

Digital wallets, modern cards, and tokenization

What you need to know



Consumers are increasingly using the digital wallets on their phones in place of conventional wallets in their pockets. By 2025, digital wallets are expected to become the second most-preferred method of payment after cards and the most-preferred method of payment among millennials.*

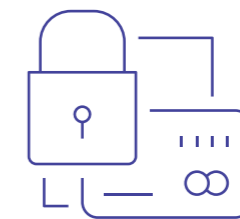
Digital wallets are growing in popularity thanks to their convenience and superior payment experience. For merchants, digital wallets eliminate the risk that a primary account number will be stolen in a data breach. They also minimize interruptions caused by a lost, stolen, or expired card.

For organizations that offer branded payment cards built on a modern card issuing platform, digital wallets are now one of the fastest and most secure ways to empower third parties — employees, customers, and contractors — to make payments on their behalf.

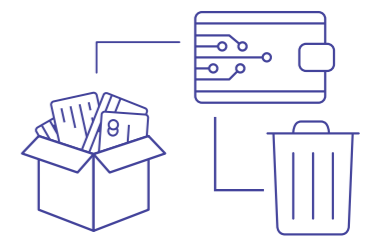
Why digital wallets matter to your business



Instant issuance



Fraud mitigation



Lifecycle management

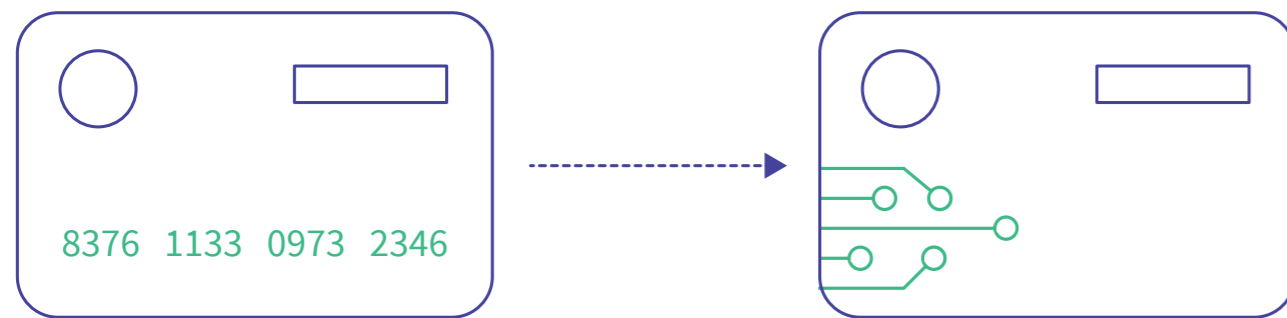
* Credit Union Times, "Booming Mobile Wallet Adoptions Could Shrink Payments Fees by 2025," by Tina Orem, January 27, 2020

A fast, secure, convenient, and durable payment option

A modern card issuing platform — like Marqeta — can enable instant card issuance to any digital wallet and abstract away all the behind-the-scenes complexity. For businesses ranging from digital banks to on-demand employers, this is an ideal way to provide customers, contractors, and employees with a way to make in-store purchases. Unlike traditional payment instruments, the risk of misuse is minimized. Modern payment cards come with dozens of dynamic controls.

The requirement that all payment cards be tokenized before they are inserted into a digital wallet ensures account details remain protected even if a device is stolen. Meanwhile, payment cards stored in wallets cannot accidentally fall out of those wallets or be left behind on a restaurant table. There is also no risk they will suffer damaged chips, cracked plastic, etc. Even if the device that hosts the digital wallet that contains the card is lost, the card itself, along with the dollar value it represents, can be re-created on a new device.

How tokenization protects payments



Tokenization brings multilayered security to cards.

Tokens, explained

The principle behind tokenization is that a thief can't steal your credit card number out of an electronic database if it isn't stored there in the first place. Rather than present a merchant with a card number, digital wallets offer up tokens — strings of characters that mask primary account numbers from both the merchant and any ne'er-do-well who may be attempting to infiltrate the payment process. Tokenization is the process of creating this surrogate data in a manner that allows

transactions to move forward. Card verification values — the three or four digits on the back of traditional plastic cards — are static codes that can be lost or stolen. In contrast, tokenization typically includes dynamically generated security codes for each transaction, further enhancing the level of protection. These codes, sometimes called cryptograms, are created with cryptographic keys.

