

Preparing for 8-Digit BINs

Merchant Perspective

2021



Topics

- 1 Background and Context

- 2 Planning and Implementing Changes to Prepare for 8-digit industry standard

- 3 Indicated Action



Topics

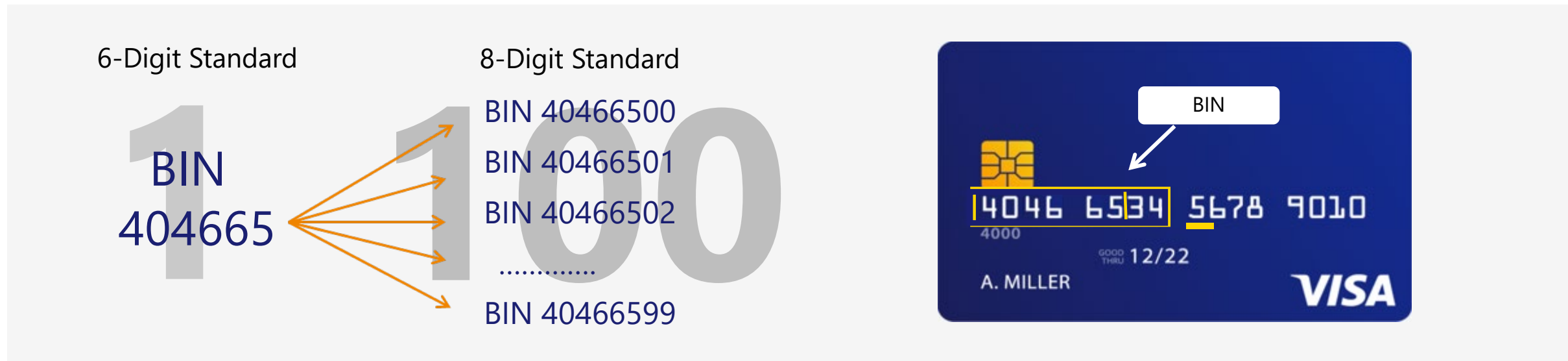
- 1 Background and Context
 - BIN Defined
 - Industry Standard Change
 - Consequences of Inaction



Bank Identification Number (BIN)

Definition: A numeric assigned by ISO to Visa, licensed by Visa to our clients and that makes up the first digits of the PAN (Primary Account Number)

6 Digit BIN or 8 Digit BIN



Account Range: 9 Digits, 6 or 8-digit BIN

PAN: Not determined by BIN length

Change to Global Industry Standard



International
Organization for
Standardization

Background and Context

- The International Organization for Standardization (ISO) establishes the policies, processes and structure to facilitate the development of voluntary standards across all industries including payments
- To address the industry shortage in supply, an ISO-formed working group consisting of industry experts including payment brands agreed to change the standard from 6- to 8-digits in 2016
 - ISO is already assigning 8-digit BINs for new requests
- In support of the new standard, Visa endorsed the standard in 2017 and announced April 2022 as its final effective date

Consequences of moving from 6- to 8-digits after April 2022

The same 6-digit root will be common to BINs assigned to different issuers and used for various products

- ISO will no longer protect their 8-digit assignments to avoid clashes with the 6-digit root
- Issuers will convert their existing 6-digit BINs to 8-digits, releasing some for reassignment
- For new assignments, different Issuers will receive BINs that share the same 6 digit prefix

6-Digit Standard




BIN
404665

8-Digit Standard

BIN 40466500
BIN 40466501
BIN 40466502
.....
BIN 40466599

Consequences of moving from 6- to 8-digits

Three typical scenarios for assigning the same 6-digit prefix to different Issuers, used for different products

Scenario	After April 2022
ISO assigns new BIN: 111111<u>11</u> - UK issuer, credit	 111111<u>11</u> – UK issuer, credit 111111<u>00</u> – Ghana issuer, debit
Client converts existing 6-digit BIN: 412345 – Ukraine issuer, credit	 412345<u>00</u> – Ukraine issuer, credit 412345<u>01</u> – US issuer, prepaid 412345<u>02</u> – Australian issuer, debit
Client requests new BIN: 476126<u>45</u> – Canada issuer, Corporate	 476126<u>45</u> – Canada issuer, Corporate 476126<u>27</u> – US issuer, prepaid 476126<u>52</u> – Senegal issuer, credit

Consequences of moving from 6- to 8-digits

Risks of disruption to ecosystem will increase as more issuers move to 8-digit format

- Failure points and severity will vary depending on usage of the BIN, supporting technology, dependencies across service providers, downstream process flows and associated outputs.
- Identifying product type, country or service eligibility will become **more** problematic as time goes on

Impact Area	Acquiring & Processing
Merchant Point of Sale	✓
Data Warehousing and Reporting	✓
Fraud Management	✓
Merchant Servicing and Disputes	✓
Regulatory	✓

Risks for Lost Revenue & Inefficiencies with Industry Change

Use of 6-digit BIN to assess issuer country or product type is already an issue across the industry

Scenario: Client converts existing 6-digit BIN; new issuer receives one of the released 8-digits

Over 1000 transactions are declined at a large US merchant in one week.

