	Major Product Category : Video Conferencing System UNSPS Code- 451119										
	Product Category : Video Conferencing End Point Full High Definition for groups UNSPS Code- 4511190201										
S.No.	Parameters	Type of field	Value 1	Value 2	Value 3	Value 4	Value 5	Remarks	Validation Rule	Unit	Filter Required
1	Make of End Point Full High Definition Video Conferencing	Ch							MUST DECLARE		
2	Model of End Point Full High Definition Video Conferencing	Ch							MUST DECLARE		
3	Country of origin of End Point Full High Definition Video Conferencing	Ch							MUST DECLARE		
4	Compulsory Registration as per order MeitY with Bureau of Indian Standards(BIS) for this item	Ch	YES								
5	Unique Registration Number issued by BIS	N							MUST DECLARE		

6	Type of End Point Full High Definition Video Conferencing	Ch	Point to Point, non upgradeable	Point to Point upgradable to (1+3 Multiparty)	Point to Point upgradable to (1+5 Multiparty)	Point to Point upgradable to (1+7 Multiparty)					Y
7	Video Conferencing System Resolution	Ch	End point based Full HD(1080p,30)	End point based Full HD(1080p, 60)							Y
8	Minimum Bandwidth Required for Specified video quality at End point/far-site end	N							MUST DECLARE	Mbps	Y
9	The End Point is a point to point system upgradable to Multiparty Video conferencing with full high definition camera and codec for simple installation with a TV / LED /LCD display suitable for specified bandwidth of IP network through RJ-45 connectivity:	Ch	Yes								
10	End point offered supports Full HD (1080p) multiparty conference as applicable by using add-on software in end point and/or hardware	Ch	Yes								
11	Type of sensor for 1920 x 1080p, in order to accept Full HD resolution video.	Ch	CCD	CMOS	MOS						Y
12	Optical zoom	Ch	3X	10X	12X	20X					Y
13	Digital zoom	Ch	2X	3X	4X	12X					Y

14	Field of View at zoom	N							MUST DECLARE	N	
15	Pan range,	N							MUST DECLARE	Degree	
16	Tilt range	N							MUST DECLARE	Degree	
17	The camera shall be supplied with min. 1.5m cord and connectors.	Ch	Yes								
18	System delivers Full HD video and voice & Full HD content for an overall Full HD experience at specified bandwidth	Ch	Yes								
19	H.264, H.264 High Profile, H.264 AVC/SVC /H.265 video coding support	Ch	Yes								
20	System has G.722, G.711, MPEG4 or equivalent wideband audio coding support and suitable for 18 KHz audio or better audio quality	Ch	Yes								
21	System supports sharing of Full HD video and graphics content during the video call	Ch	Yes								
22	System has live resolution of 1920 X 1080 and deliver Full High definition video at 30fps from 2 Mbps onwards	Ch	Yes								
23	It is possible to see both the near and far site on one Screen thus making most efficient use of a single display area.	Ch	Yes								
24	System is equipped with one or more Omni directional High Definition Microphones as required to cover large conference room.	Ch	Yes								

25	Number of microphone supports	N	1	2	3						Y
26	Number camera supported from the same OEM	N	1	2	3						Y
27	Number of Ethernet connection points for System supports for RJ-45, 10/100/1000 Mbps Base-T Ethernet connection.	N	1	2	3						Y
28	System supports AES encryption video calls. System has Encryption On and Off capability	Ch	Yes	No							Y
29	Video Codec shall support 16:9 format for supporting LCD/ LED display unit and PAL / NTSC video standard.	Ch	Yes	No							Y
30	Power supply: 230 + or - 10% volts, 50 Hz	Ch	Yes								
31	Shall come with easy to use infra-red hand held remote control with operating distance of at least 4.5 m	Ch	Yes	NO							Y
32	All equipments are in compliance with the requirements of ITU-T Standard related to Video Conferencing	Ch	Yes								
33	System to be IPv6 ready from day one	Ch	Yes								

