

Amendment-1 to RFP 20/2018-19 dated 21/02/2019 For Supply, Installation, Integration and Maintenance of Software Defined -Wide Area Network (SD-WAN) Solution

It is decided to amend the following in respect of the above RFP:

a. Submission & Opening of Bid - (Section A-Page No. 2)

Description	Existing details	Amended details
	Time & Date	Time & Date
Last Date and Time for Submission of Bids	18/03/2019, Monday upto 3.00pm	<u>27/03/2019, Wednesday upto 3.00pm</u>
Date, Time & Venue for opening of Part A-Conformity to Eligibility Criteria.	19/03/2019, Tuesday at 3.30pm Venue: Canara Bank, Second Floor, Conference Hall, DIT Wing-HO (Annex), Naveen Complex, 14 M G Road, Bengaluru 560001.	<u>27/03/2019, Wednesday at 3.30pm</u> Venue: Canara Bank, Second Floor, Conference Hall, DIT Wing-HO (Annex), Naveen Complex, 14 M G Road, Bengaluru 560001.

Sl. No.	Page No.	Section/ Annexure/ Appendix of the RFP	Clause No.	Existing
a.	57	<u>Annexure-2</u>	<p><u>Eligibility Criteria:</u> e. Bidder should have supplied and should have been deployed and maintaining SD-WAN (Software Defined -Wide Area Network) solution in any Scheduled Commercial Bank/PSU/ Govt. Organization/Govt. Unit/BFSI/Company (Publicly listed) for minimum 100 locations Globally.</p> <p><u>Documents to be submitted with Part A-Conformity to Eligibility Criteria:</u> The Bidders has to provide order copy in their name/reference Letter from the organization duly mentioning the solution name and the no. of locations and no. of Devices/endpoints.</p>	<p><u>Eligibility Criteria:</u> e. Bidder should have supplied and should have deployed and maintaining SD-WAN (Software Defined -Wide Area Network) solution in any Scheduled Commercial Bank/PSU/ Govt. Organization/Govt. Unit/BFSI/Company (Publicly listed) globally for</p> <p>(i) <u>minimum 100 discrete locations in a Single order or Multiple order to build a single solution as on date of RFP</u></p> <p>or,</p> <p>(ii) <u>minimum 10 discrete locations in a Single order or Multiple order to build a single solution as on date of RFP and additionally the bidder should have also supplied 1000 Routers in last 3 years as on date of RFP.</u></p> <p><u>Documents to be submitted with Part A-Conformity to Eligibility Criteria:</u> The Bidders has to provide order copy in their name/reference Letter from the organization duly mentioning the solution</p>



				name and the no. of locations and no. of Devices/endpoints. The bidder has to provide order copy of Router supplied, <u>if applicable</u> .
b.	57	<u>Annexure-2</u>	<p>Eligibility Criteria: f. The Bidder should have support offices in all State capitals except for North Eastern states (excluding Assam). 24x7X365 support at Bengaluru and Mumbai. Minimum 5 support personals each at Bengaluru and Mumbai must possess OEM certification of the proposed SD-WAN solution.</p> <p>Documents to be submitted with Part A-Confirmity to Eligibility Criteria: The Bidders to furnish their existing service center infrastructure details like contact details with postal address, no of engineers, jurisdiction of the engineer etc. besides local Contact Person Name, Address, Phone No, Mobile No, Email etc. The Bidders should furnish details of support personals at Bengaluru and Mumbai like Name, PAN No., PF No., OEM Certification & Validity.</p>	<p>Eligibility Criteria: f. The Bidder should have support offices in minimum 8 State Capitals and support personals in all other state capitals except for North Eastern states (excluding Assam). 24x7X365 support at Bengaluru and Mumbai. Minimum 5 support personals each at Bengaluru and Mumbai must possess OEM certification of the proposed SD-WAN solution.</p> <p>Documents to be submitted with Part A-Confirmity to Eligibility Criteria: The Bidders to furnish their existing service center infrastructure details like contact details with postal address, no of engineers, jurisdiction of the engineer etc. besides local Contact Person Name, Address, Phone No, Mobile No, Email etc. The Bidders should furnish details of support personals at Bengaluru and Mumbai like Name, PAN No., PF No., OEM Certification & Validity.</p>
c.	57	<u>Annexure-2</u>	<p>Eligibility Criteria: f. Proposed SD-WAN Solution OEM (not necessarily the model) should have been deployed (not necessarily by the Bidder, in case of Dealer/ Distributor/Partner) in at least one Scheduled Commercial Bank/PSU/ Govt. Organization/Govt. Unit/BFSI/Company (Publicly listed) Globally, for minimum 100 locations in a single order/Multiple order in a single organization.</p>	<p>Eligibility Criteria: f. Proposed SD-WAN Solution <u>of</u> OEM (not necessarily the model) should have been deployed (not necessarily by the Bidder, in case of Dealer/ Distributor/Partner) in at least one Scheduled Commercial Bank/PSU/ Govt. Organization/Govt. Unit/BFSI/Company (Publicly listed) Globally, for minimum 100 locations in a single order/Multiple order to build a single solution in a single organization as on the date of the RFP.</p> <p>Documents to be submitted with Part A-</p>



