Project Dragon

Project ID#: PRJ00067MN

Document Name:   
Requirements & Use Case Specifications Document for GAN and CAS systems

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SOLUTION DELIVERY LIFE CYCLE (SDLC)

REVISION HISTORY LOG

|  |  |
| --- | --- |
| Name of Output | Requirements Document |
| Current Status | Published/Non-Published |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date of Change | Revision Number | Purpose of Change | Person Responsible for Change | Work Request #/Other Reference Details |
| 07/01/2014 | 1.0 | Initial Version GAN RUCs | Samuel Remulla | PRJ0005UUE |
| 07/15/2014 | 1.1 | Updated Sub reqmnts | Samuel Remulla | PRJ0005UUE |
| 07/31/2014 | 1.2 | Updated after reviews | Samuel Remulla | PRJ0005UUE |
| 08/14/2014 | 1.3 | Updated sub reqmnts | Samuel Remulla | PRJ0005UUE |
| 09/29/2014 | 1.4 | Included the CAS RUCS | Samuel Remulla | PRJ0005UUE |

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# Logical Data Model (Preliminary Version)

N/A – No changes to Logical Data Model Envisioned at this stage.

# Business Requirements (GAN and CAS)

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| Business Req. ID | HLBN Ref | Name | Description | Acceptance Criteria | Priority | SOX Req. |
| 13991 | 1 | GAN Auth to acquire Dragon transactions | Changes to GAN Auth are required to support Amex acquiring Dragon transactions. The markets in scope are Argentina, Mexico, US and France. | To acquire the Dragon transactions | Medium | No |
| 13991.01 | 1.1 | Definition of Dragon BIN Ranges in GAN Auth | GAN Authorizations nodes need to have valid BIN Ranges defined for the Dragon issuers | To define Dragon bin ranges in GAN Auth | High | No |
| 13991.02 | 1.2 | GAN processing of Dragon transactions in Stand-in | In the event that the CAS host and Alternate Routing host are not available, GAN will decline Dragon card txns. | To process Dragon txns during stand in | High | No |
| 13991.03 | 1.3 | GAN Routing of Dragon Card Transactions to CAS | GAN Authorizations nodes will route Dragon card transactions to the CAS Host as Primary Destination | To route the Dragon transactions to CAS | High | No |
| 13991.04 | 1.4 | GAN validations for Dragon card transactions during CAS Host Available routing. | If the CAS Host is available, GAN authorizations node will limit the validations done for Dragon card transactions. | To validate Dragon transactions when CAS Available. | High | No |
| 13991.05 | 1.5 | Processing of Dragon transactions in GAN Auth | GAN Auth processing Dragon card transactions in similar to GNS cards. | To process Dragon txn in GAN Auth | High | No |
| 13991.06 | 1.6 | Online refund processing for Dragon Cards | GAN to support online refund transaction for Dragon | To process online refund transaction for Dragon | Medium | No |
| 13992 | 2 | GAN Auth reporting of Dragon transactions | Several business reports are created based of GAN Auth data. These reports will display Dragon transactional data. | To create reports with Dragon data | Medium | No |
| 13992.1 | 2.1 | CAS MVS to include Dragon txns in GAN Axiom Reports | Dragon card transactions will be incorporated into the existing GAN Axiom Reports | To have Dragon data in GAN Axiom reports | Medium | No |
| 13993 | 3 | GAN & GIG routing of Dragon transactions | Dragon transactions need to be routed from acquirers to the Dragon issuer. | To route Dragon tranxs to Dragon issuer | Medium | No |
| 13993.1 | 3.1 | GAN to support Alternate Routing for Dragon | In the event that the CAS host is not available, GAN should perform Alternate Routing for Dragon. | To enable Alternate routing for Dragon | High | No |
| 13993.2 | 3.2 | Issuer Setup on GIG | Dragon Issuer setup in GIG | To set up Dragon issuer | High | No |
| 13993.3 | 3.3 | Suppress 1120 Post Auth Advices for alternately routed Dragon transactions | GAN should not generate an 1120 Post Authorization Advice message to the CAS host for Dragon transactions which are authorized by Dragon issuer during AR | To not send 1120 post Auth advices for AR. | High | No |
| 13993.4 | 3.4 | Fix Foreign Exchange Currency conversion calculation in GIG while performing Alternate Routing. | The requirement is to align the currency exchange rate selection methodology between GAN and GC&S systems | To align the currency exchange rate selection methodology between GAN and GC&S systems | High | No |
| 13993.5 | 3.5 | Import new table from CAS containing non-Amex BIN ranges for Alternate Routing | It is necessary for Dragon BIN ranges to be defined on the GIG in order to support GNS policy during Alternate Routing. The CAS system will send a new table to the GAN Utility Hub with Non-Amex BIN Ranges. This table will be used to populate the GIG BIN Range table along with Amex ranges from the VY. | To support AR by defining the Dragon BIN ranges on the GIG. | High | No |
| 13994 | 4.1 | Dragon transactions Merchant Eligibility Check | CAS will verify that a merchant is eligible to acquire Dragon transactions before passing the transaction on to Dragon for authorisation. | To determine the merchant eligibility | High | No |
| 13994 | 4.2 | Card range validation | The Dragon B ranges will be defined in the XP table. Each Dragon 5-8 digit bin will be defined. Unlike JCB there will not be an exception process. | To validate the card range | High | No |
| 13994 | 4.3 | Acquirer to Issuer PIN translation | CAS CCOE will decrypt the pin of Dragon transactions, encrypted using the acquirers key and re-encrypt the pin using Dragon’s issuer key. A triple DES PIN key will be used between CAS and Dragon as the Issuer. | To translate the PIN from acquirer to issuer | High | No |
| 13994 | 4.4 | CAS Risk decision | CAS will perform a check to ensure Dragon transactions do not originate from a cancelled or closed SE. Similar to JCB and GNS, CAS will decline these transactions with an invalid “189” SE action code. Dragon will be sent a post auth advice with an action code of invalid SE. | To perform a check on the Risk in terms of SE status. | High | No |
| 13994 | 4.5 | Stand-In | CAS will not stand in for Dragon. Any transactions routed to CAS while Dragon is unavailable will be declined with a “decline” message; code “100”. | To decline the Dragon transactions if Dragon issuer is not available. | High | No |
| 13994 | 4.6 | Late Issuer Response | If CAS receives a late arriving approval from Dragon, CAS will send a reversal on to Dragon. | To raise a reversal in case of late approval | High | No |
| 13994 | 4.7 | Currency Conversion | CAS will be required to perform a currency conversion for all Dragon transactions to the issuers currency for Field 5 & Field 30 | To incorporate conversion for currency | High | No |
| 13994 | 4.8 | EMV Feature Processing | Dragon, as a card network, will fully support EMV. CAS will need to pass EMV data to Dragon by enabling the N6 feature. | To support EMV for Dragon. | High | No |
| 13994 | 4.9 | Store and forward queue | If the connection between Dragon and Amex goes down then CAS will store information on all the transactions that were declined while Dragon was unavailable. | To store and forward the messages. | High | No |
| 13994 | 4.10 | Global Pricing Platform – MVS Specific Requirement | CAS MVS will forward the Dragon transactions to the Global Pricing platform. | Forward the transaction to Global Pricing platform. | High | No |
| 14071 | 4.11 | MVS Reporting – Create Transaction Daily Detail Authorization Reports for Dragon | Changes to CAS MVS are required to provide this reporting to Dragon. | Support reporting | High | No |

