

# National University of Study & Research in Law

## Kanke, Ranchi

Tender No: NUSRL/RNC/2017/7064-D(2)

Date: 11-08/2017

### Notice Inviting Tender

For Supply & Installation of Controller Based Wi-Fi setup at NUSRL, Ranchi.

SI No	Details	
1	Last date of Submission of Tender	25 / 08 / 2017, up to 4 pm
2	Tender Opening Date	31 / 08 / 2017, at 4:00 pm onwards
3	Tender Fees	1000/- (non-refundable) Demand Draft in favor of "The Registrar, NUSRL, Ranchi" payable at Ranchi.
4	EMD( non-interest bearing)	1,00,000/- (Rupees One Lac only) Demand Drafts in favor of "The Registrar, NUSRL, Ranchi" payable at Ranchi.
5	Tender document to be submitted at	The Assistant Registrar (In-charge) National University of Study & Research in Law PO-Bukru, PS-Kanke, Ranchi,
6	Site Survey	Bidders are requested for survey the entire Campus for better understanding of BOQ.

Sealed Tenders are invited from eligible, reputed and experienced companies for "Supply & Installation of Controller Based Wi-Fi setup in Hostels & Campus at NUSRL, Ranchi".

This Tender document can be downloaded from Institute's website [www.nusrlranchi.ac.in](http://www.nusrlranchi.ac.in).

Offers as per "Technical Bid" & "Price Bid" in prescribe formats in separate covers duly superscripted as "Technical Bid for Supply & Installation of Controller based Wi-Fi Setup in Campus at NUSRL, Ranchi" and "Price Bid for Supply & Installation of Controller based Wi-Fi Setup in Campus at NUSRL, Ranchi" and both the sealed covers are to be put in a bigger cover which should be sealed and superscripted as "Tender for Supply & Installation of Controller based Wi-Fi Setup in Campus at NUSRL, Ranchi" respectively and should be delivered thereon through Registered Post/ Courier/Speed Post/ or in person to be dropped in the Tender Box kept for this purpose in Administration building on or before 25/08/2017 up to 4 p.m. Tenders received after the due date and time will not be considered or accepted, no request or appeal will be entertained for this.

### Instructions to Bidders:

- Documents are to be put in Technical Bid: Following documents and papers to be put into this bid without any deviations :
  - 1.1. Demand Draft for EMD & Tender Fees towards this tender.
  - 1.2. Properly filled-up Annexure – I (Bidders & OEM criteria) and its all supporting documentary evidence.
  - 1.3. Properly filled-up Annexure – II (Technical compliance sheet) and its supporting documents like Datasheets / Spec sheet.
  - 1.4. Properly filled-up Annexure – III (BOQ & Make-Model List)
  - 1.5. Properly filled-up Annexure – IV (Terms & Conditions)
- Documents are to be put in Price Bid: Following document to be put into this bid without any deviations :
  - 2.1 Properly filled-up Annexure – V (Price Bid Format)

# National University of Study & Research in Law

Kanke, Ranchi

Supply & Installation of Controller based Wi-Fi Setup in Campus at NUSRL, Ranchi

## Annexure I (Technical Bid)

### Bidder / OEM criteria

Sl. No.	Qualifying Criteria for Bidders / OEMs	Bidder Response
1	A. Name of the Organization / Bidder	
	B. Principal Address with Contact details of the Organization / Bidder	
	C. Profile of your company / Organization / Bidder:	
	C1. Year of establishment	
	C2. Annual turnover for the last 3 years <b>(should be over 2 Crores)</b> **Please furnish 3 years audited Balance sheet	FY 2017-2018 : FY 2016-2017 : FY 2015-2016 :
	C3. Organization Status (should be a Register Company under Govt. act.) **Please furnish Incorporation Certificate	
	C4. Service Center / Technical / Manpower Location / Office / Setup details which is in Ranchi area.	
2	The Bidders should have executed at least 2 (Two) orders each of minimum Rs.30 lakh or one order of more than Rs.50 lakh of similar nature (Wireless /LAN) during the last 5 (Three) years. (The second work order should not be a repeat order of the first one).	1. (Please furnish PO & Completion Certificate) : 2. (Please furnish PO & Completion Certificate) :
3	Tender Specific Authorization Certificate of the Quoted OEM.	MAF to be furnished
4	Onsite support at NUSRL Campus	Declaration on company Letter Head to be furnished.
5	Details of Technical Manpower	A list of Technical Manpower to be furnished
6	The OEM should have spare parts depot / service center / TAC in India	Details to be furnished
7	The Bidder should offer such Wifi components / products of OEMs who are (a) Having presence in india for last 6 years or more and in the WiFi business for last 10 years or more (b) ISO certified	(a) Supporting document for presence (b) ISO Certificate of OEM
8	The Bidder should not be Blacklisted/debarred or involved in any Corrupt & Fraudulent Practices by any Central / State government ministry/affiliate or Public sector undertaking.	Self-certification from the organization on letter head.