The issuer is unable to explain why this is happening for their new credit program.

The acquirer and Visa are unable to explain why as they are not seeing the transaction.

Further investigation reveals the BIN was assigned + 10 years prior to an issuer from an eastern European country that had been on the merchant's "do not accept" fraud management list.



Risk: Lost sales and ill will from potential (or previous) customers.

Scenario	After April 2022
Client converts existing 6-digit BIN:	41234500 – Eastern Europe issuer
412345 – Eastern Europe issuer, credit	41234501 – US issuer

Risks for Lost Revenue & Inefficiencies with Industry Change

Use of 6-digit BIN to assess issuer country or product type is already an issue across the industry

Scenario: Client converts existing 6-digit Gift Card BIN; new issuer uses BIN as Debit card



Cardholder attempts to register card at a bill pay merchant but it is repeatedly declined.

Cardholder then attempts to register card to pay for their new movie streaming channel.

In each case, the Merchants advise they are unable to set up as they have the 6-digit BIN identified as a non-reloadable prepaid card.

The issuer is unable to explain why this is happening for this Debit card program. The cardholder has sufficient funds and overdraft protection.

The acquirer and Visa are unable to explain why as they are not seeing the declines.

RISK: Customer ill will. Lost business opportunity in the lucrative Recurring payments and subscription services business; estimated at \$473BN¹ in 2021



Scenario	After April 2022
Client converts existing 6-digit BIN: 451548 – Canada issuer, GIFT card	45154800 – Canada issuer, GIFT card
	45154801 – US issuer, Credit card

