

INDIAN INSTITUTE OF TECHNOLOGY GOA

At Goa Engineering College Campus

Farmagudi, Ponda, Goa 403401

E-mail: purchase@iitgoa.ac.in

GSTIN: 30AABAI1653D1ZF

PAN: AABAI1653D

TAN: BLRI08261B

Enquiry No: IITGOA/2021-22/054

Date: 15/03/2022

IIT Goa invites sealed quotations in two bid form for the supply of below mentioned items.

Sl. No.	Description of Items	Qty
1	Virtual Wireless Controller (Detailed Specifications Attached)	01
2	Wireless Access Points (Detailed Specifications Attached)	30
3	Rack Server (Detailed Specifications Attached)	01
4	VMware vSphere (Detailed Specifications Attached)	01

Terms and conditions:

1. Quotation must be valid for at least 90 days.
2. The GSTIN should invariably be mentioned in your offer.
3. Kindly attach a compliance certificate along with the technical quote.
4. Prices: Prices should be quoted in INR – F.O.R., IIT Goa basis only.
5. Payment terms:
 - i. Within 30 days after the delivery and successful installation of items at IIT Goa.
 - ii. Payments towards AMC shall be paid at the end of each quarter/year.
6. Delivery and installation should be made within 4 weeks of getting a confirmed order.
7. The Institute is following and abide with the revised Public Procurement (Preference to Make in India), Order 2017 P- 45021/2/2017 – B. E. -II dated 16.09.20 issued by DPIIT, Ministry of Commerce and Industry, Govt. of India & subsequent amendments/instructions of Ministry. Accordingly, preference will be given to the make in India products while evaluating the bids. However, it is sole responsibility of the bidder(s) to specify the product quoted by them is of Make in India along with respective documentary evidence in the technical bid itself.

8. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Department of Promotion of Industry and Internal Trade (DPIIT). This is also applicable for bidders bidding for finished goods procured directly/indirectly from the vendors from the countries sharing land border with India.
9. The bidder must be either OEM or authorized dealers or resellers of the original manufacturer of the proposed equipment in India. Both cannot bid simultaneously for the same item/product in the same tender.
10. The suppliers shall provide the banking details along with their quote on their letterhead duly signed and stamped.
11. Quotations shall be submitted in two parts;
 - 1) **Part – I (Technical)** should contain all the technical details and specification of the product. It should contain unpriced bid along with terms and conditions, compliance certificates, proprietary certificates (if applicable), any other certificates/details etc. This envelope should be marked as “Technical Bid”
 - 2) **Part -II (Financial)** The financial bid of the above item should be in a sealed envelope marked as “Financial Bid” and should contain financial terms and conditions.
12. IIT Goa reserves the right to accept or reject any or all the bids without assigning any reason in public interest.
13. The successful bidder has to submit a Performance Guarantee Bond for 3% of the Purchase Order value and valid till one year OR up-to warranty period plus sixty days whichever is later from the date of issue of Purchase Order. Performance Guarantee Bond may be submitted within 15 (Fifteen) days from the date of order acknowledgment as a successful bidder.
14. For any clarification, you may kindly contact Mr. Raghavendra Y. Kalaghatagi (E-mail: raghavendra@iitgoa.ac.in and Stores & Purchase Department (email: purchase@iitgoa.ac.in) till 30/03/2022.
15. All sealed quotations must be super scribed with the tender enquiry number and should reach to the Deputy Registrar (Stores & Purchase), IIT Goa, at Goa College of Engineering Campus, Farmagudi, Ponda, Goa, 403 401 by 17.00 Hrs on or before 05/04/2022.

Sd/-
Registrar

Procurement of Virtual Wireless Controller, Wireless Access Points and Rack Server

Introduction

Indian Institute of Technology, Goa has a campus-wide network spread over the academic, hostel, and office areas, based on optical fiber as a backbone. This state-of-the-art scalable campus network is expanding on a regular basis as per Institute needs. In view of this Institute has decided to procure a virtual Wireless controller, controller-based indoor wireless access points and Rack server.

