



ITI Limited
Corporate Business Development Cell,
F-28, NS Unit, ITI Complex, Doorvani Nagar,
BANGALORE – 560016
CIN No: L32202KA1950GOI000640

**NOTICE INVITING EOI FOR SELECTION OF PARTNER FOR
CCTV SURVEILLANCE AND ACCESS CONTROL SYSTEMS**

Ref: ITI/CORP-BDC/CCTV

Date 28-07-2015

Notice inviting EoI for the selection of Technology Partner for Supply, Installation, Commissioning and Warranty support of CCTV Surveillance System and Access control system for security of the buildings of Ministries/Departments of Government of India (State/Central) and also any other similar premises which need security Surveillance System.

ITI LTD invites sealed proposals from eligible OEMs/authorized agencies of OEM for the above EoI. The **scope of work** includes Supply, Installation, Commissioning, Warranty and AMC support for the above product.

The **selected partner shall** work with ITI LTD as per Terms of the Tender and agree to bear the cost related to project funding, Bid Security, Performance Bank Guarantee (PBG) etc., for addressing the Tenders/ Purchase Orders from the Customers.

1	Tender	Expression of Interest
2	Due Date for submission	19-08-2015, 17.30 hrs
3	Bid opening date	20-08-2015, 11.00 hrs (##)

Note: ## - If 20-08-2015 happens to be holiday, then bid will be opened at 11.00 hrs of next working day

Queries / clarifications related to this EoI should be in writing only. **Bidder should provide their E-mail address** to enable us to reply through E-mail. Clarification / Corrigendum if any will be made available in our website. ITI LTD reserves the right to verify the credentials provided by the bidder.

The Proposals to the EoI should be in two separate sealed covers. First cover shall contain the compliance to the Technical Specifications (Annexure A), General Conditions of the EoI (Annexure I) & Integrity PACT (Annexure III) and be marked as “Technical Bid for CCTV Surveillance System and access control system”. The second cover shall contain the compliance to the commercial terms of the EoI (Annexure II) and be marked as “**Price bid for CCTV Surveillance System and access control system**”. The envelopes should reach on or before **19-08-2015, 17:30 hrs** to the address below:

Chief Manager (BDC) – Business Development Cell,
F 28, Ground Floor, NS Unit,
Dooravani Nagar, BANGALORE – 560 016.
Phone: 080 – 25660539/ 2207
Email : indirab_crp@itilttd.co.in, mlg_bgp@itilttd.co.in
Website: www.itilttd-india.com

For clarifications you may contact indirab_crp@itilttd.co.in, mlg_bgp@itilttd.co.in.

All queries related to the EoI shall be sent in writing on or before 05-8-2015. Clarifications to the all queries will be published in our website well in advance before the tender due date. The queries sent after the said date shall not be entertained.

Disclaimer:

This EoI is not an offer by ITI LTD but an invitation for bidder response, based on which ITI LTD will select the partner for the subject business.

ITI Limited reserves the right to accept or reject in part or in full any or all the EoIs without assigning any reasons thereof and without incurring any liability whatsoever to the respondent.

A MoU shall be signed with the successful bidder covering the scope of the partnership and will have validity for 5 years.

Note: The spec provided is of minimum requirement. In case, if customer demands for any additional features, the same should be provided by the selected partner.

Check list:

Cover 1 - (Technical Bid)	a. Technical bid as per Annexure I with necessary enclosures b. Technical spec compliance as per Specification in Annexure A c. Pre-bid integrity pact as per Annexure III
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Cover 2 - (Price Bid)	a. Annexure II
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Both covers individually super scribed with proper **subject** and placed in a common single cover.

Annexure – I

General Requirements:

(Please fill details and enclose supporting documents wherever required, and put “YES” in case of compliance)

Part 1. Eligibility Criteria:

- a) Bidder *should be an OEM / Authorized Indian agency of OEM.*
- b) Bidder should have minimum 5 years experience in CCTV System business in India.
- c) Bidder should have successfully supplied, installed and commissioned similar projects/ system integration works for various State/Central Govt./ PSUs.
- d) Should be a profit making company for last 3 financial years i.e FY ended on 31-3-2015
- e) Should not have been black listed by any Government organization in India.
- f) Should have their own offices in India for providing support services and at least one service center in major cities or submit undertaking letter for establishing Service Center in the required cities at the time of execution of project if work is awarded.
The bidder should have a cumulative turnover of Rs. **150Crore** (Minimum) in the last three financial years.
 1. The turnover criteria can be met by a single company or their own group companies or by consortium.(in any case, only a maximum of two is allowed)
 2. The technology partner shall be lead bidder. Supporting documents indicating the understanding between the lead bidder and group companies / consortium certified by the auditor and a letter from the group companies / consortium willing to support the lead bidder financially for the project are to be submitted.
 3. The MOU will be signed only with lead bidder of the consortium.
 4. The terms and conditions agreed with ITI will have binding on the other members of the consortium..
- g) The copies of Audited Annual Accounts/Balance Sheet along with Profit & Loss Account for last three years shall be submitted along with bid (The documents of consortium companies, if applicable, shall be submitted)
- h) The Bidder should have skilled manpower with relevant experience to carry out this kind of business.
- i) Selected Partner shall be agreeable to work with ITI on a **Back to back** business model

