ANNEXURE F - REQUEST FOR PROPOSALS (RFP)

FOR THE SUPPLY OF NETWORK AND SECURITY EQUIPMENT, SOFTWARE AND SERVICES TO THE CSIR

RFP NO. 3395/09/10/2020

RFP CLARIFICATION REQUEST FORM

RFP No. RFP No. **3395/09/10/20202**
RFP deadline for questions / RFP Clarifications: Before 16:30 on Friday, **02/10/2020**
TO: CSIR
ATTENTION: CSIR Tender
EMAIL tender@csir.co.za
DATE: 22/09/2020

The following are Questions and Answers for the above mentioned RFP for prospective suppliers information

Bill of Quantity

Q1 - Please confirm the quantities of the following equipment:

Q1.1 Will the Core Switch, Distribution Switch, Internet Facing Switch and the Private Cloud Switch all be installed in one 42U Rack?

A1.1 *Yes*

Q1.2 Are all the access switches stand-alone or are some of them in a stack configuration and do we need Racks for the Access Switches?

A1.2 *stand-alone, no rack needed (no stack configuration)*

Q2 According to your diagram, we pick up the following BOM. Please advise.

Q2.1 10 x Access Layer Switches

A2.1 *Yes*

Q2.2 1 x Distribution Switch

A2.2 *Yes*

Q2.3 1 x Private Cloud Switch

A2.3 *Yes*[1]

Q2.4 1 x Core Switch

A2.4 *Yes*

Q2.5 1 x Internet Facing Switch

A2.5 *Yes*

Q2.6 1 x Wireless Access Controller

A2.6 *Yes*

Q2.7 14 x WiFi6 Indoor Access Points

A2.7 *Yes*

Q2.8 2 x WiFi6 Outdoor Access Points

A2.8 *Yes*

Q2.9 1 x NGFW /Firewall

A2.9 *Yes*

Q2.10 1 x Monitoring

A2.10 *Yes*

Q2.11 1 x Implementation

A2.11 *Yes*

Q2.12 1 x Warranty and Licences for all equipment

A2.12 *Yes*

Q2.13 1 x Maintenance and support on all equipment

A2.14 *Yes*

Q2.15 2 x Skill Transfer

A2.15 *Yes*

Q2.16 1 x Acceptance Test Suite

A2.16 *Yes*

Q3 What type of integration do you require on the Cisco IES? (For instance TACAS etc.) The system we will be proposing can do redirection to radius server, captive portal and active directory. Will this be sufficient?

A3 *devices you recommend must be able to send service request to Cisco ISE*

Q4 How many years of maintenance, support and technical services do you require?

A4 Three (3) *years*

Q5 Please can you confirm the blades which are currently installed on the Cisco 6509-E? are we replacing 12 X 10GB SFP+ Blades?

A5 We are looking at a new equipment that will replacement the Cisco 6509-E.

Q6 Is Cisco ISE and its licenses excluded from this request?

A6 Licenses of ISE must be included (*Base and Plus*)

Q7 Please can you confirm the number of access Switches

A7 10

Q8 What is the distance between floors or buildings where the closet are located?

A8 most of the Equipment will be hosted in 1 rack, only the 30m distance for the access switches

Q10 What UPLINKS (SMM/SMF) connections is currently in place between the Core and access/distribution layers?

A10 Multimode

Q11 How many users will be connecting onto this network? We need to know this in order for us to recommend the correct Firewall and licenses?

A11 Internal 30-staff, external 800-clients. It is best to recommend a high speed performing Firewall. Please refer to Annexure: A 1.9

Q12 Should we include the VPN licenses for users? If yes, for how many user?

A12 40

Q13 Please can you send the floor maps so that we can see how many access points will be required? or should we replace the current 12 APS?

A13 As per the RFP we only need 14 indoor AP's, 2 outdoor AP's: please refer to Annexure: A 1.7 and 1.8

Q14 For the requested 10 x Access Switches, will each of these access switches have dual fibre uplinks to the distribution layer, or will some of them be stacked and we only need to provision dual QSFP transceiver modules per stack? If only per stack, how many access stack will there be? Or put differently, how many 40G QSFP transceiver modules do we need to include in the pricing for the access switches?

A14 *dual fibre uplink, no stacking, 12x 40G QSFP.*

Q15 Are the distribution, core, firewall, internet facing switch and private cloud switches all in the same DC room? In other words, can we provision the much more cost effective Direct Attached Cable QSFP cables to interconnect these devices or do you require standard QSFP transceiver modules and CSIR to provision fibre? If QSFP transceiver modules are required, will the fibre be based on Multimode or Single-mode fibre?

A15 Yes; *Multimode, only single mode from ISP to Internet facing switch*

Q16 Please provide quantities and type (Base/Plus/Apex) of the existing Cisco ISE licenses that CSIR has already purchased.

