

Government of Tonga-Ministry of Finance

REQUEST FOR EXPRESSIONS OF INTEREST

CONSULTING SERVICES – FIRM SELECTION (International)

Assignment Title: Tonga Enterprise Architect for developing and supporting ICT infrastructure

Project: Tonga Digital Government Support Project.

Grant Number: IDA Grant Number IDA D4490-TO

Date of Issuance: 11th October 2019

Date and time Expression of Interest (EOI) due: 8th November 2019. No later than 4:30 pm local time

Drop off EOI to Main Office: Ministry of Finance, Nuku'alofa, Tonga

Email Submission of EOI: Please email to: bfaotusia@finance.gov.to and copy to gfukofuka@finance.gov.to and to npelesikoti@finance.gov.to

Attn: Chief Executive Officer, Ministry of Finance

Reference Number: TO-MFNP-128799-CS-CQS

The Government of Tonga has received financing from the World Bank toward the cost of the Tonga Digital Government Support Project (TDGSP) and intends to apply part of the proceeds for consulting services.

The consulting services (“the Services”) include the recruitment of the Enterprise Architect (EA)-Consulting firm that will be responsible for the creation, maintenance and management of IT architecture models and lower level supporting components, including cloud computing, shared services and data strategies, interoperability, and technology evaluation process. The EA is required to interpret, use, and apply information contained within IT architecture to inform a range of MDA business improvement activities, particularly those involved in the design, development, enhancement and maintenance of IT support systems and resulting business processes

The duration of the assignment is over a period of 18 months.

The detailed Terms of Reference (TOR) for the assignment are shown in Annex 1.

The Ministry of Finance as the Implementing Agency for Tonga Digital Government Support Project now invites eligible consulting firms (“Consultants”) to indicate their interest in providing the Services. Interested Consultants should provide information demonstrating that they have the required qualifications and relevant experience to perform the Services.

Minimum Qualification and Experience Requirements

The following minimum qualifications and experience are required and will be used to evaluate the potential consultants (consulting firms). The consulting firm should be qualified and experienced for carrying out this assignment. The firm should demonstrate at least 10 years of experience in similar services and at least 3 contracts of similar assignments successfully performed for the last five (5) years. The consultant will propose a team of Experts that will include the following specializations:

Team Leader (1)

Qualifications and Experience

- Required - Degree in Information Systems Management, Operations Management, Business, or other business experience related to business systems development
- Required - Certification in one or more Enterprise Architecture Frameworks (e.g., TOGAF, Zachman, ISO 42010, or FEAF)
- Required - Excellent English written and verbal communication skills
- Required - Solid organizational skills including attention to detail and multitasking
- Required – 5 years' experience working in IT management
- Desired - Governance Certification (COBIT / ISO 38500 / CGEIT)
- Desired – Experience developing cloud computing architectures and operational models
- Desired – Experience developing and managing ICT disaster recovery and continuity of operations plans
- Desired – Experience in Business Process Model and Notation (BPMN)

Key Team Member Positions (3)

- (a) Enterprise architecture
- (b) Business Process Engineer
- (c) Cloud computing/Migration specialist

Overall qualifications and experience for the Key Experts

- Bachelor's degree in information and communication technologies or an equivalent combination of academic qualifications and experience;
- Experienced ICT specialists of high international repute with relevant international transactional and project experience (minimum 10 years) in the business and ICT sector, particularly in developing countries;
- Knowledge and experience of ICT sector issues in the South Pacific region and/or other small island economies is highly desirable.
- Required – 1 Team Member with 5 years' experience in data centre operations (specific for expert (c));
- Required - Demonstrated experience with practical application of leading digital technologies, in particular cloud computing and data management (applies for expert (a) and (c));

- Desired - previous experience leading a public sector reform/e-Government reform program, preferably in a developing country (applies for expert (a) and (b));
- Desired – One or more of the following certifications or training certificates:
 - Enterprise Architecture (TOGAF 9, FEAF, Zachman, ISO 42010) (applies for (a))
 - Service Delivery Framework (ISO 20000, ITIL, MOF) (applies for (a) and (b))
 - Cloud Computing (Vendor Certificate, CompTIA) (specific for (c))
 - Business Process Model and Notation (BPMN/FEAC, Archimate, CMMI, CBPP) (specific for (a) and (b))

The attention of interested Consultants is drawn to Section III, paragraphs, 3.14, 3.16, and 3.17 of the World Bank’s “Procurement Regulations for IPF Borrowers” July 2016, Revised November 2017 and August 2018 (“Procurement Regulations”), setting forth the World Bank’s policy on conflict of interest.

