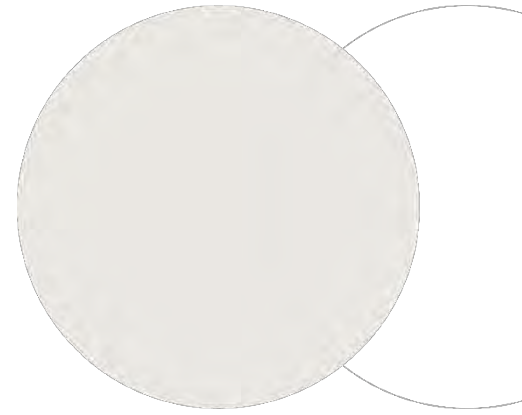




8-Digit BIN  
Migration Toolkit for  
Acquirers & Issuers



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**Note:** There are links to external resources in this document. If you are not authorized to access the information in the external resources, please work with your principal customer to obtain the information you need. If you believe you should have access to this information but are getting an error, please contact your Mastercard Representative.

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# Introduction

## Background & Context

Bank Identification Numbers (BINs) and Account Ranges drive the payments ecosystem and are used to uniquely identify networks, Issuers, and other key information for a transaction to process smoothly and quickly. As digital-based payments proliferate the industry, the BIN supply is being used at an exponential rate, and, in its current form, is at risk of running out.

To avoid an interruption to business and long-term industry needs, in 2016, the International Organization of Standards (ISO) announced a new standard to safeguard the BIN supply: [expanding BIN length from 6 to 8 digits](#). Personal Account Number (PAN) length will remain unchanged.

While efforts have already been made to extend the BIN pool and promote BIN efficiency – such as the launch of [Mastercard 2 series BINs](#) and increased use of Account Ranges – there is more to be done.

### Mastercard's Approach

- Mastercard is complying with the ISO 8-digit BIN standard and is ensuring platforms and processes are 8-digit capable.
- Collectively, the industry agreed to be ready by April 2022, giving all the stakeholders in the ecosystem a full 5 years to make necessary updates.

### What's Changing?

- BIN length is expanding from 6 digits to the first 8 digits (1 (one) 6-digit BIN = 100 8-digit BINs) including Private Label programs.
- The [BIN Sharing Rules](#) will apply to 8-digit BINs.
  - Issuers will need to follow existing product separation rules but at the 8-digit level. For example, Issuers will be able to have Consumer, Commercial, Credit, and Debit 8-digit BINs with the same first 6 digits.

5412 7500 = Consumer Debit

5412 7502 = Consumer Credit

5412 7501 = Commercial Debit

5412 7503 = Commercial Credit



- Acquirers (and Service Providers) must have logic to [recognize and process the first 8 digits](#) of PANs to identify the BIN owner/Issuer.
- Issuers are encouraged to adopt 8-digit BINs and return unused 8-digit BINs to optimize their BIN portfolios and reduce Franchise and Licensing BIN fees.
  - Issuers can support both 6- and 8-digit BINs, but [BIN pricing](#) is differentiated for 6- and 8-digit BINs. See *right*
- Acquirer BIN will be renamed Acquirer Reference ID and will remain a 6-digit identifier.
  - Existing Acquirer-Only BINs will return to the available BIN pool.
    - **IMPORTANT:** Acquirers must decouple dependencies on Acquirer BIN, as the same 6 digits may be used for an Acquirer Reference ID and Issuer BIN.
  - BINs used for both issuing and acquiring will be converted into issuing BIN(s) and Acquirer Reference ID(s) automatically. No action is required by the customer. Customers will see the appropriate Acquirer Reference ID in My Company Manager in April 2022.
- It is expected that many customers will return unused BINs and portions of their former 6-digit BINs as they migrate to 8-digit BINs. Mastercard plans to retain returned BINs (at 6- and 8-digit levels) for a period of time before reissuance, which is consistent with current practices. Mastercard is closely tracking ecosystem readiness to ensure BINs are safely reissued once properly recycled. That said, now more than ever, the consistent and frequent use of accurate [BIN Account Range Tables](#) is essential to ensuring that these assets are used appropriately.
- **IMPORTANT:** Acquirers can no longer exclusively rely on using 6-digit BINs to determine (or identify) the Issuer and other processing decisions, as there may be unaffiliated Issuers with 8-digit BINs who have the same first 6 digits in common. See *right*.

- April 2022 – the effective date for new BIN requests/assignments, Quarterly Inactive BIN Fees, 8-Digit Monthly BIN Management Fees, and [Acquirer Reference ID](#)-related fees, as applicable.
- January 2023 – the effective date for new 6-Digit Monthly BIN Management Fees.

---

### Example

In an 8-digit paradigm, **5555 22 22** can be assigned to Anybank 1 Germany, and **5555 22 23** can be assigned to Anybank 2 Chile. By reading only the first 6 digits, the transaction could be misrouted or declined, impacting cardholder experience. Not properly reading the BIN or Account Range may also lead to Clearing errors.

---



Example of a BIN that migrated from 6 to 8 digits:

# 8 Digits Before and After

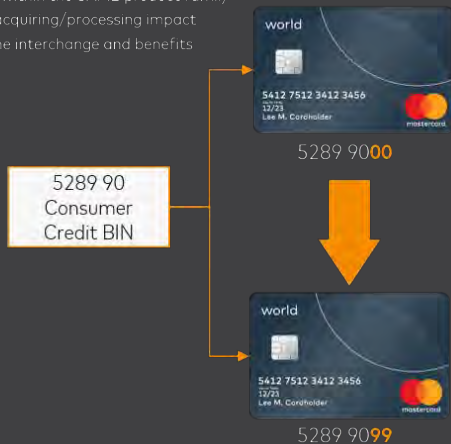
In an 8-digit paradigm, customers can use their BIN assets more efficiently:

## BEFORE

### 6 Digits:

Can only mix some Product Codes within the same 6 Digits and can use account ranges within the SAME product family

- No acquiring/processing impact.
- Same interchange and benefits



## AFTER

### 8 Digits:

Can break off programs at the 8 digit level and manage Product Codes within the same 8 digit BIN.

- Breaking apart a 6 Digit BIN will require understanding of current issuing strategy
- Requires ecosystem Readiness and disciplined use of BIN Tables



**BINs 52899030-52899090 can be kept for future use or returned.**

## What's Not Changing?

- PAN length remains the same.
- Mastercard Account Ranges remain the same:
  - Length can be up to the first 11 digits of a PAN, including the BIN.
  - Mastercard Account Ranges still maximize efficient use of BINs and further segment a portfolio by product, interchange, geography, and settlement currency.
  - Acquirers must continue to do Account Range-level processing of the first 11 digits of the PAN to identify other possible nuances such as product code changes and geographies that impact interchange.
- [BIN Account Range Tables](#) will continue to show Account Ranges as they do today.
  - Acquirers are required to update their BIN Account Range Tables using Mastercard-sourced BIN Account Range Tables at least every 6 days.
- Issuers may choose to continue operating at and retaining their full existing 6-digit BINs.
- Billing will continue to be at the ICA level.

For more information, please contact your Mastercard Representative.



# Industry Timeline

## 8-Digit BIN Mandate Timeline

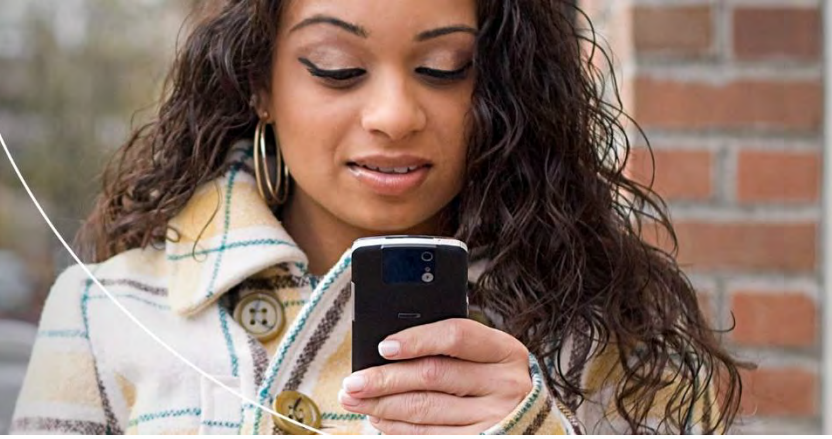


## Reference Guide Table

Term	Definition/Description	Number of Digits	Other Notes
<b>Account Range</b>	A means to portion BINs into smaller pieces for efficient creation of card portfolios	Account Range up to 11 digits	Mastercard maximum Account Range length is not changing
<b>Acquirer Reference ID</b>	Acquiring BIN transitioning to Acquirer Reference ID as of April 2022, intended to identify Acquirers in transaction (Mastercard-assigned value)	6 digits in range from 000000 to 999999	Prior to April 2022, known as Acquirer BIN or Acquirer-Only BIN, Acquirer Reference IDs will not be interchangeable with BINs and will come from 2 separate pools of numbers
<b>BIN/IIN</b>	Bank Identification Number/Issuer Identification Number	8 digits; 6 digits for Issuers who plan to continue to manage that way	IIN is the industry term for BIN; the industry standard is moving to 8 digits, but Mastercard is allowing customers to continue to operate at a 6-digit level if desired
<b>ICA</b>	Identifies an institution (Mastercard-assigned value)	4 to 6 digits	ICAs are not changing
<b>PAN</b>	Personal Account Number	From 12 to 19 digits (typically 16 digits; 19 digits for Maestro)	Length of PAN is not changing
<b>Token</b>	An alternative representation of the card's PAN that can be used to make secure payments in person and online; <a href="#">Mastercard Digital Enablement Service (MDES)</a> tokens behave like standard card numbers when used for contactless and online payments. Physical cards are assigned from an Account Range referred to as the Funding Account Range, while tokens are assigned from a totally separate range referred to as a Token Account Range. For more information on tokenization, please refer to the <a href="#">MDES Issuer Implementation Guide</a> .	From 12 to 19 digits (typically 16 digits)	Tokens will perform in the same way they do today



# Acquirers



## Acquirer Mandate and Action Plan

### Awareness

Mastercard collaborated with Acquirers and recognized the benefit of having one industry standard and one timeline from which to build. Therefore, Mastercard is aligning with industry and other schemes by [mandating that Acquirers support 8-digit BINs](#):

- Acquirers and their service providers must be able to transact with 8-digit BINs by April 2022.
- Reinforcing that Acquirers and service providers must read up to the 11th digit for Account Ranges by 2022 for processing.
- The PAN length will NOT change.
- Acquirer BINs will become Acquirer Reference IDs in 2022 and will remain 6-digit numeric. They will no longer be considered a BIN and those numbers will return to the BIN pool. These will be Mastercard-assigned values for Acquirer identification.
- Technical requirements, found in [AN 2635—Support of 8-Digit BIN Standard and Account Range Specifications—Reminder and Testing Update](#), are available on Mastercard Connect.
- Account Ranges will continue to be managed by ensuring the programs are aligned with Mastercard’s published [Product Family rules](#).
- Portfolio Management Best Practices / BIN Sharing / Product Family rules:
  - It is important to remember how issuing partners are being guided to consolidate programs on their BINs to ensure successful processing. This same guidance will be given as Issuers migrate to 8 digits.
  - Using Account Ranges helps manage BINs more efficiently by consolidating multiple programs of a similar product type under a single BIN (6- or 8-digit BIN).
  - There are rules for which programs can share the same BIN based on product types, but there are region-specific exceptions. For example, consumer and corporate programs cannot share a BIN. Credit and debit products may not share a BIN.





