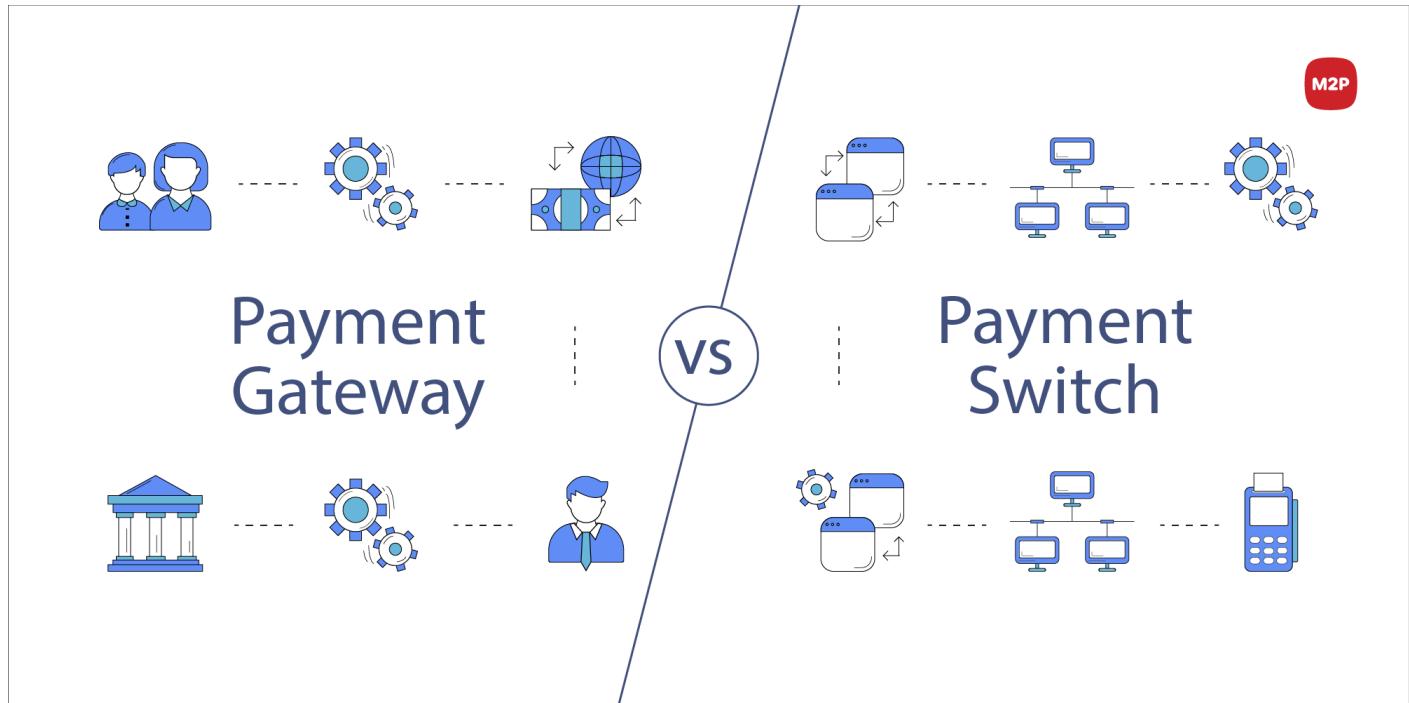


What is a Payment Gateway and Payment Switch?