A16 *Base and Plus, license expired*

Q17 Does CSIR have a preference or preferred OEM vendor for the Firewall?

A17 No

Q18 The requirement for "*The proposal must include a 42U Rack with smart PDUs to host the hardware equipment*", please clarify how many 42U racks need to be included in the proposal

A18 *1x 42U rack*

Q19 The requirement for "*Hardware support will require replacement of failed or faulty critical components by the next business day or sooner*", does this mean OEM 8x5xNBD hardware maintenance support is sufficient for all devices?

A19 Yes

Q20 Outdoor AP – Please provide the distance of where outdoor AP's will be installed relevant to the Switch? Will these outdoor APs be powered from the switch, or do we need to include PoE Injectors as part of the pricing?

A20 *Powered from the switch-40meter*

Q21 Firewall – The requirement “at least support visibility and advanced security capabilities”, can you please elaborate on what advanced features are required? Apart from Malware protection and Antivirus, is there anything else over and above this? (*IPS, URL filtering,)*

A21 *refer to Annexure: A 1.9*

Q22 With reference to Annexure A - RFP Technical Specification1, section 1,2, Distribution layer, *“support a minimum of 4 x 100G ports and must be scalable to 6 x 100G ports to comply with current requirements and future expansion”*

Referring to the ideal network diagram - the diagram indicates 2 x solid lines and 2 x dotted lines between distribution and core. Must the build of material include the 2 x 100G links (ports and cables) only or a total of 4 x 100G links (ports and cables)?

A22 2x 100G links, ports and cables

Q23 With reference to Annexure A - RFP Technical Specification1, section 1,3, Private Cloud Switch “support at least 6 x 100G ports to comply with uplink requirements and future potential expansion.”

Referring to the ideal network diagram - the diagram indicates 2 x solid lines and 2 x dotted lines between Private Cloud and Firewall. Must the build of material include the 2 x 100G links (ports and cables) only or a total of 4 x 100G links (ports and cables)?

A23 2x 100G links, ports and cables

Q24 With reference to Annexure A - RFP Technical Specification1, section 1,4, Core Switch *“support at least 6 x 100G ports and must be scalable up to 12 x 100G ports to comply with uplink requirements and future potential expansion”*

Referring to the ideal network diagram - the diagram indicates 4 x solid lines and 4 x dotted lines between Core and FW and Core and Distribution. Must the build of material include the 4 x 100G links (ports and cables) only or a total of 8 x 100G links (ports and cables)?

A24 4x 100G links, ports and cables

Q25 With reference to Annexure A - RFP Technical Specification1, section 1,5, Internet Facing Switch *“support at least 8 x 100Gbps ports and must be scalable up to 12 x 100Gbps ports to comply with uplink requirements and future potential expansion.”*

Referring to the ideal network diagram - the diagram indicates 3 x solid lines and 3 x dotted lines between Internet Facing Switch and Internet and Internet Facing Switch and FW. Must the build of material include the 3 x 100G links (ports and cables) only or a total of 6 x 100G links (ports and cables)?

A25 2x 100G links, ports and cables

Q26 With reference to Annexure A - RFP Technical Specification1, section 1,5, Internet Facing Switch *"support at least 8 x 100Gbps ports and must be scalable up to 12 x 100Gbps ports to comply with uplink requirements and future potential expansion"*

Q26.1 Can you please confirm what the current links (speed 10g/100g, media - copper/fiber, distance, single mode/multi-mode) are between Internet Facing Switch and Internet.

A26.1 Currently no internet facing switch,line speed from ISP to Internet Facing Switch will be 100g , single mode fiber.

Q26.2 If the build of material must include the links, cables, ports for the existing links to Internet or the "Ideal" 100G links as per diagram?

A26.2 Ideal 100G links

Q26.3 if the build of material must be for the "Ideal" 100G links, can you please confirm what are the required link details (distance, single mode/multi-mode)?

A26.3 only single mode from ISP to Internet facing switch, all other links will be multi-mode, all devices will be hosted on 1 rack except access switches 30m distance from the rack

Q26.4 must the build of material include the ports and cables for 2 links to Internet or one?

A26.4 2 links

Q27 Regarding your feedback on the quantity of 40G QSFP modules, you stated "*dual fibre uplink, no stacking, 12x 40G QSFP*". According to our calculations, if there are 10 x Access Switches with no stacking and each switch requires dual fibre uplinks, then should the total quantity of QSFP modules not be (2 x 10 for access switch side) + (2 x 10 for distribution switch side) = 20 + 20 = **40 x QSFP**?

