

Second Clarification/amendment Response to the Queries raised by the aspiring bidders on clarification/amendments against the tender no. EI-D/Tech/51-16/13

S.no.	Tender Section-Clause	Specification in the tender/amendments	Bidder's Query	Bidder's Recommendation	ERNET Response to Queries
	Annexure-II 7. Firewall				
1	point-12	Firewall appliance must be supplied with at least 4 X 10/100/1000Mbps Ethernet ports on Copper and also support minimum 2 Gigabit ethernet ports on fiber optic.	It is suggested that 16 x 10/100/1000 GE ports with provision of 4 x SFP slots for fibre termination.	This will ensure future scalability for adding more zones without having to upgrade / replace the appliance	No change
2	point-16	Firewall appliance should allow 1 Million Concurrent connections. The same should be offer 50% scalability in the same chassis	Firewall appliance should support Concurrent connections upto of 1 Lac Connections	Based on the router performance of 950 Kpps and the Firewall system performance asked (1 Gbps) and the number of connection per user. 1 Lac concurrent sessions are more than sufficient for the given requirement. Considering 10 Kbps per session(1Gb/10 Kb=100000)	One of the bidder has asked the same query as asked in prebid. Other bidder's query is to increase the parameter. The query already addressed in the clarification/ amendment response posted by ERNET on 6-9-2013. Please refer the same. No change
			It is suggested that the concurrent connections should be minimum 3 Million	Today there are many applications which keep running on PCs / Servers / Laptops and which try to connect to internet for various downloads like windows updates / antivirus updates and other online applications. These application keeps opening sessions automatically. To cater to such sessions requirement and also sessions opened by user. It is suggested that the concurrent sessions to be increased to at least 3 Million	
3	point-17	Firewall appliance should support 25,000 new connections/second. Minimum requirement has been specified. The bidders may offer higher	It is suggested that the new connections / second should be minimum 70,000	Today there are many applications which keep running on PCs / Servers / Laptops and which try to connect to internet for various downloads like windows updates / antivirus updates and other online applications. These application keeps opening sessions automatically. To cater to such sessions requirement and also sessions opened by user. It is suggested that the new connections per second to be increased to 70,000	No change. The bidders may offer same or higher.

4	point-18	It should support firewall throughput of minimum 1 Gbps. Minimum throughput has been asked. The bidders may offer higher	It is suggested that Firewall throughput should be more than 10 Gbps	This will ensure future scalability for passing more traffic with future requirements without having to upgrade / replace the appliance	No change. The query was already addressed.
5	Addition	The firewall should have min 200GB of local storage for storing logs	Request to remove the clause	200 GB of local storage is not required on the firewall. as it is recommended to store logs on external device, so that it can be retrieved at the time of failure of the box. Where as the device should have enough memory for processing, maintaining multiple OS, config files and real time logs. This is not supported by all leading OEM's, hence request to remove the same.	As the storing of logs is an important requirement, the bidder may offer external or internal storage for storing the logs.
			It is suggested that the Firewall should have internal storage or an external solution to be provided to store logs and generate reports	This clause is specific to single OEM. It debar other OEMs from participating in the rfp. Request to kindly delete this clause or allow external appliance solution as an option.	
	Annexure-II 8. IPS				
1	Point-1 Performance (a)	IPS should be dedicated appliance based with inspected Throughput should be minimum of 1 Gbps. IPS should provide scalability of atleast 50% of the throughput asked for. The IPS throughput specified should not decrease in case of DDOS scenario.	Request to remove the clause	This was not part of original RFP, request to please revert the clause and allow leading OEM's to participate. This may give advantage to one of the OEM and will push others to high end device. Please relax this clause and allow leading OEM's to participate on a level play.	The scalability has been asked based on pre-bid queries of various bidders. Hence, No change.
2	Point -1 Performance (c)	IPS should support sessions with security state of upto 1,000,000	IPS should support sessions with security state of upto 100,000	Based on the router performance of 950 Kpps and the Firewall system performance asked (1 Gbps) and the number of connection per user. 1 Lac concurrent sessions are more than sufficient for the given requirement. Considering 10 Kbps per session(1Gb/10 Kb=100000)	Some bidders have requested to increase and some requested to decrease. Hence, the clause kept unchanged with statement as "No change. Minimum requirement has been specified. The bidders may offer higher"
3	Point -1 Performance (d)	Minimum Connections Per Second Should be 50,000	Minimum Connections Per Second Should be 30,000	Based on the Intrusion Prevention system performance and interfaces asked in the IPS, 30K sessions per second are more than sufficient	Based on pre-bid queries from various bidders, the clause was changed & addressed. Hence, No change