1. Scope of work:

- A. The scope of the work includes supply, installation, commissioning, and integration of the rack server with a virtual wireless controller and connecting all the existing wireless access points over the IIT Goa campus as per the institute's requirement and maintenance of the same for a period of five years.
- B. All items supplied must have a comprehensive onsite OEM warranty/ license for a period of five years. All the equipment mentioned in *Table-1* should be quoted from a single vendor.
- C. Selected bidders will have to provide support to IIT Goa personnel to configure and integrate the Ethernet switches and wireless indoor access points as and when required within the warranty period without disturbing the current architecture of the network.
- D. Institute is having Cisco AIR-CAP2702I-D-K9, AIR-AP1852I-D-K9, and AIR-AP1815I-D-K9 wireless access points. The selected bidder needs to integrate all the existing access points into the new virtual wireless controller.
- E. The bidder will be liable for any hardware and software up-gradation for maintenance without any extra cost during the warranty period. The technical bid must contain the make, model, and part number of all supplied components along with the supported part code.

2. Pre-Qualification Criteria:

- A. The bidder should not have been blacklisted by any IITs or similar Autonomous Institutions /Universities, Government /Public Sector Undertakings on the date of submission of this bid. A declaration from the bidder must be submitted.
- B. The bidder should have valid latest ISO 27001 Certification or ISO 9001 Certification.
- C. The quoted products should not be under the end of sales or end of support in the next five years from the date of submission.

TABLE-1

Sl.no.	Description	Specification	Qty in nos.
1	Virtual Wireless Controller with 200 Licenses	As per Annexure-1	01
2	Indoor Wireless Access Points along with Power Injectors	As per Annexure-2	30
3	Rack Server	As per Annexure-3	01
4	VMware vSphere	As per Annexure-4	01

3. Technical Bid format

1. Must provide compliance certificate as per Annexure 1 to 4 format failing which bids will not be considered.
2. Must mention the offered product, OEM details and delivery period in the following format.

OFFERED PRODUCTS					
Sl. No.	Description	Qty	Make	Model	Country of Origin
1	Virtual Wireless Controller with 200 licenses.	01			
2	Indoor Wireless access points along with power injectors.	30			
3	Rack Server	01			
4	VMware vSphere	01			

4. Price Bid format

Sl. No.	Description	Qty	Unit Price with 5-years warranty In Rs.	Tax @ _____ in Rs.	Total Price in Rs.
1	Virtual Wireless Controller with 200 Licenses.	01			
2	Indoor Wireless Access Points along with Power Injectors.	30			
3	Rack Server	01			
4	VMware vSphere	01			
Total					
Grand Total					
In Words:					

Annexure-1

Sl. No.	Virtual Wireless Controller Specifications		Compliance (YES/ NO)
1	AP Support	<p>Virtual Wireless Controller should support the following existing Cisco access points.</p> <ul style="list-style-type: none"> i. AIR-CAP2702I-D-K9 ii. AIR-AP1852I-D-K9 iii. AIR-AP1815I-D-K9 iv. C9115AXI-x 	
2	Hardware	Wireless controller should support 200 AP from day one and should be scalable upto 500 AP for future requirement with licenses and 5000 clients from day 1.	
	Hardware High Availability	The controller shall support deployment flexibility without compromising any features	
		Wireless Controller shall support link aggregation and load sharing between Access Point to WLC links	
		The Controller shall provide standalone Virtual Wireless Controller option without requiring physical, additional Controller appliance	
		The controller shall be proposed with complete feature set including licensed feature	
High Availability mode shall support controller inline data plane mode as well as local switching mode and Mesh mode			
3	High Availability Software	Proposed Controller should support High Availability	
		The controller failover shall not trigger client de-authentication and re-association	
		The controller shall support hot WLC software patching for fixing bugs	
		The controller shall support hot AP software patching for fixing bugs	
		The controller shall support new AP hardware without need for upgrading entire controller software.	
		The controller shall support rolling AP upgrade	
		The controller shall support rolling AP upgrade without need for clustering	
		The redundant Controller shall sync Access Point and Client Status, including DHCP IP lease status	
Access Point shall be able to proactively distributes Client connection before and after association and tracking client condition in real time using data packet RSSI			
4	Software RF management	The controller shall support standard-based, secure AP-Controller data & control protocol like CAPWAP. protocol that has known vulnerability like PAPI cannot be	