# Functional Requirements

## Requirement 1

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| **Ref. ID:** | 1 | **Business Req. ID:** | 13991 |
| **Priority:** | Medium | **SOX Req. (SOX Control Impact):** | N |
| **Application ID:** | 136150171 | **Requirement Type:** | Functional |
| **Name:** | GAN Auth to acquire Dragon transactions | | |
| **Description:** | **Definition**  Changes to GAN Auth are required to support Amex acquiring Dragon transactions. The markets in scope are Argentina, Mexico, US and France.  **AS IS**  **1)     Markets**  The following Auth only specifications are in use in Argentina, Mexico, US and France:   * + **GCAG** (Global Credit Auth Guide) inc. GCAG XML. Mexico, US & France (via a 3rd party processor).   + **TCPS Closed System** (ISO8583v1) US Only – This specification is used for prepaid cards only. This specification is used by a small number of acquirers (approx 9).   + **M8-N8** (Voice Response) US Only – Specification that supports the IVR (Intelligent, Voice, Response) phone authorisation process. JCB is supported on this link.   + **DUAG** (Dial Up Auth Guide) (New version, Fixed format) US Only - This specification provides a back up way of processing if a link to Amex is down. DUAG is not widely used. DUAG does not support pin.   + **PIP Express 3000** – Plural Interface Processing. Used to acquire Express 3000 traffic. This is EDC traffic that is processed via GAN using a bespoke CAS application. Spec does not support EMV or PIN. 19 digit cards are supported. The GEDC spec has been designed to accommodate this traffic but there is little incentive to complete the migration as the traffic, although non standard is not on DCP. 39k transactions a day.     No GNS acquirers have been identified in the phase one markets.    **2)     Card Length**  Dragon issues cards with 13 to 19 digit length.    GAN acquires transactions for cards with 15 digits length (Amex) and 16 digits length (JCB).    All in scope specifications support 13-19 digit cards.    **3)     Card features**  Some Dragon cards do not use the final digit of the card number as a mod 10 check digit. Some dragon cards do not have an expiry date.    All American Express cards have a mod 10 check digit as the final digit of the card number. All American Express cards feature an expiry date.    GAN Auth performs a mod 10 check on each transaction. GAN validates the expiry date during stand in only.    **4)     Product types**  Dragon issues credit, prepaid and debit cards.    GAN Auth acquires credit and pre-paid transactions for both proprietary and GNS Issuers.    **5)     EMV / Contactless / Online Pin / Pin @ POS**  Dragon cards have EMV compliant chips. Online pin is widely used for Dragon debit transactions. Dragon issues contactless cards.    For GAN Auth, Online pin is mandatory for PIN@POS transactions and optional for EMV transactions. For the majority of Amex acquired EMV transactions the pin is validated between the terminal and the pinpad and is not sent in the Auth request. None of the in scope markets issue PIN@POS cards. Online pin is therefore not widely supported in the in scope markets.    The following specifications have a field defined for online pin:  GCAG (inc. XML) – The encryption for the pin field uses a static key and is therefore not standards compliant. EIR389 – “Online PIN Global Network Enablement” has been raised to deliver standards compliant dynamic encryption of pin for this specification.    The following specifications support EMV and contactless:  GCAG (inc. XML)    EMV data elements are placed in DF55. DF55 is populated as per the AEIPS standard.    **6)     6 Digit Pin**  Dragon issues cards with 6 digit pin numbers.    GAN Auth supports 6 digit pin. Some Amex GNS cards are issued with a 6 digit pin. For example GNS cards issued in China, Malaysia and Singapore. Six digit pins are supported for all in scope specifications that have a field for pin defined.    **7)     Pre Auths**  Differentiation between authorisation and pre authorisation messages is more important for debit as money is being taken from a card members balance rather than a line of credit.    The Amex network does not currently support pre-authorisation messages. Some market specific specifications support pre-auth messages. For these specifications GAN maps the pre-authorisation message to a standard authorisation message before passing downstream.    None of the GAN Auth specs that are in scope have pre-auth messages defined.    Some message specifications support a 1220 Auth adjustment message. This allows an acquirer to adjust the authorisation amount previously submitted, if the original authorisation was an estimated charge. The GCAG specification supports the 1220 Auth adjustment message.  **TO BE**  **1)     Markets**  GAN will acquire Dragon transaction in the following markets: Argentina, Mexico, US and France    Dragon transactions will be acquired using the following specifications:   * + GCAG (Global Credit Auth Guide)   + GCAG (Global Credit Auth Guide) Internet Direct (XML version of ISO8583v1 )     Dragon transactions will not be acquired using the following specifications:   * TCPS Closed System (Prepaid) (ISO8583v1) (US) – The merchants who support this specification are required to support another Amex specification for non prepaid transactions. Dragon transactions therefore do not need to be acquired via this specification. * M8-N8 (Voice Response) (US) – This spec is used solely by IVR phone authorisation service. Changes to IVR are out of scope. * PIP Express 3000. Merchants using this specification will be required to migrate to GEDC before they can acquire Dragon transactions. * DUAG (Dial Up Auth Guide) (Fixed format) (US) – PCG has confirmed that it is not necessary to use this specification to acquire Dragon.     **2)     Card Length**  GAN already supports 13-19 digit cards. No development is therefore required to support 13-19 digit cards.    **3)     Card features**  GAN Auth will not perform a mod 10 check on Dragon transactions.    Expiry date will not be validated for dragon transactions. GAN only validates this in stand in and Amex is not going to stand in for Dragon. Expiry date will be handled as follows:   * For swiped transactions: GAN will pass the track data on without modification. * For manually keyed transactions: GAN will pass on the expiry date value provided by merchant. This could be zeros or another default value.     **4)     Product types**  GAN will not know whether it is processing a Dragon credit, prepaid or debit transaction. The same processing will apply to all product types.    **5)     EMV / Contactless / Online pin / PIN@POS**  All specifications that will be used to acquire Dragon transactions will be required to support online pin.    No development as part of Dragon is required to do this as standards compliant online pin functionality is being delivered as part of EIR389 – “Online PIN Global Network Enablement”.    Dragon EMV data elements will be placed in DF55. DF55 will be populated as per the AEIPS standard.    Merchants will be required to read the dragon PBOC card chip and place the data elements into the correct locations on the acquiring specifications. The Dragon chip data fits into the EMV data elements defined in Amex specifications.    Contactless is not required to be supported for Dragon cards.    **6)     6 Digit Pin**  GAN Auth supports 6 digit pin. No development is therefore required to support this feature.    **7)     Pre Auths**  No changes to GAN Auth will be made to support pre-auths. This has not been expressed as a need by Dragon. GAN will continue to map pre-auth messages to standard auth messages. Significant changes are required across the Amex network to introduce a new pre-auth message.  No changes to GAN are required to support the 1220 auth adjustment message for Dragon.  **NET CHANGE**  GAN Auth will have all necessary Dragon BIN range, Issuer, and Routing tables defined in order to route these card transactions to the CAS host  **METHOD OF CHANGE**  Configuration change to acquire Dragon card traffic to reach AXP network. | | |
| **Impacted Systems:** | GAN AUTH | | |
| **Comments:** | **CONSTRAINTS/RISKS**  None  **ASSUMPTIONS**  Dragon cards are encoded with standard track I and track II data. Magnetic stripes cannot include double-byte data and in addition double-byte characters are not embossed.  • Safekey is out of scope.  • Address verification is out of scope.  • Voice Response (IVR) out of scope  • Merchant terminals will need to recognise Dragon card ranges and only send Dragon transactions to Amex for Authorisation.  • EMV data will be encoded in the df55 using the AEIPS standard.  • Contactless is out of scope.  • Mod 10 check will not be completed on Dragon cards.  **IMPORTANCE/BENEFITS**  GAN Auth will be used to acquire a significant volume of Dragon transactions. | | |

