Important Dates

Particulars	Timeline
Last date and time for submission of RFP	**3.00 PM on 7th July 2020** (through online mode - URL: https://bobtenders.abcprocure.com/EPROC/)
Eligibility cum Technical Proposal Opening Date	**3:30 PM on 7th July 2020** at Bank of Baroda, Baroda Sun Tower, Bandra Kurla Complex, Mumbai – 400051

Clause in RFP

Sr. No.	Clause in RFP	Clarifications/ Changes made
	Annexure 10 – Scope of Work (Technical Requirement) …………………………………………… ……………………………………	**Annexure 10 – Scope of Work (Technical Requirement)** ………………………………………………… …………………………………………
1	**B. Detailed Scope of work:** …………………………………………… …………………………………… Bidder will provide online access to Bank for browsing of usage report / site-wise bandwidth consumption report etc. Historical data/logs should be preserved with the Bidder for the entire contract period and same shall be shared with the bank on monthly basis or as required by Bank/regulatory authorities in readable/searchable format. The Bidder should ensure submission of all the logs on removable media at the end of the contract period. …………………………………………… ……………………………………	**B. Detailed Scope of work:** ………………………………………………… ………………………………………… **Bidder will provide access to Bank for browsing of usage report / site-wise bandwidth consumption report etc. Historical data/logs should be preserved for 1 year period and same shall be shared with the bank on monthly basis by the onsite engineer or as required by Bank/regulatory authorities in readable / searchable format. The Bidder should ensure submission of all the logs on removable media at the end of the contract period.** ………………………………………………… …………………………………………

Addendum to the following Annexures:

a) **Annexure 12 – Technical Specification of Wireless Solution**

b) **Annexure 13 – Masked Commercial Bid Format**

c) **Annexure 14 – Commercial Bid Format**

d) **Annexure 17 – Floor wise details of Wi-Fi Solution**

All other Terms & Conditions are same as per our RFP No. BCC:IT:PROC:112:26 dated 19th May 2020 and Addendum 1 dated 18th June 2020 for Selection of Vendor for Supply, Installation and Maintenance of Wi-Fi Solution at Corporate Office, Mumbai.

Annexure – 12A Wireless Controller (Compliance Sheet)

Sr No	Required Minimum Specifications Make & Model:_____	Bidder's compliance (Yes / No)	Bidder's remarks
	Hardware		
1	Controller should be hardware appliance and support 250 APs and 5000 clients from day-1		
2	It should possible to upgrade controller to support additional 100 APs. If not, Bidder needs to provide controller hardware to support up to 350 APs from day-1		
3	The controller shall support deployment flexibility without compromising any features		
4	The controller shall support 5 Gbps tunneling capacity		
5	The controller shall support **2 x 10G Fiber Connectivity**		
6	Wireless Controller shall support link aggregation and load sharing between Access Point to WLC links		
7	The controller shall support hardware encrypted data plane between Access Point and Controller		
	High Availability		
1	All feature license needs to be provided with controller from day-1		
2	High Availability mode shall support controller inline data plane mode as well as local switching mode and Mesh mode		
3	High Availability mode shall allow geographically dispersed installation between Controllers		
4	The controller failover shall not trigger client de - authentication and re-association		
5	Heartbeat interval shall not be longer than 100msec		
6	The controller shall support hot WLC software patching for fixing bugs		
7	The controller shall support hot AP software patching for fixing bugs		
8	The controller shall support new AP hardware without need for upgrading entire controller software. **(if there is need to upgrade the software the OEM / bidder should provide the upgrade without any additional cost to the bank)**		
9	The controller shall support rolling **/ live** AP upgrade		
10	The controller shall support rolling AP upgrade **with /** without need for clustering		
	Software		
1	The redundant Controller shall sync Access Point and Client Status, including DHCP IP lease status		
2	Access Point shall be able to proactively distributes Client connection before and after association and tracking client condition in real time using data packet RSSI		

Sr No	Required Minimum Specifications Make & Model:_____	Bidder's compliance (Yes / No)	Bidder's remarks
3	The controller shall support standard-based, secure AP-Controller data & control protocol like CAPWAP **or equivalent**. Protocol that has known vulnerability like PAPI cannot be used.		
4	The controller shall support Inter-Controller Wireless Roaming		
5	The controller shall maintains per-user Application usage and shall be able to export it for network analytic.		
6	The controller shall support **English** Languages options from embedded GUI Management		
7	The controller shall provide per Client Connection Scoring **/ visibility**		
RF Management			
1	The controller shall support Cellular offload using IPv6 tunneling to Mobile Core network		
2	The controller shall be able to support multiple RF Management profile per group of APs, including Transmit Power Control and Dynamic Channel Assignment on both 2.4GHz and 5Ghz		
3	The controller shall be able to identify and avoid interferers with network performance report		
Mesh			
1	The controller shall support optimized, automatic channel width (20~160Mhz) selection over 5GHz, 802.11ac		
2	Mesh AP nodes shall provide quick convergence and fast failover to new root mesh node		
3	Mesh Backhaul interface shall support full duplex operation using wired daisy chaining		
Application Recognition and Control			
1	Mesh AP shall support fast roaming for **Wireless Client**		
2	The controller shall support per-user and per-WLAN based application recognition and control that throttle usage by rate-limiting		
3	**The controller should support application recognition technology.**		
4	The controller shall provide policy-based mDNS gateway		
BYOD & Security			
1	The controller shall support new application signatures without upgrading controller software		
2	The controller **/ solution** shall provide Device Profiling using multiple profiling methods to reduce false-detection		
3	The system shall provide secure onboarding service for both employee and guest based on standard-based security protocol Proposed system shall not use public cloud as user data repository		

