



Guarantee Vault Service Business Requirements Document

This document describes the business requirements for the Guarantee Vault Service.

Confidential

Document History

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Approvals

Signature below indicates that this document meets its internal objectives and is accepted by all parties

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[This section can be used to communicate any requirements and/ or any additional details to be included in the document sections. Please enter the details or add notes to this section and specify the related section (if any) from the document]

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1 PURPOSE OF DOCUMENT

The purpose of the Business Requirements Document (BRD) (herein “Document”) is to lay the foundation for the design and development of the Guarantee Vault Service (herein “GVS”) through definition of the business’ needs, scope and objectives. The “Document” describes the high-level Business Requirements for the “GVS” which will be an independent market utility. The “Document” also defines the process and outlines on a high-level the business needs that will be fulfilled by the successful completion of the project. The “Document” is intended to capture and describe business requirements of the “GVS” completely, accurately and unambiguously. The “Document” will be circulated to both Internal and External Stakeholders. The “Document” will be progressive and updates will be made to the “Document” based on suggestions and inputs from Working Group Members.

1.1 Intended audience

The intended audience for this “Document” is the GVS working group members which includes Corporates, Banks and Insurance companies who agreed to contribute their time, knowledge and experience to the project. Business Analysts, Technical Architects and Developers will also find the information in this “Document” useful to ensure technical design aligns with business requirements.

2 GLOSSARY OF TERMS

The general list of common terms and acronyms are listed below:

Table: Terms and Acronyms Used in This Document

Term/Acronym	Definition
ToS	Terms of Service
@GT	@GlobalTrade Platform – GlobalTrade Corporation’s Existing Service
GTC	GlobalTrade Corporation
GVS	Guarantee Vault Services
Bank Guarantee	An irrevocable payment obligation of a bank serving to secure certain contractually agreed performance, warranty and/or payment obligations of the parties to the trade contracts. Payment is made on demand.
Surety Bond	A surety bond or surety is a promise by a surety or bank to pay one party (the obligee) a certain amount if a second party (the principal) fails to meet some obligation, such as fulfilling the terms of a contract. The surety bond protects the obligee against losses resulting from the principal's failure to meet the obligation.
Standby Letter of Credit (SBLC)	A lender's guarantee of payment to an interested third-party in the event the lender’s client who requested the SBLC defaults on an agreement.
Corporate Guarantee	Corporate Guarantee is a guarantee in which a corporation agrees to be responsible for the financial obligations of, or the performance of, contractual obligations of another party (usually its subsidiary) in the event that other party fails to discharge his financial obligations or perform the contractual obligations.
Guarantee	The term “Guarantee” when used in this document shall refer to all of the previously defined instruments: <ol style="list-style-type: none"> 1. Bank Guarantee 2. Surety Bond 3. Standby Letter of Credit 4. Corporate Guarantee
Guarantor	The entity providing the guarantee, namely a financial institution e.g. Bank, Insurance Company, Corporate.
Applicant	The entity whose payment or performance is secured.
Beneficiary	The entity to which the guarantee is issued.

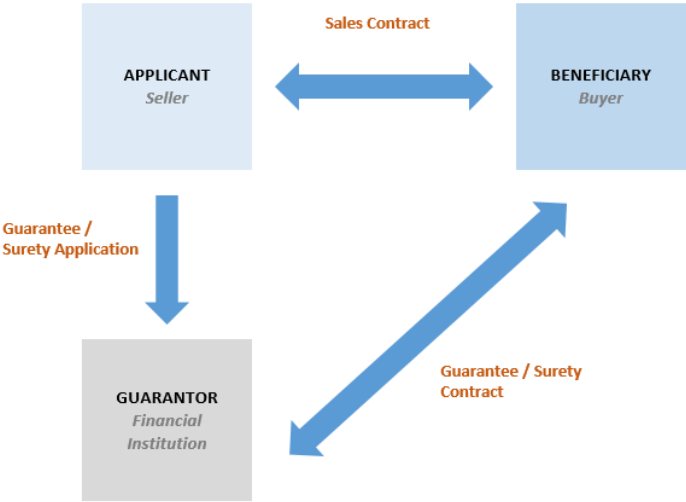
Term/Acronym	Definition
Post Issuance Request	<p>Refers to any requests coming after issuance of a guarantee from the applicant or beneficiary to the guarantor including:</p> <ul style="list-style-type: none"> ○ Amendment ○ Reduction ○ Extension ○ Claim ○ Extend-or-pay ○ Re-Assignment ○ Release
GVS Register	<p>The electronic register where the guarantor issues a new guarantee or posts an issuance action / event. Records made available on the GVS register are legally binding as per the terms of the guarantee contract once they become accessible by other transaction party(ies).</p>
Unlimited Validity	<p>A guarantee for which the expiry is open-ended, i.e. which does not have a fixed expiry date.</p>
Financial Institution	<p>Refers to both banks and insurance companies</p>
Company	<p>Refers to corporates</p>

3 INTRODUCTION

3.1 The Challenge

Introduction

The guarantee provides the recipient (beneficiary) with financial protection and quick monetary compensation if the other party to a transaction (applicant) fails to perform its contractual obligations. When arranging a guarantee, the applicant will approach a guarantor to issue the guarantee in favor of the beneficiary.



The Guarantee is requested by the Applicant, but in the end, it is a contract between the Guarantor and Beneficiary.

The decentralized paper-based process

In the course of business, an applicant will work with a number of different beneficiaries that require guarantees and a number of banks or insurance companies issuing them. When issuing the guarantee, the guarantor will normally courier a formal paper copy to the applicant who would then courier it onwards to the beneficiary. The applicant can also instruct the guarantor to courier the paper copy directly to the beneficiary. Over time the applicants accumulate significant number (sometimes thousands) of outstanding guarantees issued by multiple guarantors for multiple different beneficiaries

3.2 Operation of GVS

A participant must be registered to use GVS. Members will sign a Master Services Agreement (MSA) with DVS that would govern the use of the Service. Members would be able to access the System via a web browser and would not require any additional software to be installed. Beneficiaries should be able to access individual guarantee information in GVS if authorized by the applicant and without being registered by the GVS.

4 PROJECT SCOPE

4.1 In Scope

- Launch of a shared digital register for market participants
- Issuance and post issuance workflows including Amendment, Reduction, Extension, Claim, Extend-or-pay, Re-Assignment, Cancellation/closure
- Possibility for applicants to submit issuance applications to multiple guarantors via GVS
- Possibility for both applicants and beneficiaries to submit post issuance requests via GVS
- Dashboard for users providing a holistic view of transaction activity
- Connectivity between GVS & participants including a web-interface, API, SWIFT, sFTP
- Reporting, chat and other value-added features described in this document
- Legal framework providing enforceability of the digital guarantee
- Highly secure, encrypted and immutable processing of all transactions & user data captured on GVS
- Audit and compliance features (e.g. audit trail and user activity logs)
- Simplified user and data management capabilities for end users
- Establishment of a safe and reliable networking system
- Establishing the standard for exchanging the guarantee information
- User guides, training documentation and end-user training
- On-line, email and phone user support

4.2 Out of Scope

- Pre-issuance workflows i.e. any negotiation prior to formal application
- Internal processing and approval workflows of applicant, guarantor and beneficiary
- Documentary Credits and any other trade finance instrument not specifically mentioned as in scope
- Advanced analytic capabilities for improved business intelligence metrics
 - To be consider for later phase

Challenges

Tracking & Monitoring

Under the current decentralized environment, tracking and monitoring outstanding guarantees is a real problem for participants with multiple guarantor and counterparty relationships. It requires applicants and beneficiaries to liaise with multiple guarantors and counterparties when managing their portfolio of outstanding guarantees. Adding to the difficulty is that all this is mostly done via a combination of phone, email, fax and post.

The Manual Paper Process

The cumbersome release process for guarantees with open validity requires that the original paper contract issued to the beneficiary must be returned to the guarantor. In most cases the onus is left on the

applicant to monitor and chase the beneficiary for closure, get back the original paper guarantee from the beneficiary by post and then courier it out again to the guarantor.

Compounding the problem is the fact that beneficiaries are receiving paper guarantees via post from multiple guarantors and applicants in various formats, sent to different persons / departments. This haphazard, non-standard process makes it challenging for the beneficiaries to effectively track, monitor and record their inbound guarantees.

Reporting & Reconciliation

The reporting and reconciliation of outstanding guarantees with the various guarantors is also a real problem as different guarantors may have different processes and reporting formats. This non-standardization makes it difficult for applicants and beneficiaries when reconciling their overall portfolio of outstanding guarantees.

Post Issuance Actions

Adding further complexity to the process is the fact that subsequent events/changes occurring throughout the post issuance life-cycle (e.g. amendments, reductions, claims) also need to be tracked and factored in through the same decentralized paper process. This is specifically the case where a guarantee has been issued and an error subsequently identified, essentially the same process needs to be executed all over again.

