Numerics Initiative:
Acquiring & Issuing Impacts
Discovery Interview Findings

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Executive Summary

Overview

The International Organization for Standardization has revised ISO/IEC 7812-1, *Identification cards – Identification of issuers – Part 1: Numbering system*, to expand the Issuer Identification Number (IIN), also referred to as the issuing BIN, from the current six digits to eight digits. In early 2020, Visa engaged Deloitte to conduct global interviews with select Visa clients on the expected impacts of the issuing BIN expansion to their internal systems and processes, as well as their vendors and clients. The interviews focused on topics applicable to acquirers, acquirer processors, issuers, and issuer processors as they develop their plans to address the changes.

"The interview findings emphasise how important it is for every Visa client to conduct a broad discovery and impact assessment across their internal systems and processes, as well as their vendors and clients." – *Deloitte Global Numerics Interview Team*

Summary Findings

Every client interviewed uses the issuing BIN across a unique set of processes and systems – therefore the impacts of the issuing BIN expansion vary significantly across clients. While this report touches upon a broad range of impact areas, each client's assessment approach should be customised to their organisation, as well as their third parties. After the assessment is conducted, clients can leverage the findings to design solutions, estimate the effort required, and implement and test the required changes. The following are just a few selected examples of impacts identified in these interviews.

- 47% of interview participants identified impacts in at least one step of the transaction processing life cycle. For example, some acquirers use issuing BIN to identify product types (e.g., prepaid, commercial, fleet / petrol).
- Over 50% of interview participants identified impacts to BIN and PAN assignment strategy when the issuing BIN, seventh digit or eighth digit is used to identify products. Additionally, clients identified impacts to product management systems, product performance reporting, and loyalty and rewards eligibility management.
- 69% of interview participants identified impacts to merchant point of sale processes including impacts to point of sale hardware, terminal software and BIN tables.
- 63% of interview participants across issuing and acquiring identified impacts to fraud rules and supporting systems, whereas 25% confirmed impact to fraud reporting.
- Over 50% of interview participants store issuing BIN as a data element outside core processing systems in data warehouses and application tables.
- 43% of interview participants that support ATMs have identified an impact to ATM transaction processing. For example, most of these clients use issuing BIN to identify "on us" transactions.

What's Next

1. Review this report in detail and share with your organisation to support your Numerics planning. It contains many more examples of impacts, as well as general guidance on key focus areas.
2. Use the questionnaires in the appendix and online as an additional input to your impact assessment.
3. Access additional resources available on VisaOnline.com; see page 28 for details.

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Overview

The International Organization for Standardization has revised ISO/IEC 7812-1, *Identification cards – Identification of issuers – Part 1: Numbering system*, to expand the Issuer Identification Number (IIN), which is also referred to as the issuing BIN, to an eight-digit numeric value from the current six digits.

Visa engaged Deloitte to conduct interviews with select Visa clients on the expected impacts of the issuing BIN. The interviews focused on the following questions:

1. What are the impact areas clients have identified?
   - How is the issuing BIN used?
   - What changes will be required?

2. What open questions or challenges are clients facing?
   - Have clients identified any risks or open decisions that require further support from Visa or other third parties (e.g., local regulators)?

3. Where are clients in their path to Numerics readiness?
   - Have clients completed the analysis phase?
   - Have they engaged with their third parties?

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Approach

Form Hypotheses

We consulted Visa and payments industry experts to develop an initial view of capability areas where the issuing BIN may be used across the payments ecosystem.

Conduct Interviews

We conducted interviews in early 2020 with Visa clients across the payments value chain representing acquirers, acquirer processors, issuers and issuer processors. Interviews focused on client usage of changing numerics and client-specific areas of impact.

Document Impacts

We summarised the interview findings in this report, documenting system and process impacts across clients and, in select cases, their third parties.

Interview Participant Overview

We conducted 33 interviews with Visa clients that operate in 94 countries. Given the breadth of the industry standard change, this is not a large sample. However, our objective was not to obtain a statistically significant set of responses but rather to glean in-depth qualitative insights on how these clients approached their readiness initiative, impacts they have already identified, and insights on their readiness challenges. The responses provided in each interview do not represent all possible impacts to an organisation.

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Client Segments

We focused individual interviews on topics applicable to acquirers / acquirer processors or issuers / issuer processors. If an interview participant performed both acquiring and issuing roles and was available to share insights in both areas, we conducted separate interviews, usually with different client participants.

The capabilities, or services and products interview participants provide to their clients and the processes that enable those services and products, performed by each interview participant are not standard. In cases where the interview participant does not perform a certain capability, we excluded the participant from the relevant impact statistics presented in this report. Additionally, FinTechs perform a unique set of capabilities that often do not fit into a standard payments role. We categorised FinTech interview participants into the issuing or acquiring response section based on their perspective of which set of questions was most applicable to them.

Client Interview Participants

The individual participants in the interviews represented a variety of roles across the organisation. Interviews usually included Numerics project leads and processing systems subject matter experts. Often, representatives from specific capability areas impacted would also join, such as issuer product management and fraud management.

The perspectives each individual shared varied based on their role within the organisation and the client's Numerics program. Looking across the organisation provided broader insights on the various impact areas.

Third Parties

Our expectations were that each interview participant would be answering questions on behalf of their internal organisation as well as any third parties they engage to carry out specific functions. For example, some issuers perform processing in-house while others rely on a third-party processor. While one interview participant included their processor in the interview, participants who had not yet engaged with their third parties on Numerics often responded to those questions as pending further discussion and confirmation. Most interview participants did plan to engage their third parties as part of their impact assessment and planning.

"The interviews highlighted that it is important to include third parties in the assessment and planning phase to help ensure a comprehensive view of the impacts."
– Deloitte Global Numerics Interview Team

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Key Terms

Getting clear alignment on terminology was an important theme in every interview. At the start of the interview process, we were aware that clients and third parties applied a variety of terms to refer to the various numerics used in transaction processing and other interactions across Visa, Visa's clients, and the clients' respective clients and vendors. For example, the term "BIN" was used to refer to over ten different numerics, including those officially known as issuing BIN and acquiring identifier.