A27 One (1) link per switch will be used for now, the other link is for future growth; hence we need 12x QSFP extra 2x QSFP will be used for any Emergencies to minimize down time

Q28 In Annexure A section 1.1 Access Layer there is a specification for "*support a minimum of 12 x 100M/1G/2.5G/5G ports of nBase-T Ethernet (IEEE 802.3bz) for Access Point connectivity and should be scalable to a minimum of 24 X 100M/1G/2.5G/5G and 10G ports of nBase-T Ethernet (IEEE 802.3bz)"*. We are proposing a solution based on Cisco switches, however Cisco's multigigabit model does not fully comply with the stated specification as it provides the following ports: 36 x 100M/1G/2.5G + 12 x 100M/1G/2.5G/5G/10G. Will this Cisco switch specification be sufficient to comply with the above tender?

A28 The specification is sufficient

Q29 Is the maximum of 2 x 100G ports per expansion slot mandatory?

A29 Yes

Q30 Do switches and accesses points need to be compatible with Cisco ISE?

A30 Yes

Q31 Do switches need to comply with the POE budget requirements (eg: 1440w)?

A31 Yes

Q32 Is the switching and AP requirements mandatory or can we provide alternatives?

A32 You can provide alternatives

Q33 With reference to Annexure A - RFP Technical Specification1, section 1,5, Internet Facing *Switch* "support at least 8 x 100Gbps ports and must be scalable up to 12 x 100Gbps ports to comply with uplink requirements and future potential expansion"

(3) There are various options for 100G single mode SFP's. Can you please confirm the exact SFP type/details of the SFP at the Tenet side of the internet link as the distance rating etc. must match to ensure compatibility.

A33 QSFP28-LR4

Q34 In the pricing schedule, when CHPC refers to Support and Maintenance is this the vendor back to backs or ongoing support by the installing partner?

A34 The CSIR assumes that the installing partner has a back to back agreement with the vendor and is certified and have expertise to install and support the environment.

Please refer to Annexure A – Specification

4. MAINTENANCE, SUPPORT AND TECHNICAL SERVICES

- Hardware support will require replacement of failed or faulty critical components by the next business day or sooner. A critical component is defined as one that is required to enable 90% of the system to be able to run projects successfully. Software support will require telephone and email response to problem calls and questions. Response to software support calls to be next business day or sooner.
- Bidders should describe both the hardware and software support provided for the proposed system during the support period.
- Bidders should specify the location of the nearest parts depot and explain the conditions under which support will be contracted out to a third party.
- Bidders must provide information on how they anticipate delivering and supporting their proposed solution, paying particular attention to the personnel and skills available within their organisation.

Q35 Please can CSIR suggest a USD/ZAR exchange rate to use for all bidders? By doing this CSIR will be able to compare like for like pricing submission from the bidders. Note that quotting on a 120 day USD/ZAR forward cover rate, will increase the price unnecessary.

A35 The RFP states that we want firm prices, and that the exchange rate should be clearly indicated where price elements are subject to escalation and exchange rate fluctuation. By providing the exchange rate, CSIR will be able to make comparisons.

19 PRICING PROPOSAL

19.2 Pricing proposal must be cross-referenced to the sections in the Technical Proposal. Any options offered must be clearly labelled. Separate pricing must be provided for each option offered to ensure that pricing comparisons are clear and unambiguous.

19.3 Price needs to be provided in South African Rand (excl. VAT), with details on price elements that are subject to escalation and exchange rate fluctuations clearly indicated.

19.4 Price should include additional cost elements such as freight, insurance until acceptance, duty where applicable. Only firm prices* will be accepted during the tender validity period. Non–firm prices** (including prices subject to rates of exchange variations) will not be considered.

Q36 Annexure A (1.4) - Core Switch; support redundant power supply for device redundancy - The only device in the RFP which mentions any for of Control plane redundancy is the firewall (Active/Standby or Active/Active Supervisors) is there any other redundancy required for the core / distribution switches ie: Data plane / Control plane redundancy or is power supply redundancy the only required HA feature?

A36 Power supply the only redundancy HA feature.

Q37 Annexure A (1.5) - Internet Facing Switch; include all relevant SFP's and or Active Optical cable - Assume you are referring to the cables to link the switch to the firewall? No detail is provided in terms of the specifics of the Internet connection in order to specify optics?

A37 From ISP to Internet Facing switch-Single mode.

Q38 Annexure B (2.1); Distribution switch scaling capabilities on same chassis - Please clarify this statement? Are you referring to the Core switch being able to scale to do distribution functions too, or is this referring specifically to scaling of the distribution switch -which must be done within the same chassis ie: by adding modules etc?

A38 Scaling of distribution switch

Q39 Two lines in the Rating scale column refer to "Datacenter switch" -and not Core or Distribution? Assume this is just a typing error and should say Core or distribution switch?