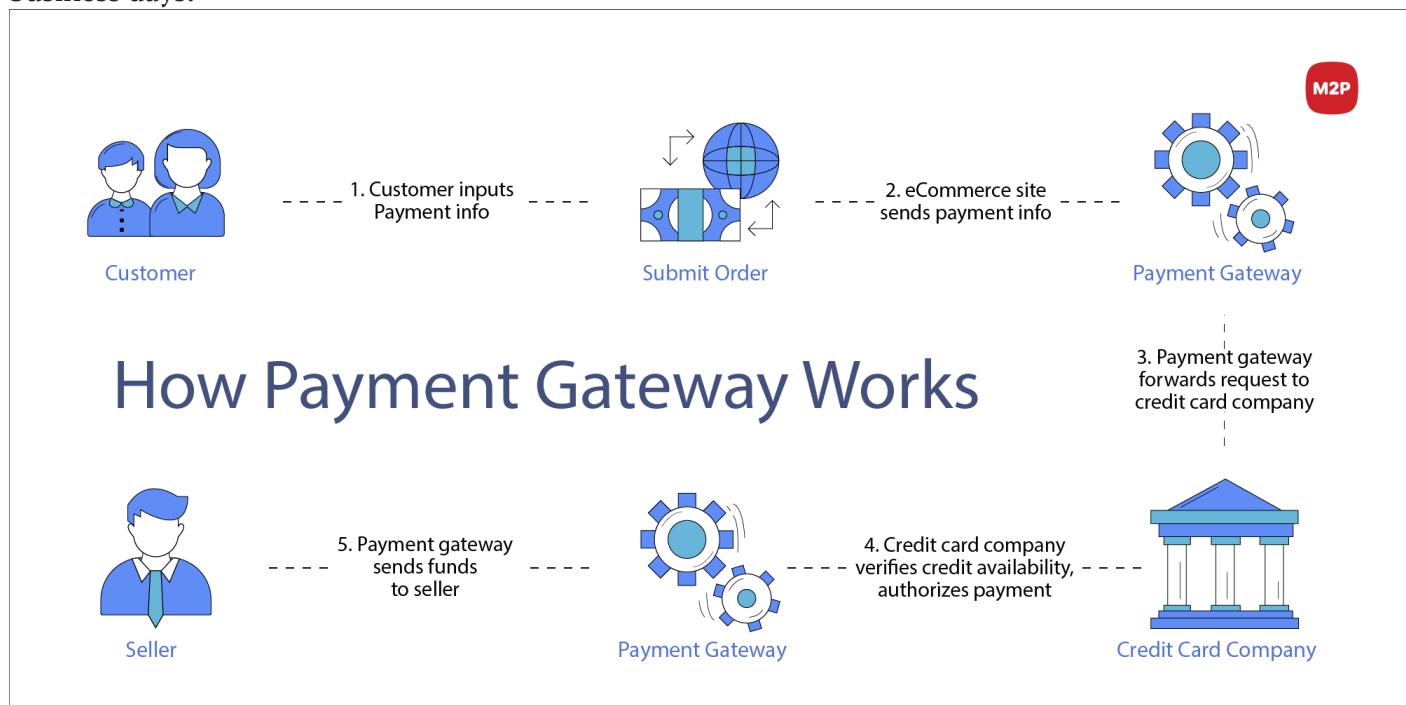
What is a Payment Gateway?

A payment gateway is a tool that potentially takes care of the transaction process end-to-end, covering security to settlement. A payment gateway, also known as the facilitator of the payment, is an online digital cashier who charges, verifies, collects cash, and hands over the deliverables.

Payment Gateway is developed and launched by fintech to allow merchants (businesses) to accept the payments in their selling platform, online or offline.

They are third-party software sitting between businesses (merchant selling platform) and issuing bank accounts. This software creates a pathway in which the user (customer) can submit his/her sensitive information (card details, passwords, PINs) to the merchant in exchange for the promised goods.

The payment gateway validates the submitted information, checks for the fund availability, deducts the fund. When the products are shipped or handed over, the fund is moved to the merchant account in 1–2 business days.



The powerful coding lines in the payment gateway enable the user to request a payment transaction within the seller platform. It assists the transaction process by executing the following steps,

- Accepts the payment request.
- Verifies the user's card details or submitted account details.

- Check for the fund availability.
- Processes the transaction.
- Transfers the fund to the acquirer's bank account (merchant bank account)

In simple terms, the software allows the smooth transaction between the issuing and acquirer's accounts.

Benefits of a Payment Gateway

1. Allows millions of users to perform a transaction with the merchants.
2. Reduces the fraudulent services in online payments with various authentication steps like OTP, CVV, or CCV
3. Allows multiple payment options like a credit card, net banking, mobile wallet, or digital transactions.
4. Easy report generation, reconciliation, and settlement for accounting frameworks.

What is a Payment Switch?

A payment switch is also a technology embedded into the payment gateways. It is an independent entity that conveniently sits inside the payment gateways to assist the payment processing.