Part 2. General Information:

1	Name of the Organisation (Company / Partnership firm/Proprietorship concern, etc)	
2	Organization Product Profile	
3	Certificate of Incorporation / Registration details	
4	Articles & Memorandum of Association as applicable and CIN number.	
5	Audited Annual Report / Accounts for the financial years (2012-13, 2013-14 & 2014-15)	

6	Annual turnover for the Financial years as per audited Accounts (2012-13, 2013-14 & 2014-15)	
7	Annual profit for the Financial Years as per audited accounts (2012-13, 2013-14 & 2014-15)	
8	Net worth as per Audited Accounts as on 31 st March 2015)	
9	Sales Tax Registration certificate	
10	Service Tax Registration certificate	
11	Copy of PAN certificate	
12	Income tax return copies for the year(2013-14 and 2014-15)	
13	Solvency Certificate issued from any scheduled bank during the last 6 months	
14	Whether the company is OEM or Authorized agency of OEM.	
15	In case of agency, Undertaking to obtain support letter from OEMs in favour of ITI LTD	
16	Previous experience of handling similar projects / works (business category-wise)	
(a)	Details of PO Received (PO copies to be enclosed)	
(b)	Details of PO Executed / completed along with completion certificates	
(c)	Copy of the Performance Certificates issued by Customer, if any	
17	Acceptance to bear the cost / expenses /bank guaranty related to tender /customer orders.	
18	Acceptance to get Third party certification of the product as per customer requirement	
19	<u>Man Power Details</u>	
(a)	Technical	
(b)	Non-Technical	
20	Undertaking to obtain relevant statutory licenses copyrights etc. for operational activities.	
21	Submit power of attorney authorizing the person signing the bid for this EoI.	
22	The details of support centers.	
23	Any legal cases pending against the Organization? If any, details to be furnished.	

- a. Period of Validity of offers: The offer shall remain valid for a period of at least 180 days from the due date of offer submission. Offers valid for a shorter period shall be rejected.
- b. Offer due Date & Opening: The last date for receiving the offers at **ITI** is **15.30 PM on 19-8-2015** and the offers would be opened at **11.00 AM on 20-8-15**
- c. Late offer: Any offer received after the prescribed timeline shall be rejected and shall be returned unopened to the bidder.

- d. Offer Evaluation: The evaluation of the offers will be carried out in two stages: bidders who comply with General Conditions and Technical Specifications would be short listed as technically suitable bidder. The price bid of the technically suitable bidders will be qualified further processing.
The bidder who offers the highest margin to ITI will be selected as partner to work on back to back model for addressing feature tenders.
- e. Language of offers: The offers prepared by the bidder and all the correspondences and documents relating to the offers exchanged by the vendor, shall be written in the English language.
- f. Award of Contract: After completing evaluation and selection of partner based on the offer and further negotiations, if any, **ITI** shall enter into a Memorandum of Understanding with the partner.
- g. Authorized Signatory: All certificates and documents received as part of the offer shall be signed by the Authorized Representative. The power of authorization or any other document consisting of adequate proof of the ability of the signatory to bind the bidder shall be submitted. All the pages of bid document shall be duly stamped & signed by the authorized personnel.
- h. **ITI** reserves the right to suspend or cancel the EoI process at any stage, to accept, or reject any, or all offers at any stage of the process and / or to modify the process, or any part thereof, at any time without assigning any reason, without any obligation or liability whatsoever and the same shall be published in the **ITI** website or intimated through email.
- i. Cost of EoI: The vendor shall bear all costs associated with the preparation and submission of its EoI, including cost of presentation for the purposes of clarification of the offer, if so desired by the **ITI**. **ITI** will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the EoI process.
- j. Amendment of EoI: At any time prior to the last date for receipt of offers, **ITI**, may, for any reason, whether at its own initiative or in response to a clarification requested by the prospective bidder, modify the EoI document by an amendment. In order to provide reasonable time in which to take the amendment into account in preparing their offers, **ITI** may, at their discretion, extend the last date for the receipt of offers and/or make other changes in the requirements set out in the Invitation for EoI.
- k. It should be noted that the business associate selected as partner shall neither be allowed to quote independently nor have alliance with other bidders/competitors of ITI for the same business opportunity.
- l. ITI will have the right to decide on participation in any tender.