9	Documents related to allocation of Valid (1) PAN Number (2) VAT / CST Registration (Latest) (3) Service Tax Registration (Latest)	Self-attested photocopies of documents/certificates issued by the competent authority to be furnished.
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*BIDDER'S SIGNATURE:* \_\_\_\_\_  
*BIDDER'S NAME:* \_\_\_\_\_  
*BIDDER'S DESIGNATION:* \_\_\_\_\_

*DATE :* \_\_\_\_\_  
*OFFICIAL STAMP:*

# National University of Study & Research in Law

## Kanke, Ranchi

For Supply, Installation and commissioning of Controller based Wi-Fi Setup\_at NUSRL, Ranchi.

### Annexure II (Technical Bid)

#### Technical Specifications

#### **BOQ-Item No - 01 . - Technical Specification of Indoor Wireless Access Points**

**Offered Make (Bidder to Mention) :** \_\_\_\_\_ / (Acceptable Make List: Cisco , Avaya, Ruckus // equivalent

**Offered Model (Bidder to Mention) :** \_\_\_\_\_

<u>Sr. No</u>	<u>Specifications</u>	<u>Compliance Yes / No</u>	<u>Remarks</u>
1	The APs should support the 802.11a, 802.11b, 802.11g and 11n and ac standards. It should also support 802.11ac standard in the 5 GHz band.		
2	Operation in dual band radio is essential		
3	Should support minimum 2x2 or higher MIMO with 2 spatial streams on both radio bands to provide up to 867 Mbps (5 GHz) and 300 Mbps (2.4 GHz) of user throughput		
4	The access points should be centrally managed.		
5	In some small isolated environments, the AP should be able to function as a full-fledged stand-alone access point without the requirement of a controller.		
6	Security mechanisms should be in place to protect the communication between the Access Point controller and the Access Points.		
7	Since most radio interference come from the WLAN network itself the vendor should specify what mechanisms such as beam steering/ adaptive antenna technology/ beamforming are available in combination to focus the energy on the destination STA and minimize radio interference with the surrounding of the AP. The vendor should specify if the activation of such feature is still compatible with 802.11n spatial multiplexing.		
8	Since the WLAN network will be using an unlicensed band the solution should have mechanisms that reduce the impact of interference generated by other radio equipment operating in the same band. Describe techniques supported.		
9	The access point should be able to detect clients that have dual band capability and automatically steer those client to use the 5GHz band instead of the 2.4GHz band.		
10	The antennas to be dual polarised and should be integrated inside the access point enclosure to minimize damage and create a low profile unit that does not stand out visually.		
11	The access point should have 1 Gigabit Ethernet port.		
12	The access point should support 802.1q VLAN tagging		