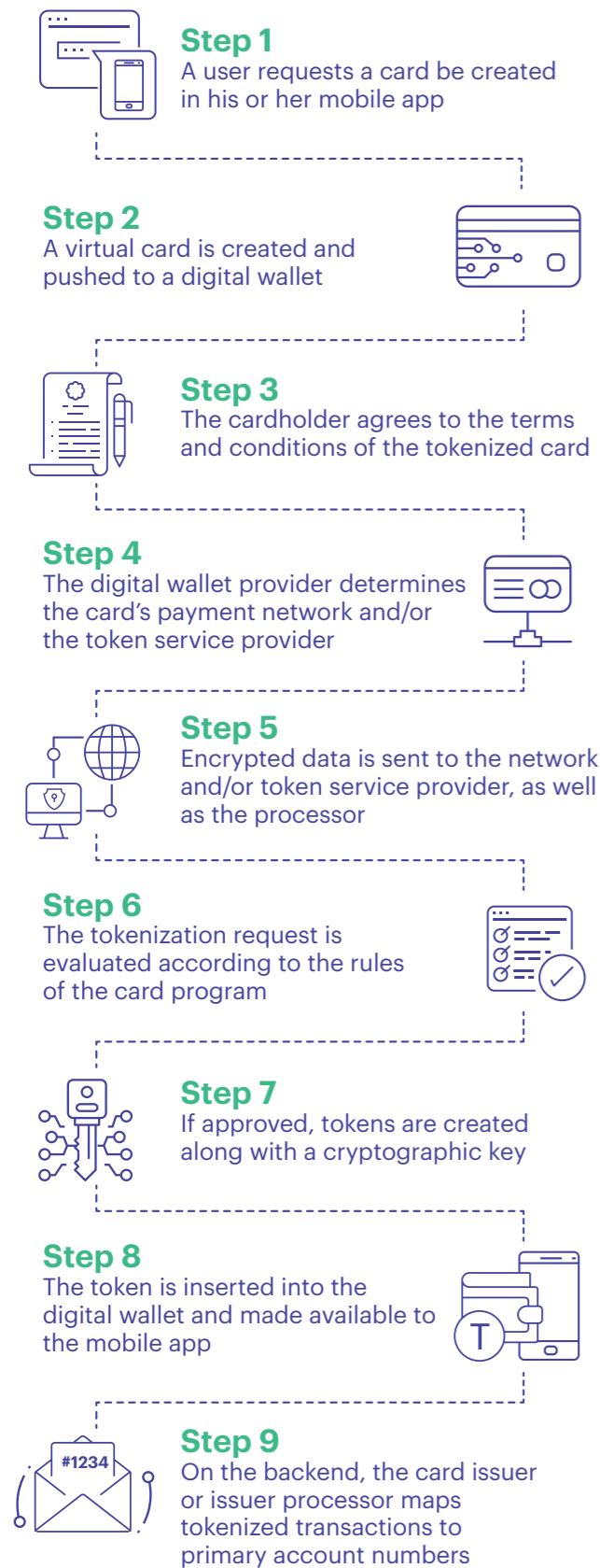
How modern card issuing and tokenization work together

Tokenization happens behind the scenes and is typically initiated in four primary ways.