Region	Consumer	Corporate
Asia Pacific	Credit	Credit
	Credit World Elite	Credit World Elite
	Debit	Debit
	Debit World Elite	Prepaid
	Prepaid*	
Canada	Credit*	Credit*
	Debit	Credit T&E
	Prepaid*	Debit*
Latin America	Credit	Credit*
	Debit	Credit World Elite
	Prepaid*	Debit*
		Prepaid*
Europe	Credit*	Credit*
	Debit*	Debit*
	Prepaid*	Prepaid
	Purchasing	
Middle East Africa	Credit*	Credit*
	Debit*	Debit*
	Prepaid*	Prepaid*
United States	Credit*	Credit*
	Debit	Debit
	Prepaid*	Prepaid*

\*Multiple nuances and additional BIN sharing rules exist. Please contact your Mastercard Representative for details.

- **The chart shows the product types for each region.**
  - Consumer and corporate products cannot share a BIN.
  - Products within a given product category can typically share a BIN, but there are additional exceptions.
  - *Product types* can be consumer or corporate.
  - *Product categories* can be credit, debit, prepaid, and others.
- **BIN sharing rules vary depending on the region and market capabilities.**
  - Each cell in the chart represents a different product category.
  - Only programs of the same product category can share a BIN.
    - Some products of the same category cannot be mixed because of card benefit and loyalty programs.

For any questions on Account Ranges and product codes available for BIN sharing, please contact your Mastercard Representative.



## Testing with Mastercard

- To offer acquiring customers flexibility, Mastercard offers more than one testing option, as many Acquirers are already 8-digit BIN compliant, because they operate at the Account Range level. Acquirers (including ATM) have the option to either:
  - internally test with their simulators and [self-certify](#) through Mastercard's custom portal OR
  - [open a project with Mastercard's CIS](#) team so Mastercard can validate testing logs.
- Acquirer host testing was opened on May 15, 2019, and released in [AN 2549—Mastercard 8-Digit BINs and 11-Digit Account Ranges—Testing and Compliance Requirements on April 30, 2019](#).
- Aside from testing with Mastercard, successful 8-digit adoption requires all stakeholders in the ecosystem collaborate on their journey toward readiness. For example, Acquirers and Processors (including domestic schemes) must communicate and coordinate to ensure complete readiness.

## Self-Certification

The self-certification process is free and takes just a couple of minutes to complete. All customers' Business Administrators or compliance contacts should have received an email communication with the subject line, "BAR - AN 2549, Mastercard 8-Digit BINs and 11-Digit Account Ranges – Testing and Compliance Requirements", from Mastercard that includes instructions on self-certification and a personalized web link granting access to the self-certification portal. This link CAN be forwarded to other internal users for completion if needed.

### Sample Email to Acquirer



- Please email [BARmandatetesting@mastercard.com](mailto:BARmandatetesting@mastercard.com) if the self-certification email was not received from Mastercard or if changes to the information within the self-certification portal are required.
- Once the portal is accessed, customers complete the form at the ICA level. Multiple submissions are allowed but will require a new self-certification link from Mastercard for each submission. If the Acquirer



completing the form uses a Processor, self-certification should be completed upon confirmation that the Processor is ready. Self-certification is available through December 31, 2021. Those Acquirers who do not self-certify by then will need to open a testing project with CIS.

- **Self-Certification Form**

Landing Page

**Mastercard Form**

Mastercard has mandated that all acquirers and their Service Providers, including third party processors (TPPs) and other downstream partners, be able to support 11-Digit account ranges and the 8-Digit BIN standard by April 1, 2022. Acquirers are responsible for ensuring that their merchants, payment facilitators, payment gateways, third party vendors, and all other Service Providers (collectively, "Downstream Partners") are able to support 11-Digit account range processing and the 8-Digit BIN standard by April 1, 2022.

Below, please find links to download all recently published documentation related to 8-Digit BINs and 11-Digit Account Ranges by Mastercard.

- [AN 2635—Support of 8-Digit BIN Standard and Account](#)
- [AN 2549—Mastercard 8-Digit BINs and 11-Digit Account](#)
- [Mastercard 8-Digit BIN and 11-Digit Account Range Test Cases Manual](#)

For additional information regarding 8-Digit BINs and 11-Digit Account Ranges, please visit Mastercard's [BIN Expansion Information Center](#) on Mastercard Connect.

By clicking "Submit", I understand that my personal data will be processed by Mastercard International Incorporated and its affiliates as described in the Mastercard Privacy Notice.

If you are not ready to self-certify, do not click the submit button below.

**Submit**

*Links to relevant Announcements and test manual*



### Self-Certification Form

**Acquirer 8 Digit BIN and 11 Digit Account Range Readiness**

**Self-Certification**

---

To further increase the pool of BINs, Mastercard has moved to a new 8-Digit BIN guideline. Account ranges use the BIN plus additional digits to uniquely segment portfolios for various reasons under one issuer. Acquirers and their Service Providers, including Third Party Processors, now can perform an internal validation of their host systems to determine whether those systems are able to process/read BINs and account ranges up to the 11th digit. By self-certifying, acquiring customers will be exempt from testing with Mastercard and will not need to open a project with Customer Implementation Services (CIS) in order to validate their systems and testing logs.

---

Customer Information:

Customer Name: Mastercard Customer

CID: 123456

Country: United States

Region: United States

*Customer information will automatically load*

- Customers should select ICAs that are 8-digit BIN and 11-digit Account Range ready.
- If a customer has multiple Third-Party Processors (TPPs), they are **allowed to self-certify multiple times**, whenever their ICA becomes ready, at the same link.
- **Optional** – For Customers using Processors, include the CIS Testing Acknowledgement number in the field below:

Please select all customer ICAs that are ready to process 8-digit BINs and 11-digit account ranges. Customers that are not selecting all ICAs with this submission will be able to return to self-certify remaining ICAs once they receive a new email from Mastercard.

<input type="checkbox"/> 1234	<input type="checkbox"/> 4321	<input type="checkbox"/> 1234	<input type="checkbox"/> 4321	<input type="checkbox"/> 1234	<input type="checkbox"/> 4321
<input type="checkbox"/> 1234	<input type="checkbox"/> 4321	<input type="checkbox"/> 1234	<input type="checkbox"/> 4321	<input type="checkbox"/> 1234	<input type="checkbox"/> 4321

If you have a CIS Testing Acknowledgement Number(s) from your organizations or your processor's testing with CIS, please enter them below separated by commas (i.e. CIS-2019-34253) (optional field):

*Include CIS Testing Acknowledgement Number(s) here*



- Click on all required acknowledgement statements in order to submit Self-Certification:
  - Ecosystem Readiness Acknowledgement
  - Non-Compliance Assessment Acknowledgement
  - Testing Verification Acknowledgement
  - Required Authority Acknowledgement

Mastercard Customer certifies that Mastercard Customer, Mastercard Customer's sponsored Affiliates, Customer's Service Providers, including Third Party Processors (TPPs) are able to process 8-digit BINs and account ranges to the 11th digit effective June 8, 2021.

I acknowledge the above statement.

Mastercard Customer acknowledges that a failure to correctly read and process 8-digit BINs and 11-digit account ranges by April 1, 2022 may result in Category A noncompliance assessments for each of Mastercard Customer's noncompliant merchants and ATM locations until compliance is achieved.

I acknowledge the above statement.

Mastercard Customer acknowledges that prior to self-certification, Mastercard Customer has conducted internal testing and validation and that their systems are ready to process 8-Digit BINs and 11-digit account ranges. If Mastercard Customer uses a local/domestic switch(es), Mastercard Customer confirms they have validated with the relevant local/domestic switch(es) that the relevant local/domestic switch(es) are ready to process 8-digit BINs and 11-digit account ranges.

I have read and understand this legal disclaimer.

The person executing this Agreement on behalf of Mastercard Customer has the requisite authority to provide this certification on behalf of Mastercard Customer

Yes, the executor has proper authority.

I have selected the above statement on 6/8/2021 (\* Denotes the required fields)

Name \*

Title \*

Email Address \*

By clicking "Submit", I understand that my personal data will be processed by Mastercard international Incorporated and its affiliates as described in the Mastercard Privacy Notice.

If you are not ready to self-certify, do not click the submit button below.



- After submission, the customer will receive a unique confirmation code for each submission of self-certification:

Mastercard Form

Thank you for completing the Self-Certification and informing Mastercard of your ability to support 11-digit account ranges and the 8-digit BIN standard by April 2022.

Your feedback has been recorded on Tuesday, June 8th at 1:00pm.

Your confirmation code is 78574

If you have any questions regarding or amendments to your self-certification please reach out to [BIN\\_inquiries@mastercard.com](mailto:BIN_inquiries@mastercard.com).

Here are the ICAs that you certified:

1234  4321

**Note:** If ICAs appear in the self-certification form in error, please contact [BARmandatetesting@mastercard.com](mailto:BARmandatetesting@mastercard.com) to correct the data.

## Mastercard Assisted Testing

Acquirers or Processors who opt to test with CIS can open a testing project and complete offline testing. Fees apply based on the current regional pricing structure. Customers can email [BARmandatetesting@mastercard.com](mailto:BARmandatetesting@mastercard.com) to open a project with CIS for testing.

- **Note to new Acquirers or Processors who joined AFTER May 2019:** If new Acquirers or Processors completed the 8-digit [test cases](#) as a part of onboarding, please visit the self-certification portal (link communicated via email) to confirm readiness. If new Acquirers or Processors have NOT completed the 8-digit [test cases](#) as a part of onboarding, they are required to either self-certify or open a new test project with CIS. Customers can email [BARmandatetesting@mastercard.com](mailto:BARmandatetesting@mastercard.com) to be added to the self-certification list, or they can open a project with CIS for testing.
- **Customers with TPPs:** Acquirers with TPPs will need to self-certify on behalf of themselves and their TPPs. TPPs will be allowed to conduct offline host testing with CIS support on behalf of Acquirers if they choose to test. If a customer's TPP has already tested with Mastercard, the customer must email Mastercard at [BARmandatetesting@mastercard.com](mailto:BARmandatetesting@mastercard.com) and provide the Testing Acknowledgement Number from their TPP's testing to be considered compliant.
- **Contact us:** Customers can email [BARmandatetesting@mastercard.com](mailto:BARmandatetesting@mastercard.com) to request to be added to the self-certification contact list or to open a project with CIS.

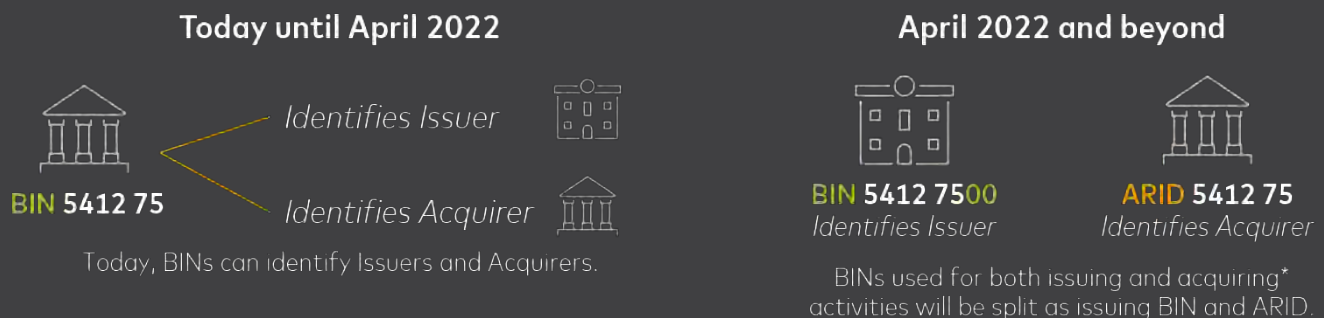


Failure to complete either self-certification or host testing by March 31, 2022, may result in Category A non-compliance assessments of up to USD 25,000 (BRL 60,000 for customers in Brazil) per month until host testing is completed.

