BANARAS HINDU UNIVERSITY
VARANASI-221005

NOTICE

Banaras Hindu University invites sealed Tender for **CCTV Surveillance Systems with Accessories**. Interested System Integrator (SI) may directly submit their Tender. Tender Document may be had from the office of the **Dy. Registrar – Purchase, Central Purchase Organization, Banaras Hindu University, Varanasi.** Against a D/D of Rs.500/- drawn in favour of *The Registrar, BHU* Payable at Varanasi. It can be downloaded from the website, however in that case, cost of Tender Form may be enclosed in form of Demand Draft for Rs.500/-, while submitting the complete tender document. For further detail please visit B.H.U. website **www.bhu.ac.in**

LAST DATE & TIME FOR SUBMISSION OF COMPLETE TENDER DOCUMENT – 15.02.2010 upto 4.00 pm

DEPUTY REGISTRAR (PURCHASE)

काशी हिन्दू विश्वविद्यालय
वाराणसी–२२१००५

निविदा

काशी हिन्दू विश्वविद्यालय **सी.सी. टी.वी. सर्विलांस सिस्टम एक्सेसरीज** के साथ, हेतु मुहरबन्द निविदा सिस्टम इंटिग्रेटर (S.I.) से आमंत्रित की जाती है। निविदा से सम्बंधित विस्तृत विवरण, नियम व शर्ते एवं निविदा प्रपत्र उप "कुलसचिव, क्रय अनुभाग, का0हि0वि0वि0, वाराणसी" के कार्यालय से 500/- के डिमाण्ड ड्राफ्ट जो कुलसचिव, का0हि0वि0वि0 वाराणसी के पक्ष में देय हो, के माध्यम से अथवा वेबसाइट से डाउनलोड करके प्राप्त कर सकते हैं। डाउनलोड करने की स्थिति में निविदा प्रपत्र का मूल्य 500/- डिमाण्ड ड्राफ्ट के रुप में लगाना अनिवार्य होगा। निविदा से सम्बंधित विस्तृत विवरण एवं निविदा प्रपत्र विश्वविद्यालय वेबसाइट www.bhu.ac.in पर उपलब्ध है।

परिपूर्ण निविदा जमा करने की **अन्तिम तिथि –15.02.2010 सायं 4.00 बजे तक है।**

उप कुलसचिव (क्रय)

DETAILS OF ITEMS FOR TENDER

Installation of CCTV Camera to strangulation in surveillance system at various places in BHU Campus along with A.M.C. Terms and Conditions   after expiry of warranty period.

Important Instructions

1- Cost of Tender Form	:	**Rs. 500/-**	
2- Tender Processing Fee (T.P.F.)	:	**Rs. 5,000/-**	
(Non refundable)			
3- Earnest Money Deposit (E.M.D.)	:	**Rs. 25, 000/-**	
(Refundable)			
4- Bank Guarantee	:	**10% of the order value**	

(To be submitted by firm to whom order will be placed)

5- Last Date for submission of Tender form	:	**15.02.2010 upto 4.00 PM**

6 Site Inspection scheduled on **02.02.2010** at the Chief Proctor Office BHU.

5. The bidders may submit their rates after the Site Inspection.

6. The Chief Proctor BHU may be consulted for Site Inspection and presentation of security system.

7. Earnest money deposit and non-refundable tender processing fee are to be submitted separately through D/D in favour of the Registrar, BHU payable at Varanasi. It should not be clubbed otherwise the tender is liable to be rejected.

8. Tenders received without Earnest Money and   Tender Processing Fee will be summarily rejected

9. Tender should be submitted only by Registered Post or Speed Post or dropped in the Tender box kept in the purchase section, Central Office, BHU.

10. No Tender document will be accepted after **15.02.2010 upto 4.00 PM**.

11. Opening of Technical Bid **16.02.2010.**

12. Presentation of security system on **22, 23 and 24 February, 2010**.

13. Opening of Financial Bid **25.02.2010**.

GENERAL INFORMATION FOR BIDDER / S.I.

- System Integrator (SI) advised to study the Bid document carefully. Submission of the Bid shall be deemed to have been done after careful study and examination of the Bid document with full understanding of its implications. Failure to furnish all information required by this Bid document or submission of a Bid not substantially responsive to the Bid document in every respect will be at SI's risk and may result in the rejection of its Bid.
- The SI must bear all the costs associated with the preparation and submission of Bid and the University will in no case be responsible or liable for those costs, regardless of the outcome of the Tendering process.
- The Bid will not be returned to the SI after the decision is made.
- Submission of Bid in response to this Bid shall not be construed as an obligation on the part of the University to award a purchase order for any products / services or combination of services proposed.
- The University reserves the right to rejection any particular Bid or all Bids without assigning any reason whatsoever to anyone, and failure of the University to select a SI shall not result in any claim whatsoever against the University.
- Blank columns and Overwriting is not permitted in filling up the bids and may entail rejection of the Bid.
- The Bid terms and conditions must be clearly typed or legibly written and have the full name and address of the SI. Each and every page shall have the signature and seal of the authorized representative of SI.
- A copy of Sales Tax registration certificate duly attested by Gazetted officer shall be enclosed.
- Sale Tax, Income Tax clearance certificate along with an affidavit from the Notary that the firm has never been black-listed must be attached along with the Bid, failing which the Bid shall be rejected.
- Last date and time for Bid submission is 15.02.2010 upto 4.00 PM.
- All responses that are received after the due date / time will be treated as invalid and would not be accepted or opened unless called for.
- Technical bid and Financial Bid must be submitted in separate sealed envelopes. The envelope cover in each case should be superscribed with "Technical Bid for CCTV with Accessories" and "Financial Bid for CCTV with Accessories" respectively. SI name and address should also be superscribed on each envelope. These two envelopes should be put in another sealed envelope and super scribed with "Bid for CCTV with Accessories" along with SI name and address. This sealed envelope should be submitted to 'The Dy.Registrar (Purchase), Banaras Hindu University, Varanasi" on or before the Bid due date / time. The place of submission shall be The Dy.Registrar (Purchase) Banaras Hindu University, Varanasi".
- The Technical Bid must contain, product catalogue, literature of Product, Copy of Product manual and Network Diagram, besides a detailed Bid encompassing all the attributes of this Bid. SI shall also submit the completed checklist.. Each page of the original document must be sealed and signed by the authorized person of SI.
- Financial Bid on the letter head of the SI, and must bear seal and signature of SI on every page. The prices shall be quoted excluding taxes. All rates shall be F.O.R. destination BHU, Varanasi.
- Bidders having financial turnover of Rs. 50 Crore or more will only be eligible for submitting the Tender.
- Bidders having service centre located within the radius of 300 Km. from BHU will be eligible for submitting the rates.
- Payment Terms:
  1. 50% on delivery of hardware.
  2. 40% on Satisfactory Installation.
  3. 10% on satisfactory completion of one year warranty period.