This non-standard use of terminology was not only used in informal communications but continued through specific system data fields. In one example, a client shared that they referred to the BIN simply through the numerical position in the data field. Another client stated that different solutions provided to them by their vendors also use different terminologies for the issuing BIN.

Capability Areas Discussed in Interviews

All Interviews

Numerics Project Management

Project stand-up, internal stakeholder engagement, third- party engagement, communications

Transaction Processing

Transaction processing life cycle, BIN tables

Fraud Management

Fraud detection tools, monitoring and alerts, fraud resolution, reporting

Data Warehousing

Issuing BIN storage in data warehouses, financial reporting, third party reporting, searches

PCI Data Security Standard

PCI DSS compliance approach

Acquirer and Acquirer Processor

ATM

ATM transaction processing (authorisations, clearing and settlement), BIN tables, "on-us" transaction identification, ATM terminal support

Merchant Point of Sale (POS)

POS terminal logic, receipt requirements, merchant credit returns

Merchant Servicing & Disputes

Merchant self-service portals, reporting, dispute management

Issuer and Issuer Processor

Issuing Product Management

BIN management, PAN assignment logic, product reporting, card reissuance, loyalty, benefit, and reward programs

Cardholder Servicing

Cardholder servicing, dispute management, collections, card fulfillment

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Looking Ahead

Every Visa client will need to conduct an impact analysis across their entire organisation, their clients, and their vendors. We fully expect impacts will be uncovered that were not identified during these interviews.

While some consistent themes and impact areas emerged, we heard significant variability across each interview. We would spend an extensive time in one interview discussing the impact in a specific capability area, only for the next client interviewed to confirm no impacts identified in that area. Additionally, impacts identified by interview participants were not validated.

We are sharing the quantitative data to provide a starting point for a Numerics effort and an additional check on the identified impacts.

We hope these findings will serve to:

- Provide a starting point for each clients' assessment that will require further additions and customisation.
- Provide additional perspectives on potential impact areas for clients that have already launched a Numerics program.
- Emphasise the importance of conducting this assessment broadly across the clients' organisation, their clients, and their vendors.

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Detailed Interview Findings

Numerics Project Management

Project Stand-up

Overall, most interview participants have launched a Numerics readiness initiative and assigned a project manager. The structure of the initiatives varied across clients. Larger interview participants had several, parallel projects, with each project focused on a specific geographic area, line of business, or processing system. Other participants consolidated their efforts into a single global programme or stood up an overarching governance structure across these individual projects. The centralised governance was put in place to enable them to share impact findings and align on a common approach to third party outreach, especially focusing on global clients and vendors.

"Our Numerics programme is organised by processing platforms [workstreams], which report to regional leads, and the regional leads report into Global to enable a common approach and serve as forum for considerations and questions." – *Acquirer Processor*

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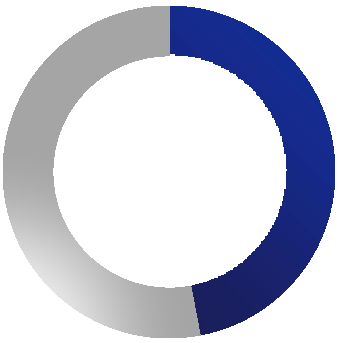
Internal Engagement

Client project managers have engaged some internal teams, such as technology teams supporting core processing systems and product teams (for issuers and acquirers). Interview participants indicated that broad outreach within the organisation is needed, leveraging learnings from other broad transformative efforts (e.g., regulatory requirements, M&A integration).

Third Party Engagement

While 35% of interview participants confirmed they had some discussions with their clients and third-party vendors, the outreach was ad hoc and high level in nature. One common observation was that interview participants were relying on other third parties to drive their effort and in many cases were waiting on the third parties to initiate outreach. For example, an issuer shared that they had received minimal communication from their processor on required changes, the timeline, or readiness for testing. Similarly, a processor communicated they were waiting on the issuers they support to share their planned BIN strategy changes to start the analysis on downstream impacts. While some clients highlighted the need to work with country and regional industry groups and regulators, most had not yet begun that outreach.

Third Party Engagement



47% of interview participants have started third party outreach

53% have not started third party outreach

"The interviews highlighted the importance of third-party engagement in the impact assessment." – *Deloitte Global Numerics Interview Team*

Cross-Functional Impacts

Two of the interview participants had launched initiatives to migrate to new processing platforms and planned to include eight-digit BIN requirements as part of these initiatives. A broader implication is that Numerics-specific requirements should be shared with all technology teams (that support core processing systems and other applications) to assess any impacts, dependencies, or conflicts with in-flight or planned projects.

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Transaction Processing

General Guidance

VisaNet Processing

The issuing BIN is not used in VisaNet processing. The issuing Identifier is used to define issuing processing in Visa systems.

Available Visa Tables

For proper routing of Visa transactions, acquirers should use the Visa-supplied network-specific routing tables (e.g., Visa Plus, Interlink). Use of incorrect or outdated tables may result in unnecessary declines and misrouting of transactions, in addition to higher reconciliation costs.

For proper clearing of Visa transactions, acquirers not automatically routing all transactions through Visa should use the Visa-supplied account range definition (ARDEF) table via Edit Package to populate transaction data such as the product attributes. If acquirers do not use the Visa ARDEF table, the transaction may not clear as expected.

Acquirer Impacts

Acquirers that use the first six-digits of the PAN to route transactions identified broad impacts across transaction processing. Additionally, some acquirers currently use internal tables and/or tables received from third parties that are limited to six-digit BINs. These acquirers indicated they will need to update routing logic, processing logic and/or applicable tables to accommodate eight-digit BINs.