Mastercard recommends Acquirers conduct testing for various use cases (e.g., in person, online, ATM) to ensure a seamless cardholder experience.

## Acquirer BIN Will Be Renamed Acquirer Reference ID

- In April 2022, Acquirer BIN will be renamed Acquirer Reference ID (ARID). Acquirer Reference ID will have the same functionality as Acquiring BIN and will remain 6 digits in length. An Acquirer Reference ID will not be considered a BIN from the Mastercard ISO BIN pool, but rather will be assigned from a separate pool of values.
- BINs that are used for issuing and acquiring activities will be converted to an issuing BIN and Acquirer Reference ID as illustrated below:



\* Includes ATM and Cash Advance Acquiring BINs

- Existing Acquirer BINs that are converted to Acquirer Reference IDs will remain the same number sequence. No action is required by the customer.
- Acquirer Reference Number is found in data element (DE) 31 sub-field (SF) 2, in positions 2-7 of the IPM Global Clearing Messaging System (GCMS) record (there is no Acquirer Reference ID field in Authorization).
- **IMPORTANT:** In the future, Acquirer Reference IDs may match the first 6 digits of issuing BINs from unaffiliated entities. Therefore, both Acquirers and Issuers must update their systems accordingly to decouple any dependency or back-end logic that links Data Element 31 sub-field 2 to prevent errors.
- Acquirer Reference IDs will not be limited to values beginning with 2 and 5. Acquirer Reference IDs can be any 6-digit numeric identifier, 000000–999999. Custom Acquirer Reference ID requests may or may not be granted based on availability.
- Acquirer Reference IDs are a Mastercard-assigned value and will not come from the same pool of numbers across the industry in the way that BINs are today.
- In summary, Acquirer Reference IDs...
  - Will be assigned from Mastercard via a new asset pool that is separate from BINs.



- Will continue to be 6 digits in length.
- Will continue to be in the Mastercard Parameter Extract (MPE).
- Beginning April 2022, Mastercard will fulfill new Acquirer Reference ID (formerly Acquirer BIN) requests via My Company Manager on Mastercard Connect, and existing Acquirer BINs will be automatically migrated to Acquirer Reference IDs in Mastercard systems with no action required from customers.
  - **Note:** requests for attribute updates (e.g., program or country) will follow the existing processes.
  - Enhancements are scheduled to be available in the Mastercard Test Facility by the end of Q3 2021 to assist with customer testing. More information will be available as the date approaches.
  - Detailed [step-by-step guides](#) will be available.

## Acquirer Best Practices for Downstream System Assessment

- Readiness across the payments ecosystem is critical to the success of the move to 8-digit BINs. Acquirers play a pivotal role and need to ensure all ecosystem participants have the necessary information and support. These participants include, but are not limited to:



Merchants



Software Vendors



Processors



Fraud/Risk Management Providers



Loyalty/Rewards Platforms



Point-of-Sale Terminal and Application Providers



Dispute Resolution Providers



Payment Gateways



Value-Added Resellers (VAR)



ATM Networks, Gateways, and Operators



Integrated Software Organizations (ISO)

- Acquirers need to engage frequently with all relevant downstream partners to ensure they...
  - Have relevant documents and support materials.
  - Have a plan in place for readiness. Acquirers should review plans and set interim milestones with partners to ensure success.
  - [Use BIN Account Range Tables sourced from Mastercard](#) and follow the required process and cadence for updates. Do not subscribe to third-party sources.





- Are not hard coding BINs for processing or logic.
- Establish a way to test various use cases end to end.

## Review of Routing and Validation Tables (BIN Account Range Tables)

- Mastercard is expecting substantial changes to legacy portfolios. Those changes are reflected in Mastercard BIN Account Range Tables. The cardholder's point-of-sale experience, and therefore the health of payments, relies heavily on the discipline of Acquirers consistently updating their BIN Account Range Tables with Mastercard-sourced BIN Account Range Tables regardless of Acquirer size, Merchant size, or location.
- The following are examples of pain points when Acquirers or downstream participants do not read or use Mastercard BIN sources properly:
  - Incorrect interchange is applied to the transaction, which could lead to rejected clearing files and consequently no payment in settlement on that day.
  - Rejected transaction at the point of interaction (POI) due to incorrect product family identification, or other attribute, such as country.
  - Declined transaction due to incorrectly routed transactions. For example, a 6-digit BIN that is participating in a domestic switch or "on-us" routing is converted to (an) 8-digit BIN(s), some ranges of the BIN may be returned to Mastercard. Mastercard may assign the returned 8-digit BIN range(s) to another Issuer who may not be participating in the domestic switch or "on-us" processing. Failure to identify the Issuer or BIN by not processing the 8-digit BIN could lead to incorrect routing decisions, resulting in authorization declines.
 

**Note:** there will be no identifier in the BIN Account Range Tables as to whether a BIN is still 6 digits or whether it was converted to 8 digits. Acquirers must use the first 8 digits of the PAN to identify the Issuer.
- Point-of-sale prompts fail
- Rewards program impact
- The Mastercard BIN Account Range Table layouts remain the same. However, as customers migrate to 8-digit BINs, additional records (line items) will appear in the BIN Account Range Table.
- Acquirers have requirements regarding BIN Account Range Tables that were shared in [AN2208 – Revised Standards-Use of Mastercard-Sourced BIN Account Range Tables](#):
  - Acquirers must update and maintain accurate BIN and issuing Account Range information using current files made available by Mastercard.
  - **IMPORTANT:** These files must be used by the Acquirer, its Merchants, and any entities that handle BIN files on behalf of the Acquirer or the Acquirer's Merchant within 6 calendar days from the date that each update file is made available by Mastercard.
  - **IMPORTANT:** Ecosystem partners who are using outdated tables risk having acceptance issues. Issuers are planning to return a portion of their 8-digit BINs that were FORMERLY part of their 6-digit BINs.



Those returned BINS WILL EVENTUALLY BE REASSIGNED to new Issuers after a proper recycle period.

Therefore, if ecosystem partners do not update their BIN Account Range Tables as per the guidelines, they will see a steep rise in acceptance issues and cardholder dissatisfaction.

- Failure to source BIN Account Range information from Mastercard and failure to share this information downstream causes acceptance issues for cardholders.
- Performance in accordance with Mastercard Rules and Standards and adherence to proper use of the Mastercard brand is of great importance. **Non-performance may result in assessment.** For additional information, refer to the [Transaction Processing Rules](#).
- Mastercard BIN Account Range Table Solutions Available.
  - Given its criticality, Mastercard offers a few solutions for various customer types including third parties, like Merchants, Value-Added Resellers, etc., in various formats that can be accessed.

Please contact your Mastercard Representative to learn more about which source is right for you based on the use case and audience.

File Name	Intended Audience	Delivery Method	Frequency and Type
Dual Message IPM Member Parameter Extract (MPE) Table	Issuers, Acquirers, Processors	Global File Transfer	Daily add, change, delete updates Biannual or as-needed full file replace
Single Message 80-Byte Financial Institution Table (FIT) File	Issuers, Acquirers, Processors	Global File Transfer	Daily or Weekly (Thursdays) add, change, delete updates Biannual or as-needed full file replace
Mastercard Network Gateway Services (MNGS)	Acquirers, Processors	Global File Transfer	Weekly full file replace
BIN Account Range Table Resource	Issuers, Acquirers, Processors, Merchants, Third Parties	Developers API	Daily full file replace
BIN Account Range Table Resource File (TR-52) (Dual Message)	Merchants, Third Parties	Global File Transfer	Daily full file replace
Simplified BIN Account Range Table (SBART)	Merchants, Third Parties	Available for download at <a href="http://www.mastercard.com">www.mastercard.com</a>	Weekly full file replace

- Beginning November 2021, Mastercard will share BIN changes (additions, deletions, etc.) in an Excel document as part of a monthly bulletin reminding Acquirers of the necessity for all parties in the ecosystem to update and maintain BIN Account Range Tables.



## Potential Areas of Impact for Merchants

- Acquirers need to work closely with Merchants to ensure the timely identification and implementation of necessary system changes to support the mandate.

### 8-digit BINs and Payment Card Industry (PCI) Standards

- There are two requirements in the [PCI Data Security Standard \(PCI DSS\)](#) that may be affected when considering 8-digit BINs: Requirements 3.3 and 3.4.
  - Requirement 3.3 (protection of the PAN displayed on screens, paper receipts, printouts): Mask PAN when displayed (the first 6 digits and the last 4 digits are the maximum number of digits to be displayed), such that only personnel with a legitimate business need can see more than the first 6/last 4 digits of the PAN.
  - Requirement 3.4 (protection of PAN when stored in files, databases, etc.): Render PAN unreadable anywhere it is stored (including on portable digital media, backup media, and in logs) by using any of the following approaches:
    - One-way hashes based on strong cryptography (hash must be of the entire PAN)
    - Truncation (hashing cannot be used to replace the truncated segment of PAN)
    - Index tokens and pads (pads must be securely stored)
    - Strong cryptography with associated key-management processes and procedures

**IMPORTANT:** If a merchant is using truncation as a method of rendering the full PAN unreadable when electronically stored, the maximum digits of a PAN that can be stored using truncation are "first 8, any other 4." Mastercard's allowable truncation format is not mandatory. Entities are not required to change their current format for truncation as a result of the migration to 8-digit BINs. **Mastercard strongly recommends that entities retain the fewest digits possible.**

EXAMPLE: If a PCI DSS compliant merchant is currently using "first 6, any other 4" to truncate PANs, that merchant is not required to make any changes to their current format for truncation as a result of the migration to 8-digit BINs and PCI DSS compliance.

RECOMMENDATION: If an entity decides to make changes to their payment environment as a result of the migration to 8-digit BINs, Mastercard recommends that entities engage a PCI Security Standards Council (PCI SSC) Qualified Security Assessor (QSA).

- Merchants concerned with complying with the PCI DSS as a result of the payments' industry migration to 8-digit BINs can benefit from participating in the [PCI DSS Compliance Validation Exemption Program \(Exemption Program\)](#).
  - The Exemption Program is an optional, global program within the Mastercard Site Data Protection (SDP) Program that eliminates the requirement for merchants using secure payment technologies to validate PCI DSS compliance annually.
  - Only merchants using EMV chip technology, validated PCI point-to-point encryption (P2PE) solutions



or EMV Payment Tokenization may participate in the program.

For more information on [8-digit BIN considerations](#) on an entity's PCI DSS compliance validation or the Mastercard SDP Program, please send an email to [sdp@mastercard.com](mailto:sdp@mastercard.com).