- The Bidder must be Total System Integrator for last 3 years and supplying hardware, software and services.
- The Bidder must have undertaken or executed at least one security system, preferably surveillance, project in a reputed Institution/ Organization of India which should be of value of Rs.1 crore or more. This should be supported by the certified copies of purchase order along with the installation note of project completion.

Consortium:-

The University expects the Bidder to use the latest state-of-the-art technology, the appropriate hardware & software product(s), workflow procedures and maintenance & security policies in the proposed solution. For this purpose, the SI Vendor may form a Consortium for the proposed solution.

However, the University shall deal with a single Vendor (herein after referred to as SI Vendor) who shall be the Prime Vendor / Consortium Leader and single point solution provider.

The University and System Integrator (SI) Memorandum of Understanding (MOU)

- By submitting a Bid in response to this Tender, the SI agrees to promptly engage in contract with University if it is selected for the assignment.

- The University will first issue a Letter of Intent (LOI) to the SI. The SI shall submit its acceptance within a week of issue of the LOI.

- From the of issuance of a Letter of Intent to the selected SI, the S.I. shall sign an agreement in this Bid document, with the University at the time, place and in the format prescribed by the University, The MOU agreement shall include all agreed terms, conditions and specification of this tender document and also the Bill of material and price, as agreed finally after Bid evaluation. The MOU shall be executed in English language in 2 (Two) original, with both University and the SI receiving the duly signed original. The MOU shall be valid till all contractual obligations are fulfilled.

- The effective date of start of the MOU with the selected SI shall be the signing of the MOU by the SI.

- All questions, disputes and differences arising under and out of, or in connection with the MOU shall be referred to the sole arbitration by an arbitrator appointed under the provisions of the Arbitration and Conciliation Act, 1996 by the Vice-Chancellor, BHU, Varanasi.

- Any notice by one party to the other pursuant to the MOU shall be sent by telegram/telex/cable/fax/e-mail and confirmed in writing to the address specified for that purpose in the Memorandum of Understanding.

- By entering into a MOU with the University, the SI acknowledges that the SI has the expertise and the competence in executing all phases of work involved in the provisions of this Bid. The SI also acknowledges that University relies on this statement, therefore neither accepting responsibility for, nor relieving the SI of the responsibility for the performance of all provisions and terms and conditions of this Bid.

- All goods or materials shall be supplied by the SI, whose Bid is accepted, strictly in accordance with the specifications, drawings, data sheets, other attachments and conditions stated. Any alterations of these conditions shall not be made without the consent of the University in writing which must be obtained before any work against the order is commenced.

- All material furnished by the SI pursuant to the MOU (irrespective of whether engineering, design data or other information has been furnished, reviewed or approved by the University) will be guaranteed to the best quality of their respective kind (unless otherwise specifically authorized in writing by the University) of workmanship and materials, and to be of sufficient size and capacity and of proper materials so as to fulfill in all respects with all operating conditions.

- In the event that the material supplied is defective or do not meet the specifications and are not in accordance with the drawings, data sheets or the terms of the order, SI shall replace the material at no extra cost to the University. Failure on the part of SI may prompt University to immediately replace the material at the cost of SI.

- The entire responsibility of supply, warranty and the MOU execution lies with the SI, on whom the Purchase-cum-Work Order is placed and with whom the MOU is signed.

- The SI shall be overall responsible for the entire work, including that done by its consortium partners. University shall not enter into any dialogue with the consortium partners. University shall only interact with the SI.

IMPORTANT INSTRUCTIONS / NOTES

PLEASE GO THROUGH THE FOLLOWING INSTRUCTIONS / NOTES CAREFULLY
<u>OTHERWISE YOUR TENDER IS LIABLE TO BE REJECTED</u>

<u>LAST DATE OF SUBMISSION OF THE OFFERS:</u>

The offer should be addressed to the **Dy. Registrar – Purchase, Central Purchase Organization, Banaras Hindu University, Varanasi** in a sealed cover clearly super scribed with **"Tender Enquiry for CCTV Surveillance Systems with Accessories". On the face of the envelope and submitted on or before dated 15.02.2010.** Any offer received after the last date shall not be entertained.