13	The access point should support WPA2 enterprise authentication and AES/CCMP encryption. AP should support Authentication via 802.1X and Active Directory.		
14	Implement Wi-Fi alliance standards WMM, 802.11d, 802.11h and 802.11e		
15	The Access Point should provide for concurrent support for high definition IP Video, Voice and Data application without needing any configuration. This feature should be demonstrable.		
16	Support RF auto-channel selection by the following three methods: a) measuring energy levels on the channel; b) monitoring for 802.11 signal structures and; (c) detecting radar pulses. Other similar forms of smart selection shall also be accepted.		
17	Channel selection based on measuring throughput capacity in real time and switching to another channel should the capacity fall below the statistical average of all channels without using background scanning as a method.		
18	Should support Transmit power tuning in 1dB increments in order to reduce interference and RF hazards		
19	Device antenna gain (integrated) must be at least 4dBi and should provide automatic interference rejection of about 10dB.		
20	Should support up to 100 clients per AP		
21	Should support DHCP Option 82 in standalone mode (without Controller) as well as in Managed mode (with Controller)		
22	For troubleshooting purposes, the administrator should have the ability to remotely capture 802.11 and / or 802.3 frames from an access point without disrupting client access.		
23	Operating Temperature: 0°C - 40°C		
24	Operating Humidity: 10 % - 95% non-condensing.		
25	Should be plenum rated and comply to RoHS		
26	Should be WiFi certified; WiFi certificate to be enclosed		
27	Should be WPC approved; ETA certificate to be enclosed		
28	<b>Warranty period should be 3 years onsite.</b>		

**BOQ-Item No - 02 . - Technical Specification of Wireless Controller**

Offered Make (Bidder to Mention) : \_\_\_\_\_ / (Acceptable Make List: Cisco , Avaya, Ruckus/equivalent

Offered Model (Bidder to Mention) :

<u>Sr. No</u>	<u>Specifications</u>	-	<u>Remarks</u>
<b>1</b>	<b><u>Architecture</u></b>		
1.a	The controller should be Hardware based and have option of 2x 10/100/1000 Ethernet Port (RJ45/GBIC/SFP) for connecting to LAN and one console port.		
1.b	Proposed Controller should be ready for supporting 30 AP's from day one with scalability for 75 AP support in future without adding any new hardware.		
1.c	Controller should have capacity to handle minimum 2000 or more Concurrent devices.		
1.d	Controller should support minimum 256 WLAN's.		

<b>2</b>	<b><u>General Feature requirements</u></b>		
2.a	Controller should provide air-time fairness between these different speed clients – slower clients should not be starved by the faster clients and faster clients should not adversely affected by slower clients.		
2.b	Controller should support Spectrum Analysis feature to detect interference from different sources.		
2.c	Controller Should provide real-time charts showing interference for access point, on a per-radio, per-channel basis.		
2.d	Ability to map SSID to VLAN and dynamic VLAN support for same SSID.		
2.e	support automatic channel selection for interference avoidance		
2.f	Controller must support 802.11k and 802.11r.		
<b>3</b>	<b><u>Auto Deployment of AP's at different locations</u></b>		
3.a	Access points can discover controllers on the same L2 domain without requiring any configuration on the access point.		
3.b	Access points can discover controllers across Layer-3 network through DHCP or DNS option		
<b>4</b>	<b><u>Security &amp; Monitoring</u></b>		
4.a	Controller should support following for security & Authentication:		
4.b	WIRELESS SECURITY: WEP, WPA-TKIP, WPA2-AES, 802.11i		
4.c	AUTHENTICATION : 802.1X, local database External AAA servers : Active Directory, RADIUS, LDAP		
4.d	System should provide DOS attacks and Intrusion Detection & Prevention and Control for any Rough Access Points.		
4.e	The AP should be able to scan for rogue access points and the controller should be able to locate them on a floor map. The controller should be able to send a notification to the administrator when a rogue AP has been detected.		
4.f	System must be able to provide L2/L3/L4 Access Control.		
4.g	Controller Should support L2 Client Isolation so User cannot access each other's devices. Isolation should have option to apply on AP or SSID's.		
4.h	Controller should support Access Control based on Identity, Role, Device, time or Application.		
4.i	Support for Walled garden "Walled Garden" functionality to allow restricted access to select destinations by unauthorized wireless users.		
4.j	IPv4 & IPv6 support from Day 1		
4.k	Should support onboard and external DHCP server		
4.l	Controller should support integrated or External AAA server including Microsoft AD and Linux based open source AAA servers.		
4.m	The proposed architecture should be based on controller based Architecture with thick AP deployment. While Encryption / decryption of 802.11 packets should be able to perform at the AP.		
4.n	The Controller should support OS/Device finger printing and device type based policies i.e allow or deny, Bandwidth rate limit, VLAN mapping.		
4.o	When Mesh is enabled the controller should be able to show the mesh topology on floor plans.		

