



THE DIGITAL MALAWI PROGRAM PHASE I: DIGITAL FOUNDATIONS PROJECT

PROJECT NUMBER: P160533

Upgrade and Installation of Local Area Network (LAN) in selected Government Buildings (Lilongwe and Salima)

Response to Queries

QUERIES RELATED THE DIGITAL MALAWI PROGRAM PHASE I: DIGITAL FOUNDATIONS PROJECT						
Sr No.	Section No.	Section Name	Specifications	Section Reference	Query	Responses
1	Section VII	Technical Responsiveness and Compliance Sheets	Access Switch	1.8 Access switch (High Performance):	The throughput of switch port is mentioned as 10/100/1000 Mbps, which is 1 Gigabit maximum. However, the wireless access point is requested with 1750 Mbps. Shall the switches be updated with Multi Gigabit (2,5,5 or 10 Gigabit) port capacity?	<p>This is a minimum requirement for the access switch.</p> <p>The switches should be gigabit switches and there are updated specifications for wireless access points in the updated appendices.</p>

2	Section VII	Technical Responsiveness and Compliance Sheets	Access Points	1.9 Indoor Access Point (High Performance):	<p>The Throughput of AP is requested as 1750 Mbps, however the access switch is mentioned as 10/100/1000 Mbps capable. This does not match properly. Is AP to be planned with 1000 Mbps or less throughput</p>	<p>This is a minimum standard for the access switch.</p> <p>Additional information provided in the attached Compliance sheet and appendices</p>
3	Section VII	Technical Responsiveness and Compliance Sheets	Access Points	1.9 Indoor Access Point (High Performance):	<p>For Efficient Wi-Fi Coverage planning, the signal coverage needs to be estimated via Wi-Fi planner tool. Such tools require building/floor CAD drawing format as input.</p> <p>We request employer to facilitate such required information and materials.</p>	<p>Detailed CAD drawing are not available. Bidders are encouraged to participate in site survey and use WIFI network planning site survey tools on the ground in addition to the drawings in the bidding document and/or Google Earth.</p>
4	Section VII	Technical Responsiveness and Compliance Sheets	Backhaul for Salima District	1.15 Backhaul Client-Side Radio	<p>The same is proposed at RF backhaul with throughput of 1.2 Gbps in Point to Multipoint architecture. Whereas the Access Point are planned with throughput of around 1.7 Gbps. This will create a blocking architecture and the same is not recommended. Please check the feasibility if Fiber backbone can be proposed in Salima district within this RFP</p> <p>Or suggest if Bandwidth requirement over the Backhaul Radios is not going to exceed bandwidth capacity of recommended device</p>	<p>This has been deliberately designed as such as the anticipated utilization of bandwidth will not exceed 80%. But plans are underway to install fiber backhaul</p>

5	Section VII	Technical Responsiveness and Compliance Sheets	Mailing solution architecture	Email System Ability to scale/replicate mailbox data across 3 sites Minimum number of users: 250,000 Government of Malawi employees	<p>No. of Servers asked for mailing applications is 02 quantities and mail application users is 250,000. Also, Storage is just 70 TB.</p> <p>We think this configuration may not suffice the operational requirement for 250,000 email box usage requirements. So, shall we need to design the H/w as per the operational requirement.</p> <p>Can Highly Converged Infrastructure (HCI) preferred over traditional architecture of Server + Storage Area Network</p>	The storage for the email will be supported by a HCI Data Centre that will be procured in a different bid, so provide the equipment as requested
6	Section VII	Technical Responsiveness and Compliance Sheets	Mailing solution architecture	Email System Ability to scale/replicate mailbox data across 3 sites Minimum number of users: 250,000 Government of Malawi employees	The email solution can be implemented with both Licensed solutions as well as open source solutions. How does Employer envisage the adoption of either of these solutions?	Bidders are advised that we are looking for open source solution
7	Annex	All LOTS	All Buildings	Network Equipment Rack/Cabinet	<p>We have observed mention of 4U Network rack/ cabinet for each floor. This is expected to accommodate, access switch, cabling, ethernet patch panel, fiber patch panel and if necessary some additional network equipment or UPS for power backup.</p> <p>Can we suggest increasing the size of rack/cabinet from 4U to 12 or 15U?</p>	Bidders are requested to consider the minimum requirement of 4U Network rack