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	Annexure-II -A-1: Core Switch				
1	point-2	Should have centralized/distributed switching architecture, each module should be provisioned with adequate hardware/software to support the same. The bidder may offer centralized/distributed switching architecture.	Should have distributed switching architecture, each module should be provisioned with adequate hardware/software to support the same.	In Centralized architecture all the traffic is processed by central CPU/ supervisor card and the line modules/ card have minimal intelligence. Which is traditional architecture for the core switches. Where as all OEM support distributed architecture which ensures that each line module/ card will have local L2 and L3 capabilities, reducing the traffic load to the CP and also ensuring continuous traffic forwarding in event of failure of CPU/ Supervisor.	The performance parameters as defined in the tender should be met in any architecture. However, Distributed architecture is preferable.
2	point-8	Minimum 720 Mpps forwarding rate should be supported. Minimum specification has been mentioned here. The bidders may offer accordingly.	Minimum 720 Mpps forwarding rate should be supported for both IPv4 & IPv6	We suggest the switch should have wirerate performance as per the interfaces scalability(60 x 10 Gig) asked in clause 13 in Core switch RFP specifications. The switch should have : Wirerate throughput = $60 * 10^2 = 1.2 \text{ Tbps}$ and performance = $60 * 10^2 * 1.488 = 892 \text{ mpps}$ hence request you to kindly mention performance as per the interfaces scalability. Please clarify if the performance degradation is acceptable on migration to IPv6.	The performance parameters as defined are in respect of IPv4. Rest remain the same. However, similar performance for IPv6 is desirable.
3	point-28	Should support minimum 128K Ipv4 and 64K IPv6 multicast entries. Minimum specification has been mentioned here. The bidders may offer accordingly. IP surveillance has also been asked in the tender.	Should support minimum 128K IPV4 & IPv6 multicast enteries	IPv6 Routing protocols are already asked in the specifications for Core Switch . Please clarify if the multicast route number degradation is acceptable on migration to IPv6.	No change. The parameters as defined for IPv4 may be complied with same or higher. However, similar performance parameter for IPv6 is desirable.
4	point-29	Should support minimum 256K Ipv4 and 128K IPv6 Routes. Minimum specification has been mentioned here. The bidders may offer solution accordingly to meet the functionality.	Should support minimum 256K IPV4 & IPv6 Routes	IPv6 Routing protocols are already asked in the specifications for Core Switch . Please clarify if the route number degradation is acceptable on migration to IPv6.	No change. The parameters as defined for IPv4 may be complied with same or higher. However, similar performance parameter for IPv6 is desirable.

