



EXPRESSION OF INTEREST

**PROCUREMENT AND IMPLEMENTATION OF AN
ENTERPRISE SERVICE BUS
FOR
AMREF FLYING DOCTORS**

AUGUST 2022

Section 1: Invitation to Tender

1. AMREF Flying Doctors invites tenders from eligible service providers for the Expression of Interest in the procurement and implementation of an enterprise service bus for AMREF Flying Doctors.
2. A complete set of tender documents can be downloaded from the AMREF Flying Doctors website: <http://flydoc.org/tenders/> by interested bidders.
3. Completed Tender Documents for preliminary and technical requirements are to be sent to **afd.tender@flydoc.org**.
4. Tenders must be sent to the email address below not later than **Friday 9th September, 2022 at 12noon**.
5. Interested eligible bidders are also invited for a pre-bid conference to be held virtually on **Friday 26th August 2022 from 10am to 12noon**. To access the Link for registration for the pre-bid conference, go to <https://forms.office.com/r/Hvtv4XEERX>

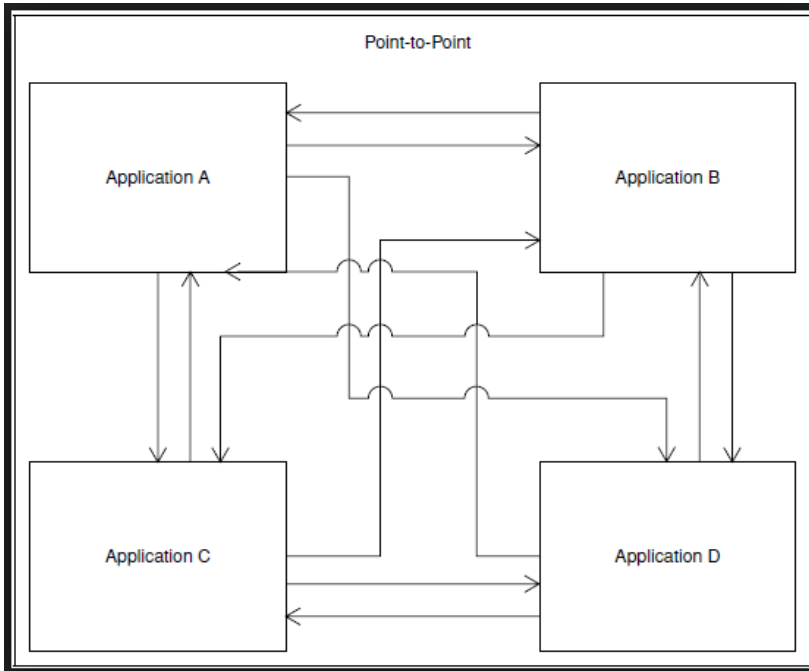
Section 2: Background

2.1 Current Set Up

AMREF Flying Doctors has installed the following systems:

- Microsoft Dynamics ERP (Navision)
- Microsoft Dynamics CRM
- Maisha Web Server (PHP MySQL)

In the absence of a Service Oriented Architecture (SOA), these systems are integrated by using a point-to-point architecture (as shown in the image).

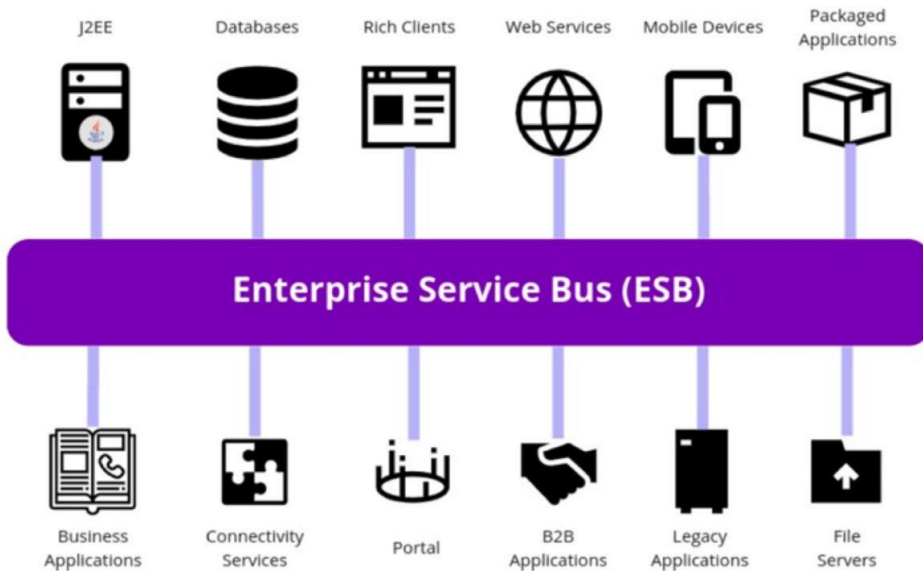


Moreover, the installed systems integrate to external applications such as Mobile Money and Unstructured Supplementary Service Data (USSD).