4.3 The Solution

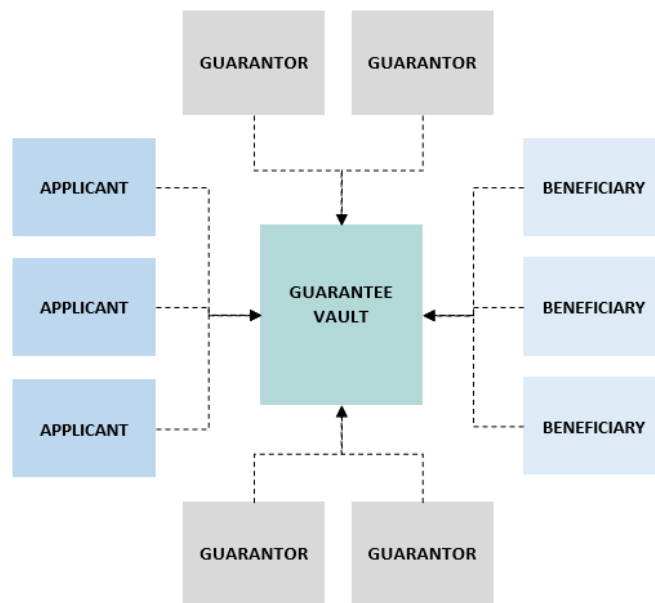
Removing the paper and centralizing the process

The Guarantee Vault Service (GVS) seeks to create a centralized digital register that replaces the issued paper guarantee with its digital version. The digital guarantee would be issued by the guarantor and would retain the same legal authority as that held by the paper guarantee today.

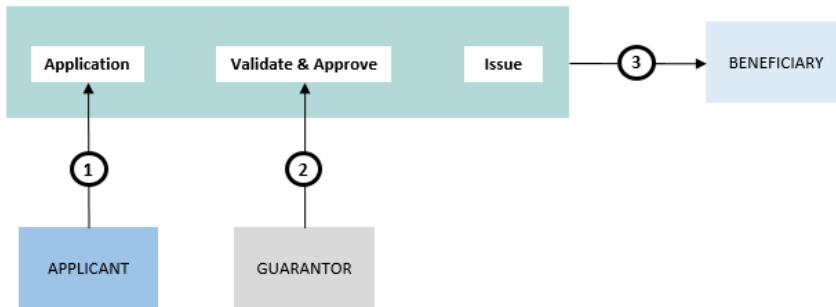
Only guarantors would have the possibility to add or change records on the GVS Register. Applicants and beneficiaries would have the possibility to send their requests to multiple guarantors via the GVS. These requests include issuance applications as well as post issuance events such as reductions, extensions, assignments, all of which would be recorded on the GVS.

GVS seeks to create a centralized digital register putting all participants on the same page.

amendments, claims and reductions which would be



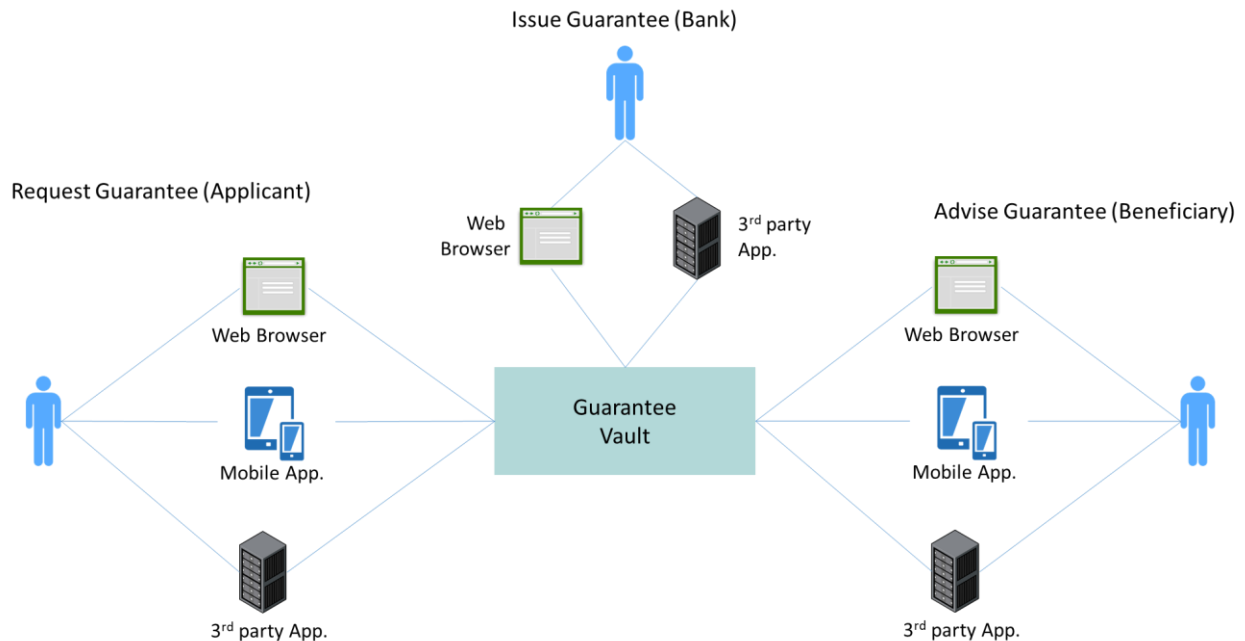
Issuance through a digital channel



End-to-end issuance through a digital channel.

Once the guarantor issues the guarantee, the applicant will have the possibility to make it immediately available to the beneficiary via GVS. The beneficiary at that point (whether registered with GVS or not) will then have access to the guarantee in GVS with the possibility to view details and print if required. Guarantees printed from GVS will include a unique QR code enabling the holder to i) validate the paper copy as being true and authentic and ii) view the guarantee’s latest status.

Service Connectivity Options



The participants will be able to connect to the service via:

- A web browser
- A native mobile app
- An in-house 3rd party application (i.e. @GlobalTrade system or bank’s internal back office system)

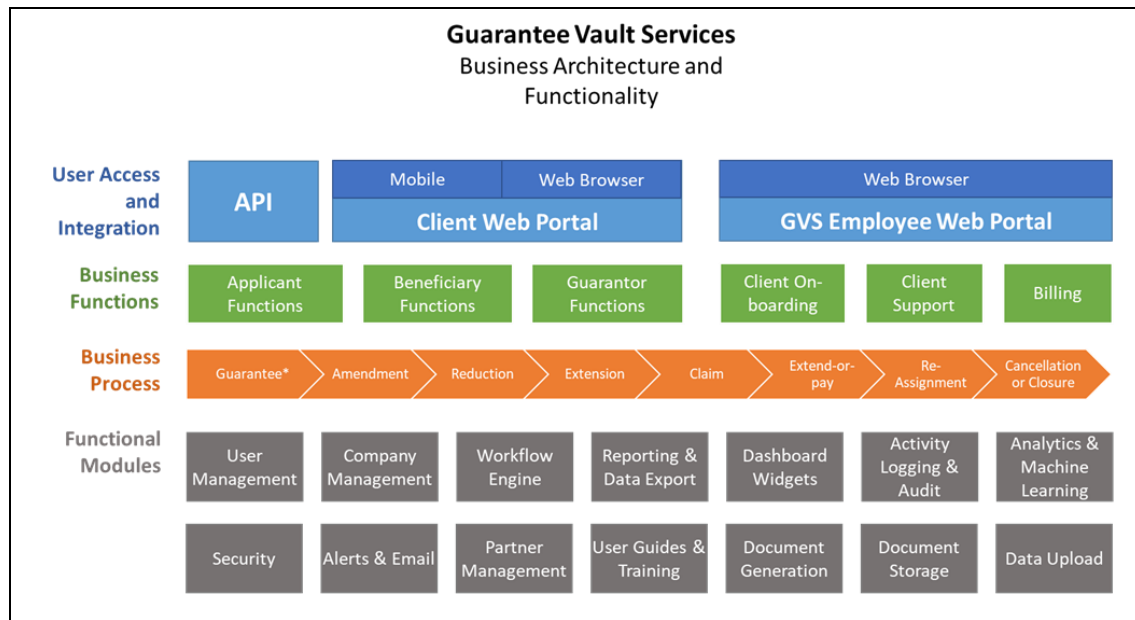
Note: the MVP version will offer web-browser connectivity with 3rd party interface and native mobile apps to be added later.

5 FUNCTIONAL design

Guarantee Vault Platform should consider on extendable modular design. This approach simplifies phased development of new functional modules as well as their integration into new business functions. The main layers of business functionality are:

- Configurable functional modules realizing a specific atomic service or function
- Business process build from functional modules
- Business functions that bundle functional modules and business processes for the needs of GVP client groups: applicant, guarantor, beneficiary and GVP employees.
- User access and integration

The platform functionality will be implemented in phases. The first phase will be a Minimum Viable Product (MVP) that should meet functional requirements of early clients, the majority of which will be members of the Working Group members. An MVP approach will also allow GVP to quickly collect feedback from initial clients for future product development.



GVP is designed to capture and address the full scope of a guarantee transaction lifecycle and all related business and transaction processes, from issuance through to cancellation or closure of the instrument, as shown in Figure above.

Connectivity through APIs is contemplated, and clients will access GVP via mobile or web channels. Client on-boarding, support and billing modules will complement functions designed specifically for each key party in a guarantee transaction, with a comprehensive suite of functional modules – including an advanced workflow engine, robust reporting capabilities and provision for rich, machine-learning enabled analytics.