Sr No	Required Minimum Specifications Make & Model:_____	Bidder's compliance (Yes / No)	Bidder's remarks
4	**The controller shall be able to embedded web portal page (HTML) to user experience without additional cost or extra box**		
5	The controller shall provide rule-based rogue classification and automatically run rogue mitigation action		
6	The controller shall be able to detect employee device connection to Rogue Access Point and contain it automatically. It should also support protection from Honeypot or Evil twin.		
7	The controller shall support Content Security using DNS integration, Web Classification shall be fully customizable		
8	The system shall support control plane encryption on both IPv4 and IPv6		
9	The Controller's image upgrade shall be done through secure, encrypted transport		
10	The controller shall be able to provide unique pre-shared keys to the devices that do not support the 802.1x security protocol		
11	The controller shall support Identity PSK **/ Multi PSK** for on boarding		
	Configuration		
1	The controller shall support mapping of specific VLANs to single SSID, depending on Access Point location and user		
2	The controller shall support automatic VLAN assignment per SSID to load-balance user connection.		
3	The controller shall support embedded best practice configuration profile and setup		
4	**The WLAN solution should have the HW to implement WIDS & WIPS from day 1**		

Annexure – 12B – Core Switch (Compliance Sheet)

Sr No	Required Minimum Specifications Make & Model:_____	Bidder's compliance (Yes / No)	Bidder's remarks
	General Specification		
1	The Switch should support non-blocking Layer 2 switching and Layer 3 routing		
2	The proposed switch must have at least 320Gbps switching capacity scalable to 480 Gbps		
3	**The proposed switch must have at least 240 Mpps packet forwarding performance.**		
4	The proposed switch must support **Min. 14 nos. of 10G Multimode SFP+ ports and Min. 2 no's of 1G SFP RJ45 Port** from day one and it should have capability to support additional Min. 8 Nos. of **10G Multimode SFP+ ports** for future (Vendor should provide the required SFP+ Module / SFP Module to populate all the ports)		
5	The switch should support private VLAN to provide logical segmentation at the subnet level.		
6	The proposed switch should provide OEM level hardware and software authenticity assurance for supply chain trust and strong mitigation against man-in-the-middle compromise of software Bios and firmware along with hardware authenticity assurance		
7	The proposed switch should support Hot patching **/ Non Stop Switching**.		
8	The proposed switch should support **Time Protocol** for accurate time synchronization		
9	The proposed switch should support Packet capture for operational troubleshooting.		
10	The proposed switch should support standard SDN protocol OpenFlow **or REST API** for future readiness		
11	The Switch shall have hot swappable 1:1 redundant internal power supply and redundant fan.		
12	**The Switch support in-line hot insertion and removal of different parts like power supplies / fan tray etc. should not require switch reboot and disrupt the functionality of the system**		
13	The Switch must support VSS or equivalent features allows links that are physically connected to two different switch to appear as a single port channel		
14	The Switch should support the complete STACK of IP V4 and IP V6 services.		
15	The switch must Support 256-bit encryption for switch-switch links **or IEEE 802.1AE MACsec.**		
16	The Switch and different modules used should function in line rate and should not have any port with oversubscription ratio applied		

Sr No	Required Minimum Specifications Make & Model:_____	Bidder's compliance (Yes / No)	Bidder's remarks
17	The Switch must have **Min. 1 GB RAM and Min. 2 GB Flash**		
18	The proposed switch should support minimum 128 port-channels		
19	**Min. 8 links per lag**		
20	The Switch should have minimum 60K MAC Addresses and 1K VLANs.		
21	The Switch should support **min 10K IPv4 & 5K IPv6 Routes.**		
22	The Switch should support **min. 2.5K ACLs, 2K IPV4 and 1K IPV6 Multicast routes**		
23	**The routing protocols configured on access switch should be supported using BFD.**		
24	The proposed switch should have minimum **4 sessions** for local/remote spanning/mirroring sessions on the system		
25	The Switch should support application visibility and traffic monitoring with **minimum 60 K jflow/netFlow entries or sflow entries.**		
26	The switch must support **12MB** of Packet Buffer		
27	Communication between switches to switch should be encrypted at Layer 2. It also encapsulates and protects the metadata fields. It should use industry standard MKA. Communication should have AES-GCM (Galois/Counter Mode) symmetric encryption, which is capable of line-rate encryption and decryption and provides replay attack protection of every frame. Switches should support MACSec encryption for switch-to-switch (inter-network device) security and MKA-based key exchange protocol **or Support IEEE 802.1AE MACsec on uplink ports**		
28	The Switch should support minimum 1K Switched Virtual Interfaces		
Layer 2 Features			
1	The switch should Spanning Tree Protocol (IEEE 8201.D, 802.1W, 802.1S)		
2	The Switch should support basic Multicast IGMP v1, v2, v3		
3	The Switch should support Industry Standard Port/Link Aggregation for All Ports across any module or any port.		
4	The Switch should support Jumbo Frames up to 9K Bytes on 1G/10G Ports		
5	The switch must support Unidirectional Link Detection (UDLD)		
6	The Switch should provide gateway level of redundancy in Ip V.4 and IP V.6 using VRRP		