One of the uses of issuing BIN highlighted in the interviews is to identify various product types, such as:

- Debit, credit, prepaid
- Commercial
- Fleet / petrol
- Purchasing (P-card)
- Benefits (e.g., Flex Spending Account)
- Cash back
- Installments
- Europe Only: Strong Customer Authentication (SCA) exemption, surcharging
- US Only: U.S. General Services Administration

Another reported use of issuing BIN in transaction processing is as a data element in the risk rules for transaction authorisation. Examples include:

- Pre-validation of transactions against specific fraud parameters (including issuing BIN)
- Blocks on specific BINs for authorisation processing, such as OFAC sanctions
- Reporting and analytics on fraudulent transaction activity at the BIN level
- *See Fraud section for additional information*

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Issuer Impacts

Almost half of issuers / issuer processors reported impacts on transaction processing. While select issuers use issuing BIN extensively throughout processing, most impacts shared were individual use cases. For example, an issuer processor has a single BIN table commingled with issuing and acquiring BINs (which are being renamed to acquiring identifiers and will stay at six-digits). This issuer highlighted the need to separate issuing BINs from acquiring identifiers to support the change to an eight-digit issuing BIN.

Some examples of issuing BIN usage in processing:

- Use issuing BIN as a proxy for product.
- Set authorisation parameters based on issuing BIN (e.g., number of transactions, daily maximum amount).
- Include issuing BIN in business processing rules, such as eligibility for products or services.

Impact Spotlight

Some issuers use issuing BIN in downstream systems and processes, including branch systems, online banking, mobile applications, e-Wallet, and new account acquisition.

Interview participants that did not identify any transaction processing impacts were either relatively small with a small number of issuing BINs or used a different numeric to identify products (e.g., nine-digit account range or first eight-digits). In the case of issuer processors, some assigned a different identifier to their clients (issuers) which was used across the transaction processing life cycle.

Interview Responses: Transaction Processing BIN Usage

	Routing and Authorisation	Clearing & Settlement	Accounting & Reconciliations
Issuers / Issuer Processors	• Identify product type • Determine eligibility for products or services • Set authorisation parameters	• Search clearing and settlement system tables • Produce clearing and settlement reporting	• Perform downstream reconciliation • Support accounting processes
Acquirers / Acquirer Processors	• Identify local and international transactions • Detect "on-us" transactions • Set risk rules • Run pre-validation fraud checks	• Identify merchant discount rate for merchant clearing, settlement and posting	• Identify transactions to post for interchange • Calculate interchange fees

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ATM

Transaction Processing

43% of clients interviewed that support ATMs have identified an impact to ATM transaction processing. These impacts often varied from the impacts identified for point of sale, for example, due to the use of different processing systems. The following are some examples of the use of issuing BIN in ATM transaction processing and ATM terminals:

- Look-up of issuing BIN to determine card brand / network
- Identify domestic or international transaction
- Route ATM transactions
- Support billing
- Develop various reporting

ATM Processing Impacts

43% of ATM acquirers interviewed identified impacts

19% have analysis underway

38% have not identified impacts

ATM BIN Tables

Interview participants shared that the sources and uses of issuing BIN tables for ATM transaction processing are similar to point of sale processing. Use cases where issuing BIN tables and hardcoded issuing BIN logic are limited to six-digit BINs will require expansion to eight digits by April 2022.

One issuer identified the following impact to the Financial Institution Table "FIT" used to identify "no surcharge" transactions. This table is limited to 1,000 records per ATM owner (or issuer). As issuers shift to eight-digit issuing BINs, there is a possibility that a single issuer with 10+ six-digit BINs that converts from six-digits to eight-digits will have more than 1,000 issuing BINs. Therefore, the table needs to be expanded to accommodate this scenario. Additionally, a less manual and ad-hoc process may need to be established due to the increased number of BINs being updated in this table.

"We will need to make changes to ATMs to control fees charged and screens presented to cardholders based on issuing BIN" – *ATM Acquirer*

Impact Spotlight – "On Us" Transaction

Of the interview participants supporting ATMs, half use issuing BIN to identify "on-us" transactions. ATM acquirers hardcode debit BINs for their proprietary ATMs or upload the list of "on-us" BINs to the ATMs. These issuing BINs are used to identify what ATM transaction options are displayed to "on-us", "not-on-us", and foreign users, as well as specific fee structures or free services.

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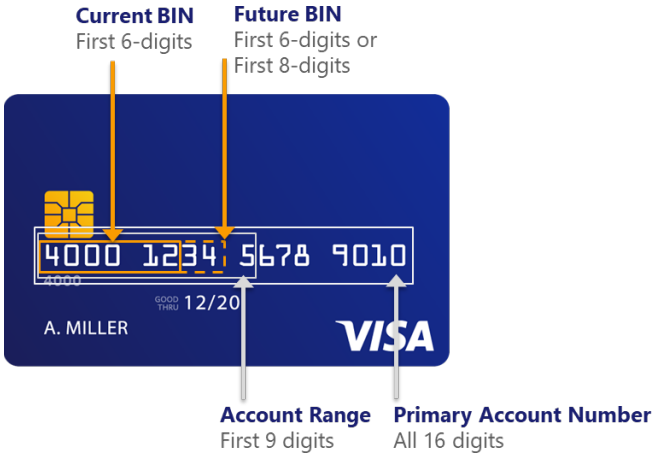
Issuing Product Management

Over 50% of issuer interview participants identified impacts to BIN and PAN assignment strategy when the issuing BIN, the seventh digit, or the eighth digit are used to identify products. As BIN and PAN assignment strategy vary across portfolios, interview participants highlighted their plans to conduct an assessment across every product portfolio. Additionally, participants identified impacts to product management systems, product performance reporting, account assignment randomisation processes and loyalty and rewards eligibility management.



General Guidance

Smart BIN Management

To facilitate a smooth transition to the new eight-digit BIN standard, Visa is reminding issuers of its existing Smart BIN Management policies:

- Use available ranges in existing BINs before requesting a new BIN assignment
- Only install ranges needed to support card issuance
- Do NOT randomly issue cards across BIN; randomisation, if used, should begin with the tenth digit
- Uninstall unused account ranges for token adoption and to mitigate risk

Visa established these policies to ensure a sufficient supply of BINs to support new product innovations. Further, by following these use policies, implementing the eight-digit standard will be less disruptive to client operations as six-digit BINs will translate into a concentrated number of eight-digit BINs.