- m. Willing to extend all support for Installation, Commissioning and Warranty /AMC to the customer. In case, ITI wants to take up any activity like installation & commissioning and further maintenance of the systems etc., partner shall agree for value addition by ITI
- n. The proposal will be considered only if both the bids (technical and price) are available at the time of bid opening.
- o. Price bid will be opened only if the Technical Proposal is found qualified.
- p. Disclaimer: **ITI** and/or its officers, employees disclaim all liability from any loss or damage, whether foreseeable or not, suffered by any person acting on or refraining from acting because of any information including statements, information, forecasts, estimates or projections contained in this document or conduct ancillary to it whether or not the loss or damage arises in connection with any omission, negligence, default, lack of care or misrepresentation on the part of **ITI** and/or any of its officers, employees.

Part 3. Technical Specifications:

- Provide compliance to technical specifications as given **Annexure A**

Annexure – II

Second envelope on Price bid shall be filled in the following format. Margin offered to ITI must be clearly indicated.

Ref.: ITI/CORP-BDC/EOI/CCTV		Date: 19-08-2015
i	Name of the Organization (Company / Partnership firm/Proprietorship concern, etc)	
ii	Bidder shall agree to bear the project costs like bid security, PBG, project funding etc., as per the Purchase Order from the Customers in back to back model.	
iii	Bidder shall agree for payment terms on back to back basis; i.e., the bidder shall receive the payment from ITI after receipt of the payment from the Customers.	
iv	Bidder shall agree for payment of any Liquidated Damages (LD) or any other penalties imposed by the Customers on account of delay or deficiency of service or any other reason attributable to the bidder.	
v	Bidder shall agree to support ITI for all the terms and conditions of the Purchase Orders from Customers on back to back basis.	
vi	Delivery terms: FOR at ITI works (any of ITI plants at Bangalore, Rae Bareli, Naini, Palakkad, Mankapur)	
Viii	Margin being Offered in percentage (%) to ITI LTD excluding all applicable taxes, duties etc.,	

Pre-bid integrity pact to be duly filled, signed & submitted along with technical bid.

PRE-CONTRACT INTEGRITY PACT

GENERAL

This pre-bid pre-contract agreement (hereinafter called the Integrity Pact) is made on day of the month of , between, ITI Limited, ITI Bhavan, Dooravaninagar, Bangalore – 560016, India, (hereinafter called the "BUYER", which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns) of the First Part and M/s (*address of the Bidder*) (hereinafter called the "BIDDER " which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Part.

WHEREAS the BUYER proposes to invite Expression of Interest (EoI) for selection / empanelment of technology partner for a technical tie-up with ITI LTD for the marketing / manufacturing of (*name of the product*) and the BIDDER is willing to participate in the EoI as per the terms and conditions mentioned thereon;

WHEREAS the BIDDER is a private company/public company / Government undertaking / partnership company (*strike off whichever is not applicable*), constituted in accordance with the relevant law in the matter and the BUYER is a PSU under the Department of Telecommunications, Ministry of Communications & IT, Government of India.

NOW, THEREFORE,

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence / prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to :-

Enabling the BUYER to select/ empanel a technology partner for the marketing / manufacturing of (*name of the product*) through the EoI in a transparent and corruption free manner, and

Enabling BIDDERS to abstain from bribing or Indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the BUYER will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this Integrity Pact and agree as follows:

1. **Commitments of the BUYER**

1.1 The BUYER undertakes that no official of the BUYER, connected directly or indirectly with the contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the BIDDER, either for themselves or for any person, 'organisation or third party related to the contract in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.

- 1.2 The BUYER will during the pre-contract stage, treat all BIDDERS alike, and will provide to all BIDDERS the same information and will not provide any such information to any particular BIDDER which could afford an advantage to that particular BIDDER in comparison to other BIDDERS.
- 1.3 All the officials of the BUYER will report to the appropriate Government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.
- 2 In case any such preceding misconduct on the part of such official(s) is reported by the BIDDER to the BUYER with full and verifiable facts and the same is prima facie found to be correct by the BUYER, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the BUYER and such a person shall be debarred from further dealings related to the contract process. In such a case while an enquiry is being conducted by the BUYER the proceedings under the contract would not be stalled.

3 Commitments of BIDDER

- 3.1 The BIDDER commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the following:-
 - a) The BIDDER will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BUYER, connected directly or indirectly with the bidding process, or to any person, organisation or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.
 - b) The BIDDER further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BUYER or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or, execution of the contract or any other contract with the Government for showing or forbearing to show favour or disfavour to any person in relation to the contract or any other contract with the Government.
 - c) BIDDERS shall disclose the name and address of agents and representatives and Indian BIDDERS shall disclose their foreign principals or associates.
 - d) BIDDERS shall disclose the payments to be made by them to agents/ brokers or any other intermediary, in connection with this bid/contract.
 - e) The BIDDER further confirms and declares to the BUYER that the BIDDER is the original manufacturer/ integrator and has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to the BUYER or any of its functionaries, whether officially or unofficially to the award of the contract to the BIDDER, nor has any aMoUnt been paid, promised or intended to be paid to any such individual, firm or company in respect of any such, intercession, facilitation or recommendation.