Sr No	Required Minimum Specifications Make & Model:_____	Bidder's compliance (Yes / No)	Bidder's remarks
7	The Switch should Support for **broadcast / multicast and / or unknown unicast storm control** to prevent degradation of switch performance from storm due to network attacks and vulnerabilities		
	Layer 3 Features		
1	The Switch should support all physical ports to use either in Layer2 or Layer 3 mode and also should support layer 3 VLAN Interface and Loopback port Interface		
2	Switch should support static and dynamic routing using: **BGP, EIGRP, VRRP, PBR, IS-IS, MSDP / PIM, PIM SM / PIM SSM / PIM DM, OSPF**		
3	Switch should be capable to work as DHCP server and relay		
4	Switch should provide multicast traffic reachable using: a. **PIM-SSM/PIM SM** b. PIM-SSM c. **Bi-Directional PIM/PIM DM** d. Support Multicast Source Discovery Protocol (MSDP) e. IGMP V.1, V.2 and V.3		
5	The switch should have the capability to measure the network performance using **IP SLA / Flow.**		
6	The switch should support IPv6 in hardware, providing **wire rate forwarding / Switching** for IPv6 network		
	Quality of Service		
1	The Switch system should support 802.1P classification and marking of packet using: a. CoS (Class of Service) b. DSCP (Differentiated Services Code Point) c. Source physical interfaces d. Source/destination IP subnet e. Protocol types (IP/TCP/UDP) f. Source/destination TCP/UDP ports		
2	The Switch should support methods for identifying different types of traffic for better management and resilience		
3	Switch should support for different type of QoS features for ream time traffic differential treatment using: a. Weighted Random Early Detection **/ weighted-round-robin.** b. Strict Priority Queuing		
4	Switch should support to trust the QoS marking/priority settings of the end points as per the defined policy		
5	The switch must Hierarchical Quality of Service (QoS) **/ Quality of Service (QoS)**		

Sr No	Required Minimum Specifications Make & Model:_____	Bidder's compliance (Yes / No)	Bidder's remarks
6	The switch should support Eight egress queues per port for different types.		
Security			
1	The Switch should support for deploying different security for each logical and physical interface using Port Based access control lists of Layer-2 to Layer-4 in IP V.4 and IP V.6 and logging for fault finding and audit trail		
2	"The Switch should support for external database for AAA using:		
3	a. TACACS+		
4	b. RADIUS"		
5	The Switch should support to restrict end hosts in the network. Secures the access to an access or trunk port based on MAC address. It limits the number of learned MAC addresses to deny MAC address flooding		
6	The Switch should support DHCP Snooping		
7	The Switch should support Dynamic ARP Inspection **/ Protection** to ensure host integrity by preventing malicious users from exploiting the insecure nature of the ARP protocol		
8	The Switch should support Spanning tree BPDU protection		
9	The switch should support during system boots, the system's software signatures should be checked for integrity. System should capable to understand that system OS are authentic and unmodified, it should have cryptographically signed images to provide assurance that the firmware & BIOS are authentic.		
10	The switch should support 802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment.		
Certification			
1	Switch shall conform to UL 60950, IEC 60950, CSA 60950, EN 60950 Standards		
2	Switch / Switch's Operating System should be tested for EAL 2 / NDPP **/ FCC Certification** or above under Common Criteria Certification.		

Annexure – 12C – Access Switch (Compliance Sheet)

Sr No	Required Minimum Specifications Make & Model:_____	Bidder's compliance (Yes / No)	Bidder's remarks
	General Features		
1	The Switch should be 1U and rack mountable in standard 19" rack.		
2	The Switch should support redundant power supply from day 1		
3	The Switch should have minimum **1 GB RAM** and 2 GB Flash.		
4	The Switch should have dedicated slot for modular stacking, in addition to asked uplink ports. Should support for minimum 48 Gbps of stacking throughput with 8 switch in single stack.		
5	The Switch must provide the capability of performing cold patch		
	Performance		
1	The Switch shall have minimum 56 Gbps of switching fabric and Minimum 40 Mbps of forwarding rate.		
2	The Switch shall have minimum 16K MAC Addresses and 250 active VLAN.		
3	The switch Should support **minimum 10K** IPv4 routes or more		
4	The Switch shall have 1K or more multicast routes **/ group**.		
5	The Switch should support atleast **16k net flow entries / supports flow**		
6	The Switch should support 128 or more STP Instances **/ 16 MSTP Instances.**		
7	The Switch should have **4MB** or more packet buffer.		
	Functionality		
1	The Switch should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z.		
2	The Switch must have functionality like static routing, RIP, PIM, OSPF, VRRP, PBR and QoS features from Day1		
3	**The Switch should network segmentation based on VLAN.**		
4	The Switch shall have 802.1p class of service, marking, classification, policing and shaping and eight egress queues.		
5	The Switch should support management features like SSHv2, SNMPv2c, SNMPv3, NTP, RADIUS and TACACS+.		
6	The Switch should support IPv6 Binding Integrity Guard **or equivalent**, IPv6 Snooping, IPv6 RA Guard, IPv6 DHCP Guard, IPv6 Neighbor Discovery Inspection and IPv6 Source Guard.		
7	The Switch should support 802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment and MACSec-128 on hardware for all ports / **uplink ports**.		