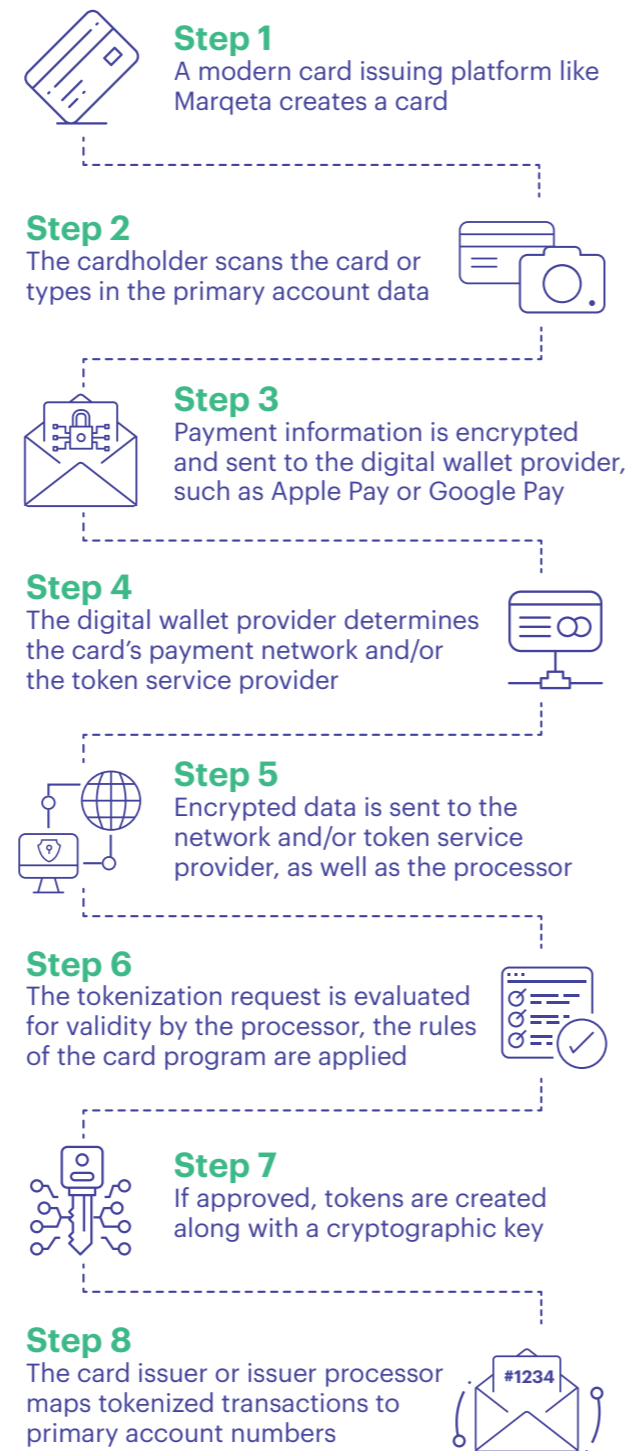
- 1 Cards are manually added to a digital wallet by a cardholder after they are issued by a card program.
- 2 Cards are programmatically issued at the request of a mobile app and sent to a digital wallet; after a cardholder confirms a card's addition to a wallet, it is ready for use.
- 3 Cards already stored in a digital wallet, often referred to as cards on file, are tokenized again when they are used by a second device, like a watch.
- 4 Cards stored by an e-commerce site, such as Netflix, are tokenized at the site's request; this increases security and ensures that payment will not be interrupted if a card is reported lost or stolen. It also minimizes a merchant's exposure if a data breach occurs.

After a request for tokenization is initiated, it is sent to the network and/or token service provider, who coordinates with the issuer or issuer processor to ensure the request is valid. If approved, a token is created and customized according to the business rules of the card program.