		used.	
		The controller shall support Inter-Controller Wireless Roaming	
		The controller shall maintain per-user Application usage and shall be able to export it for network analytic.	
		The controller shall support Multi Languages options from embedded GUI Management	
		The controller shall provide per-Client Connection Scoring and provide reasoning of Client Connection Score	
		The controller shall support Cellular offload using IPv6 tunneling to Mobile Core network	
		The controller shall be able to support multiple RF Management profile per group of APs, including Transmit Power Control and Dynamic Channel Assignment on both <u>2.4GHz</u> and 5Ghz	
5	RF management Mesh	The controller shall be able to identify and avoid interferers with network performance impact analysis report	
		The controller shall support optimized, automatic channel width (20~160Mhz) selection over 5GHz, 802.11ac	
		Mesh AP nodes shall provide quick convergence and fast failover to new root mesh node	
	Mesh Application Recognition and Control	Mesh Backhaul interface shall support full duplex operation using wired daisy chaining	
		Mesh AP shall support fast roaming for Wired-client through wired-to-wireless bridge client	
		The controller shall support per-user and per-WLAN based application recognition and control that throttle usage by rate-limiting	
	Application Recognition and Control BYOD & Security	The controller application recognition technology shall support exporting to 3rd party compatible format, such as NetFlow v9	
		The controller shall provide policy-based mDNS gateway including chromecast gateway	
		The controller shall support new application signatures without upgrading controller software	
		The controller shall provide Device Profiling using multiple profiling methods to reduce false-detection	
6	BYOD & Security Network	The system shall provide secure onboarding service for both employee and guest based on standard-based security protocol Proposed system shall not use public cloud as user data repository	
		The controller shall be able to embedded custom web portal page (HTML) to fully customize user experience without additional cost or extra box	
		The controller shall provide rule-based rogue classification and automatically run rogue mitigation action	

		The controller shall be able to detect employee device connection to Rogue Access Point and contain it automatically. It should also support protection from Honeypot or Evil twin.	
		The controller shall support Content Security using DNS integration, Web Classification shall be fully customizable	
		The system shall support control plane encryption on both IPv4 and IPv6	
		The Controller's image upgrade shall be done through secure, encrypted transport	
		The controller shall be able to provide unique pre-shared keys to the devices that do not support the 802.1x security protocol	
		The controller shall support Identity PSK for onboarding	
		The controller shall support identification & mitigations of threats inside encrypted traffic	
		The controller shall support mapping of specific VLANs to single SSID, depending on Access Point location and user	
7	Configuration	The controller shall support automatic VLAN assignment per SSID to load-balance user connection. assigned VLAN pool shall be same as a number of available VLAN in the system	
8	Configuration	The controller shall support embedded best-practice configuration profile and setup	
		The controller shall support packet fragmentation between Access Point and controller communication	
9	Licensing and Warranty	<ul style="list-style-type: none"> ● 200 AP licenses for 5 years. ● 5 years comprehensive OEM onsite warranty with Next Business Day resolution with 24x7 technical support from OEM. Bidder must provide the support/replacement without any charges from IIT Goa.	

Annexure-2

Sr. No.	Wireless Access Points, Specification	Compliance (Yes/No)
1	Access Point shall support 4x4 MIMO on both radio interfaces and MU-MIMO technology	
2	Access Point shall be able to support Multigigabit Ethernet, support up to 2.5 Gbps PHY speed using single Cat5e or above (Cat6, Cat6a, Cat7) cable	
3	Access Point shall be able to support full features at 802.3at	
4	Access Point shall be able to powered up using PoE (.af)	
5	Access Point shall support Dual 5GHz radios	
6	Access Point shall have dedicated radio/chipset for spectrum monitoring capabilities, WIPS and off channel RRM without compromising and using the client serving radios.	
7	Access Point shall support hardware driven beamforming	
8	Access Point shall be IoT ready (Zigbee, Thread) and container support for IOT applications.	
9	Access Point should have Bluetooth 5 radio to support use cases of location, asset tracking and analytics.	
10	Access Point should have 1x 100, 1000, 2500 Multigigabit Ethernet (RJ-45) – IEEE 802.3bz	
11	Access Point should have USB port for future requirement.	
12	Must have at least 3 dBi Antenna gain on each radios	
13	Must Support data rate upto 5gbps.	
14	Must support minimum of 23dbm of transmit power in both 2.4Ghz and 5Ghz radios. And should follow the local regulatory Norms.	
15	Must support AP enforced load-balance between 2.4Ghz and 5Ghz band.	
16	Must incorporate radio resource management for power, channel and performance optimization	
17	Must have -97 dB or better Receiver Sensitivity.	
18	Must support Proactive Key Caching and/or other methods for Fast Secure Roaming.	
19	Must support Management Frame Protection.	
20	Should support locally-significant certificates on the APs using a Public Key Infrastructure (PKI).	
22	Must support the ability to serve clients and monitor the RF environment concurrently.	
23	Same model AP that serves clients must be able to be dedicated to monitoring the RF environment.	
24	Must be plenum-rated (UL2043).	
25	Must support 16 WLANs per AP for SSID deployment flexibility.	

