

**WLAN INFRASTRUCTURE RFP**

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**TENDER NOTICE**

Quotations are invited for setting up WLAN infrastructure on DDU Campus so as to reach the undersigned on or before 23-07-2016 before 12.00 noon.

The quotation envelope should be superscribed with “ WLAN INFRASTRUCTURE- last date 23-07-2016” and should be sent to:

The Vice Chancellor  
Dharmsinh Desai University  
College Road, P.O.Box 35  
NADIAD – 387 001

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## **INTRODUCTION**

### **1.0 Introduction**

- D D University, is setting up Wireless system at Nadiad campus. Networking infrastructure being the core component forming the backbone of all information transport, we invite quotation for Selection of SI for providing their expert and competent services for carrying out Supply, Installation, Testing and Commissioning (SITC) of Wireless System at its campus.
- Structured Networking system required for Wi-Fi Points.
- This Networking Infrastructure should act as a reliable platform for all above mentioned converged service.
- Quotations are requested for the item(s) in complete accordance with the documents/attachments as per guidelines appearing in the document.

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### SCOPE OF WORK

1. This is a turnkey project for providing controller based wireless networking in D D University, Nadiad. The scope of the work includes supply, planning, installation, configuration, and deployment of the solution and on-site training to Nadiad personnel for one day plus its maintenance during warranty period.
2. The bidder shall be responsible for providing all materials, equipment and services specified herein or otherwise which are required to fulfill the intent of ensuring operability, maintainability, and reliability of the complete equipment covered under this tender within bidder's quoted price. The quantities for the passive components mentioned in the tender are the estimates. The bidder may quote and include in their bill of quantities any components, which they deem are necessary for successful implementation of the project.
3. All products being quoted should be compatible and seamlessly integrated with the existing networking infrastructure in DDU Nadiad. The bidders are requested to visit the Institute before submitting the bid.
4. Quantities mentioned in the tender are indicative and therefore may vary as per actual requirements.
5. Each product should come with a comprehensive on-site warranty including labor and spares for **three years** starting from the date of installation and acceptance.
6. The existing OFC/Switches must be used wherever possible. All the Connectivity to various departments/labs and other areas where existing switches and network are working has to be connected with the Wi-Fi network.

The firm shall be responsible to draw complete site plan and network layout in the form of diagram or chart work done and the equipment installed at the site

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### **Eligibility Criteria for Vendors**

1. The bidder should be an OEM or an authorized representative of the OEM. The bidder shall furnish the OEM's authorization letter specific to this tender clearly mentioning the tender details for which the authorization is being provided.
2. The bidder shall furnish proof of being capable of providing continuous support including software upgrades availability of spares for a minimum period of 3 years from the respective OEM for the quoted items. Lifecycle of the items, software availability and the OEM's product roadmap should be submitted. The OEM shall also be responsible for successful implementation of the proposed solution.
3. The bidder/system integrator (SI) should be in the Wi-Fi business for the minimum last five years and OEM for the last ten years in India. The bidder also should have their own after sales support facilities in Nadiad or Ahmedabad. The support facilities should be fully owned by the bidder / OEM and managed by their permanent employees (company payroll) and not through franchisee(s). It is mandatory to enclose the supporting documents.
4. All Wi-Fi components (controller and access points etc.) should be from single OEM. Similarly, all switching components (distribution switches, edge/access switches, transceivers etc.) from single OEM. And all passive components should also be from the single OEM.
5. The offered products in the Wi-Fi solution against the supply order shall be the latest version and should be under support for next 3 years. However, if any product, which is declared end of life product by the OEM during the supply period of material, the bidder should supply replaced model or next higher model/version of the product.
6. The SI/bidder must have successfully executed at least three wireless controller based projects each consisting of minimum 100 access points under managed mode of operation during the last three calendar years. At least one deployment should be in Government organization/PSU/Autonomous body/University/Higher education Institute of repute. (Documentary proof for installation should be attached with offer issued by purchaser department).
7. The bidder must specify item-wise compliance to the technical specifications. This compliance should also be countersigned by the respective OEM official. The make and model of the quoted items must be clearly specified.
8. The quotation should be valid for minimum period of 90 days.
9. The bidder must have ISO 9001:2008 certification

**Note: All the details and the supportive documents for the above mentioned items should be submitted.**

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### **Terms and Conditions**