The following undertaking for checklist duly signed with seal and the required documents should be submitted along with offer:

<u>UNDERTAKING FOR CHECK LIST</u>

i. Printed copies of the **Catalogue/Price List** of the products.

ii. Attested photocopy of current license, if available, issued by competent authority.

iii. List of organizations where the SI has been supplying the items, along with their performance certificates.

iv. The enclosed certificates and proforma duly filled in and signed.

v. Documentary evidence for the turnover of last three years along with copy of the audited balance sheet.

vi. Demand draft of Rs. 500/- (If Tender form has been downloaded from website in favour of "Registrar, BHU")

vii. Demand Draft of Rs. 5,000/- (Tender Processing fee in favour of "Registrar, BHU")

viii. An Earnest Money Deposit (EMD) to be submitted along with the offer in form of an account payee Bank Draft for Rs. 25,000/- in favour of "Registrar, BHU"

ix. Registration Certificate of Central Excise

x. Registration Certificate of C.S.T. and other Taxes of State Govts.

xi. Copy of income Tax return for the 3 years.

xii. Copy of Sales Tax assessment for the last 3 years.

xiii. Undertaking for Quality Control System – Copy of certificate pertaining to ISO, BIS etc.

Every page of the tender documents and the enclosed copies of the certificates should be signed with seal. In the absence of any of the above documents / information's, the offer may be summarily rejected without making any further reference.

Date: **Signature with seal**

BHU CAMPUS GATES,

VARANASI

TENDERING & PROCUREMENT

CHIEF PROCTOR OFFICE

BANARAS HINDU UNIVERSITY

VARANASI-221 005

INVITATION FOR BIDS

WITH INSTRUCTIONS TO BIDDERS

For CCTV with Accessories at various places in BHU Campus

INVITATION FOR BIDS

In order to strengthen surveillance systems, BHU Authorities desire to establish a digital security system consisting of

(i.) Hardware and software components that collect and transmit the surveillance camera information via wired/wireless technologies, fiber optic cable or over any IP-based network. Cameras in the digital system shall have their own IP address for full access to the Internet. These surveillance images are to be transferred to a PC or laptop in a centralized control room to be viewed by an observer using a compact, flat-screen monitor that offers multi-screen displays, facilitated by a Video Analytics Software.

The proposed digital surveillance system shall have the capability to store surveillance data onto DVRs (digital video recorders)/Network Video Recorders or iSCSI Based SAN, some of which can store data up to 10 weeks. After the recording system has backed up the images, they can be exported to discussing the CD-RW drive, and then they can be sent to remote PC, laptops, or handheld devices within moments via the network. Digital recording is to be done 24/7.

The proposed IP- surveillance system is to offer, among the others, primarily the following:

- State-of-the-art Network Video Server for live video streaming, using Video Portal Technology;
- Viewing of live images Digital CCTV cameras anywhere via any standard web browser, any local or remote computer LAN and IP network (LAN, intranet or Internet);
- MPEG4 encoding to allow simultaneous streaming to multiple client devices
- Alarm management capabilities such as e-mail notification upon alarm and sensor and relay integration
- Remote firmware upgrade
- Not only capture precise images but also that they do so in a way that is scalable, fast and sophisticated.
- Reduced Cost of Ownership and improved accessibility
- Foolproof & certified recording standards
- Possibility of integration access control system of book barriers on the same platform of software.

In this regard, the authority invites EOIs from reputed and expert Companies having past experience in providing solutions on the above requirements. It is expected that responding organization would be meeting the eligibility criteria as stated below.

- o The Bidder must be a Total System Integrator for last 3 years and supplying hardware, software and services.
- o The Bidder must have PAN, Sales Tax and Service Tax Registration.
- o The Bidder must have undertaken or executed at least one security system, preferably surveillance, project in a reputed institution/Organization of India, which should be of value of Rs. 1 crore or more. This should be supported by the certified copies of purchase order along with the installation note of project completion.
- o Bidder should be a profit making company for the last three years and should have Turnover of at least Rs. 50 crore for last three financial years from IT related activities.
- o Should be able to ensure Data logging privacy & security.

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- o Provide few additional cameras with wireless which could be installed at will at the required locations.
- o Should be able to provide <u>Vehicle mounted monitoring system</u> also.
- o Mirror backup for every locations at least for a day to cover main server failures.
- o Minimum one year warranty.
- o FSMA for 5 years.
- o Bidders should also quote for the additional infrastructure required(Powerline,UPS etc.) as optional.
- o The requirement shown in the Tender Document is tentative and may vary as per actual requirement..

GENERAL

1. All the S.I. must attach the point by point compliance for below specification in their technical bid. Offers without the compliance will not be considered.
2. The product described in this specification is the NVMS network (IP) based Digital Video Management (NVMS) System.
3. The proposed solution shall not require proprietary computer, server, network or storage hardware.
4. The proposed system shall be of a manufacturer with as minimum of five (5) years of experience and offerings in the IP network video software market, the letter stating the same should be submitted by the manufacturer.

5. The NVMS database and video storage shall be based on SQL Server 2005 or better
   a. The Failover directory should be a basic feature of the NVMS all the related licenses should be included in offer.
   b. Redundant recording shall be a basic feature of the NVMS and should be provided if required.
   c. Failover recording capabilities shall be a basic feature of the NVMS and should be provided if required.