Sr No	Required Minimum Specifications Make & Model:_____	Bidder's compliance (Yes / No)	Bidder's remarks
8	The Switch must have the capabilities to enable automatic configuration of switch ports as devices connect to the switch for the device type.		
9	During system boots, the system's software signatures should be checked for integrity. System should capable to understand that system OS are authentic and unmodified, it should have cryptographically signed images to provide assurance that the firmware & BIOS are authentic.		
10	The Switch **/ Controller** shall be capable of providing a first line of defense by inspecting the Domain Name System (DNS) query and prevent a user from accessing a site if it is known to be malicious		
11	The Switch **/ Controller** should support application visibility for custom applications		
	Interfaces		
1	The Switch shall have 24 nos. of 10/100/1000/**2500** Base-T ports and additional 4 nos. **SFP+ (10G) or higher** uplinks ports. **(Vendor should provide the required SFP+ Module to populate all the ports)**		
2	All 24 port should support PoE (802.3af) and PoE+ (802.3at) with a PoE power budget of 370 W **or higher with redundant power supply**.		
	Certification		
1	Switch shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information Technology Equipment.		
2	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.		
3	Switch / Switch's Operating System should be tested for EAL 2/NDPP/**FCC Certification** or above under Common Criteria Certification.		

Annexure – 12D – Wireless Access Point (Compliance Sheet)

Sr No	Required Minimum Specifications Make & Model: _____	Bidder's compliance (Yes / No)	Bidder's remarks
	General		
1	Access Point shall support 4x4 MIMO on both 2.4 and 5GHz radio interfaces **or higher.**		
2	Access Point shall be able to powered up using PoE (.af) and should support full features with PoE+		
3	**Access Point shall support packet capture, sensor capabilities**		
4	Access Point shall support application visibility and control		
5	Access Point shall support encrypted traffic visibility		
6	Access Point shall support integrated BLE5 radio		
7	Access Point shall support Console port that uses Standard Port (RJ-45) **/ UBS Port / Micro USB Port** type connection		
8	Access Point should have 1x 100, 1000, 2500 Multigigabit Ethernet (RJ-45) – IEEE 802.3bz		
9	Access Point should have USB port for future requirement.		
10	Must have atleast **2 / 3 dBi** Antenna gain on each radios		
11	Must Support data rate **2.9 GBPS or higher**.		
12	Must support minimum of 23dbm of transmit power in both 2.4Ghz and 5Ghz radios and **The Access point should follow the regulatory norms of Wireless Planning Commission – Govt. of India**		
13	Must support AP enforced load-balance between 2.4Ghz and 5Ghz band.		
14	Must incorporate radio resource management for power, channel and performance optimization		
15	Must have -97 dB or better Receiver Sensitivity.		
16	Must support Proactive Key Caching and/or other methods for Fast Secure Roaming.		
17	Must support Management Frame Protection.		
18	Should support locally-significant certificates on the APs using a Public Key Infrastructure (PKI).		
19	Access Points must support Hardware-based encrypted user data and management traffic between controller and Access point for better security.		
20	Must support the ability to serve clients and monitor the RF environment concurrently.		
21	Same model AP that serves clients must be able to be dedicated to monitoring the RF environment.		
22	Must be plenum-rated (UL2043).		
23	Must support 16 WLANs per AP for SSID deployment flexibility.		
24	Must support telnet and/or SSH login to APs directly for troubleshooting flexibility.		

Sr No	Required Minimum Specifications Make & Model: _____	Bidder's compliance (Yes / No)	Bidder's remarks
25	802.11e and WMM		
26	Must support QoS and Video Call Admission Control capabilities.		
27	Access point should be Wi-Fi 6 certifiable **from day 1**.		
28	**The access point should support WPA3.**		

Annexure – 12E Router (Compliance Sheet)