A39 Core switch

Q40 Annexure B (2.2); Single chassis must have power supply redundancy - Does this mean the Firewall solution must be a single chassis or are cluster solutions also acceptable?

A40 Single solution

Q41 Annexure B (2.3); Switch must be able to support Netflow,IPFIX,Netstream, and sFlow - Assume this should say switch must be able to support at least one or more of the following "Netflow, IPFIX, Netstream or SFLow". The way the statement is written would mean that the supplied devices have to support all of them, which is almost impossible to find. These protocols provide similar functionality (apart from sFlow which is sampled) but are "proprietary" There are very few if any vendors who support all of these.

A41 Support one or more of Netflow, IPFIX, Netstream or SFLow

Q42 Does CHPC require physical redundancy on all proposed elements? i.e. A pair of Firewalls, and a pair of core switches or distribution switches? Or is component redundancy adequate? i.e. Redundancy, internal module redundancy, etc.

A42 No.

Q43 Annexure A, 6, ACCEPTANCE TEST SUITE

Acceptance of the Network solution will be assessed using Iperf. This consists of a tool for active measurements of the maximum achievable bandwidth on IP Networks, it supports tuning of various parameters related to timing, buffers and protocols (TCP, UDP, SCTP) with IPv4 and IPv6, for each test it reports the bandwidth, loss, and

other parameters.

Can we assume that this acceptance tool you will provide and not to be scoped for in the tender response ?

A43 Yes

Q44 Annexure A, Access Layer

support a data stacking solution to achieve simplicity, scalability, and flexibility.

If stacking modules and cables are required to enable the stacking feature of the switch for data stacking must they be included in the bill of quantities?

A44 no stacking

Q45 Annexure A, Distribution Layer

support 10 x 40G ports and must be scalable up to 20 x 40G ports to ensure connectivity to the access layer switches and potential future growth
support a minimum of 4 x 100G ports and must be scalable to 6 x 100G ports to comply with current requirements and future expansion
25G port capability to ensure compatibility for potential future requirements
10G port capability to ensure compatibility for potential future requirements

Must the proposed single distribution switch that must be scalable up to 20 x 40G ports also support 6 x 100G ports and have 10G and 25G port capabilities?

A45 Yes

Q46 Annexure A, Core Switch

support a minimum of 12 x 1GE/10GE RJ45 copper interfaces to comply with current and future expansion.

Must the proposed core switch bill of quantities include the 12 x 1GE/10GE RJ45 copper ports or must it only be scalable to that for future requirements?

A46 include the 12x 1GE RJ45 copper ports

Q47 Annexure A, Internet facing switch

support at least 8 x 100Gbps ports and must be scalable up to 12 x 100Gbps ports to comply with uplink requirements and future potential expansion.

support at least a minimum of 12 x 10G SFP+ interfaces to comply with current requirements and future expansion.

25G port capability to ensure compatibility for potential future requirements

40G port capability to ensure compatibility for potential future requirements

Must the proposed single internet facing switch that must be scalable up to 12 x 100G ports and support the 12 x 10G sfp+ interfaces also be able to support 25G and 40G ports?

A47 single Internet facing switch

Q48 Annexure A, Internet facing switch

support at least a minimum of 12 x 10G SFP+ interfaces to comply with current requirements and future expansion.

Must the proposed internet facing switch bill of quantities include the 12 x 10G SFP+ ports or must it only be scalable to that for future requirements?

A48 include the 12x 10G SFP+ ports

Below are some SFP clarification information:

Access Switches

2x 40G (Multi-mode) relevant transceivers per all Access Switches

Cables: 30 meters

Below Devices will be hosted in 1 rack

Distribution Switch:

4x 100G (Multi-mode) relevant transceivers
10x 40G (Multi-mode) relevant transceivers
4x 25G (Multi-mode) relevant transceivers
10x 10G (Multi-mode) relevant transceivers

Private Cloud Switch

4x 100G (Multi-mode) relevant transceivers
10x 25G (Multi-mode) relevant transceivers
10x 10G (Multi-mode) relevant transceivers

Core Switch

12x 100G (Multi-mode) relevant transceivers
10x 40G (Multi-mode) relevant transceivers
10x 25G (Multi-mode) relevant transceivers
15x 10G (Multi-mode) relevant transceivers

Internet Facing Switch

2x 100G (LR) relevant transceivers
8x 100G (Multi-mode) relevant transceivers
12x 10G (Multi-mode) relevant transceivers
10x 25G (Multi-mode) relevant transceivers
10x 40G (Multi-mode) relevant transceivers

Wireless Controller

2x 10G (Multi-mode) relevant transceivers

Next Generation Firewall

12x 100G (Multi-mode) relevant transceivers
1x 100G (LR) relevant transceiver
4x 10G (Multi-mode) relevant transceivers

_____ END _____