34	System uses standards based protocols and the offered system is interoperable with any existing H.323 AVC/SVC based video conferencing equipment in a point to point call on the video conferencing end point. All Hardware and Software required to make it interoperable is included in the scope of supply	Ch	Yes								
35	Minimum number of I/O ports (2 x DVI or 2 x HDMI or 2 x equivalent HD for Video output).	Ch							MUST DECLARE		
36	Minimum number of ports (1 x HDMI or equivalent for Main Camera).	Ch							MUST DECLARE		
37	Minimum number of ports (1 x DVI or 1 x HDMI or USB or RGB or VGA for PC connectivity).	Ch							MUST DECLARE		
38	Recording @1080p on the end point	Ch	Yes	No							
39	System is supplied complete with the following components from the same OEM : (a) Full HD Codec (b) Full High Definition Camera (c) At least one Omni Directional Microphones with suitable connectivity (d) Remote Control (e) Data sharing capability using hardware or software (f) All cables necessary for above features	Ch	Yes								

40	System is also tropicalized and report available from ILAC/NABL/Govt Lab with all add on if being supplied to buyer as per following requirement	Ch	Yes	NO							Y
41	(a) Dry Heat Test : For 16 hrs. at a temp. of 55 degree C in accordance with IS:9000/part-3/section-5/1977 (Reaffirmed 2007).	Ch	Yes	NO							Y
42	(b) Cold Test : For 4 hrs. At a temp. of 0 degree C in accordance with IS:9000/part-2/section-4/1977 (Reaffirmed 2007).	Ch	Yes	NO							Y
43	(c) Damp Heat Test : For 2 Cycles of 24 h each at a temp. of 40 degree C & 95% RH in accordance with IS:9000/part- 5/section-1/1991 (Reaffirmed 2007).	Ch	Yes	NO							Y
44	After each environmental test and a recovery period of two hours, the video conferencing system has been checked for complete functional parameters, and the results found satisfactory.	Ch	Yes	NO							Y
45	Type Test Report from ILAC/NABL/Govt lab confirming conformance to above technical specifications - to be made available to buyer	Ch	Yes	NO							Y
46	Mandatory UL/CE certification	Ch	Yes								
47	UL/CE certificate Number (Furnished when demanded by buyer)	Ch	Yes								
48	Operating temp. Range	Ch							MUST DECLARE	Degree C	

49	Operating humidity (Rh)	Ch							MUST DECLARE	%	
50	Connecting Cable and connector for PA system	N	1.5	3	7	10	**15**	NA			
51	Free installation and commissioning	Ch	YES								
52	Warranty	N	1	2	3	4	5			Year	Y

	Major Product Category : Video Conferencing System UNSPS Code- 451119											
	Product Category : MCU for Full High Definition Video Conferencing System UNSPS Code- 4511190202											
S.No.	Parameters	Type of field	Value 1	Value 2	Value 3	Value 4	Value 5	Value 6	Remarks	Validation Rule	Unit	Filter Required
1	Make of MCU for Full High Definition Video Conferencing System	Ch								Must Declare		
2	Model of MCU for Full High Definition Video Conferencing System	Ch								Must Declare		
3	Country of origin of MCU for Full High Definition Video Conferencing System	Ch								Must Declare		
4	Compulsory Registration as per order MeitY with Bureau of Indian Standards(BIS) for this item	Ch	YES									
5	Unique Registration Number issued by BIS	N								Must Declare		
6	Number of ports on IP in all in one MCU	N	10	24	40	50	100	110			N	Y
7	Number of Ports Scaleable minimum upto using single /mulitple chassis									Must Declare		

