

The Fundamentals of Payment Processing

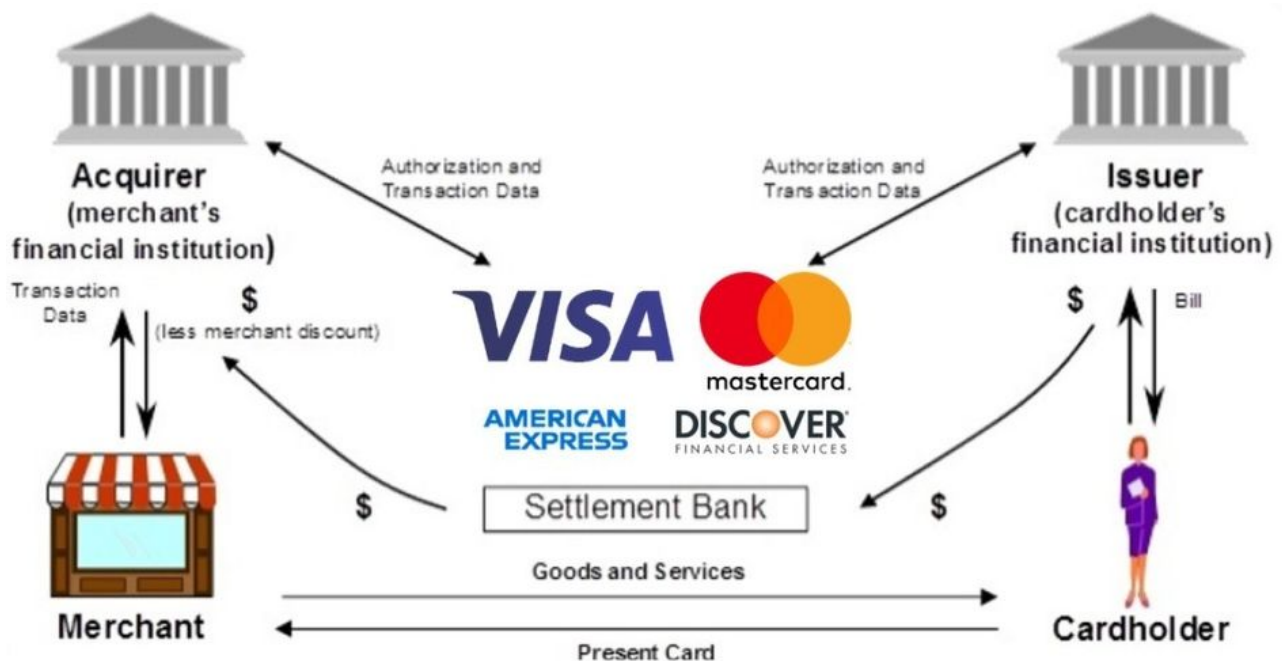
This section covers the fundamentals of payment processing on the Visa / MasterCard / Discover / etc, networks (**The Card Networks**).

The Transaction Process:

In any card network transaction there are multiple parties and entities involved:

- The **Cardholder**
 - The customer (person or company), that is purchasing a product from the Merchant.
- The **Merchant**
 - The company that is selling the product and charging the customer. When you buy something from [Amazon.com](https://www.amazon.com), the Merchant is Amazon.
- The **Issuing Bank**
 - The bank that issued the customers card. If you were the customer, the issuing bank would be your bank, the bank that provided you with the card. The first 6-8 digits of your card identify your issuing bank, you can try it your self, by entering the first 6-8 digits here:
[Free BIN/IIN Lookup Web Service - binlist.net](https://binlist.net)
- The **Acquiring Bank**
 - The bank that issued the Merchant, with a Merchant Account that can process payments on the Visa / MasterCard network. The Merchant had to enter into an agreement with a bank, that would “sponser” his ability to transact on the Visa / MasterCard networks.
 - The Acquiring bank and the Issuing bank can be the same bank.
- The **Card Network**
 - The card networks (*the schemes*) are Visa, Mastercard, Discover, Amex, etc. The card networks do not transfer any money, they act as a messaging network, handling transaction messages between Issuers and Acquirers.
- The **Merchant Settlement Bank**
 - The Merchant settlement bank is not very relevant for our product, but it is the bank the Merchant instructed the Acquirer to send his settled funds to. It would be the Merchant regular bank account.
- The **Payment Gateway**
 - As Acquiring banks typically specialize in risk management and transacting on the Visa / MasterCard networks, they do offer easy technical integrations towards Merchants. Their integrations are typically old, poorly documented non-public API's, that would be difficult for Merchants to deal with.
 - The payment gateway is typically a tech company, that offers the merchant a safe & secure connection to the Acquiring Bank. A Payment Gateway typically offers connections to multiple acquiring banks.
- The **Merchant Account**

- You can think of the Merchant Account as a channel created for a specific Merchant, with a specific Acquiring bank which is assigned a unique id on the Visa / MasterCard networks. This Merchant Account can only be used to process transactions for this specific Merchant.
- A Merchant Account is identified by a MID (Merchant Identification Number), which is the unique number that identifies this merchant account on the Visa / MasterCard networks.



The fundamentals of a Card Transaction. - (Consider updating to match description below)

When you have put items in your cart on Amazon, and you proceed to pay for your order, multiple events occur behind the scenes.

1. **Collection:** Amazon or their payment gateway collect your card information.
2. **Charge:** Amazon or their payment gateway construct a message that they send to the Acquiring Bank, the message specifies:
 - a. **Who:** The cardholder card details
 - i. The cardholder details are typically collected in an iFrame by the payment gateway, as they are considered sensitive.
 - b. **How Much:** How much the cardholder should be charged (the order value).
 - c. **By Who:** Which MID should be used to conduct the transaction (the ID of the Merchant with Visa / MasterCard).
3. The **Acquiring Bank** receives the message, and constructs their own message which they send to the **Issuing Bank** via the appropriate card network. If the card is a **Visa card**, they will send the message via the **Visa network**.
4. The **Issuing Bank** receives the messages, they can choose to decline the transaction or proceed with the transaction, if they proceed with the transaction, and the merchant has the funds available on his card, the transaction will be considered successful.

5. When the **Acquiring Bank** receives the response, they will forward it to the **Merchants payment gateway**, who will forward it to the **Merchant**.
6. The **Merchant** can now proceed to ship the order to the **Customer**.
7. In the background, the money will be deducted from the **Cardholders account** by the **Issuing Bank**, and sent to the **Acquiring Bank**, who will then settle it to the **Merchants settlement bank**.

This brief overview covers the fundamentals, there are other transaction types, such as authorizations, captures, refunds, voids etc, and different flows depending on transaction type and security level. The overview does not cover 3D secure transaction, merchant initiated transaction such as recurring payments, etc.

There are also cases where the parties have different roles, such as in case of payment facilitators that can issue merchant account them self.

This brief overview is meant to give you an understanding of the basics.

Read more:

You should continue to read the other sub-sections within this confluence page.

You can read more about the fundamentals here:

- [📄 5 Basic Steps of the Card Transaction Process](#)
- [📄 Merchant accounts: What merchants need to know | Stripe](#)
- [📄 The complete guide to credit card processing](#)