Visit the Numerics Initiative page at www.VisaOnline.com for the article *Reinforcing the Importance of Smart BIN Management Policies* published in the 18 July 2019 edition of the Visa Business News or take advantage of the Smart BIN Management course offered free of charge on Visa Business School.

Go Forward Approach

Issuers have different approaches for converting their six-digit BINs to eight-digit BINs. Select issuers expect to convert their full six-digit BIN portfolio to eight-digit BINs and return unused eight-digit BINs to Visa. Other issuers plan for a hybrid approach by portfolio and will retain some six-digit BINs and convert other six-digit BINs to eight-digit BINs. All clients emphasised the importance of not impacting cardholders, and only one interview participant is considering card reissuance as part of BIN clean-up efforts.

Loyalty, Benefits and Rewards Programs

A third of the clients that offer, or support loyalty, benefits or rewards programs have identified impacts as they confirm programme eligibility by using the issuing BIN. The clients not impacted are using product code or another identifier to determine eligibility.

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Cardholder Servicing

Call Centre

Over 30% of issuer interview participants identified impacts on call centre case routing and interactive voice response (IVR) solutions. Impacted participants route calls based on issuing BIN or seventh or eighth digits of the PAN and expect to make changes to system configuration, BIN reference tables and IVR menus. Clients that did not identify impacts are either not routing cases as they are using different telephone numbers for different products or different clients (in the case of a stand-alone processor), or routing is based on other identifiers (e.g., full PAN, nine-digit account range, internal identifier).

"Some [issuers] are using 7th or 8th digit to route calls for load leveling or by geography, and some have hard-coded logic."
– Issuer Processor

Cardholder Statements

While 59% of interview participants did not expect an impact to cardholder statements, some were still in process of evaluating if issuing BIN is being used internally, by processors, or by print vendors in the printing process and/or if issuing BIN is printed on the statements.

Collections

Interview participants that had already evaluated collections processes did not identify any impacts.

Dispute Management

Most interview participants did not identify impacts to dispute management tools and processes as they use the full PAN as the primary identifier. Interview participants that identified impacts use the issuing BIN, for example:

- To associate a client to specific transactions
- In configuration tables
- To separate Visa Resolve Online dispute reporting by client

Cardholder Servicing Impacts

37% of issuer / issuer processor interview participants identified impacts

37% have analysis underway

26% have not identified impacts

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Card Fulfillment

Over half of interview participants identified an impact to card fulfillment processes. Examples of issuing BIN usage in card fulfillment include:

- Profiles based on issuing BIN
- Card order files with issuing BIN included as a separate data element
- Personalisation processes (e.g., cryptography keys, certification)
- Card mailers including issuing BIN

All issuers and issuer processors identified a need to conduct in-depth impact discussions with their card fulfillment vendors.

General Guidance

Issuer Public Key (IPK) Certificates

IPK certificates requested at the six-digit level will continue to be active even if an issuer moves to eight-digit BINs, and issuers may continue to use those certificates until their expiry date. When an issuer moves to eight-digit BINs, Visa will not assign any unused eight-digit BINs within the six-digit range until expiration of the certificate. Some issuers may choose to request certificates at the six-digit level before moving to eight-digit BINs to allow for more flexibility in planning for efficient BIN usage over a number of years.

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Merchant Point of Sale

69% of acquiring interview participants identified impacts to merchant point of sale processes including impacts to POS hardware, terminal software and BIN tables.

46% of interview participants identified POS terminals with hardcoded logic based on issuing BIN. However, the number of terminals that participants expect to be impacted represent a small subset of all terminals. Three participants highlighted the likely need to update POS terminal software. One participant indicated that terminals that are storing issuing BIN may need to be replaced if they cannot be updated.

"[We] use multiple third-party POS terminal providers to manage hardware and software for merchants; assumption is merchants will need to upgrade POS software" - *Acquirer*

58% expect an impact to BIN tables loaded to terminals or referenced via terminal management system. Select use cases for referencing issuing BIN at POS include:

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

Additionally, some acquirers provide BIN tables to select merchants. Interview participants plan to discuss the merchant use cases and potential impacts as part of the third-party outreach.

Interview participants have not identified any impacts to receipts or credit return processes.

Merchant Point of Sale Impacts

69% of acquirer / acquirer processor interview participants identified impacts

8% have analysis underway

23% have not identified impacts

General Guidance

Dynamic Currency Conversion (DCC)
DCC is not impacted by the issuing BIN expansion as it is enabled by the issuing identifier. Clients will need to conduct further analysis if they have implemented a custom solution.

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Merchant Servicing & Disputes

Merchant Self-Service Portal

Most interview participants that offer merchants access to a self-service portal are still in process of analyzing potential impacts in the following areas:

- Search functionality:
  - Issuing BIN or first-six / last-four searches are performed; further analysis and discussions with merchants is required to determine if there is an operational need to expand searches to first-eight digits
  - Account prefix searches are performed; analysis required to determine if there is a limit on number of characters
- Transaction screens: payment method including masked PAN (first-six / last-four) is displayed; analysis is required to determine if there is an operational need to display an eight-digit issuing BIN.

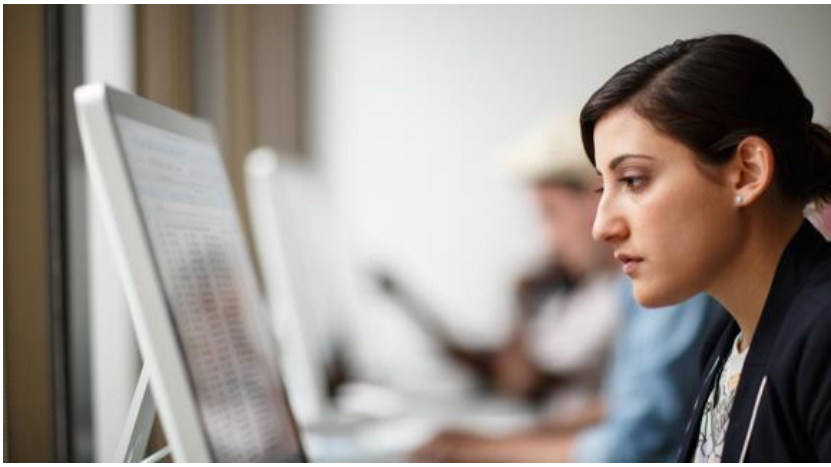
"[We] need to understand the business rationale for how merchants are using first-six digits and if there is a need to expand to 8-digits" – *Acquirer Processor*

Interview participants stated that further analysis is required to determine if and how merchant reporting will be impacted. Several interview participants indicated that issuing BIN or masked PAN is included in reports sent to merchants or available to download from portal.