8	Video Conferencing System Resolution	Ch	Full HD(1080p,30)	Full HD(1080p,60)								Y
9	Type of Video Conferencing System	Ch	All in one MCU based									
10	Minimum Bandwidth Required for Specified video quality at MCU End	N								Must Declare	Mbps	
11	Minimum Bandwidth Requied for Specified video quality at End point/far-site end	N								Must Declare	Mbps	
12	MCU should support IP connectivity for video	Ch	Yes									
13	All components of the MCU solution, management software and desktop client software , end point , recording and streaming unit should be from the same OEM .Servers can be third party or from the same OEM	Ch	Yes	No								Y
14	Hardware or Software Based MCU capable of delivering the video bridging performance as defined in the specifications	Ch	Hardware based MCU	Software based MCU								Y

15	MCU is a low power consumption appliance/ server and have a power on/off switch so that when the MCU is not used it can be switched off	Ch	Yes									
16	MCU should support audio ports on IP if required	Ch	YES									
17	MCU is IP based and Network management systems and should be external or internal to the system	Ch	YES									
18	MCU solution supports 10/24/40/50/100/110 or more concurrent calls/ and 300/500/1000/2000 respectively or more registrants on an external/internal (Internet/Intranet) server	Ch	10 concurrent calls and 300 registrants	24 concurrent calls and 500 registrants	50 concurrent calls and 1000 registrants	100 concurrent calls and 2000 registrants						Y
19	MCU must support Audio algorithms :(G.711, G.722, G.729 or equivalent or better wideband audio coding support 18Khz or more	Ch	Yes									
20	MCU must support Telnet /USB /RJ45 /ssh	Ch	Yes									
21	MCU support video resolutions	Ch	1080p30	1080p60								Y

22	MCU supporting Frame rates upto 30fps or more	Ch	Yes									
23	MCU must support control of a conference like adding participants, removing participants, muting participants video and/ or audio, lock a conference	Ch	Yes									
24	MCU support Far End Camera Control, in voice activated and continuous presence modes	Ch	Yes	No								Y
25	MCU support sending/receiving multiple streams of video and presentation content without losing MCU port capacity	Ch	Yes	No								Y
26	MCU must support layout choices of different layouts	Ch	Yes									
27	MCU configurable to adapt the continuous presence screen layouts to accommodate newly added or dropped participants from the conference, up to 16 participants automatically	Ch	Yes	No								Y

28	MCU must provide a complete `conference control' interface browser to support all `in call' management functions with add and drop' manipulation of parties in the call and within screen layouts.	Ch	Yes									
29	MCU must provide standards based method of compensating and correcting for packet loss media streams loss.	Ch	Yes									
30	MCU must support a configurable text overlay function, wherein the Name, Site Identifier or terminal info is displayable	Ch	Yes									
31	MCU solution support maximum bandwidth control per endpoint or per groups of endpoints	Ch	Yes	No								Y
32	MCU solution support distributed architecture	Ch	Yes	No								Y
33	MCU solution must support real time monitoring	Ch	Yes									

34	Scheduling support through outlook integration	Ch	Yes	No								Y
35	The solution should allow registration of users, endpoints their authentication and providing each a unique ID and presence status for simplified dialing	Ch	Yes									
36	MCU solution support both Microsoft and Lotus Notes scheduling with email notifications to individual participants	Ch	Yes	No								Y
37	MCU solution must support personal address book.	Ch	Yes									
38	The conference scheduling application must support Dial-in or Dial-out to terminals	Ch	Yes									
39	The conference MCU solution must support Direct Inward Dial to scheduled meetings	Ch	Yes									

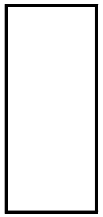
40	the MCU/bridge must provide CDR data and view of current calls. It allows to view all components of the solution and allow them to be maintained and upgrade centrally	Ch	Yes									
41	MCU management software is capable to send e-mail notification to all participants using Microsoft outlook and Lotus notes plug in.	Ch	Yes									
42	Both the MCU management software should be installed on server/appliances	Ch	Yes	No								Y
43	MCU support Desktop Client Facility at 1080p @ 30fps from day one	Ch	10	24	40	**50**	**100**	**500**	unlimited			Y
44	Dual video feature to be available in desktop	Ch	Yes	No								Y
45	MCU must support multiple conferences/ meetings with total number of participants equal to number of ports of MCU (10 port to support 10 meetings, 24 ports 24 meetings , 50 port 50 meeting , meetings and 100 ports , 100 meetings concurrently	Ch	Yes									Y