6. The NVMS system shall be based on the latest in software programming technology Microsoft NET frame work.
7. The NVMS approved Encoders, Decoders and IP Cameras except outdoor PTZ shall provide the ability to be powered by power over Ethernet (PoE) 802.3af option.
a) PoE shall be attached to a Uninterruptible Power Supply (UPS) and shall be sized to maintain camera operations.
8. The NVMS shall be able to support all cameras at the up to 25 frames per second and 4CIF resolution.
9. The NVMS shall allow for 2-way audio communication using microphone/call station connected the network edge audio interface without any need of additional software licenses. This facility can be used as parallel (Redundant) audio announcement and recording system apart from regular PA system. It can be used for car announcement system, field audio recording for security reasons. Emergency call back to security control room, Personnel paging etc. whenever required.
a The NVMS shall provide the ability to communicate back through a speaker connected to an audio enabled IP camera and provide an IP based audio announcement and recording.
b. It should be possible to record and playback individual audio channel in sink with same or any other camera video.
10. The NVMS Audio function shall be available as independent sources and / or synchronized with video. UPS with 2-4 hour backup at all locations of cameras.
 a. The NVMS shall allow the use of audio inputs for Audio recording of telephone lines, microphones, radio systems or any other analog audio interface.
b. The NVMS shall allow for audio search by date, time, text tag (bookmark) and alarm event with or without association to video.
Video search also with date & time.

11. The NVMS should support below video analytics future.

The NVMS shall provide the ability for real time video calibration "stitching" tools providing panoramic video view of areas that are covered by multiple cameras as a single image. The video stitching software shall provide the ability to "stitch" up to eight (8) cameras in any direction, horizontal, vertical and overlay to provide a single view of the selected cameras. It should be possible to use more analytics features in future if required.

12. The NVMS shall be based on high quality Dual MPEG-4 IP cameras.

a) Jpeg, MJPEG, Wavelet, or any other imaged based video compression will not be considered as approved equal due to the high network bandwidth associated with these types of digital video compression.

13. Each Camera shall provide dual video streaming technology providing independent settings per stream.

   a) A viewing stream of up to 25 fps and 4CIF video resolution and a recording stream of upto 25fps and 4CIF video resolution.

   b) The NVMS shall allow the user to view live video at High resolution 4CIF while recording at a lower CIF or 2CIF for more efficient video storage.

   (1) The system shall be flexible and allow bandwidth selection between 64kb to 4Mb per steam.

   c) Total bandwidth for dual stream MPEG4 based Encoders and cameras both stream shall not exceed 6MBps.

   d) When both the viewing stream and the recording stream are set at the same FPS and resolution the camera/Encoder shall send on the network a single multicast stream this shall help reduce network bandwidth.

14. NVMS shall have a capacity to switch and control all the current cameras. It should be expandable to unlimited cameras in future.

15. The system shall allow the recording, live monitoring, playback of archived video audio, and data simultaneously.

16. The NVMS shall provide file export tool for export the native video format with all video protections. (e.g. watermark, encryption) and the ability to play this video on a standard computer

a) the native file format video player shall show the status of the video authentication as available with the original file format.

17. The IP Based NVMS shall provide file export tool for export of single frames of video in J-PEG and BMP file formats and for export of motion video files in AVI file format for transport and playback on computers utilizing a Windows environment.

18. The Vendor shall provide the required computers for the NVMS client and servers, these computers shall be of the most current state of the art technology available at the time of installation and as minimum shall be better than the minimum requirements specified by NVMS system manufacturer as well as tender specifications.

NVMS SERVER SOFTWARE

1. The NVMS software shall consist of an MS-SQL 2005 or better based Main and failover Directory Database Server, Archive Server for audio and video, Digital Virtual Matrix, Incident Reports, Alarm Management, Network Management System and Watchdog modules. All the related software licenses should be the part of the offered system.

2. The NVMS Server shall maintain a catalog of settings for all the client, servers, encoders, decoders and IP cameras in the system.

a) The NVMS shall enable the client to dynamically create connections between Encoders and Decoders and view live or recorded video on the digital monitors (audio, Video, serial ports and digital I/Os)
b) The NVMS shall provide the client seamless operation of all Encoders and Decoders available in the system regardless of the actual connection to different archive servers.
c) The NVMS Archive Server shall offer the capability to alert the systems administrator.

3. The NVMS Archive Server shall offer the capability to be installed multiple servers software on multiple Computer Servers to enable distributed archiving architecture on the LAN or WAN

4. The NVMS Archive Server shall support 100 camera connections, through video Encoders or IP cameras on each archive server.

5. The NVMS Archive Server, for video and audio, shall support and manage (32) camera connections from IP cameras and video Encoders each at 25FPS PAL and 4CIF resolution (704x576PAL) and (70) cameras at 25FPS PAL and 2CIF resolution (352x288 PAL), 70 cameras at 25FPS and CIF resolution.

6. The NVMS shall be able to set each camera frame rate, bit rate and resolution independently from other cameras in the system, and altering these settings shall not affect the recording and display settings of other cameras.

The NVMS shall utilize multicast network communication for video monitoring.
Unicast based equipment will not be considered as an approved equal for alternate system.

7. The NVMS shall be a software based solution.
The NVMS shall require no proprietary hardware for video and audio recording servers.

8. The NVMS shall have a built-in-Digital Video Matrix Switcher functionality without the need of any additional software license.

a) The Virtual Matrix Switch shall provide a full matrix operation of IP Video to digital (computer) screens or analog monitors using Decoders.
b) The Virtual Matrix Switch shall have the capability of creating camera sequences with the following functionalities.
c) The Virtual Matrix Switch shall have the capacity to interface with legacy video walls via a CCTV keyboard connected to Encoder, Decoder or the client PC.

9. The NVMS shall support web based clients connecting to the NVMS system via the Internet.
10. The NVMS shall support a built-in Watchdog module.
a) The Watchdog shall monitor operation of all services and automatically restart them if they are malfunctioning.
b) The Watchdog shall be responsible for restarting the application or in a last resort restart the server in case of malfunction of software components.