## Impact to Merchant-Related Products & Services

- Due to the relationship structure, Acquirers are expected to engage with all downstream partners, including Merchants. Merchant readiness is essential for transaction efficacy.
- Special attention is required for, but not limited to, environments where terminals are hard coded (reprogramming can be an extensive effort), where POS discounts/loyalty programs are triggered, and where fraud solutions are applied.
- In parallel, as mentioned above, the consistent and frequent use of authentic and complete BIN Account Range Tables from a Mastercard file are critical for ensuring the same. Failure to make the appropriate updates to BIN Account Range Table information can result in unwarranted declines, misallocated interchange, or clearing file rejects, which can lead to settlement issues.
- Merchants need to ensure their e-commerce checkout software and/or POI terminal software and hardware vendors are aware of the 8-digit BIN requirements.
- Merchants may need to review their own internal systems to support this new requirement for internal reporting and other business operations.
- Merchants with a co-brand relationship with an Issuer may need to understand the Issuer's setup to ensure there are no disruptions to the cardholder experience at their own POS.

## Other Mastercard Product Impacts

The following Mastercard products/services are impacted by the move from 6- to 8-digit BINs.

**Note:** This list is not exhaustive.

Application / Service Name	Impact to Customers	Updates
MDES Manager	User Interface	<p>Client ID configurations for MDES services (Customer Service API and Pre-digitization API) currently configured at BIN level will be moved to Account Range level. There is no action required. Any updates to these settings can be done via the MDES Manager application. Refer to <a href="#">MDES Manager user guide</a> for more information on Account Range-level client ID configurations. Customers who do not have access to the MDES Manager application will need to work with their Mastercard Representatives to manage Account Range-level client ID configurations. Mastercard will make further announcements and will update this toolkit when this functionality becomes available.</p> <p><b>Note:</b> Client ID configurations at customer ID (CID) level will still be required, and customers will need to continue working with their Mastercard Representatives to manage those.</p>



Application / Service Name	Impact to Customers	Updates
<b>Identity Check Program</b>	User Interface, Data Transfer Impact	As part of this update, Issuers enrolling new card ranges will no longer be allowed to enroll partial Account Ranges. Any updates to existing partial card ranges will require the Issuer to re-enroll the full Account Range prior to making their update. (October 2021). Issuers are required to review the Account Ranges enrolled in Identity Solutions Services Management (ISSM) and ensure that the full 19-digit card start and end range is enrolled.
<b>Member Request Tool (MRT) for EMV Public Key Infrastructure (PKI) certificates</b>	User Interface	Adding functionality to the existing Member Request Tool (MRT) to allow for the creation of EMV certificate requests in bulk.
<b>My Company Manager</b>	User Interface	Functionality will be updated, allowing customers to request new 8-digit BINs or Acquirer Reference IDs, as well as allowing them to migrate from 6- to 8-digit BINs. Sample screenshots are available in the toolkit.
<b>Billing</b>	Data Transfer Impact, Access/Provisioning Impact	Mastercard Consolidated Billing System (MCBS) is expanding the values available for BIN-level Affiliate Reporting. Parameters can now be identified out to the 11th digit. Customers currently set up for BIN-level Affiliate Reporting who are moving to 8-digit BINs will need to update the affiliate parameters as necessary. Parameter updates will impact all BINs under an ICA and can be changed by submitting form 235, Affiliate Report Request, to <a href="mailto:customer_support@mastercard.com">customer_support@mastercard.com</a> .
<b>Mastercard Network Gateway Service (MNGS)</b>	Data Transfer Impact	More information available Q4 2021.
<b>Loyalty Benefits and Insurance</b>	Data Transfer Impact	For customers who currently report volumes for their enrolled optional benefits and insurance by completing the volume reporting form sent via email, you will notice a minor format change to the form. Full Account Ranges will be shown, as applicable, with the 11th character masked for security purposes. Refer to your contracted terms and Enhancements Enrollment Agreement (EEA) if further details are needed regarding volume reporting requirements.
<b>Mastercom</b>	Access/Provisioning Impact	Customers using Mastercom will need to be provisioned at the account range level, no longer at the BIN level and need to select the appropriate account ranges for their ICA to have access to the application. Mastercom User Interface functionality and any reporting will be updated to reflect the longer BIN.

Please contact your Mastercard Representative with specific questions.

## Frequently Asked Questions (FAQs)

[Frequently Asked Questions](#) available on the Technical Resource Center on Mastercard Connect.



# Issuers

## Mastercard's Approach

Issuers are NOT MANDATED to adopt the 8-digit BIN Standard. Issuers have the flexibility to stay at 6 digits, move to 8 digits, or manage a mixed portfolio of 6- and 8-digit BINs. That said, Mastercard recommends:

- Issuers and their service providers support changes to 8-digit BINs and Account Ranges.
- Issuers adopt the new 8-digit BIN Standard on their own timeline as they make changes to their platforms and implement Account Range usage.

Mastercard will continue to work with Issuers on efficient program segmentation based on regional product rules regardless of 6- or 8-digit BIN use. Issuers who are interested in adopting 8-digit BINs can find technical requirements in [AN 2635—Support of 8-Digit BIN Standard and Account Range Specifications—Reminder and Testing Update](#), or they can find information in the [Mastercard Account Range Management User Guide](#) via Mastercard Connect.

**Note:** The PAN length will NOT change.

### Issuer Readiness Action Plan

#### Impacts

If Issuers choose to adopt the 8-digit BIN Standard, they will need to engage with downstream partners to ensure they have a plan in place. Partners that may be impacted include, but are not limited to:



Loyalty & Rewards Programs



Chargebacks and Bank Transfers



Card Production



Dispute Management



Card Management Systems



Customer Support



Reporting & Reconciliation



Software Vendors



Online Banking



Program Managers



**Note:** Issuers may have impacts with specific use cases such as Manual Cash Disbursement, global collections, Mastercard Send, etc. with the transition to [Acquirer Reference IDs](#). The need to use an Acquiring BIN today and an Acquirer Reference ID post April 2022 will require a change in process. Issuers may have to request a separate Acquirer Reference ID for these types of activities; whereas, today, an issuing BIN is implemented as acquiring to fill this need. Please contact your Mastercard Representative with any questions.

## Planning & Analysis

**LEARN:** Reach out to your Mastercard Representative and review tools available on the Technical Resource Center, such as the Portfolio Optimization Best Practices Guide, and review technical requirements available on Mastercard Connect.

**ANALYZE:** To decide on 8-digit adoption, Issuers are encouraged to perform an analysis and build a deeper understanding of the impacts to their portfolio (including downstream).

Mastercard created 2 resources to help with this analysis – A BIN Utilization Report and a Portfolio Optimization Best Practices Guide.

Issuers can request a BIN Utilization Report from [BIN\\_Inquiries@mastercard.com](mailto:BIN_Inquiries@mastercard.com) or [customer\\_support@mastercard.com](mailto:customer_support@mastercard.com) to help them understand the current structure and usage of their BIN portfolio. This information should be combined with Processor information (e.g., transaction information Mastercard cannot provide) and Mastercard BIN sharing rules to inform decisions. This will help identify where there are 8-digit segments to return or to utilize for future programs.

Issuers can also leverage the [Portfolio Optimization Best Practices Guide](#) (for [Issuer Process, use this best practices guide](#)) that is available in the Technical Resource Center on Mastercard Connect. The best practices guide will help inform whether there are program consolidation opportunities. Keep in mind that 8-digit BINs and migrations will be supported beginning Q2 2022 and no sooner.

**DECIDE:** The result of your portfolio analysis will help decide when and if changes should be made. Remember, Issuers are free to make changes on their own timeline.

**PREPARE:** Changes may require system and process updates. Make sure to include downstream components and share plans with third-party providers.

## Migration Planning for 8-Digit Adopters

If an Issuer decides to migrate their BINs to 8 digits, specific actions need to be taken as there is not an automatic conversion for issuing BINs. Issuers need to initiate the shift from 6- to 8-digit BINs via My Company Manager beginning April 2022. Once an Issuer initiates all the necessary steps, a CIS project will be opened to complete the work. If complex migrations are required, please contact your account manager or local Franchise Management Representative.



## Migrating to 8-Digit BINs

Each Issuer's business is unique. Converting existing BINs to 8 digits may not be the best option for all BINs. Mastercard categorizes Issuer BIN portfolios into 3 archetypes (or issuance patterns): sequential, patterned, and random. For an illustration of [3 \(three\) 6-digit BINs broken down with the 100 8-digit BINs](#), please see the appendix.

### Sequential BIN or card issuance

BINs with sequential card issuance are BINs where an Issuer generally issues PANs or uses their BIN in a numerical order, and it's likely the easiest issuing strategy. These BINs typically only have PANs and transaction activity in the lower ranges of the 6-digit BIN. Many of these BINs only have PANs issued using the **00** 8-digit BIN range. Furthermore, these BINs have many unused 8-digit BIN ranges that can be used for new programs or products or that can be returned to Mastercard. Below is an example of an Issuer with 2 sequentially issued BINs.

Issuer Name	BIN 6	BIN 8	Product Name	PANs
Customer ABC	541275	54127500	DEBIT MASTERCARD	14,504
Customer ABC	541275	54127501	DEBIT MASTERCARD	14,702
Customer ABC	541275	54127502	DEBIT MASTERCARD	14,658
Customer ABC	541275	54127503	DEBIT MASTERCARD	14,577
Customer ABC	222100	22210000	DEBIT BUSINESSCARD	194
Customer ABC	222100	22210001	DEBIT BUSINESSCARD	308
Customer ABC	222100	22210002	DEBIT BUSINESSCARD	288
Customer ABC	222100	22210003	DEBIT BUSINESSCARD	277

These Issuers can split their BIN(s) and adjust their ending Account Range to only account for the ranges they are actively using today **without impacting any of their existing PANs** in the market. For example, if the Issuer only has PANs issued on BIN ranges 54127500–54127503, as in the example above, they can adjust their Account Ranges on the Mastercard Network as such. To do so, the Issuer will need to split and convert their BIN to 8 digits in My Company Manager. By doing so, they can convert this 6-digit BIN to 1 Account Range of 4 8-digit BINs and return the unused ranges if they do not plan to use them in the future. Taking this action would reduce the Issuer's BIN fees. For more details on [Mastercard's Franchise and Licensing BIN pricing](#), please see the appendix.

### Patterned card and BIN issuance

Patterned and segmented PAN issuance are BINs where certain products or PANs are issued using digits 7 through 9 of the BIN for internal purposes. Those digits can be used to represent specific segments such as geographies, business divisions, products, or customer types. These BINs typically contain gaps with no issuance or PANs (i.e., fragmented BINs).

For Issuers interested in migrating these types of BINs to 8 digits, Mastercard recommends that Issuers remove any numbering logic at the 7th and 8th digits. For example, if an Issuer uses **12** as digits 7 and 8 to represent a certain geography or customer, the Issuer should move this logic to digits 9 and 10 or just use any entire 8-digit BIN





for this purpose. If Issuers have gaps in their BIN ranges and they do not expect to use these unused ranges in the future, Mastercard recommends that Issuers return these BINs to Mastercard. However, customers should analyze and understand their future BIN needs before returning their BINs back to Mastercard. Issuers should consider future growth plans, any implementation fees that may be charged by Mastercard or other third parties, and Mastercard's BIN fees. If Issuers have MDES enabled on their BINs, migrating these BIN types to 8 digits may require that those BIN ranges be retokenized and given new token ranges. Please bear in mind that Mastercard has instituted a Special Purpose BIN fee for new BIN requests if an Issuer wants a specific numbering series or BIN number.