8	Annex	All LOTS	All Buildings	Network Equipment Rack/Cabinet	Shall 1KVA or 1.5 KVA UPS + Battery backup be included in proposal for each network rack/cabinet proposed on floors	Bidders are advised that this is not required
9	Annex	All LOTS	All Buildings	Network Equipment Rack/Cabinet	Is Air cooling provision available at the designated space for Racks/ Cabinets. With Wi-Fi planning the POE access switch are expected to generate more heat than normal access switches	Air cooling provisions are not available, but we expect all 4U racks to come with a cooling fan
10					I would like to formally advise The Digital Malawi Project Team that would not be right to deploy wireless technology as a primary access medium in an enterprise network of this size. Wireless technology is good, but it has many limitations and challenges. In the enterprise, it is there to offer mobility. We should avoid a scenario where we will blame the technology when in fact the problem would be misallocation.	Digital Malawi project opted for Wireless local area network for Capitol Hill for its key business advantages over wired networks in line with Digital Government strategy
11					Capital Hill is The Core of government operations. It deserves a robust network right from the core, distribution and access layers. A cabled network is by far always the best. Wireless still has a place but should not be primary	The Capitol Hill campus Wi-Fi will increase staff efficiency with the introduction of government roaming. The improved data communications coming with this solution will lead to faster transfer of information within government and between government and citizens/business.

						<p>The goal is to provide a better way for public servants at a visiting MDA to access Wi-Fi through single SSID with the 802.1X. This will provide a seamless roaming connectivity across thousands of public sector locations with a 'zero touch' internet access to public sector staff beyond Capitol Hill, i.e. across Malawi.</p>
12					<p>Wireless is easy and cheap to deploy but has numerous challenges in terms of connectivity, bandwidth bottlenecks, management and non-deterministic flow of traffic. Therefore mass deployment, as a primary network, will surely create chaos. In addition, management of the portable USB WLAN Adapters will prove a challenge. Additionally, almost all transactions at Capital Hill are done in offices. So mobility is secondary, unlike in colleges where there is need for network access by students from anywhere on campus.</p>	<p>All MDAs will access the Wi-Fi roaming service, including top government management to the lowest rank public sector staff through Single Sign On (SSO) when visiting Capitol Hill and all public locations in all districts. Envisaged benefits to government</p> <ul style="list-style-type: none"> - Easy-to-use internet access across thousands of locations - once configured, devices will connect automatically at any

						<p>participating site outside Lilongwe and Capitol Hill.</p> <ul style="list-style-type: none">- Authenticates users securely.- Replaces the need for guest accounts for visiting public sector colleagues at Capitol Hill and elsewhere.- Supports various authentication methods, accommodating unique MDA's requirements and policies.- The Wi-Fi solution configuration will be based on tried and tested technology of eduroam.- Because wireless technology allows the user to communicate while on the move, public service will rarely out of touch when working elsewhere in government premises - you don't need extra cables or adaptors to access office networks.- Office-based wireless workers can
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						network without sitting at dedicated computers and can continue to do productive work while away from the office. - Wireless networks will be easier and cheaper to install and maintain
13					So my plea is, let us provide the right technology for the scenario and technology that will stand the test of time. This is a very big and flagship project for Malawi. We should not do shortcuts. Let us bring value for money.	Digital Malawi project is looking at a wireless switching that is to simplify large-scale Wi-Fi deployment making it possible for e-Government to economically deploy and manage secure, dependable, Capitol Hill and MDA campus-wide wireless access with a common user experience while insuring effective information security and integrity.”
					The Scope of Works (pp 70 &71) is not specific on the works to be carried out in the buildings.	This is just a general statement
14					Short of a comprehensive BOQ, there is no indication of number of network points in each building.	Please refer to Technical Responsiveness and Compliance Tables - have been updated

						Appendices: A, B, C, D, E, F, G, H, I - these include indicative network equipment to guide bidders.
15					Floor Plans as presented in Annex C to H (pp 94-113) only show Wireless Access Points and 4U Cabinets	We are looking at building a campus wi-fi with government roaming features
16					We also note that 5,000 USB WI-FI Adapters have been requested in Lot 1.	These are for connectivity for devices without inbuilt wi-fi adapters
17					<p>The Specification for Access switch is only a 24-Port switch</p> <p>This therefore leaves us, contractors, to assume or speculate that it will only be a wireless network with a few backhaul cables (fibre and Cat6) connecting to the core through.</p> <p>Please clarify whether there will be Cat6 Cabling to the Desk.</p>	It will be a Wireless network, hence the few ports specified
18	General	All LOTS	All Buildings	Wi-Fi Solution	<p>Wi-Fi vs Ethernet</p> <p>Why Wi-Fi preferred</p>	Wi-Fi Campus solution chosen for its business advantages over wired networks. We are looking at latest Wi-Fi standards with speeds comparable to Ethernet.

						The Wi-Fi solution is to provide a seamless government roaming connectivity with a 'zero touch' internet access to public sector staff beyond Capitol Hill.
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