11. The NVMS shall be based on a true open architecture that allow for use of non-proprietary PC and storage hardware that shall not limit the storage capacity and shall allow for gradual upgrades of recording capacity.

12. The NVMS Server shall be of the most recent computer technology and shall cover the NVMS requirements.

To provide an advanced and reliable system the operating system shall be Windows 2000-Server or 2003-Server level (Win 2000 Pro or XP pro will not be considered as approved equal)

13. The NVMS shall allow for changing the encryption key.

14. The NVMS shall support management and control over unlimited satellite sites.

15. The NVMS shall provide alarm dry contact interfaces to allow for any alarm input initiating any action in the NVMS system.

    The NVMS shall transmit dry contact information over the IP Digital Transmission Network.

16. The NVMS shall provide a serial interface for alarm input to allow for any alarm in put initiating any action in the NVMS system.
    The NVMS shall transmit alarm serial information over the IP Digital Transmission Network.

17. The NVMS shall support full duplex audio communication and transmission signals over the IP Digital transmission Network without the need of any additional license.

18. The NVMS shall provide a reporting utility for tracking but not limited to the following options. Video and images shall be stored with reports for documenting events.
a) Alarms, Incidents, Operator logs, Service requests
b) The Email Alert should be generated in responds to alarms triggered in NVMS software and sends out email alerts to a preconfigured list of recipients.
c) It should be possible to export the settings of various entitles within the NVMS i.e. Archiver, Directory, Cameras etc. It should be possible to print these reports.
d) It should be possible to get reports or past events by querying the audit databases. It should allow the search by User Logon, Entity Configuration, Incident, Alarm, Application Failure, Equipment Failure.
e) It should provide the tool to create the case document which should include Archive Video, Photos, Text and other file attachments.

19. The NVMS shall provide alarm management module without the need of any additional license.
    a) The alarm management shall be able to set any monitor or groups of monitors to automatically display cameras in response to alarm inputs.
    b) The alarm management shall be able to reset automatically or manually alarmed video.
    c) The alarm management shall allow for multiple modes of alarm handling capability, these modes to be programmed within the same system.
20. The NVMS shall have support a internet Gateway server application without the need of any additional license.
    a) The Internet Gateway server shall allow clients to view good quality video streams from remote locations, over the internet, over firewall and proxies.
    b) The Internet Gateway server shall manipulate the video data to adjust the video stream type and properties to the connection type.
    c) The Internet Gateway server shall transcode MPEG4 streams to MJPEG streams in order to overcome the MPEG4 issues related with limited bandwidth connections, such as video artifacts, thus providing a MJPEG stream that maintains high quality images and automatically adopts the frame rate to the connection bandwidth.
    d) The Internet Gateway server shall support all video stream types, including live, archive, instant replay, video sequences, and video on alarm.
    e) The Internet Gateway server shall have only one TCP port exposed to the internet, thus masking the video servers, encoders and cameras from direct connections coming from external networks.
    f) The Internet Gateway server, in collaboration with the Gateway server, shall provide remote users full functionally in a transparent way; the remote user will use the system normally despite the fact that the connection goes; through the Internet Gateway.

NVMS CLIENT

1. The NVMS client shall consist of Administrator Tool application, a Monitoring application, an archive player application.
2. The NVMS client shall perform the following applications simultaneously without interfering with any of the Archive Server operations (Recording, Alarms, etc.):

a) Live display of cameras
b) Play Live audio
c) Broadcast audio to remote locations
d) Live display of camera sequences
e) Live display of stitched and/or panoramic camera views
f) Control of PTZ cameras
g) Playback of archived video and audio
h) Playback of stitched and/or panoramic camera clips
i) Retrieval of archived video and audio
j) Instant Replay of live video and audio
k) Instant Replay of stitched and /or panoramic camera clips
l) Use of graphical controls (maps)
m) Configuration of system settings
n) Execution of system macros

3. The NVMS client applications shall support any form of IP network connectivity, including :LAN, WAN,VPN, Internet, and Wireless
4. The NVMS client applications shall support IP Multicast (UDP) and Unicast (UDP) video and audio streaming.
5. The NVMS client application shall automatically adapt to the network topology and use the best available method to receive streaming video.
6. The NVMS client applications shall provide an authentication mechanism, which verifies the validity of the user.
7. NVMS Client MONITOR Application.

a) The Client Monitor application shall allow for live monitoring of video and audio.

   (i.) The Monitor shall enable view of 1 to 25 video tiles simultaneously on a single SVGA (1024x768) monitor at 30fps per camera.
   (ii.) The Monitor shall enable view of up to 25 video tiles simultaneously on a single monitor and shall provide the ability to connect up to four (4) monitors to a single computer supporting multiple SVGA (1024x768) monitor outputs.
   (iii.) The IP Based NVMS shall provide as minimum on each of the VGA monitors independently the following tile views.