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| **Ref. ID:** | 1.1 | **Business Req. ID:** | 13991.1 |
| **Priority:** | High | **SOX Req. (SOX Control Impact):** | N |
| **Application ID:** | 136150171 | **Requirement Type:** | Functional |
| **Name:** | Definition of Dragon BIN Ranges in GAN Auth | | |
| **Description:** | **Definition**  GAN Authorizations nodes need to have valid BIN Ranges defined for the Dragon issuers.  **AS IS**  Currently Dragon BIN ranges are not defined in GAN. Currently if a Dragon card transaction is received in GAN, the transaction would be rejected with an “Invalid Card” action code.    Amex and GNS 37 and 34 BIN ranges are defined via the GT table which is imported from CAS. A batch job on GAN kicks off when a new GT table is received, and BIN ranges are defined in the GAN BIN range table.    Prepaid BIN Ranges are present in the GT table, but are not flagged as being Prepaid. (They are flagged as GNS Outsourced). So prepaid BIN ranges are defined in GAN using SQL scripts during a CMR.    There is one JCB BIN range in GAN (350000-359999) which was defined manually years ago via SQL script. The JCB Standin Limit data is imported into GAN via an Excel CSV file. This file is sent via Email from the JCB partner on an adhoc basis. There is a batch job in GAN that runs when a new file is received on the server. The file contains all the valid JCB BIN ranges along with standin limit parameters. This valid BIN range data is only checked during Standin.    Starcard BIN ranges are defined as starting with “7” or starting with “30”. These BIN ranges were defined in GAN using SQL scripts added to the BIN range table during the Starcard project deployment CMRs.  **TO BE**  GAN needs to support Dragon card transactions from GCAG, GCAG XML, DUAG, and EDC node sources. The Dragon BIN ranges may start with 62, 63, and 68.    GAN will have BIN range definitions for the 62, 63, and 68 cards. GAN Auth will compare only the first two bytes of the PAN. These BIN entries will be defined manually via SQL script during a CMR.    GAN will define a new Issuer for Dragon associated to these BIN entries.  **NET CHANGE**  GAN BIN table to contain 3 entries (62, 63, 68) associated to one new Issuer record.  **METHOD OF CHANGE**  SQL scripts to add new entries to the BIN and Issuer tables | | |
| **Impacted Systems:** | GAN AUTH | | |
| **Comments:** | **CONSTRAINTS/RISKS**  None  **ASSUMPTIONS**  Not all PAN’s starting with 62, 63, or 68 are Dragon cards. GAN will not validate that a PAN starting with these values is a valid Dragon card. There will not be an automated BIN import process for Dragon cards on the GAN Auth nodes. If any future Dragon Bin ranges are needed it would be a development effort. GAN will not check that a transaction originates from a phase one market. Merchant eligibility checks will be performed by CAS at time of authorisation.  **IMPORTANCE/BENEFITS**  GAN will be able to acquire Dragon transactions and route to the appropriate authorizations host. | | |

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| **Ref. ID:** | 1.2 | **Business Req. ID:** | 13991.2 |
| **Priority:** | High | **SOX Req. (SOX Control Impact):** | N |
| **Application ID:** | 136150171 | **Requirement Type:** | Functional |
| **Name:** | GAN processing of Dragon transactions in Stand in | | |
| **Description:** | **Definition**  In the event that the CAS host and Alternate Routing host are not available, GAN will decline Dragon card transactions.  **AS IS**  GAN does not currently support Dragon card transactions. Currently if a Dragon card transaction is received in GAN, the transaction would be rejected with an “Invalid Card” action code.  Standin Rules are defined by Issuer in GAN.  GAN will create an 1120 Post Auth Advice message for all approved (000) and denied (100) transactions done during Standin processing for GNS Outsourced issued cards.  **TO BE**  GAN will not approve Dragon card transactions during Standin.  In the event that the CAS host is not available or times-out, and the Alternate Route host is not available (or the acquirer spec or issuer are not certified for AR), GAN will apply Standin rules that will decline the transaction with “100” action code.  In the event that the above condition occurs, GAN will create an 1120 Post-Authorization Advice message and insert onto the Store Forward queue for the CAS host. This advice will be in the standard 1120 format used currently, and use the generic GNS access code used currently.  **NET CHANGE**  Dragon card transactions will not be approved in GAN Standin. GAN will forward 1120 Post Auth Advice messages to the CAS host for Dragon cards denied during stand in.  **METHOD OF CHANGE**  Define new Dragon Issuer, Routing Rules, and Stand-in List, with action that sets a decline action code. | | |
| **Impacted Systems:** | GAN AUTH | | |
| **Comments:** | **CONSTRAINTS/RISKS**  None  **ASSUMPTIONS**  Assumes CAS can accept 1120 Post Auth Advice transactions on the existing GNS access code for Dragon card transactions. Assumes CAS can accept 1120 Post Auth Advice transactions on the existing GNS access code with a 100 action code.  The Original Access Code of the acquiring link will be set into the 1120 field 59 for the following message specs: GCAG ISO, GCAG XML, GPOS, and Cardnet. Original access code is not set for post-auth advices for DUAG transactions.  **IMPORTANCE/BENEFITS**  GAN will be able to decline the Dragon transactions when CAS and AR host are unavailable. | | |

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| **Ref. ID:** | 1.3 | **Business Req. ID:** | 13991.3 |
| **Priority:** | High | **SOX Req. (SOX Control Impact):** | N |
| **Application ID:** | 136150171 | **Requirement Type:** | Functional |
| **Name:** | GAN Routing of Dragon Card Transactions to CAS | | |
| **Description:** | **Definition**  GAN Authorizations nodes will route Dragon card transactions to the CAS Host as Primary Destination  **AS IS**  GAN does not currently support Dragon card transactions.  Currently if a Dragon card transaction is received in GAN, the transaction would be rejected with an “Invalid Card” action code and would not be routed to CAS or any other host.    Routing is defined by Issuer Group in the GAN application.    Currently if a PIN field is received on a GCAG or GCAG XML transaction it will be forwarded to the CAS Host without translation.    The "EMV Online PIN" project scheduled in GAN Auth Release 20 is currently planning to introduce DKE and PIN Translation from these specs, so that PINs will be translated from acquirer key to CAS key.    Currently if a PIN field is received on a message which originated from GHDC acquirer, GAN will not translate the PIN. The PIN will be forwarded to the CAS host without translation.    Currently GAN supports JCB card transactions with 16 digit PAN. The track 2 data is 37 bytes same as 15 digit PAN but with one byte of discretionary data reduced.  **TO BE**  A new Issuer Group for Dragon will be defined in GAN Auth nodes.  Routing rules will be defined for the Dragon Issuer to route to CAS Host as primary destination for the following Acquirer message interfaces: GCAG ISO, GCAG XML, DUAG, EDCA (transactions originating from EDC node).  GAN will use the same “CAS Auth POA” interface and message structure for routing Dragon cards to CAS as is used for Amex Proprietary, GNS, and JCB card transactions today.  The Timeout for Dragon card transactions will be the same as used for GNS Outsourced transactions: 18 seconds. (This is defined using the standard 10 second CAS Host timeout value plus 8 seconds for the transaction to be switched to an outsourced issuer).  In the event the GAN times-out a Dragon card transaction (no reply within 18 seconds), GAN will perform Standin. (See Sub-requirement for GAN Standin).  If an Approval reply is received from the CAS host after the timeout period, GAN will generate a 1420 Reversal Advice message for the transaction and send to the CAS host on the Store-Forward queue, same as for proprietary and GNS card late arriving approvals.  This project will not change the way PINs are processed for Dragon transactions. If the Acquirer is configured to be PIN pass-thru to CAS then the same will apply to Dragon transactions. If the Acquirer does dynamic key exchanges then GAN will translate the Dragon PIN from acquirer key to CAS key, same as for all other issuer cards. GAN will support Dragon card transactions with PAN lengths from 13 digits to 19 digits. Dragon track data will conform to ISO 7813 standards.  **NET CHANGE**  GAN will route Dragon transactions from GCAG ISO, GCAG XML, and EDC source to the CAS host.  **METHOD OF CHANGE**  Define Dragon Issuer Group  Define Dragon Routing rules | | |
| **Impacted Systems:** | GAN AUTH | | |
| **Comments:** | **CONSTRAINTS/RISKS**  None  **ASSUMPTIONS**  Assumes Dragon card transactions will be supported in existing GCAG ISO, GCAG XML, and EDCA interfaces Dragon cards acquired from EDC sources other than US, Mexico, Argentina, and France may be routed to the CAS Host; GAN will not validate acquiring Market or Country or EDC Specification GAN will not validate SE Eligibility in routing of Dragon card transactions GAN will not validate SE number Mod/9 check digit for Dragon card transactions Assumes no change to GCAG ISO, GCAG XML, or EDCA message formats. Assumes no change to the EMV Chip data format on any messages for this project. Assumes EMV data will be sent from acquiring sources in AEIPS format same as defined in GCAG ISO, GCAG XML specifications. Assumes enablement of PIN and Key Exchange for GCAG, GCAG XML, GHDC, or GEDC messages will not be done for this project. Dragon track 2 data for PAN length of 13 digits will have a total track data length of 35 digits. (same as Amex track but with shortened PAN) Dragon track 2 data for PAN length of 19 digits will have a total track data length of 37 digits. (same as Amex track but with shortened discretionary data).  Security related control info field for DUAG transaction will be 3 digits in length so that the correct data will be received and forwarded to the issuer.  **IMPORTANCE/BENEFITS**  GAN will be able to route the Dragon transactions to CAS. | | |