Consultants may associate with other firms to enhance their qualifications, but should indicate clearly whether the association is in the form of a joint venture and/or a sub-consultancy. In the case of a joint venture, all the partners in the joint venture shall be jointly and severally liable for the entire contract, if selected.

A Consultant will be selected in accordance with the Consultant’s Qualification Based Selection (CQS) method set out in the Paragraphs 7.11 to 7.12 of the Procurement Regulations.

Further information can be obtained at the address below during office hours 09:00 to 16:30 hours.

Expressions of interest must be delivered in a written form to the address below (in person, or by mail, or by fax, or by e-mail) no later than **4:30pm of Friday, 8th November 2019**

Attn: Chief Executive Officer
 Ministry of Finance
 Nuku’alofa Tonga Islands
 Tel: +676 23-066

E-mail: bfaotusia@finance.gov.to and copy to DCEO of Corporate Services at gfukofuka@finance.gov.to and to CSU Programme Manager at npelesikoti@finance.gov.to

ANNEX 1: Terms of Reference

Tonga Digital Government Support Project

Terms of Reference (TORs) for Tonga Enterprise Architect for developing and supporting ICT infrastructure (Consulting Firm)

A. BACKGROUND INFORMATION ON THE PROJECT

B.

The Government of Tonga is in the process of implementing an eGovernment (Digital Government) Support Project supported by the World Bank with multiple components for developing, supporting ICT infrastructure, information systems, citizen eServices, and other frameworks and architectures needed to meet goals and objectives within the Tonga Digital Government Strategic Framework (DGSF).

The Digital Government Support Project components are as follows:

Component 1. Enabling Environment and Continuous Improvements

1.1 Development of a Digital (e-Government) Government Strategic Framework (DGSF).

The Tonga DGSF sets directions for the Government's use of Information and Communication Technologies (ICT) or digital technologies, with the *ultimate intent of improving Government business process and workflow efficiencies, improving the quality of life for citizens and residents, while reducing the complexity for business transacting with Government.* The Government has already undertaken ministry and agency consultations. The final DGSF will incorporate inputs from government stakeholders to ensure alignment with the Tonga Strategic Development Framework (TSDF) and agency specific strategic plans. As noted above, the DGSF is based on a, "whole of Government" approach, also providing the basis for the required governance, services delivery and implementation arrangements.

1.2 Legal and regulatory framework for Digital Government including Civil Registration and national ID systems. This subcomponent will finance advisory services for modernizing the legal and regulatory frameworks institutional and governance arrangements, data security, data protection, authentication protocols and processes, privacy, transparency, non-discrimination and support for digital transactions. This subcomponent will also finance advisory services to modernize policies, laws and regulations related to Tonga's CR and national ID systems, including to facilitate the other activities under this activity, to put in place data protection safeguards to strengthen privacy and prevent misuse of data, and to prepare Tonga's identity ecosystem to support digital government and the digital economy.

1.3 Expansion of the Government's Cyber Security Program. This subcomponent will finance consultancies and capacity building activities for the development of operational and administrative standards, assurance, monitoring, audit, and Cyber-Security Emergency Response (CERT) capabilities. The Cyber Security Program will also include comprehensive security training and awareness programs for all government users, government IT and security professionals, management, citizens, and the private sector.