5.1 Version 1 (MVP) Modules:

- **User Management:** registration and management of clients' and GVP user profiles as well as their authorizations
- **Company Management:** registration and management of client company profiles
- **Workflow Engine:** configurable module for designing and managing stages and transitions of a business process
- **Reporting & Data Export:** creation of configurable reports and their export in various data formats
- **Activity Logging and Audit:** logging of user actions and transaction changes with ability to filter and extract logs by authorized users for audit purposes
- **Security:** security enforcement functions controlling data access and authorizations as well as monitoring of unusual user activities
- **Alerts & Email:** configurable triggers for alerting users about transaction changes including emailing function with deep-links
- **Partner Management:** establishing and managing relationships between business partners including registration of one partner by another partner
- **Document Generation:** generation of PDF and other document using transactional data stored in GVP
- **Document Storage:** storage of files

5.2 Version 2 Modules:

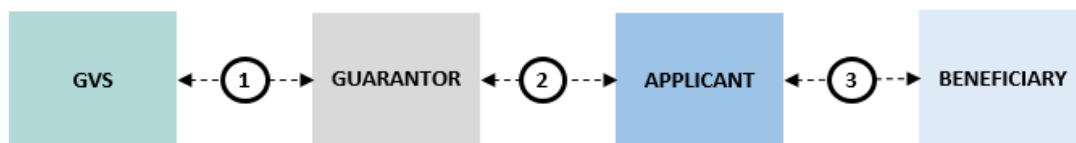
- **User Guides and Training:** context sensitive help, on-line user guides and access to training videos. Electronic document guides will be used in the MVP.
- **Dashboard Widgets:** self-contained business elements embedded into web-pages providing users with discrete data-modeling and tracking capabilities
- **Analytics and Machine Learning:** tools for analysis and pattern detection

6 BUSINESS REQUIREMENTS

6.1 Company Registration

The following relates to the registration of a new company in GVS, this will include the two registration options summarized below.

- I. GVS Direct where any participant (i.e. Guarantors, Applicants & Beneficiaries) shall have the possibility to register directly with GVS. In this case GVS validates the identity and credentials of the participant and its admin users.
- II. Participant Sponsored where the Applicant or Beneficiary can be validated by their transaction counterparty.



The Guarantor will always be registered “direct” with GVS (1) however GVS will allow “participant sponsored” onboarding where (2) Guarantors can register their Applicants and (3) Applicants can register their Beneficiaries.

As per the above, GVS shall cover the following registration scenarios:

1. GVS ↔ Guarantor

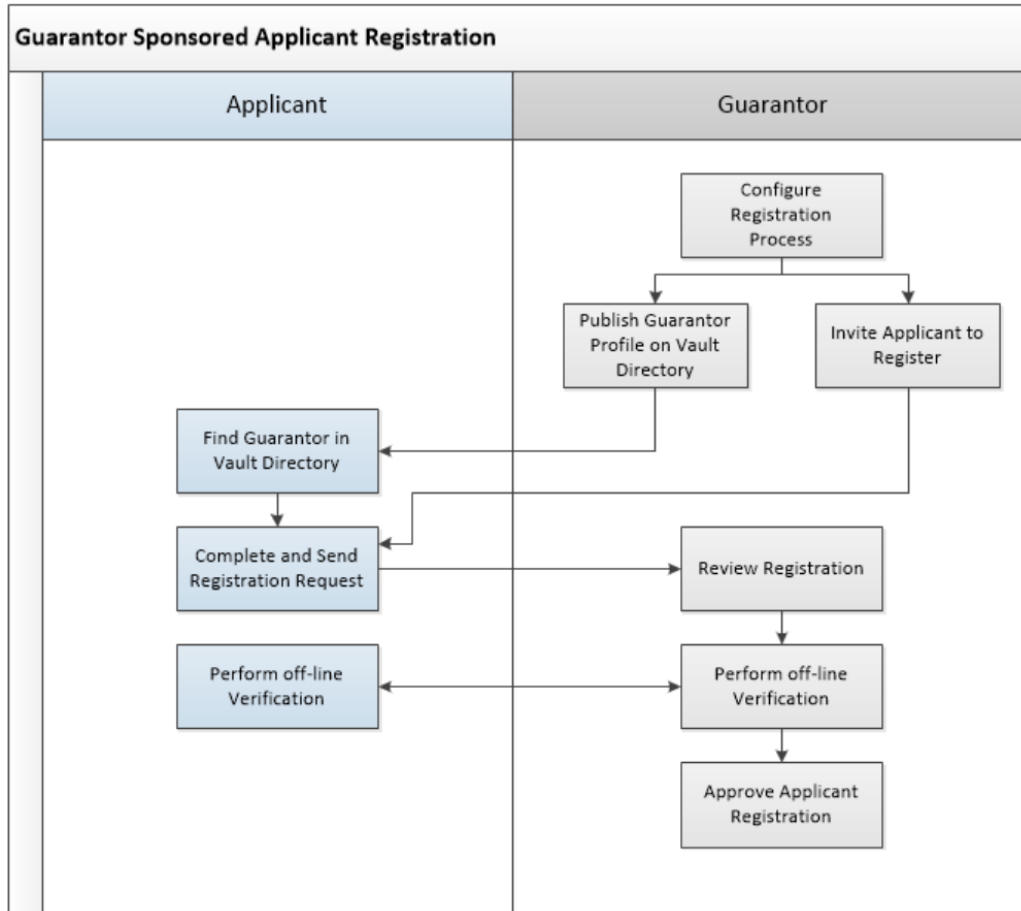
- As the central issuer and authority of instruments on GVS, the guarantor must be registered directly via GVS admin.
 - Company validation is wholly performed by GVS admin.
 - The ToS contract between the guarantor and GVS is a formally signed paper contract.
 - Registration may involve setup of an interface between GVS and Guarantor’s back office system

2. GVS ↔ Applicant or Beneficiary

- Applicant or Beneficiary can register directly with GVS
 - Company validation is wholly performed by GVS admin.
 - The ToS contract between the guarantor and GVS is done via on-line acceptance or a formally signed paper contract.

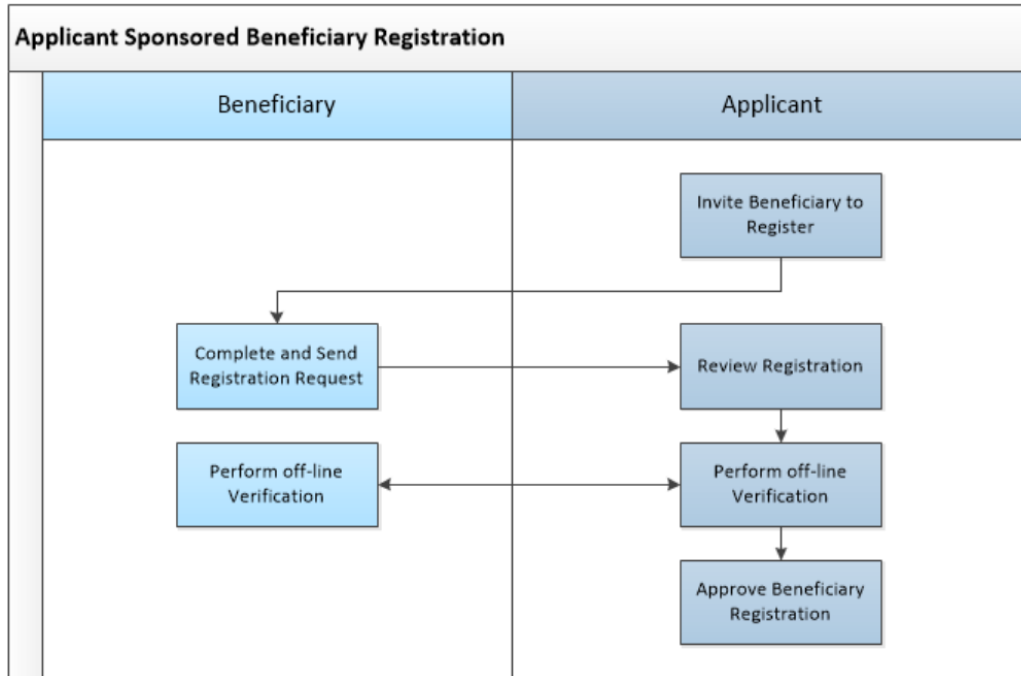
3. Guarantor Sponsored Applicant

- The guarantor has the authority to invite, validate and approve its applicants (customers) for registration on GVS.
- Applicant can find the guarantor in the GVS directory if guarantor published its profile
 - The guarantor and applicant will already have an existing working agreement outside of GVS and would have already applied KYC.
 - Each guarantor shall have an ability to configure its own conditions and process for on-line registration of applicants.
 - The applicant is able to sign an online version of the ToS.



4. Applicant Sponsored Beneficiary

- The applicant has the authority to invite, validate and approve its beneficiaries (customers) for registration on GVS.
 - Underlying sales agreement would already be in place between the applicant and beneficiary and relevant KYCs performed.
 - The beneficiary is able to sign an online version of the ToS.



