

Terms of Reference for the VSAT Installation with Monthly VSAT subscription (bandwidth coverage) per server for Nigeria Immigration Service (NIS) Locations at Seme Border and Lagos state Command

Introduction

Nigeria Immigration Service (NIS) currently operates an integrated virtual private network (VPN) over Wide Area Network (WAN) for its Migration Information and Data Analysis System (MIDAS), as part of its IT infrastructure which contribute to the enhancement of the communication among the various entry/ exit locations already connected to this network. The NIS MIDAS architecture combines the use of fiber, radio and VSAT in specific terrains to have seamless interconnections resulting in an overall network architecture design of a Star Topology combined with fiber optic and radio backhaul links.

Purpose of the current Request For Proposal (RFP)

The objective of this document is to attract proposal from potential bidders for **broadband VSAT WAN connectivity and local area network (LAN)** for the NIS MIDAS locations (state command and border control posts) in Nigeria.

The proposal for providing the services mentioned above shall cover a minimum period of 12 months and is for a high quality and secured data transfer use of the NIS. Any solution proposed should be able to function efficiently with bandwidth optimization and WAN Acceleration functions.

Satellite based WAN connectivity solution

The NIS requires the implementation of a fully managed broadband IP over VSAT turnkey connectivity solution. The proposed VSAT solution shall operate in Ka-band. If the bidder proposes a Ku band solution, he should provide a strong technical justification and commit to ensure high link performances minimizing attenuation. The VSAT network is expected to provide an internal any-to-any connectivity of all BCP locations within a state using a STAR TOPOLOGY to the hub station located at the state command and replicate same between the state commands and the NIS HQ. Both the state command and BCP will be fully managed by the service provider and the NIS will have access to monitor the network and manage resources such as the bandwidth. Accordingly, a bandwidth of 2Mbps/ 2Mbps will be allocated for both the download and upload traffic.

The bidder is requested to use outdoor units in each location consisting of 78cm or 98cm antenna and 2 watts BUC operating in standard Ka-Band. The bidder shall provide technical specifications and justifications for each proffered device that needs to be installed with the warranty period for each location.

The proposed VSAT solution should include the major and most recent IP over satellite solution such as Adaptive Coding and Modulation (ACM), Adaptive Flex Code Modulation (ACFM), TCP IP Acceleration, DNS caching, Low Density Parity Coding (LDPC), Adaptive Inroute Selection (AIS), effective QoS and effective compression for traffic, turbo codes, etc.

The bidder(s) must propose a Bandwidth Allocation Plan that would permit progressive expansion of bandwidth in each site, and in which the starting bandwidth and the maximal bandwidth will be clearly specified in conjunction with existing and planned traffic per site.

The preliminary bandwidth allocation per site is specified in the table hereunder.

Locations	Uplink		Downlink	
	Min CIR	Burst	Min CIR	Burst
Lagos State Command	2mbps		2mbps	
Seme BCP	2mbps		2mbps	

Service Level Agreements for Satellite based WAN connectivity solution

NIS requires that the selected vendor meets the SLAs and credit allocation policy for the VSAT network as summarized in table below:

Summary of SLA and Service Credits for VSAT Network

	SLA Indicator	Required SLA Value
1	VSAT Network and remote link availability	99.98 %
2	VSAT round trip on a single satellite hop circuit	Less than 680 milliseconds
3	Packet Loss	Less than 0.3 %
4	Pack Jitter	Less than 2 milliseconds
5	Mean time to repair	1 hour

Credit allocation policy for availability of the any of the VSAT link

Cumulative Monthly Time of Outages	Customer credit (% of the monthly recurrent cost of the affected VSAT link)
Outage between 15 minutes 4 hours	10 %
Between 4 and 8 hours	15 %
Between 488 hours and 12 hours	30 %
Between 12 hour and 24 hours	50 %
More than 48 hours	One month credit

Credit allocation for Latency, packet loss, jitter

Performance Indicators	Service credit
Latency > 680ms for more than 1 hour during the service month	15% of the MRC
Packet loss >.3% for more than 1 hour during the service month	15% of the MRC
Jitter > 2millisecond	15% of the MRC

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** Only one service credit will be applied if two or three of the KPI are degraded at the same time.

Additional service requirements

The general service requirements include the following:

- The bidder must ensure the full compliance, integration and interconnection of its technical proposal with the NIS MIDAS existing IT Local Area network infrastructure.
- The bidder will also provide performance assurance tool which will enable the NIS to monitor, control, configure, manage and evaluate the performance of the services. The tool should be able to measure and provide results of standard KPI for typical WAN services such as the following: **Link status** –Availability of links for up to one year log –

One way delay –Round trip delay

Jitter

Packet loss

link throughput

Bandwidth utilization

The tool should also have the capability of automated bandwidth and capacity management and generating summarized and detailed reports relevant to the KPIs.

In its proposal the bidder should clearly indicate the methodologies of implementation of the services and performance assurance and the high-level design illustrating how the topology should be implemented.

The bidder must have specific knowledge, experience and competence in broadband IP and Satellite networks, and it is preferred that bidder operates VSAT service in Africa.

Finally, in addition to cost of supply and installation of the remote and hub station, it is the bidder's responsibility to specify the monthly charges for operations, maintenance, relocation, supply of spare part costs for each site for the solution proposed.

TECHNICAL EVALUATION (100 POINTS)

The evaluation for qualified firms shall be based on the evaluation criteria specified below.

Technical Evaluation Criteria	Points
acceptance of the terms and conditions of the contract (Signed and stamped)	5
Demonstrated Understanding of the TOR and the Overall Quality of the Proposal.	30
<ul style="list-style-type: none"> i. General technical approach and proposed methodologies including main activities of the assignment (4 points) ii. Quality assurance and Risk Management methodology (8 points) iii. Implementation, Project Organization and Management Plan including installation, Task, Time, and Resource Schedule. (8 points) iv. Technical Support and maintenance Plan. (5 points) v. Warranty on equipment is more than 12 months (5 points) 	
Conformity of the Proposed technical solution to the Terms of reference	30
<ul style="list-style-type: none"> i. Proof of providing an encrypted link for data (5 marks) ii. Model of quality of service based on class of services and prioritization (5 marks) iii. Scalability of the solution (5 marks) iv. Proof of a 24hx 7 days support (5 marks) v. Application acceleration functions (5 marks) vi. Bandwidth management and Monitoring portal for each site (5 marks) 	
Qualifications and Competence of the Key Personnel for the Assignment.	20
Knowledge, skills and experience on design and implementation satellite network earth station: Project manager Team Leader Expert Radio Frequency Engineer Network Engineer 3 points for each staff with five years of experience for the knowledge areas required (total 12 points) Relevant certification for each staff (total 8 points for 4 staff)	
Evidence (reference letter) of recent supply of VSAT to any reputable organization/company or UN Agency (5 marks for any 2 evidence)	5
Basic Training and Transfer of Knowledge	10
Provision of a training plan before installation, training report after installation and onsite training (5 Points)	
Provision of maintenance service plan for at least 24 months (5 points)	
An offer is declared technically valid and is considered for the financial analysis if it obtains a minimum score of seventy-five (75) points	100

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