### Random card issuance across entire 6-digit BIN

Randomly issued BINs are BINs that have PANs issued randomly across the entire 6-digit BIN range. These BINs use up most, if not all, of the 8-digit BINs available within a 6-digit BIN range. While randomly issuing PANs on BINs is a great tactic to reduce the risk of fraud, Mastercard recommends that Issuers begin to randomly issue PANs in narrower ranges, resulting in fewer 8-digit ranges being used, or even start at the 9th or 10th digit. Then Issuers can move to new 9- or 10-digit ranges as needed, and as they grow their portfolios. Migrating or converting legacy BINs to 8 digits that have PANs issued randomly across the entire 6-digit BIN (random card issuance starting at the 7th digit) in their current form is quite difficult. For randomly issued BINs, Mastercard recommends that Issuers request a new Account Range or a new 8-digit BIN to migrate PANs to, as cards expire on these BIN types.

For more information, please contact your Mastercard Representative.

### Setting Up New Programs Using Account Ranges

Mastercard recommends that Issuers leverage Account Ranges for new programs. Issuers can split existing BINs to add new Account Ranges to unused portions of the BIN. Mastercard recommends that Issuers utilize the unused portions or ranges of existing BINs before requesting new BINs. Issuers can leverage Mastercard's [BIN Utilization Report](#) to find unused portions of existing BINs. If no unused ranges are available on existing BINs, Issuers can request new BINs and set up an Account Range on the new BIN. Setting up Account Ranges of 8–11 digits will make it easier to convert these ranges to 8-digit BINs in the future.

#### Example A – Splitting a LEGACY underutilized BIN while moving to 8 digits:

Many legacy BINs are set up using the entire 6-digit BIN range even though Issuers are not actively issuing against the entire range. Here we have a 6-digit BIN dedicated to Debit Mastercard registered to the entire range of 541275 00000–541275 99999.

BIN 6	Account Range From	Account Range To	Product	Product Family
541275	541275 00000	541275 99999	Debit Mastercard	Consumer Debit

An Issuer should identify where the issuing activity has been and where there may be space to add programs and products in the same product family. In the example on the following page, the Issuer only has PANs issued in the range 54127500–54127503. This Issuer is considered a "Sequential Issuer."



Issuer Name	Issuer Country	BIN 6	BIN 8	Product Code	Product Name	PANs
Customer ABC	UNITED STATES	541275	54127500	MDJ	DEBIT MASTERCARD ENHANCED	14,504
Customer ABC	UNITED STATES	541275	54127501	MDJ	DEBIT MASTERCARD ENHANCED	14,702
Customer ABC	UNITED STATES	541275	54127502	MDJ	DEBIT MASTERCARD ENHANCED	14,658
Customer ABC	UNITED STATES	541275	54127503	MDJ	DEBIT MASTERCARD ENHANCED	14,577

### How Sequential Issuers can improve utilization while migrating to 8-digit

This type of Issuer can split their BIN and adjust their ending Account Range from 541275 **99999** to 541275 **03999**. This range would support 4 (four) 8-digit BINs, and the Issuer could perform this BIN Split without impacting any of their existing PANs in the market. If this range is tokenized, the token range would be adjusted to cover this new range without impacting any existing tokens. Any new ranges set up on this BIN range would receive a new token range.

The same Issuer can then further split this BIN to set up new programs. Here is an example of how to set up 2 new programs efficiently using 9-digit Account Ranges on an existing BIN:

BIN 6	Account Range From	Account Range To	Product	Product Family
541275	541275 04000	541275 04499	Debit Gold	Consumer Debit
541275	541275 04500	541275 04999	Debit Platinum	Consumer Debit

Issuers can also set up 9- to 11-digit Account Ranges.

Post April 2022, as Acquirers are mandated to identify the BIN using the first 8 digits of the PAN, Mastercard will also allow Issuers to migrate their legacy 6-digit BINs to 8-digit BINs and reassign products at the 8-digit level. Since the BIN will be defined at the 8-digit level, this effectively means Issuers can set up products from different product families (e.g., debit vs. credit, consumer vs. commercial) using 8-digit BINs (with the same first 6-digits). Within an 8-digit BIN, the [product rules](#) will still apply.

Therefore, after the legacy 6-digit BIN has been converted to 8-digit BINs, an Issuer can set up new 8-digit BINs from various product families on any unused legacy ranges. An example of this set-up is illustrated below:

BIN 6	BIN 8	Account Range From	Account Range To	Product	Product Family
541275	54127505	541275 05000	541275 05999	Mastercard World	Consumer Credit

This is the ideal way to set up new programs today as well as after April 2022 when 8-digit BINs are available. On the next page is a consolidated example of the use case above.



	BIN 6	BIN 8	Account Range From	Account Range Through	Product	Product Family
Before	541275		541275 00000	541275 99999	Debit Mastercard	Consumer Debit
After		54125700	541275 00000	541275 03999	Debit Mastercard	Consumer Debit
		54127501				
		54127502				
		54127503				
		54127504				
		541275 04500	541275 04999	Debit Standard	Consumer Debit	
	54127505	541275 05000	541275 05999	Mastercard World	Consumer Credit	

*This Account Range for the legacy program encompasses 4 (four) 8-digit BINs*

*New issuing programs added to legacy BIN post April 2022*

*8-digit BIN split into 2 Account Ranges*

Patterned or fragmented BIN Issuers can also search for gaps in their BIN ranges to set up new programs.

**Example B – Setting up NEW BINs for success:**

If an Issuer is implementing a *new* BIN, here is an example of how to set up 3 new programs efficiently on a newly assigned **6-digit BIN**:

BIN 6	Account Range From	Account Range Through	Product	Product Family
541275	541275 00000	541275 00999	Mastercard World Elite	Consumer Credit
541275	541275 01000	541275 01499	Mastercard World	Consumer Credit
541275	541275 01500	541275 01999	Mastercard Platinum	Consumer Credit
541275	541275 02000	541275 99999	Unassigned and saved for future use	

This approach can also make a future 8-digit migration much smoother.

Starting April 2022, here is an example of how to set up 3 new programs efficiently on a newly assigned **8-digit BIN**:

BIN 8	Account Range From	Account Range Through	Product	Product Family
54127500	5412 7500 000	5412 7500 199	Mastercard World Elite	Consumer Credit
54127500	5412 7500 200	5412 7500 299	Mastercard World	Consumer Credit
54127500	5412 7500 300	5412 7500 399	Mastercard Platinum	Consumer Credit
54127500	5412 7500 400	5412 7500 999	Unassigned and saved for future use	



## My Company Manager Changes for Issuers and Processors

- Issuers will use My Company Manager to initiate the conversion from 6- to 8-digit BINs starting April 2022. Issuers can initiate the migration of a single BIN or multiple BINs, or they can return 6-digit BINs not currently in use. This initiates a CIS project.
  - **Note:** requests for attribute updates (e.g., program or country) will follow the existing processes.
- Detailed step-by-step guides will be available for customers so that they can understand how to initiate these functions.
- My Company Manager changes are scheduled to be available in the Mastercard Test Facility (MTF) by the end of Q3 2021 to assist with customer testing. More information will be available as the date approaches.
- As mentioned earlier, Issuers should coordinate changes with their Processor to ensure readiness to support the 8-digit BIN standard.
- Screenshots below are illustrative of the migration experience.

The screenshot displays the 'My Company Manager' interface for 'Bank of Tap and Go (123456)'. The main content area shows a list of BINs with a filter dropdown set to 'BIN'. A modal window titled 'Account Range' is open, showing details for BIN 515211. The modal includes a table with columns for BIN Account Range, Status, Product, Country, and ICA. The table shows two rows of account ranges: 5152-1100-000 - 5152-1120-999 (Live, MCW - Mastercard World, United States, 1160) and 5152-1121-000 - 5152-1130-999 (Live, MCS - Mastercard Standard, United States, 1234). The modal also has an 'OK' button.

*Customers will select the BIN(s) to transition to 8 digits, implemented Account Range details appear, select "Transition to BIN 8"*



Home / My Company

**My Company** Bank of Tap and Go (123456)

Headquarters Address  
1753 GAMBELL STREET  
ANCHORAGE, 99501  
UNITED STATES

Portfolio Contact Related Companies Requests

### Transition to BIN 8

BIN 6: 515211      Status: Live

Please enter the 8-digit BIN(s) you wish to retain for your portfolio. Any un-accounted 8-digit BINs will be returned to the inventory for future assignments.

BIN FROM	BIN TO	
5152 - 11 00	5152 - 11 25	<input type="button" value="Remove"/>
5152 - 11 65	5152 - 11 65	<input type="button" value="Remove"/> <input type="button" value="Add"/>

Customers input the appropriate ranges to maintain and then select, "Update"

Home / My Company

**My Company** Bank of Tap and Go (123456)

Headquarters Address  
1753 GAMBELL STREET  
ANCHORAGE, 99501  
UNITED STATES

Portfolio Contact Related Companies Requests

### Transition to BIN 8

Based on the selection, all existing Account Ranges for the current 6-digit BIN will be re-configured to align with your 8-digit BIN(s)

BIN 6: 515211      Status: Live

**BIN 8 ASSIGNMENT**  
51521100 to 51521125

EXISTING ACCOUNT RANGE	PRODUCT	COUNTRY	ICA	BIN 8 ACCOUNT RANGE	CHANGE	CONFIRM
5152-1100-000 - 5152-1120-999	MCW - Mastercard World	United States	1140	5152-1100-000 - 5152-1120-999	NONE	<input type="button" value="CONFIRM"/>
5152-1121-000 - 5152-1130-999	MCS - Mastercard Standard	United States	1234	5152-1121-000 - 5152-1125-999	MODIFY/SPLIT	<input type="button" value="CONFIRM"/>
				5152-1126-000 - 5152-1130-999	DELETE	<input type="button" value="CONFIRM"/>

**BIN 8 ASSIGNMENT**  
51521165 to 51521165

EXISTING ACCOUNT RANGE	PRODUCT	COUNTRY	ICA	BIN 8 ACCOUNT RANGE	CHANGE	CONFIRM
NONE	N/A	N/A	N/A	N/A	BIN ASSIGN	<input type="button" value="CONFIRM"/>

**BIN 8 RETURN**  
51521126 to 51521164  
51521166 to 51521199

Customers confirm updates to BINs based on ranges entered; BINs that will be returned to Mastercard will appear



Customers have the option to complete the BIN 8 migration in bulk by uploading the necessary information in the appropriate file format

Step 1 - Download Migration Template.

Step 2 - Complete and upload the BIN 8 Migration

### Upload BIN 8 Migration File

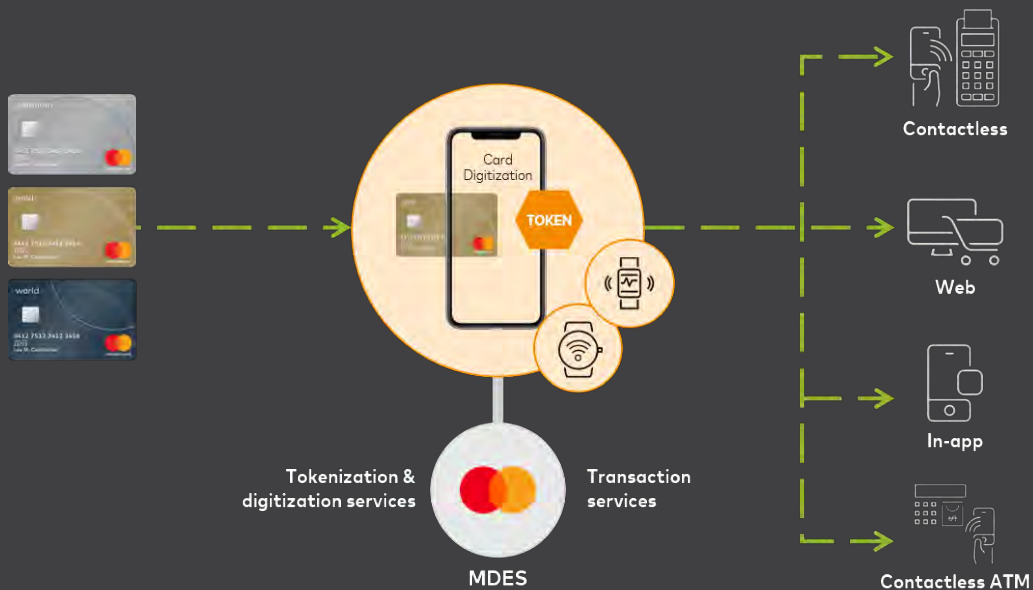
Drag and drop file(s) here  
or  
**Select file(s)**  
(maximum size of 1MB and must be .csv file type)

For more information, please contact your Mastercard Representative.