Sr No	Required Minimum Specifications Make & Model:_____	Bidder's compliance (Yes / No)	Bidder's remarks
	General Specification		
1	Multi-core processor architecture		
2	**The router should have 2 gigabit 10/100/1000 Mbps Ethernet LAN/WAN ports with RJ 45 interface from day one. The router should support minimum 4 gigabit 10/100/1000 Mbps Ethernet LAN ports with RJ 45.**		
3	One USB port for storage		
4	The router's performance should support minimum 200 Mbps of WAN bandwidth.		
5	Minimum **2 GB** of SDRAM should be supported **upgradeable to 4GB** from day one.		
6	Minimum **256 MB** Flash memory supported from day one.		
7	Router should support at least 200000 routes in routing table		
	Security		
1	GRE and IP Sec 3DES/AES and complex suit of crypto for configuration of VPN tunnels.		
2	Support for IPSEC Site-to-Site and Remote Access VPNs. System Should provide hardware assisted IPSec acceleration.		
3	VPN support – Dynamic/Automatic tunnel-less VPN, IPSec VPN etc.		
4	IKEv2 support and IPv6- IKEv2, IPSec support		
5	MD5, SHA-1, SHA-2 Authentication support		
6	PKI (CA certificate) infrastructure support		
7	IEEE standard protocol for tuneless any to any dynamic VPN support technology.		
8	NAT, PAT		
9	Access control - Multilevel for use with RADIUS and TACACS+		
10	Support ACL's to provide supervision and control.		
11	Multiple Privilege Levels for managing & monitoring		
12	Support for Remote Authentication User Service (RADIUS) and AAA		
13	Support for Standard, Advanced, time based Access Lists to provide supervision and control.		
14	Controlled SNMP Access using ACL on router to ensure SNMP access only to identified NMS/EMS. SNMP v1, 2c, 3 should be supported from day one		
15	DNS, DHCP, DNS spoofing		
16	DoS prevention through TCP Intercept & DDoS protection		
	Protocols		
1	Static Routes		
2	RIPv1, RIPv2, RIPng		

Sr No	Required Minimum Specifications Make & Model:_____	Bidder's compliance (Yes / No)	Bidder's remarks
3	OSPFv2 and v3.		
4	BGP for IPv4 and BGP+ for IPv6		
5	IS-IS routing protocols for IPv4 and IPv6		
6	Policy Based Routing: System should support policy based routing for providing different path selection for different applications and also should support best path selection using parameters like jitter, link load distribution, minimum cost, network path availability, packet loss etc.		
7	Performance Based Routing **or equivalent**		
8	Should support load balancing of the links		
9	Bidirectional Forwarding detection (BFD)		
10	Multicast Listener Discovery (MLD)		
11	Multicast over GRE Tunnels		
12	PPP, Multi-link PPP		
13	Load Balancing Protocol using ECMP, uRPF		
14	IPv4, IPv6		
15	MPLS L2 & L3		
16	VRRP / HSRP for IPv4 and IPv6		
17	Shall support IPv6 features with no additional cost		
QOS to eliminate Congestion			
1	QOS based on: Source and destination IP address, Source and destination TCP port, Source and destination UDP port, CoS value Application, Random Early Detection, Weighted Fair Queuing, Priority Queuing, Low-Latency Queuing (LLQ), DiffServ, RSVP, WRED, Traffic Shaping (TS), Traffic Policing (TP), DSCP Marking, policing and shaping, IPv6 Packet classification & Marking, IPv6 Policing & Shaping, IPv6 Queuing, IPv6 Dual Stack.		
2	**The Router should recognize and classify common applications (i.e. voice, video, peer to peer, encrypted, social media applications) with deep inspection mechanism. It should be possible to define QoS based on application to give higher priority to corporate and business critical applications.**		
3	Router should identify home grown or custom applications used in the enterprise and it should be possible to define custom application based on Port numbers, payload analysis or URL/URI from day one		
IP Multicasting			
1	IGMPv1&v2, PIM-SM, PIM-DM.		
Management			
1	IP SLA or equivalent		
2	EEM / EEA or equivalent		

Sr No	Required Minimum Specifications Make & Model:_____	Bidder's compliance (Yes / No)	Bidder's remarks
3	SLA verification probes/alerts configurations		
4	Real-time performance monitoring		
BYOD & Security			
1	Functionality of measuring service level indicators including delay, jitter & availability		
2	Accessibility using Telnet, SSH, Console access, RMON		
3	Software upgrades using FTP, TFTP, CLI, etc.		
4	SNMP Support for v1, v2 , v3		
5	Should support auto deployment using USB disk or via central management system		
6	Should be able to integrate with any SNMP based NMS tool		
7	Syslog, Buffer logging		
8	Configuration Rollback function		
9	Netflow or equivalent feature for network & security monitoring		
10	Should be able to integrate with third party enterprise network management tool		
11	IP SLA or equivalent		
12	SLA verification probes/alerts configurations		
13	Real-time performance monitoring		
Debug & Diagnostics			
1	Display of input and output error status on all interfaces		
2	Display of Dynamic ARP table		
3	Display of physical layer line status signals like DCD, DSR, DTR, RTS, CTS **or equivalent** on all interfaces		
4	Trace-route, Ping, extended PING		
Others			
1	EAL 2 or higher certified		
2	Safety certifications UL 60950-1		
3	AC Power Cord (Indian standard)		
4	Console Cable		
5	**AC Power Supply**		
6	Rack mount kit		

Annexure – 12F Rack with Patch Panel (Compliance Sheet)