- f) The BIDDER either while presenting the bid or during pre-contract negotiations or before signing the contract, shall 'disclose any payments he has made, is committed to or intends to make to officials of the BUYER or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.
- g) The BIDDER will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.
- h) The BIDDER will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.
- i) The BIDDER shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the BUYER as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic data carrier. The BIDDER also undertakes to exercise due and adequate care lest any such information is divulged.
- j) The BIDDER commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.
- k) The BIDDER shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.
- l) If the BIDDER or any employee of the BIDDER or any person acting on behalf of the BIDDER, either directly or indirectly, is a relative of any of the officers of the BUYER, or alternatively, if any relative of an officer of the BUYER has financial interest/stake in the BIDDER's firm, the same shall be disclosed by the BIDDER at the time of filing of tender. The term 'relative' for this purpose would be as defined in Section 6 of the Companies Act 1956.
- m) The BIDDER shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the BUYER.

4 Previous Transgression

- 4.1 The BIDDER declares that no previous transgression occurred in the last three years immediately before signing of this Integrity Pact, with any other company in any country in respect of any 'corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India that could justify BIDDER's exclusion from the tender process.
- 4.2 The BIDDER agrees that if it makes incorrect statement on this subject, BIDDER can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

5 Sanctions for Violations

- 5.1 Any breach of the aforesaid provisions by the BIDDER or anyone employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER) shall entitle the BUYER to take all or any one of the following actions, wherever required:-
 - a) To immediately call off the pre contract negotiations without assigning any reason or giving any compensation to the BIDDER. However, the proceedings

with the other BIDDER(s) would continue.

- b) To immediately cancel the contract, if already signed, without giving any compensation to the BIDDER.
- c) To cancel all or any other Contracts with the BIDDER. The BIDDER shall be liable to pay compensation for any loss or damage to the BUYER resulting from such cancellation/rescission.
- d) To recover all sums paid in violation of this Pact by the BIDDER(s) to any middleman or agent or broker with a view to securing the contract.

5.2 The BUYER will be entitled to take all or any of the actions mentioned above, also on the Commission by the BIDDER or anyone employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER), of an offence as defined in Chapter IX of the Indian Penal code, 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.

5.3 The decision of the BUYER to the effect that a breach of the provisions of this Pact has been committed by the BIDDER shall be final and conclusive on the BIDDER. However, the BIDDER can approach the Independent Monitor(s) appointed for the purposes of this Pact.

6 Independent Monitors

6.1 The BUYER appoints Independent Monitor (hereinafter referred to as Monitor) for this Pact in consultation with the Central Vigilance Commission.

6.2 The task of the Monitor shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.

6.3 The Monitor shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.

6.4 Both the parties accept that the Monitor have the right to access all the documents relating to the project/procurement, including minutes of meetings.

6.5 As soon as the Monitor notices, or has reason to believe, a violation of this Pact, he will so inform the Authority designated by the BUYER.

6.6 The BIDDER(s) accept(s) that the Monitor has the right to access without restriction to all Project documentation of the BUYER including that provided by the BIDDER. The BIDDER will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The Monitor shall be under contractual obligation to treat the information and documents of the BIDDER with confidentiality.

6.7 The BUYER will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the Monitor the option to participate in such meetings.

6.8 The Monitor will submit a written report to the designated Authority of BUYER within 8 to 10 weeks from the date of reference or intimation to him by the BUYER /

BIDDER and, should the occasion arise, submit proposals for correcting problematic situations.

7 Facilitation of Investigation

- 7.1 In case of any allegation of violation of any provisions of this Pact or payment of commission, the BUYER or its agencies shall be entitled to examine all the documents including the Books of Accounts of the BIDDER and the BIDDER shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.

8 Law and Place of Jurisdiction

- 8.1 This Pact is subject to Indian Law. The place of performance and jurisdiction is the seat of the BUYER.

9 Other Legal Actions

- 9.1 The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

10 Validity

- 10.1 The validity of this Integrity Pact shall be from date of its signing and extend up to the contract period with the BUYER in case a contract is signed. In case BIDDER is unsuccessful, this Integrity Pact shall expire after six months from the date of the signing of the contract.
- 10.2 Should one or several provisions of this Pact turn out to be invalid, the remainder of this Pact shall remain valid. In this case, the parties will strive to come to an agreement to their original intentions.

- 11 The parties hereby sign this Integrity Pact.

BUYER
Name of the Officer.
Designation
ITI Limited (address)
Place:
Date:

BIDDER
CHIEF EXECUTIVE OFFICER
M/s (address)

Place:
Date:

Witness:

1.
2.

1.
2.