6.2 Company Registration Requirements

Note: This section does not cover the onboarding of a “Companies” subsidiaries, this is covered later in section 5.3 “Organizational Structure & Participant Roles”

Req. ID	Business Requirements	Comments
creg-001	Registered users shall have the possibility to trigger an email invite to their contacts to register with the GVS platforms.	Possible for all users irrespective of role (whether applicant, beneficiary or guarantor).
creg-002	If an invited contact is from a company already registered on the GVS, an email is sent to the contact notifying them that they should contact their internal admin to request access to GVS.	Whether invitee is from registered company or not can be determined by their email domain.
creg-003	If an invited contact is <u>not</u> from a company already registered on the GVS, an email is sent with link to the company registration form.	
creg-004	<p>The company registration request form shall require the user to provide the following mandatory information:</p> <ul style="list-style-type: none"> ▪ Full company legal name ▪ Head office address ▪ Contact Name ▪ Contact Title ▪ Contact Business Email address ▪ Contact Business Office phone number ▪ Contact Business Mobile phone number ▪ Trade Register No. (in Germany: Handelsregister) ▪ Tax ID (e.g. In EU VAT Id) 	

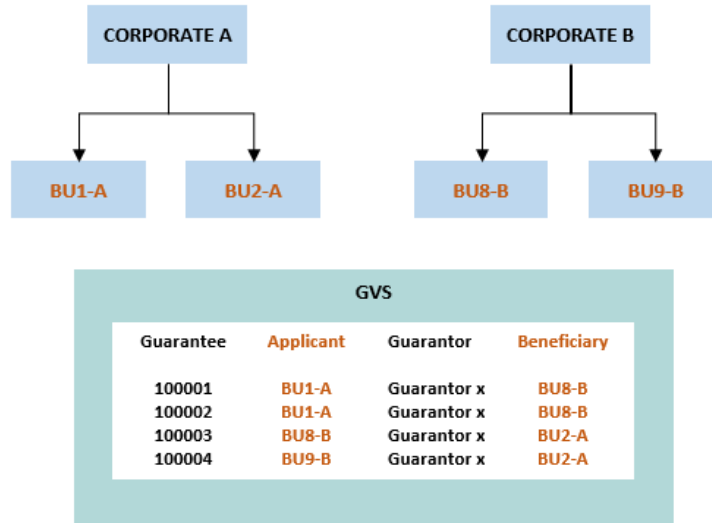
creg-006	<p>If the registration request is for a guarantor or if the registration request has come direct to GVS admin (i.e. not invited by counterpart), GVS admin must validate the following information against a certified Online data provider.</p> <ul style="list-style-type: none"> ▪ Company Name ▪ Company Address ▪ Email Domain 	<p>An Online provider of such company information identified is Bureau Van Dijk, others should also be assessed.</p> <p>The email domain should be matched with the email of the person submitting the request.</p>
creg-007	<p>The initial validation from GVS admin must ensure that:</p> <ul style="list-style-type: none"> ▪ Company is not domiciled in a sanctioned country ▪ The company information provided aligns with that from external company data provider (KYC) ▪ The company is properly defined and not already registered in GVS 	
creg-008	<p>Guarantor should have the possibility to configure the registration process and collected data for its sponsored applicants</p>	
creg-009	<p>Guarantor should be able to publish its profile in the GVS public directory where it can be found by guarantor's clients</p>	
creg-010	<p>If the registration request has come via guarantor invitation, the guarantor shall have the possibility to:</p> <ul style="list-style-type: none"> ▪ Review the registration information provided by the invitee (applicant) ▪ Approve or reject the registration 	<p>At this point the guarantor will have conducted its own off-line validations of said applicant for which they would have an existing relationship.</p>
creg-011	<p>If the registration request has come via applicant invitation, the applicant shall have the possibility to:</p> <ul style="list-style-type: none"> ▪ Review the registration information provided by the invitee (beneficiary) ▪ Approve or reject the registration 	<p>At this point the applicant will have conducted its own off-line validations of said beneficiary for which they would have an existing relationship.</p>
creg-012	<p>Once GVS admin have approved a registration request, GVS admin will create the client admin accounts.</p> <p>If the registration was approved by the Guarantor or Applicant, the company and user profiles are created and activated automatically.</p> <p>At this point the company client admin shall have the possibility to create and manage user access to the GVS platform.</p>	

6.3 Organizational Structure & Participant Roles

It is important to understand that a company, in the course of its business, may both:

- Issue guarantees i.e. play the role of applicant on the guarantee
- Receive a guarantee issued in its name i.e. play the role of beneficiary

It is also important to understand that one company registered in GVS may have multiple business units. Each business unit may potentially play the role of applicant or beneficiary in a guarantee transaction (depending on the business need).



In the above example we have corporate A & B with individual business units BU1-A, BU2-A and BU8-B, BU9-B. Each of these units can play the role of applicant or beneficiary in GVS.

Thus, GVS must accommodate this business requirement by allowing a corporate to create business units. It must also be possible to assign a business unit as an applicant or beneficiary on a guarantee transaction.

Req. ID	Business Requirements	Comments
part-006	As part of the company registration process a single Head Office shall be created for that company. Subsequent to this it shall be possible for corporate admin to create multiple underlying Business Units linked to the head office above. It shall also be possible to create underlying Business Units to a Business Unit above.	
part-007	It shall be possible for a corporate admin to link users to a head office or business unit	
part-001	The GVS shall incorporate the following participant roles: <ul style="list-style-type: none"> ▪ Applicant ▪ Beneficiary ▪ Guarantor 	See Glossary of Terms section for the business definition of these roles.
part-002	On GVS, it shall be possible for a corporate in GVS to take on the role of applicant, beneficiary or guarantor.	In the case of parental guarantees, a corporate may play the role of guarantor.
part-005	On GVS, a financial institution (e.g. bank, surety) can only play the role of guarantor or beneficiary on a guarantee transaction.	There may be cases where the bank will be the beneficiary on a guarantee transaction

6.4 GVS Register

The GVS “Register” is the authoritative list of guarantees issued on GVS by guarantors. It is the centralized digital register at the heart of what is the GVS solution.

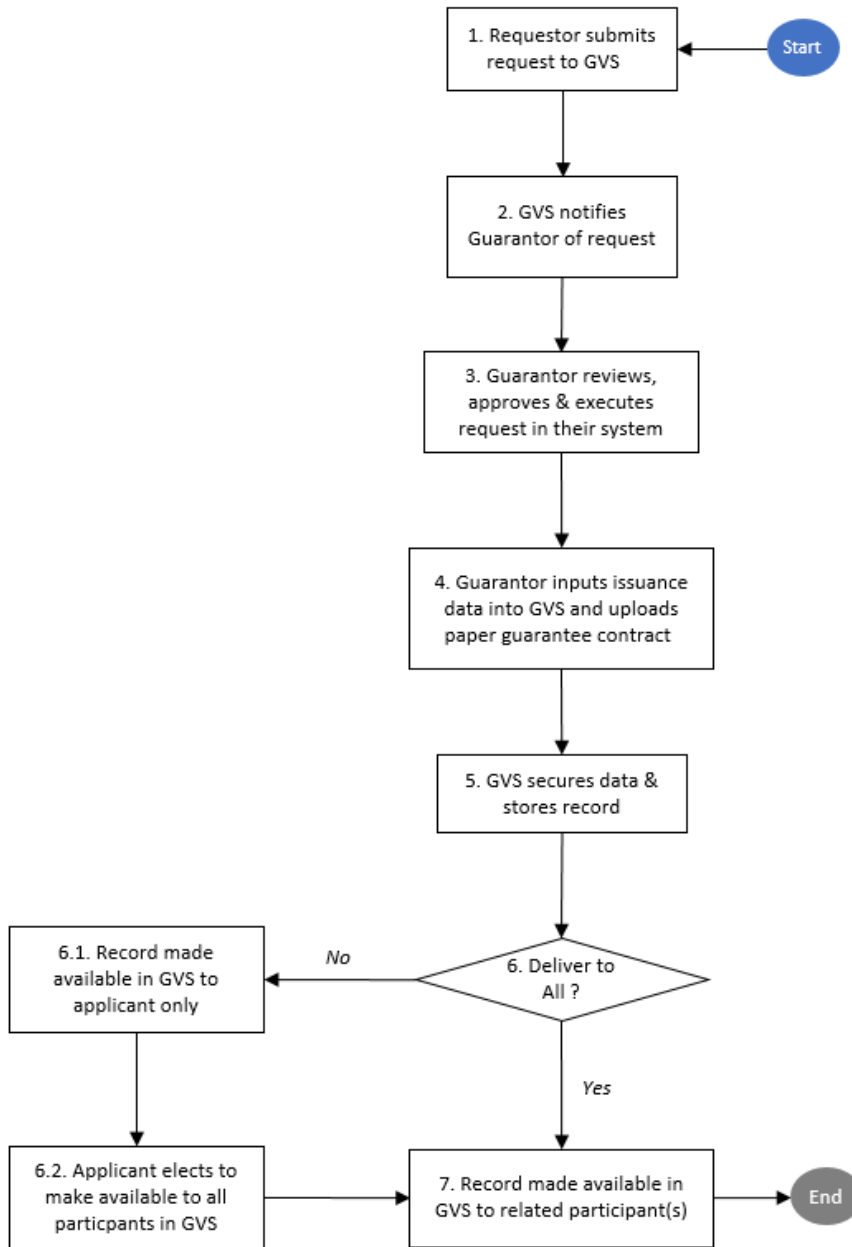
Note: A “record” as defined in the following requirements refers to an issued guarantee along with any of its related post-issuance actions (e.g. amendments, claims, etc.) i.e. 1 record = 1 issued guarantee and any of its related post-issuance actions.