The current set up difficult to scale and maintain. Adding a new application would mean interface customizations of all other interacting applications/systems.

2.2 Enterprise Service Bus (ESB) Architecture

In an ESB architecture, applications are indirectly connected via ESB, rather than being directly connected to each other. ESB is responsible for all the embedded logic needed to make the systems interact/integrate. ESB is one the models of Service Oriented Architecture (SOA) implementation.



Source: Infoworld.com

Below are some of the core functionalities of an ESB oriented architecture:

- **Decoupling**

One of the most important things that you can do via ESB is to decouple clients from service providers.

- **Transport Protocol Conversion**

ESB gives you the ability to accept one input protocol and communicate with another service provider on a different protocol.

- **Message Enhancement**

ESB allows you to isolate the client and make some basic changes to the message.

For example, changing date format of incoming message or appending informational data to messages.

- **Message Transformation**

ESB lets you transform an incoming message into several outgoing formats and structure.

For example, XML to JSON, XML to Java objects.

- **Routing**

ESB has the ability to redirect a client request to a particular service provider based on deterministic or variable routing criteria.

- **Security**

ESB protects services from unauthorized access.

- **Process Choreography & Service Orchestration**

ESB manages process flow and complex business services to perform a business operation.

Process choreography is about business services while service orchestration is the ability to manage the coordination of their actual implementations. It is also capable of abstracting business services from actual implemented services.

- **Transaction Management**

ESB provides the ability to provide a single unit of work for a business request, providing framework for coordination of multiple disparate systems.

2.3 Proposed Future Setup

Each service shall be set up just a single integration with the ESB, and the ESB makes that service available to all other services connected to the ESB. The ESB serves as a one-stop shop for any application or service looking to consume or publish data. The ESB shall handle:

- Format transformation
- Protocol negotiation
- Queueing
- Additional business logic
- Monitor and control routing of message exchange between services

A new application shall be added to the ESB and availed to all business applications for communication and consumption of APIs.

Example of a use case

A bank API can be mapped to the ESB and availed to all business applications. Once a payment is made, a payload is received by the ESB (Invoice Number, Amount, Customer Name e.t.c) can be sent to the ERP that captures the amount against the invoice. The ERP can trigger a message to the ESB that settles the invoice in the CRM, an insurance cover created on Maisha Portal and an email sent to the customer detailing the amount received and policy number.

Section 3: Methodology

3.1 Work Plan

Bidders should provide a detailed bid response showing their interceded project approaches and work plan.

3.2 Design and Configuration of an Enterprise Service Bus

The system should be able to integrate with the existing AMREF Active Directory.

3.3 Training

The bidder will be expected to;

- Train AMREF Flying Doctors ICT support staff, two server administrators, and two Developers staff in the following areas:
 - I. Use of the system
 - II. System server installation and configuration
 - III. API creation and customization
 - IV. Setup of connectors to various system (API consumers and providers)
 - V. Configuration of message queues, topics and API logics
 - VI. Securing APIs
 - VII. Service Assurance and Reporting
 - VIII. Interpretation of errors or notifications
- Technical Training manuals should be provided for trainees. The training will be staggered as per departments within the AMREF Flying Doctors IT team.

3.4 Implementation of Service Level Agreements and Service Contracts

Standard Information Technology Service Management dictates that a service level agreement for every service offered be provided for by the service provider and managed by the client. We therefore propose to introduce service level agreements with support escalation matrices for the service providers, case resolution times and credits for the client in cases of total outages of the systems over a specified period of time. We shall require one SLA agreement that covers the items below renewable after two years:

- Customer-centric support
- Availability of ICT support
- Upgrading system versions
- Integration and automation
- Any other support

Deliverables

1. Workplan

2. Enterprise Service Bus

- System server installation and configuration (On-Premise or Cloud)
- API creation and customization
- Setup of connectors to various system (API consumers and providers)
- Configuration of message queues, topics and API logics
- Securing APIs
- Service Assurance and Reporting
- Escalation Matrix

3. System Integration

- Ability to integrate with an existing Maisha platform, ERP and CRM using connectors or any other proposed mechanism.
- Ability to interpret payloads from external data sources such as mobile channels, web portals, WhatsApp Bots e.t.c.