- 1 D D University, Nadiad does not bind itself to accept the lowest bid or any tender and reserves the right to reject any or all tenders without assigning any reasons.
- 2 Complete technical specifications and pamphlets should be sent along with the bid. Quotations without proper technical specifications will be rejected.
- 3 A site survey is required to find out Radio Frequency (RF) occurring already in our DDU environment and its overall effect.
- 4 The proposed system should support RF Coverage Map to allow troubleshooting of any issue.
- 5 The time allowed for delivery, installation, commissioning and completion of the work shall be 6 weeks effective from the date of the issue of the purchase order.
- 6 The bidder shall provide OEM's authorization letter confirming that the OEM supports the bidder.
- 7 The bidder shall submit the following documents along with the bid document:  
WPC approval for APs, Type approval from TEC for the switches, Relevant UL/IEC certification, Hyperlink for technical compliance, installation plan, cabling layout plan, and deployment architecture

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### Technical Specifications for the above WLAN Requirement

S. No.	Description	Compliance (Yes / No)
<b>General Requirement</b>		
1	The bidder submitting the offer should be OEM Vendor or Authorized Reseller / Partner of OEM Vendor for wireless Products. Authorized reseller / partner must submit the Manufacturer's Authorization Form (MAF) from OEM vendor qualifying the compliance for this tender.	
2.	OEM should be in the Gartner report	
<b>Architecture</b>		
1	WLAN Controller should be hardware/appliance-based controller OR software-based controller in which APs acts as a virtual controller.	
<b>Scalability</b>		
1	In case of hardware controller, controller shall be capable of supporting minimum of 100 AP's from day one to the future scalability. In case of software-based controller, cluster should support at least 100 aps in one subnet & required management software should be provided	
2	If customer requires, need to show the reference of customer where 100 or more APs deployed in cluster	
<b>High Availability</b>		
1	High availability should be provided for controllers. In the event of a failure of the hardware/virtual controller, a standby controller shall automatically take over the master role.	
2	Virtual controller or Hardware controller should have VPN capabilities for the future expansion.	
3	Virtual controller or Hardware controller should support cloud based solution for the future expansion.	
<b>WLAN Features</b>		
1	Should support Band Steering feature that forces the dual-band capable clients to the 5 GHz band on dual-band access points.	
2	Should balance wireless clients across APs on different channels, based upon the client load on the APs.	
3	Should support internal DHCP server.	

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4	WLAN Solution IEEE 802.11r roaming standard and shall support L3 mobility that allows a client to roam between APs on the same network but different client subnets, while preserving its IP address and existing data sessions.	
<b>Network Policy features</b>		
1	WLAN solution should be able to create access policies in order to allow or block packets for inbound traffic/outbound traffic.	
2	WLAN solution (either integrated or through external firewall) shall have a capacity to inspect all traffic from each user session and allow or deny any traffic that does not satisfy specified policies.	
3	WLAN solution (either integrated or through external firewall) shall provide identity-based controls to enforce application-layer security and prioritization. E.g You tube to be given defined bandwidth like 1 Mbps and some apps like Facebook to be denied or given defined bandwidth.	
4	WLAN solution shall be capable of controlling bandwidth per user.	
<b>Spectrum scanning</b>		
1	WLAN solution shall be capable enough to scan the 2.4 or 5GHz radio bands to identify sources of Wi-Fi and NON WI-FI interference sources, and make the results available locally and to a remote management solution.	
<b>WLAN Security</b>		
	An integrated or External wireless intrusion prevention system shall be proposed with following features:	
1	Should prevent students/users connecting to rogue AP and also prevent an outside user trying to connect to campus WLAN.	
2	Should prevent Ad-hoc connections (i.e. clients forming a network amongst themselves without an AP)	
3	Should prevent windows bridge (i.e. client that is associated to AP is also connected to wired network and enabled bridging between two interfaces)	
<b>Outdoor Access Points</b>		
1	Access point should be 802.11ac.	
2	Dual radio, dual band capable of supporting 2.4 GHz & 5 GHz simultaneously.	
3	The Wireless AP should have at least one 10/100/1000 Base-T PoE port.	
4	AP should have 3*3:3 hardware, able to provide 1.3 Gbps on 5Ghz	