Topics

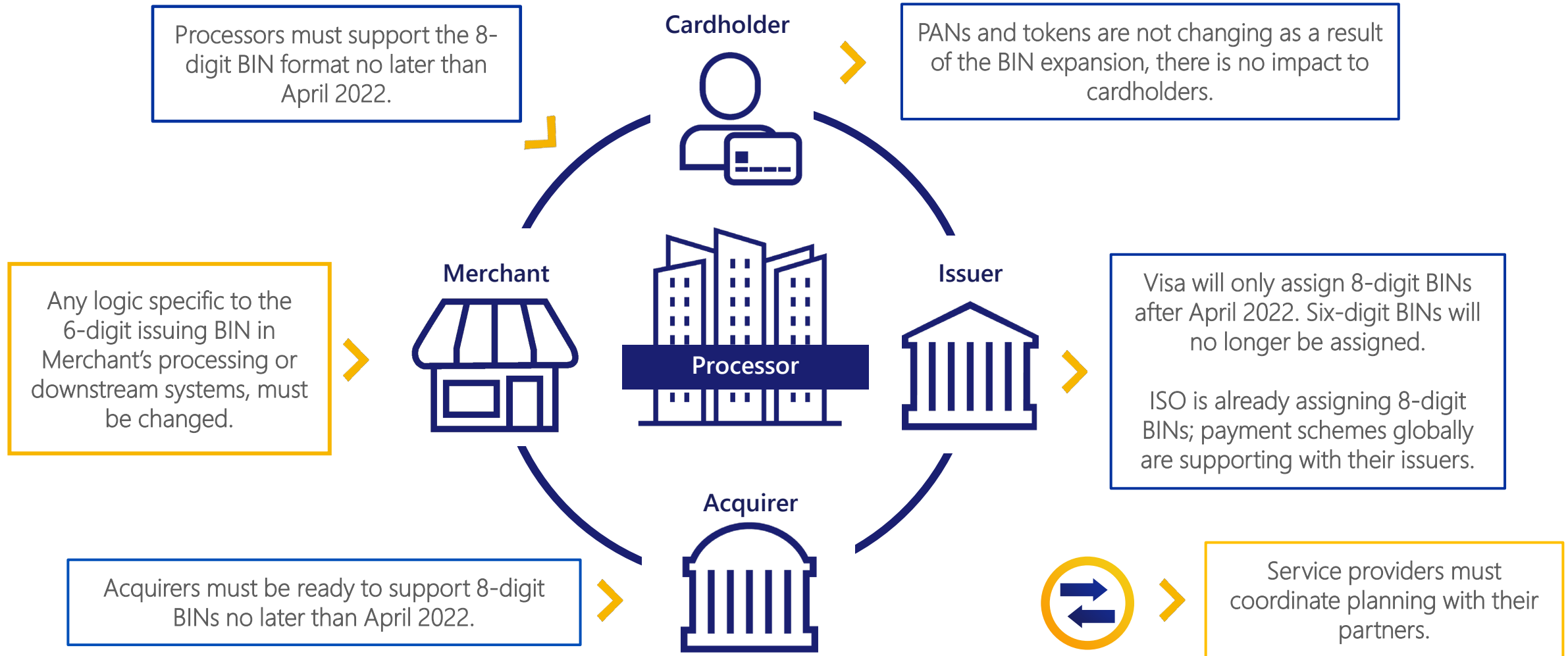
1 Background and Context

2 Planning and Implementing Changes to Prepare for 8-digit industry standard

- Visa Requirements
- Impact Assessment
- Point of Sale
- Other
- Best Practices



BIN Expansion Across the Ecosystem



Discovery Interviews by Deloitte in 2020

Met with clients operating in 94 countries to answer three fundamental questions

1 What are the identified impact areas?

How is the issuing BIN used across the payments ecosystem? What changes will be required?

2 What are open questions or challenges?

Have clients identified any risks or open decisions that require further support from Visa or other third parties?

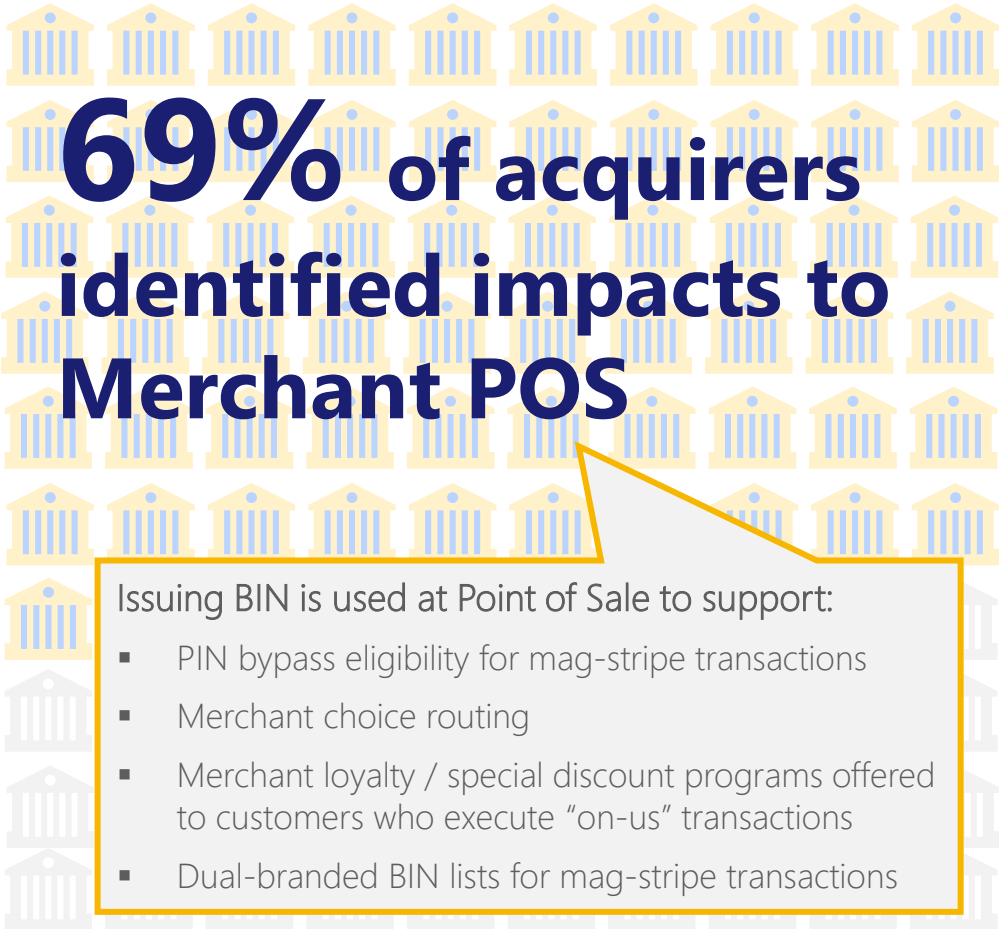
3 What is overall readiness status?

