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	EXPRESSION OF INTEREST – 4G ROUTERS

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1.0 Introduction

Safaricom has made in-roads into the Home Fiber market, passing 295,941 Homes. The demand for Home internet remains high, driven by a shift in customer needs.

To meet the growing demand for Home internet, Safaricom intends to use 4G network as a last mile technology for fixed data.

To this end, Safaricom is seeking to on-board suppliers of 4G Routers who will be able to support this business goal.

The areas of interest for this EOI will be:

1.1 4G Router

The 4G Router Specs are as below;

Requirement Description	Mandatory (M) / Optional (O)
Technical Requirements	
General Requirements	
The solution shall adopt open standards based architecture as a basic minimum principle.	M
The solution architecture and functionality should ease network provisioning and configuration.	M
The solution should be agnostic to the choice of LTE access technologies & interact with existing and future LTE bands	M
The solution should allow for audits and security checks as per our IT security standards.	M
Proposed hardware should be able to interoperate with the existing Radio access Network. (Including and but not limited Huawei and Nokia etc.)	M
The solution provider MUST provide deployment examples and reference sites/customers/recommendations	M
The solution must be capable to support license key upgrades to convert appliance models to support future requirements	M

SPECTRUM	
Support all Safaricom LTE bands /spectrum FDD (Band 3/20)	M
Support all Safaricom LTE bands /spectrum TDD (Band 41)	M
Support band 42/43	O
CPE should support carrier aggregation	M
CPE should support higher order MIMO, i.e 4X4 MIMO	O
SPEED AND PERFORMANCE	
LTE CPE should be UE category 6 minimum in FY 2019/20	M
LTE CPE should be UE category 9 minimum in FY 2020/21	M
CHIPSET	
Chipset should be top of the range ie. Qualcom, INTEL, Broadcom, Hisilicon or equivalent	M
Supplier will provide chipset specifications including processor speeds	M
TRANSMIT POWER	
CPE output power of at least 16 dBm	M
REMOTE ACCESS	
CPE should support TR069 PROTOCOL/ SNMPV3 or allow for remote login and configuration or OTA	M
CLI/Telnet/ssh / WEB Management Interfaces	M
PHYSICAL CHARACTERISTICS	
Small form factor preferred for CPE	M
CPE should come with all necessary brackets for wall or roof top mounting	O
LED indicators for power, LTE signal strength, WIFI strength	M
Provide for easy self-installation features	M
Wired Interfaces	
CPE should have at least 2 RJ45 ports but 3 and above RJ45 ports would be an advantage	M
RJ 11 port	M
Auto MDIX	M
CPE should have 100 Base T, 1000 Base T ports	M
VOICE SERVICES	

CPE should support VOLTE	M
CPE should support VOIP	M
DATA SERVICES	
DMZ and Virtual Server Support	M
IP and Port Filtering Support	M
Local and Remote Management Restriction	M
Port forwarding	M
Application Firewall Support	M
LAN Device Access Control	M
Should support L2VPN (VPLS,VPWS)	O
Support NAT,Port forwarding,port trigger,UPnp	O
Multiple VLAN tagging support	O
VPN Pass-through (PPTP, L2TP & IPsec)	O
Built-in L2TP & GRE Client Support	O
	M
WIFI	
WIFI support for 802.11e a/ac/b/g/n	M
WPS support	M
Support 2.4 and/or 5 Ghz WIFI bands	M
WPA 1.0 PSK,WPA 1.0/WPA 2.0 PSK, OPEN, WEP shared key WIFI security support	M
SSID broadcast	M
SECURITY AND ENCRYPTION	
Support MAC filtering	M
Support for IPv4 and IPv6 filtering	M
L4-L7 Firewall	M
CONFIGURATION AND INSTALLATION	
CPE should be easy to install preferably plug and play	M
CPE should support Windows, Linux and MAC OS as a minimum but additional OS support is an advantage	M
CPE should be easy to reset to factory default and easy to reset WIFI password	M
Enable the operator to name the device/CPE with the customer name or CI	O
Enable entering of coordinates or establishment of location of device	O
CPE should be able to lock to a particular band	O

