



8-Digit BIN - Acceptance Ecosystem Impact Visa Position Paper

Visa Public

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Executive Summary

In 2016, the International Organization for Standardization (ISO) identified a global industry shortage of Issuer Identification Numbers (IINs), following rapid growth of the payments business. As IINs (referred to as Bank Identification Numbers, or BINs, in the Visa system) are foundational to the payments business, an ISO-formed group of industry experts agreed to address the shortage by publishing a new 8-digit standard in 2016.

Visa acknowledged that this change could have varied impacts to each stakeholder in the payments ecosystem. In anticipation, Visa announced its plans in 2017 to give ample time for ecosystem participants to perform internal analysis and prioritize necessary development work.

Based on feedback from the acquiring community, Visa would like to provide clarification regarding the following:

1. Timeline of Impact
2. BINs, Account Range Processing and Tokenization
3. Authorization Data Requirements
4. Terminal Provider Readiness
5. Testing

Timeline of Impact

To align with the standard set by ISO, which is applicable to all participants, Visa's mandate for acquirers and processors to support 8-digit BIN is April 2022. As there is no mandate for issuers to migrate existing portfolios to 8-digits, both 6- and 8-digit BINs will continue to be supported, but Visa will no longer assign 6-digit BINs. While Visa is not in a position to delay the April 2022 mandate for acquirer and processor readiness as it is aligned with the standard set by ISO and applicable to all participants, we are doing a number of things to mitigate potential impacts this industry change may have on the various stakeholders.

The following two examples illustrate how the largest ecosystem concerns are being addressed:

1. Concern: Mass issuer adoption of the 8-digit BIN industry standard
 - Visa approach: Issuers are not currently mandated to migrate their existing 6-digit BIN portfolio to 8-digit BINs.
 - Benefit: Visa does not anticipate an immediate, overnight impact but more of a gradual increase in 8-digit BIN adoption post-April 2022, allowing more time for the ecosystem to complete any required changes.
2. Concern: Immediate need to identify both 6- and 8-digit BINs prior to authorization
 - Visa approach: Visa will maintain existing practices to hold returned BINs for at least a year upon issuer return; meaning that when a BIN is returned, it will not be re-assigned or licensed to another party for at least 1 year. Additionally, the oldest returned BINs will be the first to be reassigned (first in, first out methodology).
 - Benefit: This will protect 8-digit BINs with the same 6-digit prefix from being reassigned immediately following April 2022 and, therefore delaying potential impact to the ecosystem where length of BIN is used, again allowing additional time to complete development work.

BINs, Account Range Processing and Tokenization

The BIN, regardless of length, will continue to identify the product type: Debit, Credit, or Prepaid. Visa reserves certain BINs for specific regional needs such as Cash Advance in UK, Fleet/FSA in the US, etc. and communicates these to clients.

The most common example of account range processing today is token ranges, which use the 9th digit. Tokenization will remain at 9-digits regardless of BIN length.

It is important to understand that not all BIN files/tables are the same. They can be obtained from a processor, third-party BIN provider or the payment networks. Please consult with your designated provider for a review of the file specification or table layout to understand the types of information included.

Authorization Data Requirements

Some ecosystem participants may have adopted business practices using the BIN, prior to sending the transaction to the processor for authorization, that may be impacted due to this industry change.

The two main areas are:

1. Identification of certain data elements, such as:
 - Product type (Fleet, FSA/HSA, Commercial, PIN prompting)
 - Issuer country (fraud review and performance)
 - Issuer BIN and BIN length (loyalty, reporting, back office processes)
 - Issuer ID
2. PCI Requirements

A more detailed summary of each is included below:

1. Identification of certain data elements

- Visa does not use Issuing BIN in its processing; Issuer ID is used, which is not the same numeric value. Therefore, there are no impacts to VisaNet processing.
- In addition, issuers have card attributes defined out to the 9th digit, such as with tokenization. Therefore, it is a best practice for merchants to look to the 9th digit to ensure they process accurately.
- If merchants are not using BIN tables today, there is no reason to use them once the ecosystem moves to 8-digit. However, if the merchant is using BIN tables today, we recommend they only use authorized BIN tables from a reliable party such as their third-party providers. A Visa study found that tables purchased off the internet are roughly 30% accurate.
- As previously mentioned, merchants should work with their third-party BIN file providers to determine how they have modified their proprietary files in preparation for the 8-digit BIN change.