46	MCU is with redundant power supply in same chassis	Ch	Yes									
47	The desktop Client must be downloadable from central server or available on CD/USB	Ch	Yes									
48	The desktop client is capable to display the presentation/ data sharing, shared by remote sites	Ch	Yes									
49	The desktop client is capable to share presentations, desktop display or documents/application sharing to the participants	Ch	Yes									
50	It must support AES 128 bit encryption and support NAT/firewall traversal to connect sites on internet	Ch	Yes									
51	The desktop client is capable to run on latest Windows/Mac/Linux platforms along with mobile devices of IOS and Android	Ch	Yes									

52	Mangement system (Gatekeeper and Scheduler) - Concurrent ports and registratration	Ch	yes	No								y
53	Media Relay Unit/ Fire wall and Nat traversal unit	N	10 Ports	20 Ports	100 Ports	110 ports	**NA**					Y
54	Legacy Inter-connect Unit with the existing AVC MCU	N	10	24	40	**50**	100	110	NA			Y
55	**Admin and Authentication Unit**		Yes	No								y
56	All equipments are in compliance with the requirements of ITU-T Standard related to Video Conferencing	Ch	Yes									
57	System to be IPv6 ready from day one	Ch	Yes									
58	System uses standards based protocols and the offered system is interoperable with any existing H.323 AVC based video conferencing equipment on all the ports in the video conferencing MCU. All Hardware and Software required to make it interoperable on port basis is included in the scope of supply	Ch	Yes									

59	System is also tropicalized and report available from ILAC/NABL/Govt Lab with all add on if being supplied to buyer as per following requirement	Ch	Yes									
60	(a) Dry Heat Test : For 16 hrs. at a temp. of 55 degree C in accordance with IS:9000/part-3/section-5/1977 (Reaffirmed 2007).	Ch	Yes	No								Y
61	(b) Cold Test : For 4 hrs. At a temp. of 0 degree C in accordance with IS:9000/part-2/section-4/1977 (Reaffirmed 2007).	Ch	Yes	No								Y
62	(c) Damp Heat Test : For 2 Cycles of 24 h each at a temp. of 40 degree C & 95% RH in accordance with IS:9000/part-5/section-1/1991 (Reaffirmed 2007).	Ch	Yes	No								Y
63	After each environmental test and a recovery period of two hours, the video conferencing system has been checked for complete functional parameters, and the results found satisfactory.	Ch	Yes	No								Y

64	Type Test Report from ILAC/NABL/Govt lab confirming conformance to above technical specifications - to be made available to buyer	Ch	Yes	No								Y
65	Desktop and Mobile Clients Licence for MCU		YES	NO								Y
66	If Provided, Number of Desktop and Mobile Clients Licence for MCU	Ch	10	24	50	100	200	UNLIMITED				Y
67	Mandatory UL/CE certification	Ch	Yes									
68	UL/CE certificate Number (Furnished when demanded by buyer)	Ch								Must Declare		
69	Operating temp. Range	N								Must Declare	Degree C	
70	Operating humidity (Rh)	N								Must Declare	%	
71	Free installation and commissioning	Ch	YES									
72	Warranty	N	1	2	3	4	5				Year	Y