Annexure A – Technical Specification

1a) IP based fixed box camera

2.1 Mega Pixel Full HD 1080 Fixed (BOX) Camera Specification		
Sr. No.	Specification	Description
1	Image Sensor	1 /3" Progressive scan CMOS sensor with WDR
2	Resolution	1920X1080p
3	Mega Pixel	2.1 Mega Pixel Full HD
3a	Lens	5-50mm varifocal
4	Minimum Illumination	Colour -0.5 Lux (@30IRE, Black & White -0.5 Lux @30IRE
5	Signal to Noise Ratio	>=50dB, Black light compensation ON/OFF selectable
6	Compression	Dual H/264 compression standards,
7	Lens MoUnt	CS/C type
8	Day/ Night Camera	Auto day/night configuration
9	FPS	Min 25 Frames per second for both the streams with Full HD @25FPS @H.264 + DI@ 25FPS @H.264 on two streams respectively
10	Shutter Speed	1 s to 1/10,000 or better
11	Tamer Detection	ON/OFF
12	Bit Rate	64 Kbps to 8Mbps. Camera should able to give stream in both CBR and VRB. With CBR maximum of @2Mbps bit rate. Shall work on less than 3Mbps average for full HD @25FPS @VBR
13	Streaming	Camera should support unicast and multicast streams
14	Web interface	Camera should have web interface to configure and control
15	Text superimposing	Super imposing the title and date & time on the video
16	Alarm input	One Dry alarm Input & Output
17	Edge Storage	Provision for 64GB SD Card
18	Ethernet, Network Protocols	10/100 Tx Auto sensing (half/full duplex), 802.3af class 3 PoE, IPv4/v6, Unicast, Multicast, RTP, TCP, UDP, HTTP, IGMP, ICMP, DHCP, DNS, ONVIF
19	Discovery Interface	OEM interface to detect the cameras automatically and configure network settings.
20	Housing	vandal resistant Aluminum enclosure with IP66, Sunshield, Built in Heater & Blower
21	Power requirement	PoE and Local power supply for camera, heater and blower as per manufacturer standard
22	Operating Temperature	0 to 50 C Degrees
23	Operating humidity	20 to 80 % RH non-condensing
24	Regulatory Approvals	FCC, CE, RoHS, UL/EN

1 (b) IP Based Fixed Dome Camera

2.1 Mega Pixel Full HD 1080 Fixed Dome Camera Specification

Sr.No.	Specification	Description
1	Image Sensor	1/3" Progressive scan CMOS sensor with WDR
2	Mega Pixel	2.1 Mega Pixel Full HD
3	Resolution	1920X1080 or better and camera resolution can be configurable in all standards resolutions like VGA,4CIF/D1, HD 720p
4	Illumination	Colour-0.5 Lux @30IRE Black & White -0.5 Lux @30IRE,IR Sensitive ,Back light compensation ON/OFF selectable.
5	Signal to Noise Ratio	>=50dB
6	Compression	Dual H.264 compression standards.
7	Varifocal lens	Focal length: 5mm-50mm
8	Lens MoUnt	Integrated
9	Day/ Night Camera	Should have auto day/night configuration, with auto AGC.
10	FPS	Min 25 Frames per second for both the streams with Full HD @25FPS @H.264 + DI@ 25FPS @H.264 on two streams respectively
11	Shutter Speed	1 s to 1/10,000 or better
12	Digital Zooming	Up to 4X digital zoom the live video
13	Streams	Camera should have minimum dual stream, and each stream can be individually configurable, and can able to choose stream for live and recording.
14	Streaming	Camera should support unicast and multicast streams
15	Bit Rate	Camera should be able to give stream in both CBR and VBR. With CBR maximum of @2Mbps bit rate. Shall work on less than 3Mbps average for full HD @25FPS @VBR
16	Web interface	Camera should have web interface to configure and control
17	Alarm input	One Dry alarm input & Output
18	Text Superimposing	Camera should support the super impose the title and date & time on the video
19	Ethernet Network Protocols	10/100 Tx Auto sensing (half/full duplex), 802.3af PoE, IPv4/v6, SNMP,IGMP, DHCP.
20	Housing	vandal resistant Aluminum enclosure with IP66, IK 10 Indoor Housing
21	Power requirement	PoE and Local power supply for camera, heater and blower as per manufacturer standard
22	Operating Temperature	0 to 50 Degrees C
23	Operating humidity	20 to 80 % RH non-condensing
24	Regulatory Approvals	FCC, CE, RoHS, UL/EN

1 (c) Network Video Management Software (NVMS)

The network video management software to be used for the system should be able to meet the following minimum functional requirements

Sl. No.	Minimum Functional Specification
1	VMS Management
2	Failover Support
3	Multicasting and Multi-streaming
4	SNMPv3 Support
5	NAT Firewall Support
6	Watchdog
7	Logs
8	VMS Client Viewer (Operator) features
9	Video Cart Facility
10	VMS Storage
11	Video Content Analytics (VCA)
12	Hardware & Software
13	Video Standards and Formats
14	Behavior Detection
15	<i>PTZ</i> Tracking
16	Tampering Detection
17	Event Generation and Receipt
18	Rules Capabilities
19	Counting Capabilities
20	Management
21	Viewing Search Results Capabilities
22	Investigation and Forensic Analysis