26	Access Point Must continue serving clients when link to controller is down. It should also have option to authenticate user through Radius server directly from Access Point during link unavailability to controller.	
27	Must support telnet and/or SSH login to APs directly for troubleshooting flexibility.	
28	802.11e and WMM	
29	Must support QoS and Video Call Admission Control capabilities.	
30	Access point should be wifi 6 certified	
31	<p>Licensing/ Support/ Warranty:</p> <ul style="list-style-type: none"> ● 5 years comprehensive OEM onsite warranty with Next Business Day resolution with 24x7 technical support from OEM. ● Bidder must provide the support/replacement without any charges from IIT Goa. 	

Annexure-3

Sl. No.	Rack Server Specification		Compliance (YES/ NO)
1	Processors	Rack Server shall have a minimum of two (2) socket should be loaded with one Intel latest generation Skylake Processors with minimum 2.1 GHz & 20 cores.	
2	Chipset	Intel chipset compatible with the offered processors.	
3	Internal Storage	The server should Support up to 8 hot-swappable SAS, NL-SAS, and SSD drives.	
4	Internal Storage Memory	1.2 TB Usable space using RAID 1 with SSD Drive for OS. 1 TB usable SAS HDD with RAID 1 for backup storage.	
5		The Server RAID controller should support the following configurations RAID 0, 1, 5, 6, 10, 50, and 60	
6		Server should be configured minimum with 2GB of Flash backed write cache module.	
7		Should have at least 24 DIMM slots per server and support a minimum up to 1.5TB of DDR4 2666 MHz memory.	
8	Memory Network	The Server should be configured with 8x 16GB of DDR4 Memory from day one	
9		Support for advanced memory redundant technologies like Advanced error-correcting code (ECC) and memory mirroring.	
10		Should have 2 * 10 GbE (embedded) LAN ports, 2*10 GbE SFP+ network cards for LAN connectivity	
11	SAN Connectivity	Server Should support 16Gbps FC HBA.	
12	PCIe Slots	Up to 6 PCIe Generation 3.0 slots	
13	Security	The server should provide cryptographic firmware updates	
14	Security Management	Capable to stop the execution of the BIOS	
15		Server should provide Anti-counterfeit	
16		The server should provide hardware policy-based security	
17		The server should provide rack server intrusion detection	
18		The server should provide a Hardware root of trust	
19		The server should provide system lockdown	

20		Should support out of band upgrades, Agentless out-of-band management, integrated diagnostics and Power monitoring and reporting.	
21	Management Ports	The system should provide management of multiple servers from a single console	
22		The system should provide hardware profile deployment (Single server or group of servers)	
23		The server should support industry-standard management protocols like IPMI v2 and SNMP v3	
24		One 1-Gbps RJ-45 management port	
25		The server should support multiple management interfaces including web user interface and command-line interface.	
26		Should have the following ports for server connectivity	
27		Ports Others	● 1 serial port
28	● 4 USB 3.0/2.0 ports		
29	● 1 VGA video port		
30	Supports hot-swappable redundant fans		
31	Others Warranty	Supports hot-swappable redundant power supplies	
32		Rail Kit and cable management arm to be provided along with the server	
33		5 years comprehensive OEM onsite warranty with Next Business Day resolution with 24x7 technical support from OEM.	
34	Form Factor	1U	

Annexure-4

Sl. No.	VMWare Specifications	Compliance (YES/ NO)
1	VMWare vSphere ESXi: <ul style="list-style-type: none">● The license should be compatible to install and run the virtual wireless controller over the server.	
2	Configuration: <ul style="list-style-type: none">● Bidder must install and configure the VMWare as per the IIT Goa requirements.	
3	License/ Support <ul style="list-style-type: none">● 5 years support from day one.	

FORMAT FOR PERFORMANCE GUARANTEE BOND

(To be typed on Non-judicial stamp paper of the value of Indian Rupees of One Hundred) (TO BE ESTABLISHED THROUGH ANY OF THE NATIONAL BANKS (WHETHER SITUATED AT GOA OR OUTSTATION) WITH A CLAUSE TO ENFORCE THE SAME ON THEIR LOCAL BRANCH AT GOA OR ANY SCHEDULED BANK SITUATED AT GOA. BONDS ISSUED BY CO-OPERATIVE BANKS ARE NOT ACCEPTED.

