for the transfer of funds.

**Mobile Payment Acceptance** - Using a mobile device to accept and process payment transactions. The mobile device is usually paired with a commercially available card-reader accessory.

**Multi-Factor Authentication** - Method for authenticating a user when two or more factors are verified. These factors include something the user has (such as a smart card or dongle), something the user knows (such as a password, passphrase, or PIN), or something the user is or does (such as fingerprints, other forms of biometrics, etc.).

**N Net Payment** - Payment to the merchant for sales drafts with fewer credits minus the appropriate discount fee.

**Net Revenue** - Discount income less interchange expense.

**Net Settlement** - The settlement, through an actual transfer of funds, of the net effect of a series of financial transactions involving customers of two or more banks.

**Notification of Change** - A notice is given to a merchant from a bank or another financial institution that signifies there was an error with some of the account information that was provided with a particular transaction. Notification of changes will include the correct account information.

**O Online card transaction** - A card transaction that is authorized following explicit approval by the issuer at the time of the transaction.

**Online Payments** - The process of exchanging money electronically to pay for goods or services, using the internet, computer networks, and digitally stored value systems.

**P P2P Payment** - peer-to-peer payment

**Payer** - The party to a payment transaction that issues the payment order or agrees to the transfer of funds to the payee.

**Payment** - In a strict sense, a payment is a transfer of funds that discharges an obligation on the part of a payer vis-à-vis a payee. However, in a technical or statistical sense, it is often used as a synonym for "transfer order".

**Payment Application** - Related to PA-DSS, a software application that stores, processes, or transmits cardholder data as part of the authorization or settlement of payment transactions.

**Payment Application Vendor** - An entity that sells, distributes, or licenses a payment application to POS integrators/resellers for integration into merchant payment systems, or directly to merchants for their own installation and use.

**Payment Card** - A payment instrument, which is based on the rules of a card scheme, used to withdraw or place cash and/or enable a transfer of value at the request of the payer (via the payee) or the payee in respect of an end-user account linked to the card.

**Payment Gateway** - An electronic system that lets merchants submit payment transactions to payment processing networks. This system also gives merchants transaction reports, as well as management and billing services.

**Payment Order** - An instruction sent by a payer or a payee to a payment service provider requesting the execution of a payment transaction.

**Payment processor** - A payment processor is a company that manages the card transaction process, acting as a kind of mediator between the bank and the merchant. Put simply, the payment processor communicates information from the customer's card to the merchant's bank and the customer's bank. Assuming there are enough funds, the transaction goes through.

**Payment service provider** - A natural or legal person providing services (e.g. issuing, acquiring, the authorization of transactions, the authentication of end users) enabling the transfer of value between end users. This also includes crypto-asset service providers when delivering services relating to digital payment tokens.

**Payment service user** - A natural or legal person making use of a payment service in the capacity of the payer, payee, or both.

**Payment System** - Encompasses the entire process for accepting card payments in a merchant retail location (including stores/shops and e-commerce storefronts) and may include a payment terminal, an electronic cash register, other devices or systems connected to the payment terminal (for example, Wi-Fi for connectivity or a PC used for inventory), servers with e-commerce components such as payment pages, and the connections out to a merchant bank.

**PIN (Personal Identification Number)** - The confidential individual number or code used by a cardholder to authenticate card ownership for ATM or POS terminal transactions.

**PIN Authorization Request** - A procedure enabling the issuer to validate cardholder identity by comparing the PIN to the account numbers.

**PIN Verification** - A procedure utilized by or on behalf of the Issuer Participant to verify the identification of the Cardholder as a result of the use of the PIN upon receipt of a Transaction request.

**R Receipt** - A hard copy description of the transaction that took place at the point-of-sale, containing at a minimum: date, merchant name/location, primary account number, type of account accessed, amount, reference number, and an action code.

**Receiver** - The individual, company, or institution that has given an originator permission to issue a refund or charge a transaction to their bank account.