Req. ID	Business Requirements	Comments
regi-001	The guarantor and only the guarantor shall have control over the records they issue on the register.	
regi-002	It shall be possible for guarantors to create / post records directly on the register.	The guarantor is able to create the guarantee issuance directly on the register
regi-003	The guarantor shall have the possibility to give applicants and/or beneficiaries access to their record(s) on the register at any time. In principle once the guarantor provides at least one participant with access to a record, the record becomes formally “issued” i.e. the guarantee / surety has been issued on GVS and it shall retain the same legal rights as per the original guarantee issued by the guarantor in its systems	Note: The legal point will be enforced via the ToS as outlined in the intro of this section.
regi-004	It shall be possible for guarantor to provide access to a record on the register to both registered and unregistered participants.	Please refer to section “Unregistered participants” for further details.
regi-005	Once granted, the guarantor shall not have the possibility to remove applicant’s and/or beneficiary’s access to a record without formal approval from said applicant and / or beneficiary.	
regi-006	Where the guarantor has given an applicant and / or beneficiary access to a record, it shall not be possible for the guarantor to directly remove or change the record without a formal post-issuance action (e.g. Amendment, Reduction, Release, etc.).	
regi-007	In the case where the guarantor has not given any participant access to a record, it shall be possible for the guarantor to directly remove or update the record on the register (i.e. no formal post-issuance action).	In this case as no participants have been given access the record is not yet “formally” issued.
regi-008	The guarantor shall only have access to records on the register that they themselves have created i.e. it shall not be possible for one guarantor to view or access records created by another guarantor.	
regi-009	Each new guarantee / surety issued on the register shall be assigned a unique ID by the GVS.	
regi-010	Each post-issuance action recorded on the register shall be assigned a new unique sub-ID in addition to the ID of the originally issued guarantee / surety.	
regi-011	Users shall have the possibility to filter and search for records on the register to which they have access.	
regi-012	As a default, records on the register shall be sorted by “Expiry Date”. In the case where the guarantee has an unlimited validity, this shall be the “estimated expiry date”.	
regi-013	Records on the register with fixed expiry shall automatically expire (close) on the expiry date.	

regi-014	For records with an unlimited validity, it shall be possible for the applicant to request the beneficiary to “Release” the guarantee.	
regi-015	For records with an unlimited validity the beneficiary shall have the possibility to formally “release” the guarantor from its liability to the guarantee via GVS. Only then shall a guarantor have the possibility to set the record to status “Released” (closed) on the register.	
regi-016	It shall be possible for a guarantor to create an internal note for a record stored in the register. Internal notes shall only be visible to said guarantor and shall not fall within the legal scope of the guarantee contract.	
regi-017	It shall be possible for users to view and print records on the register to which they have access. This includes the original digital guarantee issuance as well as any subsequent related post-issuance actions.	Print format types must include PDF. Other types to be defined in the functional specification.
regi-018	Documents printed from the register represent a paper-based version of what was digitally recorded on the register at the moment it was printed.	Open point: should the paper guarantee printed from the vault retain any legal validity i.e. is it just a paper copy with no legal authority
regi-019	It shall be possible for the guarantor to attach documents to a record on the register.	Documents attached to the register shall be in un-editable formats only to protect authenticity of the register.
regi-020	It shall be possible for both applicants and beneficiaries to submit all their request to guarantors directly via GVS.	Requests include both initial issuance and any post-issuance actions / events.
regi-021	It shall be possible for applicants and beneficiaries to submit their requests to GVS via web browser or via interfacing solutions.	Interfacing solutions include e.g sFTP, API solutions, etc <i>Note: where possible, ultimately STP connectivity should be the objective.</i>
regi-022	It shall be possible for guarantors to receive applicant and beneficiary requests directly via GVS.	
regi-023	It shall be possible for guarantors to reject incoming requests from applicants or beneficiaries	
regi-024	It shall be possible for a guarantor to create post-issuance requests that can be submitted to applicants and beneficiaries for approval.	
regi-025	On the GVS register, any post-issuance actions shall be grouped together chronologically with the originally issued guarantee/surety.	Refer to section “Post-Issuance Actions” for more information.
regi-026	All MT798 fields (MT is a bank message standard for exchanging guarantee information between banks or between banks and corporates) should be standard for submissions of issuance on GVS	Full list of MT798 SWIFT messages in scope for GVS details in “SWIFT MT798 Scope”
regi-027	Records stored in the GVS shall be secured and resistant to tampering.	Secure encryption technology should be used to meet this requirement.

6.5 Issuance

This section covers the issuance workflow from the applicant's formal request right through to issuance on the GVS register. The following workflow gives a high-level view on how this will potentially work. (Note: below is a straight through scenario where guarantor approves the request.)



High-level end to end workflow of issuance via GVS

Issuance – Workflow Steps

Step	Description
1	<p>Applicant makes request for guarantee / surety issuance direct via GVS</p> <ul style="list-style-type: none"> ▪ Applicant elects whether delivery to applicant only or all participants <ul style="list-style-type: none"> ○ Applicant only – on issuance record is only made available to applicant <ul style="list-style-type: none"> ▪ Applicant controls when beneficiary shall have access ○ All – on issuance record made available to all participants (e.g. beneficiary) ▪ No negotiation via GVS i.e. formal application to guarantor only ▪ Issuance application input direct into GVS via web browser ▪ Integrated API solutions should be available in later phase ▪ Fields as per MT798 SWIFT standards
2	<p>GVS notifies guarantor of new issuance request</p> <ul style="list-style-type: none"> ▪ Email notification is sent to guarantor
3	<p>Guarantor reviews, approves & executes request in their system</p> <ul style="list-style-type: none"> ▪ As the guarantor would do today
4	<p>Guarantor inputs issuance data into GVS and uploads paper guarantee contract</p> <ul style="list-style-type: none"> ▪ Issuance details input direct into GVS via web browser ▪ Integrated API solutions available in later phase
5	<p>GVS secures data and stores record</p> <ul style="list-style-type: none"> ▪ Data is encrypted ▪ Unique QR code is assigned to the record
6 – 6.2	<p>If, during initial issuance application (step 1), the applicant has elected to issue the guarantee to “applicant only”:</p> <ul style="list-style-type: none"> ▪ Only the applicant is given access to the records on GVS ▪ The applicant at that point shall have access possibilities as details in step 7 below ▪ At their discretion, the applicant has option to make the record available to beneficiary (as per step 7).

7	<p>Participant(s) notified of new issuance & can access on GVS</p> <ul style="list-style-type: none"> ▪ Email notification sent with link access to GVS ▪ Participants are able to access and print guarantee / surety contract ▪ Once a beneficiary contact accesses GVS and opens the record, the guarantee shall be marked as “read” <ul style="list-style-type: none"> ○ At this point both the applicant and guarantor can see which beneficiary contacts have / have not opened the guarantee record. ▪ Printed paper guarantee includes QR code which can be scanned by mobile app to: <ul style="list-style-type: none"> ○ Verify authenticity of document coming from GVS ○ View latest status of transaction
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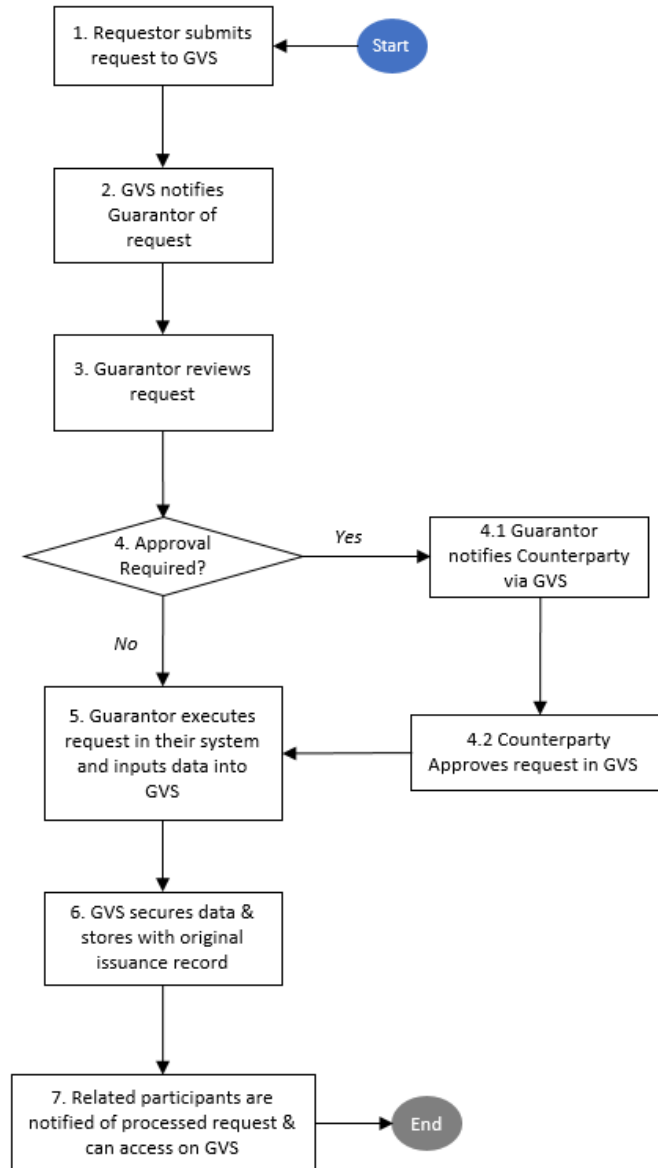
6.6 Post-Issuance Requests

This section covers post-issuance request workflows that is any requests to guarantors coming from applicants or beneficiaries after the initial guarantee / surety has been issued. The scope of these requests shall include the following.

Request Type	Description	From
Amendment	Request to change detail(s) of the guarantee / surety	Can come from either applicant or beneficiary
Reduction	Request to reduce the amount of the guarantee / surety	Can come from either applicant or beneficiary
Extension	Request to extend the validity of the guarantee / surety	Can come from either applicant or beneficiary
Claim	Request to execute a claim on the guarantee / surety i.e. receive payment.	Can come from either applicant or beneficiary
Extend-or-pay	A request to either extend the validity or make payment on a guarantee / surety	Can come from either applicant or beneficiary
Re-Assignment	<p>Request to re-assign the:</p> <ul style="list-style-type: none"> ▪ Right to Claim ▪ Right to receive the payment 	From beneficiary only

Post- Issuance Request - Workflow

In most cases post-issuance requests can come from either the applicant or beneficiary. Depending on the request type and conditions within a specific request, it may require that the guarantor seek counterparty approval prior to execution. Thus, the GVS workflow for post-issuance requests must be flexible enough to cater for these requirements. The following workflow gives a high-level view on how this will potentially work and is applicable to all the above request types. (Note: below is a straight through scenario where guarantor and counterparty approve the request.)



