

Form PPIM-1B
[Para 1.17(ii)]



**NATIONAL INSTITUTE OF TECHNOLOGY
ROURKELA – 769 008, ORISSA**

(Form to be used for purchases above Rs.1.0 lakh; to be sent to at least six firms)

Advertised/ Limited Tender Enquiry

Department: Computer Centre

Enquiry No: NITR/ CC/ HOD/ 2008/ 252

Date: 26 May 2008

Important Dates

To	
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Event	Date	Time
Pre-bid Conference		
Last Date of submission of quotation	25/6/2008	3.00PM
Quotation Opening date	25/6/2008	3.10PM

Dear Sir,

We intend to purchase the commodities specified below and invite quotations in accordance with the terms and conditions detailed in the bid document. If you are interested, kindly send your offer with prices and complete terms within the time mentioned above.

Please send your quotation to:

Head, Department of Computer Centre Attn.: Prof S K Patra NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA – 769 008, ORISSA

Yours sincerely,

Sarat Kumar Patra
In-charge, Campus Networking

Encl:

- | | |
|-----|--|
| (1) | Schedule of requirement, specifications, dates etc. |
| (2) | Bid document containing detail terms and conditions. |

1. Schedule of requirements

Sl. No.	Description of Goods/Service	Quantity
1.	Wireless access points	15 apx
2.	Antenna suitable for above (Inclusive of feeding cable suitable for outdoor and indoor, directive antenna) to provide interbuilding link	2pairs

2. Specifications and allied Technical Details

As stated in Annexure-A of document

3. Format of Quotation (tick appropriate box)

It is a single bid; please give all technical specifications and price bid in one envelope.

OR

It is a two-part bid with separate techno-commercial and price bids. Please see item 1.12 of instructions for method of bidding.

4. The bid envelope should be super-scribed with

Bid for **Wireless access points NITR/ CC/ HOD/ 2008/ 252 dated 26 May 2008**

5. Quotations should be valid for a period of 60 days from the closing date of the bid.**6. Some important dates:**

- | | | | |
|------|-------------------------------------|-----------|--------|
| i. | Last date for receipt of quotation: | 25/6/2008 | 3.00PM |
| ii. | Opening of techno-commercial bid: | 25/6/2008 | 3.10PM |
| iii. | Opening of Financial bid: | | |

7. Warranty As per the annexure.

8(a) Excise Duty: The Institute is exempt from Excise Duty. Please state applicable excise duty as a separate item.

8(b) VAT/CST: The Institute is not authorized to give C or D form. CST or VAT should be charge according to applicable rates.

8(c) Entry Tax: The State of Orissa charges entry tax on all goods entering the State. Please include it in your quotation as a separate

item. Entry Tax will be reimbursed on production of proof of payment.

- 9. Bid Security** (See Item 2.8 of instructions): **NIL**
- 10. Performance Security** (See Item 2.10 of instructions): **NIL**
- 11.** Please go through the enclosed "bid document" carefully for other bidding instructions.
- 12(a)** Please send your quotations by Registered/Speed Post or Courier Service to:

Head, Computer Centre Attention: Prof S K Patra National Institute of Technology, Rourkela – 769 008
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OR (b) drop the quotation in the Tender Box kept in the office of the Department during the normal working hours of the Institute. Please do not hand over the quotation to any person by hand.

- 13.** For technical details, you may contact

Prof. Sarat Kumar Patra Department of Electronics and Communication Eng (HOD Computer Centre) National Institute of Technology, Rourkela – 769 008 Phone: 0661 – 2462457; 94372 21578 (M) Fax: 0661 – 2462999
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Form PPIM-1B (Contd.)

[Para 1.17(ii)]

