DUTCH-BANGLA BANK

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Bangladesh.

Request For Proposal

Infrastructure equipment (Automatic Voltage Regulator, Online UPS, Power Distribution System, Precision Air-conditioner, Network Cable Management, RACK, Data Center Setup equipment with Security and Monitoring, Design validation, Lift etc.) for DBBL Near DC at Dumni, Khilkhet, Dhaka.

Submission Date: September 10, 2015

The document briefly describes the functional and business requirements for the supply and installation of Infrastructure equipment (Automatic Voltage Regulator, Online UPS, Power Distribution System, Precision Air-conditioner, Network Cable Management, RACK, Data Center Setup equipment with Security and Monitoring, Design validation, Lift etc.) for DBBL Near DC at Dumni, Khilkhet, Dhaka.

1.0 PREFACE

- Dutch Bangla Bank hereinafter called "**DBBL"** issues this Request for Proposal (RFP) to seek appropriate vendor for the supply and installation of infrastructure equipment for proposed DBBL Data Centre.

- Through this RFP, DBBL invites bidders to propose a contractual arrangement for the Supply, Installation and Implementation of Infrastructure equipment (Automatic Voltage Regulator, Online UPS, Power Distribution System, Precision Air-conditioner, Network Cable Management, RACK, Data Center Setup equipment with Security and Monitoring, Design validation, Lift etc.) for DBBL Near DC at Dumni, Khilkhet, Dhaka as described in this document.

- This RFP is not an offer by Bank, but an invitation to receive bidder response. No contractual obligation whatsoever shall arise from the RFP process unless and until a formal contract is signed and executed by duly authorized officers of DBBL and the Bidder.

- The decision of the Bank would be final and binding on all the bidders to this document. DBBL reserves the right to accept or reject in part or full any or all the offers without assigning any reasons whatsoever.

2.0 INTRODUCTION

2.1 Background

- DBBL is the Bangladesh's most innovative and technologically advanced bank. DBBL is the first bank in Bangladesh to be fully automated.

- DBBL has 146 branches, 350 FTs, 2700 ATMs and more than 6000 POS machines all over the country. It has 30 different divisions at different locations which belong to Head offices.

- During the past decade, Bank has strengthened its IT infrastructure, carried out process re-engineering and has enabled marketing of technology based products and services.

2.2 Scope

This document constitutes a formal Request for Proposal (RFP) for the supply and installation of Infrastructure equipment (Automatic Voltage Regulator, Online UPS, Power Distribution System, Precision Air-conditioner, Network Cable Management, RACK, Data Center Setup equipment with Security and Monitoring, Design validation, Lift etc.) and associated services in the Bank as per the functional and Technical requirements given in this RFP. The scope includes the following:

- Supply, Installation and implementation of infrastructure items with the requirements defined with the functionalities in the RFP.
- The proposed solution should be a turnkey solution configured to support all the functionalities as described in this RFP and the performance and throughputs as given in this document.
- There are 06 (six) categories in this RFP i.e. i) Power Equipment, ii) Precision Air-conditioning System, iii) Network Cabling, iv) Data Center Setup equipment with Security and Monitoring, v) Design Validation and vi) Lift. Any bidder can go for all the categories or even a single category. But all items and technical requirements for the quoted category have to be addressed by the bidder. Partial offer for a single category would not be accepted.

3.0 EXPERIENCE

The Bidder should have adequate experience of supply and installation for their proposed solution in respective category for 1 to 4 in at least 1 (one) Bank/Telco Data Centre within last 03 years in Bangladesh (Proper evidence need to be submitted). For Category 5, consulting vendor should have experience of at least 1 (one) Bank/Telco Data Centre within last 03 years in abroad/Bangladesh (Proper evidence need to be submitted).

4.0 ROLL OUT PLAN

All the equipment must be supplied within 60 days and installation work must be completed with 90 days from the date of issuance of work-order.

5.0 FUNCTIONAL AND TECHNICAL REQUIREMENTS

The detailed functional specifications for Infrastructure equipment (Automatic Voltage Regulator, Online UPS, Power Distribution System, Precision Air-conditioner, Network Cable Management, RACK, Data Center Setup equipment with Security and Monitoring, Design validation, Lift etc.) for DBBL Near DC at Dumni, Khilkhet, Dhaka are given hereunder. All the requirements are mandatory and should be available in the offered solution as standard product. In case any of these are not offered as standard product, the bid may be made non-responsive.

If anything is missing in the offer by the bidder to successful implementation of the solution it had to be supplied, installed and configured with no extra cost.

Category-1 : Power Equipment

a) Modular Online UPS

Quantity: 04 units

Descriptions	Required Specification	Quoted Specification
Brand	Please specify	
Model	Please specify	
Country of Origin	US/EU	
Country of Manufacture	Please specify	
Type	Delta conversion online topology	
Battery	Sealed & Maintenance free	
Transfer Time	Zero	
Capacity	250KVA/KW (Also specify the Capacity in KW)	
Capacity Upgradeable up to	500 KVA/KW (Also specify the Capacity in KW)	
No. of power module	N+2 (i.e. for achieving 400 KVA if 6 modules are required, the vendor has to quote 6 +2 = 8 modules)	
Capacity of each Power Module	Please specify	
Efficiency of the power module	Please specify	
Backup Time	30 Minutes at 250KW Load (Specify battery KVAH)	
Battery charger	All the power module should have the battery integrated charging functionality. Addition to the power module battery charger, dedicated battery charger have to be quoted which will be capable of quick charge all the batteries parallel to the inbuilt battery charger in the power module.	
Capacity of each Battery Module	Please specify	
Total no of Power Module quoted	Please specify	
Total no of Battery Module quoted	Please specify (describe the backup time calculation in details)	
Input Voltage	380-415V, 3P	
Input Voltage tolerance	±10%	
Input Power Factor	Please specify	
Input Harmonics	Please specify (Preferred <5-7%)	
Output Voltage	380-415V, 3P	
Output Frequency	50Hz±5%	
Output Power Factor*	Unity	
Output Wave	Sinusoidal (Pure Sine Wave)	
Isolation Transformer	➢ Same OEM Make Output Isolation Transformer should be provided. ➢ All output of UPS should be go through Isolation transformer output breaker(s).	
UPS Form Factor	OEM factory made cabinet system (full covered)	
Battery Box Form Factor	OEM factory made height and width matching with the proposed UPS cabinet.	
Maintenance Bypass with Distribution	Should be present	

Descriptions	Required Specification	Quoted Specification
Accessibility of the UPS	Everything should be front accessible	
Hot swappable	Power module and battery module should be hot swappable	
Fans	Should be redundant and field replicable	
Fan Speed	Regulated fan speed should be present in the system	
Fan Noise	Reduces noise capability should be present	
Battery Characteristic	Battery with at least 5 year life	
Third-party batteries support	Should be present	
Redundancy	Please specify the redundant component inside the proposed UPS	
LCD display for operating information	Should be inbuilt with the system.	
Predictive maintenance	Should be present in the proposed system	
Output distribution unit	Factory installed output distribution unit should have to be provided	
Power Distribution	Power distribution for the rack should be hot swappable modular in 3 Phase &Single Phase configurations.	
Configuration and Installation	The 02 units should be installed for parallel operation. So that, it can share load and in case of load increases it can act as 250 + 250 = 500 KVA UPS without changing any cabling and configuration on the fly.	
Software and Interface	UPS Monitoring and Management Software and Ethernet interface from ups. Provided software's functions should include monitoring and Controlling the UPS remotely through TCP/IP	
Firmware upgrades	On-the-fly firmware upgrades should be possible	
Event logging	Event logging with graphs should be possible in the proposed software	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/*epi*) in all aspects	
Warranty	Three (03) years full including battery	

b) Back-up Online UPS

Quantity: 02 units

Descriptions	Required Specification	Quoted Specification
Brand	Please specify	
Model	Please specify	
Country of Origin	US/EU	
Country of Manufacturing	Please specify	
Type	Double Conversion Truly On-Line	
Capacity	**600 KVA** (Also specify the Capacity in KW)	
Transfer Time	Zero	
Battery Type	Sealed & Maintenance free	
Country of Origin (Battery)	Please specify	
DC Bus Voltage	Please specify	
Backup Time	15 Minutes at Full Load (Specify battery KVAH)	
Input Voltage	Please specify (Preferred 380-415V, 3P)	
Input Voltage Range/ tolerance	±10%	
Input Harmonics	Please specify (Preferred<5%)	
Input power factor	Please Specify (at least >.9 at full load)	
Total Harmonic Distortion (THDI)	Please specify (Preferred< 3% @ 100% load)	
Generator ramp-in adaptable	10-40 seconds	
Rated conditional short-circuit current Icc	Please Specify	
Protection	Built-in back feed contactor. Input phase reversal detection and correction also	
Inrush Current	Less than nominal input current for less than one cycle.	
Bypass voltage:	415 volts AC three-phase, 3-wire (L1, L2, L3 + PE) or 4-wire (L1, L2, L3 + N + PE).	
Output Voltage	Please specify (Preferred 380-415V, 3P)	
Frequency	50Hz±5%	
Wave	Sinusoidal (Pure Sine Wave)	
Output Power Factor	Please specify (at least>.9)	
Efficiency	Please specify (at least>90%)	
Total Harmonic Distortion (THDU)	< 2% at 100% linear load,< 3% at 100% non-linear load	
Overload rating	150% for 1 minute at 40 °C 125% for 10 minutes at 40 °C	
Slew rate (Hz/sec)	Programmable 0.25, 0.5, 1, 2, 4 ,6	
UPS Form Factor	OEM factory made cabinet system (full covered)	
Battery Box Form Factor	OEM factory made height and width matching with the proposed UPS cabinet.	
Configuration and Installation	The 02 units should be installed for parallel operation. So that, it can share	

Descriptions	Required Specification	Quoted Specification
	load and in case of load increases it can act as 600+600=1200 KVA UPS without changing any cabling and configuration on the fly.	
Output Distribution Panel	OEM made output panel for connection to Modular UPS and other loads. In case of outside of the UPS, it should be floor mounted and match height and width of the UPS cabinet. The panel should have the following items: Incoming: Please Specify Brand and rating **Outgoing: 900A ACB, (06 units)** 250A MCCB, (02 units) 100A MCCB (02 units) N.B. All breakers should come with the capability to integrate with SCADA system.	
Miscellaneous	The proposed UPS should be able to work in parallel with another same size, brand and model UPS. The proposed unit should be able to work in serial with another same size, brand and model UPS. The monitoring mechanism should be easily integrated with standard BMS (Building Management System) and NMS (Network Management System) i.e. APC Infrastructure Manager, CA-Spectrum, IBM System Center etc. through SNMP. To achieve the functionality if any other equipment and/or component is required it should be added and quoted for the same	
Software and Interface	UPS Monitoring and Management Software and Ethernet interface from upsfor TCP/IP connection from Day 1 (SNMP Card). Provided software's functions should include monitoring and Controlling the UPS remotely through TCP/IP.	
Firmware upgrades	On-the-fly firmware upgrades should be possible	
Event logging	Event logging with graphs should be possible in the proposed software	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/*epi*) in all aspects	

Descriptions	Required Specification	Quoted Specification
Warranty	Three (03) years full including battery	

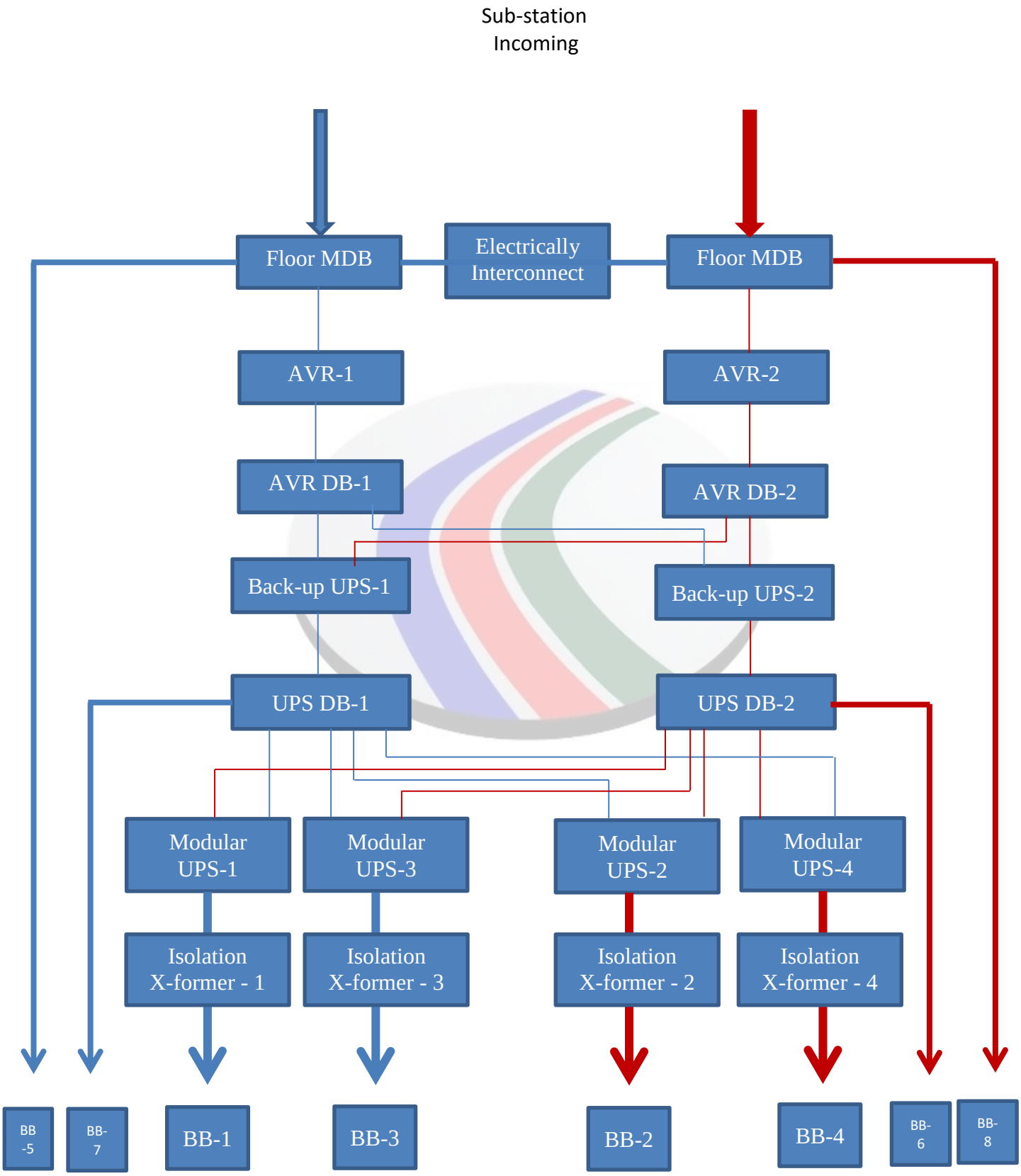
c) Automatic Voltage Regulator

Quantity: 02 units

Descriptions	Required Specification	Quoted Specification
General Information		
Brand	Please specify	
Model	Please specify	
Country of Origin	USA/EU	
Country of Manufacture	Please specify	
Rating	**1250 KVA @ ±15 input voltage tolerance**	
Input and Output Parameters		
Input voltage	**350V-450V, 3P, 48-52 HZ**	
Output Voltage	400/415V, 3P, 50 HZ	
Output Power Factor	Please specify	
Regulation/Operating Characteristics		
Regulation Variation	None: regulation constant for 0 to 100% load and any load or power factor.	
Over voltage Cut-off	Please specify	
Over voltage Cut-off delay	Preferably 0s (Please specify)	
Under voltage Cut-off delay	Please specify	
Under voltage Cut-off delay	Preferably 2.5s (Please specify)	
Overload/Inrush Capability	6000% -1 cycle, 1000% - 1 second, 500% - 5 seconds, 200% - 1 min.; 1000% fault clearing	
Minimum Load	No minimum load or part load limitations.	
Load / Power Factor	No minimum or part load or load-power factor limitations, compatible with all load types.	
Tap Switching	No load current interruption or waveform distortion on switching at any load or power factor.	
Zero Crossing Sensitivity	Tap switching not dependent upon determining load current zero crossing.	
Harmonic Distortion	No distortion added at any load or power factor.	
Response Time	1 cycle typical, regardless of load or load power factor.	
Efficiency	Preferably >99% (Please specify)	
Noise Suppression/Load Protection		
Noise Attenuation	150 dB at 100 kHz common mode; 65 dB at 100 kHz normal mode	
Surge Suppression	Included: complies with ANSI/IEEE C62.41, UL 1449.	
Input Circuit Breaker	Included: standard, UL 489, ANSI/IEEE C22.2.	
Failsafe Electronic Bypass	Auto-actuation on high temperature, over-current, or component failure	

	with no loss of load.	
Construction		
Technology	Electronically controlled tap-switching series transformer design.	
Switching Semiconductors	Non-full power semiconductors. Individual SCRs are not required to carry full unit current.	
Maintenance Bypass Unit	Please Specify (Preferred built-in from Day 1)	
Controls	Microprocessor-based control	
Cooling	Standard NEMA-1 indoor enclosure designed for natural convection cooling [contaminant-free, dry, clean air].	
Copper wound transformer	Meets ANSI specifications.	
Enclosure	NEMA-1 indoor is standard (optional custom indoor or outdoor enclosures also available).	
Backlit LCD	Phase regulation and status indicators	
Environmental Requirements		
Temperature - Humidity	Ambient 32° to 104°F (0 to 40°C) – Relative humidity 0-95% non-condensing	
Monitoring		
Software and Interface	AVR Monitoring and Management Software and Ethernet interface from AVR for TCP/IP connection from Day 1 (SNMP Card). Provided software's functions should include monitoring and Controlling the AVR remotely through TCP/IP.	
Firmware upgrades	On-the-fly firmware upgrades should be possible	
Event logging	Event logging with graphs should be possible in the proposed software	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/*epi*) in all aspects	
Warranty	Three (03) years full including battery	

d) Power distribution and electric cabling



i) Distribution Panel (Quantity: 02)

Descriptions	Required Specification	Quoted Specification
Floor MDB		
Floor MDB	16 WG sheet steel including Busbar, insulator, Internal Ebonite Cover for bus-bar section, Ammeter (01 no.), voltmeter (01 no.), selector switch (02 nos.), CT (03 nos.), Indication lamp (03 nos.), lock with powder coated paint finishing.	
Floor DB (each unit from 2nd -6th floor)	16 WG sheet steel including Busbar, insulator, Internal Ebonite Cover for bus-bar section, Ammeter (01 no.), voltmeter (01 no.), selector switch (02 nos.), CT (03 nos.), Indication lamp (03 nos.), lock with powder coated paint finishing.	
Main Cable from Sub-station room (ground floor of adjacent building)	3P+N to carry **2000A**load (Please specify)	
Bus-bar Capacity	**2000A**hard drawn copper bus-bars, 3P+N	
Earthing		
Earthing Cable	Earthing Cable	
Incoming Circuit Breaker	ACB, 2000A	
Outgoing Circuit Breaker	➢ For interconnect (electrically interlocking system) with the other Floor MDB- (Please Specify) ➢ For AVR incoming- (Please Specify) ➢ For AVR Bypass incoming- (Please Specify)	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/epi) in all aspects	
Warranty	Three (03) years full	
AVR Distribution Panel		
Distribution Panel	16 WG sheet steel including Busbar, insulator, Internal Ebonite Cover for bus-bar section, Ammeter (01 no.), voltmeter (01 no.), selector switch (02 nos.), CT (03 nos.), Indication lamp (03 nos.), lock with powder coated paint finishing.	

Descriptions	Required Specification	Quoted Specification
Bus-bar Capacity	**Please Specify (Must be capable to carry Full load of AVR)**	
Cable	➢ Incoming Cable (From AVR): Please Specify. ➢ Outgoing Cable (To Back-up UPS): Please Specify.	
Earthing Cable	Earthing Cable for AVR	
Incoming Circuit Breaker	➢ **AVR Main Output: Please Specify (Must be capable to carry Full load of AVR)** ➢ **AVR Bypass Output: Please Specify (Must be capable to carry Full load of AVR)**	
Outgoing Circuit Breaker	➢ For Back-up UPS incoming- (Please Specify) ➢ Additional Requirement: •	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/*epi*) in all aspects	
Warranty	Three (03) years full	

ii) Bus-Bar Mounted Power Distribution System (04 Units)

Data Center Scenario:

- There are 04 units of Isolation transformer at the output of Modular Online UPS(s) at 1st Floor.
- From the output of each isolation transformer separate Bus-bar system will be installed which will be routed through suitable duct (layout attached, one bus-bar system per duct).
- 02 sets of bus-bar system must be available under Floor Mounted Distribution Panel(s)at each floor which will be powered by the bus-bar system through ATS/STS.
- From 1st floor MDB to each floor DB (02 sets).