5		Additional Request		Layer-3 classification and marking access control entries (Aces) : 64K shared for QOS / Security, uRPF check (IPv4/IPv6) and Distributed policers	The same was requested in the prebid queries and considered by TEC & response was as per tender. Hence, No change
6		Additional Request		Switch should support minimum of 500K Netflow or equivalent entries	The same was requested in the prebid queries and considered by TEC & response was as per tender. Hence, No change
7		Additional Request		The switch should support atleast following modules to provide network integrated services: 1. Firewall Module with minimum 10Gbps of Throughput 2. Network Analysis Module	New Query. No Change
	Annexure-II -A-2:	Zonal Switch			
1	Point- 7	Switch should support 245 Mpps of forwarding rate. Minimum specification has been specified. The bidders may offer same or higher.	Switch should support 595 Mpps of wire rate performance for IPv4 and Ipv6	245 Mpps performance asked is not a wirespeed performance. We suggest the switch should have wirerate performance as per the interfaces scalability (40 x 10 Gig) asked in clause 2 and 800 Gbps of throughput in clause 5 in Zonal switch RFP specifications. The performance should be inline with the number of interfaces and throughput= 40* 10* 1.488= 595 mpps hence request you to kindly mention performance as per the interfaces scalability. Kindly clarify if it is for IPv4 ,IPv6 or both. Please clarify if the performance degradation is acceptable on migration to IPv6.	The clause already addressed in amendments response. The performance parameters defined are in respect of IPv4. Reat remain the same. However similar performance for IPv6 is desirable.
	Annexure-I -A-2:	Zonal Switch	Amendment Request: Please ask minimum 10 x 10G Ports per Zonal switch	Please you have aske dfor 40 port zonal switch, so pleas eask minimum 10 x 10G ports per switch.	Please refer Annexure-I-A-2. No change
	Annexure-II -A-3:	Access Switch			
1	Point -3	Switch should support stacking with dedicated stacking ports whenever required in future. Stacking bandwidth should be min 44Gbps with dedicated stacking port.	Stacking bandwidth should be min 40Gbps with dedicated stacking port.	This is a new addition in the Corrigendum. Standard stacking bandwidth on this category of switches is 40 Gbps and is supported by all leading OEM's. Hence request to kindly consider the same.	Accepted. The stacking bandwidth was defined as requested by the bidders in their pre-bid queries. Now, please amend in the clause as " Stacking bandwidth should be min 40Gbps with dedicated stacking port." Rest remain the same."

2	Addition	Mac-Sec should be provided to ensure MAC level security within the campus network to avoid any unauthorised access from within the campus premise	Request to remove the same.	This is a new addition in the Corrigendum. This is not a matured technology and is tried by different OEMs on various product lines. Hence request to kindly make this point as an optional point.	Being a security feature, this was added as requested by the bidders in their pre-bid queries. Now, this may be considered as desirable feature"
	Annexure-II -A-5(ii): WAP				
1	point-37	It should be possible to access the individual WAP thru any mechanism such as Telnet/SSH/Web browser/equivalent, etc.	Kindly remove this point	Direct management of the AP is required in thick Access Points and is not required in the secure controller based wireless architecture as been asked in the RFP. So kindly remove direct management of AP's	The same was explained by TEC during vendor meet. An equivalent access mechanism is acceptable may be directly or through controllers.
	Annexure-II -A-6(i): Router1				
1	point-3	Router should provide onboard hardware/external device for IPsec and SSL VPNs for min 100 users from day one	Router should support on-board hardware encryption acceleration for Ipsec VPNs	SSL VPN is used for remote access VPN to the mobile users coming from public internet cloud and accessing the critical office application. As a practice SSL VPN should be a separate box thus not exposing the critical network and security components to the internet. This feature is not available in the router with all the OEMs and they will have to propose external box as mention in the corrigendum for the SSL VPN which will not be a level play. Kindly remove this clause or allow equivalent technology.	The requirement for SSL VPN was explained by TEC during vendor meet. The clause was already addressed in the last amendment as per suggestion of the bidder in prebid query. Hence, No change
2	point-6	Router should have support for WAN interface like, High-speed serial, Sync/Async Interface, 3G Interfaces, Giga ethernet routed ports and G.703 interface. ISDN is important for backup and is a required feature. The bidder may offer the same through internal/external device to meet the desired functionality. Support for 8 port Gigabit PoE Ethernet switch modules is desirable	Router should have support for WAN Interfaces like. High-Speed Serial, Sync/Async Interface, 3G interfaces. a-port Gigabit POE Ethernet Switch Modules, Giga Ethernet Routed ports & G.703 interfaces	ISDN is the older technology for backup and is not supported by many service providers. Now 3G is being used for the same. Please amend ISDN/3G for backup. Legacy interfaces like ISDN is not available in the router with all the OEMs and they will have to propose external box as mention in the corrigendum for the ISDN which will not be a level play.	The requirement of support of ISDN was explained by TEC during vendor meet. The clause was already addressed in the last amendment as per suggestion of the bidders in their prebid query. However, ISDN support may be considered as desirable.