## What Is MDES?

The Mastercard Digital Enablement Service (MDES) is a secure, globally scalable digitization service for generating and provisioning digital payment credentials into mobile devices, smart wearables, PCs, and other form factors. Tokenization replaces a PAN with a unique payment token (an alternative number) that is specific to the platform or entity that will use the token, such as a particular wallet application on a particular device. Digitization provisions the token to the target platform or device so it can be used instead of the PAN to perform financial transactions, including contactless payments using a Near Field Communication (NFC)-enabled device as well as for web and in-app purchases.

## MDES – Digitization for Different Payment Methods and Devices



The cardholder's PAN is not used in token transactions, reducing the possibility and impact of account data compromise. If a device is lost or stolen, only the tokens created for that device need to be replaced; the physical card can still be used. If a token is somehow intercepted, it cannot be used for payments because a token can only be used by the device to which it was provisioned. MDES is a single integrated platform for Issuers, Wallet Providers, merchants, and other Token Requestors and enables the digitization of supported Mastercard card types for many digital payment methods. The MDES end-to-end services are supported by the reliability and global reach of the Mastercard Network.

### **BIN splitting and 8-digit BIN migration and tokenization**

Mastercard is currently developing the ability to split an MDES enabled BIN/account range. When this is available:

- The impact on the tokens will vary based upon how the BIN is split.
- MDES is being designed to ensure that, wherever possible, all the existing tokens associated with a PAN impacted by a BIN split remain active and are updated (where necessary) without consumer interaction.

Mastercard will make further announcements and update this toolkit when the ability to split MDES enabled Account Ranges is available. BIN splitting of non-MDES-enabled BINs should be initiated, as they are done today, via My Company Manager on Mastercard Connect.

Issuers should follow the advice in this document to optimally split a BIN that is enabled for MDES. Please note issuers must continue to follow [Mastercard's BIN/product sharing rules](#).

BIN splitting is the process of creating multiple Account Ranges and token ranges under a single BIN. The main purpose of splitting a BIN is to create Account Ranges so that Issuers can use their BINs efficiently and issue programs in like product families under one BIN. Other Benefits include:

- Improved product separation
- Better management of MDES card art
- Readiness for 8-digit BIN migration
- Reduced BIN Fees
- Differential interchange
- Granular product controls for on-behalf services and risk management

If an Issuer wishes to split a BIN that is MDES enabled (for example, to prepare for 8-digit BIN migration), then the impact on the tokens will vary based upon how the BIN is split.

### **BIN splitting recommendations**

Mastercard recommends that Issuers give careful thought and consideration before splitting BINs, especially those that are MDES enabled. This is because some splits may impact existing tokens in use.

Issuers should identify the group they fall into based on their BIN usage and follow the corresponding recommendations for the group. Following the recommendations will result in less re-tokenization and will simplify the migration to 8-digit BINs.



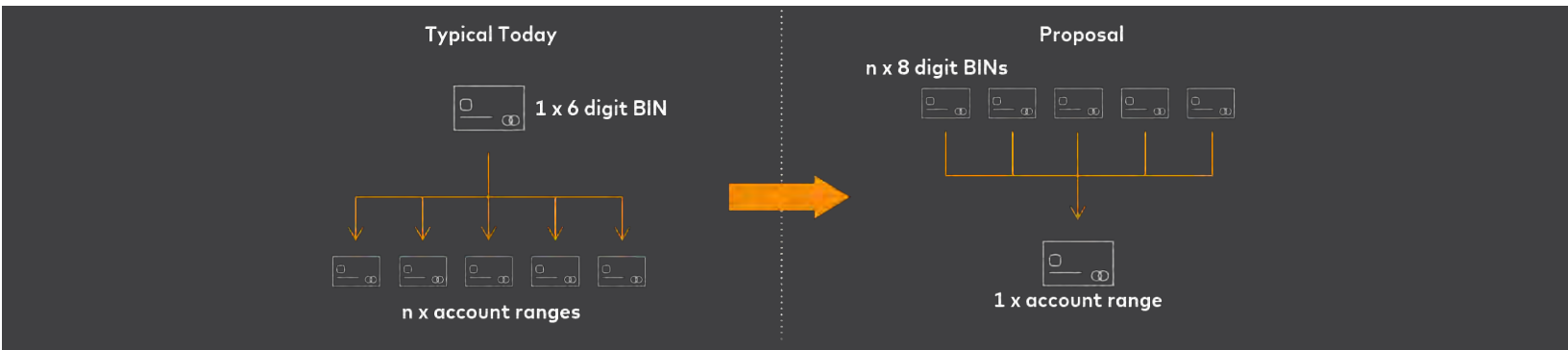
- Sequential BIN or Card Issuance
- Patterned Card and BIN Issuance
- Random Card Issuance across entire 6-digit BIN

**Scenario 1: Sequential BIN or Card Issuance**

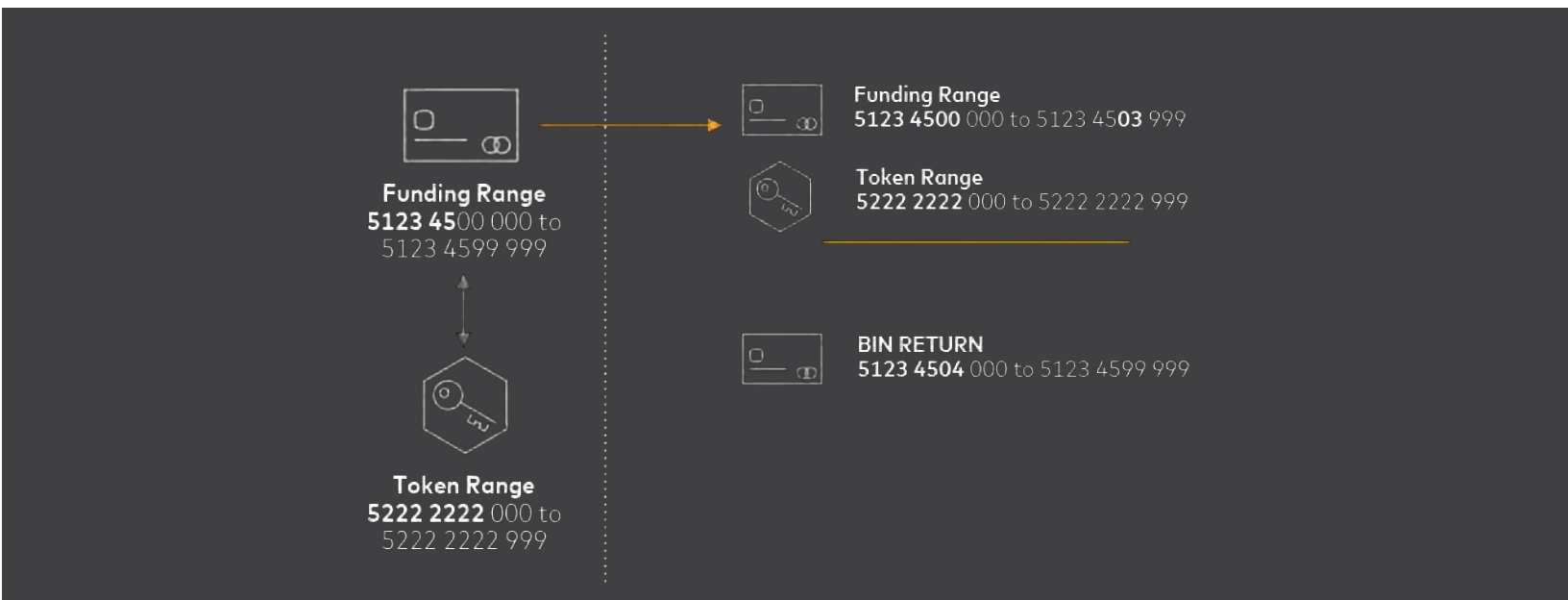
For Issuers who have issued PANs sequentially, 2 methods are suggested.

**Method 1 – Create an Account Range with all new BINs**

Mastercard will allow Issuers to set up Account Ranges that span multiple 8-digit BINs. If Issuers are using their BIN ranges in sequential order and will only have activity within a sequential subset of their BIN, Mastercard recommends setting up a new Account Range that covers multiple consecutive 8-digit BINs. This is the preferred approach for Sequentially Issued BINs.



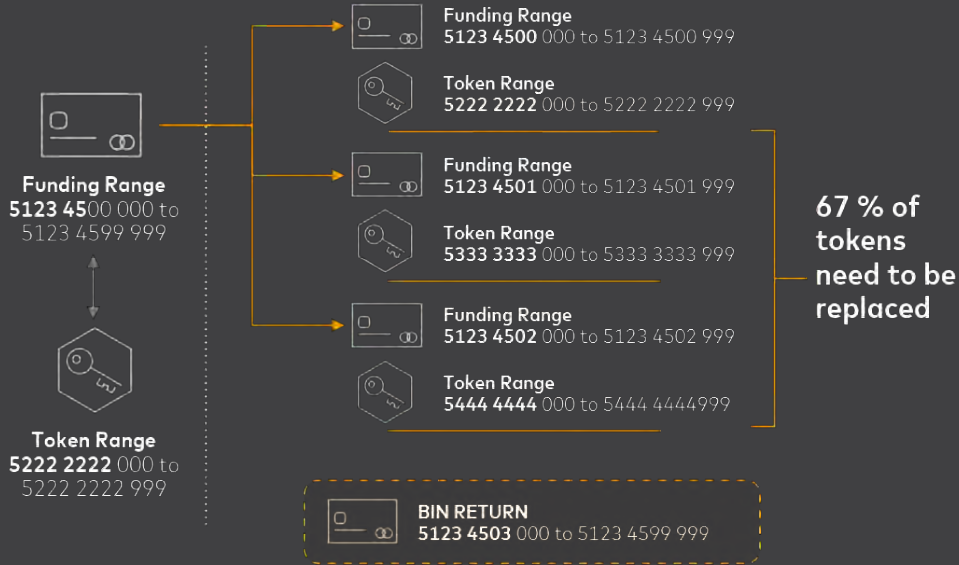
This method is beneficial because little or no re-tokenization will be required, and the Issuer will have less configuration to manage in MDES systems. However, because product family rules apply at the BIN level, Issuers cannot change the parameters of one BIN if it is part of a larger Account Range. To do so, they would need to split the Account Range into *multiple ranges* to support a more granular segmentation.