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5	AP should have Inbuilt Omni directional antenna	
6	Should be able to provide omnidirectional coverage pattern	
7	Should be IP66 & IP 67 compliant	
8	The Wireless AP should be UL2043 Plenum rated.	
9	Access points shall support Kensington security slot.	
<b>Indoor Access Points</b>		
1	Access point should be 802.11ac.	
2	Dual radio, dual band capable of supporting 2.4 GHz & 5 GHz simultaneously.	
3	The Wireless AP should have at least 2 10/100/1000 Base-T PoE port. & supportable to Link aggregation	
4	AP should have 3*3:3 hardware, able to provide 1.3 Gbps on 5 Ghz and	
5	AP should have Inbuilt Omni directional antenna	
6	The Wireless AP should be UL2043 Plenum rated.	
7	Access points should have Kensington security slot.	
<b>Network Management Software</b>		
1	NMS should be capable of monitoring both LAN and WLAN. There should be single monitoring window	
2	Solution must provide Wireless LAN Planning and Design, Network Monitoring and Troubleshooting, Indoor location monitoring capability, Wireless IPS management. Centralized Software updates, Network mapping with floor plans for easier automated site survey, Rogue detection and containment.	
3	CWMS should provide real-time monitoring, pro-active alerts, historical reporting, efficient troubleshooting through centralized intuitive user interface	
4	CWMS should have option to customize report on parameters like client health, RF health, device inventory, auditing, compliance and option to scheduling report time.	
5	CWMS should provide tools to help better manage RF coverage, address security issues, location tracking to provide a clear picture of who is on the network, their location and how the network is performing.	
6	Solution must provide client troubleshooting tools, including showing client Signal to Noise Ratio (SNR), Received Signal Strength Indicator (RSSI) and session throughput.	
7	Policy creation and enforcement - to easily create virtual LAN (VLAN), RF, quality of service policies, security policies, network topology maps, Customized reports	

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<b>8</b>	System should automatically discover WLAN infrastructure devices and create visibility into wired infrastructure that connects controllers and APs	
<b>9</b>	Should collect and display client device details like Manufacturer, model, device type, OS & more	
<b>10</b>	Central configuration for controller and APs and there should be an option to cancel out of a new configuration or reverts back to the last saved configuration.	
<b>11</b>	Allows quick location of users and wireless devices for troubleshooting, planning and asset tracking.	
<b>12</b>	Playback location history of individual users over the past day to aid in troubleshooting and recovery of lost devices.	
<b>13</b>	Last known location of each tracked device is stored indefinitely to help find lost or stolen devices	
<b>14</b>	Display the location of each rogue device on a building floor plan and disable wired switch ports if attached rogue APs are detected.	
<b>15</b>	Aggregates, correlates, alerts and logs wireless attacks that have been detected and reported on the network, providing a comprehensive picture of infrastructure.	
<b>16</b>	System should facilitate various administrative roles to match each individual users responsibility e.g. Helpdesk user may be given read-only access to monitoring data without being permitted to make configuration changes.	
<b>17</b>	System must be able to provide detailed performance statistics for WLAN equipment (statistics related with bandwidth, coverage etc.) and must not be tied to specific WLAN vendors, also provide graphical details of WLAN utilization, average data rate, WLAN traffic etc. on a per AP basis	
<b>18</b>	System should provide current list of clients connected to each AP, graphical details of wireless traffic & data rates on a per client basis, recent history of association with APs & adhoc networks for clients, alerts when wireless clients use interface bridging or Internet	
<b>19</b>	Connection Sharing, trends for WLAN performance parameters, alert when wireless bandwidth is being wasted due to excessive auxiliary traffic, trends for WLAN performance parameters	
<b>20</b>	System must be able to maintain recent history of connected clients for each AP for up to 2 years	
<b>21</b>	The operations solution should provide a network “dashboard” on all screens, providing up-to-date network-wide information on key usage and performance metrics. The operations solution should monitor edge switches to which wireless devices are connected. The operations must be able to monitor IDS events, since	

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	they have a potential impact on network performance as well as security.	
<b>22</b>	The operations must provide mechanisms for remediating and/or containing rogue devices it has detected...	

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### FINANCIAL PART

Having examined the tender documents, the receipt of which is hereby duly acknowledged, we offer to supply the goods and services in conformity with the said tender documents at the rates shown below:

1 SN	2 Particulars of the items	3 UOM	4 Qty	5 Unit rate	6 Tax	7 Unit Price (Inclusive All)	8 Total Price (Inclusive All)
1	Wireless Controller or AP with controller Functionality with 25 AP License from day one and Scalable Up to 100 AP	No	2				
2	Indoor Wi-Fi Access Point with Poe (30W) Injector	No	9				
3	Outdoor Wi-Fi Access Point with Poe (30W) Injector	No	9				
4	Network Management Software for 25 Wireless AP	No	1				
5	8 port Gigabit Managed Switch	No	4				
6	Cat 6 UTP cable (305 Meter)	Box	3				
7	Cat 6 IO/Faceplate/back Box	No	30				
8	1 Mtr Cat6 Patch cord	No	45				
9	25 mm Cassing Capon/PVC Pipe	Meter	470				
10	Installation Charges for Above Components with One Additional 9U Rack , Policy Configuration in Controller , NMS Software Configuration and Installation, Managed switches Installation and Passive component Laying and Termination Charges, Documentation Charges	LS	1				
11	UPS 1 KVA with 30min battery backup	No	6				
12	Upgrading existing Firewall (Cyberoam CR100iNG) to 300 users	No	1				
<b>Grand Total of Supply and Service Components with Inclusive of Tax in (INR)</b>							