3	point no-8	router performance should be atleast 1400Kpps on 64 byte packet"	"router performance should be atleast 950Kpps on 64 byte packet"	As asked in the original RFP, request to kindly consider 950kpps of router performance, which is more than enough to suffice the requirement. This will give advantage to one of the OEM and will push others to high end routers.Please relax this clause and allow leading OEM's to participate on a level play.	The performance of Router was modified in view of the overall functional requirements. Also add at the end of the clause as " with router supporting at least one link of 1Gbps".
4	point-19	Should support following VPN protocol: IPSec VPN, SSL VPN, should support the functionality of forming dynamic tunnels, VPN Using GDOI protocol, should support IKEv2, should support IPv6 for IPSec and IKEv2, should support 3DES, AES, MD5, SHA-1 algorithms, support GRE protocol.	Should support following VPN Protocols & Features : IPsec VPN, should support the functionality of forming dynamic tunnels VPN using GDOI Protocol. should support IKEv2, should support IPv6 for IPsec & Ikev2, Should support 3Des, AES, MD5, SHA-1 algorithms, support GRE protocol	SSL VPN is used for remote access VPN to the mobile users coming from public internet cloud and accessing the critical office application. As a practice SSL VPN should be a separate box thus not exposing the critical network and security components to the internet. This feature is not available in the router with all the OEMs and they will have to propose external box as mention in the corrigendum for the SSL VPN which will not be a level play. Kindly remove this clause or allow equivalent technology.	The requiremnt for SSL VPN was explained by TEC during vendor meet. The clause was already addressed in the last amendment as per suggestion of the bidder in their prebid queries. SSL VPN may be provided though (internal or external device). Rest remain the same.
	Annexure-II -A-6(ii): Router2				
1	point-3	Router should support internal/external device for IPsec & SSL with min 50 simulataneous tunnels on SSL and IPsec from day one	Router should support on-board hardware encryption acceleration for Ipsec VPNs	SSL VPN is used for remote access VPN to the mobile users coming from public internet cloud and accessing the critical office application. As a practice SSL VPN should be a separate box thus not exposing the critical network and security components to the internet. This feature is not available in the router with all the OEMs and they will have to propose external box as mention in the corrigendum for the SSL VPN which will not be a level play. Kindly remove this clause or allow equivalent technology.	The requiremnt for SSL VPN was explained by TEC during vendor meet. The clause was already addressed in the last amendment as per suggestion of the bidder in prebid query. Hence, No change
2	point-4	Router should have atleast two 10/100/1000 Routed ports	Router should have atleast Four 10/100/1000 Routed ports	Kindly ask Min 4 Gigabit interfaces to provide 2 ports for WAN and 2 ports for LAN.	No Change. This is a end user router and inerface requirement is sufficient. However, the bidders may offer the same or higher

