

Terms of Reference



iDICE

Investment in Digital and Creative Enterprises Programme

Consultancy Services

for

Conducting Data Center and Sandbox

GAP Assessment - Galaxy Backbone

Technology and Creative Sector

Financing Agreement reference: 2000200005160

Project ID No.: P-NG-K00-009



1. Background

The Federal Government of Nigeria has received financing from the African Development Bank (AfDB), Agence Française de Développement (AFD) and the Islamic Development Bank (IsDB) towards the implementation of the Investment in Digital and Creative Enterprises (iDICE) Programme and intends to apply part of the agreed amount for this finance to payments under the contract for a consultancy service to provide support for the **Conducting of Data Center and Sandbox Gap Assessment on the Galaxy Backbone Environment**.

One of the sub-components of the Enterprise and Skills Development component of the iDICE Programme is to strengthen the capacity of Enterprise Support Organizations (ESOs) and startups. As part of this process, the Programme aims to upscale the infrastructure of ESOs (Hubs and accelerators), develop a National Sandbox and improve the capacity of National Data Centers. These hubs will play a major role in shaping students and researchers for technological advancement, entrepreneurship, and global competitiveness, while impacting research and development.

2. Objectives

I. Improve Efficiency and Effectiveness:

- a. Data Center (DC) Infrastructure: The installed capacity of its Data Centers across the different locations in Abuja and Kano. This covers the physical hardware, software and virtualization solutions necessary to ensure that the GBB DCs can provide support for the Government's objectives on the iDICE Programme.
- b. Network Connectivity and Security: To assess network performance and reveal bottlenecks, latency issues, and bandwidth constraints.
- c. Storage: To understand current storage utilization in planning for future capacity needs and to avoid over-provisioning or under-provisioning.
- d. Software Development: To evaluate the installed capacity of software developers and ensure that the resource requirement for developing and managing Sandbox for the iDICE program is available.

II. Cost Management:

- a. Data Center (DC) Infrastructure: To ensure that costs for accessing Data Center services are kept within manageable levels.
- b. Network Connectivity and Security: To identify inefficiencies and redundancies in the network infrastructure, thus, leading to cost savings by optimizing resource allocation.
- c. Storage: To assess storage needs which will be useful in selecting cost effective storage solutions and managing storage tiers more efficiently.
- d. Software Development: To ensure the use of in-country talent for the development, deployment and management of software development in the build and establishment of a Sandbox Environment.

III. Risk Management:

- a. Data Center (DC) Infrastructure: To determine areas where the existing DC infrastructure may be weak or optimized and propose mitigation strategies.
- b. Network Connectivity and Security: To identify vulnerabilities in the network that can help strengthen security measures and protect sensitive data.
- c. Storage: To assess current storage solutions to ensure effective backup and disaster recovery strategies are in place.
- d. Software Development: To identify gaps in software maintenance, such as unpatched vulnerabilities, specifically for the setup of a sandbox environment for startups.

IV. Strategic Planning and Innovation:

- a. Data Center (DC) Infrastructure: Resource planning and allocation both for the present and the future.
- b. Network Connectivity and Security: To understand current network capabilities which helps in planning for future expansions, technological advancements, and strategic initiatives.
- c. Storage: To assess storage needs and capabilities that support strategic data management initiatives and the setup of a sandbox environment.
- d. Software Development: To identify gaps in current software solutions, thus paving the way for adopting new technologies and innovative solutions that improve service delivery and operational efficiency.

V. Improve Customer Satisfaction:

- a. Data Center (DC) Infrastructure: Establish clear guidelines for providing excellent customer experience.
- b. Network Connectivity and Security: To provide recommendations and a roadmap towards enhancing network performance and reliability.
- c. Storage: To provide recommendations that help ensure data is readily accessible and storage solutions are reliable.
- d. Software Development: To recommend initiatives geared towards ensuring software applications are performant, user-friendly, meet user needs and enhance overall customer satisfaction.

3. Scope of Work

The consultancy will involve the following key activities:

I. Data Collection:

- A. A combination of interviews, surveys, observations, focus group discussions and in some cases document reviews

- B. II. Perform technical evaluations of data centre infrastructure, network connectivity and security systems, storage and software development capabilities.

II. **Analysis:**

- A. Document the current state of data centre infrastructure, network connectivity and security systems, storage and software development capabilities.
- B. Compare current performance against industry standards and best practices.
- C. Identify gaps between the current state and the desired future state III.

Reporting:

- A. Develop a comprehensive report detailing the findings, including identified gaps, root causes, and potential impact.
- B. Provide actionable recommendations to address the gaps, prioritize improvements, and outline a roadmap for implementation.

4. Deliverables

The specific tasks to be carried out are:

- I. Data Centers (DC) Infrastructure Assessment
- II. Storage Capability Gap Assessment
- III. Network Connectivity and Security Capability Gap Assessment
- IV. Software Development (Sandbox build and deployment) Capability Gap Assessment, the tasks are expected to run simultaneously.