Dispute Management

30% of acquirers identified impacts to dispute management processes. Examples of issuing BIN usage include the following:

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



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Fraud Management

Overall, 63% of interview participants across issuing and acquiring identified impacts to fraud rules, reports, and supporting systems.

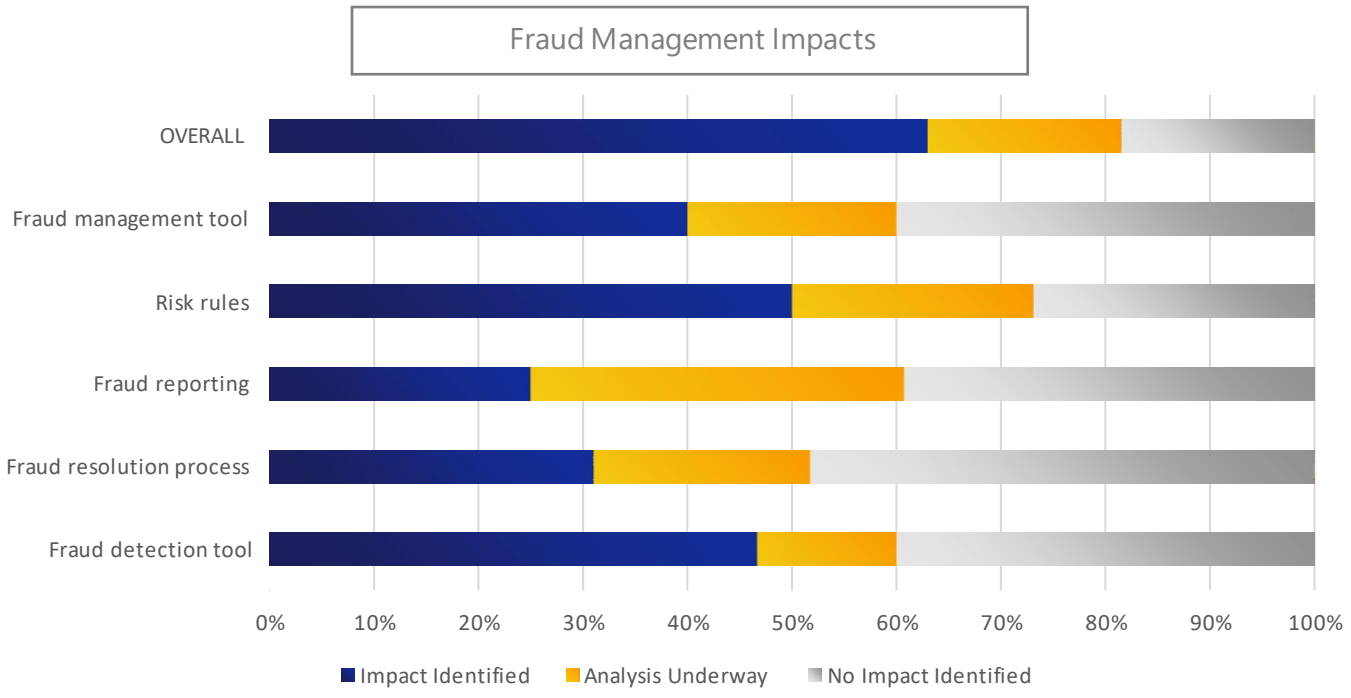
"Some [fraud] rules are leveraging 6-digit BINs and will need to be updated. Our application teams are assessing impacts." – *Issuer Processor*

Interview participants identified impacts to fraud monitoring activities and alerts based on the issuing BIN, such as BIN blocking on the acquiring side, or as a proxy for product (debit, prepaid, credit, etc.) on the issuing side. For select acquirers, merchants define custom rules (on acquirer platforms) that include issuing BIN in combination with other elements.

Interview participants that use issuing BIN as part of fraud rules identified varying levels of impact, ranging from minor configuration updates to broader system changes.

Fraud reporting was also identified as an impact area. 25% of interview participants confirmed issuing BIN is used in reporting while an additional 36% are still analyzing impact. An example of a reporting impact is segmentation of summary fraud statistics by issuing BIN.

Interview participants that did not identify impacts to fraud capabilities either do not use issuing BIN in their fraud processes or use systems that are not limited to six digits. For example, one issuer shared that alerts are based at what they classify as the programme level (i.e., nine-digit account range).



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Data Warehousing

Issuing BIN Storage

Over half of interview participants store issuing BIN as a data element outside their core processing systems. For example, acquirers and acquirer processors interviewed store issuing BIN within data tables in merchant pre- processors, terminal processing platforms, interactive voice response (IVR) applications, and merchant servicing portals. Issuers and issuer processors store issuing BIN within data tables in passthrough applications that use BIN tables to route information to other applications, acquisition channel applications referencing issuing BIN to support card applications, and in ACS 3D secure portals.

Interview participants that do not store issuing BIN as a separate element reference it as part of the PAN when required, or from other data elements (e.g., BIN range tables, token / proxy PAN).

Issuing BIN Searches

Over 60% of interview participants perform searches by issuing BIN, and a subset identified a go-forward requirement to expand search functionality to eight-digits.

Reporting

Reporting by issuing BIN varied across acquirers and issuers. Most acquirers interviewed do not use issuing BIN in financial or third-party reporting. However selected acquirers do provide data and reporting to merchants that includes issuing BIN. Most issuers expected to see impact across reports and identified a need to inventory and analyze across all standard and customised internal and third-party reporting. As an example, 47% of issuers interviewed use issuing BIN in their financial management reports and a subset include BIN as a general ledger data element.