2. Control Room IT Infrastructure

2 (a) Server: Network Video Management Server	
Network Video Management Server	Specification
CPU	Intel Xeon 8 CORE Processor E5-2690
No. of Processor	2 (TWO)
Memory Size	128GB (min 8GBX16 or 16GBX8 or 32GBX4 combination), 1333 Mhz or higher, upgradable to 768 GB or higher
Storage Details	Hot pluggable SAS HDD 5X600 GB, 10K RPM or higher with min 06 no or higher internal Drive bays.
RAID Controller	SAS Raid Controller with RAID 0/1/1+0/5 with 512 MB or higher battery backed cache
Optical driver	DVD combo drive
Chassis type	19" Rack MoUntable Server of maximum 2U size with Sliding rails and fittings to install into a Rack
Power Supply & FAN Redundant	Hot swappable Power supply & Fan
Network interface	Min 4 no Gigabit Ethernet ports or more
I/O Slots	Min 6 PCI/PCIE/PCIX slots or higher
Compatible OS	Microsoft Windows Server, LINUX
Management	OEM Server Management Software
IPV6 Compliance	The Hardware should be IPV 6 Compliant ready
Monitor & KBD / MoUse	18.5" screen & USB keyboard & MoUse

2 (b) Desktop Video Management Client Access Desktop	
Video Management Client Desktop	Specification
Desktop	Processor i7, RAM 4 GB, Hard disk 1TB, Display 18.5 Inch., Keyboard, MoUse, OS Windows 8.

2 (c) :Storage Video management Storage

Storage	Specification (Video Management Storage Min 30 Days Backup with 24*7)
Storage Architecture	Storage system should be based on a symmetric and fully distributed grid / scale out architecture, with linear scalability of performance and capacity. Storage system should support nodes with multiple CPU architectures (x86, RISC) in the same grid & namespace to ensure future scalability Storage system should support node controllers of different generations to participate in the same grid and namespace
Hard Disk Type	Controller nodes should support 1TB, 4TB & 6TB, 7200RPM 3.5 SATA Hot swap disk drives, Raid 5
Disk drives	Each node should contain a maximum 12 disk drives, to minimize hot - spots
Storage Nodes	Storage system should scale from single node to 256 nodes System should support capacity/ performance enhancement with additional nodes without downtime to production Storage Nodes Storage system should distribute / load -balance video files across all nodes in the system In the event of addition / removal of nodes, the system should automatically rebalance existing across remaining / all nodes
Controller Memory	Each storage node should support minimum 16GB, and should be scalable to at least 32GB
Network Connectivity	Each storage node should support min. 4Gbps aggregate Gigabit Ethernet ports Connectivity and 400MB/ sec aggregated network bandwidth for video streams
System Scalability / Expansion	Capacity: The storage system should support scaling to 4TB under a single global System namespace Performance: The system should support automatic scaling of performance with every addition of capacity to the namespace
System Redundancies	Individual nodes should support configuration for single or two disk failures, as Redundancies required Storage node should support network port bonding and sustain port / link failures without connection loss
System management	System should support management of all nodes / controllers through a single window / dashboard
Data Access Protocol	NFSv3, CIFS/SMB
Access Control	Folder and File Level access control security for users and groups which enables only authorized user to access the video files
System Alerts	Integrated error logging and automatic email forwarding of error alerts and error display on web management console
Archiving support	Support for optional tape archiving module with drag and drop feature
Licensing	All above features (except optional tape archiving module) should be enabled and available on the storage system by default
Power Supply	Redundant power supply (230VAC, 50Hz)

2. (d & e)

Power Backup: - Online UPS for cameras and server with min 30 mint.

Display: - LED 42 Inch. No is dependent on cameras
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3. ACTIVE NETWORK COMPONENTS

3a). Layer 3 Switch (Core Switch)

Layer 3 Switch (Core Switch)	Specification
	<p>Architecture</p> <p>The switch shall be non-blocking in architecture and should have stand alone/stack/chassis. Shall be 19" Rack Mountable.</p> <p>Shall have dual, hot-swappable AC power supplies</p> <p>Shall have 16 RJ-45 autosensing 10/100/1000(10 ports and 24 SFP fixed Gigabit Ethernet SFP ports</p> <p>Shall have 4 x fixed 1G/10G SFP+ ports</p> <p>Shall have 1 RJ-45 serial console port</p> <p>Shall have 1 GB SDRAM and 512 MB flash</p> <p>Shall have switching capacity of 208 Gbps</p> <p>Shall have up to 155 million pps switching throughput</p> <p>Resiliency</p> <p>Shall have the capability to extend the control plane across multiple active switches making it a virtual switching fabric, enabling interconnected switches to perform as single Layer 2 switch and Layer 3 router Shall support virtual switching fabric creation across nine switches using 10G Ethernet Links IEEE 802.1Q Spanning Tree Protocol, IEEE 802.1w Rapid Spanning Tree Protocol and IEEE 802.1s Multiple Spanning Tree Protocol IEEE 802.3ad Link Aggregation Control Protocol (LACP) Ring protocol support to provide sub-100 ms recovery for ring Ethernet-based topology Virtual Router Redundancy Protocol (VRRP) to allow a group of routers to dynamically back each other up to create highly available routed environments Graceful restart for OSPF, IS-IS and BGP protocols Bidirectional Forwarding Detection (BFD) for OSPF, IS-IS and BGP protocols</p> <p>Layer 2 Features</p> <p>Shall support up to 4,000 port or IEEE 802.1Q-based VLANs</p> <p>Shall support GARP VLAN Registration Protocol or equivalent feature to allow automatic learning and dynamic assignment of VLANs</p> <p>Shall have the capability to monitor link connectivity and shut down ports at both ends if uni-directional traffic is detected, preventing loops</p> <p>Shall support IEEE 802.1ad QinQ and Selective QinQ to increase the scalability of an Ethernet network by providing a hierarchical structure Shall support Jumbo frames on GbE and 10-GbE ports Internet Group Management Protocol (IGMP) Multicast Listener Discovery (MLD) snooping IEEE 802.1 AB Link Layer Discovery Protocol (LLDP) Multicast VLAN to allow multiple VLANs to receive the same IPv4 or IPv6 multicast traffic</p>