**NATIONAL INSTITUTE OF TECHNOLOGY
ROURKELA – 769 008, ORISSA****BID DOCUMENT****1. Instructions to the bidders**

- 1.1 Sealed bids are invited on behalf of the Director, National Institute of Technology (NIT), Rourkela – 769 008, Orissa, from the intending bidders for supply of the goods/stores/equipments for the Institute as detailed in the enquiry letter.
- 1.2 The bidders should quote their offer/rates in clear terms without ambiguity.
- 1.3 The rates should be quoted both in figures and words and legibly written without any over-writings. In case of any correction, the same must be attested by the bidder with full signature. However, no over-writing is permissible. Manufacturer's price-list, where applicable, should be submitted along with the bid.
- 1.4 In case of any discrepancy between the rates in figures and that in words, the rate in words will be accepted as correct.
- 1.5 The last date for receipt of the bid is marked in the enquiry. In case the above date is declared a holiday for NIT, Rourkela, and the bids will be received up to the appointed time on the next working day.
- 1.6 The financial bids will be evaluated based on the recurring charges for 1 year and fixed charge which includes equipment cost and installation charges. The order for internet connectivity will be for a period of one year. Bidders are advised to take into account the market scenario and cost variation for the service in international market.
- 1.7 The bids may be sent by registered or speed post or by courier service, so as to reach the concerned department before the last date of receipt, or alternatively, be dropped in the tender box kept at the Department office. The name of the Department is mentioned in the Enquiry.
- 1.8 The bidder may modify his bids before the last date appointed for receipt of the bids by sending an amendment to the bid. No bid shall be modified after the deadline for receipt of the bids.

- 1.9 If a prospective bidder requires any clarification in regard to the bidding documents, he may make a request the concerned officer or faculty member at least 15 days before the deadline for receipt of bids.
- 1.10 Bids received after the deadline of receipt indicated in para 1.5 above, shall not be taken in to consideration.
- 1.11 Each bidder shall submit only one bid. A bidder, who submits more than one bid, shall be disqualified and considered non-responsive.
- 1.12 (In respect of high value plant, machinery etc. of a complex and technical nature). The bids may be submitted in two parts, viz., technical bid and financial bid. The above two bids may be sealed by the bidder in separate cover duly super-scribed and both these sealed covers are to be put in a bigger cover which should also be sealed any duly super-scribed. The bidding format is specified in the quotation enquiry.
- 1.13 The cover containing the bid must be sealed and super-scribed "Wireless access points NITR/ CC/ HOD/ 2008/ 252 dated 26 May 2008" as given under item 4 of the enquiry.
- 1.14 The bids shall be opened in the Board room of the institute at the date and time given on the top of the document. The bidders are advised to send their authorized representatives to attend the bid opening, if they so desire. In the event of the above bid opening date being declared holiday for the NIT, Rourkela, bids will be opened at the appointed time and place on the next working day.
- 1.15 The bidder has to sign in full at all pages of the bidding document.
- 1.16 The bidders should enclose documents showing past business, volume of transaction during the past years, references from major public or private sector clients, academic institutions like IITs, NITs and other institutes of repute.

2. Conditions of the bid

- 2.1 The rates quoted should preferably be net, inclusive of all taxes and duties, packing, forwarding, freight, Insurance and all other incidental charges. In case these charges are quoted extra in addition to the quoted rates, the amount thereof or advolerum rate must be specified. Packing, forwarding, freight, entry tax etc., when quotes separately are reimbursable at actuals. If external agencies are employed, their receipts must be enclosed with the invoice.

- 2.2 Duties and Taxes are to be quoted separately. Advolenum rates thereof should be clearly indicated with reference to the relevant Acts and Rules. Entry Tax, if any paid, shall be reimbursed on production of proof. Entry Tax should be shown as a separate component.

It may be noted that the Institute is exempt from paying Excise Duty vide Government Notification No. 10/97 dated 01.03.1997 [Registration No.: TU/V/RG-CD(227)/2001, dated 10.12.2001]. The Institute is not authorized to issue C or D forms. CST and VAT may be charged at applicable rates.

- 2.3 The goods are required to be delivered at the indenting Department of NIT, Rourkela, and must be dispatched within 30 days from the date of placement of the supply of order under the risk and arrangement of the bidder and offers with delivery beyond the above period shall be treated as unresponsive. In case the delivery time is higher, the same must be mentioned clearly in the quotation.
- 2.4 The bid should remain valid for a period of 60 days from the date of opening. In case your offer has a different validity period that should be clearly mentioned in the quotation.
- 2.5 Conditional discount, if any, offered by the bidder shall not be considered at the time of evaluation.
- 2.6 The goods offered should strictly conform to the specification and technical details mentioned in para 4 below.
- 2.7 The Institute may like to conduct pre-dispatch inspection of goods, where applicable.
- 2.8 Period of guarantee/warranty, where applicable, should be specified in the bid.
- 2.9 The successful bidder has to furnish "Performance Security" for an amount specified in the enquiry, in the form of Account Payee Demand Draft, Fixed Deposit Receipts and/or unconditional Bank guarantee en-cashable on demand from the Director, NIT, Rourkela, from a Commercial Bank with validity period of sixty days beyond the date of completion of all contractual obligations of supplier including guarantee/warranty obligations. The Performance Security is to be furnished in favour of the Director, National Institute of Technology, Rourkela, within ten days of intimation, failing which his bid security will be forfeited.