Component 2. Government Enterprise Architecture

2.1 Informed and timely decision making. This subcomponent is to design and implement digital governance and decision-making processes to ensure timely and quality data and information accessible for informed decision making and change management. This component focuses on mapping of the existing decision-making processes and workflows to determine strengths, gaps and weaknesses and to build and streamline for a more efficient systems with a view for continuous improvements.

2.2 National Enterprise Architecture. This component follows component 2.1 and will also finance the development of a Tonga Enterprise Architecture Framework (TEAF). The TEAF will guide Ministries and Agencies through the business objectives, information and data requirements, need for process and workflow mapping, and technology changes necessary to execute their information systems (consultancy, software development/purchase) strategies.

Components 3. Process Automation: Civil Registration and National ID Systems

3.1 Implementation of selected e-Services. This subcomponent will finance the development of selected

digital services, for example business registration and digital procurement based on a readiness assessment digital services, for example business registration and digital procurement based on a readiness assessment (institutional as well as technical). It will also support advisory services to implement modifications of associated business processes within the ministries and agencies.

Mobile solutions will be developed, on needs basis, to enable reach to users that do not have access to computers. This will include implementation of workflow automation, allowing better citizen and business access to Government e-services, with cross-agency integration when appropriate or feasible. To effectively implement workflow automation, inter-agency data sharing, and automation of individual digital services requires use of process mapping and business process modelling notation. The Government has already undertaken consultations on this with government agencies to identify potential priority services.

3.2 Upgrade of CR System. This subcomponent will finance technical assistance to upgrade the current CR system, including to: (a) assign unique national ID numbers to Tongan citizens and residents of Tonga through birth registrations, based on the linkages established under subcomponent 3.3; (b) link birth, death and marriage records on the same individual; (b) receive automated birth and death notifications from the health sector; (b) securely push notifications of registered births and deaths to approved third parties (e.g. to notify the national ID system of deaths); (d) enable approved third parties to securely validate information (e.g. the Social Registry validating information on beneficiaries); and (e) deduplicate CR records in the future, such as based on the information of the parents (e.g. their national ID numbers).

3.3 Upgrade of ID System. This subcomponent will finance the upgrade of the current national ID system. These include: (a) developing a software module or interface for approved third parties in the public and private sectors to digitally authenticate the identity of their customers based on information in the national ID system register, which may include biometric, biographic and/or One Time Password (OTP) yes/no verification; and, if applicable, (b)

expanding coverage of the national ID system, including to citizens and residents of Tonga younger than 14 (through the issuance of a unique national ID number and not necessarily a card), possibly leveraging, where appropriate, the Social Registry enrollment exercise or the ORG's planned birth registration catch up campaign.

3.4 Development of CR-ID linkage. This subcomponent will finance the functional and technical integration between the CR and national ID systems, including building a software solution that facilitates automated exchange of data, such as to assign unique numbers from the national ID system at the time of birth registration and for the national ID system to receive information on registered deaths and to validate information at the time of enrollment.

Component 4 Digital Government Infrastructure

4.1 Design and implementation of a National Government Portal. This subcomponent will finance a single window to facilitate citizen and business access to public information, interactions and transactions with Government ministries and agencies. The Single Window will require a standard ("look and feel") Government agency landing page template to show continuity and consistency in the implementation of information services in each agency.

4.2 Design and implement the Tonga Government Cloud (G-Cloud). This subcomponent will finance the design and implementation of the G-Cloud, including data centers consolidation and information systems transition to the G-Cloud. The use of cloud services will entail partnership with the private sector which has the requisite technical and management expertise.

4.3 Design of Secure Government Network and Data Centers, including Disaster Recovery and Continuity of Operations Plan. This subcomponent will finance advisory services for designing the Digital Government Infrastructure and Platform to support information systems and applications for Ministry and Agency users. Proprietary and open source options will be considered. The component will consider and evaluate alternative data center or cloud computing ownership models taking into consideration climate change impacts, disaster risks security, resource management, operational and capital cost of operations, continuity of operations, and total cost of ownership.