Above is a high-level view of the post-issuance workflow applicable to all request types

Post-Issuance Requests - Workflow Steps

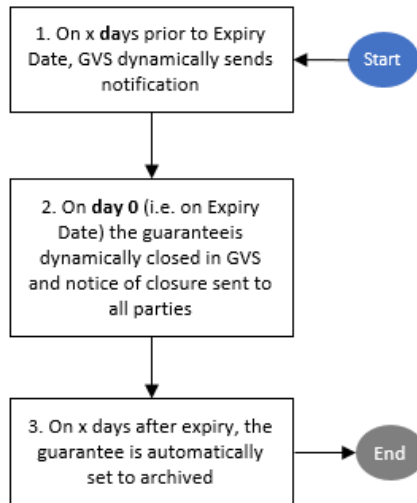
Step	Description
1	<p>Requestor (applicant / beneficiary) submits requests to GVS</p> <ul style="list-style-type: none"> ▪ No negotiation via GVS i.e. formal request to guarantor only ▪ Data input direct into GVS via web browser ▪ Integrated API solutions should be available in later phase ▪ Fields as per MT798 SWIFT standard
2	<p>GVS notifies guarantor of new request</p> <ul style="list-style-type: none"> ▪ Email notification is sent to guarantor
3	<p>Guarantor reviews incoming request</p> <ul style="list-style-type: none"> ▪ Determines if counterparty approval required
4 – 4.2	<p>If counterparty approval required:</p> <ul style="list-style-type: none"> ▪ Guarantor indicates as such in GVS which triggers email notification to counterparty with access link ▪ Counterparty accesses GVS and approves request
5	<p>Guarantor executes request in their system and inputs data into GVS</p> <ul style="list-style-type: none"> ▪ Data input direct into GVS via web browser ▪ Integrated API solutions available in later phase ▪ Fields as per MT798 SWIFT standard
6	<p>GVS secures data and stores record</p> <ul style="list-style-type: none"> ▪ Data is encrypted ▪ Data stored with original issuance record on GVS
7	<p>Related participants notified of new changes/info & can access on GVS</p> <ul style="list-style-type: none"> ▪ Email notification sent to beneficiary and applicant with link access to GVS ▪ Participant can access, view changes and print guarantee / surety contract ▪ Printed paper guarantee includes QR code which can be scanned by mobile app to: <ul style="list-style-type: none"> ○ Verify authenticity of document coming from GVS ○ View latest status of transaction

6.7 Final Release

This section will cover the process of closure whereby the guarantor’s obligation under the guarantee / surety shall cease. There are essentially two scenarios here contingent on whether the guarantee / surety is of limited or unlimited validity. This section will cover both cases.

Final Release - Limited validity

The high-level workflow below covers the case where a fixed expiry date has been set on the guarantee / surety.



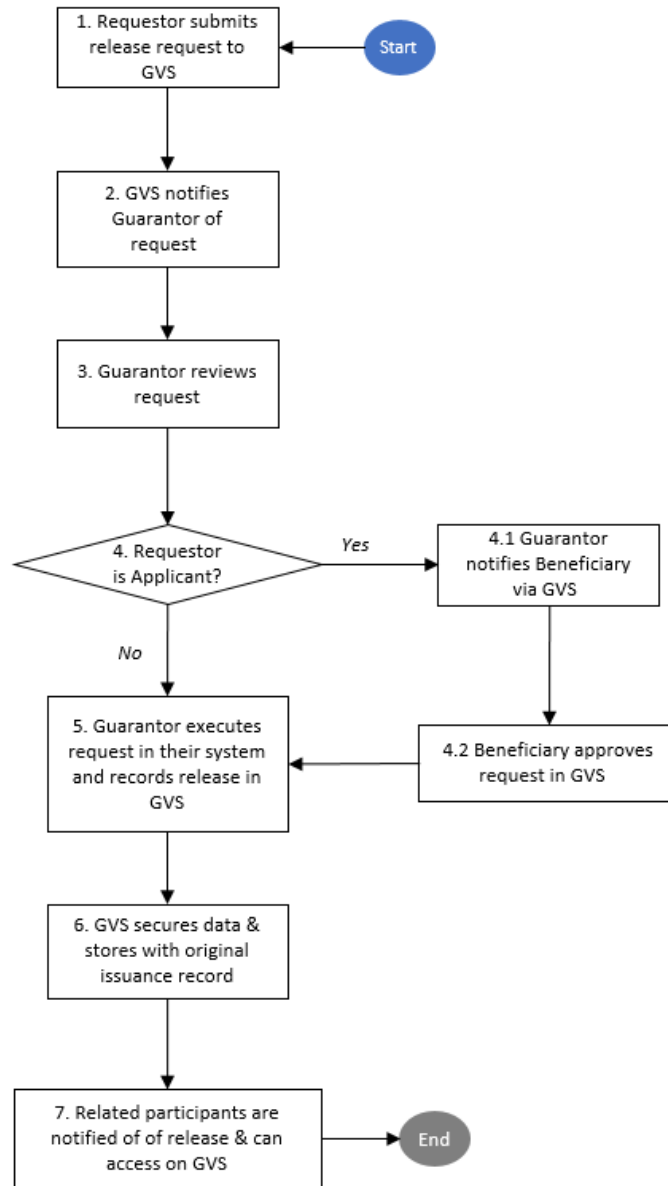
Above is a high-level view of the final release workflow where the guaranty / surety is of fixed expiry

Final Release (Limited validity) – Workflow Steps

Step	Description
1	<p>On x days prior to Expiry Date, GVS dynamically sends notification to user</p> <ul style="list-style-type: none"> ▪ User has possibility to configure: <ul style="list-style-type: none"> ○ Number of days prior to expiry (i.e. X) ○ Multiple notifications based on different number of days prior to expiry (i.e. X) ▪ Email notification includes link to access record ▪ All parties includes applicant, guarantor and beneficiary ▪ It shall be possible for unregistered participants to receive these notifications.
2	<p>On day 0 (i.e. on Expiry Date) the guarantee is dynamically closed in GVS and notice of closure is sent to all parties.</p> <ul style="list-style-type: none"> ▪ The status of the guarantee in GVS is updated to closed ▪ The guarantor is released from its legal obligation to the guarantee ▪ Same notification and access points as step 1
3	<p>On x days after expiry, the guarantee is automatically set to archived and shall no longer appear on the GVS register.</p> <ul style="list-style-type: none"> ▪ X shall be configurable ▪ Archived transactions shall still be available via browser search and reporting

Final Release - Unlimited validity

The high-level workflow below covers the case where there is no fixed expiry date set on the guarantee / surety.



Above is a high-level view of the final release workflow where the guarantee / surety is of unlimited validity

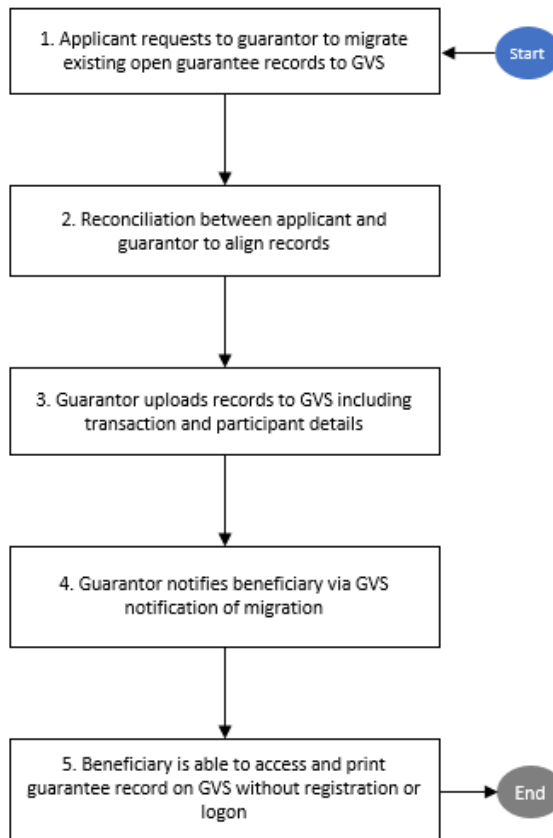
Final Release (Unlimited validity) – Workflow Steps

Step	Description
1	<p>Requestor submits release request to GVS</p> <ul style="list-style-type: none"> Submits request direct into GVS via web browser Integrated API solutions available in later phase Applicant or beneficiary can submit request
2	<p>GVS notifies Guarantor of request</p> <ul style="list-style-type: none"> Email notification dynamically sent to guarantor with access link
3	<p>Guarantor reviews request</p> <ul style="list-style-type: none"> Approves request
4 – 4.2	<p>If request coming from applicant, guarantor approves with beneficiary via GVS</p> <ul style="list-style-type: none"> Email notification triggered to beneficiary via GVS Beneficiary approves request via GVS On approval email notification from GVS sent to guarantor
5	<p>Guarantor executes request in their system and records release in GVS</p> <ul style="list-style-type: none"> Guarantor executes release direct into GVS via web browser Integrated API solutions available in later phase
6	<p>GVS secures data & stores with original issuance record</p> <ul style="list-style-type: none"> The status of the guarantee / surety in GVS is updated to closed The record shall be archived and no longer appears on the GVS register The guarantor is released from its obligation to the guarantee / surety
7	<p>Related participants are notified of release & can access on GVS</p> <ul style="list-style-type: none"> Email notification with access link sent to applicant and beneficiary advising of release At this point guarantor is released from its obligation under the guarantee

6.8 Migration

A key part of the GVS value driver will be the inclusion of guarantee transactions previously issued outside GVS. A process for and implementation of migrations shall be within the scope of the initial GVS delivery. This section will outline the framework for achieving this which shall include two possibilities i) Migration of records from the guarantor direct to GVS and ii) Migration of records from the applicant direct to GVS.