**Retailer** - In eCommerce terms, any business that accepts credit or debit cards, alternative payment methods, or digital wallets, as a source of payment. The retailer is the party that offers goods for sale or provides services in exchange for payment.

**S Secure Payment Page** - A secure payment page assures consumers that their payment information is encrypted for privacy and data integrity before it is sent over the Internet. This page is typically identified by the “s” in https:// (instead of http://). Payment gateway providers make this necessary eCommerce link possible by hosting the payment gateway software and individual secure payment pages on their own servers.

**Security Code** - A three- or four-digit value printed onto the front or back signature panel of a payment card. This code is uniquely associated with an individual card and is used as an additional check to ensure that the card is in possession of the legitimate cardholder, typically during a card-not-present transaction. Also referred to as a card security code.

**Service Provider** - A business entity that provides various services to merchants. Typically, these entities store, process, or transmit card data on behalf of another entity (such as a merchant) OR are managed service providers that provide managed firewalls, intrusion detection, hosting, and other IT-related services. Also called a “vendor.”

**Seller or Online Seller** - An individual or business that sells products or services and can accept payment for products and services via a Seller account.

**Shopping Cart Software** - Shopping cart software allows the cardholder to select items from an online store and place them in a virtual shopping basket or shopping cart. The shopping cart remembers which items are selected while the cardholder views other items within the virtual storefront, keeps a running total, and may calculate taxes and shipping. The items in the shopping cart are eventually ordered if the cardholder chooses.

**T Transaction** - Any event that causes a change in an organization’s financial position or net worth, resulting from normal activity. The advance of funds, purchase of goods at a retailer, or when a borrower activates a revolving line of credit. Activities affecting a deposit account are carried out at the request of the account owner. One example of a transaction is the process that takes place when a cardholder makes a purchase with a credit card.

**Transaction Date** - The actual date on which a transaction occurs. Used in recording and tracking transactions.

**Transaction Fees** - Service costs charged to a merchant on a per-transaction basis.

**Transaction ID (Trans ID)** - Each transaction within the system is assigned a unique transaction ID. This ID may be used to sort or identify specific transactions within the system.

**Transaction Status** - Each transaction within the system is given a unique status value to indicate the current processing state. A transaction status provides summary information regarding the state and subsequent actions that may be performed against a transaction. The following values may appear in the transaction status field: Authorized/ Pending Capture, Captured/Pending Settlement, Credit/ Pending Settlement, Declined, Voided, Credited, General Error, Communication Error, Settled Successfully, Under Review, Review Failed.

**U Unencrypted Data** - Any data that is readable without the need to decrypt it first. Also called “plaintext” and “clear text” data.

**User account** - An account held in the name of one or more end users which is used in the initiation or acceptance of transfers of value stored or registered on the account.

**V Vendor** - A business entity that supplies a merchant with a product or service needed for the course of business. Where services are offered, the vendor may be considered a service provider and may require access to physical locations or computer systems within the merchant environment that could affect the security of card data.

**Verified by Visa®** - This is a program offered by Visa to increase security and reduce fraud on internet-initiated purchases. One of the 3-D Secure protocols. The merchant’s website interfaces with Visa to obtain the specified fields at the time of purchase. These values are then submitted with the authorization request to verify that this is an authentic cardholder purchase.

**Virtual Payment Terminal** - Web-browser-based access to an acquirer, processor or third-party service provider website to authorize payment card transactions. Unlike physical terminals, virtual payment terminals do not read data directly from a payment card. The merchant manually enters payment card data via the securely connected web browser. Because payment card transactions are entered manually, virtual payment terminals are typically used instead of physical terminals in merchant environments with low transaction volumes.

**Virtual Private Network (VPN)** - The VPN consists of virtual circuits within a larger network, such as the Internet, instead of direct connections by physical wires. The endpoints of the VPN “tunnel” through the larger network, which is done to create a private, secure connection.

**3-D 3-D Secure** - The name for a group of protocols designed as an additional security layer for online credit and debit card transactions. Each of the major credit cards has its own version of the 3-D Secure protocols.



Project implementer



Project partners



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