Floor	IT Load Description	PDPM	STS/ATS Input
2nd Floor	Network + Storage	L-1	UPS-1,3
		L-2	UPS-1,3
		R-1	UPS-2,4
		R-2	UPS-2,4
3rd Floor	Server	L-1	UPS-1,3
		L-2	UPS-1,3
		R-1	UPS-2,4
		R-2	UPS-2,4
4th Floor	Server	L-1	UPS-1,3
		L-2	UPS-1,3
		R-1	UPS-2,4
		R-2	UPS-2,4
5th Floor	Server	L-1	UPS-1,3
		L-2	UPS-1,3
		R-1	UPS-2,4
		R-2	UPS-2,4

General Requirement:

Descriptions	Required Specification	Quoted Specification
Brand	To be Mention by the Bidder	
Country of Origin	USA/EU	
Country of Assemble	Please specify	
Model	To be Mention by the Bidder	
Nominal Input Voltage	400V 3PH	
Input Frequency	47 - 63 Hz	
Tap-off Unit (Only for MDB 1& 2 and Back-up UPS 1 & 2)	As per requirement given below Tap –of unit must support SNMP monitoring and LED display for individual unit	

Tap-off Unit for PDPM	44 units (400 A) Tap –of unit must support SNMP monitoring and LED display for individual unit	
Central monitoring System	Full Bus-bar system has to be monitored with main distribution unit and individual tap-off unit readings. The system (all circuit breakers) must support integration with SCADA/DCIM solution.	
Circuit Breaker	Please Specify	

Current Requirement:

Bus-bar System	Source	Main Bus	Floor-wise Distribution (A)						
			1st	2nd	3rd	4th	5th	6th	7th
Bus bar -1	Isolation X-former 1	900	900	900	900	900	900		
Bus bar -2	Isolation X-former 2	900	900	900	900	900	900		
Bus bar -3	Isolation X-former 3	900	900	900	900	900	900		
Bus bar -4	Isolation X-former 4	900	900	900	900	900	900		
Bus bar -5	MDB 1	1600	300	300	300	300	300	100	100
Bus bar -6	Back-up UPS 1	400	50	50	50	50	50	100	50
Bus bar -7	MDB-2	1600	300	300	300	300	300	100	100
Bus bar -8	Back-up UPS 2	400	50	50	50	50	50	100	50

iii) Floor Mounted Power Distribution System (22 units) with Auto transfer Switch

Descriptions	Required Specification	Quoted Specification
Brand	To be Mention by the Bidder	
Country of Origin	USA/EU	
Country of Assemble	Please specify	
Model	To be Mention by the Bidder	
Maximum Total Current Draw per Phase	400A	
Nominal Input Voltage	400V 3PH	
Input Frequency	47 - 63 Hz	
Rack Height	Please Specify	
Features	Multiple distribution options (3-phase and 1-phase)	
	Toolless installation of breakers : Install factory-assembled Power Distribution Modules in under ten minutes - no tools are required	
	Local and web-based monitoring : Status available to customers both in the data center and remotely	
	Current Monitoring: Monitors the aggregate current draw per power distribution unit.	
	Network management capability: Full-featured network management interfaces that provide standards-based management via Web, SNMP, and Telnet.	
	Built-in Web/SNMP management: Full-featured management via a Web browser as well as comprehensive management from a Network Management System.	
	Modular design: Provides fast serviceability and reduced maintenance requirements via self-diagnosing, field-replaceable modules.	
Auto Transfer Switch (3-Phase) Features	➢ Minimum 2 incoming capable of 400A current per phase from bus-bar. ➢ 1 outing capable of 400A current per phase toFloor Mounted Power Distribution System. ➢ Built-in Web/SNMP management: Full-featured management via a Web browser as well as comprehensive management from a Network Management System.	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	

Certificates	Machine must comply tier-4 (Uptime Institute/*epi*) compliance in all aspects	
Warranty	Three (03) years full	

iv) IT Power Distribution Module 3x1 Pole 3 Wire 32A(300 units 1-Phase 32A Industrial Socket)

Descriptions	Required Specification	Quoted Specification
Brand	To be Mention by the Bidder	
Country of Origin	USA/EU	
Country of Assemble	Please specify	
Model	To be Mention by the Bidder	
Nominal Input Voltage	400V 3PH	
Output Frequency	50 Hz	
Maximum Line Current per phase	32A	
Nominal Input Voltage	230V	
Output Connections	(3) IEC 309 32A (2P+E)	
Features	Multiple distribution options: Superior design flexibility enables a wide range of customer requirements to be addressed.	
	System mobility : Power distribution units can easily be relocated to accommodate a changing data center environment	
	Safety : Enhance user safety with isolation at all touch points and with positive locking mechanisms that reduce the risk of accidental disconnection	
	Power monitoring : Measure and monitor power consumption and usage with branch circuit monitoring and output metering, which are included at no extra cost	
	Quick status information LEDs : Access status information about the performance of the Power Distribution Module	
	Toolless installation of breakers : Install factory-assembled Power Distribution Modules in under ten minutes - no tools are required	
	Regulatory Approvals : CE, VDE	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/epi) in all aspects	
Warranty	Three (03) years full	

v) IT Power Distribution Module 3 Pole 5 Wire 32A(100 units)

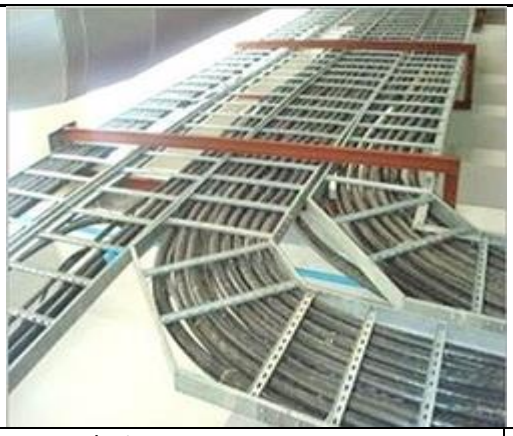
Descriptions	Required Specification	Quoted Specification
Brand	To be Mention by the Bidder	
Country of Origin	USA/EU	
Country of Assemble	Please specify	
Model	To be Mention by the Bidder	
Nominal Input Voltage	400V 3PH	
Output Frequency	50 Hz	
Maximum Line Current per phase	32A	
Nominal Input Voltage	400V	
Output Connections	IEC 309 32A (3P+E+N)	
Features	Multiple distribution options :Superior design flexibility enables a wide range of customer requirements to be addressed.	
	System mobility : Power distribution units can easily be relocated to accommodate a changing data center environment	
	Safety : Enhance user safety with isolation at all touch points and with positive locking mechanisms that reduce the risk of accidental disconnection	
	Power monitoring : Measure and monitor power consumption and usage with branch circuit monitoring and output metering, which are included at no extra cost	
	Quick status information LEDs : Access status information about the performance of the Power Distribution Module	
	Toolless installation of breakers : Install factory-assembled Power Distribution Modules in under ten minutes - no tools are required	
	Regulatory Approvals : CE, VDE	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/*epi*) in all aspects	
Warranty	Three (03) years full	

vi) IT Power Distribution Module 3 Pole 5 Wire 63A (20 Units)

Descriptions	Required Specification	Quoted Specification
Brand	To be Mention by the Bidder	
Country of Origin	USA/EU	
Country of Assemble	Please specify	
Model	To be Mention by the Bidder	
Nominal Input Voltage	400V 3PH	
Output Frequency	50 Hz	
Maximum Line Current per phase	63A	
Nominal Input Voltage	400V	
Output Connections	IEC 309 63A (3P+E+N)	
Features	Multiple distribution options :Superior design flexibility enables a wide range of customer requirements to be addressed.	
	System mobility : Power distribution units can easily be relocated to accommodate a changing data center environment	
	Safety : Enhance user safety with isolation at all touch points and with positive locking mechanisms that reduce the risk of accidental disconnection	
	Power monitoring : Measure and monitor power consumption and usage with branch circuit monitoring and output metering, which are included at no extra cost	
	Quick status information LEDs : Access status information about the performance of the Power Distribution Module	
	Toolless installation of breakers : Install factory-assembled Power Distribution Modules in under ten minutes - no tools are required	
	Regulatory Approvals : CE, VDE	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/*epi*) in all aspects	
Warranty	Three (03) years full	

vii) Power Cabling and Others related works:

Descriptions	Required Specification	Quoted Specification
Electric Cabling and Earthing		
Brand	Please Specify	
Cable Requirements	Vendors has to quote cabling for complete solution: • Main cable from ground floor sub-station (adjacent building) to Data center 1st floor MDB. • All connection of UPS, AVR, RACK and other electric items (approx. 200 Nos. Rack) inside the data center through IT Power Distribution Modules.	
Earthing for IT Load (UPS, AVR, Server, Network etc.)	➢ Minimum 4 Units to be required for the Data center IT load. ➢ Earthing should be Mesh type.	
Lighting Arrester	➢ Minimum 2 Units to be required for Lighting Arrester. ➢ 10 nos. arrester to be installed at roop-top. ➢ Earthing should be Mesh type.	
SLD Diagram	Vendor has to provide Complete SLD starting from Sub-station to IT load	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/epi) in all aspects	
Warranty	Three (03) years full	
Under Raised floor Cable Tray		
Brand name:	Please Specify	
Country of origin	US/EU	
Country of Manufacture	Please Specify	
Features for Under Raised floor cable tray for power system	1. The cable tray should be of stainless steel. 2. It should have clips/hole to hold the cables. 3. It should have the mechanism of holding the cable, which comes out from the bottom of the Racks. 4. The cable tray should not be laid on the floor, it should be attach with the raised floor legs or could have its own legs. 5. The tray should pass under all the Racks in the datacenter, and reach to the MDB or the UPS.	

Sample Cable Tray		
Total Floor Area	As per design	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/*epi*) in all aspects	
Warranty	Three (03) years full	

e) Rack Automatic Transfer Switch for single corded equipment

Quantity: 20 Units

Descriptions	Required Specification	Quoted Specification
Brand	Please specify	
Model	Please specify	
Country of Origin	US/EU	
Country of Manufacture	Please specify	
Type	Automatic switching power redundancy to single corded equipment	
Form factor	Rack mountable horizontal 1U or 2U solutions	
Manageability	Network manageable through TCP/IP	
Transfer Time	Zero	
Capacity	At least 6 kW or higher	
LCD display for operating information	Should be inbuilt with the system.	
Ports	At least 6 ports or Higher	
Software and Interface	ATS Monitoring and Management Software and Ethernet interface from each ATS. Provided software's functions should include monitoring and Controlling the ATS remotely through TCP/IP	
Firmware upgrades	On-the-fly firmware upgrades should be possible	
Event logging	Event logging with graphs should be possible in the proposed software	
Cables	12 no. of Power cable should be provided with each ATS to connect the servers/network/PDU equipment with the quoted ATS.- ➢ 04 units of C20 to industrial female (32A) ➢ 02 units of C14 to industrial female (16A) ➢ 04 units of C19 to C20 cable (16A, 3m). ➢ 02 units of C19 to C20 cable (16A, 2m)	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/epi) in all aspects	
Warranty	Three (03) years full warranty	

f) Transient Voltage Surge Suppression (TVSS)

Quantity: 04 Units

Descriptions	Required Specification	Quoted Specification
General Information		
Brand	Please specify	
Model	Please specify	
Country of Origin	US/EU	
Country of Manufacture	Please specify	
Operating voltage, current and frequency	Please specify	
Features	• Micro-processor based controller • Plug-in modules for easy replacement	
Visual Indication	Please specify	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/*epi*) in all aspects	
Warranty	Three (03) years full warranty	

Category-2: Precision Air-conditioning System

a) Air-cooled/Water cooled based chiller precision air- conditioning system (300TR)

Descriptions	Required Specification	Quoted Specification
Chiller Information		
Brand name	Please specify	
Model	Please specify	
Country of origin	US/EU	
Country of Manufacture	Please specify	
Total Capacity	Please specify	
Sensible Capacity	Please specify	
Total Power Consumption	Please specify	
No. of chiller unit	Please specify	
Per unit Power Consumption	Please specify	
Indoor/Distribution Unit Information		
Brand name:	Please specify	
Model:	Please specify	
Country of origin	USA/Europe	
Country of Manufacture	Please specify	
No. of indoor unit	Please specify	
Per unit Power Consumption	Please specify	
Air Flow Sensor	Quantity: No. of proposed Indoor unit X 3	
	Features:	
Technical Requirement of the total System		
	➢ The PAC should be air cooled/water cooled chiller based system.	
	➢ The chiller/outdoor should be placed at the rooftop of adjacent 1- storied building. Total available space for Chiller installation is 2000 sft.	
	➢ The capacity of the PAC should be able to cool 10,000 sft.	
	➢ Cooling capacity should be **300 tons. Required floor-wise cooling is mentioned below:** - 2nd Floor: Min 120 TR (at least 10 indoor units) - 3rd Floor: Min 120 TR (at least 10 indoor units) - 4th Floor: Min 60 TR each floor (at least 6 indoor units)	
	➢ The system should be capable to dynamically start and stop according to the required cooling.	

Descriptions	Required Specification	Quoted Specification
	➢ The proposed set of PAC should be capable of cool from under the raised floor. Mentionable that another system of gas based air-conditioning of same capacity will be installed under the raised floor.	
	➢ Free space for installation of indoor/distribution unit is shown in the floor plan attached (and the bidder has to calculate and propose total no. of indoor units based on that.	
	➢ Should be capable of maintain uniform temperatures throughout the datacenter.	
	➢ Touch screen display should be present in all the indoor units. Wireless Remote control could be good to have.	
	➢ Dehumidification functionality should be built-in with the proposed system.	
	➢ Water sensor kit should be included.	
	➢ Dual Power feeds are preferred.	
	➢ It should be Network manageable with proper GUI base management and monitoring software.	
	➢ Load should be viewed by kW metering.	
	➢ In the implementation phase the PAC should be deployed so that Cold and Hot aisle arrangement could be achieved.	
	➢ If any other thing required to provide the solution it should be mentioned and quoted.	
Required Power for total solution	Please Specify	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/*epi*) in all aspects	
Warranty	Three (03) years full warranty	

Electrical works for PAC:

Vendor has to provide Distribution board with all necessary equipment mentioned below for installation of the PAC. Moreover, the cable which will connect the Distribution Board to the building sub-station (Ground Floor of Adjacent Building) has to be provided.

Descriptions	Required Specification	Quoted Specification
Distribution Box- (01 unit at each floor for indoor units and 01 for Chiller units at 1st floor)	16 WG sheet steel including Busbar, insulator, Internal Ebonite Cover for bus-bar section, Ammeter (01 no.), voltmeter (01 no.), selector switch (02 nos.), CT (03 nos.), Indication lamp (03 nos.), lock with powder coated paint finishing.	
Cable	Chiller Cable - From 1st floor MDB to Chiller DB - Chiller DB to individual Chiller	
	Distribution Cable (Bus-bar System) - From floor Bus-bartap-off unit to each floor PAC DB - From Floor DB to PAC equipment	
Earthing	➢ Minimum 04 Units to be required for earthing of each PAC equipment inside the Data center.	
Circuit Breaker (adjustable)	➢ Please specify brand ➢ Please specify Total quantity with detailed specifications	
Trunking Channel/ Cable ladder	MS Cable tray for under raised floor cabling and wall hanging cabling (cable laying in the ladder has to be single layer)	
Miscellaneous	Other required items for successful installation of the PAC (please specify)	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance in all aspects	
Warranty	Three (03) years full warranty	

b) Gas/refrigerant based precision air-conditioning system (400 TR)

i) Type-1: Under Raised Flow Cooling (300 TR)

Descriptions	Required Specification	Quoted Specification
Brand name	Please specify	
Model	Please specify	
Country of origin	US/EU	
Country of Manufacture	Please specify	
Other features	➢ The PAC should be Gas/refrigerant/ liquid type.	
	➢ The outdoor should be hanged outside of each floor outside wall.	
	➢ The capacity of the PAC should be able to cool 10,000 sft.	
	➢ Total cooling capacity should be 300 tons. **Required floor-wise cooling is mentioned below:** - 2nd Floor: Min 120 TR (at least 10 indoor units) - 3rd Floor: Min 120 TR (at least 10 indoor units) - 4th Floor: Min 60 TR each floor (at least 6 indoor units)2nd Floor: Min 100 TR	
	➢ Free space for installation of indoor/distribution unit is shown in the floor plan attached (and the bidder has to calculate and propose total no. of indoor units based on that.	
	➢ The system should be capable to dynamically start and stop according to the required cooling.	
	➢ The proposed set of PAC should be capable of cool from under the raised floor. Mentionable that another system of chiller based air-conditioning of same capacity will be installed under the raised floor.	
	➢ Should be capable of maintain uniform temperatures throughout the datacenter.	
	➢ Touch screen display should be present in all the indoor units. Wireless Remote control could be good to have.	
	➢ Dehumidification functionality should be built-in with the proposed system.	
	➢ Water sensor kit should be included.	
	➢ Fans should be hot swappable.	
	➢ Dual Power feeds are preferred.	
	➢ It should be Network manageable with proper GUI base management and monitoring software.	

Descriptions	Required Specification	Quoted Specification
	➢ Load should be viewed by kW metering.	
	➢ In the implementation phase the PAC should be deployed so that Cold and Hot aisle arrangement could be achieved.	
	➢ If any other thing required to provide the solution it should be mentioned and quoted.	
Required Power for total solution	Please specify	
Total Unit required	Please specify	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/epi) in all aspects	
Warranty	Three (03) years full warranty	

ii) Type-2: Over the Raise Floor (Up-flow) Cooling (100 TR)

Descriptions	Required Specification	Quoted Specification
Brand name	Please specify	
Model	Please specify	
Country of origin	USA/Europe/EU	
Country of Manufacture	Please specify	
Other features	➢ The PAC should be Gas/refrigerant/ liquid type.	
	➢ The outdoor should be hanged outside of each floor outside wall.	
	➢ The capacity of the PAC should be able to cool 7,000 sft. with minimum 100 KW of power load.	
	➢ Total cooling capacity should be 100 tons. **Required floor-wise cooling is mentioned below:** • 1st Floor: Min 100 TR (at least 10 units and if more required quoted quantity must be multiple of 2)	
	➢ Free space for installation of indoor/distribution unit is shown in the floor plan attached (and the bidder has to calculate and propose total no. of indoor units based on that.	
	➢ The system should be capable to dynamically start and stop according to the required cooling.	
	➢ The proposed set of PAC should be capable of cooling over the raised floor (up-flow).	
	➢ Should be capable of maintain uniform temperatures throughout the datacenter.	
	➢ Touch screen display should be present in all the indoor units. Wireless Remote control could be good to have.	
	➢ Dehumidification functionality should be built-in with the proposed system.	
	➢ Water sensor kit should be included.	
	➢ Fans should be hot swappable.	
	➢ Dual Power feeds are preferred.	
	➢ It should be Network manageable with proper GUI base management and monitoring software.	
	➢ Load should be viewed by kW metering.	
	➢ In the implementation phase the PAC should be deployed so that Cold and Hot aisle arrangement could be achieved.	
	➢ If any other thing required to provide the solution it should be mentioned and quoted.	
Required Power for total solution	Please specify	
Total Unit required	Please specify	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	

Descriptions	Required Specification	Quoted Specification
Certificates	Machine must comply tier-4 compliance (Uptime Institute/*epi*) in all aspects	
Warranty	Three (03) years full warranty	

Electrical works for PAC:

Descriptions	Required Specification	Quoted Specification
Distribution Box- (01 unit at each floor for power distribution to indoor and outdoor units)	16 WG sheet steel including Busbar, insulator, Internal Ebonite Cover for bus-bar section, Ammeter (01 no.), voltmeter (01 no.), selector switch (02 nos.), CT (03 nos.), Indication lamp (03 nos.), lock with powder coated paint finishing.	
Cable	From floor Bus-bar tap-off unit to each floor PAC DB From Floor PAC DB to PAC equipment	
Earthing	➢ Minimum 04 Units to be required for earthing of each PAC equipment inside the Data center.	
Circuit Breaker (adjustable)	➢ Please specify brand ➢ Please specify Total quantity with detailed specifications	
Trunking Channel/ Cable ladder	MS Cable tray for under raised floor cabling and wall hanging cabling (cable laying in the ladder has to be single layer)	
Miscellaneous	Other required items for successful installation of the PAC (please specify)	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 (Uptime Institute/*epic*) compliance in all aspects	
Warranty	Three (03) years full warranty	

c) Gas/refrigerant based Industrial air-conditioning system

Descriptions	Required Specification	Quoted Specification
Brand name	Please specify	
Model	Please specify	
Country of origin	US/EU	
Country of Manufacture	Please specify	
Other features	➢ The PAC should be Gas/refrigerant/ liquid type.	
	➢ The outdoor should be hanged outside of each floor outside wall.	
	➢ The capacity of the PAC should be able to cool 7,000 sft. with minimum 150 KW of power load.	
	➢ Total cooling capacity should be **minimum 130 tons.** **Required floor-wise cooling is mentioned below:** Sub-station Room: 4 X 4 TR 1st Floor Reception: 2 X 3 TR 6th Floor NOC Room: 50 TR 7th Floor (Dining, Conference, Prayer, etc.): 50 TR Ground Floor Store: 3 X 3 TR (Floor Stand)	
	➢ Free space for installation of indoor/distribution unit is shown in the floor plan attached (and the bidder has to calculate and propose total no. of indoor units based on that.	
	➢ The system should be capable to dynamically start and stop according to the required cooling.	
	➢ The proposed set of PAC should be capable of cool from under the raised floor. Mentionable that another system of chiller based air-conditioning of same capacity will be installed under the raised floor.	
	➢ Should be capable of maintain uniform temperatures throughout the datacenter.	
	➢ Touch screen display should be present in all the indoor units. Wireless Remote control could be good to have.	
	➢ Dehumidification functionality should be built-in with the proposed system.	
	➢ Water sensor kit should be included.	
	➢ Fans should be hot swappable.	
	➢ Dual Power feeds are preferred.	
	➢ It should be Network manageable with proper GUI base management and monitoring software.	
	➢ Load should be viewed by kW metering.	
	➢ In the implementation phase the PAC should be deployed so that Cold and Hot aisle arrangement could be achieved.	
	➢ If any other thing required to provide the solution it should be mentioned and quoted.	

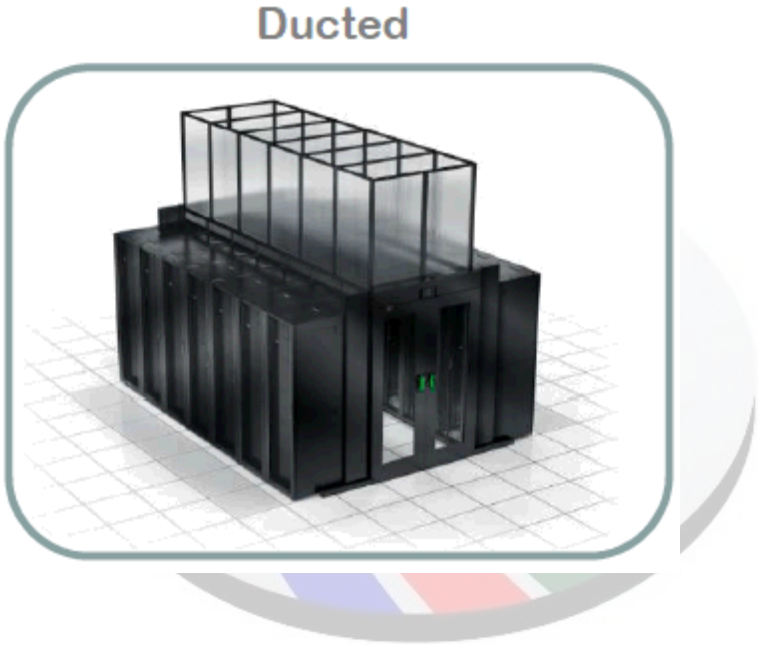
Descriptions	Required Specification	Quoted Specification
Required Power for total solution	Please specify	
Total Unit required	Please specify	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/*epi*) in all aspects	
Warranty	Three (03) years full warranty	

Electrical works for PAC:

Descriptions	Required Specification	Quoted Specification
Distribution Box- (01 unit at each location i.e. sub-station room, store, 1st floor, 6th and 7th floor)	16 WG sheet steel including Busbar, insulator, Internal Ebonite Cover for bus-bar section, Ammeter (01 no.), voltmeter (01 no.), selector switch (02 nos.), CT (03 nos.), Indication lamp (03 nos.), lock with powder coated paint finishing.	
Cable	Distribution Cable (Bus-bar System) - From floor Bus-bar tap-off unit to each floor PAC DB - From Floor DB to PAC equipment	
Earthing	➢ Proper earthing of each air-conditioning equipment inside the Data center to be ensured by the bidder.	
Circuit Breaker (adjustable)	➢ Please specify brand ➢ Please specify Total quantity with detailed specifications	
Trunking Channel/ Cable ladder	MS Cable tray for under raised floor cabling and wall hanging cabling (cable laying in the ladder has to be single layer)	
Miscellaneous	Other required items for successful installation of the PAC (please specify)	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 (Uptime/epic) compliance in all aspects	
Warranty	Three (03) years full warranty	

d) Hot-aisle Containment System

Descriptions	Required Specification	Quoted Specification
Brand name	Please specify	
Model	Please specify	
Country of origin	US/EU	
Country of Manufacture	Please specify	
No. of Racks	150 Racks in 03 Floors (50 Racks per Floor)	
Ducting Arrangements	There will be 02 types of Precision cooling available at each floor- Chiller based and DX based. Ducting has to be made for each system.	