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| **Ref. ID:** | 1.4 | **Business Req. ID:** | 13991.4 |
| **Priority:** | High | **SOX Req. (SOX Control Impact):** | N |
| **Application ID:** | 136150171 | **Requirement Type:** | Functional |
| **Name:** | GAN validations for Dragon card transactions during CAS Host Available routing. | | |
| **Description:** | **Definition**  If the CAS Host is available, GAN authorizations node will limit the validations done for Dragon card transactions  **AS IS**  If the CAS Host is available for GNS Outsourced card transactions:   -  GAN does not validate Expiration Date.  -  GAN does not do Floor Limit processing (configured to be OFF).  -  GAN does not validate SE number mod/9 check digit for Dragon card transactions  -  GAN does not edit, reject, or change transactions that have zero amount.  Zero amount transactions are sent to the CAS host and to issuer during AR.   GAN does currently validate PAN Check Digit during CAS Host Available scenario.   GAN validates payment plan data for 34 and 37 card transactions.  Payment plan checks are skipped for non-Amex cards.  **TO BE**  If the CAS Host is available:  GAN will not validate Expiration Date on Dragon card transactions.  GAN will not validate PAN Check Digit on Dragon card transactions.  GAN will not do Floor Limit processing for Dragon card transactions.  GAN will not validate SE number mod/9 check digit for Dragon card transactions  GAN will not edit, reject, or change Dragon card transactions that have zero amounts. Zero amount transactions will be sent to the CAS host and to Dragon during AR.  GAN will not validate payment plan data for Dragon card transactions but Issuer certification will be done on payment plan for Dragon Issuer which will be done in GIG.  All dragon transactions will be sent to the issuer regardless of transaction amount(ie floor limit of zero)  **NET CHANGE**  A new configuration will be defined to have limited validation for Dragon card during CAS available.  **METHOD OF CHANGE**  A new authorisation list and routing list will be defined in Auth Core to handle dragon card transactions | | |
| **Impacted Systems:** | GAN AUTH | | |
| **Comments:** | **CONSTRAINTS/RISKS**  None  **ASSUMPTIONS**  GAN will not validate that Dragon card Mail Order, Telephone Order, or In-flight Commerce transactions are for appropriate BIN ranges, card products, or verification methods. Payment Plan certification will be done in GIG for Dragon cards with existing N6 certification. This is already in place in GIG.  **IMPORTANCE/BENEFITS**  Dragon transactions will be routed to CAS | | |

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| **Ref. ID:** | 1.5 | **Business Req. ID:** | 13991.5 |
| **Priority:** | High | **SOX Req. (SOX Control Impact):** | N |
| **Application ID:** | 136150171 | **Requirement Type:** | Functional |
| **Name:** | Processing of Dragon transactions in GAN Auth | | |
| **Description:** | **Definition**  GAN Auth processing Dragon card transactions in similar to GNS cards.  **AS IS**  Currently GAN Auth has specific processing for GNS outsourced card on few business functionality during AR scenario , CAS available and GAN Stand in  Below is the some functionality specific to GNS outsourced card.  1. Setting ICC data in response during AR scenario – GAN Auth will set ICC header in the response if ICC data is present in the request and not present in the response.  2. Setting ICC data during Stand in - GAN Auth will not set the ICC data in the response if it is a JCB card or non -approved transactions.  3. In case of Alias to PAN transactions, for all GNS Outsourced cards the Data Field 34 in response is set with the value received from GNS Issuer. If GNS Issuer has not sent this field 34, GAN will populate "Y+DataField 2".For all other cards, we just populate "R" in Data Field 34 response.  4. For all GNS Outsourced and JCB cards, if it is a Barcode transaction, Reversal notification messages are not sent to CAS  5. During AR, before the transaction is being sent to GIG, trace header and message header is set. While setting the header if the Issuer is GNS Outsourced card, we append "Y" and if it is any other card we will append "N".  6. For all GNS Outsourced cards, it checks if all the Acquirer certification checks are passed for AR type transactions. GAN checks the Alias to PAN MCC code in the transaction to be present in GAN DB  7. For all EDC Online Refund and EDC Offline Refund type transactions, a notification message will be sent to CAS only for GNS Outsourced and JCB Cards. For other card types no notification is sent to CAS.  8. For Contactless transactions , Pos data postion 6 should reflect contact less transaction for GNS card in Post Auth message.  **TO BE**  GAN Auth will process the Dragon cards transaction similar to GNS cards except on below two scenario  1. During Stand in – All dragon transactions will be declined where GNS outsourced card may get approved.  2. During AR scenario – A notification to CAS will not be sent if it is Dragon card where as GNS outsourced card will be sent to CAS.  Below GNS processing will be included for Dragon cards  1. Setting ICC data in response during AR scenario for Dragon – GAN Auth will set ICC header in the response if ICC data is present in the request and not present in the response.  2. Setting ICC data during Stand in - GAN Auth will not set the ICC data in the response if it is a JCB card or non -approved transactions.  3. In case of Alias to PAN transactions, for all Dragon cards the Data Field 34 in response is set with the value received from Dragon Issuer. If Dragon Issuer has not sent this field 34, GAN will populate "Y+DataField 2".For all other cards, we just populate "R" in Data Field 34 response.  4. For all Dragon, if it is a Barcode transaction, Reversal notification messages are not sent to CAS  5. During AR, before the transaction is being sent to GIG, trace header and message header is set. While setting the header if the Issuer is Dragon cards, we append "Y" and if it is any other card we will append "N".  6. For all Dragon cards, it checks if all the Acquirer certification checks are passed for AR type transactions. GAN will check the Alias to PAN MCC code in the transaction to be present in GAN DB  7. For EDC Online Refund and EDC Offline Refund type transactions of Dragon cards, a notification message will be sent to CAS.  8. For Contactless transactions , Pos data postion 6 should reflect contact less transaction for Dragon card in Post Auth message.  **NET CHANGE**  GAN Auth will be enhanced with support GNS processing for Dragon card transactions  **METHOD OF CHANGE**  GAN Auth code will be enhanced to have GNS processing for Dragon transactions | | |
| **Impacted Systems:** | GAN AUTH | | |
| **Comments:** | **CONSTRAINTS/RISKS**  None  **ASSUMPTIONS**  Dragon follows GNS policy. Rewards transactions are not supported for Dragon Card. CASH ON Card will be supported for Dragon card.  **IMPORTANCE/BENEFITS**  GAN will be able to acquire Dragon transactions and route to the appropriate authorizations host. | | |