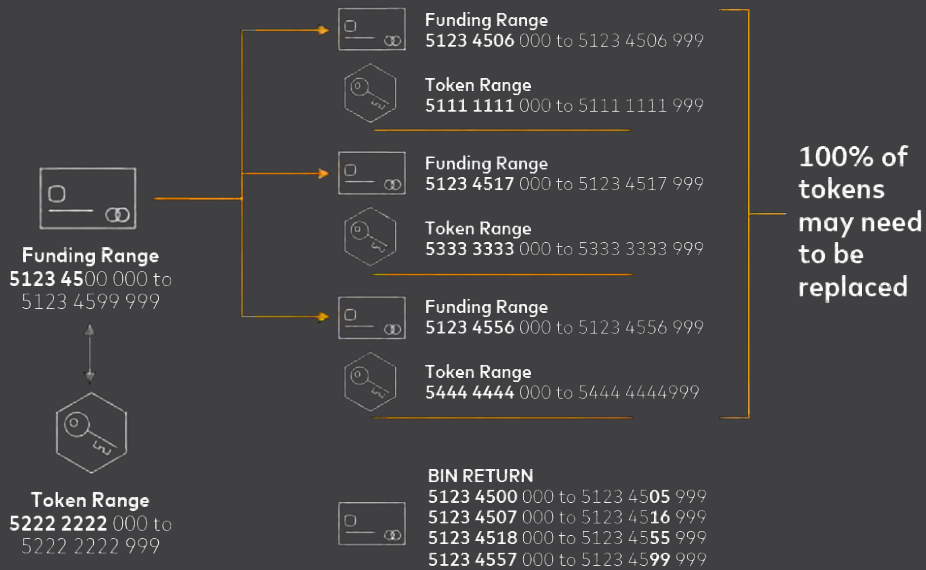
### Method 2 – Split each 8-digit BIN into a new Account Range

If Issuers need more granular segmentation, Mastercard recommends splitting each new 8-digit BIN into its own Account Range. Although this approach offers more control, it also results in more re-tokenization.



### Scenario 2: Patterned Card and BIN Issuance

Mastercard recommends splitting each segment into a new BIN and/or Account Range. Any BIN kept at the lowest part of the range will not need to be re-tokenized. Any other BIN ranges split will require tokens to be replaced.

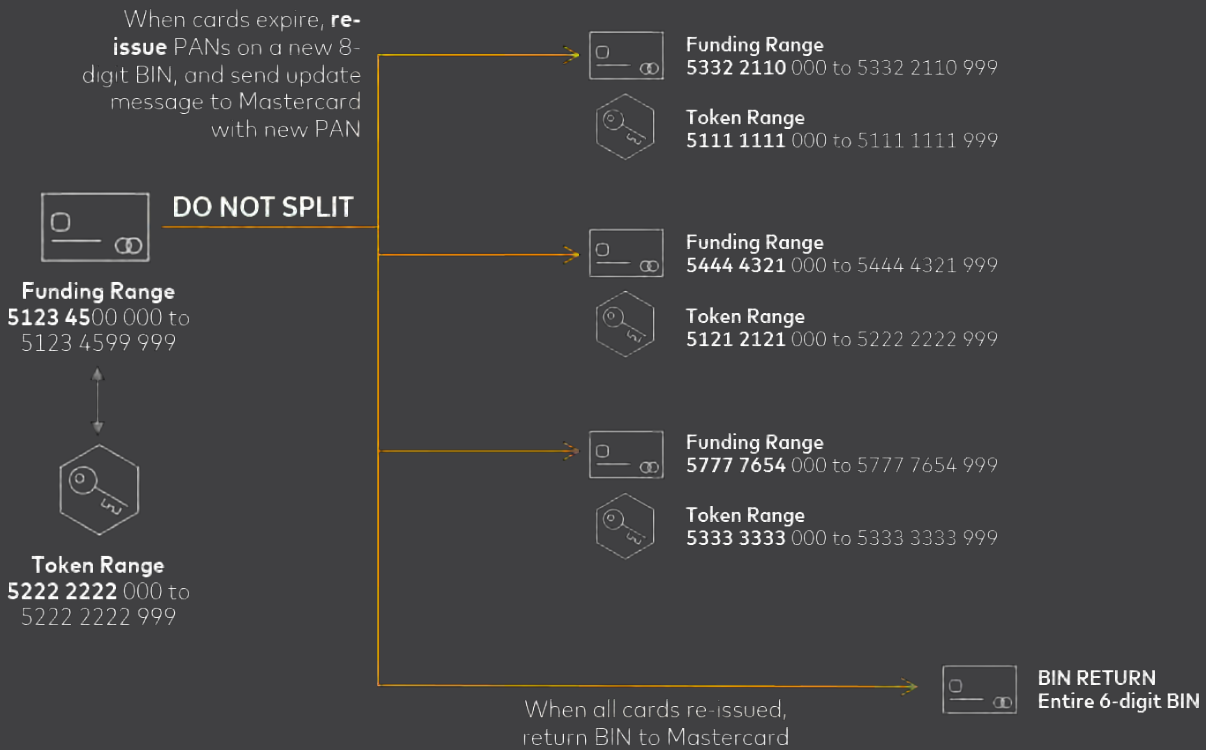


MDES and the Wallet Provider will handle the necessary re-tokenization automatically, as in the case of a Token Expiration.

**Scenario 3: Random Card Issuance across entire 6-digit BIN**

Mastercard does not recommend that Issuers split legacy BINs and Account Ranges if Issuers have randomly issued PANs across the entire 6-digit BIN. Instead, Mastercard suggests gradual re-tokenization on a card-by-card basis. As Funding PANs (FPANs) expire, Issuers should issue new cards/PANs on a new 8-digit BIN or Account Range. Issuers can then send a message to Mastercard through the Automated Billing Updater (ABU), Customer Service API or Portal, Payment Account Method API, 0302 network message or R311 batch file, and Mastercard will determine that the new FPAN is in a new range and will generate a new token (re-tokenize).

There is no bulk re-tokenization option if PANs are issued randomly.



Once complete, Issuers may either return their old 6-digit BINs to Mastercard or split them into 8-digit BINs for new issuance.



## Other Important Considerations

### Key Exchange Considerations

- Splitting BINs and returning ranges: When returning 8-digit BINs, the remaining 8-digit BINs will continue to use the exact same key and parameters as initially assigned/exchanged on the full 6-digit BIN. The key split operation will be transparent for the BIN owner.
  - **Note:** Non-sequential (i.e., [patterned](#) or [random](#)) ranges may require additional keys and subsequent fees.
- Requesting a *new* 8-digit BIN: The process remains the same as before. Customers must contact their CIS representative to initiate a project and then, when required by the Key Management security officers, must send the project scope's key files in a Crypto Self-Test Tool (CSTT) key file format in addition to validation data before the key can be implemented in production.
- Fees: The key residency fee remains \$7.50 (in local currency) per key per week. Keys can be set up at the BIN or Account Range level and can span multiple consecutive Account Ranges. If a BIN is split and the split results in more than one entry per key, the Issuer will be charged the fee per additional key.
- Issuer Public Key (IPK) Certificates can be set up to a maximum of 8 digits. The existing IPK certificates on the cards in the field will continue to remain valid until their expiration. At the time of expiration, the Issuer will need to request new certificates be issued at the 8-digit BIN level via the Member Request Tool (MRT).

### Cardholder Benefits/Rewards

- Migrating to 8 digits is another opportunity to consider portfolio differentiation with Mastercard's best-in-class cardholder benefits and reward programs. Work with your Mastercard Representative to determine the best options for your products.
- For customers with existing rewards programs and optional benefits, those allocations will be carried along with any migration activities you choose, no specific action is needed.
- For customers who currently report volumes for their enrolled optional benefits and insurance by completing the volume reporting form sent via email, there will be a minor format change to the form. Full Account Ranges will be shown, as applicable, with the 11th digit masked for security purposes. Refer to contracted terms and the Enhancements Enrollment Agreement (EEA) if further details are needed regarding volume reporting requirements.

### Portfolio Management (product rules)

Please refer to the [product rules](#).

### Optional Testing

8-digit BIN Testing is not required for Issuers. In fact, there are no message changes to Authorizations, Clearing and Settlement. Processing as an Issuer will not change from a Mastercard perspective, as our existing data elements or messages are not impacted by the move to 8-digit BINs. Please note, *no* 8-digit BINs will be assigned for Issuer testing.



Issuers may independently perform testing on their internal systems to identify impacts and make any necessary updates. Many of the impacts an Issuer may have migrating to 8-digit BINs will be with their own back-end systems. Mastercard cannot validate this for Issuers. It is important that Issuers test these impacts on their own.

### **Self-testing using Simulators**

Self-testing using a simulator is not required. However, as always, Issuers can validate their hosts' systems in an offline environment using existing Mastercard Simulators. The Mastercard Simulator Suite is composed of three simulators and may be ordered through Mastercard Connect:

- Mastercard Authorization Simulators (MAS) for Dual-message authorization validation (including connectivity)
- Mastercard Debit Financial Simulators (MDFS) for Single-message financial and exception validation (including connectivity)
- Mastercard Clearing Presentment Simulator (MCPS) for Clearing validation.

***This simulation software allows customers to test their business activities, data, and risk parameters in an offline environment without support from Mastercard.***

Once the simulator is downloaded, customers can set up Account Ranges they wish to test on the simulator. There is no CIS project required for customers who want to Self-Test using the Simulators.

- Starting August 2021, Mastercard will also update the Mastercard Authorization Simulator and Mastercard Clearing Presentment Simulator (MCPS) User Guides to provide instructions on how to set up 8-digit BINs and Account Ranges on your simulator.
- Also, Mastercard will soon be adding instructional videos to the Mastercard Academy on the Web (AOW) on how to use your simulators to perform OFFLINE Issuer transactional test cases.

Test cases supported for 8-digit BIN testing include, but are not limited to:

#### **Issuer Maestro and Cirrus – test cases**

<https://w201.mastercardconnect.com/hsm3ca267/homememb/library/shared/CIT/XX4g/suitehelp/index.html>

#### **Issuer Mastercard and Debit Mastercard – test cases**

<https://w201.mastercardconnect.com/hsm3ca267/homememb/library/shared/CIT/XX4h/suitehelp/index.html>

## **BIN Utilization Report Overview**

- The BIN Utilization Report allows customers to view their BIN structure and activity at the 6- and 8-digit BIN level.
- The report includes a list of active 6- and 8-digit BINs, as well as aggregated PAN and transaction counts at the 8-digit level.
- Data includes, but is not limited to, the number of active 6-digit BINs, 8-digit BINs, product families, and product groups, as well as BINs by product category (e.g., consumer, commercial) and 8-digit penetration.



- The report only displays Mastercard-processed transactions. Please check with your Processor to collect any additional information that will help you determine utilization opportunities.
- If 8-digit BINs do not appear on the report, it is because Mastercard has not processed any transaction data for those 8-digit ranges.
- Please contact [BIN\\_Inquiries@mastercard.com](mailto:BIN_Inquiries@mastercard.com) or [customer\\_support@mastercard.com](mailto:customer_support@mastercard.com) to request a copy of the BIN Utilization Report.

## Self-service BIN Utilization Report (available in My Company Manager)

- Mastercard will be adding a self-service BIN Utilization Report available for download on My Company Manager to provide more detailed information on your portfolio.
- The report can be downloaded by clicking on the drop-down menu on the left side of the screen and then selecting **BIN** from the menu.
- The report includes a list of 8-digit BINs with transaction activity, as well as PAN and transaction counts at the 8-digit level.
- The report can be downloaded for various time frames – current month, last month or last 3 months
- The report only displays Mastercard-processed transactions. Please check with your Processor to collect any additional information that will help you determine utilization opportunities.
- If 8-digit BINs do not appear on the report, it is because Mastercard has not processed any transaction data for those 8-digit ranges.