Migration Workflow → Guarantor to GVS



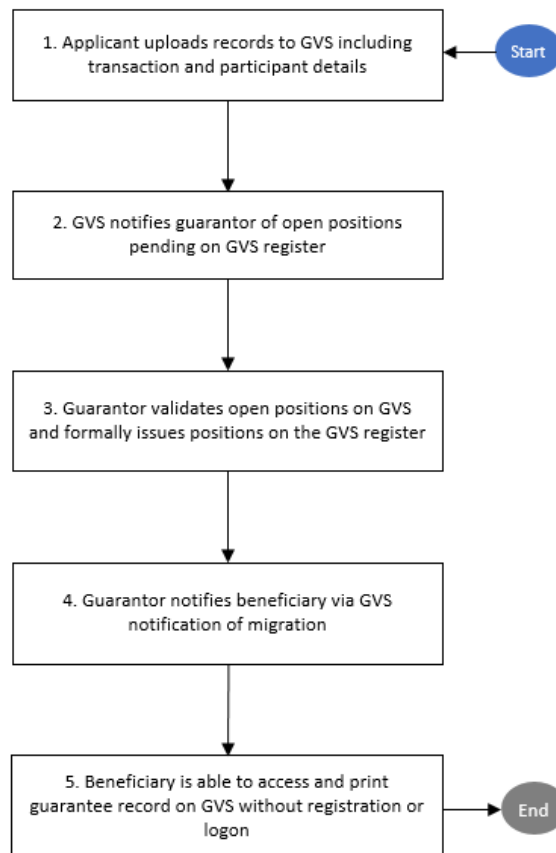
Migration workflow of existing guarantees from guarantor to GVS

Migration Workflow Steps – Guarantor to GVS

Step	Description
1	Applicant requests to Guarantor to migrate existing open Guarantee records to GVS <ul style="list-style-type: none"> ▪ Formal request by applicant to guarantor ▪ For migration to be executed both parties must be registered on GVS
2	Reconciliation between applicant & guarantee to align records <ul style="list-style-type: none"> ▪ Final reconciliation before migration ▪ Any differences resolved prior to migration
3	Guarantor uploads records to GVS including transaction & participant details <ul style="list-style-type: none"> ▪ Participant details includes beneficiary & applicant contact email address ▪ Where beneficiary contact email not available, applicant shall provide this ▪ On migration, GVS records becomes legally enforceable copy of guarantee

4	<p>Guarantor notifies beneficiary via GVS notification of the migration</p> <ul style="list-style-type: none"> ▪ Notification triggered once migration complete ▪ Notification shall include access link to GVS vault
5	<p>Beneficiary is able to access and print guarantee record on GVS without registration or logon</p> <ul style="list-style-type: none"> ▪ As part of the notification the beneficiary is advised of the migration and what that effectively means: <ul style="list-style-type: none"> ○ That the record stored on the vault is now the legal representation of the guarantee contract between the guarantor and beneficiary ○ The originally issued paper copy shall no longer be valid ▪ Guarantors contact details included in notification for further information ▪ The beneficiary can access and print the record from the vault ▪ By accessing the record on GVS the beneficiary automatically acknowledges receipt ▪ Where a record is unacknowledged over x period, another notification can be dynamically triggered via GVS

Migration Workflow → Applicant to GVS



Migration workflow of existing guarantees from applicant to GVS

Migration Workflow Steps – Applicant to GVS

Step	Description
1	<p>Applicant uploads all open guarantee positions to GVS including transaction and participant data.</p> <ul style="list-style-type: none"> ▪ Participant details includes beneficiary & applicant contact email address ▪ For migration to go ahead both the applicant and guarantor must be registered on GVS
2	<p>On upload of applicant data, GVS notifies guarantor of open positions pending to be issued on the GVS register.</p> <ul style="list-style-type: none"> ▪ The open positions uploaded into GVS are set to a “Pending” status meaning they are not issued and do not appear on the GVS register.
3	<p>Guarantor validates open positions on GVS and issues positions on GVS register.</p> <ul style="list-style-type: none"> ▪ Guarantor reconciles the open positions on GVS and resolves any differences with the applicant ▪ Once the guarantor has reconciled the positions they can issue the guarantees on the register individually or in bulk
4	<p>Guarantor notifies beneficiary via GVS notification of the migration</p> <ul style="list-style-type: none"> ▪ Notification triggered once guarantor issues the open transactions on the register ▪ Notification shall include access link to GVS vault
5	<p>Beneficiary is able to access and print guarantee record on GVS without registration or logon</p> <ul style="list-style-type: none"> ▪ As part of the notification the beneficiary is advised of the migration and what that effectively means: <ul style="list-style-type: none"> ○ That the record stored on the vault is now the legal representation of the guarantee contract between the guarantor and beneficiary ○ The originally issued paper copy shall no longer be valid ▪ Guarantors contact details included in notification for further information ▪ The beneficiary can access and print the record from the vault ▪ By accessing the record on GVS the beneficiary automatically acknowledges receipt ▪ Where a record is unacknowledged over x period, another notification can be dynamically triggered via GVS

6.9 Guarantor Templates

The guarantor will be issuing its guarantees / surety’s via GVS electronically on the register. As part of this the GVS shall allow guarantors the possibility to maintain issuance templates on the system.

On issuance, applicants and participants shall have the possibility to print these templates which will represent the physical copies of the guarantee / surety just as they receive from guarantors today.

Guarantors will have complete control in terms of the format and content of the templates and so the documents physically made available (printable) to participants on GVS.

The guarantor template facility described herein seeks to accomplish this.

Req. ID	Business Requirements
temr-001	On GVS, the guarantor shall have the possibility to create and maintain issuance templates that shall determine the format and layout of records participants print from the register.
temr-002	<p>The Templates shall be fully configurable and shall allow guarantors to include:</p> <ul style="list-style-type: none"> ▪ Company Logos ▪ Company Disclaimers ▪ Other free text ▪ Any data stored in a record ▪ Guarantor contact information <p>The contact details should be available to easily allow unregistered applicants or beneficiaries to confirm authenticity with the guarantor. This will be important during the initial onboarding phase.</p>
temr-003	<p>Guarantors shall have the possibility to create multiple templates representing:</p> <ul style="list-style-type: none"> ▪ Issuance ▪ Any post-issuance actions (e.g. amendments, claims, etc.) ▪ Any other document the guarantor requires participants to have access to on the register in a printable way
temr-004	The guarantor shall have complete control over its templates and can determine which of its users shall have the possibility to create, manage and maintain them.
temr-005	Where possible these templates shall be dynamically populated from data already stored in GVS to make the process as efficient and seamless as possible for the guarantor.

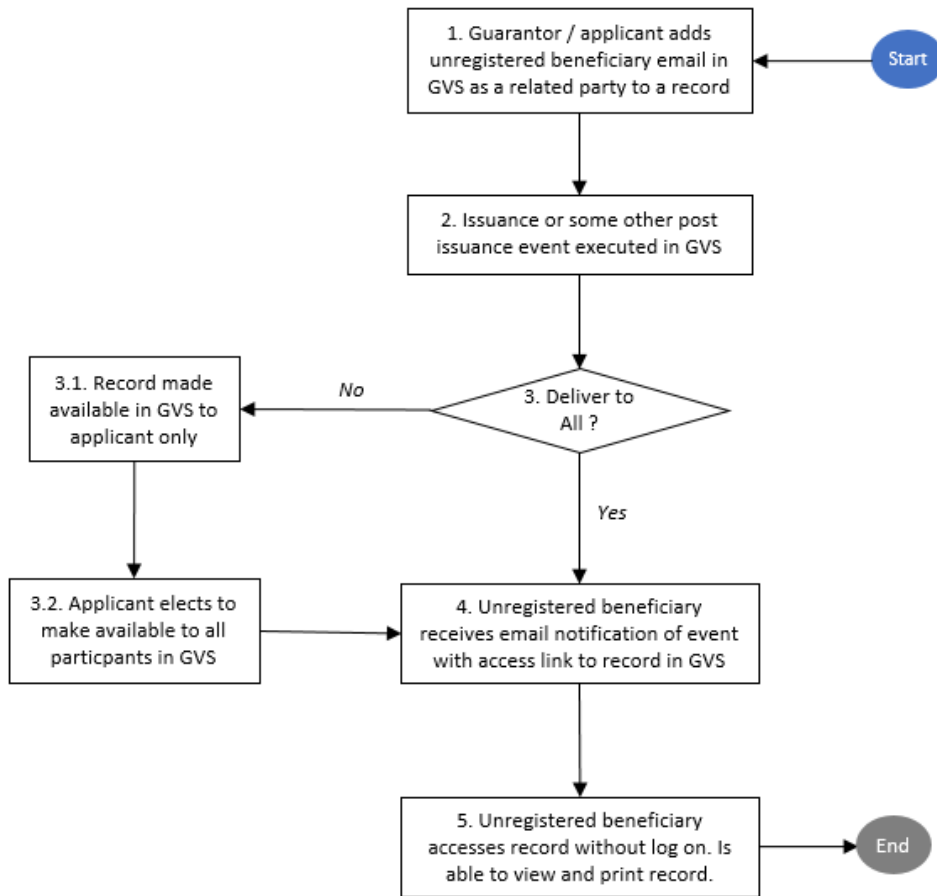
6.10 Email Notifications

Req. ID	Business Requirements
notr-001	<p>Email notifications to the applicant and beneficiary shall be possible when any of the following actions/events takes place on the GVS register:</p> <ol style="list-style-type: none"> 1. Issuance of a new guarantee / surety 2. Amendments 3. Reductions 4. Re-Assignments 5. Extensions 6. Claims 7. On x, y and z days before expiry date / expected expiry date (where x, y and z are configurable number of days) 8. On the expiry date (closure) 9. On release (closure) of guarantee with unlimited validity