Environmental	
Operating Temperature -40 - 55°C	
Storage Temperature -30 - 85°C	M
Humidity 90% non-condensing	M
	M
Network Requirements	
It MUST support IPV4	M
It MUST support IPV6	M
It should subsequently handle both IPv4 and IPv6 DNS requests to enable end users use dual stack networks transparently	M
It should support IP in IP tunnels of one IP address family in another IP address family (i.e. IPv6 tunneling in IPv4 and vice and versa)	M
It should support IP address family translation (e.g. IPv6 to IPv4 translation or IPv4 to IPv6 translation)	M
The solution should have the capability to detect the path MTU	M
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ADDITIONAL FEATURES	
Soft SIM support or road map	O
USB type C support or provide road map	O
SD Card slot	O
FOTA	M
Indoor whip antenna provision of 3dBi antenna gain	M
CPE variant with alternative power source for example solar powered, powerbank + USB type C or external CPE battery	O
GIS Capability	M

2.0 Instructions to Respondents

i. Analyze the contents in the section titled 'Introduction' and 'scope'
ii. Build a detailed response showcasing what product solution you would propose to meet the business goal
iii. Provide a comprehensive write up on your industry experience.
iv. Detail all other products that your organization deals with related to the requirements captured in the business goal
v. Outline the industry best practices and trends for Safaricom's considerations.
vi. Provide the following details for Safaricom to review:
    a. A functional description of the product(s).
    b. A technical description of the product(s).

   c. All relevant product data sheets
   d. A signed letter of introduction and overview of your company

 vii. The EOI response must **not** include any pricing/commercial proposal.
 viii. All responses should be provided in standard file formats i.e. PPTs, .XLSs, .DOC(X), PDF.
 ix. All responses should be provided in electronic format only i.e. emailed to ramayo@Safaricom.co.ke
 x. All technical questions related to this RFI should be sent to ZMokua@Safaricom.co.ke
 xi. The receipt of a response shall not bind Safaricom into any contractual agreements with the bidder. Such arrangements shall only come into place once a tender process has been undertaken and an award issued to successful bidder(s) as evaluated technically and commercially.
 xii. Any costs associated with the preparation and submission of the response to the EOI shall be borne by the vendor.

3.0 Scope

As part of this scope, the Vendor shall:

1. Provide a 4G Router that meets the stated requirements
2. Avail 2% SWAP stock units in case of faulty Units
3. Provide After Sales Support directly or through an appointed partner.
4. Provide at least 1 Year warranty to cover Manufacturer's defects
5. Provide basic training needed to effectively sell the device to end users.

4.0 Aims and Objectives

The main objective of the EOI is to:

1. Identify partners that can supply 4G devices on FOB/FCA/DDP Incoterms
2. Pre-qualify and float a tender to potential providers following this EOI evaluation
3. Agree on a framework of engagement with the successful partner

This document is soliciting interested OEM and/or OEM partners to participate in this exercise. The participating entity must be duly registered and reputable firm(s) with the capacity to provide or demonstrate that they have a mature product that can be used for the purposes mentioned above.

5.0 EOI Content

The EOI proposal/ response should contain the following information:

- **Legal Certification & Registration by relevant regulatory authorities** – i.e. Certificate of incorporation, Single Business Permit, Tax Compliance Certificate, Memorandum and Articles of Association for the Company, VAT Certificate Of Registration, Official search report Form CR12, Form of Annual Return of A Company Having a Share Capital, Registration by relevant body/institution as an approved training institution, Registration by the National Industrial Training Authority, Certificate of Cover for Professional Indemnity.

- **Company organogram and CVs of resource persons** including copies of educational qualifications, certificates of registration by relevant authorities and competency to offer QA trainings (stating areas of expertise). Note - emphasis will be placed on the calibre of trainers provided.

- **Demonstrate capacity to undertake the above listed services** - detailed scope and methodology of the trainings offered, sample training manual, sample course outline and course content, sample timetable to be used in training for each of the trainings the vendor is able to provide.

- **Provision of recent client referrals/ referral letters** where similar services have been carried out and number of staff trained providing contact address, scope of works and duration.

- **Details of the Bidder's physical premises and contact details**.

6.0 Next Steps

- Vendors who express interest to participate in the provision of the above-mentioned service, and meet our requirements, shall be prequalified for the provision of this service in their area(s) of expertise, subject to the provision of required documentation and demonstrated ability to deliver the trainings.

- Only those vendors who meet the minimum evaluation and pre-qualification criteria will be considered for further discussion on the tender process.

7.0 Responses

All responses to this EOI should be emailed to ramayo@safaricom.co.ke

8.0 Note

Safaricom Limited reserves, at its sole discretion, the right to select or reject either in totality or partially, any or all proposals made in the context of this EOI. Any such decisions made will be final and no correspondence will be engaged into, other than for informing the bidders of the outcome of the process.