3	point-6	Router should have support for WAN Interfaces like, High-Speed Serial, Sync/Async Interface, 3G interfaces, Giga Ethernet Routed ports & G.703 interfaces. ISDN is important for backup and is a required feature. The bidder may offer the same through internal/external device to meet the desired functionality.	Router should have support for WAN Interfaces like, High-Speed Serial, SynclAsync Interface, 3G interfaces, Giga Ethernet Routed ports & G.703 interfaces	ISDN is the older technology for backup and is not supported by many service providers. Now 3G is being used for the same. Please amend ISDN/3G for backup. Legacy interfaces like ISDN is not available in the router with all the OEMs and they will have to propose external box as mention in the corrigendum for the ISDN which will not be a level play.	The requirement of support of ISDN was explained by TEC during vendor meet. The clause was already addressed in the last amendment as per suggestion of the bidders in prebid query. However, ISDN support may be considered as desirable.
	Annexure-II 9(i & ii). Server				
1	Point-6 Hard Disk Controller	RAID Controller with 256 MB battery backed write cache (RAID 0/1/5/6). Minimum configuration has been mentioned. The bidder may offer same or higher		Amendment request: Hard disk controller: RAID Controller with 256 MB cache (RAID 0/1/5/6)	This clause should read as "RAID Controller with 256 MB cache (RAID 0/1/5/6)"
	Annexure-II 9(iii). Storage				
1	Point- 2 (b)	Proposed System must have minimum 8 FC Host ports at 8Gbps and 4 iSCSI ports each at 1Gbps for file services and 2*10Gbit ports across controllers.	Proposed system must have minimum 4 FC Host ports at 8Gbps and 4 iSCSI ports each at 1 Gbps for file services and 2*10 Gbit ports across controllers.	Requesting for 4 Host ports across controllers. 32Gbps (4 X 8Gbps) of throughput on host ports would ensure consistent performance for FC hosts.	New Query. No Change
2	Point- 2 (c)	Proposed system should have minimum 8 or more backend lanes each at 6Gbps for backend device connectivity. Minimum configuration has been specified. The bidder is free to offer same or higher.	Proposed System should have 16 or more backend lanes each at 6 Gbps for backed device connectivity	Front end port bandwidth is 8Gbps (8x8 Gbps FC, 4x1Gbps iSCSI, 2x10 Gbps), so backend bandwidth has to be 96 Gbps (16x6 Gbps) not 48 Gbps (8x6 Gbps)	The same query already addressed. No change.
3	Point-3 (a)	The storage array shall minimum support native 8Gbps FC, 1Gbps iSCSI, 10 Gbps iSCSI & FCoE Protocols. Both FC and iSCSI Shall have the capability of host connectivity and FC/iSCSI have the capability of array based remote replication.	The storage array shall minimum support native 8Gbps FC, 1Gbps iSCSI, 10 Gbps iSCSI & FCoE Protocols. Both FC and iSCSI Shall have the capability of host connectivity and FC/iSCSI have the capability of array based remote replication	For replication use or FC or iSCSI should be allowed instead of both port as only one type of array based replication would be used and every oem will have different approach	The same query already addressed. No change.
4	point-7	Currently the system should be configured with 100TB raw space. 5% capacity on SSD, 60% capacity on 15K RPM SAS Drives, 35% capacity on 7200 RPM NL-SAS Drives.	Currently the system should be configured with 100TB raw space. 5% capacity on 200/400GB SSD, 60% capacity on 300GB 15K RPM SAS Drives, 35% capacity on 2/3TB 7200 RPM NL-SAS Drives.	300GB, 15K, are small form factor (2.5") disks and ensures better performance and rack space saving as compared to 600GB, 15K SAS, 3.5" LFF disks. Incase performance is not the key criteria we suggest to relax the 600 GB 15 K RPM drives to 10K RPM Drives.	This clause should be read as "Currently the system should be configured with 100TB raw space. 5% capacity on SSD, 60% capacity on 15K/10K RPM SAS Drives, 35% capacity on 7200 RPM NL-SAS Drives.

5	Point -9 (a)	Proposed system should provide flexibility of extending system cache up to 500 GB using either SSDs / DRAM in order to absorb spikes in both read and write workloads.		This should be deleted as having SSD as system cache will not benefit in practical scenario and make the tender as OEM specific	This clause to be read as "Proposed system should provide flexibility of scalability of system cache."
6	Point-11 (b)	Currently the system must be supplied with 16GB DRAM or more cache memory across controllers"	Currently system must be supplied with 16 GB Cache memory across the controllers for Block I/O scalable upto 64 GB and 128 GB for File I/O.	File I/O cache should also be separately mention and scalability should also be mentioned	This clause should be read as "Currently the system must be supplied with 16GB DRAM or more cache memory per controllers"
7	Point-14 (a)	Must support online expansion of RAID Group. Must be able to add additional disks on the fly to expand the RAID group/ Storage pool capacity.	Must support online expansion of Storage Pool. Must be able to add additional disks on fly to expand the Storage Pool Capacity	In virtualised storage RAID group combines pool (storage pool). Expansion of capacity is made available at storage pool level to take advantage of native storage virtualization	The same query already addressed. This clause should be read as "Must support online expansion of RAID Group/Storage pool. Must be able to add additional disks on the fly to expand the RAID group/ Storage pool capacity."
8	Point no 20 (a)	The deduplication/Compression process should run constantly in the background and should throttle itself automatically to avoid impact on production performance.	The proposed storage should support compression/De-duplication or similar feature to reduce the storage capacity required to store the data. The data must be de-duplicated/ compressed before getting stored in disks in real time	There are many ways of doing the deduplication/compression in present scenario. New compression algorithms ensure online compression without impact on production performance.	The same query already addressed. No change.
	Point 20 (b)	The deduplication/ Compression process should run constantly in the background and should throttle itself automatically to avoid impact on production performance.	The proposed storage should support compression/De-duplication or similar feature to reduce the storage capacity required to store the data. The data must be de-duplicated/ compressed before getting stored in disks in real time	There are many ways of doing the deduplication/compression in present scenario. New compression algorithms ensure online compression without impact on production performance.	
9	point-25	SAN Switch: The system should be supplied with 2 Nos of 8 Gbps x 24 port SAN switch for connectivity	SAN Switch: The system should be supplied with 2 nos of 24 Active Port SAN Switch for connectivity and required FC cables.		No change
			SAN Switch: The system should be supplied with 2 nos of 8Gbps x 24 Port SAN Switch for connectivity.	Amendment request: The system should be supplied with 2 Nos of 8Gbps x 24 port SAN switch for connectivity with each switch scalable to 40 port with support of 16Gbps FC per port.	
				SAN switch should support minimum 8 x 10Gbps FCoE per port	
	Annexure-II 9(iv). H & S for backup				
1			do we need to factor backup server in solution? if yes, then please specify backup server configuration.		Please refer clause 22 of Annexure-II-9(iv). H & S for backup of the tender "Should be provisioned with requisite hardware, software, components & accessories."
2	Tape library		Please specify number of Tape drive in Tape library.		Please provide atleast two Tape drives