Alternatively, fixed percentage of the cost of the stores as stated in the enquiry may be retained by the Institute in its

Maintenance Fund towards performance security, which will be released six months after the completion of warranty period.

- 2.10 If the successful bidder, on receipt of the supply order, fails to execute the order within the stipulated period, in full or part, it will be open to the Director, NIT, Rourkela to recover liquidated damage from the firm at the rate of 1 percent of the value of undelivered goods per month or part thereof, subject to a maximum of 5 percent of the value of undelivered goods. Alternatively, it will also be opened to the Director, to arrange procurement of the required goods from any other source at the risk and expenses of the bidder.
- 2.11 The successful bidder may be required to execute a contract, where applicable.
- 2.12 The bidder has to furnish up to date VAT and Income Tax Clearance Certificate along with the bid.
- 2.13 Payment (*100 percent*) will be made by Account Payee Cheque/ Bank Draft, within 30 days from the date of receipt of the goods in good condition or receipt of the bill, commissioning of the equipment, where applicable, whichever is later/latest. If the payment is not made by the Institute within this stipulated date, the vendor may claim compensation at rates fixed by the Institute.
- 2.14 In the event of any dispute arising out of the bid or from the resultant contract, the decision of the Director, NIT, Rourkela shall be final.
- 2.15 The bid document/resultant contract will be interpreted under Indian Laws.

Annexure-ASpecification of Wireless Access Points**Type of Access Points: Managed****Operation: Layer-2****Management Interfaces support -:**

- Web-based: HTTP/HTTPS
- Command-line interface: Telnet, SSH, serial port

Interfaces and Indicators support -:

- Uplink: 10/100 Mbps Ethernet (RJ45) POE enabled.
- Management port: 10/100 Mbps Ethernet (RJ-45)
- LED indicators: link, activity
- Console port: RS-232 (DB-9 male, DTE interface)
- Other indicators: Status, 10/100 Mbps Link activity, alarm

Regulatory Compliance -:

- General regulatory compliance certification v.i.z. CE Mark, Safety
- The Access Point should support 802.1X port-based access control: secure yet flexible user authentication safeguards access to the wireless network; 802.1X support includes MD5, TLS, TTLS, and PEAP. Facility for authentication from Radius server also to be available.
- The Access point should support enhanced encryption management: per user/per session dynamic WEP key assignment and automatic key replacement significantly enhances wireless data privacy .
- The access point should support 802.1Q compliant VLAN support and tagging. It should support up to 64 VLANs capable of being independently mapped to RADIUS server attributes.
- The access point should support Wi-Fi Protected Access™ (WPA) which combines 802.1X user authentication with enhanced, industry-compatible encryption (TKIP) to secure network access and wireless data traffic.
- The access point should support for IEEE 802.11a/ 802.11b and IEEE 802.11g.
- The access point should support Power over Ethernet.
- The access point should support Auto channel selection and allow selection of the best channel based on signal-to-noise ratio.
- The access point should allow remote configuration and management: through Web browser or command line interface (CLI).
- The access point should support flash to support multiple firmware and configuration.
- The access point should be able to adjustable output power, should be able to support external removable antenna and be able to restrict broadcast of SSID as a security measure.

IEEE network layer protocol support -:

- IEEE 802.3 10BASE-T
- IEEE 802.3u 100BASE-TX specification
- IEEE 802.1Q VLAN tagging
- IEEE 802.1D Spanning Tree Protocol

Encryption Support -:

- WEP and TKIP-MIC: RC4 40, 104 and 128 bits (both static and shared keys)
- SSL and TLS
- AES
- IP Sec

Dual Radio Wireless Bridge with W-Fi Facility Security**• Choice of IEEE 802.11i, Wi-Fi Protected Access 2**

(WPA2), or WPA: locks out unauthorized wireless access by authenticating users prior to granting network access; robust Advanced Encryption Standard (AES) or Temporal Key Integrity Protocol (TKIP) encryption secures the data integrity of the wireless traffic

Security and access control:

- **Per-user ACL's:** permit or deny user access to specific network resources based on user identity and time of day, allowing multiple types of users (employees, visitors, temporary workforce) on the same network to access specific network services without risk to network security or unauthorized access to sensitive data
- **Automatic VLAN assignment:** automatically assigns users to the appropriate VLAN based on their identity, community, and time of day
- **Rate limits:** automatically applies ingress rate limits to user traffic based on identity, community, and time of day

• **IEEE 802.1X:** provides port-based user authentication with support for Extensible Authentication Protocol (EAP), TLS, TTLS, SIM, GTC, and PEAP with choice of AES, TKIP, and static or dynamic WEP encryption for protecting wireless traffic between authenticated clients and the access point

Neighbor access point (rogue AP) and ad-hoc wireless network detection: Periodic scanning is provided for neighboring access points and ad-hoc wireless networks. Information collected during the scan, including BSSID, SSID, channel, RSSI, security setting, and radio type (IEEE 802.11b, b/g, or a mode) are captured for each wireless device detected. If configured, the access point can enter dedicated scan mode to provide continuous scanning of the surrounding RF environment.

• **Up to 16 BSSIDs per radio with separate VLAN, security, and authentication:** permits network administrators to control user access to network resources based on user authentication and level of trusted security between the client and access point

• **Local RADIUS authentication:** enables “enterprise-grade” 802.11i (WPA2) wireless security for small wireless LAN networks; serves as backup authentication in the event primary and secondary network RADIUS servers are unavailable due to network disruption. The local RADIUS authentication feature supports up to 100 user accounts. Wireless client is authenticated with a RADIUS server based on the MAC address of the client also.

- **Local wireless bridge client traffic filtering:** when enabled, prevents communication between wireless devices associated with the same access point
- **Secure Sockets Layer (SSL):** encrypts all HTTP traffic, allowing secure access to the browser based management interface of the access point. Encrypts all transmitted data for secure, remote command-line interface (CLI) access over IP networks
- **Management VLAN:** secures management access to the access point; the management VLAN is used to manage the access point through remote management tools such as the Web interface, SSH, telnet, or SNMP
- **Management access control:** To provide more security for the access point, management interfaces that are not required can be disabled, including the Web browser, telnet, and Secure Shell (SSH), as well as the serial console port and reset button.

Connectivity

- **Radio details:**

- **Simultaneous IEEE 802.11a and IEEE 802.11g radio operation:** supports dual-band wireless clients and provides backward compatibility for IEEE 802.11b wireless devices

Antenna flexibility accommodates a wide range of wireless LAN deployments: – **Per-radio integrated diversity antenna with omni directional coverage:** provides robust, dual-radio wireless LAN coverage for open office environments

- **Per-radio external diversity antenna support:** RP-SMA antenna connectors enable external antenna configurations to extend wireless coverage or wireless bridging between access points (2sets/ pairs of external antenna to be provided to link two sites approximately 30m apart. These can be directive antennas to enhance reception quality)

- **Wireless Distribution System (WDS):** – **Wireless bridging:** Each Access Point should support up to six wireless links to remote access points. Wireless distribution is supported on IEEE 802.11a, b, and g radio modes of operation.

- **Single-radio operation:** A wireless link should be provided to each remote Access Point and it should also service local wireless clients.

- **Dual-radio operation:** One radio should provide a wireless link to each remote Access Point and the second radio provides network connectivity to local wireless clients.

- **Auto Channel Select (ACS):** minimize radio co-channel interference by automatically selecting an unoccupied radio channel
- **Adjustable output power:** controls cell size for high-density access point deployments

Quality of Service (QoS)

- **Wi-Fi WMM support:** provides QoS functionality in wireless networks by prioritizing wireless traffic from different Applications

Management

- **Remote configuration and management:** through secure Web browser or command-line interface (CLI)

- **Management software:** Management software to be included for managing all the access points from single console. This software should be capability to manage at-least 50 access points as per the above specification.

Warranty: 5 years comprehensive. Firms that provide warrantee for a lesser duration, 10% of the cost of the product will be added per year for remaining period so as to make the warrantee 5 years.

The quantity mentioned is a tentative guideline and can be modified later.

Important dates and Venues:

Last date for receipt of tender	25 June 2008 (3PM)
Venue for submission of tender in case of hand delivery:	Board room, NIT Rourkela/ Office of Computer Centre
Date for tender opening	25 June 2008
Venue for opening and evaluation of bids	Board room, NIT, Rourkela (3.10PM)

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 Computer Center
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Tender submission extended upto 25th June 2008 for Flood in Orissa and Benga