4.p	The controller shall be manageable using CLI, Telnet/SSH, HTTP based GUI and SNMPv2/v3.		
4.q	The controller should be able to present a customizable dashboard with information on the status of the WLAN network.		
4.r	The controller should be able to raise critical alarms by sending an email. The email client on the controller should support SMTP outbound authentication and TLS encryption.		
<b>5</b>	<b><u>QoS features</u></b>		
5.a	per SSID or dynamic Per user bandwidth Rate Limiting		
5.b	Self-healing (on detection of RF interference or loss of RF coverage) and vendor should provide their Interference mitigation techniques for same Domain interference (interference from AP's connected to same Controller) and from other AP's and 2.4Ghz devices (Microwave's, Radio's etc.)		
5.c	Dynamic RF management that provides the capability to pause channel scanning / adjust RF scanning intervals based on application and load presence.		
5.d	Capability to provide preferred access for "fast" clients over "slow" clients (11n vs. 11g) in order to improve overall network performance.		
5.e	System must support Band Steering where 5 Ghz clients are forced to connect over 5Ghz Radio to provide better load balancing among 2.4Ghz and 5Ghz Radios.		
5.f	The controller shall support Quality of Service features like 802.11e based QoS enhancements, WMM or equivalent and U-APSD to provide best performance on Video applications.		
5.g	Should have Voice Call Admission control.		
<b>6</b>	<b><u>Client/Guest Management</u></b>		
6.a	The controller should provide a Guest Login portal in order to authenticate users that are not part of the organization.		
6.b	The solution should be able to provide a web-based application that allows non-technical staff to create Guest accounts with validity for fixed duration like hours or days. Further the solution must:		
6.c	a. Allow the IT Administrator to view and delete individual Guest passes		
6.d	b. Allow for batch generation of Guest passes		
6.e	c. Provide customizable Guest portal and guest pass instructions.		
6.f	d. System should be able to send password direct through Email and SMS to the user.		
6.g	System should be able to generate one click password for single user, multiple users or single user multiple devices.		
6.h	System should support internal and External Database for user authentication.		
6.i	System should support user management features like Rate limiting based on time based WLAN Access & User profile per WLAN etc.		
<b>7</b>	<b><u>Regulatory</u></b>		
7.a	Wi-Fi Alliance certified		

**BOQ-Item No - 03 . - Technical Specification of UTP Category 6 Cable**

Offered Make (Bidder to Mention) : \_\_\_\_\_ / (Acceptable Make List: Tyco ,AMP, D-Link/equivalent

Offered Model (Bidder to Mention) :

<u>Sr. No</u>	<u>Specifications</u>	<u>Compliance Yes / No</u>	<u>Remarks</u>
1	Category 6 Unshielded Twisted Pair 4 pair 100W cable shall be compliant with ANSI/TIA/EIA-568-C.2-1 Additional Transmission Performance Specifications for 4-pair 100W Category 6Cabling. Cat6 cable should be tested up to 600MHz.		
2	Category 6 UTP cables shall extend between the work area location and its associated telecommunications closet and consist of 4 pair, 23 AWG, UTP.		
3	The 4 pair Unshielded Twisted Pair cable shall be UL Listed, ETL Certified.		
4	All Category 6 cables shall meet or exceed the following characteristics:		
5	Construction: 4 twisted pairs separated by internal X shaped, 4 channel, polymer spine / full separator. Half shall not be accepted.		
6	Conductor Solid bare Copper		
7	Conductor Diameter 0.56±0.005mm (23 AWG)		
8	Insulation :High Density Polyethylene		
9	Jacket PVC		
10	Outer Diameter 6.1 mm nominal		
11	Temperature Range -20° to +70°C		
12	OEM should have valid ISO 9001 & ISO 14001 for design & development for wired & wireless networking products.		
13	All the passive components including rack should be from same make		