notr-002	<p>Email notifications to the guarantor shall be possible when an applicant / beneficiary makes any of the following requests on GVS.</p> <ol style="list-style-type: none"> 1. Issuance of a new guarantee / surety 2. Amendments 3. Reductions 4. Re-Assignments 5. Extensions 6. Claims 7. Extend-or-pay
notr-003	The format of Email notifications shall be standardized for all GVS users.
notr-004	It shall be possible to add multiple contact email addresses for one applicant, guarantor or beneficiary. On trigger of a notification all added email contacts shall receive the notification.
notr-005	It shall be possible to add a group email address for email notifications.
notr-006	Users shall have the possibility to choose the specific email notifications they want to receive.
notr-007	<p>In the case where an email notification bounces i.e. the email is no longer existing or valid, the user who triggered the action shall be notified.</p> <p>Thus in the case where triggered by guarantor action, the guarantor shall be notified, in the case where triggered by the applicant or beneficiary, the applicant or beneficiary shall be notified.</p>

6.11 Unregistered participants

Crucial to GVS onboarding, especially in the initial phases will be the possibility to allow unregistered beneficiaries to access records stored within the GVS register. The following workflow gives an overview of how this should happen.



Above is a high-level view of the unregistered beneficiary workflow with direct access to records on GVS

Unregistered Beneficiary – Workflow steps

Step	Description
1	<p>Guarantor / applicant adds unregistered beneficiary email in GVS as a related party to a record</p> <ul style="list-style-type: none"> ▪ This would be a contact email address to be determined by the applicant ▪ The guarantor shall have the possibility to add an unregistered beneficiary as the related beneficiary on a guarantee with the following details: <ul style="list-style-type: none"> ○ Beneficiary name & address ○ Contact email addresses ▪ It shall be possible for the guarantor or applicant to add multiple contact email addresses to the unregistered beneficiary. ▪ Once added as a party to the record in GVS, that email address will receive all related subsequent notifications for that record
2	<p>Issuance or some other post-issuance event executed in GVS</p> <ul style="list-style-type: none"> ▪ These are requests executed by the guarantor on the GVS register ▪ The execution of the transaction is the trigger point for the notification
3 – 3.2	<p>If during original issuance application the applicant has elected to issue the guarantee / surety to “applicant only”:</p> <ul style="list-style-type: none"> ▪ Only the applicant receives email notification of event (step 4) ▪ The applicant at that point shall have access possibilities as details in step 5 below ▪ At their discretion, the applicant has option to make the record available to unregistered beneficiary (step 3.2)
4	<p>Unregistered beneficiary receives email notification of related event with access link to record in GVS</p> <ul style="list-style-type: none"> ▪ Email notification sent with direct link access to GVS ▪ Allows unregistered beneficiary contact to access related record on GVS without needing to log on. ▪ For additional security, the unregistered beneficiary may be provided with an SMS code that should be entered on the direct link page to access the guarantee
5	<p>Unregistered beneficiary accesses record without log on.</p> <ul style="list-style-type: none"> ▪ Unregistered beneficiary can access and print guarantee contract via the link (beneficiary must confirm email address before having access). ▪ Record and printed document includes specific guarantor contact details allowing unregistered beneficiary to easily call or email guarantor with any queries about new process ▪ Once a beneficiary contact accesses GVS and opens the record, the guarantee shall be marked as “read” <ul style="list-style-type: none"> ○ At this point both the applicant and guarantor can see which beneficiary contacts have / have not opened the guarantee record. ▪ Printed paper guarantee includes QR code which can be scanned by mobile app to: <ul style="list-style-type: none"> ○ Verify authenticity of document coming from GVS ○ Get latest status of guarantee ▪ The beneficiary contact shall have access to all guarantees previously received by them (that is all guarantees sent to that email address) <ul style="list-style-type: none"> ○ Note: if the beneficiary subsequently registers on GVS, GVS shall migrate all guarantees with domain linked to said beneficiary i.e. the beneficiary company shall have access to all their old guarantees.

6.12 Reporting

Req. ID	Business Requirements
repr-001	DVS participants shall have the possibility to receive reporting and analytics on their transactions issued via the vault.
repr-002	<p>Reporting and analytics shall include:</p> <ul style="list-style-type: none"> ▪ Transactions by: <ul style="list-style-type: none"> ○ Participant (i.e. Applicant, Beneficiary, Guarantor) ○ By status (e.g. Open, Closed, any other available status) ○ By country ○ By instrument (e.g. Guarantee, Surety, Parental Guarantee) ○ By guarantee / surety type (Performance, Warrantee, Bid, etc...) ▪ Value of transactions in base currency should also be possible ▪ Metrics on actual validity period i.e. from issuance to “release”. <ul style="list-style-type: none"> ○ Averages over configurable periods. ▪ Transactions over configurable periods i.e. date x to date y ▪ Reporting on post issuance actions: <ul style="list-style-type: none"> ○ Amendments ○ Reduction ○ Extension ○ Claim ○ Extend-or-pay ○ Re-Assignment
repr-003	Reporting shall be possible at the Company and Unit level.
repr-004	Users shall have the possibility to easily configure and save their own reports for future use.
repr-005	<p>Users shall have the possibility to schedule reports to be dynamically generated by GVS over set periods.</p> <p>Frequency shall include: DAILY, WEEKLY, MONTHLY, QUARTERLY, YEARLY</p>
repr-006	Users shall have the possibility to configure the system to send scheduled reports to contact email addresses.
repr-007	It shall be possible to output reports in PDF, excel, text and xml.

6.13 Chat Function

Req. ID	Business Requirements
char-001	DVS participants shall have the possibility to receive and send chat messages via the GVS system.
char-002	<p>It shall be possible for participants to invite one another to connect for chat.</p> <ul style="list-style-type: none"> ▪ Users shall have the possibility to accept or reject a connection request. ▪ On acceptance of a connection request, the respective contact details shall be dynamically added to the contact list of both users involved. ▪ Where contacts have previously been involved in a transaction, they will have been automatically added to each other's address book ▪ Only connected participants have the possibility to chat to each other
char-003	Users within the same company (i.e. internal contacts) will automatically be given the possibility to chat. Internal contacts will automatically be made available in a user's address book
char-004	A chat message shall only be visible to the sender and receiver of the chat.
char-005	<p>It should be possible for a participant to link a chat to a record on GVS.</p> <ul style="list-style-type: none"> ▪ At that point the chat should also become part of the transaction history. ▪ The chat shall now be visible to all participants who have access to the transaction record in GVS.
char-006	User should have the possibility to view and search their historical chat messages.

7 NON-FUNCTIONAL REQUIREMENTS

1 Availability

- The system should function 24x7 with occasional scheduled downtime during the weekend European time. Although the initial focus is Europe, it is envisaged that the system will be rolled out across other time-zones hence availability must account for this.
- A possibility to implement an “always-on” design and architecture should be evaluated
- The system should run in a high-availability environment with redundancy built in each component of the infrastructure.
- The infrastructure supporting the system should include geographically separated disaster recovery facility with guaranteed recovery time and point objectives.

2 Reliability

- The system must produce correct outputs under normal workload conditions. The system should be enhanced with features and monitoring that help to avoid, detect and repair hardware faults.

3 Speed

- The system shall be online based. All pages should load in less than 2 seconds for 99% of customers considering their location, bandwidth and latency.

4 Usability

- The system should be easy to use, users should be able to easily and efficiently achieve their objectives. The user experience should be above satisfactory.

5 Maintainability

- The system should be easily maintainable, time to repair should be short and the speed with which the system can be repaired should fast so as not to impact availability.

8 CRITICAL SUCCESS FACTORS

1. Effective governance

- The project has clearly defined leadership, responsibilities, reporting lines and communications between all parties.

2. Goals and objectives

- The overall goal of the project is clearly specified and recognized by all stakeholders and project leaders have a clear understanding of the goals and objectives.

3. Stakeholder involvement

- That business stakeholders are committed and pro-actively involved, ensuring that business requirements, objectives are continuously aligned.

4. Commitment to project success

- All parties involved in the project are and remain committed to the project’s success. Any lack of commitment is dealt with and project leadership inspires commitment in others.

5. Capable sponsors

- Play an active role throughout the life-cycle of the project. They assume ultimate responsibility and accountability for project outcomes.

6. Secure funding

- The project has a secure funding base. Contingency funding is recognized from the start and tight control of budgets is in place to ensure maximum value is realized.

7. Project planning and review

Pre-project planning is thorough and considered. There is regular and careful progress monitoring. The project has realistic time schedules, active risk management and a post project review.

8. Competent project teams

The project professionals leading, or forming a core team, need to be fully competent.