



FUTURE OF SIMPLIFIED PAYMENTS:

Embracing the Network Tokenization Revolution



Digital commerce is the new normal for everyday payments

> \$8.1T

online purchases to
grow by 55% by 2026¹

A decade ago, only 6% of retail sales were conducted digitally, a stark contrast to today's ubiquitous digital payment lifestyle. As the world becomes increasingly interconnected through digital means, the demand for secure and efficient payment systems continues to soar.

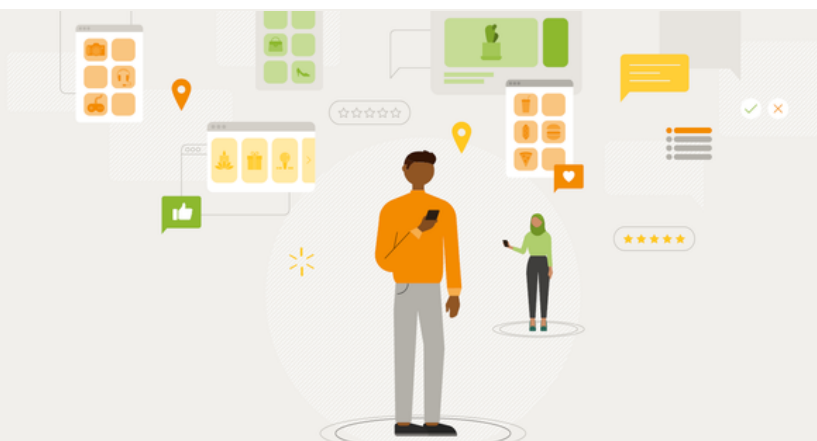
While this is a great opportunity for consumers to find convenience with digital innovation, it also presents an opening for fraudsters to exploit the rapid advancements and consumer's fast paced digital lifestyle.

Despite rigorous security measures implemented in the payments industry, the persistent threat of fraud and vulnerabilities in online commerce remain a significant concern. According to a forecast by Juniper Research, merchant losses from online payment fraud are expected to surpass a staggering \$362 billion globally between 2023 and 2028, with an astounding \$91 billion in losses anticipated in 2028 alone.

To combat these challenges, Mastercard and other payment industry leaders introduced network tokenization in 2014 to improve security and deepen trust in digital transactions.

x8

Card-not-present fraud
higher vs point-of-sale
fraud globally





What is network tokenization?

Network tokenization replaces sensitive credit card information, or Primary Account Numbers (PAN) with a unique and randomized string of letters and numbers, called a network token that remains encrypted throughout the entire payment journey.

By replacing a PAN with anonymized network tokens, network tokenization reduces the Payment Card Industry (PCI) compliance burden and lowers fraud risk. Additionally, network tokenization provides built in lifecycle management capabilities, where card details are automatically updated when a card is replaced or expired which leads to higher approval rates and a simplified user experience.

Network tokenization is similar to gateway tokenization in that they both secure cardholder data and help merchants reduce their PCI DSS scope. The key difference between network tokenization and gateway tokenization is that the card scheme issues the network token, not the gateway. This makes network tokens interoperable across the entire payment ecosystem, securing the cardholder data from end to end. Furthermore, network tokenization automatically keeps credentials current and can help reduce false declines caused by expired or updated credentials.



**Increase
approval rates
by up to 3ppt**

With tokenized transactions and in-built lifecycle management, you can reduce false declines and increase approval rates



**Reduce fraud,
PCI burden and
liability**

Store, transmit and process tokens safely in place of card details, eliminating the risk of payment credentials becoming compromised and ensuring PCI compliance



**Optimize
security with
authentication**

The additional use of biometric passkeys provides another layer of encryption, optimizing security



**Enhance
consumer
experiences**

Consumers can trust their data is secure, and experience less friction due to in-built card lifecycle management

ADOPTION

The adoption of network tokens has gained momentum over the past decade. Across the payment ecosystem, financial institutions and technology companies have collaborated to develop robust network tokenization frameworks that integrate seamlessly with existing payment infrastructures including in-app and mobile payments.

These efforts aim to minimize the risk of data breaches and unauthorized access for merchants, ensuring that consumers can trust the integrity of their transactions.

With network tokenization transforming the way transactions are processed, the opportunities for merchants to implement network tokenization solutions are immense, yet, as with any new development there are still a number of challenges facing merchants today. Integrating and supporting network tokenization with individual networks can be a large time commitment for merchants especially if they have relationships with multiple schemes, Payment Service Providers (PSPs) or operate across multiple regions.