Hot Aisle Containment Specifications

A. Design Requirements: The Aisle should be sized for two equal length rows of IT enclosures with supporting infrastructure or one row with an adjacent wall. Supporting aisle widths range from 3 to 6 feet (900 mm – 1830 mm). Hot aisle ducted configuration. Ceiling and duct panels must be constructed in a rectangular fashion and extend vertically.

B. UL Listing: All system components should be certified as suitable for this data center environment by documentation supporting UL Listings: UL484, CSA C22.2 No.236 and UL723S.

DUCT/AIR RETURN SYSTEM (as per design requirement)

A. Should be 6.0 mm thick Lexan clear-ribbed panels or 2.36 mm thick V0 clear panels with aluminum framing/equivalent.

B. Flame spread rates: Smoke development index "0-65" and flame spread index “0” in accordance with UL723 or ASTM84. Nominal thickness: 2.36 mm (V0 clear) –or-- Smoke development index "20" and flame spread index "0" in accordance with UL723 or ASTM84. Nominal thickness: 6.0 mm (Lexan)

C. Minimum Light Transmission per ASTM D1003 equal to 82% or greater.

D. Duct panels should be designed to be supported by the frames of the IT Equipment racks. Ceiling Panel frames sizes should be suitable to match up with various rack widths, row width, and hot aisle widths.

E. The air return system should be designed to permit removal of the air blocks from within the contained zone without the use of tools for service access to the space above the Aisle.

RACK EQUIPMENT BAYING KITS (as per design requirement)

A. Metal and plastic components should be supplied to establish consistent spacing between the racks or rack based equipment, and to fill the space to provide an air containment seal at the juncture between two adjacent racks or rack based equipment.

DOOR FRAMES AND DOORS (as per design requirement)

A. Metal door frames and doors should be provided to establish air containment at the end of two rows of racks. The door frame system should match the height of the rack based equipment, and match the design width of the contained aisle.

B. Doors should be hinged or sliding, to permit access into the contained aisle for maintenance or servicing. Standard door operation should not interfere with access or service on any rack or rack based equipment with auto-door closer.

C. Doors should be provided with a window, handles and latches. The following should be provided :

1. Door locks and three matching keys per door
2. Two proximity switches provided per door for open/closed status
3. Automatic door closure system for sliding door
4. Sliding Doors should be provided with swing-open functionality in case of emergency inside the aisle.

FRAMES AND COMPONENTS SEALS (as per design requirement)

A. Foam Rubber gaskets or metal/composite, brush, or plastic air blocks should be installed at Aisle joints to minimize open gaps between containment system components, such as door frames, ceiling and duct panels, and IT Equipment racks and rack based equipment. Gasketing and/or air blocks may include, but not be limited to, the following.

1. Joints between adjacent ceiling/duct panels
2. Joints between ceiling/duct panels and top of racks, if not metal to metal.
3. Joints between door frames and ceiling/duct panels, if not metal to metal.
4. Joints between door frames and racks at the end of the row(s).
5. Joints between rack bottom rear frame and floor.
6. Joints between duct panel and ceiling/roof of room.

AIR RETURN SYSTEM (as per design requirement)

1. Should consist of duct mounting rails and duct panels
   a. Mount to top of racks and extend up to ceiling plenum
   b. Allows for flexibility with overhead cabling and cable troughs
2. Adjustable height supports
   a. Should support duct structure and extend duct upward to ceiling plenum
   b. Should mount to top of racks and rack height adapters
   c. Should be adjusted to be level with ceiling
   d. Should be placed every 600mm apart spanning length of aisle
   e. Should be provided with mounting bracket for various racks
   f. Should be provided with removable lexan or V0 airblocks and all necessary hardware to seal gap between top of racks and bottom duct rail
   g. Should be provided with Modular PDU and/or Rack Mounting brackets if needed

BLANKING PANELS, HEIGHT ADAPTERS, AND DEPTH EXTENDERS (as per design requirement)

1. Blanking Panels should be placed where gaps between racks exist to seal contained aisle. The panel should match the height of the enclosures and match the width of the gap. It should not be mounted to any adjacent blanking panels nor should it support any adjustable height supports.
2. Depth Extenders should mount to front or back of enclosures to align aisle. The extender should match the depth of the adjacent racks and match the width and height of the enclosure (including any height adapters) of which it is being mounted
3. Height Adapters should mount to the top of enclosures to align the enclosure height. The height adapter match the height of the adjacent racks and should match the width and depth of the rack (including any depth adapters) of which it is being mounted.

- Containment should Prevents short circuiting of cold air with warm air
- Provides even temperature across the cabinet height.
- Containment should Enhances equipment performance by increasing the temperature gradient
- Top Panel should comply to following points:
    - Frame work should be CRCA Steel made of (600 mm / 800 mm wide)
    - CRCA Steel is as per “IS 513 Grade D”
    - Toughened Glass or Polycarbonate panel (Lexan panel)

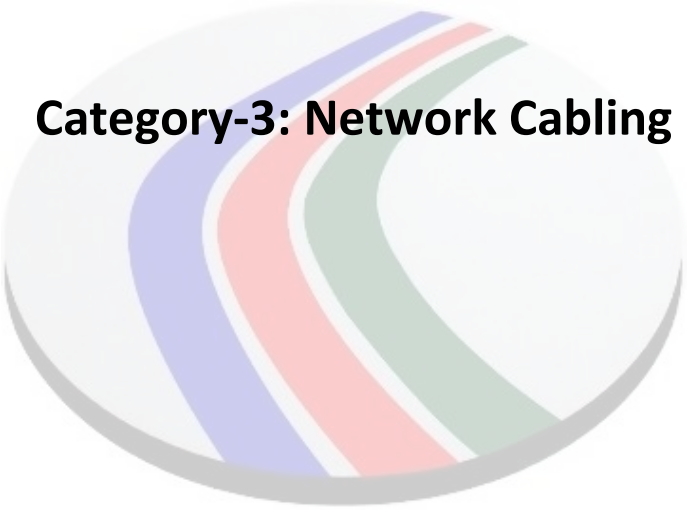
- Doors (Sliding or Swivel) should comply to following points
    - CRCA frame (1.2mm thickness) work and toughened glass (4mm thickness) or Lexan sheet (4mm thick).
    - Sliding mechanism or Swivel mechanism with hinges.
    - PU Foam Gasket should run across the edges of the door to prevent any leakage of cold air.
    - Polyamide Cable Brushes are fitted at the bottom of doors to avoid leakage of cold air when doors are closed.
    -
- All metal components should be power coated with Powder coat is with Nano ceramic pre-treatment process using a zirconium coat.
- The Powder coating process should be ROHS compliant.
- Powder coating thickness shall be 80 to 100 microns.
- Cabinet Rows should be either side of the Hot Aisle to be identical.
- Side Sealing Kits for cabinet to avoid air short cycling.
- Blanking Panels should be for unused “U” spaces.
- Side Panel should be plain i.e. without venting / perforation.
- Top Panels should be plain without Fans.
- Cabinet Front and rear door should be perforated.
- All the racks should be of same height.

e) Floor Insulation

Descriptions	Required Specification	Quoted Specification
Brand	Please Specify	
Model	Please Specify	
Country of origin	US/EU	
Country of Manufacture	Please Specify	
Total Floor area	14,000 sft.	
Features	A closed- cell structure not prone to wicking	
	Mould resistance	
	Dust and fiber-free construction	
	An in- built water vapour barrier	
	Ease of cutting and fitting	
	Durability and maintenance	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/*epi*) in all aspects	
Warranty	Three (03) years full warranty	

f) Water detection system (WDS):

Descriptions	Required Specification	Quoted Specification
Brand	Please Specify	
Model	Please Specify	
Country of origin	US/EU	
Country of Manufacture	Please Specify	
Floor area to be covered	14,000 sft.	
Features	➢ Should be able to detect the moisture bellow the raised floor. ➢ It should provide immediate warning after detecting the moisture and water. ➢ It should be Micro-Processor Based Control ➢ The Required system should be able to monitor and detect at least in 20 (pcs) X 5(Floor) different locations below the raised floor. ➢ 20 individual controllers should be present in each floor (1^{st} – 5^{th} floor). ➢ Monitors each zone independently. ➢ Provides subsequent alarming, no matter how many zones go into ALARM or FAULT. ➢ Identifies location, time & date of all ALARM and FAULT conditions. ➢ Alarming should be provided at-least via two or more of the below state method • Audible • Visual ➢ In-band and out-of-band methods indicating in the software console and/or in the Building management system. ➢ Monitoring software should be provided with the system. ➢ Each cable length should be 20 feet or higher. ➢ To provide the solution if any other component has to add it should be included and the price should be required.	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/*epi*) in all aspects	
Warranty	Three (03) years full warranty	



Category-3: Network Cabling

a) Network Cabling System (NCS):

i) Copper Cable:

Descriptions	Required Specification	Quoted Specification
Brand name:	Systemax/Panduit/TE/Equivalent	
Country of origin	US/EU	
Country of Manufacture	Please specify	
UTP Cable		
CAT 6A/ CAT 7 10G UTP Cable (1000 ft. per Box)	300 Box	
CAT 6A/ CAT 7 10G STP Cable (1000 ft. per Box)	200 Box	
Patch panel		
Intelligent Patch Panels (24 port each) with horizontal front cable manager and rear cable manager for CAT 6A/ CAT 7 10G UTP Cable	400	
CAT 6A/ CAT 7 Modular for Intelligent Patch Panels	9600 (400 X 24)	
Intelligent Patch Panels (24 port each) with horizontal front cable manager and rear cable manager for CAT 6A/ CAT 7 10G STP Cable	400	
CAT 6A/ CAT 7 10G shielded Modular for Intelligent Patch Panels	9600 (400 X 24)	
Patch Cord		
CAT 6A/ CAT 7 Patch cord 03 feet	1200	
CAT 6A/ CAT 7 Patch cord 05 feet	1500	
CAT 6A/ CAT 7 Patch cord 07 feet	1200	
CAT 6A/ CAT 7 Patch cord 10 feet	1500	
CAT 6A/ CAT 7 Patch cord 15 feet	500	
CAT 7/ CAT 7A shielded Patch cord 05 feet	800	
CAT 7/ CAT 7A shielded Patch cord 10 feet	1200	
CAT 7/ CAT 7A shielded Patch cord 15 feet	400	
Cable Management		
UTP/STP termination RACK with Cable management solution	06 units	
Sample pics		
Intelligent Patch Management Solution		

Descriptions	Required Specification	Quoted Specification
Intelligent patch management software with required no. of controllers and required additional items to make the items workable.	1 lot	
Cable leveling	All cable/panel leveling has to be done after installation as per requirement	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/*epi*) in all aspects	
Other Accessories		
Fluke DTX Cable Analyzer 1800	03 unit	
	DTX-1800 CableAnalyzer: Includes DTX-1800 Main and Smart Remote, LinkWare PC Software, 128MB MMC Card, Cat 6A/Class EA Permanent Link Adapters (2), Cat 6A/Class EA Channel Adapters (2), Headsets for Talk (2), AC Chargers (2), Carrying Case, USB Interface Cable (Mini-B) & User Manual	
	DTX-LT CableAnalyzer: Includes DTX-LT Main and Smart Remote, LinkWare PC Software, Cat 6A/Class EA Permanent Link Adapters (2), 6A/Class EA Channel Adapter (1), AC Chargers (2), Carrying Case, USB Interface Cable (Mini-B), User Manual	
	DTX-1800 and Set of two DTX Encircled Flux Multimode Fiber Modules, each incorporating: 850 nm and 1300 nm LED sources combined into a single output port Set of Encircled Flux compliant test reference cords (EF-TRC) 850/1300/1310/1550 nm power meter Integrated VFL	
	DTX-1800 with Encircled Flux Multimode and Singlemode Fiber Modules: Includes DTX-1800 CableAnalyzer; 2 DTX-EFM2 Multimode Fiber Modules; 2 DTX-SFM2 Singlemode Fiber Modules; 2 Multimode Encircled Flux compliant test reference cords (EF-TRC); 2 Singlemode test reference cords (SM-TRC); 2 SC/SC Simplex Adapters; Carrying Case; and User Manuals	

Descriptions	Required Specification	Quoted Specification
	Alien Crosstalk Analyzer Kit for DTX-1800 includes: two DTX-AXTLK1 Communication Modules, Windows based DTX AxTalkAnalyzerTM Software, two Cat 6A/Class EA Permanent Link Adapters (DTX-PLA002S), two Channel Adapters optimized for Alien Crosstalk measurement (DTX-CHA002S)	
	Alien Crosstalk Analyzer Kit for DTX-1800 includes: two DTX-AXTLK1 Communication Modules, Windows based DTX AxTalkAnalyzerTM Software, two Terminators (Common Mode and Differential Mode) and two 8-pin Couplers (CIQ-RJA).	
	The DTX Network Module plugs into the back of the main unit of the DTX tester. It performs network connectivity tests, tests Power over Ethernet according the standards and can analyze the network port the link is connected to.	
	DTX Patch Cord Test Adapter Set for Category 6A patch cords. Certifies both shielded and unshielded category 6A patch cords per ISO 11801:2010.	
	DTX Patch Cord Test Adapter Set for Category 6 patch cords. Certifies both shielded and unshielded category 6 patch cords per ANSI/TIA 568-C and ISO 11801:2010.	
	Twin pack of shielded Cat 6A jacks. Recommended replacement for DTX-PC6AS Patch Cord Test adapters.	
	Twin pack of shielded Cat 6 jacks. Recommended replacement for DTX-PC6S Patch Cord Test adapters.	
	Set of 2 Permanent Link Adapters for Cat6A and Alien Crosstalk testing. This adapter can be used for all permanent link tests Cat6A/6/5e/5 and Cat 3.	
Fluke DTX Cable Analyzer 5000	03	
	1 Versiv Mainframe & Remote, (2) DSX-5000 CableAnalyzer Modules, Set of CAT 6A/Class EA Permanent Link Adaptors, Set of CAT 6A/Class EA Channel Adaptors, (2) Headsets, (2) HandStrap, (2) Shoulder Straps, Carry Case, USB Interface Cable, LinkWare Software CD, AxTalk Software CD, User Manual CD, (2) AC Chargers, (2) Universal Couplers, (2) AxTalk Terminators, Statement of Calibration and Getting Started Guide	

Descriptions	Required Specification	Quoted Specification
BOM	Have to be provided	
Warranty	Three (03) years full	

ii) Fiber Cable:

Descriptions	Required Specification	Quoted Specification
Brand name:	Systemax/Panduit/TE/Equivalent	
Country of origin	US/EU	
Country of Manufacture	Please specify	
Fiber Patch panel		
Modular 2U Fiber Shelf	50	
Modular 1U Fiber Shelf	100	
MPO-MPO/equivalent Trunk cable 25m (12 Fiber core)	160	
MPO-MPO/equivalent Trunk cable 35m (12 Fiber core)	160	
MPO-MPO/equivalent Trunk cable 50m (12 Fiber core)	100	
MPO-MPO/equivalent Trunk cable 80m (12 Fiber core)	100	
MPO-MPO/equivalent Trunk cable 100m (12 Fiber core)	160	
6 MPO Distribution Panel (12 Core) having- • Input should be MPO trunk cable (12 core) • Output should be 6 pair LC SPF+ port (to be connected with server and storage LC ports.	560	
Patch Cord		
LC-LC Patch cord 10 feet (for 10G connection)	1500	
LC-LC Patch cord 15 feet (for 10G connection)	600	
LC-LC Patch cord 20 feet (for 10G connection)	400	
Cable Management		
Fiber termination RACK with Cable management solution	Shared with the UTP/STP termination RACK	
Sample pics		
Other Accessories		

Descriptions	Required Specification	Quoted Specification
Intelligent patch management software with required no. of controllers and additional items to make the items workable	Can be shared with the UTP/STP intelligent patch management solution	
Cable leveling	All cable/panel leveling has to be done after installation as per requirement	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/*epi*) in all aspects	
Certification for 15 years	Have to be provided	
Other features	If any other thing required to provide the solution it should be mentioned and quoted.	
Other Accessories		
Fluke DTX Cable Analyzer	03unit	
	DTX-1800 CableAnalyzer: Includes DTX-1800 Main and Smart Remote, LinkWare PC Software, 128MB MMC Card, Cat 6A/Class EA Permanent Link Adapters (2), Cat 6A/Class EA Channel Adapters (2), Headsets for Talk (2), AC Chargers (2), Carrying Case, USB Interface Cable (Mini-B) & User Manual	
	DTX-LT CableAnalyzer: Includes DTX-LT Main and Smart Remote, LinkWare PC Software, Cat 6A/Class EA Permanent Link Adapters (2), 6A/Class EA Channel Adapter (1), AC Chargers (2), Carrying Case, USB Interface Cable (Mini-B), User Manual	
	DTX-1800 and Set of two DTX Encircled Flux Multimode Fiber Modules, each incorporating: 850 nm and 1300 nm LED sources combined into a single output port Set of Encircled Flux compliant test reference cords (EF-TRC) 850/1300/1310/1550 nm power meter Integrated VFL	

Descriptions	Required Specification	Quoted Specification
	DTX-1800 with Encircled Flux Multimode and Singlemode Fiber Modules: Includes DTX-1800 CableAnalyzer; 2 DTX-EFM2 Multimode Fiber Modules; 2 DTX-SFM2 Singlemode Fiber Modules; 2 Multimode Encircled Flux compliant test reference cords (EF-TRC); 2 Singlemode test reference cords (SM-TRC); 2 SC/SC Simplex Adapters; Carrying Case; and User Manuals	
	Alien Crosstalk Analyzer Kit for DTX-1800 includes: two DTX-AXTLK1 Communication Modules, Windows based DTX AxTalkAnalyzerTM Software, two Cat 6A/Class EA Permanent Link Adapters (DTX-PLA002S), two Channel Adapters optimized for Alien Crosstalk measurement (DTX-CHA002S)	
	Alien Crosstalk Analyzer Kit for DTX-1800 includes: two DTX-AXTLK1 Communication Modules, Windows based DTX AxTalkAnalyzerTM Software, two Terminators (Common Mode and Differential Mode) and two 8-pin Couplers (CIQ-RJA).	
	DTX Singlemode Fiber Modules - Includes two modules (one for Main and one for Smart Remote). each module contains 1310 nm and 1550 nm laser light source combined into single output port, 850-1550 nm power meter, integrated VFL, SC adapter for power meter and Singlemode SC-SC Test Reference Cords	
	Set of two DTX Encircled Flux Multimode Fiber Modules, each incorporating: 850 nm and 1300 nm LED sources combined into a single output port Set of Encircled Flux compliant test reference cords(EF-TRC) 850/1300/1310/1550 nm power meter Integrated VFL	
	Set of two SC Adapters for DTX-xFM2 power meter port.	
	Set of two LC Adapters for DTX-xFM2 power meter port.	

Descriptions	Required Specification	Quoted Specification
	Set of two ST Adapters for DTX-xFM2 power meter port.	
	FC Test Adapters, Set of two	
	A kit containing the Test Reference Cords sets NFK1-DPLX-LC, NFK1-DPLX-ST, NFK2-DPLX-LC, NFK2-DPLX-ST, LC and ST adapters for the power meter and 62.5/125 and 50/125	
	Duplex MM 62.5µm TRC for SC Adapter	
	Duplex MM 62.5µm TRC for LC Adapter	
	Duplex MM 62.5µm TRC for ST Adapter	
	Duplex MM 62.5µm TRC for FC Adapter	
	Duplex MM 50µm TRC for SC Adapter	
	Duplex MM 50µm TRC for LC Adapter	
	Duplex MM 50µm TRC for ST Adapter	
	Duplex MM 50µm TRC for FC Adapter	
	Duplex SM 9µm TRC for SC Adapter	
	Duplex SM 9µm TRC for LC Adapter	
	Duplex SM 9µm TRC for ST Adapter	
	Duplex SM 9µm TRC for FC Adapter	
	LC Accessory Kit, 62.5	
	Multimode Fiber Mandrel kit containing two red mandrels for 50/125 µm cable and two gray mandrels for 62.5/125 µm cable	
	Multimode Fiber Mandrel for 50/125	
	Multimode Fiber Mandrel for 62.5/125	
	Fiber Optic Cleaning Kit.	
	Fiber Accessories Carrying Case	
	Protective carrying case for DTX Compact OTDR Kits	
	Carry case for DTX-xFM or DTX-xFM2 Fiber Loss Test Modules with storage space for Test Reference Cords and fiber connector adapters	
	One 62.5 µm SC/LC Encircled Flux Launch Controller (two required for DTX)	

Descriptions	Required Specification	Quoted Specification
	One 50 µm SC/SC Encircled Flux Launch Controller (two required for DTX)	
	One 62.5 µm SC/SC Encircled Flux Launch Controller (two required for DTX)	
	One 50 µm SC/LC Encircled Flux Launch Controller (two required for DTX)	
Fluke DTX Cable Analyzer 5000	03	
	1 Versiv Mainframe & Remote, (2) DSX-5000 CableAnalyzer Modules, (2) CertiFiber® Quad OLTS Modules, OptiFiber® Quad OTDR Module, OneTouch AT Module, Set of CAT 6A/Class EA Permanent Link Adaptors, Set of CAT 6A/Class EA Channel Adaptors, (2) Headsets, (2) HandStraps, (2) Shoulder Straps, Hardsided Carry Case, Large Carry Case, USB Interface Cable, LinkWare Software CD, AxTalk Software CD, User Manual CD, OneTouch AT Resource DVD, (2) AC Chargers, (2) Universal Couplers, (2) AxTalk Terminators, (2) OneClick Cleaner (1.25/2.50 mm), SC/SC Simplex Adaptors,2 SC/LC Multimode Launch Cables—50 µm, 2 SC/LC Singlemode Launch Cable—9 µm, USB Fiber Inspection Video Probe with 4 Tips, TPAK Fiber Hanging Kit, (2) LC/LC Simplex Adaptor, SC/LC EF-compliant MM TRC Kit 50 µm, SC/LC SM TRC Kit, TRC Carry Case, WireView Cable Ids #1 - #6, RJ45 Patch Cable, External Directional Antenna with Mounting Clip, SD Card, USB SD Card Reader, USB Flash Drive, Two 1000BASE-SX SFP Fiber Transceivers, Statement of Calibration, and Getting Started Guide. Note: OneTouch AT Network Assistant models with Wi-Fi features (802.11) are regulated test instruments and are approved for shipment and sale into these countries only.	
BOM	Have to be provided	
Warranty	Three (03) years full	

Required features and implementation activity:

MPO-MPO/equivalent Trunk Cable:

- Pre-terminated low loss MPO Trunk Cable
- Factory installed pulling eyes
- Trunk cables designed with OS2, G.657.A2 BIF
- G.652.D backward compatible
- Straight-through fiber polarity
- Designs incorporating round microfiber cable
- Designs incorporating aluminum armor

UTP/STP Cabling

- CAT 6A, CAT 7 and CAT 7A cables should be laid up to the rack level in the Data Centre and DR site.
- Dedicated raceways / cable-trays should be used for laying LAN as mentioned in cable raceway part.
- Along with Fiber cabling, cables for Storage Area Network (SAN) up to the racks in the Data Centre should also be implemented.
- Cabling for KVM switches on the racks should also be done.
- Additional cabling requirements on an on-going basis will also need to be catered.
- All the cable raceways shall be adequately grounded and fully concealed with covers.
- The cables should be appropriately marked and labeled.