Full screen, quad, 3x3, 4x4, 5x5, 1+9 (one large and 9 small view), 1+11 (one large and 11 small view), 1+12 (one large center tile and 12 small view), 1+15 (one large and 15 small view), And more.

b) The Client monitor shall enable playback of audio independently from video. The monitor shall enable the user to work with multiple Audio layouts containing collections of microphones, speakers and audio clips.
c) The client monitor shall enable playback of audio mixed from both live and archived audio sources, allowing the user to control the volume of each source independently as well as mute them or record them manually.
d) The client monitor application shall enable broadcast of audio from the user workstation to multiple speaker or other audio out resources simultaneously. This shall be available using a simple microphone connected to the user workstations sound card.
e) The NVMS Monitor application shall allow operators to view an instant replay of any camera or audio input (microphone).

i the operator shall be able to define the amount of time he wishes to go back from a predefine list or through a custom set up period.

ii The operator shall be able to control the playback with play, pause, forward, and speed buttons.

f) The NVMS Monitor application shall allow operators to add bookmarks to recorded clips of video or audio.

g) The operator shall be able to choose and trigger an action from a list of available actions included but are not limited to:

   (i.)View camera in a video tile

   (ii.)View camera on a Decoder (analog monitor)

   (iii.)View Map or procedure in a video tile

   (iv.)Starting /Stopping PTZ pattern

   (v.)Go to PTZ Preset

   (vi.)Sending alert messages

   (vii.)Send/receive messages through a serial data stream

h) The NVMS Monitor application shall display all cameras attached to the system regardless of their physical location on the network.

i) The NVMS Monitor application shall display all camera sequences created in the system.

j) The NVMS Monitor application shall allow for unlimited cameras sequences, which can be run independently of each other on either digital monitor tiles or analog CCTV monitors.

k) The NVMS Monitor application shall allow operators to control (Pause/Play, skip forwards, skip backwards) Camera Sequences, without affecting other operators' ability to view and control the same sequence.

l) The NVMS Monitor application shall display all cameras, sequences and analog monitors in a logical tree.

m) The NVMS Monitor application operators shall be able to drag and drop a camera from a tree of available cameras into any video tile or an analog monitor icon for live viewing.

n) The NVMS Monitor application operator shall be able to drag and drop a camera sequence from a tree of cameras into any video tile or an analog monitor icon for live viewing.

o) The NVMS Monitor application shall support Graphical Site Representation (Maps) functionality, where digital maps are used to represent the physical location of cameras and other devices throughout facility.

   i) The NVMS Maps shall have the ability to contain hyperlinks to create a hierarchy of interlinked maps.

   ii) The NVMS Maps shall be able to import maps from any graphical software supporting BMP, JPEG and /or GIF image formats.

p) The NVMS Monitor application operator shall be able to drag and drop a camera from a map into a video tile for live viewing.

The operator shall be able to click on an icon in a map to initiate PTZ camera preset, run PTZ pattern, view camera in an analog monitor or send an I/O stream.

q) The NVMS Monitor application shall support the procedure functionality, where procedures can be triggered to appear during a certain event and can be used to provide detail written or verbal instructions to the operator as to the actions to be taken.

r) The NVMS Monitor application shall support digital zoom on a fixed camera's live and recorded video streams.

s) The NVMS Monitor application shall support digital zoom on a PTZ camera's live and recorded video streams.

   8. The NVMS client shall provide the following video analytics alarm options:

a) Trigger alarms or events to draw the user attention.

b) Provide a meaningful text description of the event.

c) Provide OSD graphics to depict the analytics event, including the participating objects, event location, motion directions and more

d) Provide the above OSD graphics on live video, archived video and JPEG images

e) Support automatic tagging/book-marking of analytics events.

f) Support search of analytics events history.

9. System must provide the tool to the security in charge to monitor the actual activities (Replica of operator screens) happening on the operator monitors through his workstation and monitor.

10. The NVMS Monitor application shall provide management and control over the system using a standard PC mouse, keyboard and CCTV keyboard. Standard scroll should be able to move the camera by merely clicking on the extremes of the picture in all directions and zoom function by scroll button to avoid the use of joystick keyboard but maintain the easiness of the control provision of the PTZ menu on GUI will not be considered as equivalent or substitute. The vendors should provide joystick keyboard as an integrated part of the client workstation if they do not support this feature.

   a) The NVMS client shall be able to use multiple CCTV keyboards to operate the entire set of cameras throughout the system, including cameras of various manufacturers' brands, including their PTZ functionalities (i.e. one keyboard manufacturer controls other manufacturer's dome or vice-versa.

   b) The NVMS client shall allow for a CCTV keyboard to be attachable directly to the PC running the NVMS client application via its serial port.

   c) The NVMS client CCTV keyboard interface shall provide full PTZ control.

   (i)The operator shall be able to control pan-tilt-zoom, iris, focus, dome relays and dome patterns.

   (ii) The NVMS client software shall allow the operator to access the PTZ configuration menus with no need of additional hardware.

   (iii) This shall prioritize which operator has control over a camera vs. another operator trying to control the same camera at the same time.

   d) The NVMS client CCTV keyboard interface shall provide full video matrix operations.

ALARM MANAGEMENT

1. The IP based NVMS shall provide alarm management and reporting module
2. The IP based NVMS shall notify a user on any alarm set in the system.
3. The NVMS user shall be able to support multiple alarms.
4. The NVMS system administrator shall be able to set for each user the maximum alarms to be viewed at one time.
5. The NVMS user shall be able to forward alarms to other users.
6. The NVMS alarm management shall keep audit trail of all alarm and operators related operations in a separated database.
7. The NVMS alarm database shall provide multi time schedule support and shall be able to save the alarm database for different period of time as the recorded video schedule.

ACCESS CONTROL ALARM RECEIVER MODULE

The NVMS shall provide a integration interface to access control using well define SDK. The SDK for third party (Other system manufactures involved in this project) should be provided along the system without any additional cost which will enable them to develop the software interface with CCTV system. Access control system should be seamlessly integrated with CCTV system since the beginning of the system implementations.