Component 5 Project Management

5.1 Project management and technical support for the project. This component will finance technical Project management support for MEIDECC and MOFNP. The Project manager will assist MEIDECC and MOFNP with project management and coordination, communications, monitoring, and evaluation and reporting. Other aspects of Project administration (procurement, financial management, audit) will be handled by the Ministry of Finance and National Planning (MFNP) Central Services Unit. In addition, this component includes provision for full project documentation, logistics, consumables, office equipment, and incremental operating costs.

C. SCOPE OF WORK

The eGovernment Program needs a skilled, experienced, senior, Enterprise Architect (EA) consulting services. The EA service will report to CEO of the Ministry of Finance through the TDGSP Project Manager and be given responsibility to develop a Tonga Enterprise Architecture Framework as noted in Component 2.

The EA is responsible for the creation, maintenance and management of IT architecture models and lower level supporting components, including cloud computing, shared services and data strategies, interoperability, and technology evaluation process. The EA is required to interpret, use, and apply information contained within IT architecture to inform a range of MDA business improvement activities, particularly those involved in the design, development, enhancement and maintenance of IT support systems and resulting business processes.

The TEAF includes a government-wide architecture and processes that ensure that the strategic application of change is embedded in the management of information systems change or inclusion within the government, acknowledging and ensuring the buy-in of all stakeholders. The EA consultant develops and presents business cases, potential high-level architectural and systems initiatives, for approval, funding and prioritization. Ensures compliance between business strategies, enterprise transformation activities and technology directions, setting strategies, policies, standards and best-practices.

D. ACTIVITIES TO BE UNDERTAKEN BY THE CONSULTANT FIRM

Main Duties and Responsibilities

Expected activities for the EA firm, include the following:

- Develop and maintain Tonga Enterprise Architecture Framework (TEAF).
- Create specific business architecture models that reflect and comply with the government's strategic goals, including those specified within the TDGSP.
- Ensure TEAF is aligned with, and consistent with government's business and strategic objectives listed within TSDF and TDGSP.
- Coordinate with Minister of MOF for achieving government approval of TEAF.
- Communicate with, and informs, Tonga Government Ministries, Departments, and Agencies (MDAs) on the need for the TEAF, benefits of adopting the TEAF, and updates to the TEAF.
- Share global best government EA best practices, lessons learned, and implications of potential technology triggers on the overall TEAF and knowledge related to recent, current and upcoming vendor products and solutions with MDA business and information systems leadership and builds capacity.
- Establish requirement for supporting strategies, policies, and standards to include:
 - National Interoperability Framework
 - National Information Sharing Strategy and Information Exchange Model

- Provide consultancy for MDAs to promote information systems alignment with TEAF when updating, replacing, or modifying existing information systems.
- Provide Government agencies with systems processing and business architecture guidance based on standardization, and use of an architectural development process.
- Analyse ways to reduce costs and IT expenses on a government-wide basis
- Develop an architectural review process, audit process, and assurance process to evaluate new or existing individual MDA and common (e.g., common applications such as GIS, office automation, payments) government information systems.
- Other EA-related tasks as directed by the Minister of Finance and key ministries through the TDGSP Project Manager.

E. CONSULTANT’S QUALIFICATIONS AND EXPERIENCE REQUIREMENTS

The following minimum qualifications and experience are required and will be used to evaluate the potential consultants (consulting firms). The consulting firm should be qualified and experienced for carrying out this assignment. The firm should demonstrate at least 10 years of experience in similar services and at least 3 contracts of similar assignments successfully performed for the last five (5) years. The consultant will propose a team of Experts that will include the following specializations:

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- Desired – Experience in Business Process Model and Notation (BPMN)

Key Team Member Positions (3)

- (d) Enterprise architecture
- (e) Business Process Engineer
- (f) Cloud computing/Migration specialist

Overall qualifications and experience for the Key Experts

- Bachelor’s degree in information and communication technologies or an equivalent combination of academic qualifications and experience;