System Intelligent Patch Panels

- Intelligent Patch Panels (copper or fiber) shall provide capabilities of registering patch connections made between corresponding intelligent panel ports
- Shall be capable of registering patch connections between corresponding intelligent patch panel port and non-intelligent patch panel port or equipment port
- Shall provide an indicator at every panel port to enable easy tracing and identification of patch connections in the Network/Sever room
- Shall be capable of detecting insertion/removal of any 4-pair / 8-wire patch cords terminated with standards compliant 60603-7 (RJ-45) plug
- Shall be capable of detecting insertion/removal of any fiber patch cords that are terminated with any standards compliant SC or LC fiber optic connectors
- Shall be capable of tracing duplex patch connections as well as simplex patch connections
- Pre terminated intelligent fiber panels shall have MPO/equivalent fiber optic interfaces to enable quick connectivity of MPO/equivalent style pre-terminated multi-fiber/ribbon trunk cables
- Intelligent Patch panels shall be compatible with mounting on 19” based hardware per EIA-310

System Controller Hardware

- System Controller shall communicate with intelligent patch panels using simple interconnection architecture.
- System Controller shall be provided with an LCD screen with interface keys to enable a technician to interact with the Intelligent Infrastructure Solution system
- System Controller LCD screen shall be capable of displaying up to 8 lines with 40 characters per line or higher.
- System Controller shall be able to display tracing information on LCD screen when trace button is pressed from an intelligent panel
- System Controller shall be able to provide audible feedback to the technician while the technician is performing various MAC activities
- System Controller shall store connectivity information that is collected from intelligent patch panels in non-volatile memory
- Standard modular patch cord shall be used to interconnect System Controllers via serial bus

- System Controller shall have configurable Ethernet connection capability to connect to local LAN to enable communication with Management Software.
- Shall be capable of managing unlimited number of System Controllers with Ethernet Capabilities

Management Software

- Shall be based on client server architecture
- Shall be compatible with Simple Network Management Protocol (SNMP)
- Shall provide means to configure SNMP traps that can be sent to Network Management Software (such as HP Open View, CA Unicenter, Tivoli, etc.) for linking and combining capabilities of both Software programs
- Shall detect datacenter supported servers (Bladeservers / Virtual server / Rack Servers / SAN / NAS) and should be able to document type of OS information, Serial numbers, Lease start /expiry date etc.
- Software shall provide point-and-click capabilities for populating floor plans with database objects
- Shall provide automatic database backups as well as provide means for manual database backup
- Shall have capability of auto discovery and auto population of database with all of the System Controller Hardware (panels, controllers) installed in a building/site
- Shall provide the end user with ability to define manual, automatic, or disabled mode for conducting discovery of IP based devices. Automatic device discovery feature shall allow end user to determine discovery time table, as well as ability to automatically trigger discovery process based on receiving SNMP port activity traps from managed network equipment
- Shall have capability of discovering and creating IP devices/equipment with multiple MAC addresses to correspond to multiple network interfaces such as blade servers, or PCs with wired and wireless NICs
- Shall have capability of detecting configuration changes to managed network equipment that is part of a local network in a building / site
- Shall have capability of detecting when an IP device is moved/changed it's physical location.
- Shall provide full featured electronic work order capabilities that include:
    - Paperless work order administration
    - Guided MAC activities through the use of guidance indicators at panel's ports
    - Audible feedback to a technician to ensure accuracy of performed MAC activities
    - Complete set of work order instructions displayed on System Controller's LCD screen
    - Real-time electronic documentation via database update
    - VLAN Support
    - SAN Switch Support
    - Web-Based Reporting
- Shall be capable to support cross-connect as well as interconnect administration topology
- Shall be able to generate real-time security alerts upon
    - Insertion of a plug into intelligent panel port
    - Removal of a plug from intelligent panel port
    - Pressing of a trace button above panel port
    - Unauthorized MAC activity in a telecom room
    - By Pushing the Alert data for NMS applications on real time

b) Network Distribution Racks:

i) Type-1: Rack with KVM (Quantity: 20)

Items	Required Specifications	Quoted specifications
Brand	IBM / HP / Sun / APC / Emerson / DELL / Oracle	
Model	Please specify	
Height	42U EIA-310-D compliant Closed Rack	
Width	**800 mm**	
Depth	At least 1200 mm depth	
Features		
Perforated door	▪ All doors should be Perforated (Front & Rare) ▪ All door should have locks	
Extension bars	Should be provided as required	
Cage nuts & screws	500 units Should be provided	
U Positions	Should be numbered	
Leveling Feet and Casters wheel	Should be Pre-installed and easily adjustable	
Cable access on the roof of the rack.	▪ Multiple cable access slots ▪ Multiple mounting holes for overhead cable troughs	
Rear Cabling Channels	▪ Multi-purpose cable management ▪ Tool less mounting for Rack PDUs ▪ Tool less mounting of cable management accessories ▪ Side access holes for cross- connecting between adjacent racks with sides removed	
Horizontal Cable Manager	➢ 04 units 1U Brush Strip Horizontal Rack Cable Management Panel with Brush Plate Network Cable Manager ➢ 04 units 2U Brush Strip Horizontal Rack Cable Management Panel with Brush Plate Network Cable Manager ➢ 04 units 1U Universal Horizontal Cable Manager ➢ 04 units 2U Universal Horizontal Cable Manager	
Vertical Cable Manager	At least 4 Vertical cable managers should be provided with each rack.	
Fixed trays/shelves	2 Fixed trays/shelves capable of caring at least 50 kg load, depth of at least 900 mm should be provided with each rack	
Sliding trays/shelves	1 Sliding trays/shelves should be provided with each rack	
Tool less Airflow Management Blanking Panels	At least 20 U blank panel should be provided with each rack	
Stabilization	Should be provided	
Rack Monitor	17" TFT rack mount IBM / HP / Sun / APC / Emerson monitor which occupies only 1 U rack space 1 unit for each rack	
Integrated Keyboard and Mouse	Required with sliding functionality	
Power Distribution Unit (PDU) with built-in K-type transformer	1. Switched Rack PDU, **32A**– At **least 24 way, 02 units:** ▪ Remotely control and fully manage individual receptacles plus active	

	monitoring and alarms to warn of potential overloads 2. Metered Rack PDU, **32A** – At least **42 way, 02 units:** ▪ Active monitoring and alarms to warn of potential overloads	
KVM Switch	Switch that allows users single-point access and control of up to 16 multiple servers from a single console with 16 units KVM console cable and 8 units 1.5mtr cat 6 & 8 units 3mtr cat 6 patch cord	
Software	Software should be provided to Monitor and control the Switched PDUs and Metered PDUs	
Cables	50 no. of Power cable should be provided with each ATS to connect the servers/network/PDU equipment with the quoted ATS.- ➢ 02 units of C20 to industrial female (32A) ➢ 02 units of C19 to industrial male (32A) ➢ 02 units of C14 to industrial female (16A) ➢ 02 units of C13 to industrial male (16A) ➢ 12 units of C19 to C20 cable (16A, 3m). ➢ 10 units of C19 to C20 cable (16A, 2m) ➢ 10 units of C13 to C14 cable (10A, 3m). ➢ 10 units of C13 to C14 cable (10A, 2m).	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/epi) in all aspects	
Warranty	Three (03) years full warranty	

ii) Type-2: Rack without KVM (Quantity: 15)

Items	Required Specifications	Quoted specifications
Brand	IBM / HP / Sun / APC / Emerson / DELL/ Oracle	
Model	Please specify	
Height	42U EIA-310-D compliant Closed Rack	
Width	**800 mm**	
Depth	At least 1200 mm depth	
Features		
Perforated door	▪ All doors should be Perforated (Front & Rare) ▪ All door should have locks	
Extension bars	Should be provided as required	
Cage nuts & screws	500 units Should be provided	
U Positions	Should be numbered	
Leveling Feet and Casters wheel	Should be Pre-installed and easily adjustable	
Cable access on the roof of the rack.	▪ Multiple cable access slots ▪ Multiple mounting holes for overhead cable troughs	
Rear Cabling Channels	▪ Multi-purpose cable management ▪ Tool less mounting for Rack PDUs ▪ Tool less mounting of cable management accessories ▪ Side access holes for cross- connecting between adjacent racks with sides removed	
Horizontal Cable Manager	➢ 04 units 1U Brush Strip Horizontal Rack Cable Management Panel with Brush Plate Network Cable Manager ➢ 04 units 2U Brush Strip Horizontal Rack Cable Management Panel with Brush Plate Network Cable Manager ➢ 04 units 1U Universal Horizontal Cable Manager ➢ 04 units 2U Universal Horizontal Cable Manager	
Tool less Airflow Management Blanking Panels	At least 20 U blank panel should be provided with each rack	
Stabilization	Should be provided	
Power Distribution Unit (PDU) with built-in K-type transformer	Metered Rack PDU, **32A** – At least **42 way, 02 units:** ▪ Active monitoring and alarms to warn of potential overloads	
Software	Software should be provided to Monitor and control the Switched PDUs and Metered PDUs	
Cables	50 no. of Power cable should be provided with each ATS to connect the servers/network/PDU equipment with the quoted ATS.- ➢ 02 units of C20 to industrial female (32A) ➢ 02 units of C19 to industrial male (32A) ➢ 02 units of C14 to industrial female (16A) ➢ 02 units of C13 to industrial male (16A) ➢ 12 units of C19 to C20 cable (16A, 3m). ➢ 10 units of C19 to C20 cable (16A, 2m) ➢ 10 units of C13 to C14 cable (10A, 3m). ➢ 10 units of C13 to C14 cable (10A, 2m).	

BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/epi) in all aspects	
Warranty	Three (03) years full warranty	

iii) Type-3: Roof Mount Rack (Quantity: 10)

Items	Required Specifications	Quoted specifications
Brand	IBM / HP / Sun / APC / Emerson / DELL/ Oracle	
Model	Please specify	
Height	6U	
Width	**Please Specify (Preferred >600 mm)**	
Depth	**Please Specify (Preferred >600 mm)**	
Features		
Perforated door	▪ All doors should be Perforated (Front & Rare) ▪ All door should have locks	
Extension bars	Should be provided as required	
Cage nuts & screws	500 units Should be provided	
U Positions	Should be numbered	
Leveling Feet and Casters wheel	Should be Pre-installed and easily adjustable	
Cable access on the roof of the rack.	▪ Multiple cable access slots ▪ Multiple mounting holes for overhead cable troughs ▪ Multiple mounting holes for downside cable troughs	
Tool less Airflow Management Blanking Panels	At least 4 U blank panel should be provided with each rack	
Power Distribution Unit (PDU) with built-in K-type transformer	Metered Rack PDU, At least **8 way, 02 units:** ▪ Active monitoring and alarms to warn of potential overloads	
Software	Software should be provided to Monitor and control the Switched PDUs and Metered PDUs	
Cables	08 no. of Power cable should be provided with each ATS to connect the servers/network/PDU equipment with the quoted ATS.- ➢ 08 units of C13 to C14 cable (10A, 2m).	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/epi) in all aspects	
Warranty	Three (03) years full warranty	

c) Over head hanging cable tray for Network Cables

i) UTP cable management

Descriptions	Required Specification
Brand name:	Please Specify
Country of origin	US/EU
Country of Manufacture	Please Specify
Built Material	Please Specify (e.g. plastic/SS Steel)
Features for overhead hanging cable tray/raceway	1. It should have clips/hole to hold the cables. 2. It should have the mechanism of holding the cable, which comes out from the top of the Racks. 3. The cable tray should be hanged from the rooftop. 4. The tray should pass over all the Racks in the datacenter, so that cable can be routed from any rack to other.
Load Capacity at a single point	Please Specify
Tray/Raceway width	Preferably > 02 ft. (Please specify)
Sample structure for UTP cable	
Area to be covered	As per drawing
BOM	BOM to be attached with technical compliance of each item
Product Brochure	Product Brochure to be attached with technical compliance of each item
Certificates	Machine must comply tier-4 compliance (Uptime Institute/*epi*) in all aspects
Warranty	Three (03) years full warranty

ii) Fiber cable runner

Descriptions	Required Specification
Brand name:	Please Specify
Country of origin	US/EU
Country of Manufacture	Please Specify
Built Material	Please Specify (e.g. plastic/SS Steel)
Features for overhead hanging cable tray/raceway with cover	1. It should have clips/hole to hold the cables. 2. It should have the mechanism of holding the cable, which comes out from the top of the Racks. 3. The cable tray should be hanged from the rooftop. 4. The tray should pass over all the Racks in the datacenter, so that cable can be routed from any rack to other.
Load Capacity at a single point	Please Specify
Tray/Raceway width	Preferably > 02 ft. (Please specify)
Sample structure for fiber	
Area to be covered	As per drawing
BOM	BOM to be attached with technical compliance of each item
Product Brochure	Product Brochure to be attached with technical compliance of each item
Certificates	Machine must comply tier-4 compliance (Uptime Institute/*epi*) in all aspects
Warranty	Three (03) years full warranty

Category-4: Data Center Setup equipment with Security and Monitoring

a) Raised Floor

i) Type-1: 3 Ft. high steel understructure

Descriptions	Required Specification	Quoted Specifications
Brand	Please Specify	
Model	Please Specify	
Country of origin	US/EU	
Country of Manufacture	Please Specify	
Total Floor Area	10,000 square feet	
Features	1. Raised floor panels/tiles must be Anti-static with 3 Ft. high steel understructure. 2. 30% raised floor are perforated of total work ▪ Solid tiles 3,000 sft. ▪ Perforated tiles area 7,000 sft. **3. The raised floor is able to 2000 kg for a single rack based server. Each tile should be able to carry a point of 2 ton in a 04 sft. Size.** 4. The legs of the raised floor are all separate from each other 5. All legs of the raised floor are connected with earthing cable. 6. To pass the electric cable from the rack to the power socket under the raised floor proper cap to be used in the raised floor tiles. 7. The raised floor should be installed in such a way that the PAC for down flow and the proposed water detection system can be installed properly and can be serviced easily afterward. 8. Cross-connection with all the legs should be present	
Lifter	• 07 nos. for solid tiles • 07 nos. for perforated tiles	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/epi) in all aspects	
Warranty	Three (03) years full warranty	

ii) Type-2: 1.5 Ft. high steel understructure

Descriptions	Required Specification	Quoted Specification
Brand	Please Specify	
Model	Please Specify	
Country of origin	US/EU/Australia	
Country of Manufacture	Please Specify	
Total Floor Area	4,000 square feet	
Features	1. Raised floor panels/tiles must be Anti-static with 1.5 Ft. high steel understructure. 2. 30% raised floor are perforated of total work ▪ Solid tiles 1,200 sft. ▪ Perforated tiles area 2,800 sft. **3. The raised floor is able to 2000 kg for a single rack based server. Each tile should be able to carry a point of 2 ton in a 04 sft. Size.** 4. The legs of the raised floor are all separate from each other 5. All legs of the raised floor are connected with earthing cable. 6. To pass the electric cable from the rack to the power socket under the raised floor proper cap to be used in the raised floor tiles. 7. The raised floor should be installed in such a way that the PAC for down flow and the proposed water detection system can be installed properly and can be serviced easily afterward.	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/epi) in all aspects	
Warranty	Three (03) years full warranty	

b) NOC Set-up (6th Floor):

Fig: NOC with Gallery type seating arrangement

i) Type-1

Video Wall (20'X12')

Descriptions	Required Specification	Quoted Specification
Brand name	Please Specify	
Model	Please Specify	
Country of origin	US/Europe	
Country of Manufacture	Please Specify	
Specifications of Display Panel	Please Specify	
Functionality Required	➢ Linear and asymmetric ➢ Scheduled play ➢ Multiple aspect ratios ➢ Full HD on every screen ➢ Display multiple sources ➢ Display images across single or multiple screens ➢ HDCP support ➢ Image rotation ➢ Art wall (any angle) ➢ Remote monitor management ➢ Live camera and PC feeds	
Specifications of Central Server	Please Specify	
Specifications of individual video controller/Set Back Box	Please Specify	
Electrical and Network	All network and power connections (from Bus-bar) have to be provided.	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/*epi*) in all aspects	
Warranty	Three (03) years full warranty	

Work-station with Computer

Descriptions	Required Specification	Quoted Specification
Brand name	Please Specify	
Model	Please Specify	
Country of origin	Please Specify	
Country of Manufacture	Please Specify	
No. of Workstation with high-class revolving chair	20	
PC Configuration	Brand: Lenovo/DELL/HP	
	Display: Dual Monitor (21" each) 	
	Processor: Core i7 with QM87 chipset motherboard RAM: 8 GB HDD : 1 TB Keyboard, Mouse etc.	
Required Layer for sitting	Please Specify (Layer X Person per Layer = 20)	
Civil Works with gallery set-up	All required Civil works	
Electrical and Network	All network and power connections (from Bus-bar) have to be provided.	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Warranty	Three (03) years full warranty	

ii) Type-2

Video Wall (15'X12')

Descriptions	Required Specification	Quoted Specification
Brand name	Please Specify	
Model	Please Specify	
Country of origin	US/Europe	
Country of Manufacture	Please Specify	
Specifications of Display Panel	Please Specify	
Functionality Required	➢ Linear and asymmetric ➢ Scheduled play ➢ Multiple aspect ratios ➢ Full HD on every screen ➢ Display multiple sources ➢ Display images across single or multiple screens ➢ HDCP support ➢ Image rotation ➢ Art wall (any angle) ➢ Remote monitor management ➢ Live camera and PC feeds	
Specifications of Central Server	Please Specify	
Specifications of individual video controller/Set Back Box	Please Specify	
Electrical and Network	All network and power connections (from Bus-bar) have to be provided.	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/*epi*) in all aspects	
Warranty	Three (03) years full warranty	

Work-station with Computer

Descriptions	Required Specification	Quoted Specification
Brand name	Please Specify	
Model	Please Specify	
Country of origin	Please Specify	
Country of Manufacture	Please Specify	
No. of Workstation with high-class revolving chair	15	
PC Configuration	Brand: Lenovo/DELL/HP	
	Display: Dual Monitor (21" each) 	
	Processor: Core i7 with QM87 chipset motherboard RAM: 8 GB HDD : 1 TB Keyboard, Mouse etc.	
Required Layer for sitting	Please Specify (Layer X Person per Layer = 15)	
Civil Works with gallery set-up	All required Civil works	
Electrical and Network	All network and power connections (from Bus-bar) have to be provided.	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Warranty	Three (03) years full warranty	

iii) Type-3

Video Wall (10'X12')

Descriptions	Required Specification	Quoted Specification
Brand name	Please Specify	
Model	Please Specify	
Country of origin	US/Europe	
Country of Manufacture	Please Specify	
Specifications of Display Panel	Please Specify	
Functionality Required	➢ Linear and asymmetric ➢ Scheduled play ➢ Multiple aspect ratios ➢ Full HD on every screen ➢ Display multiple sources ➢ Display images across single or multiple screens ➢ HDCP support ➢ Image rotation ➢ Art wall (any angle) ➢ Remote monitor management ➢ Live camera and PC feeds	
Specifications of Central Server	Please Specify	
Specifications of individual video controller/Set Back Box	Please Specify	
Electrical and Network	All network and power connections (from Bus-bar) have to be provided.	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/*epi*) in all aspects	
Warranty	Three (03) years full warranty	

Work-station with Computer

Descriptions	Required Specification	Quoted Specification
Brand name	Please Specify	
Model	Please Specify	
Country of origin	Please Specify	
Country of Manufacture	Please Specify	
No. of Workstation with high-class revolving chair	10	
PC Configuration	Brand: Please Specify	
	Display: Dual Monitor (21" each) 	
	Processor: Core i7 with motherboard RAM: 8 GB HDD : 1 TB Keyboard, Mouse etc.	
Required Layer for sitting	Please Specify (Layer X Person per Layer = 10)	
Civil Works with gallery set-up	All required Civil works	
Electrical and Network	All network and power connections (from Bus-bar) have to be provided.	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Warranty	Three (03) years full warranty	

c) Access Control with visitor management System

DBBL already has a centralized access control system for its existing Data Center, Disaster recovery site and Head Office Divisions. The quoted system must be able to integrate with the existing system. All the active components quoted in this category must be **FROM A SINGLE OEM MAKE ONLY.**

Descriptions	Required Specification	Quoted Specification
Brand	Please Specify	
Model No.	Please Specify	
Country of Origin	US/EU	
Country of Manufacture	Please Specify	

Descriptions	Required Specification	Quantity	Quoted Specification
Multi door access security system	Multi door access security system • door controller with built-in TCP/IP network ready adapter • Web browser capable for configuration, monitoring and maintenance. • At least 100000 user access per day supported memory.	01 lot	
Multi door access Management system	• Capable to manage at least 64 doors • Hard lock with soft key feature	01 lot	
Biometric access controller with Reader Interface unit	• The Biometric access controller should be capable of recognition the finger print impression. • The Biometric access controller should be built-in with key pad. • The Biometric access controller should be capable of recognition HID Proximity card with password and also without password.	28	
HID Proximity reader with Reader Interface unit for entry use	• The access controller should be capable of recognition the HID Proximity card. • The access controller should be capable of recognition HID Proximity card with password and also without password.	18	
HID Proximity reader for exit	• The access controller should be capable of recognition the HID Proximity card.	46	
Lift Access Controller with Bio-metric and card reader	• The Biometric access controller should be capable of recognition the finger print impression. • The Biometric access controller should be built-in with key pad. • The Biometric access controller should be capable of recognition HID Proximity card with password and also without password. • Should be capable to control the floor	02	

Descriptions	Required Specification	Quantity	Quoted Specification
	access (Lift-door opening). • If any kind of integration with Lift or add-on module is required, have to be provided from Day 1.		
Power supply unit	• Power supply unit with battery backup for switching power applied to the doors	As required	
Emergency break glass	Should be provide with every exit side	46	
Buzzer with visual light	If any door is left open after a specific time individual buzzer of the door should start ringing and light should start flashing	46	
Electro-Magnetic Lock	Electro-Magnetic Lock • Capable of exterior opening • Z-L Bracket (as required) • U-channel (as required)	As required	
Attendant Software	***Should be integrated with bank's existing attendance software having the following features:** • Fully integrated with supplied access control system • Time base and shift base attendance capable • All sort of advance report generation capable • Absent identification and notification • Late mark capable • All feature customization enable	01	
Visitor Management Software	• Proper visitor management software should be provided • Individual floor-wise and door-wise configuration should be possible • Access should be restricted with timing and no. of entries.	01 Lot	
Biometric Reader	USB base Biometric Reader for entering record in the system for each user.	02	
HID Proximity card	White HID Proximity card issued to Dutch-Bangla Bank Limited with both side printable in color.	50	
Cable and PVC conduit	Cable and PVC conduit for the whole system setup	As required	
System Software	System Software for Access control and attendance system should be integrated with the existing software (ELID)	01 lot	
Miscellaneous	Vendor will provide redundant Server and OS for installing your provided software. For properly functioning the system if any other equipment required mentioned here	As required	