50%

Tokenized transactions have grown 50% year over year with approx. 1 in 4 transactions tokenized on the Mastercard network today.¹



1. <https://www.pymnts.com/earnings/2024/mastercard-tokenized-transactions-grow-50percent-year-over-year>



A new simplified approach for network tokenization

As payments become more intricate and new players enter the space, companies have started to look to merge top-tier digital services to provide more value, accessibility, and security to customers and end-consumers.

Mastercard Gateway is uniquely poised to offer our clients a unified network tokenization solution as well as streamlined guest checkout to create a consistent experience across devices, browsers, and operating systems.

Agnostic solution with a single integration

Mastercard Gateway connects to each of the primary card schemes and their associated network tokenization services; this is then consolidated into a single integration for ease of merchant integration and ongoing maintenance thus enabling businesses to unlock global network tokenization across various schemes. This seamless integration allows a unified method to manage credentials, regardless of the card scheme or whether it be a non-card payment such as gift cards and bank accounts, providing a robust and versatile solution for businesses worldwide.

We've taken the complexity away from customers and take ownership of the tasks of provisioning, storing, and transacting with the network token.

This reduces the administrative burden on your team, allowing them to focus on what really matters – driving your business forward.



Support multiple network tokenization service models

From simple tokenization services and storage to multi-gateway processing strategies



Store, transmit and process tokens in place of card details

Eliminate the risk of card credentials becoming compromised



400 B

Network tokenization transactions are predicted to grow to 400 billion globally by 2028, which is a 190% increase

Simplify your integration

Our unified network tokenization solution simplifies your payment process, allowing you to focus on what truly matters—growing your business.

We understand that every business has unique needs. That's why our solution is versatile. You can opt for the benefits of network tokenization as part of our comprehensive payment processing solution or as a standalone offering. This flexibility allows you to tailor the solution to fit your specific requirements.

- Ideal for businesses seeking advanced security without extensive integration resources
- Available as a standalone service, merchants can process network tokens with other providers. This is a great solution for customers with multiple gateway and acquiring relationships.



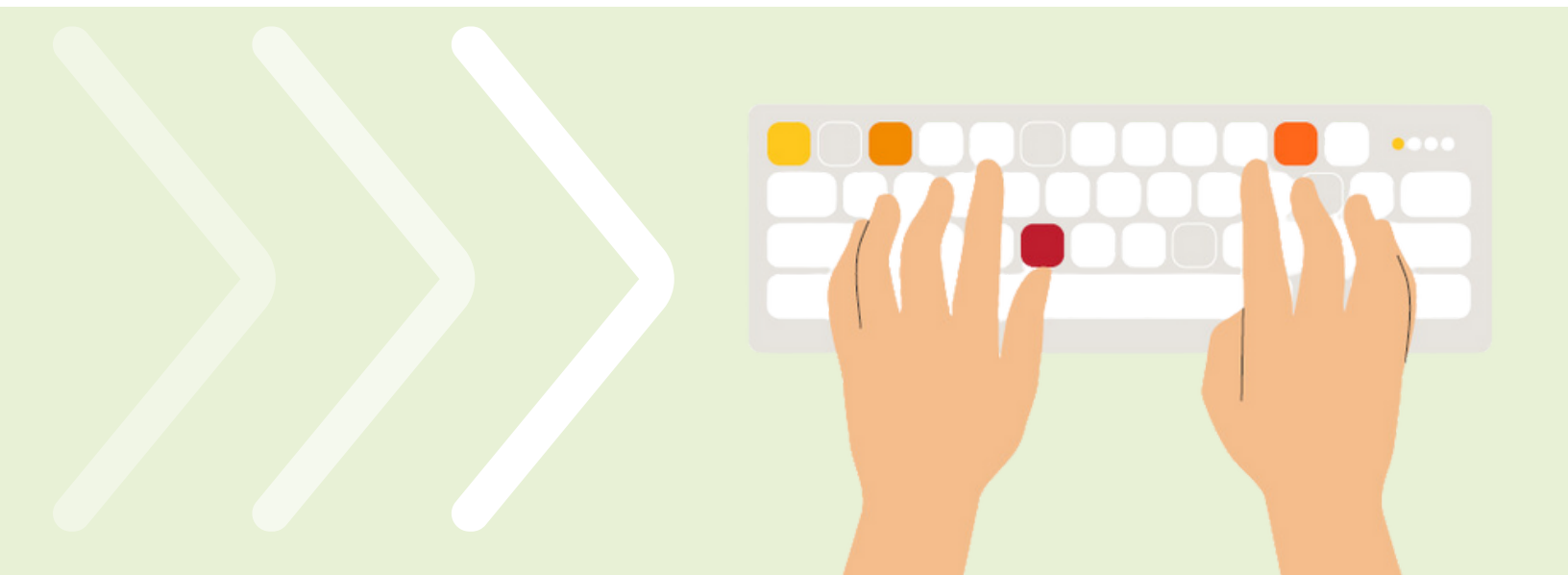
Single API connection connects with all three major schemes