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| **Ref. ID:** | 1.6 | **Business Req. ID:** | 13991.6 |
| **Priority:** | Medium | **SOX Req. (SOX Control Impact):** | N |
| **Application ID:** | 136150171 | **Requirement Type:** | Functional |
| **Name:** | Online refund processing for Dragon Cards | | |
| **Description:** | **Definition**  GAN to support online refund transaction for Dragon  **AS IS**  Online Refund comes from EDC links to Auth application and GAN Auth will take the decision on online refund and send notification to CAS if the card is GNS Out sourced or JCB card.    Below is the validation done in GAN Auth for online refund.    GNS outsourced and Amex proprietary cards :-  1.       Merchant cancel indicator  2.       Luhn check  3.       Validate currency  4.       Check Card exception.  **TO BE**  Online Refund comes from EDC links to Auth application and GAN Auth will take the decision on online refund and send notification to CAS if the card is Dragon Issuer.    Below is the validation done in GAN Auth for online refund    Dragon Cards :-  1. Merchant cancel indicator (Return "107" Please Call Issuer if merchant cancel indicator is on)  2. Validate currency (Return "183" Invalid Currency if currency is invalid)  Luhn check and Card exception check will be skipped for Dragon card transactions.  **NET CHANGE**  GAN Auth will be modified to support online refund transactions for Dragon issuer.  **METHOD OF CHANGE**  A new list will be defined a to have specific validation on online refund for Dragon cards | | |
| **Impacted Systems:** | GAN AUTH | | |
| **Comments:** | **CONSTRAINTS/RISKS**  None  **ASSUMPTIONS**  Luhn check will be not performed for Dragon cards  **IMPORTANCE/BENEFITS**  GAN Auth will take decision on Online Refund | | |

## Requirement 2

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| **Ref. ID:** | 2 | **Business Req. ID:** | 13992 |
| **Priority:** | High | **SOX Req. (SOX Control Impact):** | N |
| **Application ID:** | 136150171 | **Requirement Type:** | Functional |
| **Name:** | GAN Auth reporting of Dragon transactions | | |
| **Description:** | **Definition**  Several business reports are created based of GAN Auth data. These reports will, where appropriate, display Dragon transactional data.  **AS IS**  GAN Auth currently sends daily transactional data to MVS, where it is stored in DB2. MVS jobs create reports from this data which are stored in Axiom.  Several of the GAN Auth reports are broken out by ISS-NAME.  This field does not contain the name of individual issuers, instead the field lists the type of issuer. For example AMEX, GNSIN, GNSOUT, JCB etc.  The following reports are broken out by ISS-NAME:  • DAILY: Transaction Daily Report – By Issuer type  • DAILY: Response Time Daily Report – By Issuer and Authorizer  • MONTHLY: Transaction Monthly Report – By Issuer and Authorizer  • MONTHLY: Response Time Monthly Report – By Issuer and Authorizer  • YTD: Transaction YTD Report – By Issuer and Authorizer  • YTD: Response Time YTD Report – By Issuer and Authorizer  • YTD: Decline Summary YTD Report  There is a specific report created for JCB today, the “MTD: JCB Transaction MTD Report”.  This shows JCB transactional information broken out by market, with action and approval codes, and response times.  **TO BE**  Dragon transactional data will be included in the existing GAN Auth reports.  Dragon will be added as a value in the ISS-NAME field. Dragon transactions will therefore be broken out separately in all reports broken out by ISS-Name.  Unlike JCB, a Dragon specific report will not be created that lists just Dragon transactions.  **NET CHANGE**  CAS MVS will include Dragon issuer and transaction records stored in DB2 database and include Dragon issuer category on existing GAN Axiom reports  **METHOD OF CHANGE**  GAN Auth jobs will be changed to generate the required reports. | | |
| **Impacted Systems:** | GAN AUTH | | |
| **Comments:** | **CONSTRAINTS/RISKS**  None  **ASSUMPTIONS**  None  **IMPORTANCE/BENEFITS**  BAU reporting processes will continue to function. | | |

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| **Ref. ID:** | 2.1 | **Business Req. ID:** | 13992.1 |
| **Priority:** | High | **SOX Req. (SOX Control Impact):** | N |
| **Application ID:** | 136150171 | **Requirement Type:** | Functional |
| **Name:** | CAS MVS to include Dragon transactions in GAN Axiom Reports | | |
| **Description:** | **Definition**  Dragon card transactions will be incorporated into the existing GAN Axiom Reports  **AS IS**  A daily extract job currently runs on all 12 GAN Auth nodes. This job extracts all records from the Transaction Log from the previous day, creates a file, and transmits that file to the CAS MVS system.  Daily jobs running on the CAS MVS system read the 12 files and store these transactions in the DB2 database. CAS MVS has a table of valid Issuer ID’s. The Dragon issuer is not currently defined in the CAS MVS table. Report Jobs run daily and monthly to generate reports which are stored in Axiom.  Sample user reports can be reviewed in the GAN Axiom Report user guide, by contacting GNB Participant Support.  **TO BE**  GAN will store Dragon card transactions in the transaction log, and include these in the daily extract files sent to the CAS MVS system. CAS MVS will store Dragon transactions in DB2 along with proprietary, GNS, and JCB transactions. CAS MVS will add the Dragon Issuer ID to their tables for GAN reporting. All existing GAN Axiom report jobs will include Dragon transactions.  The Dragon issuer will be added to existing reports that show summary volumes by issuer category  **NET CHANGE**  Dragon transactions will be included in existing GAN transaction log, daily extracts, CAS MVS DB2 database, and existing Axiom reports  **METHOD OF CHANGE**  CAS MVS to add Dragon Issuer ID and Dragon transactions to existing Axiom reports | | |
| **Impacted Systems:** | GAN AUTH | | |
| **Comments:** | **CONSTRAINTS/RISKS**  None  **ASSUMPTIONS**  Users of the existing Axiom reports have authority to view Dragon transaction counts; no additional access control is needed  **IMPORTANCE/BENEFITS**  BAU reporting processes will continue to function. | | |