Descriptions	Required Specification	Quantity	Quoted Specification
	and quota the quantity.		
BOM	BOM to be attached with technical compliance of each item		
Product Brochure	Product Brochure to be attached with technical compliance of each item		
Certificates	Machine must comply tier-4 compliance (Uptime Institute/epi) in all aspects		
Warranty	Three (03) years full warranty		

d) IP Surveillance System (IPSS)

[N.B. ALL ACTIVE COMPONENTS SHOULD BE FROM A SINGLE OEM MAKE ONLY]

Descriptions	Required Specification
Brand	Samsung/Panasonic/Sony/Tyco
Model No.	Please Specify
Features and Quantity	1/3" or 1/3.6" image sensor Color TCP/IP (10/100 Based-T Ethernet) Camera with wall mount bracket and PoE enable. ➢ All Camera should have the Night Vision capability from Day 1 ➢ 1/3" CCD Dual Codec IP Box Camera ➢ MPEG-4 / MJPEG compression selectable ➢ High Resolution 550 TV Line ➢ (PoE) Power over Ethernet (IEEE 802.3af) supported ➢ Free NVR Remote Central Program for up to 64 Channels ➢ CIF up to Full D1 resolution at 30/25 FPS ➢ Supports two way audio for users to transfer / receive audio over the IP network ➢ High resolution video compression : H.264 (MPEG-4 Part 10/AVC)/MJPEG, dual codec ➢ Resolution: Minimum 720P (1280 X 720 @ 30 fps) **PTZ Camera:** Brand: Please specify Model: Please specify (This camera should able to move manually (software) and automically 2/3 Mega-Pixel 1/3" or 1/3.6" CMOS Sensor in High resolution Distance to be covered: 15 Meter Quantity : **25** pcs **Fixed Camera:** Brand: Please specify Model: Please specify (This camera is not able to move through software) 2/3 Mega-Pixel 1/3" or 1/3.6" CMOS Sensor in High resolution Distance to be covered: 15 Meter Quantity: **130** pcs **Weather proof Camera (with outdoor housing):** Brand: Please specify Model: Please specify (This camera is not able to move through software) 2/3 Mega-Pixel 1/3" or 1/3.6" CMOS Sensor in High resolution Distance to be covered: 15 Meter Quantity: **20** pcs Total required no. of camera is **175** pcs. All cameras must have Night Vision feature should be capable of recording at 720P resolution.
IP surveillance system (Software)	• The system and the provided software should be capable to work as Network Video Recorder (NVR) • The system and the provided software should be capable of

Descriptions	Required Specification
	centered managed and monitored. • Should be able to store data in servers local HDD. • Should be capable of storing data in Network-Attached Storage (NAS) • The software should be capable of search any event based on data, time and camera no, etc. and at the same time be able to write in DVD/CD writers. • The system and the provided software should be capable to run on Microsoft Windows Server 2012 R2 or Higher. • The system and the provided software should be able to install in any standard server. • Capable to display on not less than 5 computer monitor simultaneously from the same LAN in ½/4/8/16/32 camera is single screen • Recording Capability should be At least 60 days video snaps using 200 cameras and automatic motion detection. • Manages up to 200 cameras at Full D1 @ 30 FPS • Dual Monitor Support • Stores Video + audio with MPEG-4 compression • Supports different frame rate on live view and recording • Continuous, Schedule, Motion, Alarm Recording • Search video clips by date, time and event • Supports motion detection and Digital I/O event from hardware • On-screen 8-direction PTZ control • 4-channel synchronized playback at the same time • eMap Manager for easier direct viewing of cameras
Server	• Vendor will provide redundant Server and OS for installing your provided software. • For properly functioning the system if any other equipment required mentioned here and quota the quantity. • Rack Mountable Branded (HP/IBM/DELL/SUN/Oracle)
Storage/NAS	• Vendor will provide redundant NAS and OS for installing your provided software. • Usable capacity for the NAS should be 200 Camera X 720P resolution X 30 fps X 60 days. • For properly functioning the system if any other equipment required mentioned here and quota the quantity.
Cabling, Installation, testing and commissioning	01 lot Installation, testing and commissioning. Cabling should be done by Systemax cat 6 cables.
Integration	It has to ability to integrate with any standard Building management system.
Miscellaneous	If any other components have to be added to design and install the solution please specify and quote the same.
Server	Vendor will provide redundant Server and OS for installing your provided software. For properly functioning the system if any other equipment required mentioned here and quota the quantity.
BOM	BOM to be attached with technical compliance of each item
Product Brochure	Product Brochure to be attached with technical compliance of each item
Certificates	Machine must comply tier-4 compliance (Uptime Institute/*epi*) in all aspects
Warranty	Three (03) years full warranty

Note:

- OS of the server will be 64 bit Windows 2008/2012.

e) Very early smoke detection aspirating system (VESDA)

Descriptions	Required Specification
Brand	Please Specify
Model	Please Specify
Country of origin	US/EU
Country of Manufacture	Please Specify
Require Features	
Capacity	• The proposed solution should be for 14,000 sft. Floor space. • **The total electric load will be calculated for 200Racks where each Rack will consist of 6 KW load (avg.)**
Additional equipment	• Control panels. • Releasing devices • Remote manual pull stations • Corner pulleys • Door closures • Pressure trips • Bells and alarms • Pneumatic switches • Good to have TCP/IP base remote control capability from Day 1.
Fire Detection System	• Automatic detection for early warning of fire. • Should be able to identify different types of smoke. • Smoke detectors for gas discharge. • The detection circuits should be configured using coincidence or independent inputs. For Data center Room Detector – ➢ Smoke-(Please Specify). ➢ Heat-(Please Specify)
Other	If any other components have to be added to design and install the solution please specify and quote the same.
Interface	The system should be interfaced with the proposed building management system
Software & Hardware	To integrate the system with the building management system if any software or/and hardware required it should be added.
BOM	BOM to be attached with technical compliance of each item
Product Brochure	Product Brochure to be attached with technical compliance of each item
Certificates	Machine must comply tier-4 compliance (Uptime Institute/epi) in all aspects
Warranty	Three (03) years full warranty

f) Gas/Fire Suppression system (GFSS)

Descriptions	Required Specification
Brand	Please Specify
Name of the GAS	NAF
Country of origin	US/EU
Country of Manufacture	Please Specify
Require Features	
Capacity	• The proposed solution should be for 14,000 sft. Floor space. • **The total electric load will be calculated for 200 Racks where each Rack will consist of 6 KW load (avg.)**
Composition and Materials	• Extinguishing agent stored in high strength alloy steel cylinders. • Various types of actuators, either manual or automatic. • The agent is distributed and discharged into the hazard area through a network of piping and nozzles. • Each nozzle is drilled with a fixed orifice designed to deliver a uniform discharge to the protected area.
Additional equipment	• Control panels. • Releasing devices • Remote manual pull stations • Corner pulleys • Door closures • Pressure trips • Bells and alarms • Pneumatic switches • TCP/IP base remote control capability from Day 1.
Cylinder Assembly	Capacity of the cylinder. (Each cylinder is equipped with a valve). Please Specify Cylinder capacity.
Electric Actuator	Electric actuation of an agent cylinder should be accomplished by an electric actuator. In auxiliary or override applications, a manual lever actuator can be installed on top of the actuator.
Fire Detection System	• Automatic detection for early warning of fire. • Should be able to identify different types of smoke. • Smoke detectors for gas discharge. • The detection circuits should be configured using coincidence or independent inputs. For Data center Room Detector – ➢ Smoke-(Please Specify). ➢ Heat-(Please Specify)
Nozzles	➢ Gas Discharge Nozzles
Flashing Light	For each zone
Alarm bell	For each zone and NOC
Manual activation	Should be provided for each zone
Auto-exit sign	For all doors of the covered area
Gas discharge sign	➢ Floor: For each zone in the floor ➢ NOC: All the available zones in the building
Other	If any other components have to be added to design and install the solution please specify and quote the same.
Refill	The system should be easily refillable

Descriptions	Required Specification
Refill Support	The proposed Gas should be refillable up to year 2025. Proper document should be provided to support the time line 2025.
Interface	The system should be interfaced with the proposed building management system
Software & Hardware	To integrate the system with the building management system if any software or/and hardware required it should be added.
BOM	BOM to be attached with technical compliance of each item
Product Brochure	Product Brochure to be attached with technical compliance of each item
Certificates	Machine must comply tier-4 compliance (Uptime Institute/epi) in all aspects
Warranty	Three (03) years full warranty

g) Controlled electric lighting system (Electric lighting)

Descriptions	Required Specification
Country of origin	US/EU
Country of Manufacture	Please Specify
Features	
Emergency Lighting Control	When the normal AC power fails, the emergency lighting system should sense the power failure and immediately switches to the emergency mode, illuminating more than 5 lamps at a time. When AC power is restored, the emergency lighting system should returns to the charging mode until the next power failure
No of Emergency Light	Please Specify
Central Control Panel	The central control panel should include all the power lighting and also the emergency lighting for allowing monitoring and control of Data center lighting system.
Total Floor Area	**14,000 sft.**
BOM	BOM to be attached with technical compliance of each item
Product Brochure	Product Brochure to be attached with technical compliance of each item
Certificates	Machine must comply tier-4 compliance (Uptime Institute/epi) in all aspects
Warranty	Three (03) years full warranty

h) Data Center infrastructure Monitoring Software

Descriptions	Required Specification
Brand name:	Please Specify
Model name	Please Specify
Country of origin	USA/EU
Country of Manufacture	Please Specify
No of device license required	At-least 1500 node license (If more no. of license is required to cover the full Data Center as per given requirement, have to be included)
	If the proposed system is an appliance based, the appliance should be provided.
Room Monitor	30
Room Sensor	10
Rack Monitor	150
Temperature and Humidity Sensor with digital display	80
Temperature and Humidity Sensor	300
Spot Fluid Sensor	120
Smoke Sensor	50
Alarm beacon	50
Vibration Sensor	50
Door Switch Sensor for Rack	200
Door Switch Sensor for Room	70
Camera with sensor	100
Particle sensor	10
Tablet with pre-loaded Application	05 (at least 7 inch)
Design Requirements:	
	All material and equipment used shall be standard components, regularly manufactured, available and not custom designed especially for this project. The data center infrastructure system, including the DCIM, shall previously be thoroughly tested as a system, and proven in actual use prior to installation on this project
	The DCIM shall be installed on a physical server, or as a virtual appliance, with a specified HTTP or HTTPS connection to access the user interface (DCIM client), and standard TCP protocol connections for communications with the monitoring system
	The DCIM system-level redundancy and load-balancing shall be provided using a server-level cluster setup. Up to 4 servers should be setup in a cluster to gain performance improvements
	The DCIM shall enable vendor-neutral inventory management with real-time device failures and data shown within a data center physical layout. Graphical floor layout and rack elevation view shall be supported from Day 1
	The DCIM tool shall provide location-based drill-down views providing a structured overview of data center locations, from a global to local view down to single assets.
	A Power Usage Effectiveness (PUE) dashboard will provide information on daily energy use
	Inventory report provides structured information on all rack-mount devices, organized by device type, age, manufacturer, and properties for quick overview of all current devices within a particular data center

Descriptions	Required Specification
	The DCIM tool shall have a search capability to allow data center operations to quickly locate a piece of equipment in the rack layout and floor layout.
	The DCIM tool shall provide public web services API to allow third-party applications to access the inventory database, alarms and events, capacity and cooling analysis data, and PUE information
	The DCIM shall provide provisions to predict the optimal location for physical infrastructure and rack-based IT equipment based on the availability and requirements of physical infrastructure capacity and user defined requirements such as redundancy, network, and business use grouping
	The DCIM shall provide provisions to reduce stranded capacity and enable informed decision making and planning by proactively analyzing the impact of future moves, adds, changes before they occur, ensuring that the physical infrastructure provides the required space, power, and cooling capacity for current and future needs
	The DCIM shall be capable of hosting additional add-on modules that allow a user to perform energy efficiency and energy cost management, inventory management, power and cooling capacity management, change management, IT optimization, IT power capping, server access (software Keyboard Video Mouse or KVM), dynamic cooling control and mobile data center management
	The DCIM shall provide read-only smart phone applications to get a high level status of the data center operations and KPI
	The DCIM shall be capable of integrating with additional plug-ins that supports Cisco UCS Manager, HP OneView, Vigilent dynamic cooling control, BMC Remedy ticketing system, Microsoft System Center Virtual Machine Manager 2008/2012, HP uCMDB, and VmwarevCenter, etc.
DCIM **Operation**	
	The DCIM software shall provide the methodology to create visual view of the data center floor layout, and the racks view and the equipment within, and manage network connectivity. This module shall also map the alarms to the appropriate device on the floor layout. The DCIM software shall support the following capabilities -

Descriptions	Required Specification
	1. **Floor Layout** A. The DCIM tool will have the capability to add locations and rooms of different types to the data center model to represent the actual physical enterprise infrastructure. B. The DCIM tool will have the capability to configure a bird's eye view of the room layout to ensure the layout in the data center model accurately represents the real-world physical environment of the room. This includes any physical attributes of the room such as size, shape, doors, windows and walkways. C. The DCIM tool will have the capability to see multiple rooms in a layout pane at the same time allowing a user to compare or drag equipment between them – for modeling. D. The DCIM tool will have the capability to export the complete or filtered data center inventory into a delimited file (.csv file). E. The DCIM tool will have the capability to render the floor layout in both 2D and 3D view. F. Ability to import an AutoCad (.dwg) floor drawing and display the floor layout. Each layer can be toggled on or off. Rooms can be created based on wall detection on the AutoCad drawing. G. Ability to export the Floor Layout to AutoCAD format (.dwg). Each overlay and the information in the overlay must be stored in individual layers. H. Ability to export the Floor Layout to the following picture formats: BMP, JPG, PNG and SVG. I. Ability to export the Rack View to the following picture formats: BMP, JPG, PNG and SVG. J. Ability to copy/paste equipment on the floor, such as racks, PDUs, UPS and cooling units as well as equipment in the racks, such as servers and patch panels. You can K. copy/paste individual pieces of equipment or multiple items, such as a rack and its contents.

Descriptions	Required Specification
	2. **Multi-tenant Data Center Support** A. Ability to create cages and auto-detect cage area in square meters or square footage. B. Ability to create cages automatically from AutoCAD drawing through cage selection and wall detection. C. Ability to assign customer to data center asset including rack mounted equipments, racks, cages, etc. D. Cages, racks and servers are color coded based on sales status (closed, reserved, internal, and open). E. Ability to assign Contracted Power value to each cage, rack or server. F. Ability to add power receptacles to each cage. G. Show a legend on the floor view with information about how many racks are open, closed, reserved and internal. H. Show a legend on the floor view with information about how much space is open, closed, reserved and internal. I. Show a legend on the floor view with information about total room area, sellable space and space efficiency.
	3. **Rack elevation View** A. The DCIM tool will identify how much weight has been placed in a rack / room compared to the predefined load bearing capability settings of the rack. B. Illustrate the weight of the equipment added to the rack in the rack layout compared to the maximum equipment loading capability of the rack. C. Visualize status of network ports on equipment (used vs. not used). D. Visualize network cables.

Descriptions	Required Specification
	4. **Network Management** A. The DCIM tool will be able to model the configured network connections and allows a user to setup new network routes between the configured equipment. B. Network port properties will have the capability to be imported from a product catalog and/or will be user configurable. C. Ability to configure network routes for selected network equipment in the layout, for example between a server and a switch or a switch and a switch. A route is defined as a connection from a piece of equipment (communication endpoint, such as a server or layer 2/3 network gear, such as a switch) to the first piece of equipment that is a communication endpoint or layer 2/3 network gear. D. Ability to configure cable types and color code each cable type.
	5. **Product Catalog** A. The DCIM tool will be able to provide a product catalog that contains up-to-date floor and rack mounted data center equipment. B. The DCIM tool will be able to allow a user to add floor and rack-mountable equipment to a rack, server room, electrical room or store room. C. Ability to create an inventory bundle that combines multiple pieces of equipment in one building block.
	6. **Dashboard Key Performance Indicator (KPI) View** A. Provide a map view to monitor the data center operations in a quick overview, including any alarms in different locations and rooms. B. From the map overview, one can drill down to locations > rooms > racks > servers for details or troubleshooting. C. Display capacity KPIs for each data center in the map view. The KPIs should include the status of the Power, Cooling, U-space and Network utilization. D. Power is represented as the percentage of the available load (kW) that is utilized by the IT equipment in the location or room. E. Cooling is represented as the percentage of the available load (kW) that is utilized by the IT equipment in the location or room. F. U-space is represented as the percentage of the available U-positions (U-pos) that is populated with equipment in the location or room. Network is represented as the percentage of the available Network ports (ports) that is utilized by networking equipment in the location or room
Data Center Operation: Capacity	The DCIM software shall provide capabilities to perform capacity planning, create capacity groups, perform power and cooling analysis as per the following details:

Descriptions	Required Specification
	1. **Capacity Planning** The DCIM software will provide provisions to recommend the best location for a server in the rack layout, utilizing available space, cooling, network and power capacity to optimize capacity utilization and avoid stranded capacity: A. Impact simulation: Generates a list of equipment that would be impacted if the selected piece of equipment, e.g. a UPS or cooling unit, was to fail. B. Measured Load: Display measured load data for UPS and racks in the floor layout that identify how much of each UPS or rack's maximum kW power is in use. This requires communication to power monitoring devices or servers. C. Measured Load: Displayed measured load data for cages in the floor layout that identify how much of a cage's contracted power is in use. This requires communication to power monitoring devices or servers. D. Power Capacity: Ability to assign planned capacity for each rack and illustrates rack capacity consumption compared to the planned recommended values for that rack. Provide information such as remaining power, the amount exceeding the recommended capacity. E. Power Path: Ability to model power connections between the equipment supplying and delivering power and the equipment requiring power. This includes power path from switchgear, UPS, main PDU with modular circuit breaker mapping, rack RPDU and to individual servers. F. Power Path: Ability to export the power path to a comma separated file. G. Rack U Space: Ability to monitor and display rack U space utilization of each rack.
	2. **Capacity Groups** Ability to model capacity groups that allows a user to group equipment's, placing it in groups of racks with similar power capacity requirements to match the IT equipment with availability needs and avoid stranded space, power, and cooling capacity. For example, group a set of high-density racks together for optimized power and cooling configuration.

Descriptions	Required Specification
	3. **Power Analysis** Ability to detect the following list of configuration issues regarding data center power configuration and provide recommended actions: A. Connection has not been configured between PDU and power supply: A power connection is missing in the data center model from this PDU to the power supply from which it should receive power. B. Equipment connected to this PDU draws more power than is supported by the power supply breaker: The breaker does not provide sufficient power to cover the power requirements of the equipment connected to that PDU. C. Equipment is connected to a rack PDU outside this rack: The power connection setup for this equipment is not optimum as it is setup to be supplied by a rack PDU that is not positioned in the same rack as the equipment. D. Internal redundancy setup for UPS and group must match: The internal redundancy setup for the UPS and group does not match, for example N and N+1. E. Rack is without rack PDU or a rack PDU is not powered: The rack is without rack PDUs or its rack PDUs are not connected to a PDU, remote distribution panel (RDP) or power panel. F. The breaker configuration does not support rack's estimated load: The equipment in the rack draws more power than the breaker supports. In case of 3 phase equipment, the problem shall be indicated even if only one of the phases is overloaded. G. The input voltage setting required by the equipment is not available in current rack: In the data center model, the server's input voltage requirement cannot be supplied by the rack PDU in the rack. H. The measured load exceeds the estimated load per phase designed for the rack: Connected devices in the rack use more power than the estimated load per phase in the rack shall be indicated in the data center model. I. The measured load exceeds the total estimated load configured for the rack: Connected devices in the rack that use more power than the total estimated load in the rack shall be indicated in the data center model. J. The measured load of the UPS exceeds the total estimated load of the connected equipment: Devices connected to the UPS use more power than design capacity or they have not been assigned to the correct UPS in the data center model layout to correctly represent the physical infrastructure. In case of 3 phase equipment, the problem shall be indicated even if the measured value is only too high for one of the phases. K. The phase configuration for the connected server is not supported by the rack PDU: The phase connection configured for this server is not valid. This message will occur if a power connection had been configured to this server but subsequently changes have been made to the phase configuration. L. The Rack PDU output voltage setting does not match the output voltage of the connected PDU / Power Panel: The power connection is invalid because the voltage required by the rack PDU is not available from the power distribution component. M. The server must be supplied from the same phase from both distribution units: The redundancy setup requires identical phase distribution setup for A and B feed. N. The UPS in the layout does not supply enough power to match the configured load of connected equipment in the layout: The load of the equipment connected to the UPS is higher than the load that the UPS can supply. In case of 3 phase equipment, the

Descriptions	Required Specification
	4. **Cooling Analysis** A. The DCIM software shall be able to calculate cooling performance of data centers in real-time with CFD-like simulation, provide calculated inlet and exhaust temperatures per rack plus capture index (percentage of heat captured by cooling devices) per rack. B. Ability to present the calculation results visually in the floor layout. C. Ability to alarm cooling configuration issues and provide recommended actions. For example, a room has no perforated tiles for the Computer Room Air Conditioning (CRAC) unit airflow (one or more CRACs have been added to the floor but no perforated tiles have been added), or there is no perforated tile airflow (one or more perforated tiles have been added to the room but no CRACs have been provided to supply any airflow). D. 2D plenum airflow and pressure view: Provide a 2D under-floor plenum view that shows airflow vectors and Cubic Feet per Minute (CFM) based on the height of the raised floor, the placement and type of perforated tiles and cooling devices. When a cooling unit or a perforated tile is moved around, the flow vectors and airflow CFMs shall update instantly. E. 3D temperature and airflow view: Provide a 3D view showing max/average inlet/return temperature and airflow above the raised floor. Calculate velocity vector and temperature in real-time (seconds) to allow customers to try what-if scenarios. Ability to slide the temperature and velocity plane in all three dimensions. F. Ability to simulate failure of one or more cooling units and examine impacts to IT equipment. G. Ability to map temperature sensors to rack elevation or anywhere in the data center 3D space and draw the 3D measured temperature map based on the measured data.