General Guidance

Identifying Six-digit Versus Eight-digit BINs

There are two Visa resources available to identify if an issuing BIN is a six-digit issuing BIN or an eight-digit issuing BIN:

Client Directory: The Client Directory on Visa Online facilitates client-to-client communications and supports back-office operations such as processing transaction copy requests, chargebacks and disputes and fraud management. In the data file, the six-digit BIN field will remain unchanged and a new eight-digit BIN field will be added.

Visa BIN Attribute Sharing Service (VBASS): The VBASS is an optional service that can enable sharing of Visa BIN Attributes to improve merchant processes and checkout experiences within the allowed use cases. The service offers two methods to obtain BIN Attribute data: Direct Access from Visa and Indirect Access through an acquirer or acquirer sponsored third party. For more information, visit the VBASS site on Visa.com.

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PCI DSS Considerations

Interview participants that use truncation as a method for PCI DSS compliance store "first six and last four" of the PAN. However, most clients interviewed do not expect an impact, unless "first six" is referenced specifically as the issuing BIN.

Issuer Impact Example: Issuers that perform product identification based on the sixth or seventh digits will need to re-categorise products or define a different product identification approach.

Acquirer Impact Example: Merchants receive authorisation reporting and conduct transaction or chargeback research using "first six" to identify issuers.

General Guidance

Eight-digit Issuing BIN Impact on PCI DSS

Both PCI and Visa evaluated the impact of the BIN length expansion to current standards.

Data Presented on Screen and Reports: Provisions already within the PCI DSS allow users with a legitimate business need to see any or all of the PAN digits. Visa does not anticipate that any changes are required to accommodate the expansion of the BIN length.

Data at Rest: After evaluating the expansion to eight-digit BINs, PCI maintains that a minimum of six digits must be truncated or encrypted to protect data at rest. Clients 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 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 tokenisation.

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Call to Action

As indicated in this report, impacts will vary significantly for every payments ecosystem player. Each Visa client will need to conduct an impact assessment across their entire organisation including systems and processes. It is important that vendors are engaged in the assessment to provide a comprehensive view on the uses of issuing BIN and impacted numerics. Additionally, a robust client outreach and communication approach will ensure all relevant stakeholders are also informed of the changes and conduct their own assessment of any potential impact areas.

These assessments will inform next steps, including areas where further detailed solutioning is needed.

- Share Numerics information with your organisation to support your Numerics planning.
- Use the questionnaires as a starting point or as additional input to your impact assessment.
- Access additional resources available on VisaOnline.com.

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Appendix

Resources

Visa will continue to communicate regularly with clients regarding the migration to the eight-digit issuing BIN. Check the following channels for updates.

Visa Online (VOL) Numerics Page

This page is regularly updated with new documentation and resources related to Visa's Numerics Initiative. Includes Frequently Asked Questions, information related to short-term conservation strategies, as well as the migration to the eight-digit issuing BIN.

Tools, Training and Reports

For links to Smart BIN Management training, please go to the Numerics Initiative page at www.VisaOnline.com. To get a report on your current BIN usage, please submit your request to your Visa representative or directly to NumericsSupport@Visa.com. Visa continues to develop new tools, training and reports to support the Numerics Initiative. Continue to watch for announcements.

Global Technical Letter and Implementation Guide (GTLIG)

Leading up to the effective date of April 2022, Visa will publish articles in the semi-annual GTLIG as necessary. Articles detailing specific mandatory requirements will appear in the global or relevant regional sections.

Visa Business News Guide (VBN)

Visa will publish VBN articles to keep clients aware of new resources and developments related to the Numerics Initiative. Review each issue of the VBN carefully for the latest Numerics-related information. Visa Business News articles are listed on the Numerics Initiative page at www.VisaOnline.com.

NumericsSupport@visa.com

The NumericsSupport@visa.com mailbox is monitored by Visa's Numerics subject matter experts and is available for client use. Questions may be submitted to the mailbox, as well as requests for account range use reports (for clients preparing to enrol in VTS) and eight- digit BIN reports. For reporting requests, clients must provide the assigned BID; BIN Use reports may also be requested by issuing BIN.

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Acquirer / Acquirer Processor Questionnaire

The following is a representative set of questions that can be used to support impact assessments and the identification of potential impact areas. The questions are not a comprehensive view of all potential numerics impacts in an organisation. Each client should perform a comprehensive assessment across their entire organisation, their clients, and their vendors as they develop their plan to address required changes.

Capability Area	Questionnaire
Numerics Programme Management	Programme Management • Has a formal Numerics programme structure been established? Does the programme have executive sponsorship? Budget approval? • Has broad internal outreach been conducted to identify stakeholders across technology, lines of business and functional areas (e.g., finance, risk, etc.)? • What is the approach for end-to-end testing (including third parties)? Training? • For clients operating in multiple geographies, does the programme structure and approach reflect regional differences? Numerics Awareness • Are all internal stakeholders aware of the new Numerics standard and the readiness timeline? • Is the issuing BIN referred to by any other terms across the organisation, such as systems, process documentation, or other business usage? Third Party Communication • What is the approach to engaging with third parties (processors, vendors, clients) to understand Numerics impacts to their systems, processes, and data? • What is the communication plan for all clients? • What is the approach to understanding client readiness for the Numerics changes? • What is the approach to understanding (and validating if necessary) vendor readiness for the Numerics changes?