Tokenizing cards that are instantly issued via a mobile app



Tokenizing cards that are manually inserted into a digital wallet

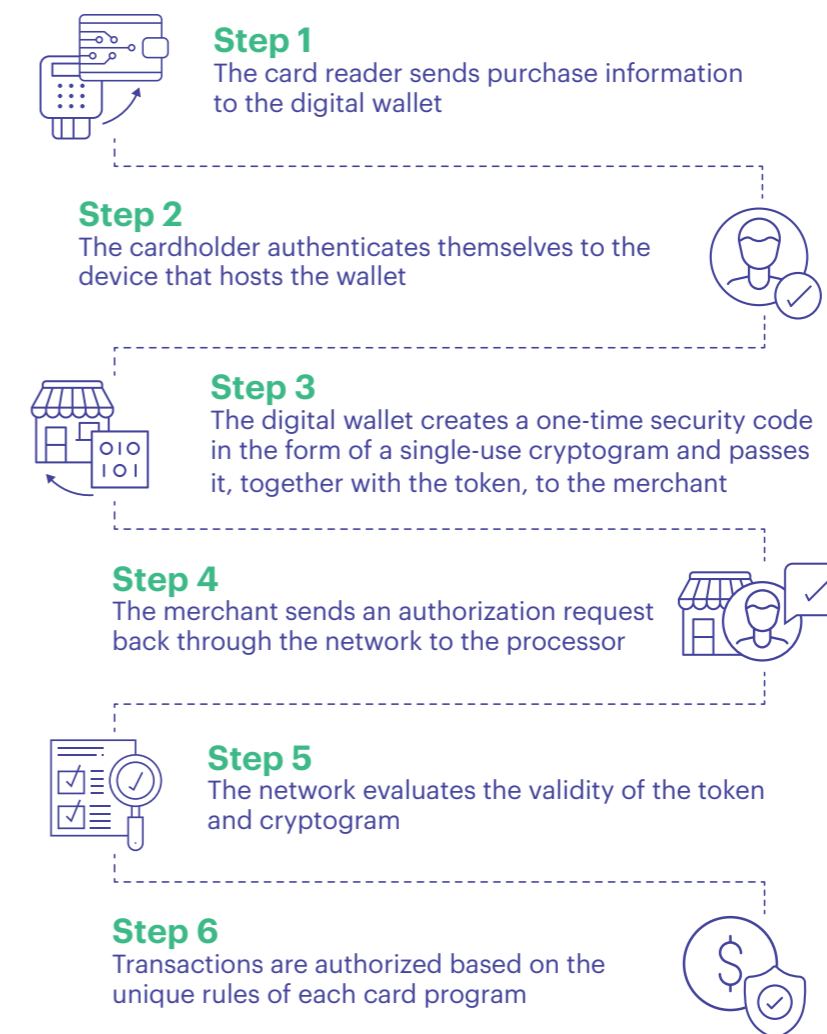


How can tokens be used to make payments?

There are two ways a tokenized card can be presented for payment. At merchants who have updated card readers to accept contactless payments, a cardholder can simply open their digital wallet and hold it near the card reader to pay. Likewise, when a cardholder is shopping online, whether on a PC or a mobile device, he or she can make a

tokenized payment by tapping "check out with Apple Pay" or "pay with Google." Merchants may also request tokenized payments from an issuer or an issuer processor in lieu of retaining a card on file. This use of tokenization can happen without a cardholder being aware of the increase in security.

Tokenization step by step



Do digital wallets provide a better customer experience?

People who pay with a basic digital wallet are often surprised by how smooth and seamless the experience is. Using a regular wallet to pay for groceries can involve a lot of fumbling around, not to mention the occasional

moment of panic that a card has been misplaced. In contrast, paying with a digital wallet on a phone or a watch typically involves a mere tap or swipe. And you can say goodbye to bulky, overloaded pant pockets.

Card art helps virtual cards stand out

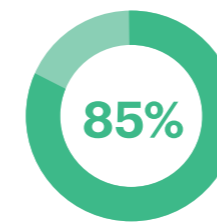


Where are digital wallets accepted?

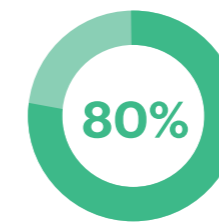
Any merchant who accepts standard EMV contactless payments can usually accept digital wallets such as Apple Pay and Google Pay. Thanks to worldwide adoption of the EMV contactless specifications, you can now travel the globe without carrying a physical wallet, much less strapping on a hidden money belt.

As of 2018, the adoption rate for EMV chip cards, which predate contactless payments, was more than 85% for Western Europe, Latin America, the Caribbean, Africa, and the Middle East.** Contactless payment cards use a combination of a traditional EMV chip, a contactless chip, and a RFID antenna. Most new POS terminals for EMV chip cards can also accept EMV contactless payments.

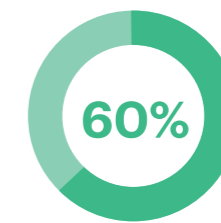
EMV chip card acceptance is paving the way for digital wallets



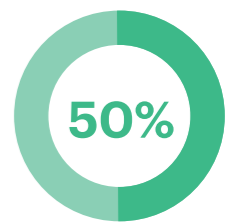
in Western Europe, Latin America, the Caribbean, Africa, and the Middle East.



in Eastern Europe



in the United States



in Asia Pacific

** Source: www.emvco.com: These numbers represent the populations of merchants who belong to credit card networks in their countries and region and who accept EMV chip cards.

Summary

As digital wallet acceptance grows around the world, individuals and organizations are enjoying a seamless and highly secure alternative to paying with checks, ACH, wires, or physical cards. By using a modern card issuing platform like Marqeta to tokenize cards to digital wallets, organizations can enjoy the benefits of instant issuance, low lifecycle costs, and a reduced risk of fraud. Early adopters are not only enjoying the benefit of instant issuance, low lifecycle costs, and a reduced risk of fraud, they also have a competitive advantage over peers who stick with traditional payment methods.

Explore how Marqeta's modern card issuing platform can open up the benefits of digital wallets and tokenization to your company. Visit marqeta.com or discuss your use case with one of our experts directly.



About Marqeta

Marqeta is the modern card issuing platform empowering builders to bring the most innovative products to the world. Marqeta provides developers advanced infrastructure and tools for building highly configurable payment cards. With its open APIs, the Marqeta platform is designed for businesses who want to easily build tailored payment solutions to create best-in-class experiences and power new modes of money movement. Marqeta is headquartered in Oakland, California.