**BOQ-Item No - 06 . - Technical Specification of 1KVA offline UPS**

Offered Make (Bidder to Mention) : \_\_\_\_\_ / (Acceptable Make List: Cyberpower ,APC,Numeric/equivalent

Offered Model (Bidder to Mention) :

<u>Sr. No</u>	<u>Specifications</u>	<u>Compliance Yes / No</u>	<u>Remarks</u>
1	<b>General</b>		
1.a	UPS Topology	Line-Interactive	
2	<b>Input</b>		
2.a	Voltage	220Vac	
2.b	Input Voltage Range	140Vac - 300Vac	
2.c	Input Frequency Range	42Hz - 68Hz (50/60Hz Auto-sensing)	
2.d	Rated Input current	10A	
2.e	Plug Type	India	
3	<b>Output</b>		
3.a	VA	1000	
3.b	Watts	600	
3.c	On Battery Waveform	Simulated Sine Wave	



3.d	On Battery Voltage	220 Vac ± 10%		
3.e	Automatic Voltage Regulation (AVR)	Double Boost		
3.f	On Battery Frequency	50/60Hz ± 1%		
3.g	Outlets – Total	4		
3.h	Outlet Type	India		
3.i	Outlets - Battery & Surge Protected	4		
3.j	Transfer Time	4ms		
4	<b>Battery</b>			
4.a	Runtime at 60W (min)	60		
4.b	Runtime at 90W (min)	45		
4.c	Battery Type	Sealed Lead Acid		
4.d	Battery Quantity	2		
4.e	Typical Recharge Time	8 Hours		
5	<b>Surge Protection &amp; Filtering</b>			
5.a	Surge Suppression	125 Joules (L-N)		
6	<b>Management &amp; Communications</b>			
6.a	LED Indicators	Power On, Using Battery		
6.b	Audible Alarms	On Battery, Low Battery, Overload, Fault		
7	<b>Physical</b>			
7.a	Form Factor	Brick		
7.b	Physical Size	Physical - UPS Module		
j	<b>Environmental</b>			
8.a	Operating Temperature	+ 32°F to 104° F / 0° C to 40° C		
8.b	Operating Humidity	0% - 90% non-condensing		
8.c	Operating Elevation	0-10000 feet (0-3000meters)		
8.d	Storage Temperature	- 4°F to 122° F / -20° C to 50° C		
8.e	Storage Relative Humidity	0% - 90%		
8.f	Online Thermal Dissipation	45BTU/hr		

BIDDER'S SIGNATURE: \_\_\_\_\_  
 BIDDER'S NAME: \_\_\_\_\_  
 BIDDER'S DESIGNATION: \_\_\_\_\_

DATE : \_\_\_\_\_  
 OFFICIAL STAMP:

# National University of Study & Research in Law Kanke, Ranchi

For Supply, Installation and commissioning of Controller based Wi-Fi Setup at NUSRL, Ranchi.

## Annexure III (Technical Bid)

### BOQ & Make-Model List

**COMPONENTS:**

SL	Item	Description	UoM	Qty	Make & Model
1	Indoor Access Point	Dual-band 802.11abgn/ac Wireless Access Point, 2x2:2 streams, dual ports, 802.3af PoE support. Does not include power adapter or PoE injector, With 3 year warranty by OEM (Specification As Given)	Nos	25	
		Mounting Bracket for AP Mounts to hard wall/ceiling, outlet box, pole, and truss.	Nos	25	
2	WLAN Controller	WLAN Controller, licensed for up to Access Points from day one. Controller can be upgraded to support up to 75 APs with AP license upgrades.	Nos	1	
3	CAT 6 UTP	CAT 6 UTP Cable(305Mtr Roll)	Roll	7	
4	Connectors	RJ45 Connectors	Nos	100	
5	UPS	1KVA Offline UPS with Double Battery	Nos	4	
6	PVC Pipe	1" PVC Pipe with required accessories	Meters	800	
7	Service / Installation & Support charges	One time Installation & configuration charges for all above Components including laying, fixing, digging/ cutting (wherever required) as per scope of NSRUL requirement AND training, Documentation WITH 3 years comprehensive onsite Service Support during warranty period	Job	1	

*BIDDER'S SIGNATURE:* \_\_\_\_\_

*BIDDER'S NAME:* \_\_\_\_\_

*BIDDER'S DESIGNATION:* \_\_\_\_\_

*DATE :* \_\_\_\_\_

*OFFICIAL STAMP:*

# National University of Study & Research in Law

Kanke, Ranchi

For Supply, Installation and commissioning of Controller Based Wi-Fi at NUSRL, Ranchi.