	<p>Layer 3 Features (any additional licenses required shall be included)</p> <p>Shall have Static Routing for IPv4 and IPv6</p> <p>Shall have RIP for IPv4 (RIP v1/v3) and IPv6 (RIPng)</p> <p>Shall have QSPF for IPv4 (QSPFv2) and IPv6 (QSPFv3)</p> <p>Shall have IS-IS for IPv4 and IPv6 (IS-IS v6)</p> <p>Shall have border gateway protocol 4 with support for IPv6 addressing</p> <p>Shall have policy based routing</p> <p>Shall have Unicast Reverse path forwarding (URPF)</p> <p>Shall support IPv6 tunneling to allow IPv6 packets to IPv4-only networks by encapsulating the IPv6 packet into a standard IPv4 packet</p> <p>Dynamic Host Configuration Protocol (DHCP) client / Relay and Server</p> <p>PIM Dense Mode (PIM-DM), Sparse Mode (PIM-SM), and Source-Specific Mode (PIM-SSM) for IPv4 and IPv6 multicast applications</p> <p>MPLS capability including MPLS VPNs and MPLS Traffic Engineering (MPLS TE)</p> <p>VPLS for data center to data center communication at Layer 2; provides support of hierarchical VPLS for scalability</p> <p>Shall provide support of hierarchical VPLS (H-VPLS) for scalability</p> <p>QoS and Security Features</p> <p>Access Control Lists for both IPv4 and IPv6 for filtering traffic to prevent unauthorized users from accessing the network</p> <p>Port-based rate limiting and access control list (ACL) based rate limiting</p> <p>Congestion avoidance using Weighted Random Early Detection (WRED)</p> <p>Powerful QoS feature supporting strict priority (SP) queuing, weighted round robin (WRR), weighted fair queuing (WFQ), weighted deficit round robin (WDDR) and weighted random early discard (WRED)</p> <p>IEEE 802.1x to provide port-based user authentication with multiple 802.1x authentication sessions per port</p> <p>Media access control (MAC) authentication to provide simple authentication based on a user's MAC address</p> <p>Dynamic Host Configuration Protocol (DHCP) snooping to prevent unauthorized DHCP servers</p> <p>Port security and port isolation</p> <p>Management Features</p> <p>Configuration through the CLI, console, Tel net, SSH and Web Management</p> <p>SNMPv1, v2, and v3 and Remote monitoring (RMON) support</p> <p>sFlow (RFC 3176) or equivalent for traffic analysis</p> <p>Management security through multiple privilege levels with password protection</p> <p>FTP, TFTP, and SFTP support</p> <p>Port mirroring to duplicate port traffic (ingress and egress) to a local or remote monitoring port.</p> <p>RADIUS/TACACS+ for switch security access administration</p> <p>Network Time Protocol (NTP) or equivalent support</p> <p>Shall have Ethernet OAM (IEEE 802.3ah) management capability</p> <p>Environmental Features</p> <p>Shall provide support for RoHS and WEEE regulations</p> <p>Shall be capable of supporting both AC and DC Power inputs</p> <p>Operating temperature of 0°C to 45°C</p> <p>Safety and Emission standards including UL 60950-1; IEC 60950-1; VCCI Class A; EN 55022 Class A</p>
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3b). PoE Switch