Sr No	Required Minimum Specifications Make & Model:_____	Bidder's compliance (Yes / No)	Bidder's remarks
	General Specification		
1	Wall mounted 9U / 1200W		
2	3 Sets of adjustable mounting rails (adjusting in 1 Inch increments)		
3	Removable/lockable side panels		
4	Cage nut style mounting rails		
5	Top and Bottom removable cable slots		
6	Glass front door with built in lock and 180 degree swing		
7	Maximum Weight Capacity 150 Pounds		
8	Cooling Fan kit with 280 CFM		
9	Racks Screws		
10	Cage nuts / Brackets		
11	Two pairs of 19" mounting angles with 'U' marking.		
12	Cable tie bracket		
13	Minimum 4 Power Sockets		
14	The Rack should be compatible with Access Switch in all parameters.		
15	Bidder should provide required patch panel, cables etc with Rack		

Annexure – 12G (other Hardware details)

Description	Quoted Make & Model	Approved make / model
Rack 9U		APW President / VAL / HP
CAT 6A 24 port Patch Panels		Systimax / Commscope / Panduit / Corning.
CAT 6A Cables		
Multimode OM4 LC-LC Duplex Fibre Optic Patch Cord		
6 core, 50/125um (OM4) Indoor Multimode Fibre Optic Cable which can support upto 400m distance for 10Gbps Ethernet connectivity. Fibre Optic cable should Support operational wavelength of 850nm ~ 1300nm. Jacket Material should be LSZH sheath.		
6-Port Wall / Rack Mount Fibre LIU Enclosure that provides cross-connect and interconnect capabilities for splicing and terminating OFC cables, pigtails in fiber access network, Used for Indoor Optical Installation. To be quoted with all accessories like LC Pigtails, Enclosures Etc. for complete Installation.		
PVC Conduit / Usage of Existing Conduits will be required to run this Fibre Optic Cable between the Floors.		

Annexure 13 – Masked Commercial Bid Format

TABLE 1

S No	HW Particulars	Qty	Unit Rate (Rs)	Amount (Rs)	AMC (%) per Year	AMC Amt (Rs) (2 Yrs)	Total Amount (Rs)	GST %	HSN / SAC Code
1	Wireless Controller (As per Technical Specs Annexure – 12 A)	2	0	0	0	0	0	0	0
2	Implementation Cost of Wireless Controller (Incl. Passive Components)	2	0	0	0	0	0	0	0
3	Core Switch (As per Technical Specs Annexure – 12 B)	2	0	0	0	0	0	0	0
4	Implementation Cost of Core Switch (Incl. Passive Components)	2	0	0	0	0	0	0	0
5	Access Switch (24 Port) (As per Technical Specs Annexure – 12 C)	5*	0	0	0	0	0	0	0
6	Implementation Cost of Access Switch (Incl. Passive Components)	5*	0	0	0	0	0	0	0
7	Wireless Access Point (As per Technical Specs Annexure – 12 D)	44*	0	0	0	0	0	0	0
8	Implementation Cost of Wireless Access Point (Incl. Passive Components)	44*	0	0	0	0	0	0	0
9	Router (As per Technical Specs Annexure – 12 E)	2	0	0	0	0	0	0	0
10	Implementation Cost of Router (Incl. Passive Components)	2	0	0	0	0	0	0	0
11	Rack with Patch Panel (As per Technical Specs Annexure – 12 F)	4	0	0	0	0	0	0	0
12	Implementation Cost of Rack (Incl. Passive Components)	4	0	0	0	0	0	0	0
13	Any Other Charges (if any Please specify)	xxx	0	0	0	0	0	0	0
(A)	**Total Cost of Ownership for 5 Years (i.e. 3 years OEM comprehensive Onsite Warranty and 2 years OEM comprehensive Onsite AMC for both hardware and software - (24x7 support)**						**0**	**XXX**	

TABLE 2

S No	Ser. charges for Engineer / ILL	Qty	Year 1		Year 2		Year 3		Year 4		Year 5		Total Amount
			Unit Rate	Amt	Unit Rate	Amt	Unit Rate	Amt	Unit Rate	Amt	Unit Rate	Amt	
1	Primary ILL – 100 Mbps	1	0	0	0	0	0	0	0	0	0	0	0
2	Secondary ILL – 100 Mbps	1	0	0	0	0	0	0	0	0	0	0	0
3	Onsite Support Engineer	1	0	0	0	0	0	0	0	0	0	0	0
	Total Amount		**0**		**0**		**0**		**0**		**0**		**0**
(B)	**Total Amount for 5 Years**												**0**
	Total Cost (TABLE 1 (A) + TABLE 2 (B)) for 5 Yrs (in Rs.)												**0**

Note:

a. Bidder has to quote end to end Wireless Solution including maintenance for 5 Years. The bidder needs to clearly indicate if there are any hardware Cost / recurring costs included in the above bid and quantify the same. In the absence of this, the bidder would need to provide the same without any charge.

b. In the case of additional requirements desired by the Bank and above the quantity for which purchase order is placed with a particular bidder then the maximum order which the Bank can place would be an addition of 25% of the quantity for which contract is placed.