Descriptions	Required Specification
	5. **Integration with 3rd Party Software** A. The DCIM software shall support integration with Cisco UCS manager to retrieve real-time power measurement data for blade servers and display them. In addition, it should support automatic power capping Cisco UCS chassis based on rack PDU breaker setting to safe guard rack PDU breakers. B. The DCIM software shall support integration with VmwarevCenter and Microsoft System Center Operations Manager (SCOM), Virtual Machine manager to retrieve virtual machine information and map them to physical servers. C. The DCIM software shall support integration with HP Universal Configuration Management Database (uCMDB), pushing IT asset data such as network, server devices and properties to the DCIM software. D. Ability to support two-way data exchange between the DCIM software and a broad range of systems, such as CMDBs, asset management systems, and building management systems using Extract, transform and load (ETL). Based on the ETL system, it is possible to develop custom solutions, integrating DCIM with a broad range of data sources.
Data Center Operation: Energy Efficiency	The DCIM shall provide the following functionality from the data center Energy Efficiency point of view
	1. The DCIM tool will provide current and historical Power Usage Effectiveness (PUE) values and full insight into current and historical energy efficiency. 2. It will present how much power is devoted to driving the installed IT-equipment compared with the total facility consumption. 3. Identify efficiency losses and enables improved PUE at the subsystem level. 4. Provide insight into energy losses and cost of energy at the subsystem level, providing details of which subsystem draws the most costs. 5. The DCIM tool will have a web-based dashboard view which includes efficiency data on current and historical PUE, as well as detailed subsystem cost analysis. 6. The DCIM tool will provide a report on current and historical PUE values. 7. The DCIM tool will provide energy efficiency analysis, PUE and DciE (Data Center infrastructure Efficiency) reporting.
Data Center Operation: Change	The DCIM shall provide the following change management functionality to keep track of additions, movements, maintenance or deletions in a data center:

Descriptions	Required Specification
	1. The DCIM tool will enable operators to gain control over the data center environment by implementing organized moves, adds, and change work processes by providing an automated workflow system that can develop and assign work orders, reserve space, track status, and provide a historical audit trail. 2. Ability to assign deadline and person to each work order. 3. Ability to create multiple tasks and track task status for each work order. 4. Ability to track completion date for a work order and provide information about work orders that are completed after the deadline. 5. Ability to create work order templates that can be used for recurring work types like maintenance activities or standard procedure for installation of a certain type of server. 6. Support workflow management that will allow for easy implementation and tracking of organized moves, additions, and changes. 7. Support device catalogs of floor and rack-mountable equipment. 8. Support audit trail reporting that would show asset moves, additions, and changes by date/time, owner, and work orders. 9. Support high-level single "glass pane" report of changes done to the data center in specified time period. 10. Ability to integrate with BMC Remedy server to import Remedy tickets and associate them with internal work orders. Update Remedy ticket status when work order status changes or finishes.
Data Center Operation: IT Power Control:	
	1. Data Center Operation: IT Power Control is powered by Intel® Data Center Manager (DCM) and provides insight into the IT layer of the data center. The data retrieval is handled by the IT Power Control module through IPMI or SSH. You can retrieve and monitor power and temperature data from Intel DCM in StruxureWare Data Center Operation. 2. Support rack-level power capping functionality powered by Intel DCM for increasing power usage accuracy and delay physical equipment investment. Power capping allows you to limit how much power your IT equipment can use and helps you free UPS capacity. Ability to support different rack-level power capping strategy including: Simultaneous server peak (sum of all server peak loads), historic rack peak, Rack peak sharing (20% of rack peak value), and manual input
Data Center Operation: Insight	The DCIM software shall support a report design tool that has the ability to:
	1. Configure and design custom reports in addition to the standard built-in reports. 2. Define new data sources including other JDBC, Web Services, XML or Text–based databases for data integration. 3. Define customized report layout and provide a comprehensive list of report elements for users to choose: Text, Label, Image, Table, List, Chart, etc. 4. Support customized equation and calculation. 5. Save a finished report design as a template for other users to use. 6. Output reports to the following formats: HTML, Word Doc, PowerPoint PPT, PDF, POSTSCRIPT or Excel file.
Standard Reports	The DCIM software shall be able to support the following standard report templates out-of-box:

Descriptions	Required Specification
	Audit Trail report: The DCIM software shall generate an Audit Trail report that lists actions recorded in the application, whether those actions were in response to work orders, or changes made to the data center model. The audit trail also provides information about user login/logout.
	Capacity History: The DCIM software shall generate a capacity history report that shows the capacity change history for one or more data centers over a user-specified period of time. Allow users to choose data from various capacity categories including power, cooling, space, network and energy efficiency, etc
	Contiguous Free U-Space: provides information about contiguous free u-space per rack.
	Cooling Optimize Benchmark: provides an overview of the energy usage during two configurable time periods. This can be used to verify the energy savings by installing Cooling Optimize by comparing energy usage before and after the installation. The energy savings are also converted into cost savings and annual greenhouse gas reduction.
	Customer Inventory Report: report all customer inventory (server, rack DPU, racks, cages, PDUs, etc) for one or multiple customer accounts. Customer names and accounts can be selected at the time of report generation
	Energy Cost: The DCIM tool will provide an Energy Usage Report, which shows energy consumed within the data center by the kWh and cost per kWh, detailed to the rack level. The report will include data based on the filter selections of time period, Rooms, Organization, the entered kWh price, the entered overhead factor or Power Usage Effectiveness (PUE). The calculations are based on measured load values, if the IT devices have been setup to report live measured data. Otherwise, the estimated load value will be used.
	Executive Power: provides a summary of total capacity, free capacity, measured peak, failover load, and power sold/all coated data in a report format. The report is sorted by data center sites and rooms
	Executive Space: provides space usage stats in terms of total, sold, open, reserved, etc square footage and rack counts information. It is sorted by data center sites and then data center rooms
	Inventory: The DCIM software shall generate an Inventory report that lists the contents of the filtered item or items of the entire inventory.
	Network Summary: The DCIM software shall generate a network report that lists the usage of network ports on each server and network devices. It shall also present all network routes in the data center
	Panel Schedule: The DCIM software shall generate a report showing the configuration of the breaker panels including breakers and power consumers
	Panel Schedule Customer: The DCIM software shall generate a report showing the configuration of the breaker panels including breakers, power consumers and customer
	Power Capacity: The DCIM software shall generate a Power Capacity report with power data, i.e. available estimated load and planned estimated load.
	Rack U-Space: The DCIM software shall generate a rack space report that displays the amount of available positions in specified racks for equipment that takes up one or more U positions
	Server Energy Cost: The DCIM software shall generate a report with information about the cost per server based on power usage.

Descriptions	Required Specification
	Server Power Consumption: A Server Power Consumption report can be generated to identify the servers with the highest average power usage. You can use this list to evaluate likely server candidates for upgrades, load sharing, or retirement
	Server Utilization report: A Server Utilization report can be generated to identify performance indicators on power cost, server utilization and retirement candidates
	Temperature Compliance: provides a graphical representation of Cooling Optimize sensors and how they are aligned with a configurable low and high threshold. The report also provides information about how many hours during the selected period sensors have been above or below the predefined thresholds.
	Underutilized Servers: An Underutilized Servers report can be generated to identify non-utilized and underutilized servers in the data center
	Work Order Details: The DCIM software shall generate a work order detail report that shows all the tasks associated with the work order and the status of each task
	Work Order List: The DCIM software shall generate a work order list report that shows work order number, deadline, status, priority, summary and assignee information for user selected work order number ranges
	Work Order Project: The DCIM software shall generate a report showing all the work orders with a specified project code. The information shown per work order is: Order number, Summary, Needed by, Comments, Assignee, Status and priority
Manageability Features	
Centralized management	Simplify management of the physical infrastructure using a centralized repository accessible from anywhere on the network through a powerful and easy-to-use console application.
Real-time monitoring	Immediate visibility to entire physical infrastructure through centralized, real-time device monitoring and notification enabling quick assessment of events as they occur.
Fault notification	Real-time event notification minimizes response times to critical physical infrastructure situations. Enables IT Administrators to reduce mean time to repair, improve efficiency, and maximize uptime.
Multi-vendor device support	Extensive multi-vendor support for monitoring networked SNMP devices. Enable visibility of existing SNMP devices through threshold alert notifications, data trending and reporting.
Unified console	Customizable Windows and Linux client application enables instant access to the Central application from anywhere on the network.
NMS Integration	Integrate SNMP traps into an Enterprise Management System, allowing users to view alerts generated by devices managed by the proposed Central system.
Free text search	Quickly locate devices and alerts through the free search field.
Alarm filters	Customize the user interface to display devices in critical, warning or normal device statuses.
Agility	
Auto-discovery	Reduces the time needed to install and deploy physical infrastructure devices by automatically detecting manageable devices on the network.
Mass Configuration	Provides a comprehensive mass configuration capability, allowing users to create, save, and push configurations or specific device settings to all supported devices with a Network Management Card.
Mass firmware update	Decrease set-up time and complexity of managed devices by simultaneously upgrading firmware for multiple supported devices.
Custom mapping	Custom backgrounds, unique user-assignable icons, and drag-and-drop device placement make it easy to identify problem devices at a glance, minimizing downtime, errors, and cost.
Private networking	Reduce IP addresses needed on the public network to manage devices, by placing them on an isolated secure network.

Descriptions	Required Specification
Advanced device grouping	Define user access and viewing capabilities to individual groups. Control access to devices by administrator-defined user accounts. Additional user access can be managed by using the built-in LDAP and Active Directory Support.
Protection	
Customizable user access	Define user access and viewing capabilities to individual groups. Control access to devices by administrator-defined user accounts. Additional user access can be managed by using the built-in LDAP and Active Directory Support.
Encrypted communications	128 Bit, SSL encrypted communications between client and server, as well as encrypted user IDs and passwords stored on the server to help protect your resources
Remote monitoring support	Web-based service that serves as a second set of eyes into the health of a company's physical infrastructure. Experienced professionals work non-stop to provide 24-hour monitoring and to help diagnose problems before they become critical.
Availability	
Graphical trending analysis	Access current and historic data for any device or group of devices. Plot and graph multiple data points in a logical correlation to visualize potential hazardous trends.
Custom reporting	Create, save and schedule user-defined reports for ease of data collection, distribution and analysis.
Centralized Alert Repository	Access historical alerts from several appliances through one central database. Sort alerts by type, date, appliance, and/or device group.
Integrated data storage	The system should ships with internal storage for data and video collection. The capacity for the storage should be 1 TB usable. Additional storage should easily be made available using the built-in Network Attached Storage server support for long-term storage and archiving.
Adaptability	
Extendable architecture	The proposed system should be capable to meet the changing business needs.
Change Manager add-on application	Easily track and execute moves, adds and changes of equipment in the data center via the shared data center model.
Capacity Manager add-on application	Planning and optimizing actual power, cooling and rack capacities via shared data center model, enabling efficient equipment provisioning and right-sizing of your data center.
Surveillance add-on application	Enhance visibility of your critical assets with physical threat management to monitor and record all activity in secured areas. A centralized repository allows the user to review, search and tag surveillance events for future needs.
Add-on module TCP output module	Integrates data and select events from devices managed by the system into an existing Building Management Systems through Ethernet transmission
Hardware	Vendor will provide redundant Server and OS for installing your provided software. For proper functioning the system if any other equipment required (switch, power module etc.) mentioned here and quote the quantity.
BOM	BOM to be attached with technical compliance of each item
Product Brochure	Product Brochure to be attached with technical compliance of each item
Certificates	Machine must comply tier-4 compliance (Uptime Institute/*epi*) in all aspects
Warranty	Three (03) years full warranty

i) Civil work, Furniture & fixture and related interior decoration (Civil Works)

i) 1st – 4thFloor

Descriptions	Required Specification
Total Floor Space	14,000 sft.
Civil Work	As per proposed design by the bidder
Glass Partition	As per proposed design by the bidder
Glass Door	As per proposed design by the bidder
BOM	BOM to be attached with technical compliance of each item
Product Brochure	Product Brochure to be attached with technical compliance of each item
Certificates	Machine must comply tier-4 compliance (Uptime Institute/*epi*) in all aspects
Warranty	Three (03) years full warranty

ii) 6th Floor (Conference, Office)

Descriptions	Required Specification
Total Floor Space	4,000 sft.
Civil Work	As per proposed design by the bidder
Glass Partition	As per proposed design by the bidder
Glass Door	As per proposed design by the bidder
	The work will have to done by the design attached with the document.
	All the product used will have to be approved by the bank personals.
	The furniture's mentioned in the design should be provided with 3 years warranty
	All the power requirement should be addressed and installed accordingly
	The water works should be done and all the fixture should be supplied and installed ➢ 1 wash room ➢ 2 toilet complex
	The main door of the floor should be fire protected metal door certified to use in a data center environment.
	All the portion inside the floor should be with 12 mm tempered glass.
	The false ceiling of the data center should be with perforated steel
	The tiles in the NOC room in gallery setup
	The lighting shades are to be provided
	All the doors inside the floor should be 12mm tempered glass door
Conference Room with chair (12-seater)	

Descriptions	Required Specification
Office Room with chair (02 Set)	
	Guest Chair - 06
Wall Cabinet (06 set)	Full height wooden Cabinet (10’ X 6’)
BOM	BOM to be attached with technical compliance of each item
Product Brochure	Product Brochure to be attached with technical compliance of each item
Warranty	Three (03) years full warranty

iii) 7th Floor (Dining, Rest Room, Prayer Room, Store)

Descriptions	Required Specification
Total Floor Space	4,000 sft.
Civil Work	As per proposed design by the bidder
Glass Partition	As per proposed design by the bidder
Glass Door	As per proposed design by the bidder
	The work will have to done by the design attached with the document.
	All the product used will have to be approved by the bank personals.
	The furniture's mentioned in the design should be provided with 3 years warranty
	All the power requirement should be addressed and installed accordingly
	The water works should be done and all the fixture should be supplied and installed ➢ 1 wash room ➢ 2 toilet complex
	The main door of the floor should be fire protected metal door certified to use in a data center environment.
	All the portion inside the floor should be with 12 mm tempered glass.
	The false ceiling of the data center should be with perforated steel
	Floor tiles have to be provided
	The lighting shades are to be provided
	The shelf in the store should be provide with Still built
	The cabinet of the restroom should be build with wood/Partex/ equivalent material
	All the doors inside the floor should be 12mm tempered glass door
DiningTable with 6-chair (03 Sets)	
Restroom Devine	04 Set
BOM	BOM to be attached with technical compliance of each item
Product Brochure	Product Brochure to be attached with technical compliance of each item
Warranty	Three (03) years full warranty

j) Pest (Rodent) Control System

Descriptions	Required Specification	Quoted Specification
Brand name:	Please Specify	
Country of origin	US/EU	
Country of Manufacture	Please Specify	
No of device support	Please Specify	
Features	No Smell No Trap No Poison No Chemical	
Floor space to be covered	14,000 sft. (Both above and under raised floor)	
Warranty	03 years full	

k) Fire Hydrant System:

Descriptions	Required Specification	Quoted Specification
Brand name:	Please Specify	
Country of origin	US/EU	
Country of Manufacture	Please Specify	
No of Floor to be covered	08 (approx. 4000 sft. Per floor)	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/*epi*) in all aspects	
Warranty	Three (03) years full warranty	

I) Fork-lift for Server Movement inside Data Center (04 units)

Descriptions	Required Specification	Quoted Specification
Brand name:	Please Specify	
Country of origin	US/EU	
Country of Manufacture	Please Specify	
Load Capacity	Please Specify (Min^{m}.5 Ton)	
Lifting Capacity	Please Specify (Min^{m}7 Feet)	
Dimension	Please Specify	
Horizontal arm extension	Minimum 1000 mm	
Features	• Should have hydraulic motorized vertical movement • Dynamic weight should be displayed analog/digital form.	
Sample Picture		
Warranty	03 years full	

m) Portable KVM

i) Portable KVM with single Display (03 units)

Descriptions	Required Specification	Quoted Specification
Brand name:	Please Specify	
Country of origin	US/EU	
Country of Manufacture	Please Specify	
Portability	Must have Wheel to move freely	
Display	21” Full HD (specify Brand)	
USD Key-Board with PS2 converter	01	
USD Mouse with PS2 converter	01	
Power-strip		
Sample		
Warranty	03 years full	

ii) Portable KVM with dual Display (04 units)

Descriptions	Required Specification	Quoted Specification
Brand name:	Please Specify	
Country of origin	US/EU	
Country of Manufacture	Please Specify	
Portability	Must have Wheel to move freely	
Display (02 units)	21" Full HD (specify Brand)	
USD Key-Board with PS2 converter	02	
USD Mouse with PS2 converter	02	
Sample		
Warranty	03 years full	

i) Portable Laptop Stand (03 units)

Descriptions	Required Specification	Quoted Specification
Brand name:	Please Specify	
Country of origin	US/EU	
Country of Manufacture	Please Specify	
Portability	Must have Wheel to move freely	
		
Warranty	03 years full	

n) Contamination Control Mats (Quantity: 120)

Descriptions	Required Specification	Quoted Specification
Brand name:	Please Specify	
Country of origin	US/EU	
Country of Manufacture	Please Specify	
Dimension	24” X 36”	
Sheets per mat	30	
Available Color	Please Specify	
Sample		
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Certificates	Machine must comply tier-4 compliance (Uptime Institute/epi) in all aspects	
Warranty	Three (03) years full warranty	

Category-5: Data Center Design Validation and Tier-3 Certification

a) Design Validation and Certification

Requirement:

i) **Design validation:** Tier-4 from Uptime Institute/*epi*
ii) **Data Center Certification:** Tier-3 from Uptime Institute/*epi*

Type-1 (Vendors participated in category 1-5):

- Vendor has to quote products (category 1-5) fulfilling the requirements of tier-3/4 certification from Uptime Institute/epi in all aspects.
- Detailed drawing with **Tier-4 design certification from Uptime Institute/*epi*** within 30 days from the date of issuance of work-order.
- After completion of Data Center vendor has to take necessary measure to get a **tier-3 Data Center Certification from Uptime Institute/*epi***.

Type-2 (Vendors participated only in category-5):

DBBL will provide a list of the quoted items other categories and associate implementation plan. Vendor has to provide

- Detailed drawing with **Tier-4 design certification from Uptime Institute/*epi***.
- After completion of Data Center vendor has to take necessary measure to get a **tier-3 Data Center Certification from Uptime Institute/*epi***.

b) Training

<table>
<tr><th colspan="2">Requirements</th><th>Quoted Specification</th><th>Remarks</th></tr>
<tr><td>1.</td><td>Vendor has to provide training arrangement for the following exams along with exam expenditure:-
<table>
<tr><th>Training</th><th>No. of Participants</th></tr>
<tr><td>Certified Data Centre Professional (CDCP)</td><td>06</td></tr>
<tr><td>Certified Data Centre Specialist (CDCS)</td><td>04</td></tr>
<tr><td>Certified Data Centre Expert (CDCE)</td><td>02</td></tr>
</table></td><td></td><td></td></tr>
<tr><td>2.</td><td>A detailed training plan with specifications for training courses, schedules, site and requirements must defined.</td><td></td><td></td></tr>
<tr><td>3.</td><td>The trainer should be from the OEM and should have at least one year of expertise in the specific domain on which training is being delivered.</td><td></td><td></td></tr>
<tr><td>4.</td><td>In case of overseas training all training expenses like airfare, hotel, fooding, lodging, etc. have to be borne by the vendor.</td><td></td><td></td></tr>
<tr><td>5.</td><td>Training documentation have to be provided</td><td></td><td></td></tr>
</table>

Category-6: Lift

a) Passenger lift

Quantity: 01

Description	Required Specification	Quoted Specification
General Specifications		
Name of Brand	Please Specify	
Name of Model	Please Specify	
Country of Origin	USA/EU/Japan/South Korea	
Country of Manufacture	USA/EU/Japan/South Korea	
Technical Specifications		
Travel Height	Minimum 128 Ft.	
Capacity of the Lift	10 Persons Carrying Capacity or 1000 kg (whichever is HIGHER)	
Speed of the Lift	Minimum1.5 meter/sec.	
Shaft Size	6' (W) X 6'-6" (D)	
Door Height	Minimum 8.5 Ft.clear	
Ceiling Height	Minimum 9.5 Ft. clear	
Door Width	Minimum 4 Ft. clear	
Car Height	Minimum 9.5 Ft. clear	
Car Width	Minimum 5 Ft. clear	
Car Depth	Minimum 5.5 Ft. clear	
Pit Depth	Please specify	
Over Head	Please specify	
Number of Stops & Opening	08 (eight) Stops & Openings. Floor height is variable. So Openings must be adjustable.	
Type of Motor	Please Specify	
Capacity of Motor	Please Specify (H.P./KW)	
Door Opening	Please Specify	
Door Sensor	Full door depth (8.5 Ft.)	
Lift Acceleration	Please specify in Meter/sec^2	
Lift Jerk	Please specify in Meter/Sec3	
Door Weight	Please specify in Kg.	
Door opening Velocity	Please specify in Meter/sec	
Door closing velocity	Please specify in Meter/sec	
One floor traveling time (Door Close, travel, door open) Floor height 3600mm.	Please specify in Sec	
Motor starting delay time	Please specify in Sec	
Motor stopping delay time	Please specify in Sec	
Average leveling delay	Please specify in Sec	
Evacuation Device	Please specify	
Car Frame	Structural stainless Steel	
Cabin Wall	Stainless Steel Hairline Finish.	
Cabin Floor	Hard Metallic floor to carry at least 1500 kg	
Ceiling & Lighting of Cabin	Decorative Ceiling of LED Light.	
Stainless Steel Handrails at	Round handrails in 3 sides.	