IP CCTV TECHNICAL SPECIFICATIONS

Hardware Specification

1/3" CCD Day/Night Fixed Box Shaped Camera 1/3"

Ex View HAD High Resolution CCD

520 TVL Resolutions, PAL

Minimum Illumination: 0.2 lux colour, 0002 lux B/w @Fl.2 Digital

Signal Processing

AGC: On/Off

White balance: On/Off BLC:

On/Off

Shutter Speed: 1/50 to 1/110000 DC Auto Iris

Day/Night mode: Automatic SIN Ratio:

>50db

Compression: Dual stream MPEG4 Frame

Rate: 1-25FPS for PAL

Resolution: Adjustable from 352x288 to 704x576 Bandwidth:

64Kbps to 6Mbps

Bidirectional audio capability

RTP, TRCP, TCP/IP, UDP, HTIP, IGMP, Ie liP, ARP, DHCP

Flash memory for upgrade of video cooling and application firmware over the network

10/1 00 Base- T Auto sensing, Half/Full Duplex (RJ45) RS-

422/4852/4 Wires (maximum of 23(60 Kbps)

2 Alarm inputs, 1 Relay out

Power: 12VDC ±10%

Enclosure: Outdoor / Indoor as required Mount: Wall,

Ceiling, Pole as required Operating Temp: 3r F to 122° F

(0° C to 50° C) Humidity: 95% (Non-condensing)

CE and FCC

Lenses

1/3" Format C/CS mount

VarifocaI7.5-50mm Auto Iris

Day/Night IR Corrected

Integrated High speed Day/Night outdoor IP dome camera (23x Optical)

1/4" Progressive scan CCD, F=3.6mm to ~2.8mm, 23X optical zoom plus 12x digital

zoom, Wide dynamic range, Day/Night, 470/S:)TVL

Scalable resolution from CIF-4CIF 352x9.8 to 704x576 (PAL) in all FPS

Dome 10 256, Minimum illumination 0.1 (Day) 0.01 (Night) lux

Multicast and unicast, dual-stream MPEG-4 video for independent viewing and

recording,

Configurable between 64 Kbps and 6 IVII ps

Multi digital signal processing

Focus, Iris, BlC should have Auto/Manual

Pan range 360^0 continuous, Tilt _00 - 70 (with auto-flip) Manual Pan / Tilt speed

120^0/sec, Preset Pan/Tilt speed 360^0/sec 4 patterns with 16 areas, 99 Presets

4 alarm inputs, 2 relay outputs

Privacy masking zones

Bidirectional audio: Input: -20 to -3 dB into 30 kilohms, Output: -46 to -3 dBV into 16

Ohms
minimum
Remote access for configuration, view'n and control via standard web browser
RTP/IP, UDP/IP, TCP/IP, or multicast IP, I INS and DHCP client
Flash memory for upgrade of video COCE and application firmware over the
network Ethernet 10/1 00 Base- T Auto sensing, H IIf/Fuli Duplex (RJ45)
Operating temp. - 40° F to 140^0 F ($\_40^0$ C :060^0 C)
Outdoor enclosure with IP66 rated NET11 ~,-4 X, Vandal proof, Built in Heater and
Blower and
must be of same make as of camera.
Mount: pendant with wall mount bracket *I* In Ceiling as
required Humidity: 95% (Non-condensing)
FCC, CE certified
NVMS Server Hardware for Main recorder, Failover r recorder, Database
The NVMS computer server shall be of L ell, Cl, P or IBM make 19" rack mounting.
The NVMS Server shall be of the most n cen O puter technology and shall cover the
NVMS minimum requirements
Quad Core dual CPU - Intel@ Xeon™ Processor 2.0GHz, 2x6MB Cache
MicrosoftQD Windows 2003 Server R2 St21dard Edition, SQl Server *20001* MSDE database
Memory - 2GB
80GB+80GB Mirrored (7200 rpm) for OS and
Database Dual Network Interface Card -
 100/1001: MB Dual/Redundant power supply
Standard video display adapter
CD-ROM, 1000 GB HDD
Wireless Equipment

.. Product Specification data sheet		
Features		
	Radio Frequency	2.4/5.8 Ghz Single radio or dual radio
	Out Power	18dbm
	Data Rate	54mbns
Wireless		
	Multifunction Application	
	Multicasting	Supported multicast routing
	Signal Strength -90clhm	
	Antenna Diversity	Yes -
	Channel bandwidth	Supported 5,10,20 Mhz channel band (40 MHz Optional)

Networking	Dynamic routing	Supports RIP
	NAT fPAT	NAT and PAT supported
	Bridge	Device and work in bridge mode and routing mode
	OT .SR	Yes
Security	SPT Firew::lIl	Tnhllilt St::Jte fll11 Firew::J11
	Web	Web based configuration requires authentication
	WEP	64/128 bit WEP
	WPA	TKP,AES,IEEE02.1X authentication
	SNMP	Monitoring
Man	Telnet	Yes
	HTTP	Weh hased confiQuration interface
	VI&V2	Yes

Technical Specification

"'

MCUIRF Chip	Atheros AR2317/ar2318 Network processor
Memory	16MB
Flash Memory	MB
Physical	Ethernet
LED	No
Power Requirement	12W
Regulation Certification	CE Mark, FCC
ROHS Compliance	Yes

RF Specification

Fre	2.4 GHz
Modulation Technology	BPSK,QPSM,QUAM

Operating Channels	**OFDM,BPSK,QPSK, 1 QAM,64QA**
Receive Sensitivity (Typical)	.
A vailable Transmit Power (A verage Power)	
Internal Antenna	
External Antenna	**Optional**
Software Features	
General	
Topology	Point to Multipoint
Protocol Standard	*802.11 big*
Operation Mode	Base station and CPE
LAN	1011 00 Mbps Auto negotiating
Wireless	~/ 802.11 lleomnatible and non comnatible mode
Security	r Inbuilt Firewall
QOS	Based on **IP** address and Port
Management	
Configuration	Web based
Firmware Upgrade	Web based over the air
Administrator Settings	Web based
Reset Setting	Web based, and one standard IP is always available to access the local radio over Ethernet
System Monitoring	Web/SNMP based system monitoring
SNMP	SNMPv2c
MIB	
Backup & Restore	Backup and restoration of configuration file supported