## Requirement 3

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| **Ref. ID:** | 3 | **Business Req. ID:** | 13993 |
| **Priority:** | High | **SOX Req. (SOX Control Impact):** | N |
| **Application ID:** | 136150171 | **Requirement Type:** | Functional |
| **Name:** | GAN & GIG routing of Dragon transactions | | |
| **Description:** | **Definition**  Dragon transactions need to be routed from acquirers to the Dragon issuer.  **AS IS**  1) GAN Bin Range validation  Dragon issues cards on the 62, 63 and 68 bin ranges. Dragon is not the sole issuer on these ranges. GAN does not acquire transactions on the 62, 63 & 68 bin range.    GAN acquires transactions on the 35 (JCB), 34 & 37 (Amex) bin ranges. These bin ranges are set up in one of the following tables:  • GAN receives the GT table each day from CAS. This lists the properties such as issuer (prop / gns) and insourced vs outsourced. The GT table has all ’37’ range cards listed.  • GAN local bin range table this lists bin ranges that are not in the GT table (e.g. JCB) and bins that need to be overwritten including all prepaid bins. This table is used to specify that all 35 bin transactions should be routed to JCB    These tables include information on whether a bin range is eligible for alternate routing.    2) GIG Bin Range Validation and Issuer Setup  GIG receives the N6 feed from CAS. This feed defines how transactions should be routed to an issuer. This feed is also used to validate a bin range is valid during alternate routing.    If an issuer is not in N6 table GIG will inform GAN that it was unable to route the transaction.    GIG connects to GNS issuers (including JCB) today using the standard GNS format.  3) Alternate routing  GAN today has the ability to send transactions for several GNS Issuers directly to GIG, bypassing CAS. GAN routes these transactions directly to GIG in the event of a CAS outage. This is for both local and foreign transactions.    Alternate routing is supported for some but not all acquiring specifications. The following specifications that are in scope of project Dragon support alternate routing:  • GCAG (Global Credit Auth Guide) inc. GCAG XML.    GAN does not alternately route the following specifications that are in scope:  • GEDC (Global Electronic Data Capture)  • GHDC (Global Host Data Capture)    Today CAS is able to build the GNS issuing message regardless of the acquiring specification.    If CAS is unavailable and a transaction is alternately routed then GIG decrypts the pin and re-encrypts the pin using the issuer’s key. Today the last 12 digits of a card number, excluding the check digit, are one of several parameters used when decrypting and re-encrypting the pin. Some dragon cards do not have a check digit.    If foreign transactions are alternately routed then GIG will perform a currency conversion to convert the transaction amount from the acquirers’ currency to the issuer’s currency. The currency conversion tables are obtained from CAS.    The currency conversion performed by CAS when converting from Acquirer currency to Issuer currency is different to the currency conversion applied by GC&S to convert from Acquirer currency to Issuer currency:  • GIG uses the SELL rate to convert from presentment currency to USD, then BUY rate to convert USD to the Issuer settlement currency.  • GC&S uses BUY rate to convert from presentment currency to USD, then SELL rate to convert USD to the Issuer settlement currency.    Transactions for Starcard are permanently alternately routed. The reason for this is that Starcard transactions are subject to a strict SLA on availability. This is configured in GAN Auths issuer configuration.    JCB today is not set up for alternate routing.    If a GNS issuer cannot be reached GAN responds to the acquirer with a decline.    4) Stand in  GAN obtains the stand in limit for a bin range from one of three locations:  • GNS stand in limit table received from CAS. For GNS (excl. JCB  • GAN Stand in limit table. Local table maintained by GAN. Listing limits for proprietary and prepaid.  • GAN Stand in limit table for JCB.      5) Late Issuer Response  Dragon issuers have 40 seconds to respond to an Authorisation request.    The BOP specifies that GNS Issuers have 8 seconds to respond to an authorisation request. If a GNS issuer does not respond in 18 seconds, GAN will stand in for the transaction.    If GAN stands in and declines and the GNS issuer sends a late arriving approval, GAN will send a reversal on to CAS for forwarding to the issuer.  **TO BE**  GAN Bin Range validation :  The Dragon bin ranges will be set up in the GAN local bin range table (similar to JCB). A new issuer group would be set up for Dragon.    GAN Auth will accept all 62, 63 & 68 transactions. GAN will not validate that a 62, 63 & 68 bin transaction is on a Dragon owned bin range. Full validation of Dragon bin range will be completed by CAS (CAS Available) and GIG (alternate routing). See below and “CAS processing of Amex acquired Dragon transactions” requirement.    GIG Bin Range Validation and Issuer Setup :  The N6 feed from CAS will include Dragon bin ranges. This feed will be used by GIG to validate a Dragon bin range is valid during alternate routing. If the bin range is not in N6 table GIG will inform GAN that it was unable to route the transaction. As Amex is not standing in for Dragon GAN will decline the transaction.    GIG will use the standard GNS format when routing transactions to Dragon for decision.    As Amex is not standing in for Dragon, the following GIG functionality will not be supported:  1304 negative update message. As Amex will not stand in for Dragon the negative updates will be discarded if received from Dragon.  1804 sign off message. This message can contain stand in parameter information (bit 48) to be used while an issuer is offline. As Amex is not standing in for Dragon any stand in parameters provided in bit 48 will be ignored.  Other differences may be identified in Analyse.    Alternate routing :  Dragon transactions will be primarily routed via CAS.    The Dragon bin ranges will be enabled for alternate routing if CAS is unavailable. GAN will not send advices to CAS for transactions that it has alternately routed.    Transactions acquired on the following acquiring specifications will be alternately routed:  GCAG (Global Credit Auth Guide) inc. GCAG XML.    GAN will not be modified to enable alternate routing of other specifications. Transactions acquired on the following acquiring specifications will, therefore, not be alternately routed:  GEDC (Global Electronic Data Capture)  GHDC (Global Host Data Capture)  DUAG (Dial Up Auth Guide)    A cryptography profile will be set up on GIG for the Dragon issuer. This will enable GIG to encrypt pin numbers with Dragon’s issuer key for alternately routed transactions. Merchants will not know whether a Dragon card has a check digit or not. Merchants will therefore assume the final card digit is a check digit and not use the last digit of the card number when encrypting the pin. Similarly, when GIG re-encrypts the PIN to send to Dragon the last digit of the card number will not be used in the encryption process.    During alternate routing, GIG will be required to perform a currency conversion for all transactions.    The currency conversion method used by GIG to convert from Acquirer currency to issuer currency, will be changed to match the methodology used by GC&S. GIG will use the BUY rate to convert from presentment currency to USD, then SELL rate to convert USD to the Issuer settlement currency.    This change will be made for all Issuers, not just Dragon.    During alternate routing a Merchant eligibility check will not take place.    Stand in :  GAN will not stand in for Dragon. This will be configured on the GAN issuer table. The dragon issuer will not be present in any of the stand in limit tables.    If a Dragon issuer cannot be reached GAN will respond to the acquirer with a decline (consistent with other GNS issuers). When this happens, GAN will send an 1120 post authorisation advice to CAS, which will be forwarded to Dragon when it becomes available.    Late Issuer Response :  Dragon issuers will have 8 seconds to respond to an authorisation request, as per the BOP. As Amex is not standing in for Dragon, transactions that are not authorised by Dragon in 18 seconds will be declined by GAN.    If Dragon approves the transaction after GAN has timed out and declined, GAN will send a reversal on to CAS for forwarding to Dragon.  **NET CHANGE**  GAN Auth will include Dragon card transactions in existing GNS Outsourced Alternate Routing logic, and suppress generation of 1120’s for issuer decisions. GIG will have new issuer profiles and cryptography setup for Dragon  **METHOD OF CHANGE**  Config changes to route the transactions from Acquirer to Issuer. | | |
| **Impacted Systems:** | GAN AUTH, GIG | | |
| **Comments:** | **CONSTRAINTS/RISKS**  None  **ASSUMPTIONS**  Dragon will receive transactions using the standard Amex GNS format. EMV data will be encoded in the df55 using the AEIPS standard. The “Terminal capabilities” field is present in the Dragon EMV spec but not present in AEIPS. Dragon will be required to derive this field. • Last card digit will not be used to decrypt and reencrypt pin. • Dragon will have 8 seconds to respond to an Auth request as per the BOP. • CAS is completing a merchant eligibility check for Dragon. During alternate routing, this check will be bypassed. It would be possible for a transaction from an ineligible merchant to be approved. This transaction would then be rejected by Submissions.  **IMPORTANCE/BENEFITS**  This requirement is required to route transactions to the Dragon Issuer. | | |