Cabin		
Mirror at Cabin	01(one) Full Height Mirror at Rear Wall of Cabin.	
Fan at Cabin	01(one) Fan at Ceiling of Cabin.	
Emergency Light	Emergency Lighting on Car Operation Panel.	
Safety Sensor Gate	Full Height Light Gate (safety sensor).	
Intercom	Intercom at 3 Stations (built in speaker).	
Over Load Indicator	Digital Numerical Overload Indicator at cabin.	
Effect of Over Loading	If over loading occurs, door will not close & lift will not move.	
Car Positioning Indicator	Digital numeral indicator with travel arrows.	
Hall Position Display	On each floor, above each set of lift doors, or on font wall there shall be a recessed alpha numeric dot matrix hall position display unit with satin finish linseed stainless steel flange plat. The display unit shall provide the following indication: i) Current floor location of lift car ii) Direction of travel of lift car. iii) Operational messages (eg. “Out of Service”). iv) Time display	
Call Button	A recessed call button panel shall be situated next to each set of lift doors on each floor. All call button panels shall be engraved with the warning “In Case of Fire Do Not Use Lifts”. The call button panel shall comprise two recessed buttons which, when pressed, shall illuminate to show requested direction of travel. All buttons shall be of the micro-movement type. The hall button front panel shall be satin finish stainless steel. Recessed wall boxes shall be of rigid construction and manufactured from minimum 2mm thick mild steel.	
Electronic Gong	An electronic gong shall be installed at each lift on each floor to alert waiting passengers of the arrival of the lift car at the floor. The electronic gong shall be concealed from view.	
Car Operating Panel	The lift car shall incorporate a recessed	

	car operating panel. The car operating panel shall provide the following features: • An engraved maximum load and passenger capacity sign. • Overload indicator with buzzer. • Emergency stop button. • Alarm button. • Key switch for priority control. • Door close button. • Door open button • Recessed compartment with telephone and hinged door. • Alphanumeric dot matrix floor indicator. • Light key switch. • Fan key switch. • An illuminated press button with numeral for each floor served. All buttons shall be micro movement type. The recessed car operating panel shall have a satin finish linseed stainless steel fascia panel.	
Type of Rope	Please Specify (Must meet the quoted Lift loading requirement).	
Speed Governor & Safety Gear	Availability of Speed Governor & Safety Gear at the Lift.	
Control Panel	Micro Processor based frequency inverter & availability of duplex facility.	
Main Power	AC 400V (±10%), 3 Phase, 50Hz.	
Voltage stabilizer	To be quoted (Please mention the technical specification)	
UPS	Should be capable to travel down the lift to the nearest floor and open the door during any power failure. (Please mention the technical specification)	
Machine Room	Please specify the machine room requirements	
Access Control System	Must be capable to integrate with central access control system	
Building Management System (BMS)	Must be capable to integrate with Building Management System (BMS)	
Control system	Shall be Simplex/Duplex/Quadruplet collective selective with fully programmable microprocessor control,	

	designed for optimum, efficient & energy saving elevator operation. All controls shall always be equipped with an alarm device in machine room, car & maintenance control on car top	
Safety features	• Non contact electronic full height door safety sensor, power supply phase reversal protection, friction clutch to avoid passengers to be trapped between doors. • Emergency unlocking of door from landing for evacuation as well as for maintenance with a special key. • Facilities for opening of door from inside the car within the landing zone during power failure. • The gap between the car & the hoist way shall be maximum 30mm.	
Evacuation features	Feature for moving the car manually to the nearest lower landing door to facilitate evacuation of passenger in case of power failure.	
Additional features in the cabin	• 3 side hand rails of polished stainless steel • Battery operated emergency power supply system shall be good tosupply power to car light, ventilation fan, intercom, buzzer etc. during 30minutes of power failure and charged by trickle charger battery. • Remote location emergency signal bell, speaker, preferably at maintenance room from lift cabin. • Wall mounted LCD monitor to display special announce, advertisement, news from remote station. • Stop the lift to a nearer for and keep open the door on receive of seismic signal over a predetermined rector scale. • Gong before stopping the	

	selected floor • Floor beam light to detect passenger call for lift and by pass the call onno person in front of lift. • Auto voice announcement system • VIP operation • Up & Down Peak Operation • The wrong floor selection can be cancelled by re-pressing the car call twice. • All the lift control shall be compatible to BMS control system to monitor the lift traffic. • Each lift car shall have self-contained AC system	
Traveling cable, wiring	Flat traveling cables having conductors adequate in size & number	
Electrical Cable Conduit	All electrical cables shall go through PVC conduits in machine room & shaft. The ckt. Which supply current to the motor shall not be included in any twin or multi core traveling cable used in connection with the control & safety devices.	
Suspension rope	Rope shall be of bright steel wires with fiber cores as per international standards capable to take 14 times the total weight of lift with full occupancy.	
Safety gear	Gradual type safety gear actuated by the speed governor to be installed in the machine room above the hoist way. In order to stop the car quickly & safely in case of exceeding 10% of designed speed during down ward travel for any reasons (i.e. breakages of all suspension elements).	
Fire mode	On signal from fire panel all the car shall come down to entrance floor and keep door open automatically.	
Automatic Voltage Regulator	Please Specify as per Lift requirement	
Total Power Consumption	Please Specify	
Site Visit	Vendor must visit the site and check all the parameters for the quoted product.	
Electrical Works	All electrical equipment and installation	

	required to run the Lift have to be provided by the bidder.	
Spare Parts	Vendor must ensure the spare parts for the quoted product at least for 20 years.	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Warranty	Three (03) years full warranty	

b) Cargo lift

Quantity: 01

Description	Required Specification	Quoted Specification
General Specifications		
Name of Brand	Please Specify	
Name of Model	Please Specify	
Country of Origin	USA/EU/Japan/South Korea	
Country of Manufacture	USA/EU/Japan/South Korea	
Technical Specifications		
Travel Height	Minimum 128 Ft.	
Capacity of the Lift	10 Persons Carrying Capacity or 2500 kg (whichever is HIGHER)	
Speed of the Lift	Minimum 1.5 meter/sec.	
Shaft Size	7' (W) X 9' (D)	
Door Height	Minimum 8.5 Ft. clear	
Ceiling Height	Minimum 9.5 Ft. clear	
Door Width	Minimum 5 Ft. clear	
Car Height	Minimum 9.5 Ft. clear	
Car Width	Minimum 6 Ft. clear	
Car Depth	Minimum 7 Ft. clear	
Pit Depth	Please specify	
Over Head	Please specify	
Number of Stops & Opening	08 (eight) Stops & Openings. Floor height is variable. So Openings must be adjustable.	
Type of Motor	Please Specify	
Capacity of Motor	Please Specify (H.P./KW)	
Door Opening	Please Specify	
Door Sensor	Full door depth (8.5 Ft.)	
Lift Acceleration	Please specify in Meter/sec^2	
Lift Jerk	Please specify in Meter/Sec3	
Door Weight	Please specify in Kg.	
Door opening Velocity	Please specify in Meter/sec	
Door closing velocity	Please specify in Meter/sec	
One floor traveling time (Door Close, travel, door open) Floor height 3600mm.	Please specify in Sec	
Motor starting delay time	Please specify in Sec	
Motor stopping delay time	Please specify in Sec	
Average leveling delay	Please specify in Sec	
Evacuation Device	Please specify	
Car Frame	Structural stainless Steel	
Cabin Wall	Stainless Steel Hairline Finish.	
Cabin Floor	Hard Metallic floor to carry at least 3000 kg	
Ceiling & Lighting of Cabin	Decorative Ceiling of LED Light.	
Stainless Steel Handrails at	Round handrails in 3 sides.	

Cabin		
Mirror at Cabin	01(one) Full Height Mirror at Rear Wall of Cabin.	
Fan at Cabin	01(one) Fan at Ceiling of Cabin.	
Emergency Light	Emergency Lighting on Car Operation Panel.	
Safety Sensor Gate	Full Height Light Gate (safety sensor).	
Intercom	Intercom at 3 Stations (built in speaker).	
Over Load Indicator	Digital Numerical Overload Indicator at cabin.	
Effect of Over Loading	If over loading occurs, door will not close & lift will not move.	
Car Positioning Indicator	Digital numeral indicator with travel arrows.	
Hall Position Display	On each floor, above each set of lift doors, or on font wall there shall be a recessed alpha numeric dot matrix hall position display unit with satin finish linseed stainless steel flange plat. The display unit shall provide the following indication: v) Current floor location of lift car vi) Direction of travel of lift car. vii) Operational messages (eg. "Out of Service"). viii) Time display	
Call Button	A recessed call button panel shall be situated next to each set of lift doors on each floor. All call button panels shall be engraved with the warning "In Case of Fire Do Not Use Lifts". The call button panel shall comprise two recessed buttons which, when pressed, shall illuminate to show requested direction of travel. All buttons shall be of the micro-movement type. The hall button front panel shall be satin finish stainless steel. Recessed wall boxes shall be of rigid construction and manufactured from minimum 2mm thick mild steel.	
Electronic Gong	An electronic gong shall be installed at each lift on each floor to alert waiting passengers of the arrival of the lift car at the floor. The electronic gong shall be concealed from view.	
Car Operating Panel	The lift car shall incorporate a recessed	

	car operating panel. The car operating panel shall provide the following features: • An engraved maximum load and passenger capacity sign. • Overload indicator with buzzer. • Emergency stop button. • Alarm button. • Key switch for priority control. • Door close button. • Door open button • Recessed compartment with telephone and hinged door. • Alphanumeric dot matrix floor indicator. • Light key switch. • Fan key switch. • An illuminated press button with numeral for each floor served. All buttons shall be micro movement type. The recessed car operating panel shall have a satin finish linseed stainless steel fascia panel.	
Type of Rope	Please Specify (Must meet the quoted Lift loading requirement).	
Speed Governor & Safety Gear	Availability of Speed Governor & Safety Gear at the Lift.	
Control Panel	Micro Processor based frequency inverter & availability of duplex facility.	
Main Power	AC 400V (±10%), 3 Phase, 50Hz.	
Voltage stabilizer	To be quoted (Please mention the technical specification)	
UPS	Should be capable to travel down the lift to the nearest floor and open the door during any power failure. (Please mention the technical specification)	
Machine Room	Please specify the machine room requirements	
Access Control System	Must be capable to integrate with central access control system	
Building Management System (BMS)	Must be capable to integrate with Building Management System (BMS)	
Control system	Shall be Simplex/Duplex/Quadruplet collective selective with fully programmable microprocessor control,	

	designed for optimum, efficient & energy saving elevator operation. All controls shall always be equipped with an alarm device in machine room, car & maintenance control on car top	
Safety features	• Non contact electronic full height door safety sensor, power supply phase reversal protection, friction clutch to avoid passengers to be trapped between doors. • Emergency unlocking of door from landing for evacuation as well as for maintenance with a special key. • Facilities for opening of door from inside the car within the landing zone during power failure. • The gap between the car & the hoist way shall be maximum 30mm.	
Evacuation features	Feature for moving the car manually to the nearest lower landing door to facilitate evacuation of passenger in case of power failure.	
Additional features in the cabin	• 3 side hand rails of polished stainless steel • Battery operated emergency power supply system shall be good to supply power to car light, ventilation fan, intercom, buzzer etc. during 30minutes of power failure and charged by trickle charger battery. • Remote location emergency signal bell, speaker, preferably at maintenance room from lift cabin. • Wall mounted LCD monitor to display special announce, advertisement, news from remote station. • Stop the lift to a nearer for and keep open the door on receive of seismic signal over a predetermined rector scale. • Gong before stopping the	

	selected floor • Floor beam light to detect passenger call for lift and by pass the call on no person in front of lift. • Auto voice announcement system • VIP operation • Up & Down Peak Operation • The wrong floor selection can be cancelled by re-pressing the car call twice. • All the lift control shall be compatible to BMS control system to monitor the lift traffic. • Each lift car shall have self-contained AC system	
Traveling cable, wiring	Flat traveling cables having conductors adequate in size & number	
Electrical Cable Conduit	All electrical cables shall go through PVC conduits in machine room & shaft. The ckt. Which supply current to the motor shall not be included in any twin or multi core traveling cable used in connection with the control & safety devices.	
Suspension rope	Rope shall be of bright steel wires with fiber cores as per international standards capable to take 14 times the total weight of lift with full occupancy.	
Safety gear	Gradual type safety gear actuated by the speed governor to be installed in the machine room above the hoist way. In order to stop the car quickly & safely in case of exceeding 10% of designed speed during down ward travel for any reasons (i.e. breakages of all suspension elements).	
Fire mode	On signal from fire panel all the car shall come down to entrance floor and keep door open automatically.	
Automatic Voltage Regulator	Please Specify as per Lift requirement	
Total Power Consumption	Please Specify	
Site Visit	Vendor must visit the site and check all the parameters for the quoted product.	
Electrical Works	All electrical equipment and installation	

	required to run the Lift have to be provided by the bidder.	
Spare Parts	Vendor must ensure the spare parts for the quoted product at least for 20 years.	
BOM	BOM to be attached with technical compliance of each item	
Product Brochure	Product Brochure to be attached with technical compliance of each item	
Warranty	Three (03) years full warranty	

General:

- Standards:

  All equipment specified by this tender shall conform to the requirements of this specification equivalent British or European Standard, and the Local Statutory Authority having jurisdiction over the works.

  Maximum Platform Load: The maximum platform load which the lift is designed to sustain shall be equal to the sum of the load carried by the lift plus the load imposed by the industrial truck used only for loading and unloading.

  The maximum platform load shall be not less than the rated load of neither the lift nor more than 150% of the rated load.

  Where re-leveling is provided, the lift shall be capable of re-leveling the maximum platform load as shown on the load notice.

  The driving machine, motor, brake and traction shall be adequate to sustain and level the maximum platform load for which the lift is designed. This load shall be clearly shown on the load notice in the lift car.

- Accessibility of Equipment:

  All equipment specified by tender shall be accessible for operation and maintenance, and where necessary, shall include access ladders, platforms and associated equipment for the performance of such works.

- Detailed Shop Drawings:

  The Contractor shall submit detailed shop/construction drawings to be prepared prior to installation and approved in writing by the Owner. The shop drawings shall show all working dimensions and operating clearances of the lift shaft, car, machine room and pit for passenger, service & hydraulic lift.

  The performance characteristics and capacities of the lift equipment shall be as per schedule and the drawing.

- Special Tools:

  The Contractor shall supply special tools required for maintenance of the lifts and hand over these to the owner before the Final Certificate is issued. The tools shall be provided with a sturdy lockable box designed to last for the life of the plant. The tools may be used for erection provided they are finally handed over undamaged to the owner of the plant.

- Spare Parts:

  For trouble free operation list of spare parts shall be submitted, for each lift separately, by the tenderer specifying all parts necessary for the maintenance of all lifts over a period of Three years.

- Electrical supply:

  The lift contractor shall co-ordinate with the Electrical Services Contractor in providing required sizes of Power/Control cable up to lift motor room switchboard. Lift contractor has the assist the electrical contractor to keep correct electrical provision for the lift.

Quality Control

- Uniformity and Quality of Materials

Uniformity of type and manufacture of each individual item of apparatus, fitting and/or accessory shall, as far as possible, be preserved throughout the whole of the works. All the component of lift preferably should be from the country of origin.

All materials shall be new, of the best quality and of the class most suitable for the purpose specified.

The contractor shall keep in mind that continuity of operation of the apparatus is of paramount importance and components shall be chosen primarily from consideration of recorded reliability under similar operating and environmental conditions.

No prototype equipment will be accepted.

The contractor shall submit samples of relevant components such as Hall Position Display unit, call buttons, Car Operating Panel etc. to confirm quality of workmanship and finishes for approval by the Owner prior to shipment and installation.

Co-ordination with Other Services

The contractor shall have to co-ordinate with contractors of other specialty during execution of the work and may have to re-schedule his time table if required.

Painting and Finishes:

- General Workmanship:

All materials used in the fabrication of the lifts shall be treated, handled, applied and finished in accordance with the lift maker's recommended practices.

Finishes shall be consistent in all lift in quality and workmanship.

All parts of the lift installation, except those were finishes such as stainless steel, Formica etc. are specified, shall be painted on site.

No coat shall be applied on any surfaces that are not clean and smooth or are wet, damp, rough, or greasy, or until the preceding coats are thoroughly dry, or on metal or any exposed work in wet and dusty weather.

All exposed ferrous metal parts of machine, car doors and other material in the hoist way including guide rail fixation brackets (except guide rails) will have one coat of rust protecting paint. Final paint over prime coating shall be done at work site by the supplier up to the satisfaction of the owner. All final paint shall be epoxy of approved quality.

Before painting of metal work is proceeded with, surfaces shall be cleaned of dirt, grease, rust etc. An ample supply of dustsheets shall be provided for protection of work during the painting, etc.

- Lift Equipment

All equipment shall be factory finished prior to delivery to site and shall be coated with grease or other protective material to minimize corrosion.

Exposed machinery in the machine room, shafts foundations and other permanent parts of the installation, including guide rails, trimmers, frameworks, brackets, supports, fixing and conduits shall be painted.

- Linseed Stainless Steel:

All linseed stainless steel shall be to a finish available from the supplier with vertical graining and constructed from stainless steel type 302 or 304.

- Preservation of Decorative Metal Finishes:

During shipment and installation every reasonable precaution shall be taken to preserve the decorative metal finishes, which shall be protected with a wax coating or protective wrapping. Upon completion of the installation work the surfaces so treated shall be cleaned down and where required polished.

- Maintenance of Finishes:

The contractor shall furnish the lift manufacturer's recommendations for the preservation and maintenance of the finishes to lift car interiors, landing frames and doors, landing buttons and lanterns. Three (3) copies of such recommendation shall be supplied.

Testing and maintenance:

- Testing

The lift installation shall be tested in accordance with the lift Code, and the Owner requirements. All testing shall be witnessed and verified by the Owner.

The contractor shall notify the Owner in writing one week prior to the commencement of tests.

Completion certificate of the lift installation will not be given until satisfactory test and commissioning results are submitted in writing and accepted by the Owner.

The contractor shall ensure that all facilities, labour, weights, apparatus, instruments, recording charts, etc. are provided for carrying out the tests.

The contractor shall ensure that:

- Thorough cleaning of lift machine rooms, lift cars, shafts and equipment, door locks and tracks, etc. has taken place prior to commencement of the testing of the lifts.
- Adequate protection of the above areas and systems is provided during and after the testing period to reduce the incidence of system malfunction.
- The intercommunication systems are in full working order before testing is carried out,
- All landing call buttons and lanterns and indicating devices are operating correctly,
- All doors are operating smoothly and correctly.
- All noises in cars and shafts have been eliminated and that the car ride is smooth and leveling is accurate.

- Tuning:

Each lift shall be completely tuned and system proven prior to hand over.

- Maintenance:

The contractor shall produce, in conjunction with the lift manufacturer a schedule of maintenance activities for 52 weeks maintenance guarantee period.

During this period the contractor shall ensure that all maintenance is carried out satisfactorily by him.

The contractor shall prepare a report stating that all works in accordance with the comprehensive and detail schedule has been carried out. One copy of which shall be displayed in the motor room and a duplicate copy shall be lodged with the owner.

All routine maintenance items as scheduled, shall be initialed and dated in the appropriate column, of the maintenance schedule by the person carrying out the work.

The works shall include the replacement of fluorescent tubes and lamps in lift shafts and motor rooms and keeping lift motor rooms and overrun pits in a clean and tidy condition free of accumulated rubbish.

Documentation for Operation & Maintenance Instructions and Manuals:

- General:

The contractor shall submit Operating and Maintenance instructions and Manuals in accordance with the following specification:

All instructions, manuals, labels on equipment and the like shall be written in English, with quantities stated in SI units.

The following diagrams and instruction shall be provided on fade proof material and mounted in positions to be nominated by the owner.

a) Operating procedures for the lifts, and in particular operating instructions during emergencies or power failure.
b) A set of concise operating and maintenance instructions with detailed description of the operation of all the control systems.
c) Test report covering commissioning and works testing.

- Operating and Maintenance Manuals:

Comprehensive 'Operating and Maintenance Manuals' shall be compiled for all lifts installed. Three (3) sets of such package of the manual are required to be submitted.

A draft of the proposed manuals shall be submitted to the Owner for assessment not less than four (4) weeks prior to the date of practical completion. A further draft copy of each manual shall be submitted for approval by the Owner prior to final printing. After approval, the completed manuals shall be compiled and supplied not later than the practical completion of the work.

- Presentation:

Manuals shall be of international A4 size, with stiff plastic covers. The binding shall be of the loose leaf type with all pages machine punched and shall permit pages to lie flat to enable easy insertion and removal of pages.

Drawings, illustrations, diagrams and photographs shall appear on sheets of a height not exceeding the major dimension of other pages.

Electrical/Electronic wiring drawings shall be laminated in A3 size and fixed securely to the wall inside the lift motor room in a prominent position.

Each section shall be started on a new page, separated from other section by stiff indented divider. Each paragraph shall be numbered or otherwise identified for quick and easy reference.
Each manual shall contain the information shown below set out in logically divided sections including the following:

- Scope and Contain
- Emergency information
- General Equipment Description
- Controls Operating Instructions
- Maintenance and Repair Instructions
- Equipment Suppliers and Spare Parts Schedule
- Equipment Data Schedules
- As Built Drawings.
- Test Data Sheets

Sufficient illustration diagrams, drawings, pamphlets and photographs shall be included for the efficient operation, maintenance and repair of the various plants and equipment.

TECHNICAL SPECIFICATION:

Scope:

This part of the specification contains performance and capacity requirements for 02 numbers of lifts

Hoisting Machines:

The hoisting machine shall comprise a geared traction machine with a direct coupling through a worm gear and drive arrangement to a variable speed alternating current motor. The brake system shall form an integral part of the drive arrangement.

a) Power supply

400 Volts (± 10%) 3 Phase 50 Hz and
230 Volts (± 10%) 1 Phase 50 Hz.

b) Emergency Supply:
Emergency battery along with auto-charger of 30 minutes capacity shall be supplied to feed emergency light, ventilation fan, alarm and intercom system in case of power failure.

This supply shall also be used to travel the lift to the nearer lower landing level in case of power failure.

Hoisting Machines and Associated Equipment:

Hoisting machines drive motors and generators shall be suitably sized to provide the required duty.

a) Base Frame:

The machine shall be mounted on a common rigidly formed base structure. The machine shall be of robust and compact design, providing ready access to all working parts and lubricating points.

b) Brake:

The brake shall be spring applied and magnetically released and brake shoes shall be self aligning, easily adjustable with renewable, non-combustible linings. The brake assembly shall be smooth and quiet in operation and shall transmit no sudden impulses to the car.

The car shall be stationary or very close to being stationary before the brake is applied.

c) Sheave:

Hoisting and diverting sheaves shall be precision machined and grooved so as to provide uniform traction quiet running and long rope lift. Shaft of diverting sheaves shall be supported in brackets fixed to the machine beams or machine bed-plate and shall be suitably locked in position to prevent shaft rotation.

Motor Generator:

Motor generator sets shall be of unit type construction incorporating both the AC motor and DC Generator on a single frame.

Over Speed Governor:

The speed governor shall be of robust construction with a minimum of moving parts. The governor shall be designed to continuously and accurately monitor the speed of the car with immediate response to over speed conditions.

The governor shall be adequately supported to withstand all loads to which it may be subjected during normal application of the safety gear.

The governor shall operate quietly and in the event of tripping shall mechanically clamp the governor rope without causing damage to the rope or subjecting it to undue wear.

Machine Room Equipment:

a) Temperature Limit

All the equipment with controls shall be able to operate at 40° Celsius ambient temperature without any problem. Machine room shall be conditioned to 25° C & 50-65% RH, with split air conditioning system.

b) Machine Beams:

All machine beams shall be cast into the floor slabs or sit on plinths.

Where machine beams are to be attached to structural steel members, the method of attachment shall be approved in writing by the Owner.

Close all apertures between machine beams and over shafts, etc. with removal checker plate covers painted black.

c) Machine isolation:

Provide all necessary arrangement to keep noise and vibration of lift machinery and equipment at a minimum level. All the lift driving motor shall be mounted on spring isolator as shown in the drawing.

Machine and other support beams shall be sound isolated from the main building structure.

Isolating pads shall be designed to support the weight of the equipment without undue compression and shall be impervious to oil, water and other foreign substances with which they may come in contact.

Lift Switchboard:

The switchboard shall be of sheet steel construction and front connected type with main switches, circuit breakers, fuses and control switches and shall be provided with suitable termination for accepting the incoming sub-mains.