- Experienced ICT specialists of high international repute with relevant international transactional and project experience (minimum 10 years) in the business and ICT sector, particularly in developing countries;
- Knowledge and experience of ICT sector issues in the South Pacific region and/or other small island economies is highly desirable.
- Required – 1 Team Member with 5 years’ experience in data centre operations (specific for expert (c));
- Required - Demonstrated experience with practical application of leading digital technologies, in particular cloud computing and data management (applies for expert (a) and (c));
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F. EXPECTED DELIVERABLES/OUTPUTSWITH TIMELINES

The following are the deliverables/outputs of the Consultant Firm:

Functional Area	Activities and Deliverables
TEAF	1. Inception report, work plan and methodology
	2. Develop TEAF
	3. Develop Tonga Interoperability Framework
	4. Develop Tonga Data Exchange / Information Sharing Policy and Framework
	5. Conduct Data Management Awareness Training Workshop
	6. Develop organizational model for National ICT Steering Committee
	7. Conduct Training Session/s top introduce outputs from Activities and Deliverables 2,3,4
Data Center Consolidation	8. Produce workplan for data center consolidation, cloud computing transition, continuity of government operations, and disaster recovery

	9. Produce Data Center Consolidation and Cloud Computing Transition (Cloud First) Policy
	10. Develop data center migration process for individual MDAs into consolidated data center
	11. Develop provisioning and implementation process guideline for MDAs to acquire and operate cloud computing or virtual resources
	12. Develop performance management and monitoring, key success factors, key performance indicators, and key risk indicators for Cloud Computing Platform
	13. Conduct workshop with MDAs on the need and process for data center consolidation
Business Process Management	14. Produce workplan for developing an BPM Framework, audit process, and Business Process Model and Notation program (aligned with data exchange and sharing framework)
	15. Conduct workshop and provide training resources with user guides with all MDAs to introduce BPMN, process for existing Business Process audits, and outcomes of the BPMN activity (at least two training sessions per MDAs).
	16. Conduct audit and prepare BPMN for select core business processes in a minimum 10 agencies, with identification of, and recommendations for, automation of external information sharing and integration with other agencies
	17. Prepare Process Maturity assessment tools using CMMI, ISO 15504, or COBIT 2019 for all main Ministries and select government agency core business processes
Other Team Tasks	19. Conduct Data Center and Cloud Computing Risk Assessment – include independent MDA server rooms using ISO 27005, ISO 31000, or NIST SP 800-60 as reference
	20. Conduct Disaster Recovery and Continuity of Government Operations Risk Assessment using ISO 27005, ISO 31000, or NIST SP 800-60 as reference
	21. Conduct performance and operations review of Secure Government Network

G. DURATION OF THE ASSIGNMENT AND ESTIMATED EXPERT-TIME INPUT

The assignment is expected to commence in November 2019. The overall assignment is expected to require about 250 working days spread over 18 months. Remuneration will be based on a lump sum assignment, linked to a final agreed list of deliverables/outputs. A minimum of four visits for the firm and its key personnel to Tonga will be required, with a minimum duration of two weeks, preferably more.

H. CONFIDENTIALITY

The Consultant shall keep all information provided by the client in confidence. The Consultant shall only use the confidential information in connection with the performance of the project and for no other purposes. This provision will be incorporated into the consultant's contract.

I. REPORTING REQUIREMENTS

The consultant Team Leader shall report directly to the CEO, MOF through the Project Manager.

J. ADMINISTRATIVE ARRANGEMENTS

The consultant shall report directly to the CEOs of the Ministry of Finance and MEIDECC through the TDGSP Project Manager. This assignment will be coordinated by the Project Manager and the consultants/firm will work closely with the implementing agencies for technical advice and information.

This procurement process will be conducted in accordance with the World Bank Procurement Regulations for IPF Borrowers, July 2016 ("Borrower Regulations")

A Consultant will be selected in accordance with the method set out in the Borrower Regulations for Selection of Consultants through the Consultants' Qualifications Selection (CQS) procedures.

Further information regarding this consultancy services can be obtained by contacting:

Mrs Balwyn Faotusia
CEO, Ministry of Finance
bfaotusia@finance.gov.to