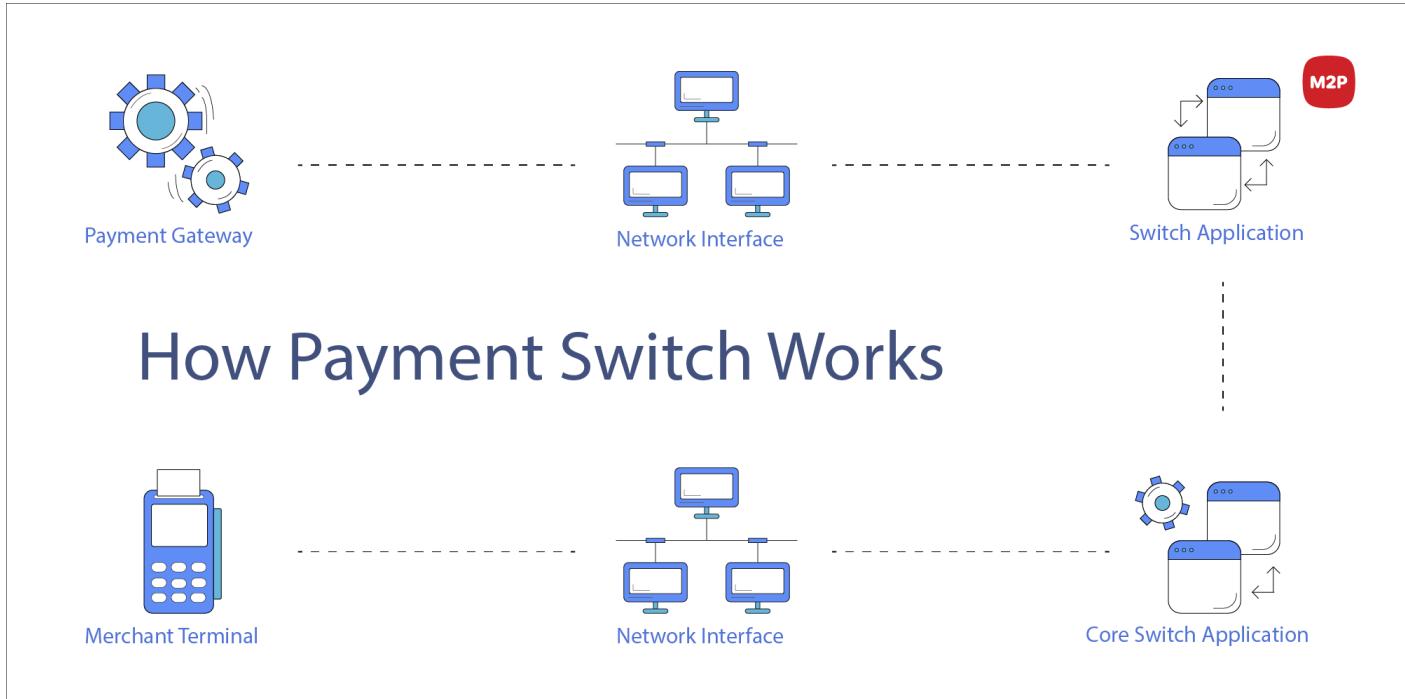
Being an OLTP (online transaction process tasks) a payment switch takes care of all the nuances inside a transaction. Suppose the payment gateway is a founder who oversees the transaction. In that case, the switch is the executive who does the actual payment processing tasks.

In a payment gateway, multiple merchant accounts are boarded with their bank (acquirer bank). So, when a payment request comes from a merchant selling platform, the switch dynamically identifies the acquirer bank (associated with that merchant) and the issuing bank of that specific request through **BIN** allotment and then permits the transaction to happen securely.

BIN allotment is one among many ways for the payment switch to route the transaction. It also supports routing by amount, routing by the time of the day. Once it receives the message from the issuing bank, it formats and sends back the response to the acquirer.

The payment switch is a flexible entity accepting the payment request from the payment gateway and beginning the transaction steps.

- Accepts the validated payment request from the PG.
- Reads the merchant rules for the transaction process.
- Identifies the PSP for that particular payment request.
- Routes (switches) the transaction based on a BIN allotment for a specific PSP associated with that payment request.
- Processes the transaction based on failure or success.



Benefits of a Payment Switch

1. Highly Scalable
2. Dynamic Routing
3. Fewer outages issues
4. No more connectivity time out
5. Secure and eliminates the fraud risks because of the encrypted BIN allotment.
6. Allows extension of payment networks

Payment Gateway vs. Payment Switch

In the whole payment ecosystem, payment gateway and payment switch are the two variables that have become the atom to all the online and offline businesses appending banks. The two entities are not different but not the same too. They are embedded into each other to reduce downtime and outages.

It is easy to confuse both and interpret them as one, but it is not. Although on a bird's view, the operations of both are alike, the underlying subtlety in the payment processing tasks differentiates payment gateway from payment switch.

How do they work together in sync?

Payment gateway and Payment switch work together in a fashionable way enabling faster, safer, and dynamic transactions. In a fraction of a second, the payment gateway can process more than a million transactions because of the flexible switch.

You can imagine a payment gateway as the train track, and the payment switch is the railroad switch to change train routes. Just like the railroad switch guides the train to their proper destinations, the payment switch guides the transaction process to the right acquirer's place.