Major Product Category : Video Conference System												
Product Category : Camera for Video Conferencing System										**UNSPS Code- 4511190203**		
S.No.	Parameters	Type of field	Value 1	Value 2	Value 3	Value 4	Value 5	Value 6	Value 7	Validation Rule	Unit	Filter Required
1	Make of Camera for Video Conferencing System	ch								Must Declare		
2	Model of Camera for Video Conferencing System	ch								Must Declare		
3	Country of origin of Camera for Video Conferencing System	ch								Must Declare		
4	Compulsory Registration as per order MeitY with Bureau of Indian Standards(BIS) for this item	ch	YES									
5	Unique Registration Number issued by BIS	N								Must Declare		
6	Camera for Video Conferencing System	ch	Camera without Codec									
7	Type of Camera	ch	PTZ CAMERA FOR VIDEO CONFERENCING SYSTEM	Non PTZ CAMERA FOR VIDEO CONFERENCING SYSTEM								Y

8	Resolution	ch	Full HD(1920 x 1080 progressive signal)	4K(3,840x2,160)									Y
9	Frame Rate	N	30 fps	60 fps								fps	Y
10	Zoom Range Optical	N	3X	10X	12X	**20X**							Y
11	Zoom Range Digital	N	2X	3X	4X	**12X**							Y
12	Field of View	ch	52° to 60° horizontal field of view	70° -72° horizontal field of view	83° horizontal field of view	90° horizontal field of view						Degree	Y
13	Pan Range	N								Must Declare		Degree	Y
14	Tilt Range	N								Must Declare		Degree	Y
15	Apperature	N								Must Declare			Y
16	Type of Sensor	Ch	CCD	CMOS	MOS								Y
17	Voice-activated camera positioning Facility	Ch	Yes	No									Y
18	Input/Out put Port	Ch	RJ45	HDMI	DVI	S-Video	RCA	USB	VGA				

19	Camera Control (focusing, brightness, and white balance)	Ch	Mannual	Automatic(Motorized)								Y
20	Minimum Bandwidth Requied for Specified video quality	N								Must Declare	Mbps	
21	Supported Video Coding Standards	Ch								Must Declare		
22	Min. illumination Required	Ch								Must Declare		
23	SNR	Ch								Must Declare		
24	PoE	Ch	Yes	No								Y
25	PoE+	Ch	Yes	No								Y
26	Signal system	Ch	PAL	NTSC	PAL + NTSC							Y
27	Mandatory UL/CE certification	Ch	Yes									
28	UL/CE certificate Number (Furnished when demanded by buyer)	ch	YES									
29	Operating temp. Range	Ch								Must Declare	Degree C	
30	Operating humidity (Rh)	Ch								Must Declare	%	

31	Availability of test reports to prove conformity to the specifications (Furnished when demanded by buyer)	Ch	Yes	No								Y
32	Installation and commissioning	Ch	Yes	No								Y
33	Warranty	N	1	2	3	4	5				Year	Y

		Major Product Category : Video Conference System UNSPS Code- 451119										
		Product Category : Hardware base Recording and Streaming Unit (Media Encoder) for Video Conferencing System UNSPS Code- 4511190204										
		Demand Aggregation - On UNSPS Code &Code added by system thereon										
S.No.	Parameters	Type of field	Value 1	Value 2	Value 3	Value 4	Value 5	Value 6	Value 7	Validation Rule	Unit	Filter Required
1	Make of Recording and Streaming Unit (Media Encoder) for Video Conferencing System									Must Declare		
2	Model of Recording and Streaming Unit (Media Encoder) for Video Conferencing System									Must Declare		
3	Country of origin of Recording and Streaming Unit (Media Encoder) for Video Conferencing System									Must Declare		
4	Compulsory Registration as per order MeitY with Bureau of Indian Standards(BIS) for this item	Ch	YES									
5	Unique Registration Number issued by BIS	N								Must Declare		
6	Duration of continuous streaming	N	2	4	8	**Non Stop**					Hours	Y