## Annexure IV (Technical Bid)

### Terms & Conditions

SL	Terms & Conditions Details	Acceptance of Bidder (Accepted / Not Accepted)	Remarks / Comments of Bidder (if not Accepted)
01	<b>Material Delivery :</b> Within 30 days from the date of PO		
02	<b>Work Completion :</b> Within 2 weeks from the date of material Delivery		
03	<b>Freight charges to NUSRL, Ranchi :</b> Bidder's responsibility, included in the offer		
04	<b>Warranty Terms of Materials :</b> 3Years from the date of Delivery		
05	<b>Warranty Terms of Service :</b> 3 Years from the date of Work Completion		
06	<b>Payment Terms :</b> 95% of payment are made against satisfactory completion of work and rest 5% payment is retained as "performance security" for a period of one year		
07	<b>NUSRL's Scope :</b> (a) Required UPS Power Outlets near Rack / AP locations (b) Adequate & safe space for keeping the materials during delivery & execution (c) Down time (if required) during execution		
08	<b>Bidder's Scope :</b> (a) Project to be completed on Turnkey basis and as per NUSRL satisfaction (b) Project Documentation to be provided after execution (c) Necessary Training to be given after execution (d) 3 Years onsite Support for any breakdown service issues (e) Remote support / Telephone support for any other Service issues		

BIDDER'S SIGNATURE: \_\_\_\_\_  
BIDDER'S NAME: \_\_\_\_\_  
BIDDER'S DESIGNATION: \_\_\_\_\_

DATE : \_\_\_\_\_  
OFFICIAL STAMP:

# National University of Study & Research in Law

**Kanke, Ranchi**

For Supply, Installation and commissioning of LAN at NUSRL, Ranchi.

## Annexure V (Price Bid)

<b>PRICE BID FORMAT</b>
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SL	Item	Description	UoM	Qty	UNIT Rate	Total Amount	Tax Extra (in %)
1	Indoor Access Point	Dual-band 802.11abgn/ac Wireless Access Point, 2x2:2 streams, dual ports, 802.3af PoE support. Does not include power adapter or PoE injector, With 3 year warranty by OEM (Specification As Given)	Nos	25			
		Mounting Bracket for AP Mounts to hard wall/ceiling, outlet box, pole, and truss.	Nos	25			
2	WLAN Controller	WLAN Controller, licensed for up to Access Points from day one. Controller can be upgraded to support up to 75 APs with AP license upgrades.	Nos	1			
3	CAT 6 UTP	CAT 6 UTP Cable(305Mtr Roll)	Roll	7			
4	Connectors	RJ45 Connectors	Nos	100			
5	UPS	1KVA Offline UPS with Double Battery	Nos	4			
6	PVC Pipe	1" PVC Pipe with required accessories	Nos	800			
7	Service / Installation & Support charges	One time Installation & configuration charges for all above Components including laying, fixing, digging/ cutting (wherever required) as per scope of NSRUL requirement AND training, Documentation WITH 3 years comprehensive onsite Service Support during warranty period	Job	1			
<b>SUB TOTAL:</b>							

<b>GRAND TOTAL FOR ENTIRE WIFI PROJECT :</b> ** Taxes Extra as per above mentioned rate	
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**BIDDER'S SIGNATURE:** \_\_\_\_\_  
**BIDDER'S NAME:** \_\_\_\_\_  
**BIDDER'S DESIGNATION:** \_\_\_\_\_

**DATE :** \_\_\_\_\_  
**OFFICIAL STAMP:**

- **END** -