To,
The Registrar,
Indian Institute of Technology, Goa
Farmagudi, Ponda,
Goa – 403401

LETTER OF GUARANTEE

WHEREAS Indian Institute of Technology, Goa (Buyer) have invited Tenders vide Tender No..... Dt. for purchase of

AND

WHEREAS the said tender document requires that any eligible successful tenderer (seller) wishing to supply the equipment / machinery, etc. in response thereto shall establish an irrevocable Performance Guarantee Bond in favour of “**Registrar, Indian Institute of Technology, Goa**” in the form of Bank Guarantee for Rs (**3% (three percent) of the purchase value**) and valid till **one year or upto warranty period plus sixty days whichever is later** from the date of issue of Purchase Order. Performance Guarantee Bond may be submitted within 15 (Fifteen) days from the date of Order Acknowledgment as a successful bidder.

NOW THIS BANK HEREBY GUARANTEES that in the event of the said tenderer (seller) failing to abide by any of the conditions referred in tender document / purchase order / performance of the equipment / machinery, etc. this Bank shall pay to Indian Institute of Technology, Goa on demand and without protest or demur Rs..... (Rupees.....).

This Bank further agrees that the decision of Indian Institute of Technology, Goa (Buyer) as to whether the said Tenderer (Seller) has committed a breach of any of the conditions referred in tender document / purchase order shall be final and binding.

We, (name of the Bank & branch) hereby further agree that the Guarantee herein contained shall not be affected by any change in the constitution of the Tenderer (Seller) and/ or Indian Institute of Technology, Goa (Buyer).

Notwithstanding anything contained herein:

1. Our liability under this Bank Guarantee shall not exceed Rs.
(Indian Rupees only).
2. This Bank Guarantee shall be valid up to(date) and
3. We are liable to pay the guaranteed amount or any part thereof under this bank guarantee only and only if IIT Goa serve upon us a written claim or demand on or before (date).
4. This Bank further agrees that the claims if any, against this Bank Guarantee shall be enforceable at our branch office at situated at (Address of local branch).

Date:

Yours truly,

Signature and seal of the Guarantor:

Name of Bank:

Instruction to Bank: Bank should note that on expiry of Bond Period, the Original Bond will not be returned to the Bank. Bank is requested to take appropriate necessary action on or after expiry of bond period.

DECLARATION OF LOCAL CONTENT

(To be given on company letter head - For tender value below Rs.10 crores)

(To be given by Statutory Auditor/Cost Auditor/Cost Accountant/CA for tender value above Rs.10 crores)

Date: _____

To,
The Registrar,
Indian Institute of Technology Goa,
At GEC Campus, Farmagudi, Ponda - Goa

Sub: Declaration of Local content

Tender Reference No: _____

Name of Tender: - _____

Country of Origin of Goods being offered: _____

We hereby declare that an item offered has _____ % local content. _____

(list/details of individual items considered under local content with its percentage should be provided along with the declaration)

“Local Content” means the amount of value added in India which shall, be the total value of the item being offered minus the value of the imported content in the item (including all customs duties) as a proportion of the total value, in percent.

We understand that, as per Office Memorandum dated 04/03/2021 issued by Ministry of Commerce and Industry, services such as transportation, insurance, installation, commissioning, training and after sales support like AMC/CMC etc. are not considered as local value addition.

“*False declaration will be in breach of Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.”

Yours faithfully,

(Signature of the Bidder, with Official Seal)

UNDERTAKING FOR BID SECURITY

(To be issued by the bidder on company's letterhead in lieu of EMD)

To,
The Registrar,
Indian Institute of Technology Goa,
At GEC Campus, Farmagudi, Ponda – Goa

We, M/s (name of the firm), with ref. to enquiry no.

..... dtd hereby undertake that:

- 1) We accept all the terms and conditions of the tender document.
- 2) We accept that, we will not modify our bid during the bid validity period, submit performance guarantee within the stipulated period and honor the contract after award of contract.
- 3) In the event of any modification to our bid by us or failure on our part to honor the contract after final award or failure to submit performance guarantee, our firm may be debarred from participation in any tender/contract notified by Indian Institute of Technology, Goa for a period of one year.

Yours faithfully,

(Signature of the bidder with date and seal)