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| Ref. ID: | 3.1 | **Business Req. ID:** | 13993.1 |
| Priority: | High | **SOX Req. (SOX Control Impact):** | N |
| Application ID: | 136150171 | **Requirement Type:** | Functional |
| **Name:** | GAN to support Alternate Routing of Dragon card transactions | | |
| **Description:** | **Definition**  In the event that the CAS host is not available, GAN should perform Alternate Routing for Dragon card transactions.  **AS IS**  GAN does not currently support Dragon card transactions. Currently if a Dragon card transaction is received in GAN, the transaction would be rejected with an “Invalid Card” action code and would not be routed to CAS or any other host.  GAN currently supports Alternate Routing for GNS Outsourced card transactions. GNS Card transactions are eligible to be alternately routed from the GCAG, GCAG XML, GNS POS, and APACS30 acquiring interfaces.  In order for a GNS Outsourced card transaction to be alternately routed, the issuer must be flagged as Certified for AR on the N6 table which is imported from CAS onto the GIG.  Currently no transactions are eligible for alternate routing from EDC acquired sources.  If a GNS outsourced transaction is alternately routed and the issuer responds with an Approval, GAN will generate an 1120 Post Auth Advice and place on the Store Forward queue for the CAS host, using a generic GNS access code.  In the event that a GNS Outsource transaction is alternately routed and a response is not received within the Timeout period, the GAN will process the transaction in Standin. (See GAN Standin sub-requirement). The timeout period for AR is currently set to 15 seconds  In the event that GAN Auth receives an Approval after the timeout period, a 1420 reversal advice message is generated and placed on the Store Forward queue for the CAS host, using a generic GNS access code.  GAN does not currently support Alternate Routing for JCB  **TO BE**  GAN will support Alternate Routing for Dragon card transactions.  Dragon transactions will be eligible to be alternately routed from the GCAG ISO and GCAG XML acquiring interfaces. Dragon transactions will not be eligible to be alternately routed from DUAG or from EDC acquired sources.  The Dragon BIN ranges will be present on the N6 table which is sent from CAS MVS to GIG along with the certification details.  In order for a Dragon card transaction to be alternately routed, the issuer must be flagged as Certified for AR on the N6 table which is imported from CAS onto the GIG.  If a Dragon card transaction is alternately routed and the issuer responds within the timeout period, GAN will NOT generate an 1120 Post Auth Advice for CAS.  In the event that a Dragon card transaction is alternately routed and a response is not received within the Timeout period, the GAN will process the transaction in Standin. (See GAN Standin sub-requirement). The timeout period for AR will be 15 seconds same as GNS Outsourced transactions.  In the event that GAN Auth receives an Approval after the timeout period, a 1420 reversal advice message is generated and placed on the Store Forward queue for the CAS host, using a generic GNS access code.  Certifications done on GIG will be controlled using the N6 parameters same as for GNS Outsourced transactions.  Message Formatting logic on the GIG will be the same as used currently for GNS Outsourced transactions for Alternate Routing (see GAN Alternate Routing processing rules).  **NET CHANGE**  GAN Dragon transactions will be alternately routed in the event CAS is not available. 1420 Reversal Advices will be generated in the event of late arriving approvals from AR host  **METHOD OF CHANGE**  GAN Auth will have a new routing entry for Dragon cards to route GCAG ISO and XML when CAS is unavailable. | | |
| **Impacted Systems:** | GAN AUTH | | |
| **Comments:** | **CONSTRAINTS/RISKS**  None  **ASSUMPTIONS**  CAS will include the Dragon BIN ranges in the N6 table, with all certification and parameter flags configured as appropriate. Since the Dragon issuer will be following existing GNS policy, it is assumed that Alternately Routed transactions will have all the same certification checks as we have today for GNS Outsourced issuers on GIG. SE Eligibility check will not be done for Alternately Routed Dragon transactions. PINs on Dragon transactions will be translated from GAN Auth key to GIG key, same process and keys as used for GNS issuer PIN transactions PINs on Dragon transactions processed in AR will be translated from GIG key to Issuer key, same process as alternately routed GNS Issuer transactions  **IMPORTANCE/BENEFITS**  Transactions will be routed to GIG via AR during CAS unavailable. | | |
| **Ref. ID:** | 3.2 | **Business Req. ID:** | 13993.2 |
| **Priority:** | High | **SOX Req. (SOX Control Impact):** | N |
| **Application ID:** | 136150171 | **Requirement Type:** | Functional |
| **Name:** | Dragon Issuer Setup on GIG | | |
| **Description:** | **Definition**  Dragon Issuer setup in GIG  **AS IS**  Currently, Dragon issuer bin ranges, port and cryptography profiles are not available in GIG**.**  GNS Issuers have profiles for port and access code.  A few issuers certified for PIN have cryptographic profiles which are used during Alternate Routing, and Zone Master Keys which have been defined by the ECO team via UI.  GNS BIN ranges are defined via automated process from the CAS VY and N6 tables.  **TO BE**  During normal CAS Available routing, Dragon transactions will be sent from CAS to the GIG. The GIG will determine the routing based on the access code present in the CAS Header.  During Alternate Routing, Dragon transactions will be sent from a GAN Auth node to the GIG. The GIG will understand the dragon transactions based on the PAN in the transaction.  The above cases are BAU for GNS outsourced issuers, and the same rules will be applied to Dragon. The following steps are needed to define the Dragon Issuer on the GIG in support of the above scenarios:  1. New ports will be assigned and created for Dragon Issuers in the same manner as other GNS issuers, in support of connections of the Dragon issuing systems to the GCM.  2. Dragon issuer will be configured to use Alternate Line Processing for highest availability  3. Dragon issuer will follow the existing GNS network management logic for logical connection hand shake.  4. A new access code will be assigned and loaded in the GIG for Dragon transactions.  5. A new single org id (Forwarding institution code) will be assigned and loaded in GIG for all Dragon bin ranges and same org id will be coming in N6 feed with certification details.  6. A new network profile and cryptography profile will be created for Dragon.  7. A new key will be loaded by ECO team to support PIN translation  8. GCM Configuration to support Dragon connections  **NET CHANGE**  A new entry will be defined to have Dragon issuer information like port , access code , org id in different tables like interchange access point , access\_code , access\_code\_routing ,socket connection , network connection.  **METHOD OF CHANGE**  Configuration changes, profile setups | | |
| **Impacted Systems:** | GAN AUTH | | |
| **Comments:** | **CONSTRAINTS/RISKS**  None  **ASSUMPTIONS**  Dragon issuer will follow standard GNS policy, certification, specification, and routing. Dragon issuer will be following the existing GNS issuers MLI (Message length indicator). All Dragon bin ranges will be configured as Single issuer in GIG. All Dragon BINs will have the same routing pathways. No differentiation in routing will be made between 62, 63, and 68 PANs PINs on Dragon transactions will not be translated between CAS and Issuer. 1804 Signon and Signoff messages will be forwarded to CAS as is done today for GNS issuers. CAS may receive 1804 Signoff messages with Standin Limit table data. 1304 negative card addition messages if received will be forwarded to CAS same as GNS issuer 1304 messages.  **IMPORTANCE/BENEFITS**  Configuration changes, profile setups | | |