4. Training

- Training of AMREF Flying Doctors staff, support staff, system administrators and ICT staff
- Training program provided
- Training materials provided

5. Service level agreements and service contracts

- SLA agreement effected and operational.

Timelines

- a) The project completion should be valid for a period of **ninety (90) days** from the date of issue of award letter but can be extended if the bidder would not have completed the work in the specified period due to some unforeseen circumstances agreed upon by AMREF and The bidder.
- b) Bidders shall provide a detailed bid response showing their intended project approach and work plan.

Project Plan

- a) The bidder shall provide a detailed work plan on the intended activities for the duration of the consultancy
- b) The system development consultant and AMREF shall work together to ensure the successful installation of the ESB.

Section 4: Conditions to Tender

4.1 Definitions

4.1.1 In this Contract, the following terms shall be interpreted as indicated: -

- a) The Procuring entity” means the organization purchasing the service/goods.
- b) The Tenderer’ means the individual or firm supplying the Goods/services under this Contract

4.2 Application

4.2.1 These General Conditions shall apply in all Contracts made by the Procuring entity for the implementation of the Enterprise Service Bus.

4.3 Standards

4.3.1 The services /goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications

4.4 Use of Contract Documents and Information

- 4.4.1 The tenderer shall not, without the Procuring entity’s prior written consent, disclose the Contract, or any provision therefore, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the Procuring entity in connection therewith, to any person other than a person employed by the tenderer in the performance of the Contract.
- 4.4.2 The tenderer shall not, without the Procuring entity’s prior written consent, make use of any document or information enumerated in paragraph 3.4.1 above
- 4.4.3 Any document, other than the Contract itself, enumerated in paragraph 3.4.1 shall remain the property of the Procuring entity and shall be returned (all copies) to the Procuring entity on completion of the Tenderer’s performance under the Contract if so required by the Procuring entity

4.5 Patent Rights

4.5.1 The tenderer shall indemnify the Procuring entity against all third-party claims of Infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof in the Procuring entity’s country

4.6 Project Timelines

4.6.1 The successful bidder shall be expected to undertake the project within the time agreed in the contract.

4.7 Special Instructions

4.7.1 The final tender document should be bound together as one document.

4.7.2 The final bound tender document must be serially paginated (All pages in the document from top page (immediately after top cover) to the last page (one before back cover) including table of content, separators, brochures and any other attachments) in a continuous ascending order from the first page to the last in this format; 1,2,3.....n where n is the last page.

Section 5: Service Level Agreements (SLAs) and Service Contracts

5.1 Standard Information Technology Service Management dictates that a service level agreement for every service offered be provided for by the service provider and managed by the client. Tenderers must indicate the expected SLA agreements and the annual costs including any subscription costs.

5.1.1 There shall be service level agreements with support escalation matrices for the service providers, case resolution times and credits for the client in cases of total outages of the systems over a specified period of time.

Section 6: Evaluation Criteria

Interested bidders are requested to respond with the following details:

1. The proposed software
2. Estimated cost of acquisition including the licensing model
3. Draft implementation plan/timeframe
4. Post-implementation Support structure

In addition, eligible bidders should provide the mandatory requirements tabled below:

A: Preliminary Evaluation Criteria

MANDATORY REQUIREMENTS		MAX SCORE	SCORE	COMMENT /REMARKS
1.	Copy of Certificate of Incorporation/Certificate of Registration	1 OR 0		
2.	Copy of valid KRA Tax Compliance certificate	1 OR 0		
3.	Must attach the company profile with a brief history about the company/ organization including senior management structure	1 OR 0		
4.	Must submit copies of 3 audited financial reports (2019, 2020 and 2021) and each must be signed and dated by the auditor and the firm's Directors	1 OR 0		

5.	Must provide complete certified bank statements for the following 3 months (May 2022 – July 2022) signed and stamped by the bank on every page	1 OR 0		
6.	Job references for similar assignments your company has undertaken for institutions within or outside Kenya within the last three years – from 2019 to date (attach LPOs, appointment letters/contracts for the consultancies) in a multi country setup.	2 OR 0		
7.	Must provide a copy of relevant government registration/trading license relevant to this tender	1 OR 0		
8.	Must attach a recent client/Customer referral letter (from 2019 to date)	1 OR 0		
9.	Must attach at least 3 CVs for the organization’s lead consultants	1 OR 0		
	TOTAL SCORE (RESPONSIVE OR NON-RESPONSIVE)	10MKS		

Note: Bids missing any of the above mandatory requirements numbered 1 to 10 will be considered as non-responsive bid and shall not proceed to the technical evaluation stage.