PoE Switch	Specification
	<p>The switch shall have 8 RJ-45 auto-negotiating 10/100/1000 PoE ports</p> <p>The switch shall have two 1000BASE-X SFP port in addition to above ports</p> <p>The switch shall support IEEE 802.3af PoE and IEEE 802.3at PoE+</p> <p>The switch shall have minimum 65 Watts for PoE Power</p> <p>Shall support 1000 Base- SX, LX, and LX Bi-directional SFP transceivers</p> <p>Switching capacity of 20 Gbps</p> <p>Switching throughput of up to 14 million pps</p> <p>1 RJ-45 console port</p> <p>Layer 2 Features</p> <p>Configurable up to 8000 MAC addresses</p> <p>Shall support IEEE 802.3ad Link Aggregation Control Protocol (LACP)</p> <p>Shall support IEEE 802.1D Spanning Tree Protocol</p> <p>Shall support IEEE 802.1w Rapid Spanning Tree Protocol for faster convergence</p> <p>Shall support IEEE 802.1s Multiple Spanning Tree Protocol</p> <p>Shall support IGMP snooping for multicast filtering instead of flooding traffic to all ports, improving network performance</p> <p>Shall support MLD snooping to forward IPv6 multicast traffic to the appropriate interface, preventing traffic flooding</p> <p>Shall support IEEE 802.1AB Link Layer Discovery Protocol (LLDP)</p> <p>Shall support LLDP-MED (Media Endpoint Discovery) to automatically configure network devices such as IP phones</p> <p>Layer 2 and Layer-3 features</p> <p>Shall Support IEEE 802.1Q with 4,094 simultaneous VLAN IDs</p> <p>Shall support Voice VLANs</p> <p>Shall support gratuitous ARP to allow detection of duplicate IP addresses</p> <p>Shall Supports up to 10 kilobyte frame size to improve the performance of large data transfers</p> <p>Shall support Static IPv4/IPv6 routing, 32 static routes</p> <p>Shall support DHCP relay to simplify management of DHCP addresses in networks with multiple subnets</p> <p>Security and QoS Features</p> <p>Shall support port security and port isolation</p> <p>Shall support MAC and Port based ACLs enable network traffic filtering and enhance network control</p> <p>Shall support ACL and QoS for IPv6 network traffic</p> <p>Shall support time-based ACLs to allow for greater flexibility with managing network access</p> <p>Shall support IEEE 802.1X and RADIUS network logins to control port-based access for authentication and accountability</p> <p>Shall support MAC- Based authentication</p>

PoE Switch	Specification
	<p>Shall support strict priority queuing (SP), Weighted Round Robin (WRR Queuing) and SP+WRR, DSCP</p> <p>Shall support ARP attack protection features to block APR packets from un-authorized clients.</p> <p>Shall support DHCP snooping to block un-authorized DHCP servers.</p> <p>Shall support STP BPDU protection preventing forged BPDU attacks</p> <p>Shall support STP Root Guard to protect the root bridge from malicious attacks or configuration mistakes.</p> <p>Management Features SNMP V2/V3 ,SSHv2, Limited CLI/Telnet , web based interface and Dual flash images IPv6 host support to be managed using IPv6 Shall support Port mirroring Shall support intuitive Web GUI (http/https) for easy management Shall support Limited command-line interface to deploy and troubleshoot Shall support management security through multiple privilege levels Shall support single IP address management for up to 16 switches Shall support Network Time Protocol (NTP) Shall have an operating temperature of 0°C to 40°C</p> <p>Safety and Emission UL 60950/IEC 60950-1/EN 60950-1 and FCC part 15 <u>Class A/VCCI Class A/EN 55022 Class A;</u></p>

3c). Firewall & Security

Firewall & Security	Specification
Antivirus Software - Data Center Security Server, Monitoring Edition, & Server Advanced	Key Features 1.Agentless network-based threat detection and protection (Network IPS). 2.Operations Director delivers out-of-the-box security intelligence and automates policy-based security orchestration within the Symantec Data Center Security product family, enables application centric security services, and seamlessly integrates with VMware NSX to extend security policy orchestration to third party security tools. 3.Unified Management Console (UMC) delivers a consistent management experience across Data Center Security products. 4.In-guest file quarantine and policy-based remediation. 5.Security monitoring across physical and virtual servers including real-time file integrity monitoring, configuration monitoring, consolidated event logging, and file and system tamper prevention. 6.Security monitoring of Open Stack Data Centers including configuration changes, monitoring of Keystone program files and Keystone data, and access monitoring. 7.Security monitoring of AWS public and hybrid clouds (VPCs) including security configuration monitoring, file integrity monitoring, whitelisting with application control for on premise and off-premise data centers, and security automation across the cloud environment via REST API. 8.Out-of the-box host IDS and IPS policies. 9.Sandboxing and process access Control (PAC), host firewall, compensating HIPS controls, file and system tamper prevention and application and device control.

4. Passive Network Components

Specifications

(a)	Fiber cable:- Fiber cable 12 core
(b)	UTP cable :- CAT6 cable
(c)	Power Cable:-Power Cable 2.5mm or 3.5mm
(d)	PVC channels
(e)	Flexi Pipe
(f)	Network connector and cords
(g)	Rack 36 U or 24 U or 9 U depending on network size
(h)	Junction Box

5. Access control systems like Biometric identification, RFID, Boom Barriers, Half and Full height turns styles, Flap barriers etc....as required by the customers