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Capability Area	Questionnaire
Transaction Processing	• How is issuing BIN used across the transaction processing life cycle (authorisation, clearing, settlement, transaction accounting, reconciliation)? • Do the authorisation and transaction risk processing business rules include issuing BIN? • What tables are used in transaction processing today? Are there any impacts to the tables used due to issuing BIN expansion to eight-digits? For example: - Routing: Are Visa-supplied network-specific routing tables (e.g., Visa Plus, Interlink) used? - Clearing: Is Visa-supplied account range definition (ARDEF) table via Edit Package used? - Are any proprietary or third-party supplied BIN tables used? • Is issuing BIN used to identify: - Limited acceptance (credit, debit)? - Prepaid cards, purchasing cards (p-card), benefits cards (e.g., FSA), fleet / petrol cards, others? - Cash back? - Installment payment qualification? - Europe Only: Surcharging? Strong customer authentication (SCA) exemption determination? - U.S. Only: U.S. General Services Administration (GSA) cards? • Is the issuing BIN used in interchange reconciliation or reporting?
ATM	• Is issuing BIN used to route ATM transactions? • What tables are used in ATM transaction processing? Are there any impacts to the tables used due to issuing BIN expansion to eight-digits? • Is issuing BIN used to identify on-us transactions? • Is issuing BIN used to perform on-us services on not-on-us transactions (e.g., for special treatment)? • Have impacts to ATM terminal support been identified? - Software distribution - Transaction reporting - PIN change capabilities - Custom text and graphics - Foreign language screens - Voice enabled support

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Capability Area	Questionnaire
Merchant Point of Sale (POS)	• Is POS terminal-level logic based on the issuing BIN? • Are issuing BINs "hardcoded" on POS terminals? • Are BIN tables uploaded to POS terminals? • Are POS terminals referencing issuing BIN tables hosted centrally via terminal management system? • Are BIN tables sent to merchants for their internal use? • Are merchants obtaining issuing BIN files for their internal use? • Are there any impacts to receipt requirements (e.g., is first-six used to identify issuers)? • Are there any impacts to merchant credit returns processes?
Merchant Servicing & Disputes	• Is terminal or processing level logic for merchant offer, loyalty or reward programs or other promotions based on issuing BIN? • Are there any loyalty programme impacts at merchant / co-brand level? • Do merchants use an acquirer-provided self-service portal? If so, is there any impact due to issuing BIN expansion to eight-digits? - Search functionality: Can merchants search by issuing BIN? - Screens: Is issuing BIN displayed on any screens (e.g., first-six of PAN)? - Reporting: Is issuing BIN included in merchant reporting available for download on the self-service portal? - Is there a business need to expand search functionality, screens, or reporting to display first-eight digits? • Is issuing BIN included in merchant reporting sent to merchants directly? • Is the issuing BIN used in dispute management processes? - Issuer disputes? - Merchant-initiated disputes? • Is issuing BIN used to identify transactions for dispute case routing? • Is issuing BIN used in any other merchant servicing processes?
Fraud Management	• Is issuing BIN used in: - Fraud detection tools (e.g., BIN and account range-based logic)? - Fraud monitoring and alerts? - Fraud resolution processes? - Fraud reporting?

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Capability Area	Questionnaire
Data Warehousing	• Is the first six-digits of the PAN stored as a separate data element? • Where is the issuing BIN stored? Application data tables? Data warehouses (financial, operational, etc.)? • Are data searches performed by issuing BIN? • Is issuing BIN combined with any other numerics to create a separate data element that may be impacted by expansion to eight-digit BIN? • Is the issuing BIN stored as a data element in a master data management (MDM) solution? • Is the issuing BIN stored or used in any other product processors (e.g., core banking system)? • Are issuing BINs used in any finance reports or as general ledger components? • Is the issuing BIN included in any data or reporting provided to third parties?
PCI DSS & Risk Management	• Are there any impacts to methods used to protect data to maintain PCI DSS compliance (e.g., truncation, encryption, tokenisation)? • Is the issuing BIN used in compliance management system and processes? • Is the issuing BIN used in regulatory reporting?

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Issuer / Issuer Processor Questionnaire

The following is a representative set of questions that can be used to support impact assessments and the identification of potential impact areas. The questions are not a comprehensive view of all potential numerics impacts in an organisation. Each client should perform a comprehensive assessment across their entire organisation, their clients, and their vendors as they develop their plan to address required changes.

Capability Area	Questionnaire
Numerics Programme Management	Programme Management • Has a formal Numerics programme structure been established? Does the programme have executive sponsorship? Budget approval? • Has broad internal outreach been conducted to identify stakeholders across technology, lines of business and functional areas (e.g., finance, risk, etc.)? • What is the approach for end-to-end testing (including third parties)? Training? • For clients operating in multiple geographies, does the programme structure and approach reflect regional differences? Numerics Awareness • Are all internal stakeholders aware of the new Numerics standard and the readiness timeline? • Is the issuing BIN referred to by any other terms across the organisation, such as systems, process documentation, or other business usage? Third Party Communication • What is the approach to engaging with third parties (processors, vendors, clients) to understand Numerics impacts to their systems, processes, and data? • What is the communication plan for all clients? • What is the approach to understanding clients' readiness for the Numerics changes? • What is the approach to understanding (and validating if necessary) vendor readiness for the Numerics changes?

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Capability Area	Questionnaire
Issuer Product Management	• How are BINs (six-digit) and account ranges (nine-digit) organised today (e.g., cost centre, legal entity, product, geography)? • What is the go forward BIN management strategy for existing and future products? Are there any related impacts to systems and processes? • What is the current PAN assignment logic? Will it be impacted by the Numerics change? • Is card reissuance planned as part of the go forward BIN strategy? If so, what is the reissuance strategy (e.g., on conversion, lost / stolen cases, switch to contactless)? • Is the issuing BIN used in product performance reports? • Is ATM product enablement based on issuing BIN? • Are loyalty, benefits, and rewards programmes assigned to specific products or portfolios by issuing BIN? • In the case of cardholder queries, is the issuing BIN used to identify loyalty, benefits, or rewards eligibility?

Cardholder Servicing	• For individual account servicing, is the issuing BIN used to identify cardholders or transactions for case routing?
	  - Call Centre / IVR
	  - Disputes / chargebacks
	• Is the issuing BIN used in collections processes?
	• Are there any impacts to cardholder statements or statement reconciliation?
	• Are there any impacts to card fulfilment processes (e.g., embossing, chip personalisation)?

Transaction Processing	• Is issuing BIN used across the transaction processing life cycle (authorisation, clearing, settlement, transaction accounting, reconciliation)? • Do the authorisation and transaction risk processing business rules include issuing BIN? • What tables are used in transaction processing today? Are there any impacts to the tables used due to issuing BIN expansion to eight-digits? • Is the issuing BIN used in the digital wallet solution? • Are any changes expected in ancillary systems (branch, online, mobile applications, new account acquisition) due to BIN expansion to eight-digits?