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	General Conditions				
1	Eligibility criteria 5(a)-iv	The bidder must enclose relevant copies of the customer purchase orders, scope of work, deliverables, time period of execution, project value and satisfactory work completion certificate from client for at-least One Campus LAN (Passive & Active components) project of minimum Rs. 8 Cr. in single order executed in last five financial years for any Government Institutes/University/Organizations/PSU or Two Campus LAN (Passive & Active components) projects of minimum Rs. 5 Cr. in each order executed in last five financial years for any Government Institutes/University/Organizations/PSU or Three Campus LAN (Passive & Active components) projects of minimum Rs. 4Cr. in each order executed in last five financial years for any Government Institutes/University/Organizations/PSU.		CMC Request to increase the time line for past experience to 8 years in all 3 clauses (5.a.iv to 5.a.vi) in the eligibility criteria. CMC requests the change clause as under, "single order of 5.5 Crores, or two orders of 4 Crores or 3 orders of 3 Crores each".	No change. The bidder had never submitted its queries during the entire bid process. The query is NEW. No change.
2	Eligibility criteria 5(a)-v	The bidder must enclose a copy of at least one Campus LAN work order having minimum of 10Kms of Fibre optical cable with at least 500 Fibre Terminations and 1000 UTP nodes in any of the last five financial years for any Govt. educational institutes / University / Govt. entity / PSU.		Same as above	Same as above. No Change
3	Eligibility criteria 5(a)-vi	The bidder must enclose a copy of at least one campus LAN work order having 1000 ports on data network switches and at least one chassis based layer 3 switch in a single order in any of the last five financial years for any Govt. Institute/University/Govt. entity/PSU.		CMC also requests to include private educational institutes also , in addition to government educational institute	Same as above. No Change

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	Annexure-II, C,1 - VC MCU				
1	Point- 5	The MCU should support min 20 ports on HD 720p (send and receive) on 4Mbps / 10 ports on 1080p (send and receive) on 4Mbps on IP. It should be scalable to 60 ports on HD 720p. The port quantity (min and scalable) should met in single chassis. Cascading of MCU for port support is not applicable. MCU should support the above with 25/30fps and H.264 resolution and AES encryption.	scalable to 60 ports on HD 720p.	The current requirement asked for is 20 ports. You are requested to consider the scalability upto 40 ports on 720p(symmetrical) in the same chassis	No change. The scalability has been asked considering varying customer requirements expected.
	Annexure-II ,C,3 (i) - Type 1: HD VC Endpoint /Codec				
1	Point- 1	The system must be a hardware device based on PAL with a PTZ camera, mic, wireless remote control, etc. The codec must be based on industry standards such as the H.323 and SIP umbrella standards for IP-based audio/video and H.320 umbrella standard for ISDN-based audio/video		You are requested to kindly remove the ISDN PRI and H.320 requirement	ISDN PRI and H.320 requirement may be met through internal/external device. However, ISDN PRI and H.320 may be considered as desirable.
2	Point- 2	System should support video protocols H.261, H.263, H.263 ++, H.264,		System should support video protocols H.261/ H.263/ H.263++/ H.264	No change. TEC already considered the query. Please refer last clarification/ amendment.
	Annexure-II,C,3 (iii) - Type 3: Video Phone for Conferencing				