Have clients completed the analysis phase? Have they engaged with their third parties?



Merchant Point Of Sale (POS)

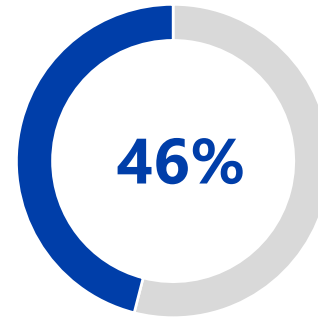
In interviews done to assess potential 8-digit related impacts, merchant point of sale processes including impacts to POS hardware, terminal software and BIN tables were identified as high impact



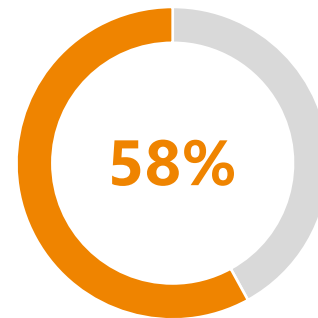
69% of acquirers identified impacts to Merchant POS

Issuing BIN is used at Point of Sale to support:

- PIN bypass eligibility for mag-stripe transactions
- Merchant choice routing
- Merchant loyalty / special discount programs offered to customers who execute "on-us" transactions
- Dual-branded BIN lists for mag-stripe transactions



Identified POS terminals with **hardcoded logic** based on issuing BIN

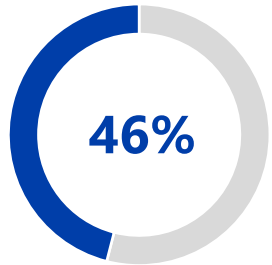


Expect an impact to **BIN tables** loaded to terminal referenced via terminal management system

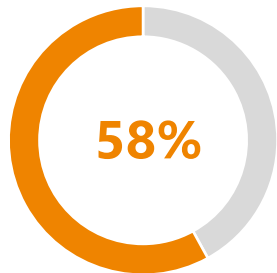
Refer to the *Numerics Initiative: Acquiring & Issuing Impacts Discovery Interview Findings* at [Visa.com/8digitBIN](https://www.visa.com/8digitBIN)

Merchant Point Of Sale (POS)

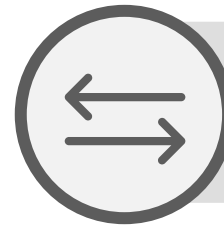
Set ups that use the first 6-digits of the PAN to route transactions identified broad impacts across the transaction processing lifecycle



Identified **POS terminals with hardcoded logic** based on issuing BIN

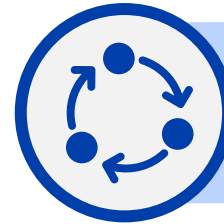


Expect an impact to **BIN tables** loaded to terminal referenced via terminal management system



ROUTING & AUTHORIZATION

- International Transactions
- "On us" transactions
- Risk Rules



CLEARING & SETTLEMENT

- Merchant Discount Rate Identification



ACCOUNTING & RECONCILIATIONS

- Interchange posting
- Fee calculations

Other Potential Areas of Impact for Merchants

You will need to determine if these changes will impact your back end systems



Key areas for consideration on the expansion of BINs, in particular if you:

- Manage your own POS environment
- Share BIN information with any third parties
- Use proprietary BIN tables in transaction processing or supplied via third parties
- Have any system logic or POS device that uses the first 6-digits of the PAN



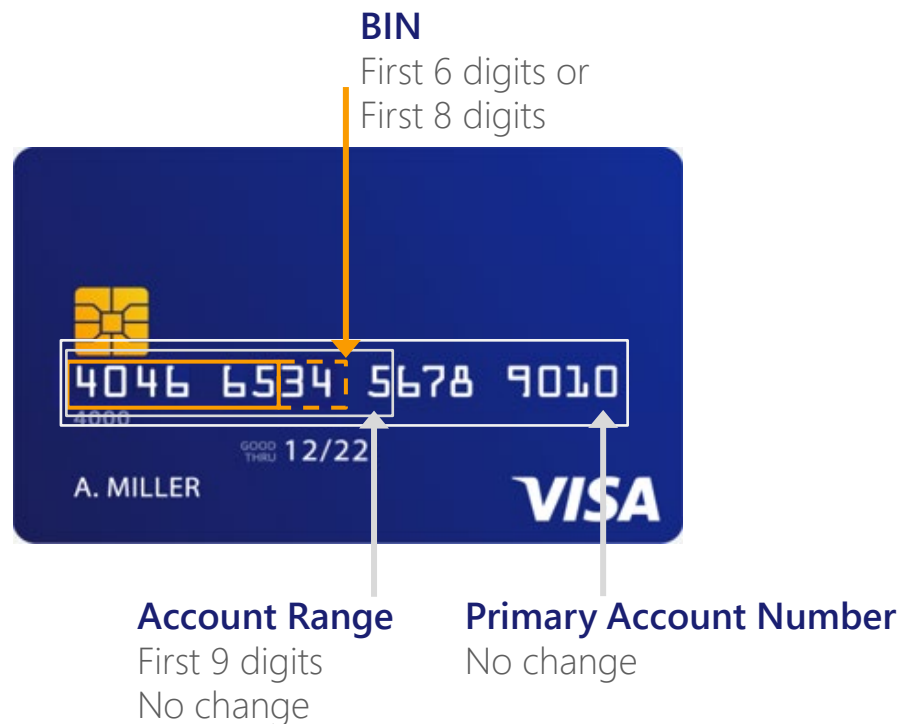
And if you are using BINs to:

- Identify Prepaid Cards
- Fraud and/or Chargeback analytics
- Fraud or Chargeback prevention
- Issuer Identification
- Routing
- Unique BIN Identification; e.g., Fleet Cards, GSA Cards, Others
- Optimize Approval Rates/ Authorization Analysis
- Loyalty Solutions
- Cash Back Qualification
- Installment Payment Qualification
- Limited Acceptance (Credit, Debit)
- Surcharging
- Strong Customer Authentication (PSD2 related products)
- Back office processor: i.e. reconciliation

Please work with your acquirer to ensure the timely implementation of back end system requirements

Other Impacts to Consider

In the discovery interviews, 30% of acquirers identified impacts to dispute management processes



Potential impacts for Merchant Servicing

Search functionality:

- Issuing BIN or first-six / last-four searches are performed
- Account prefix searches are performed

Transaction screens: payment method including masked PAN (first-six / last-four) is displayed

Potential impacts for Dispute management

- Configuration tables
- Search features
- Reporting
- Reconciliations
- Issuer identification for dispute resolution

PCI DSS Consideration

PCI DSS Standards were continually raised as question to be resolved for 8-digit BIN adoption

Data Presented on Screen and Reports

Provisions allow users with a legitimate business need to see any or all of the PAN digits. Adjusted at early stage of issuing numeric standards change.

Data at Rest

PCI maintains that a minimum of six digits must be truncated or encrypted to protect data at rest. Merchants that use truncation as their only method of complying with the PCI requirement for protecting data at rest who would like to expose the full eight-digit BIN may retain last two-digit of the PAN.

Merchants who would like to expose the full eight-digit BIN as well as the last four digits will need to add one or more of the other acceptable methods for data protection, such as encryption, hashing or tokenization.

Merchant Best Practices – Summary

- Do not buy BIN tables off the internet
- Reach out to your acquirers regarding authorized tables
- Consider the potential to use the Visa BIN Attribute Sharing Service (VBASS)
- Confirm your ability to process transactions and complete downstream activities regardless of the BIN length
- Update your systems to read the first 9 digits of the PAN at a minimum if you need know about the products, currencies, or countries of issuance

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What You Should be Doing Now

Effective Date is April 2022

- If you manage your own POS environment, detail out how the issuing BIN is used and replace any logic that is based on the first 6-digits
- Confirm you are not making use of proprietary BIN tables from internet sources; move to gaining information from your acquirer
- Assess downstream system impacts e.g. billing, reporting, key management, etc. and make necessary changes to accommodate the longer BIN length
- Consider needs to conduct testing to confirm seamless operations and downstream processes
- After your initial assessment, engage with your acquirers, processors, vendors, service providers, and other partners to coordinate planning and schedules
- Access Visa resources for more guidance

Why Is Prompt Action Required?

“ *The changes required to downstream and processing systems may require extended timelines and must be coordinated with acquirers, service providers and vendors.* ”

Deloitte Consulting, August 2020

Visa 8-digit Planning Resources



Numerics Initiative Page on Visa.com:

Channel to distribute relevant material to merchants including Acquiring and Issuing Impacts: Discovery Interview Findings, Planning Questionnaires, Quick Start Guides, FAQ.



Visa BIN Attribute Sharing Service:

API to enable sharing of Visa BIN Attributes to improve merchant processes and checkout experiences. Merchants can obtain BIN Attribute data through an acquirer or acquirer sponsored third party.



Planned webinars designed to answer your questions



NumericsSupport@visa.com