Under all variation of load, pressure, ambient and atmospheric conditions the switchboard and associated components shall give satisfactory performance.

Components shall be capable of withstanding all fault levels, overloads and short circuit conditions without causing any mechanical or electrical damaged to Bus Bars, wiring or equipment associated with the switchboard.

All cables entering the switchboard shall be fitted with cable glands.

The Switchboard shall be painted X-15 Orange Gloss or approval alternative.

Control and Relay Cubicles:

Cubicles shall be of the front access type with hinged doors of sheet steel construction. Equipment inside the cubicles shall rigidly fix and air shall be allowed to flow free around that equipment.

All sub-circuit and control cabling shall be looped and run in a neat and tidy manner. All wiring entering control and really cubicles shall be fitted with cable glands.

Switch Gear:

All relay, contractors, switchgear and printed circuit boards shall be specially designed for use with lift machinery and applicable for environmental conditions.

Connected to print circuit boards shall be via disconnecting able plugs. Direct soldering of wiring to printed circuit boards is acceptable. All equipment shall be suitable for operating under high ambient temperature without faults, under arcing or vibration.

Labeling:

The Switchboard, cubicles and equipment shall be labeled clearly and each cubicle shall be labeled externally.

Label shall be made of white surface sandwich ivories or trifoliate material engraved to black laminate level, fixed with chromed screws and nuts. Self taping screws and adhesives are unacceptable.

Guards:

All the equipment mainly moving parts in the equipment room, counter weight etc. shall be provided with adequate guards. All floor punches for ropes etc. shall be provided with coatings. Rope nip-points governor tension sheaves shall be adequately guarded.

Machine Room Wiring:

All wiring shall be run overhead cable ladders and ladders shall be run in truly horizontal and vertical plains. Suitable suspension hangers shall be provided as required.

Manual Winding Equipment:

Manual winding equipment shall be supplied and installed in the suitable place to enable each car to be moved to the nearest floor in the event of breakdown.

Access Ladders:

Ladders, handrails, kick rails to secondary floor etc. shall be included to facilitate the efficient services of the lift.

Maintenance Cabinet:

A lockable cabinet of a suitable size shall be provided to accommodate different spare parts, tools etc. The type of construction, materials and finishes shall be as per control and relay cubicles.

Wiring Diagrams:

One complete set of schematic wiring diagrams for the lift installed shall be provided.

All diagrams shall be A3 size and laminated envelopes. The diagrams shall hang from a suitable support fixed to wall in a prominent position.

Car and Landing Equipment:

a) Car Size:

Car size shall be as per schedule of items and as per drawings. Car size shall be selected by the Manufacturer good to accommodate within the shaft provided.

b) Car frame:

Car frame shall be of welded and bolted structural steel sections of adequate strength and rigidity to withstand deformation from eccentric or impact loading. The passenger lift car frames and flooring shall be designed for the particular class of loading relative to the proposed usage of the lift.

The hydraulic lift car frame shall be carried in a heavy duty rust proof steel car frame sufficiently rigid to withstand the operation of safety gears without permanent deformation to the car.
The overall design of the car will have elastic isolators between metal parts to ensure low vibration and low noise during travelling.

Equipment such as door operators, hangers, retiring cams, etc. shall be supported by the car framework, independent of car superstructure.

A toe guard of sufficient length shall be secured to the car frame to keep no opening into the lift well when the car is in the leveling zone.

The overall design of the car will have provision for elastic isolators between metal parts to ensure low vibration and low noise during car travel.

Car frame members of lift, including shafts for sheaves, shall be capable of sustaining the weight of the car and its associated equipment, static loading, inertia forces, loading due to traveling cables, rope or chain compensation sheave lockdown, etc.

In designing car frame members the relevant static loading shall be considered as rated load distributed over one-half of the area of the platform adjacent to the side, for each side.

c) Car Superstructure:

The car superstructure shall be vibration and sound isolated from the main structural car frame.

Particular attention shall be taken in the method of suspension of care, quality of car ride, vibration and noise.

Poor quality car rides will not be acceptable.

The car superstructure shall utilize best quality materials of a good wearing and durable nature, easy to be maintained and cleaned.

An emergency access manhole in the ceiling shall be provided.

The car front wall comprising car control panels, door jamb, over door panel and doors, shall be of satin finish linseed stainless steel.

Cars shall be suitably constructed to retain its shape and appearance during normal service, safety tests and operation of safety equipment.

All wall and ceiling surfaces and joints shall be truly aligned and straight. All ceiling and wall panels shall be removal from the inside of the cars.
One set of non-combustible padded protection quilts shall be provided for each of the side and rear walls of a lift car and shall be held in position with suitable fittings fixed to the walls with concealed fixings.

On top of the car, a 240 Volt light fitting locally controlled shall be provided. In addition, a light fitting shall be provided on the underside of the car with the switch located in an easily accessible position.

d) Hand Rail:

All lifts shall be provided with handrails of anodized light metal section on two side walls. A mirror from handrail level up to the ceiling and full width of the deck at the rear wall shall be provided.

e) Car Ventilation:

Lift cars shall be adequately ventilated by a suitably sized supply air fan mounted on top of the car and delivering approximately $10m^3$ of air per minute through a duct system designed to ensure that the air is uniformly distributed the car without excessive noise, draughts or turbulence.

The fan shall be silent operating type set on vibration free mountings and with flexible duct work connected to the car. Car shall be taken in the selection of the type of fan and the method of mounting to ensure that the fan is quiet when running.

The fan shall be powered from the lift distribution board.

f) Car Lighting:

Car ceiling shall be completely and evenly illuminated by recessed fluorescent lighting or approved type of lighting.

All light fittings shall be completely sealed to prevent ingress of dust and moisture from the shaft.

An emergency lighting system shall be provided above the car door for recognition of the surroundings. The system shall operate automatically whenever the power supply to the normal lighting fails.

It shall provide good general illumination of the car of sufficient intensity to distinguish the call buttons, emergency alarm button and telephone dial, where provided and shall be maintained for a period of up to four hours.

On reconnection of the normal lighting, the emergency light shall be automatically switched off and the battery recharged on full capacity by an electronic battery charger. The emergency light shall be completely concealed.

No bar lamps shall be installed in the lift car interior.

g) Car Fan:

A car fan will be given with a push button with fan symbol in the car panel. The fan is switched On/OFF with alternate push of the button.

Car and Landing Doors:

Doors shall be of robust pressed steel construction. Car and landing door shall be covered on the internal side and leading edge with satin finished stainless steel.

Car and landing doors for lift shall be double panel centers opening. The real ace of doors shall be corrosion resistant furniture quality steel.
Landing doors shall be fitted with heavy duty sight guards finished to match leading edges of doors. Doors shall be fitted with hangers, tracks, pulleys, locks and where required, counterweights.
All conduits and door linkages, etc. shall be fully concealed in such a manner that they cannot be seen by passenger entering and leaving cars.

a) Landing Door Frames:

Door frames shall rigidly form from pressed steel and all welds shall be ground smooth and free of pit marks.

Door frames shall conform to the standard detailed profiles and shall be of a linseed stainless steel finish. Door frames shall be securely fixed in position and mounted true and level.
Grout stops shall be provided where required.

Landing Sills: Landing sills shall be securely fixed to the door frames to form an integral part of the door frame assembly, and shall be designed to accept the rated point load of the lift.

Landing sills to be of a durable material and finished to resist scuff marks caused by foot and trolley traffic.

Lift well access devices shall be fitted at highest & lowest floors & elsewhere as required for emergency situation or for maintenance.

b) Door Operation:

Car and landing doors shall be operated through a linkage system by a heavy duty AC electric motor.

The door operator shall be mounted on the car, above the opening, and shall be supported off the car frame members.

The operator shall act to open or close both car and landing doors simultaneously.

Door operators shall provide smooth, quiet and rapid door operation. All components shall provide long lasting performance with minimum of maintenance.

High speed heavy duty door operation with same opening and closing speeds shall be provided. Door will be driven by a quiet ACVVVF motor connected to a door operating system. Car and landing doors will open and close in full synchronization being connected to each other.

Door motors shall be effectively protected against burn-out or other damage which may arise from the doors stalling, becoming jammed or being held, manually or otherwise during their opening or closing operation.

In case of power interruption or failure of the operator, it shall be possible to open the doors manually from within the car or from outside the car.

c) Safety Measures:

The gap between the car and the hoist way door will not be more 30mm. Emergency unlocking from landing for evacuation as well as for maintenance shall be performed by special key.

d) Door Control:

Door shall be fitted with the latest type controls to achieve maximum efficiency relative to the type of usage of the lift and system operation.

Doorways shall be fitted with detector, curtain of light or twin ray and safety fender type control and monitoring system.

All equipment shall be of robust construction and mounted such that it is not able to be subjected to abuse. However, equipment shall be readily accessible for adjustment or replacement of parts.

Where safety fenders are employed, the safety shoe shall be of a strong, durable material.

The doors and associated equipment shall operate quietly and smoothly without the transfer of vibration to the lift car.

If car and landing doors are held open at any floor more than a selected period, there shall be some audible device or other approved method to signify to passengers that the doors must be released. The doors shall then close slowly to “nudge” the passenger out of the doorway.

A friction clutch to avoid passengers to be trapped between doors shall be provided in each type. A door reversal feature in case of obstruction of doors shall be provided for all types of lift.

INSTALLATION, BALANCING, TESTING & COMMISSIONING:

The passenger, service & hydraulic lift with all accessories shall be installed as per direction, site condition and recommendation of the equipment manufacturer. All cutting, patching and mending well the damage shall be done up to the satisfaction of the engineer in charge.

After complete installation the system shall be tested as per recommendation of the manufacturer and test shall be done in presence of the Consultant. Three copies of test report shall be submitted without which final bill shall be with held.

Supplier must submit three sets of manufacturer’s original technical catalogues including installation manuals along with the offer.

Shop drawing and detail installation drawing matching with actual site condition shall be prepared by the contractor and shall get approved by the Consultant. The contractor will bear all the responsibility of matching the manufacturing of the equipment and accessories as per site condition.

Three copies of as built drawing, technical catalogue, operation and maintenance manual shall be submitted after satisfactory testing, commissioning and balancing.

Installation, balancing, testing, commissioning and maintenance work after commissioning for one year shall be incorporated.

The contractor shall ensure that all motor, bearing, all moving parts of the equipment including controls have been properly installed before the operation of machine or equipment. All safety protections of the system shall be tested individually in presence of the Consultant. Performance the control accessories such as thermostat, etc. shall also be tested individual. The contractor shall follow the test procedure of the manufacture.

Electrical system testing shall be done conforming to IEE regulation or NEC. System testing shall be done jointly with the Consultant.

- Balancing/ Trial Run & Commissioning:

It shall be the Contractor's responsibility to put the unit to work and to certify that the specified commissioning procedure have been carried out as per recommendation.

In preparing the program, the Contractor shall allow a commissioning period of at least two weeks prior to completion.

During the period, the Contractor shall complete all specified tests and adjustments so that all services are fully operational for hand over to the Authority.

On completion of testing the contractor shall inform the Authority about the final stage of commissioning and shall provide full facilities to the Consultant to witness the tests, but this shall not absolve the Contractor of his responsibility to carryout all the tests himself. To facilitate adjustment and regulation the installation must have been in operation for a reasonable period before the final tests are performed. The contractor shall be responsible for providing all instruments necessary for carrying out the commissioning tests.

After accepted testing and commissioning the Contractor shall clean all the equipment, filter, lubricate all the moving parts as required and do all the necessary work to put the system for 15 days trial operation. after accepted functional test of 15 days, the system shall be ready for hand over for yearly operation and maintenance.

All other standard testing, commissioning and balancing as per manufacturer's instruction shall also be done.

DOCUMENTATION:

Within seven days of work order the contractor has to submit detail installation and fabrication drawing on the basis of tendered drawing for approval. Fabrication detail drawing, site modification drawing etc. shall also be done by the contractor during construction work and submit to the Consultant for approval.
To maintain proper condition of installation the contractor may change the layout drawing as per approval of the Consultant.

The contractor has to modify the electrical layout drawing for the system as per actual requirement of the offered equipment and accessories. Detail of the panel drawing showing location of all components shall be submitted. Control system with sequential diagram shall be submitted which shall bear the approval of the Manufacturer.

Compilation of all the technical document including operation and maintenance manual, technical booklets for all the equipment etc. shall be done and three copies of them shall be submitted to the Consultant.

INSTALLATION, COMMISSIONING AND MAINTENANCE:

After instillation, testing and commissioning, maintenance works for one year, after commissioning shall be incorporated.

Lift Acceleration		Meter/sec^2
Lift Jerk		Meter/Sec3
Door Weight		Kg.
Door opening Velocity		Meter/sec
Door closing velocity		Meter/sec
One floor traveling time (Door Close, travel, door open) Floor height 3600mm.		Sec
Motor starting delay time		Sec
Motor stopping delay time		Sec
Average leveling delay		Sec

6.0 GENERAL TERMS AND CONDITIONS

a) The participant company must submit the offer in two envelope system. One envelope will contain the technical offer and the other envelope will contain the financial offer. The two envelopes must be covered in a large envelope. All the envelopes will contain the full name and address of the participant company. The name, address and telephone number of the contact person should be mentioned in the forwarding letter submitted with the technical offer.

b) The participating vendors must offer all the items in the RFP. Partial offer for the RFP will not be accepted.

c) Sealed proposals have to be submitted to the Head of IT Development Division of the bank on or before September 10, 2015 by 4.00 p.m. The technical offers will be opened at 4:15 p.m. on the same day in presence of bidders, if any. The evaluation technical and financial offer will be made later on.

d) **There are 06 (six) categories in this RFP i.e. i) Power Equipment, ii) Precision Air-conditioning System, iii) Network Cabling, iv) Data Center Setup equipment with Security and Monitoring, v) Design Validation and vi) Lift. Any bidder can go for all the categories or even a single category. But all items and technical requirements for the quoted category have to be addressed by the bidder. Partial offer for a single category would not be accepted.**

e) All the pages of the tender schedule as well as all the offered documents should be duly signed by the authority of the bidder.

f) Proper documents and data sheet have to be provided for indicating all the specification is present in the offered hardware which is stated in the required specification, features and description.

g) **1% (One percent) of the quoted price to be submitted with the offer through PO/BG in favor of "Dutch-Bangla Bank Limited" as earnest money for the period of one year**. If successful supplier fails to deliver, install and commission the hardware within the stipulated time, the earnest money will be forfeited. The pay order/ bank guarantee will have to be put in the financial offer. Validity of the Pay Order/ Bank Guarantee should not be less than one year.

h) The earnest money of the awarded vendor will be released after successful installation, configuration and operation of the hardware. However the earnest money of other bidders will be released after evaluation & decision.

i) All quoted price should include delivery, installation, testing and training cost and VAT, Tax, etc., if any.

j) Post live support and maintenance should be provided for a period of 03 (three) years after commissioning. No additional cost will be provided in this period.

k) No additional cost will be paid to integrate with Data Center Infrastructure Manager.

l) Warranty period will start after delivery, successful operation and Go live of the proposed system. The AMC will start after the end of the warranty period which is from the 4th year and payable at the end of each service year.

m) The successful company must submit original technical and user manuals of the hardware and software at the time of delivery of the system to the Bank.

n) Photocopy of all the relevant documents should be submitted with the offer including:

- Up to date Trade License
- Up to date GIR/TIN certificate
- Proof of experience as desired in the earlier section of this schedule

o) The offers should have validity for at least 6 (six) months.

p) All the prices should be mentioned in BDT and payment will also be made in BDT.

q) The authority reserves the right to relax, change or drop any of the terms and conditions of the schedule without any further notice.

r) The Bank shall not be under any obligation to accept the lowest quotation.

s) The Bank authority reserves the right to accept or reject any or all, in part or full offers without assigning any reason.

t) The terms of payment will be as under:

- 50% of the total work-order value after go live or as advance against Bank Guarantee of the same amount with a validity of one year. BG will be released after successful operation.
- 30% after 15 days of go live;
- Rest 20% after 03 months of go live;

u) The technical offer should also be submitted as softcopy in CD/DVD/Flash drive in Microsoft Word format with the technical envelop. All other relative documents should be present in CD/DVD/Flash as pdf document which are present in the technical offer envelope.

7.0 FINANCIAL OFFER:

1. Name of the Company :
2. Quoted price :

*The full specification of the item is as per Technical Offer

Category		Items*	Qty	Unit Price	Total Price
1.	a)	Modular Online UPS (250 KVA upgradable to 500 KVA)	04 units		
	b)	Back-up Online UPS (600 KVA)	02 units		
	c)	Automatic Voltage Stabilizer (1200 KVA)	02 units		
	d)	Power Distribution and electric cabling	01 set		
	e)	Rack Automatic Transfer Switch	20 units		
	f)	TVSS	04 units		
2.	a)	Air-cooled/Water cooled based chiller precision air- conditioning system (300 TR)	01 set		
	b)	Gas/refrigerant based precision air-conditioning system (400 TR)			
		Type-1: Under Raised Flow Cooling (300 TR)	01 set		
		Type-2: Over the Raise Floor (Up-flow) Cooling (100 TR)	01 set		
	c)	Gas/refrigerant based Industrial air-conditioning system (130 TR)	01 set		
	d)	Hot-aisle containment System	01 set		
	e)	Floor insulation	01 set		
	f)	Water Detection System (WDS)	01 set		
3.	a)	Network Cabling System	01 set		
	b)	Network Distribution Rack			
		Type-1: Rack with KVM	20 units		
		Type-2: Rack without KVM	15 units		
		Type-3: Wall Mount Rack	05 units		
	c)	Overhead hanging Tray for cabling	01 set		
4.	a)	Raised Floor			
		Type-1: 3 Ft. high steel understructure (10,000 sft.)	01 set		
		Type-2: 1.5 Ft. high steel understructure (4,000 sft.)	01 set		
	b)	NOC Set-up			
		Video Wall	01 Set		
		Work-station with Computer	01 Set		
	c)	Access Control System	01 set		
	d)	IP Surveillance System	01 set		

Category		Items*	Qty	Unit Price	Total Price
4.	e)	Very early smoke detection aspirating system (VESDA)	01 set		
	f)	Gas Suppression System (GFSS)	01 set		
	g)	Controlled electric lighting	01 set		
	h)	Data Center infrastructure Monitoring Software	01 set		
	i)	Civil work, Furniture & fixture	01 set		
	j)	Pest control (rodent) system	01 set		
	k)	Fire Hydrant System	01 set		
	l)	Fork-lift for Server Movement inside Data Center	04 units		
	m)	Portable KVM with dual Display	03 units		
	n)	Contamination Control Mats	120 units		
5.	a)	Tier-4 Design Validation and Tier-3 Certification	01 set		
	b)	Training	01 set		
6.	a)	Lift			
		Passenger Lift	01 unit		
		Cargo Lift	01 unit		
Grand Total					

Grand Total in Taka ……

B. AMC (which will start after 03 years warranty period).

a) **AMC (including spare parts and licenses) Charge per year:** …… % of work-order value (Must be quoted in the percentage of quoted value).

Seal & Signature
With Name of the participating vendor

[N.B. For proper installation of all the equipment, if any additional line item is required please add in the sequence of 2 onwards and quote for the sequence. No additional payment will be made beyond the quoted value]

8.0 REFERENCE SITE

List of major customers of proposed system or equivalent in last 03 Years and their references:

Sl. No.	Name and complete Address of the Customer	Name, Designation, Telephone, Fax, e-mail address of the contact person	Brief Scope of work (Project Summary)	Capacity of the system	Attach reference Letter
1	2	3	4	5	6

(Enclose necessary documentary proof)

*Provide Information in respect of at least 10 major customers who fulfill the qualification Criteria. References should be enclosed from these customers.

I/we solemnly declare that the statements made above are correct. I/We agree that any misstatement made by us, if detected later on, shall render our application unacceptable to the Bank.

(Signature)
(Name & designation of Authorized Signatory)
(Name & Address of the Bidder with Seal)

9.0 QUALIFICATION APPLICATION

(To be submitted on the pad of the bidder)

Name of bidder:

Contact Info (for query):

1. Latest Audited Balance Sheet: Please attach audited copies of summary of annual accounts of past 3 years. **Please do not attach Annual Report Booklet**).

2. Company Profile:
   a) About Company :
   b) About Directors :
   c) About Senior Management :
   d) Profile of employees to be engaged in this Project :

3. Net Sales (in respective currency):
   a) Current period :
   b) During the last financial year :
   c) During the year before last financial year :

4. Net Profit before Tax:
   a) Current period :
   b) During the last financial year :
   c) During the year before last financial year :

5. Bidder'sFinancial arrangements:
   a) Own Resources :
   b) Bank Credit :
   c) Others (specify) :

6. Certificate of financial soundness from Bankers of Bidders :

7. Income Tax clearance: Please enclose copies of following documents:
   a) Details of Income Tax registration :
   b) Last Income Tax clearance certificate :

8. Sales:

Item	Value of current orders to be executed	Value of anticipated sales for next financial year

(Enclose necessary documentary proof)

10.0 SUBMISSION FORM

(To be submitted on the pad of the bidder)

Head of IT Development Division Date:
Dutch-Bangla Bank
K.B. Square (5th floor),
736, Dhanmondi,
Dhaka-1209
Bangladesh.

Subject: **Submission of proposal for supply and installation of Infrastructure equipment (Automatic Voltage Regulator, Online UPS, Power Distribution System, Precision Air-conditioner, Network Cable Management, RACK, Data Center Setup equipment with Security and Monitoring, Design validation, Lift etc.) for DBBL Near DC at Dumni, Khilkhet, Dhaka.**

Dear Sir,

With reference to your Tender Notice published in the Daily ……. Dated ……., I/We, being agreed to the terms and conditions as contained in the relative schedule #DBBL/100/ITDD/Tender/2015/Dumni Data Center of Dutch-Bangla Bank, hereby submitted our proposal for **"Supply and installation of Infrastructure equipment (Automatic Voltage Regulator, Online UPS, Power Distribution System, Precision Air-conditioner, Network Cable Management, RACK, Data Center Setup equipment with Security and Monitoring, Design validation, Lift etc.) for DBBL Near DC at Dumni, Khilkhet, Dhaka"** which includes the Technical Proposal and Financial Proposal sealed under separate envelopes.

I/we would also like to provide the following the information of our company:

1.	Company Name, Address	:	…….
2.	Name of the Proprietor/ Partner/ Director	:	…….
3.	Date of commencement of Business	:	…….
4.	Nature of the business	:	…….
5.	Total number of permanent employee	:	…….
6.	Particulars of identical projects with other Bank/ financial Institution (related papers are attached with the Technical Proposal)	:	…….
7.	Relevant papers mentioned in the schedule are enclosed herewith	:	a) ……. b) …….

c) ……
d) ……
e) ……
f) ……

I/we solemnly declare that the statements made above are correct. I/We agree that any misstatement made by us, if detected later on, shall render our application unacceptable to the Bank.

(Signature)
(Name & designation of Authorized Signatory)
(Name & Address of the Bidder with Seal)