B: Technical evaluation criteria

TECHNICAL REQUIREMENTS	SCORE	COMMENT/REMARKS
<p>The proposed software</p> <ul style="list-style-type: none"> • Name and version of Software (1mk) • The software should seamlessly integrate the following among other modules; <ul style="list-style-type: none"> I. Microsoft Dynamics ERP (1mk) II. Microsoft Dynamics CRM (1mk) III. Maisha Portal based on PHP MySQL (1mk) IV. Mobile Money, Banks and Online Payments platforms (1mks) V. Office 365 (1mk) VI. Electronic Document Management System (M-Files)(1mk) VII. Data analytics, Service Assurance and Reporting (1mk) <p style="text-align: right;">(max 7mks)</p>		
<p>2. The software should provide a secure APIs to the providers and consumers (5mks)</p>		
<p>3. Provision of Queues, Topics and Logics in the service bus (3mks)</p>		
<p>What is the Licensing model?</p> <ul style="list-style-type: none"> I. Perpetual (1mks) II. Feature based (1mks) III. Subscription (1mk) <p style="text-align: right;">(max 3mks)</p>		
<p>5. Have they provided:</p> <ul style="list-style-type: none"> I. Hardware requirements - Premise/Cloud? (1mk) II. Is Disaster recovery in consideration? (1mk) <p style="text-align: right;">(max 2mks)</p>		
<p>Draft implementation plan/ timeframe</p> <ul style="list-style-type: none"> I. Timeframe <ul style="list-style-type: none"> a. Over 1 year (0mks) b. Less than 1 year (2mks) II. Milestones <ul style="list-style-type: none"> a. Business requirements (1mk) b. Customization (1mk) c. Testing (1mk) d. Training (1mk) e. Data Conversion & migration(1mk) III. Post-implementation Support structure <ul style="list-style-type: none"> a. Local (2mks) b. International/Remote (1mk) 		

TECHNICAL REQUIREMENTS	SCORE	COMMENT/REMARKS
<p style="text-align: right;">(max 10mks)</p> <p>Technical competencies – Demonstrated working functionality in the following:</p> <p>I. Decoupling One of the most important things that you can do via ESB is to decouple clients from service providers. (2mks)</p> <p>II. Transport Protocol Conversion ESB gives you the ability to accept one input protocol and communicate with another service provider on a different protocol.</p> <p>III. Message Enhancement ESB allows you to isolate the client and make some basic changes to the message. For example, changing date format of incoming message or appending informational data to messages.</p> <p>IV. Message Transformation ESB lets you transform an incoming message into several outgoing formats and structure. For example, XML to JSON, XML to Java objects.</p> <p>V. Routing ESB has the ability to redirect a client request to a particular service provider based on deterministic or variable routing criteria.</p> <p>VI. Security ESB protects services from unauthorized access.</p> <p>VII. Process Choreography & Service Orchestration ESB manages process flow and complex business services to perform a business operation. Process choreography is about business services while service orchestration is the ability to manage the coordination of their actual implementations. It is also capable of abstracting business services from actual implemented services.</p> <p>VIII. Transaction Management</p>		

TECHNICAL REQUIREMENTS		SCORE	COMMENT/REMARKS
	ESB provides the ability to provide a single unit of work for a business request, providing framework for coordination of multiple disparate systems. (max 16mks)		
8.	Vendor accreditation (1mk)		
9.	Automated database backup and restore, High Availability and replication. (10mks)		
	TOTAL SCORE	<i>/57</i>	
TO BE INDICATED BUT NOT RATED			
10.	Estimated cost of acquisition including the licensing model and implementation		
11.	Estimated cost of customization, testing, training and data conversion/ migration.		
12.	Post-implementation Support structure		

Note: Bidders who score below 70% in the Technical requirement will be considered as non-response and therefore will be eliminated at this stage

Section 7: Submission Guidelines

Application guidelines are available in the following website: <https://flydoc.org/tenders/>

Proposals should be sent via email to afd.tender@flydoc.org by **Friday 9th September, 2022.**