Mastercard, VISA and AMEX network tokenization services



Remove inefficiencies of multiple direct connections

Mastercard Gateway manages integrations, ongoing compliance and development



Added simplicity leads to increase in security, reduction in PCI burden

The integration of a unified network tokenization solution helps pave the way for a safer, more seamless financial future, where convenience and security go hand in hand.

Navigating the complexities of PCI compliance can be daunting and resource intensive. By integrating our flexible unified network tokenization solution your businesses can significantly simplify this process.

This not only reduces the administrative burden but also lowers compliance costs, allowing you to focus more on your core business activities.



Reduce false declines and
increase approval rates

With tokenized transactions and
built in lifecycle management



Enable regulatory compliance
and reduced PCI scope

Provide compliance where network
token use is mandated



Where unified network token solutions can simplify your payments

Mastercard Gateway's unified network tokenization solutions unlock a plethora of use-cases and digital payment benefits, from in-app and online, to turning everyday technology, like phones and cars, into connected commerce devices.



Customers using a card on file

Consumers who have subscriptions to merchants or have a trusted merchant who they make repeat purchases from, may choose to save their card on file. With network tokenization, their card on file is simply stored as a network token and future payments will be initiated without the need for consumers to manually update their details even when their card is expired, lost, or stolen.



Customers using guest checkout

This is for when the consumer is not a frequent customer, and their card details aren't stored on file. In this scenario, card details can be network tokenized at guest checkout using a network tokenized digital wallet like Click to Pay without needing to enter card details or be redirected to another site to complete the purchase.



Customers paying on connected devices

Customer's who make payments via their personal smart devices or connected vehicles can get the same benefits they do when shopping online when saving their card on file. Once the customer saves their credentials, their account data will be replaced with a network token that can be stored for future payments.

CLICK TO PAY

Future proof your network tokenization

As businesses and consumers continue to embrace new technology, the payment landscape will undoubtedly continue to evolve. Traditionally, Network Tokenization has focused on tokenizing credential-on-file (COF) – however, with the advent of Click to Pay, once off guest checkout transactions are now capable of tokenization. With this, Mastercard is reimagining online checkout and has committed to reaching 100% e-commerce tokenization in Europe by 2030.

Combining network tokenization with Click to Pay enhances the ecosystem. Shoppers will enjoy quicker and more secure checkouts, while merchants may see boosted sales, better fraud prevention, and potentially higher approval rates. Together with our unified network tokenization solution, businesses can future-proof their payment infrastructure.

As we move toward a more digitized future, such initiatives underscore the importance of collaboration between technology providers, financial institutions, and merchants. Together, we are shaping a more efficient, secure, and inclusive digital economy that benefits all participants, paving the way for continued growth and innovation in the payment space.

Increase conversion

96%

checkout conversion rate for
Click to Pay new users



1. Mastercard internal analysis. Limited to Mastercard SRCi embedded conversion for new user. Data from July 2023, excluding fraudulent related traffic. Conversion based on adjusted conversion with card enrolment error excluded and 8% traffic removed from unrecognised user flow due to drop-off on OTP screen due to external reasons.

Join the revolution

Don't let outdated tokenization processes hold your business back. Ultimately, the widespread adoption of tokenization promises to revolutionize the way we think about and conduct financial transactions, paving the way for a safer and more efficient digital economy.

The journey towards a more secure and efficient payment ecosystem can begin today with simplifying the tokenization complexity. The adoption of a unified network tokenization solution through agnostic solutions such as Mastercard Gateway, offers a comprehensive approach to modernize, simplify and secure payment systems.

By focusing on reducing complexity, ensuring flexibility, and enhancing the overall consumer experience, businesses can achieve significant advantages in the competitive landscape of digital payments.

Furthermore, when you choose our unified network tokenization solution, you're not just getting a product; you're partnering with a team of experts dedicated to your success. Reach out to us today to learn more about how we can help you achieve a new level of payment processing excellence.



How we can help

Reach out to us today to learn more about how we can help you achieve a new level of payment processing excellence. To find out more, and to contact us, visit Mastercard.com/gateway.

Kirsten Bruhn
Director, North America