Home / My Company

My Company

MasterCard - Debit Switch (152743)

Headquarters Address  
ADDRESS NOT ON FILE  
CITY NOT ON FILE  
UNITED STATES

Portfolio Contact Related Companies Requests

Lines of Business

Principal Acquirer, Principal Issuer

BIN Account Range

BIN Account Range  
TRID  
ICA  
BIN

New Transfer Delete Export

BIN Account Range	Status	Product	Country	ICA	Program	Virtual Card	Nickname	Affiliate
545010 00000 - 545010 99999	Live	MCC - Mixed Product	Peru	5010	Legacy Product Code	No	N	

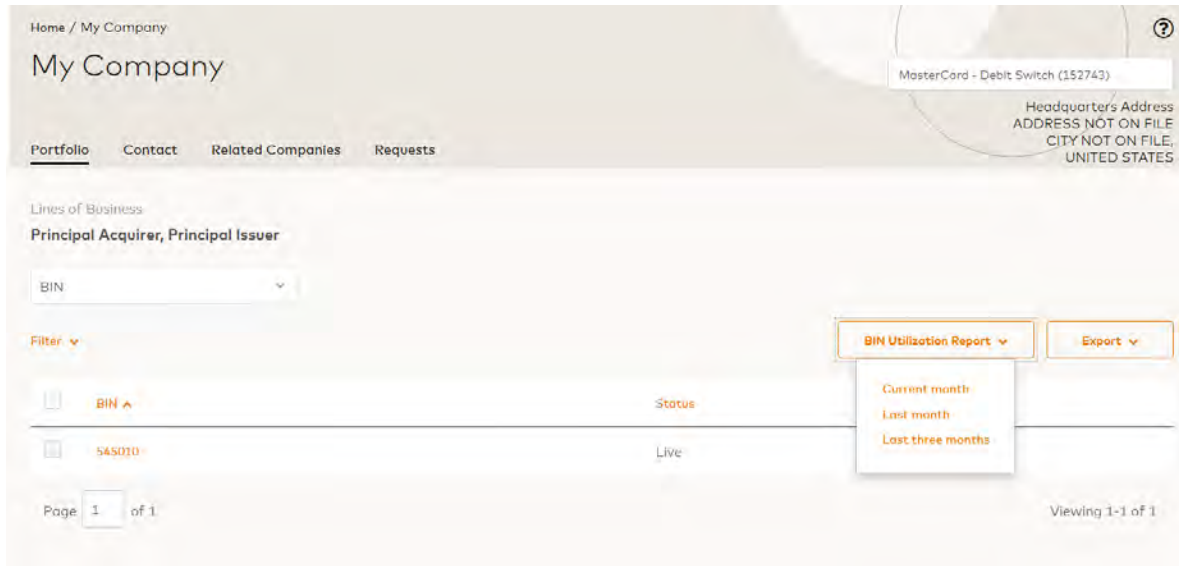
Page 1 of 1

Viewing 1-1 of 1

Show Identifiers

Identifier	Identifier Type	Description	Status
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## Other Mastercard Product Impacts

Please refer to the table [here](#) for other Mastercard product impacts.

## Pricing Overview & Timeline

- [Franchise and Licensing BIN fee announcements for all markets announced \(effective April 2022\)](#). The announcement revises existing Franchise fees for 6-digit BINs (most legacy changes effective 2023).
- Other implementation-related pricing will be released later this year.

## Frequently Asked Questions (FAQs)

- [Frequently Asked Questions](#) available on the Technical Resource Center on Mastercard Connect.



# Appendix

## External References about the Standards Change

[An article](#) about the change from the American National Standards Institute (Goodbaum, Beth). "ANNOUNCING MAJOR CHANGES TO THE ISSUER IDENTIFICATION NUMBER (IIN) STANDARD." *American National Standards Institute*, American National Standards Institute, July 2016, [www.ansi.org/news/standards-news/all-news/2016/07/announcing-major-changes-to-the-issuer-identification-number-iin-standard-28](http://www.ansi.org/news/standards-news/all-news/2016/07/announcing-major-changes-to-the-issuer-identification-number-iin-standard-28).

[Reference material](#) from the International Standards Organization (ISO) (Note: Requires payment to ISO to access the material) ("ISO/IEC 7812-1:2017(En) Identification Cards – Identification of Issuers – Part 1: Numbering System." ISO, Committee: ISO/IEC JTC 1/SC 17, July 2016, [www.iso.org/obp/ui/#iso:std:iso-iec:7812:-1:ed-5:v1:en](http://www.iso.org/obp/ui/#iso:std:iso-iec:7812:-1:ed-5:v1:en).)

## Frequently Asked Questions (FAQs)

[Frequently Asked Questions](#) available on the Technical Resource Center on Mastercard Connect.

## PCI Information

### Mastercard

The Mastercard PCI 360 website contains information on cardholder data security, including whitepapers and webinars. This site offers beginner- to expert-level training curricula suitable for merchants of all sizes and complexities.

Mastercard PCI 360 Education Portal: <http://www.mastercard.com/pci360>

Mastercard Site Data Protection Program Site: <http://www.mastercard.com/sdp>

### The Payment Card Industry Security Standards Council

The PCI SSC's Document Library includes a framework of specifications, tools, measurements, and support resources to help organizations ensure the safe handling of cardholder information at every step.

PCI SSC Document Library: [http://www.pcisecuritystandards.org/document\\_library](http://www.pcisecuritystandards.org/document_library)

PCI SSC Site: <http://www.pcisecuritystandards.org/>



## Migrating to 8-Digit BINs

### Actual sample usage of 8-digit BINs

# of transactions per 8-digit BIN

	Issuer A MPL BIN 1	Issuer B MCS BIN 2	Issuer C MCC BIN 3
	267,581		56,371
	3,256	1,932	39
	45,000		55
		28	4
			189
		29	1
			1
			8
			124
			63
			232
		235	116
			292
			57
		14	38
		29	6
			22
		5	73
			280
			271
			35
			158
		72	50
			53
		28	85
			118
		2	5
			70
			48
		23	1
		1,599	5
			204
			11
			231
			159
			6
			19
			15
			35
			60
			3
			60
			38
			258
			34

**Issuer A** - Sequential  
**Issuer B** - Patterned  
**Issuer C** - Random

- = no txns
- = <1K txns
- = >1K txns

BINs ending  
in 00-99





	Issuer A MPL BIN 1	Issuer B MCS BIN 2	Issuer C MCC BIN 3
			91
			3
			9
			21
			105
			57
			47
			159
		140	8
			9
			52
			48
		67	33
			34
			67
			42
		151	109
			39
			12
			46
			79
			42
			37
			2
			118
			17
			68
			1
			93
		84	18
			99
			1
			31
			50
		102	71
			5
			174
			2,406
		9,463	3,207
			1,945
			2,263
			2,767
			2,449
			2,378
			2,566
			3,083
			2,491

**Issuer A** - Sequential  
**Issuer B** - Patterned  
**Issuer C** - Random

■ = no txns  
■ = <1K txns  
■ = >1K txns

BINs ending in 00-99



## My Company Manager Support Materials

Support materials for My Company Manager, including step-by-step guides, can be found on regional Academy on these websites:

[Asia Pacific](#)

[Europe](#)

[Latin America](#)

[Middle East & Africa](#)

[North America](#)

## Franchise and Licensing BIN Pricing

As mentioned earlier in the document, pricing was announced to depict the changes because of the shift to 8-digit BINs. Please access the appropriate bulletin for further information:

### U.S. and Canada Regions

[AN 4423 Introduction of 8-digit BIN Fees and Revisions to Existing 6-digit BIN Fees in the U.S. and Canada Regions](#)

### Europe Region, excluding Switzerland

[AN 4424 Introduction of 8-digit BIN Fees and Revisions to Existing 6-digit BIN Fees for the Europe Region, excluding Switzerland](#)

### Latin America and the Caribbean Region, excluding Brazil

[AN 4425 Introduction of 8-digit BIN Fees and Revisions to Existing 6-digit BIN Fees for the Latin America and the Caribbean Region, excluding Brazil](#)

### Brazil

[AN 4426 Introduction of 8-digit BIN Fees and Revisions to Existing 6-digit BIN Fees for Brazil](#)

### Asia/Pacific Region, excluding Indonesia

[AN 4427 Introduction of 8-digit BIN Fees and Revisions to Existing 6-digit BIN Fees for the Asia/Pacific Region, excluding Indonesia](#)

### Middle East/Africa region

[AN 4428 Introduction of 8-digit BIN Fees and Revisions to Existing 6-digit BIN Fees for the Middle East/Africa Region](#)

### Indonesia

[AN 4429 Introduction of 8-digit BIN Fees and Revisions to Existing 6-digit BIN Fees for Indonesia](#)

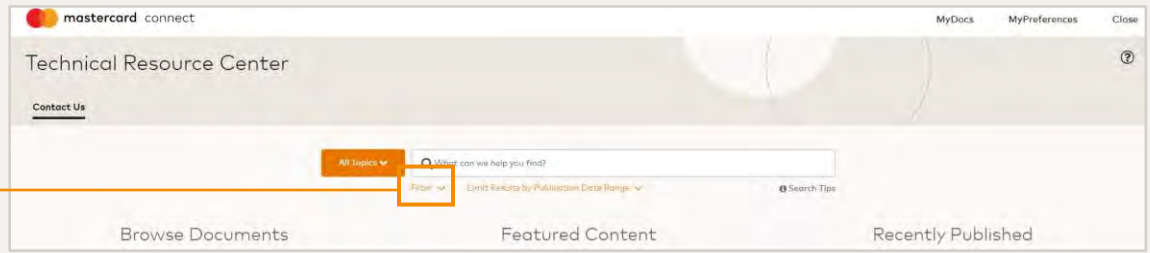
### Switzerland

[AN 5327 Introduction of Eight-Digit BIN Fees and Revisions to Existing Six-Digit BIN Fees for Switzerland](#)

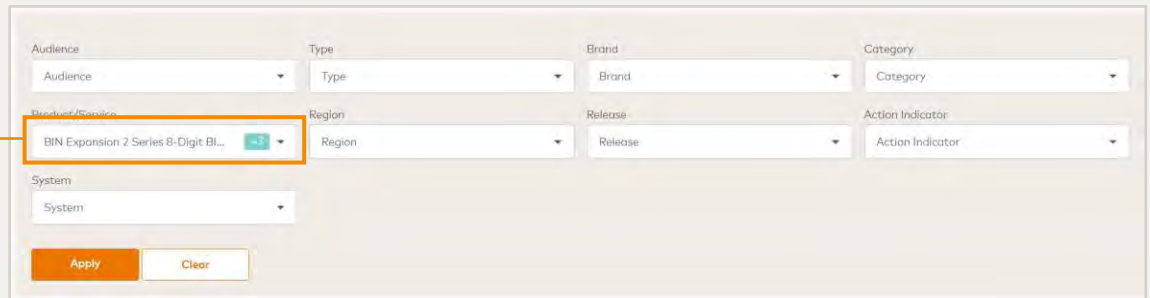


## Accessing 8-Digit BIN Information on the Technical Resource Center

From the Technical Resource Center, select Filter to view 8-digit BIN documents



Select BIN Expansion from the Product/Service to narrow the results



After selecting "Apply," the results will be filtered for BIN Expansion topics – 8-digit and 2-series