c. Onsite Support for the Wireless Support Engineer will be 1 person day (1 shift x 1 day) and charges to be provided based on the manpower efforts in 1 shifts per day. The Bank has discretion to avail onsite support services and number of support engineers at person day cost given. However, for the TCO purpose 1 person day (1 shift x 1 person) x 365 for each year will be considered. (e.g. In case Bank requires more than one person then the cost considered for that person will be Onsite Support Cost provided by the bidder in their commercial 1 shifts per day). Moreover Bank reserve the right to terminate / cancel the services of Onsite Wireless Support Engineer by giving bidder at least 30 days prior notice in writing during the contact period..

d. The cost quoted by the bidder for all the hardware should include 3 years OEM comprehensive Onsite Warranty (Enterprise Level Support or equivalent) and 2 years OEM comprehensive Onsite AMC (Enterprise Level Support or equivalent) for both hardware and software (24x7 support).

e. For each of the above items provided the bidder is required to provide the cost for every line item where the bidder has considered the cost in BOM.

f. If the cost for any line item is indicated as zero then it will be assumed by the Bank that the said item is provided to the Bank without any cost.

g. All Deliverables to be supplied as per RFP requirements provided in the tender

h. The Service Charges need to include all services and other requirement as mentioned in the RFP

i. The bidder has to make sure all the arithmetical calculations are accurate. Bank will not be held responsible for any incorrect calculation show ever for the purpose of calculation Bank will take the corrected figures / cost.

j. Detailed BOM (Bill of Material) needs to be submitted along with technical proposal.

k. All prices to be in Indian Rupee (INR) only.

l. Prices quoted by the Bidder should be inclusive of all taxes, duties, levies etc. except GST which will be paid extra at actuals. The Bidder is expected to provide the GST percentage in both the commercial and masked bids (without amounts being submitted in the technical response). There will be no price escalation for during the contract period and any extension thereof. Bid submitted with an adjustable price quotation will be treated as non-responsive and will be rejected

m. Details to be provided for any commercial provided against "Any Other Charges". Bank have discretion to mark these line items under any other charges if Bank feels these items are not mandatory for the project. Cost of any other charges will be consider for TCO calculation purpose however Bank will place order for these items at Bank's discretion as per requirement.

n. All Quoted Commercial Values should comprise of values only upto 2 decimal places. Bank for evaluation purpose will consider values only upto 2 decimal places for all calculations & ignore all figures beyond 2 decimal places.

o. ***Bank will place the order for 32 no's of Access Point with Implementation charges and 4 no's of Access Switch with Implementation Charges. Addition Quantity of 12 no's of Access Point with Implementation charges and 1 no's of Access Switch with Implementation Charges will be ordered as and when required by the bank with same quoted rate.**

Authorized Signatory
Name:
Bidder's Corporate Name & Designation:

Annexure 14 – Commercial Bid Format

TABLE 1

S No	HW Particulars	Qty	Unit Rate (Rs)	Amount (Rs)	AMC (%) per Year	AMC Amt (Rs) (2 Yrs)	Total Amount (Rs)	GST %	HSN / SAC Code
1	Wireless Controller (As per Technical Specs Annexure – 12 A)	2	0	0	0	0	0	0	0
2	Implementation Cost of Wireless Controller (Incl. Passive Components)	2	0	0	0	0	0	0	0
3	Core Switch (As per Technical Specs Annexure – 12 B)	2	0	0	0	0	0	0	0
4	Implementation Cost of Core Switch (Incl. Passive Components)	2	0	0	0	0	0	0	0
5	Access Switch (24 Port) (As per Technical Specs Annexure – 12 C)	5*	0	0	0	0	0	0	0
6	Implementation Cost of Access Switch (Incl. Passive Components)	5*	0	0	0	0	0	0	0
7	Wireless Access Point (As per Technical Specs Annexure – 12 D)	44*	0	0	0	0	0	0	0
8	Implementation Cost of Wireless Access Point (Incl. Passive Components)	44*	0	0	0	0	0	0	0
9	Router (As per Technical Specs Annexure – 12 E)	2	0	0	0	0	0	0	0
10	Implementation Cost of Router (Incl. Passive Components)	2	0	0	0	0	0	0	0
11	Rack with Patch Panel (As per Technical Specs Annexure – 12 F)	4	0	0	0	0	0	0	0
12	Implementation Cost of Rack (Incl. Passive Components)	4	0	0	0	0	0	0	0
13	Any Other Charges (if any Please specify)	xxx	0	0	0	0	0	0	0
(A)	**Total Cost of Ownership for 5 Years (i.e. 3 years OEM comprehensive Onsite Warranty and 2 years OEM comprehensive Onsite AMC for both hardware and software - (24x7 support)**						**0**	**XXX**	