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Capability Area	Questionnaire

Fraud Management	• Is issuing BIN used in:
	  - Fraud detection tools (e.g., BIN and account range-based logic)?
	  - Fraud monitoring and alerts?
	  - Fraud resolution processes?
	  - Fraud reporting?

Data Warehousing	• Is the first six-digits of the PAN stored as a separate data element? • Where is the issuing BIN stored? Application data tables? Data warehouses (financial, operational, etc.)? • Are data searches performed by issuing BIN? • Is issuing BIN combined with any other numerics to create a separate data element that may be impacted by expansion to eight-digit BIN? • Is the issuing BIN stored as a data element in a master data management (MDM) solution? • Is the issuing BIN stored or used in any other product processors (e.g., core banking system)? • Are issuing BINs used in any finance reports or as general ledger components? • Is the issuing BIN included in any data or reporting provided to third parties?
PCI DSS & Risk Management	• Are there any impacts to methods used to protect data to maintain PCI DSS compliance (e.g., truncation, encryption, tokenisation)? • Is the issuing BIN used in compliance management system and processes? • Is the issuing BIN used in regulatory reporting?

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Visa Numerics Terminology

New Term	Former Term(s)	Description	Source
Issuing BIN	• Bank Identification Number (BIN) • Issuer Identification Number (IIN) • ISO BIN • Card Prefix	This is a numeric value used to identify the issuing institution. This is always the same as the first six to eight digits of the PAN. The length and format are defined by ISO.	• Licensed from Visa
Acquiring Identifier	• BIN • Acquiring BIN • Acquiring Institution Identification Code • Affiliate ID • Acquiring ID • Acquiring RID	This is a numeric value assigned by Visa to identify the acquiring institution. Previously, these were assigned from the ISO pool, however, going forward they will be Visa-assigned numerics and remain at six digits. This includes currently assigned acquiring IDs related in the U.S. to Plus and Interlink.	• V.I.P. Messages Acquiring Institution Identification Code • BASE II Draft Data — Acquirer Reference Number • BASE II Non-Draft Data (TC 10/20/33) —Source/Destination Identifier • SMS Reports: - Acquirer Transaction Detail Reports — Affiliate ID - Issuer Transaction Detail Reports — Acquirer ID • Edit Package BIN Table
Issuing Identifier	• BIN • Processing Rule (also known as Proc Rule) • Issuing RID • RID	This is a numeric value used to define issuing processing. It is not governed by ISO. Multiple issuing BINs can be linked to the same Issuing Identifier within Visa systems, which allows processing/routing configurations to be mirrored. It can be any numeric value and does not have to start with a four.	• V.I.P. Request Messages: - Receiving Institution Identification Code - Issuing Institution Identification Code • V.I.P. Response Messages — Forwarding Institution Identification Code • BASE II Non-Draft Data (TC 10/20/33) — • Source/Destination Identifier • SMS Reports: - Issuer Transaction Detail Reports — Issuer ID • Edit Package: ARDEF

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New Term	Former Term(s)	Description	Source
VSS Processor	• BIN • Processor • Settlement BIN	This is a numeric value used to define the settlement entity for V.I.P. Full-Service endpoints. It can be any numeric value and does not have to start with a four.	• Reports/Reference Tables: - SMS Reports, Acquirer Transaction Detail Reports — Processor - SMS Reports, Issuer Transaction Detail Reports — Processor
BASE II Centre Information Block (CIB)	• BIN • Processor BIN • CIB	This is a numeric value used to define the processor/settlement entity for BASE II endpoints. It can be any numeric value and does not have to start with a four.	• BASE II TC 90 header records • Reports/Reference Tables: Edit Package BIN Table • Edit Package ARDEF
File Delivery Endpoint Identifier	• Non-core numeric identifier (NCNID)	This is a numeric value used to identify a specific endpoint. It can be any numeric value and does not have to start with a four. It traditionally begins with a zero but may vary depending on the purpose.	• Reports/Reference Tables: - BIN Licensing Agreement - Client Information Questionnaire (CIQ) - Visa Open File Delivery (Visa OFD) File Name - Endpoint Diagrams
Responder Identifier	• Responder BIN	Created by Visa in the VisaNet Certification Management System (VCMS), for acquirer and issuer testing such as business enhancements testing, basic transaction testing, and regression testing.	• Chapter 14 of the Global Technical Letter and Implementation Guide • VisaNet Testing Guides
Clearing Identifier	• BIN • Clearing BIN	Assigned by Visa and used to define issuing and/or acquiring BASE II processing.	• Visa Test System- Clearing and Settlement (VTS-CS)
Alternate Routing ID (RID)	• BIN • Routing ID	This is a numeric value used to define specialised processing or routing relationships. It may be used to split route ATM, POS, or exception transactions to an alternate destination. It can be any numeric value and does not have to start with a four.	• Routing ID Request • Client Information Questionnaire (CIQ)
Encryption Rule Identifier	• BIN • Encryption BIN • Pseudo BIN • Routing ID	This is a numeric value used as a Visa system locator to ensure correct keys are associated with a given entity. It can be any numeric value and does not have to start with a four.	• Push Provisioning Requests • Dynamic Key Exchanges

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New Term	Former Term(s)	Description	Source
Visa Resolve Online (VROL) Identifier	• Routing ID	This is a numeric value that can be used to identify various VROL organisations, which enables endpoint access to specific dispute and request for copy (RFC) transactions. It can be any numeric value and does not have to start with a four.	• VROL service enablement • Client Information Questionnaire (CIQ) • Issuer RFC Routing ID: - BASE II TC 52 - V.I.P. 0600, • Field 48—Additional • Data—Private

- Visa is in the process of updating VisaNet documentation to reflect the new identifier names, publication dates will vary. For information about the effective date of a specific document, contact Numerics Support at NumericsSupport@visa.com or your regional client support representative.
- After April 2022, Visa will only assign newly requested issuing BINs as eight-digit BINs. Existing BINs will remain six digits unless an issuer chooses to migrate them to eight digits.

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