7	Supported live-streaming formats	N	Microsoft Windows Media	MP-4/H.264								Y
8	Recording format		MP 4/	Microsoft Windows Media	Adobe Flash (.flv)							Y
9	Supported on-demand formats	N	Adobe Flash (.flv)	Microsoft Windows Media	MPEG-4/H.264							Y
10	Video inputs		composite	S-video	SDI	video with embedded audio inputs	FULL HD					Y
11	Video formats		NTSC	PAL	MP4							Y
12	Audio inputs	N	RCA	XLR	SDI	digital audio (AES/EBU) inputs	**HDMI**					Y
13	Ethernet ports	N	10/100/1000 Mbps									
14	Available hard disk space	N	100 GB	200GB	500GB	1000GB	2000GB	3000GB			GB	Y
15	RAM	N	1GB	2GB	3GB	4GB	8GB				GB	Y

16	Type of Processor of the aplliance /server	Ch								Must Declare		
17	Additional ports	Ch	USB 2.0	USB 3.0	VGA	SD card						Y
18	Duration of continuous Recording	Ch	1 Hour	2 Hour	4Hour	8 Hour	16 Hour	32 Hour	More than 32		Hours	Y
19	Standard form factor	Ch	1 rack units (RUs)	2 rack units (RUs)								Y
20	Maximum Window Size	Ch								Must Declare		
21	Maximum Bit Rate(Full HD)	Ch	less than 1Mbps	1 to 2Mbps	more than 2Mbps							Y
22	Number of Simultaneous Output Streams	Ch	1	2	3	4						Y
23	Mandatory UL/CE certification	Ch	Yes									
24	UL/CE certificate Number (Furnished when demanded by buyer)	ch										
25	Operating temp. Range	Ch									Degree C	
26	Operating humidity (Rh)	Ch									%	
27	Availability of test reports to prove conformity to the specifications (Furnished when demanded by buyer)	Ch	Yes									
28	Installation and commissioning	Ch	Yes	No								Y

29	Warranty	N	1	2	3	4	5				Year	Y

		Major Product Category : Video Conference System										**UNSPS Code- 451119**		
		Product Category : Display for Video Conferencing System												
		UNSPS Code- 4511190205												
S.No.	Parameters	Type of field	Value 1	Value 2	Value 3	Value 4	Value 5	Value 6	REMARKS	Validation Rule	Unit	Filter Required	Priority	
1	Make of display for Video Conferencing System									Must Declare				
2	Model of display for Video Conferencing System									Must Declare				
3	Country of origin of display for Video Conferencing System									Must Declare				
4	Compulsory Registration as per order MeitY with Bureau of Indian Standards(BIS) for this item	Ch	YES											
5	Unique Registration Number issued by BIS	N								Must Declare				
6	Type of Display for Video Conferencing System	Ch	Full HD LED Display	Full HD LCD Display	4K LED Display							Y		
7	Size of Display for Video Conferencing System (Diagonal)	N	32	42	46	48	55	65	80		Inch	Y		
8	Resolution	Ch	Full HD(1920 x 1080 progressive signal)	4K(3,840x2,160)								Y		
9	Technology	Ch								Must Declare		Y		
10	Aspect Ratio	N	16:09									Y		
11	Native Contrast Ratio	Ch	4500 : 1	4500 : 1 or higher	#########							Y		
12	Dynamic contrast Ratio	Ch	upto 50000											
13	Brightness	N	350NITS	350NITS or higher							NITS	Y		

14	Response time	N	Less than 8 ms								ms	Y	
15	Input ports	Ch	2 x HDMI, DVI, USB									Y	
16	Output port	Ch								Must Declare			
17	Sound Output	Ch	2 x 10W (built in speakers)	2 x 10W (built in speakers) or higher							Watts	Y	
18	Communication ports	Ch	RS232, RJ45									Y	
19	Operation Hours	N	16/7	24/7							Hours	Y	
20	Operating Temperature :	Ch	0 to 40 degrees C							Must Declare	Degree C		
21	Certifications	Ch	BIS, UL, RoHS, CE, CB,	YES								Y	
22	Warranty	N	3	4	5						Years	Y	