2. PCI Requirements

Due to the complexity surrounding PCI requirements, Visa has created a separate, comprehensive document. Please reference the [PCI Security Requirements Position Paper](#) on Visa.com.

Visa will continue to provide information, insight, tools, and resources to all ecosystem participants to help ensure readiness to support the new industry standard. [Visa's Numerics Initiative](#) on visa.com will continue to be a resource for the acceptance community, containing the latest information and resources to help in your planning and project execution.

Terminal Provider Readiness

Terminal Provider readiness is an area of interest for merchants. Visa has engaged with global service providers, such as terminal manufacturers, gateway solutions and software providers regarding readiness by the April 2022 mandate.

No impact is expected for merchants or technology partners in the following categories:

- Not currently using BIN lookup for pre-authorization business reasons
- Logic already established to use the 8-digit BIN prior to encryption at the terminal or after decryption
- PANs already being processed in the clear (impacts may vary if internal systems only look at the first 6-digits)

Those merchants who interrogate the BIN before authorization for various business reasons and employ transaction encryption will want to work directly with their service providers as they have a need to access the first 8-digits of the PAN.

Additionally, some merchants may be utilizing products where the BIN look-up is at the terminal level, or executing processing decisions with a truncated PAN after encryption occurs. As most terminal manufacturers have not yet changed logic to look beyond the first 6-digits, modification may be required.

- For merchants performing end-to-end encryption on a device at the application layer (not in SRED), they may need to modify solutions to execute BIN logic before encryption, or change truncation / encryption schemas to expose the first 8-digits of the PAN.
- For merchants that have PCI validated P2PE solutions, partnering with the solution providers, PCI auditors and security teams is recommended to determine the changes needed to have security modules modified or expanded to expose PANs out to 8-digits.

PCI published updates via FAQ 3.4, rule #1091 in July 2021. PCI has confirmed that re-validation may not be necessary, allowing device manufacturers the ability to push required updates in a shorter timeframe. Merchants are encouraged to analyze systems to determine scope of changes needed to their environment and partner with solution providers to schedule updates.

8-digit BIN Testing

Visa does not use BIN in its processing environment. As a result, testing is not mandated by Visa.

However, Visa introduced 8-digit BIN test *accounts* that can be used for testing within Visa Certification Management Service (VCMS), Visa's client testing environment. While 8-digit BIN test plastics were not created by Visa, clients who want to use Visa Mobile Card Personalization (VMCP) may order a Utility Card Packet from the Visa Fulfillment service. Utility cards may be purchased to personalize with an 8-digit EMV contactless account. These accounts can test the following:

- Authorizations, full financials, reversals and advice messages
- BASEII settlement
- Delivery of corresponding raw data and VSS reporting for settled full financial and BASEII settlement items

These accounts were made available to Visa endpoints in te Q3 2020 for testing in the Visa test tools.

As most Merchants do not have direct connectivity to Visa's test environment, Merchants who want to test their POS should contact their solution providers and/or acquirer/processor to confirm available 8-digit BIN test resources. Some acquirers/processors may have processes and environments in place to test with merchants, however Visa does not have visibility to those closed-loop proprietary systems.

Merchants who are using Issuing BIN files at the POS may wish to test their ability to read the first 8-digits. This may be accomplished, depending on how encryption is implemented, by using any card number, regardless of BIN length.

Please note: Visa does not have production 8-digit test cards. While solutions may exist in the market, true end to end production testing can only be accomplished by partnering with an Issuer.

Conclusion

The migration from a 6- to 8-digit BIN standard has been an ongoing initiative since January 2017. The payment industry has gone through many changes over this period in preparation for the ISO mandate. Some issuers have already migrated their portfolios to the new 8-digit BIN standard. Each player in the payments ecosystem will have different impacts based on their use of BIN, which is a licensing construct rather than a processing construct. Visa recommends performing a thorough analysis to determine impacts if its use has extended into processing or other business practices, and prioritizing development to prevent payments disruption.

Additional information related to the 8-digit BIN Initiative can be found on the [Visa's Numerics Initiative](#) page on visa.com. Questions or comments can be forwarded to numericssupport@visa.com or contact your Visa representative.