Time Setting	Can be synched with a NTP serve
Environmental & Mechanism	
Temperature Range	-200C to 700C
Humidity (Non Condescending)	5% to 95%(non condensing)
Dimension (L X W X H)	
Weight	

S.No	Description (As per the technical Specifications given in tender document)	Qty
1	Base video management software, with a single primary	
	Directory, for up to 70 Cameras single user license	
2	One (I) additional camera connection license for approved	10
	encoder, decoder or IP camera	
3	Fixed Camera, True Day/Night, Dual Stream MPEG-4, 4CIF,	
	Audio,	7
	Serial Port, 12VDC/802.3af PoE,PAL	
4	1/3" CS-Mount, DC Auto Iris, Manual Varifocal Lens	7
	Weather Resistant Outdoor Housing	7
	PTZ Dome Camera, Dual Stream MPEG-4, 4CIF, Outdoor	3
6	Bracket	
	Mount, Vandal Bubble, True Day/Night, 23x optical12x digital	
	Zoom	
7	NVMS Server	1
8	Power Supply for Cameras	10
9	42 Inch LCD Display device for control room	1
10	1 KV A UPS for camera, offline	10
11	5 KV A UPS for control room. online	1
12	8 Port Switch - Unmana ed	2

13	Switch - 16/32 port Managed	1
14	nstallation, Testing & Commissioning of the System	1
15	Cabling (per meter) Cat 6 cable with Laving,nn!'l	
	RTS ⊤⊤ with Omni antenna	250
	Power Cable From nearest UPS source Dome	2
		500
	Suitable Iron Angle for Speed	3
	1" PVC Conduit	700
	1"MS Conduit	500
	4" Cable Tray	10
	Cable Laying Charges (excluding digging)	500
	Guy Rope Mast (Per Meter)	
	CPE –II with integrated antenna	
	PTP link 508 with antenna	

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Surveillance Solution

S.No.	Description	Qty.
1	Video Management software with a single primary Directory, for up to 70 Cameras **single user license**	1
2	One (1) additional Camera connection license for approved encoder, decoder or IP Camera	16
3	Fixed Camera, True Day/Night Dual Stream MPEG-4, 4CIF, Audio, Serial Port, 12VDC/802.3af PoE,PAL	14
4	1/3" CS-Mount, DC Auto Iris Varifocal Lens	14
5	Weather Resistant Outdoor Housing	14
6	PTZ Dome Camera, Dual stream MPEG-4,4CIF, Outdoor Bracket Mount, Vandal Bubble,True Day/Night, 23x optical 12x digital zoom	2
7	NVMS Server – with 1000 GB -HDD	1
8	Power Supply for Cameras	16
9	42 Inch LCD Display device for control room	1
10	1 KVA UPS for Camera, offline	16
11	5 KVA for control room, online	1
12	8 Port Switch - Unmanaged	3
13	Installation, Testing & Commissioning of the System	1
14	Cabling (per meter)	
	Cat 6 cable	100
	OFC Cable (Multicore)	3500
	Power Cable (From nearest UPS source)	100
	Suitable Iron Angle for Speed Dome	2
	1" PVC Conduit	200
	1" MS Conduit	100
	4" Cable Tray	15
	Cable Laying Charges (excluding digging)	3500
	Pole For Cameras (25 feet height)	2
	Termination of OFC	28
	Media Convertors	28

SS HOPITAL
BANARAS HINDU UNIVERSITY

Proposal for IP Surveillance System

S.No.	Description	Unit	Qty.
1	IP Enabled Fixed High Resolution Dome Camera **1/3" Sony Super HAD CCD, 1.0 Lux** **3.6 mm Lens, AWB, AGC, BLC, Flickerless** **DC 12V**	Nos.	120
2	IP Enabled Fixed Vocal Night Vision Camera **1/3" Sony Super HAD CCD, 6.0 mm Lens, 24 IR-** **LED, 0.1 Lux (Day),0 Lux (Night),** **20 Mts IR Distance, 12V DC** **Outdoor Weather proof IP66 Housing**	Nos.	30
3	PTZ Dome Camera, Outdoor Bracket Mount, True Day/Night, 30x optical zoom	Nos.	6
4	64 Channel Video Server with 2000 GB HDD	Nos.	3
5	37 Inch LCD TV	Nos.	3
6	Outdoor Pan & Tilt Unit with manual controller (no zoom)	Nos.	15
7	Additional 500 GB Hard Disk (Spare)	Nos.	2
8	Power Supply for 156 Cameras12V DC	Nos.	156
9	4 Channel Analogue Video Quad	Nos.	4
10	Installation Charges	Lot	1
11	Training Charges	Lot	1
12	1 KVA UPS for camera, offline	Nos.	156
13	10 KVA UPS for control room, online	Nos.	1
14	Wiring & connectors		
	RG6 cable	Meter	16000
	Power Cable (From nearest Source)	meter	4000
	Cat6 Cable	meter	1800
	PVC Conduit- 25mm with laying	meter	At actuals
	Cable laying cost	meter	16000
	Connectors & Accessories	Nos.	300
	16 port Switch	Nos.	10
	Suitable Iron Angle for Speed Dome	Nos.	6