1	Point- 1	Should have minimum of 7 inch TFT LCD display with adjustable screen angle		should have minimum of 5.6 inch or higher TFT Display with adjustable screen angle	No change. TEC already considered the query. Please refer last clarification/ amendment. Minimum specification have been asked. The bidder may offer the same or higher.
	Annexure-II,C,4 - HD Recording & Streaming Solution				
1	Point- 10	Should support up to 1080p HD record and playback, record stereo calls in single point and point to point calls		should support upto 1080p HD Record / playback record stereo calls in single point and point to point calls.	TEC already considered the query. Please refer last clarification/amendment. The desired functionality is important. The bidder may offer appropriate equivalent solution to meet the functionality.
2	Point- 30	The device should support 2 x Ethernet RJ45 interface supporting 10/100 Mbps full/half duplex manual or auto sensing. Should support IPv4 and IPv6 from day One		The device should support 2X Ethernet RJ-45 interface supporting 10/100Mbps full/half duplex manual or autosensing. Should support IPV4 and IPV6 day one in overall video solution.	No change. It should be IPv4 and IPv6 enabled from day One
3	Annexure-I,C,4 - HD Recording & Streaming Solution (ii)	FTP Server (Intel based) with operating Software and accessories	which server is required for FTP server (eg microsoft windows server or any other server) and specifications		Suitable compatible server may be provided for meeting the required functionality.
	Annexure-II ,C,5 - NAT Traversal Device				
1	Point - 2	Resolves firewall traversal problems by providing application layer Gateway (ALG) or voice and video aware firewall that supports SIP and H.323		Resolve firewall traversal problems by providing voice video aware networks that supports SIP and H.323 .	TEC already considered the query. Please refer last clarification/amendment.
2	Point- 4	Protects the enterprise LAN using stateful packet inspection (SPI) firewall for both voice and data traffic.		Protects enterprise LAN for both voice and data traffic	TEC already considered the query. Please refer last clarification/amendment.

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	Annexure-II -D-1(iii): Fix Dome indoor camera				
1	point-4	Simultaneous JPEG and two independent H.264 streams which are different resolution and bit. Or simultaneous JPEG and two independent MPEG-4 streams which are different resolution and bit.	Simultaneous JPEG and independent H.264 streams which are different resolution and bit. Or simultaneous JPEG and MPEG-4 streams which are different resolution and bit.	Since dual streaming is industry standard as one stream is configure for Recording and second for live viewing, vice versa.	This is New Query. No change
2	point-13	The camera shall support simultaneous JPEG and two independent H.264 streams which are different resolution and bit rate. The camera shall have capability to select an i-frame interval to refresh the displayed H.264 images from 0.2sec to 5sec. H.264 images can be transmitted over HTTP protocol.	The camera shall support simultaneous JPEG and independent H.264 streams which are different resolution and bit rate. The camera shall have capability to select an i-frame interval to refresh the displayed H.264 images from 0.2sec to 5sec. H.264 images can be transmitted over HTTP protocol	Since dual streaming is industry standard as one stream is configure for Recording and second for live viewing, vice versa.	This is New Query. No change
3	point-14	The camera shall be capable of setting different picture quality in multiple areas within one picture to save the bit rate of H.264 streams.	The camera shall be capable of setting different picture quality to save the bit rate of H.264 streams.		This is New Query. No change
4	point-24	The camera shall have Multi-language GUI and setup menu	The camera shall have GUI and setup menu	Since english language is industry standard for camera GUI.	Accepted
5	Annexure-I -D-5: Desktop	Desktop Workstations with latest Intel processor 4-GB RAM, minimum 500 GB HDD USB OEM display, Std Keyboard Optical Scroll Mouse, interfaces, ports, etc.	Desktop workstation with intel i3 Processor 4-GB, Minimum 500GB HDD USB OEM Display, Std Keyboard, Optical scroll mouse, interfaces, ports, etc.	Request to mention Processor series.	No Change