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| **Ref. ID:** | 3.3 | **Business Req. ID:** | 13993.3 |
| **Priority:** | High | **SOX Req. (SOX Control Impact):** | N |
| **Application ID:** | 136150171 | **Requirement Type:** | Functional |
| **Name:** | Suppress 1120 Post Auth Advices for alternately routed Dragon card transactions | | |
| **Description:** | **Definition**  GAN should not generate an 1120 Post Authorization Advice message to the CAS host for Dragon card transactions which are authorized by the Dragon issuer during Alternate Routing.  **AS IS**  During Alternate Routing, GAN currently generates an 1120 Post Auth Advice message for GNS Outsourced issued cards for the following action codes:    000 – Approved  001 – Honor with ID  002 – Approved for Partial Amount  003 – Approved VIP  100 – Decline  106 – Allowable PIN tries Exceeded  117 – Incorrect PIN  The GAN Auth node receives the above action codes in the 1110 response from the GNS issuer, and generates the 1120 message to the CAS host. CAS uses the 1120 information for it's own internal processing and does not forward the 1120 to the GNS issuer.  **TO BE**  During Alternate Routing, GAN will not generate an 1120 Post Auth Advice message for Dragon cards provided that the Dragon issuer has sent an 1110 response message.  When the GAN Auth node receives an 1110 response message from the GIG, an 1120 Post Auth Advice message is not necessary as CAS will not need the information for its own internal processing.  **NET CHANGE**  No 1120 PAA sent to CAS during AR for Dragon  **METHOD OF CHANGE**  RouteIfCoreOrIssuerOnlyApprovedOrDenied will undergo a change | | |
| **Impacted Systems:** | GAN AUTH | | |
| **Comments:** | **CONSTRAINTS/RISKS**  None  **ASSUMPTIONS**  None  **IMPORTANCE/BENEFITS**  The WWCAS Links team has requested that 1120 PAA’s are not sent to CAS if the Dragon issuer has made the authorizations decision, as the CAS system does not need to know about the transaction. No updates to Accums or any other service are needed in CAS for Dragon. | | |
| **Ref. ID:** | 3.4 | **Business Req. ID:** | 13993.4 |
| **Priority:** | High | **SOX Req. (SOX Control Impact):** | N |
| **Application ID:** | 136150171 | **Requirement Type:** | Functional |
| **Name:** | Fix Foreign Exchange Currency conversion calculation in GIG while performing Alternate Routing | | |
| **Description:** | **Definition**  The requirement is to align the currency exchange rate selection methodology between GAN and GC&S systems. This requirement applies to all GNS Outsourced Issuers as well as for the Dragon issuer. Currently the exchange rate selection methodology used to convert to Issuer currency for GNS Outsourced Issuers in GAN is not matching with GC&S systems. The requirement is to make this conversion methodology same as settlement system. The currency conversion method used by GIG to convert from Acquirer currency to issuer currency, will be changed to match the methodology used by GC&S. GIG will use the BUY rate to convert from presentment currency to USD, then SELL rate to convert USD to the Issuer settlement currency.  **AS IS**  Currently during AR scenario, GIG does currency conversion to convert amounts from Acquirer currency to Issuer currency.  Amount Reconciliation (Data Field 5) and Amounts Original (Data Field 30) will undergo this conversion before sending the transaction to Issuer.    The formula used for converting Data Field 5 (Amount Reconciliation) is:  Converted Amount(Data Field 5) = (Acquirer Field 5 \*Acquirer Currency SELL rate) / Issuer currency BUY rate    The formula used for converting Data Field 30 (Amounts Original) for Bluebird 1220 message is:    Converted Amount(Data Field 30) = (Acquirer Field 30 \*Acquirer Currency SELL rate) Issuer currency BUY rate  **TO BE**  During AR, GIG must continue to do the currency conversion. However the rate selection has to be changed in the 2 steps as below:  GIG will use the Acquirer BUY rate to convert from acquirer presentment currency to USD.  GIG will use the Issuer SELL rate to convert the USD amount to Issuer settlement currency.      The new formula used for converting Data Field 5 (Amount Reconciliation) for GNS Outsourced Issuers and Dragon transactions will be:  Converted Amount(Data Field 5)   =   (Acquirer Field 5 \*Acquirer Currency BUY rate) /                                         Issuer currency SELL rate  GAN will change the calculation for Data Field 30 (Amounts Original) for Bluebird 1220 transactions as    Converted Amount(Data Field 30) = (Acquirer Field 30 \*Acquirer Currency BUY rate) /  Issuer currency SELL rate  **NET CHANGE**  GIG currency conversion will match that of GC&S  **METHOD OF CHANGE**  Change in the rate selection during currency conversion in GIG.    Actions – SetAmountReconn will undergo change.  Actions – SetAmountOriginal will undergo change. | | |
| **Impacted Systems:** | GAN AUTH | | |
| **Comments:** | **CONSTRAINTS/RISKS**  None  **ASSUMPTIONS**   * No GAN Auth changes for this requirement. * As per the analysis GAN conversion logic in Standin uses BUY rate to convert from presentment currency to USD, then SELL rate to convert USD to the cardholder billing currency. * Changes are only in GIG and in Alternate Routing scenario for GNS Oursourced and Dragon cards. * No Additional validations will be performed for Currency code or Exchange rates Starcard , Pwp transactions are not in scope for this requirement. * No Changes to Currency feed Batch program CAS will make changes to have same conversion as part of the parent requirement   **IMPORTANCE/BENEFITS**  The change will:  • Remove differences between Authorisation & Settlement values for POS transactions for ‘GNS’ issuers  • Reduce the need for GNS Issuer reconciliation of differences  • Ensure that when Authorisation and Clearing occur on the same date the same reconciliation amount is calculated in the issuer settlement currency at both Auth and Clearing (as aligned to the industry and expected by Issuers) | | |

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| **Ref. ID:** | 3.5 | **Business Req. ID:** | 13993.5 |
| **Priority:** | High | **SOX Req. (SOX Control Impact):** | N |
| **Application ID:** | 136150171 | **Requirement Type:** | Functional |
| **Name:** | Support Dragon entries in N6 and new VY table for Alternate Routing | | |
| **Description:** | **Definition**  It is necessary for Dragon BIN ranges to the GIG in order to support Alternate Routing. Dragon entries need to be added to the N6/VY table in order for GIG to apply GNS policy during Alternate Routing. The CAS system will send a new VY table to the GAN Utility Hub with Non-Amex BIN Ranges. This table will be used to populate GIG BIN Range table along with Amex ranges from the VY.  **AS IS**  The VY and N6 tables are transmitted from CAS MVS to the GAN Utility Hub on a daily basis. The VY table contains all 34/37 issuer ranges, and an Ordinal number which represents the Partner ID. This value maps to the N6 table which contains features for each partner such as OBO and Certification parameters.    The CAS VY table does not currently support Dragon BIN ranges, nor JCB, Visa, MC etc.    A batch job on the GAN Utility Hub reads the VY table and generates a BIN table with ranges and Partner ID. The BIN table and the N6 table are re-formatted and distributed to all GIG nodes.    The GIG uses the BIN and N6 table during Alternate Routing to check certification parameters and build outbound 1100 requests to the issuer.    The JCB BIN Range was defined manually on GIG years ago. The GIG does not apply GNS policy nor the N6 features for JCB because GAN does not alternately route JCB transactions.  **TO BE**  CAS will distribute Dragon and JCB issued BIN ranges to the GAN Utility Hub.  The existing VY table processing will not change.  An additional new table (binary file), yet to be named, will be distributed to the GAN Utility Hub on a daily basis along with the existing VY and N6 tables. This new binary file will contain Dragon and JCB BIN ranges and their associated N6 ordinals. The batch job on the GAN Utility Hub will include the new file as input and add the Dragon BIN ranges to the BIN table.  It is expected that the new file will be structured in a similar manner to the existing VY. Details will be provided during the Design phase.  The existing N6 will include the parameters for Dragon BIN ranges.  No change to the transmission of BIN and N6 tables from GAN Utility Hub to the GIGs.  The GIG will use the BIN and N6 tables during alternate routing to process Dragon transactions, same as for GNS issuers.  GAN will not use the entries for JCB in the N6 table. GAN will continue to use the manually defined JCB BIN range already present in the GAN BIN table.  The GAN Utility Hub must be able to implement these changes prior to having an actual file to process, because it is anticipated that the GAN changes will be implemented before the CAS changes.  **NET CHANGE**  Existing batch job in HUB will be updated to process the new file with Dragon BIN ranges. Dragon Bin details will be included in partner related tables and N6. CSV will be generated along with Dragon card details. There are no changes in GIG side.  **METHOD OF CHANGE**  Configuration changes, profile setups | | |
| **Impacted Systems:** | GAN AUTH | | |
| **Comments:** | **CONSTRAINTS/RISKS**  None  **ASSUMPTIONS**  In the future if any certification parameters are activated for Dragon in the N6, GIG will automatically apply the same logic as for GNS to use those parameters.  Additional development would be required to apply information for JCB from the new file and N6, as there is no alternate routing for JCB.  Assumes this sub-requirement will be implemented before Dragon and JCB ranges are included in N6.  Assumes CAS MVS requirements to build the new file and distribute to the GAN Utility Hub will be defined by the WWCAS team. The CAS MVS effort and sizing will be provided under the CAS requirement 13994  **IMPORTANCE/BENEFITS**  Enables Alternate Routing for Dragon transactions | | |

# Non-Functional Requirements

NA

# Acceptance Criteria – Overall Project

As described in Section 2

# Use Cases (optional)

## Catalogue of Actors

NA

## Catalogue of Use Cases

NA

## Use Case Specifications

NA

# CAS RUCS document.



# Appendix

## Glossary of Terms & Acronyms

## References

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| S. No. | Document Name | Location |
| 1 | All requirements documents | https://central886.intra.aexp.com/Governance/RequirementHome.aspx |
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