S/N	Task	Deliverable	Days Allocated
1.	Data Centers (DC) Infrastructure Assessment	<ul style="list-style-type: none"> ● Assess the current installed DC Hardware capacity. ● Assess the existing installed software and virtualization environment capacity. ● Establish the optimal capacity required to support the Government's activities, especially the iDICE program. 	14 days (2 weeks)
		<ul style="list-style-type: none"> ● Provide a roadmap to ramp up the installed Hardware infrastructure, software and virtualization environment to the levels required to support the Government's programs 	

2.	Storage Capability Gap Assessment	<ul style="list-style-type: none"> ● Evaluate current storage capacity and future scalability needs ● Assess the performance metrics and reliability of storage systems ● Analyze data backup, archiving, and disaster recovery processes ● Ensure storage solutions meet regulatory compliance and security standards 	21 days (3 weeks)
3.	Network Connectivity and Security Capability Gap Assessment	<ul style="list-style-type: none"> ● Measure current network performance, including bandwidth, latency, and uptime. ● Evaluate the scalability and redundancy of the network infrastructure. ● Review the available network monitoring capacity for adequacy and timeliness in spotting breaches. ● Assess network security protocols, including firewalls, intrusion detection, and prevention systems 	28 days (4 weeks)
4.	Software Development (Sandbox build and deployment) Capability Gap Assessment	<ul style="list-style-type: none"> ● Review the current software development capabilities and skill sets available within Galaxy Backbone. ● Assess the gap in the skills needed to build the Sandbox on the installed infrastructure which will, in turn, be used by the iDICE program beneficiaries. 	42 days (6 weeks)

		<ul style="list-style-type: none"> • Establish the optimal number of resources that will be required to build and sustainably manage the sandbox environment, once deployed. • Establish the relevant applications and licenses required for the development activity. 	
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5. Requirements

- I. Have a minimum of 5 years of demonstrated professional experience in conducting and coordinating IT assessment and other technology related projects.
- II. Proof of the availability of experienced technical and operational staff with requisite certifications.
- III. Ability to work with a wide range of partners and manage multiple, simultaneous and shifting demands/ priorities under tight timelines.
- IV. Demonstrated compliance with all safety regulations and environmental protection regulations.
- V. Familiarity with national cybersecurity laws and data protection regulations.

6. Reporting

The Consultant shall prepare a comprehensive report for the iDICE programme through the Programme Coordination Unit (PCU). The report should be well-organized, data-driven, and presented in a clear and easily understandable format.

7. Duration

The estimated duration of the service is from **September 2024 to November 2024**. The specified duration of the consultancy shall be for a maximum of nine (9) weeks, any need for extension should be communicated to the PCU in writing and with justifications stated.

8. Confidentiality

All data and information obtained during the consultancy must be treated as confidential and used solely for the purpose of this project.

9. Conflict of Interest

Consultant(s) will be required to highlight any areas where there is a potential conflict of interest and should propose mechanisms to resolve or manage these conflicts. This will not be regarded as a negative feature of an application, inasmuch as the BOI iDICE PCU is satisfied that any conflicts will be handled in a manner consistent with the interests of the project. Wherever possible, prospective Consultant(s) should follow technical, operational and commercial best practices in managing potential conflicts.

Prospective Consultant(s) should note that failure to disclose any material conflict of interest that is subsequently identified in the assessment process will be regarded as a significant negative feature. For joint ventures, the lead partner must have the power of attorney.

10. Scope of Price Proposal and Schedule of Payment

S/N	Task	Payment	Deliverable	Payment Due Date
1.	Data Centers (DC) Infrastructure Assessment	TBD	<ul style="list-style-type: none"> ● Assess the current installed DC Hardware capacity. ● Assess the existing installed software and virtualization environment capacity. ● Establish the optimal capacity required to support the Government's activities, especially the iDICE program. ● Provide a roadmap to ramp up the installed Hardware infrastructure, software and virtualization environment to the levels required to support the Government's programs 	TBD

2.	Storage Capability Gap Assessment	TBD	<ul style="list-style-type: none"> • Evaluate current storage capacity and future scalability needs • Assess the performance metrics and reliability of storage systems • Analyse data backup, archiving, and disaster recovery processes • Ensure storage solutions meet regulatory compliance and security standards 	TBD
3.	Network Connectivity and Security Capability Gap Assessment	TBD	<ul style="list-style-type: none"> • Measure current network performance, including bandwidth, latency, and uptime. • Evaluate the scalability and redundancy of the network infrastructure. • Review the available network monitoring capacity for adequacy and timeliness in spotting breaches. • Assess network security protocols, including firewalls, intrusion detection, and prevention systems 	TBD
4	Software Development (Sandbox build and deployment) Capability Gap Assessment	TBD	<ul style="list-style-type: none"> • Review the current software development capabilities and skill sets available within Galaxy Backbone. • Assess the gap in the skills needed to build the Sandbox on the installed infrastructure which will, in turn, be used by the iDICE program beneficiaries. • Establish the optimal number of resources that will be required to build 	TBD

			<p>and sustainably manage the sandbox environment, once deployed.</p> <ul style="list-style-type: none">• Establish the relevant applications and licenses required for the development activity.	
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