TABLE 2

S No	Ser. charges for Engineer / ILL	Qty	Year 1		Year 2		Year 3		Year 4		Year 5		Total Amount
			Unit Rate	Amt	Unit Rate	Amt	Unit Rate	Amt	Unit Rate	Amt	Unit Rate	Amt	
1	Primary ILL – 100 Mbps	1	0	0	0	0	0	0	0	0	0	0	0
2	Secondary ILL – 100 Mbps	1	0	0	0	0	0	0	0	0	0	0	0
3	Onsite Support Engineer	1	0	0	0	0	0	0	0	0	0	0	0
	Total Amount			**0**		**0**		**0**		**0**		**0**	**0**
(B)	**Total Amount for 5 Years**												**0**
	Total Cost (TABLE 1 (A) + TABLE 2 (B)) for 5 Yrs (in Rs.)												**0**

Note:

a. Bidder has to quote end to end Wireless Solution including maintenance for 5 Years. The bidder needs to clearly indicate if there are any hardware Cost / recurring costs included in the above bid and quantify the same. In the absence of this, the bidder would need to provide the same without any charge.

b. In the case of additional requirements desired by the Bank and above the quantity for which purchase order is placed with a particular bidder then the maximum order which the Bank can place would be an addition of 25% of the quantity for which contract is placed.

c. Onsite Support for the Wireless Support Engineer will be 1 person day (1 shift x 1 day) and charges to be provided based on the manpower efforts in 1 shifts per day. The Bank has discretion to avail onsite support services and number of support engineers at person day cost given. However, for the TCO purpose 1 person day (1 shift x 1 person) x 365 for each year will be considered. (e.g. In case Bank requires more than one person then the cost considered for that person will be Onsite Support Cost provided by the bidder in their commercial 1 shifts per day). Moreover Bank reserve the right to terminate / cancel the services of Onsite Wireless Support Engineer by giving bidder at least 30 days prior notice in writing during the contact period..

d. The cost quoted by the bidder for all the hardware should include 3 years OEM comprehensive Onsite Warranty (Enterprise Level Support or equivalent) and 2 years OEM comprehensive Onsite AMC (Enterprise Level Support or equivalent) for both hardware and software (24x7 support).

e. For each of the above items provided the bidder is required to provide the cost for every line item where the bidder has considered the cost in BOM.

f. If the cost for any line item is indicated as zero then it will be assumed by the Bank that the said item is provided to the Bank without any cost.

g. All Deliverables to be supplied as per RFP requirements provided in the tender

h. The Service Charges need to include all services and other requirement as mentioned in the RFP

i. The bidder has to make sure all the arithmetical calculations are accurate. Bank will not be held responsible for any incorrect calculation show ever for the purpose of calculation Bank will take the corrected figures / cost.

j. Detailed BOM (Bill of Material) needs to be submitted along with technical proposal.

k. All prices to be in Indian Rupee (INR) only.

l. Prices quoted by the Bidder should be inclusive of all taxes, duties, levies etc. except GST which will be paid extra at actuals. The Bidder is expected to provide the GST percentage in both the commercial and masked bids (without amounts being submitted in the technical response). There will be no price escalation for during the contract period and any extension thereof. Bid submitted with an adjustable price quotation will be treated as non-responsive and will be rejected

m. Details to be provided for any commercial provided against "Any Other Charges". Bank have discretion to mark these line items under any other charges if Bank feels these items are not mandatory for the project. Cost of any other charges will be consider for TCO calculation purpose however Bank will place order for these items at Bank's discretion as per requirement.

n. All Quoted Commercial Values should comprise of values only upto 2 decimal places. Bank for evaluation purpose will consider values only upto 2 decimal places for all calculations & ignore all figures beyond 2 decimal places.

o. ***Bank will place the order for 32 no's of Access Point with Implementation charges and 4 no's of Access Switch with Implementation Charges. Addition Quantity of 12 no's of Access Point with Implementation charges and 1 no's of Access Switch with Implementation Charges will be ordered as and when required by the bank with same quoted rate.**

Authorized Signatory
Name:
Bidder's Corporate Name & Designation:

Annexure 17 – Floor wise details of Wi-Fi Solution

Bidders are required to supply Hardware as per the requirement given below:

S. No.	Floor	Wireless Access Point Required (Approx. Qty)	Network Switch	Optical Fiber Connectivity
1	Ground Floor	7	1 no. (24 Port Switch) & 1 no. of Rack with Patch Panel	2 no's of Uplink from Core Switch to Access Switch
2	Second Floor (Server Room)	1) 2 no's of Core Switch in Active – Active Mode 2) 2 no's of Wireless Controller in High Availability 3) 2 no's of Routers 4) 2 no's of 100 MBPS ILL (Primary and Secondary of different ISPs – Both should be in Active – Active Mode)		
3	Third Floor (Multipurpose Hall)	4	1 no. (24 Port Switch) & 1 no. of Rack with Patch Panel	2 no's of Uplink from Core Switch to Access Switch
4	Eight Floor	11	1 no. (24 Port Switch) & 1 no. of Rack with Patch Panel	2 no's of Uplink from Core Switch to Access Switch
5	Ninth Floor	10	1 no. (24 Port Switch) & 1 no. of Rack with Patch Panel	2 no's of Uplink from Core Switch to Access Switch
	Total Quantity	**32**	**4**	**XXX**

Note: The total quantity mentioned of wireless access point / Access Switch is the approximate quantity which may increase as per the requirement of the Bank.