			<p><u>Documents to be submitted with Part A-Confirmity to Eligibility Criteria:</u></p> <p>The Bidders has to provide order copy/reference Letter from the organization duly mentioning the solution name and the no. of locations and no. of Devices/endpoints.</p>	<p><u>Confirmity to Eligibility Criteria:</u></p> <p>The Bidders has to provide order copy/reference Letter from the organization duly mentioning the solution name and the no. of locations and no. of Devices/endpoints.</p>
d.	63-68	Annexure-7	<p>Technical Requirements for Software Defined -Wide Area Network SD-WAN</p>	<p>Amended Annexure-7 (Technical Requirements for Software Defined - Wide Area Network SD-WAN) is attached as Annexure.</p>
e.	70	Annexure-8 Scope of Work	<p>11. For DC and DR, support should include 4 Hrs Advance Replacement (Delivery within 4 Hours after authorization of replacement). For other locations support should be on NBD (Next Business Day). Back-to-Back OEM TAC support (24*7*365).</p>	<p><u>This clause stands deleted.</u></p>
f.	70	Annexure-8 Scope of Work	<p>14. Design and Implementation have to be done by the onsite team of experts from OEM along with bidder's skilled team including project manager.</p>	<p><u>14. The bidder has to engage OEM's Professional Service for Designing/Deploying/Configuring/ Implementing/ Integration of the Solution at DC & DR by OEM's resources only. No subcontracting for resources from Bidder and OEM is permitted. Moreover Bidder has to also engage their own resources along with Project Manager during the process.</u></p>
g.	80	Annexure-14 Bill of Material	<p>Clarification point under Table-E</p> <p>***The Charges mentioned in column 'c' of Table-E should tally with the charges mentioned under Column 'E' of Table-A. The Charges mentioned in column 'f' of Table-E should tally with the charges mentioned under Column 'H' of Table-A.</p>	<p>"</p> <p>***The Charges mentioned in column 'e' of Table-E should tally with the charges mentioned under Column 'E' of Table-A. The Charges mentioned in column 'h' of Table-E should tally with the charges mentioned under Column 'H' of Table-A.</p> <p>"</p>
h.	NA	Mentioned elsewhere in the RFP document.	<p><u>Supply, Installation and Maintenance of All-in-One Desktop Computers under Rate Contract</u></p>	<p>Kindly read</p> <p><u>"Supply, Installation and Maintenance of All-in-One Desktop Computers under Rate Contract"</u></p>



				as "Supply, Installation, Integration and Maintenance of Software Defined -Wide Area Network (SD-WAN) Solution" mentioned elsewhere in the RFP.
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i. **Amended Delivery, Installation, Configuration and Integration (Clause No. 1.2 of Section C on Page no. 13 of the RFP)**

1.2. **Project Schedule are as follows:**

- 1.2.1. **Supply of Hardware and Software items:** Within **10 weeks** for DC & DR, HO, HO Annex., Circle offices and 1st Phase of branch office locations from the date of acceptance of Purchase Order.
- 1.2.2. **Installation, Configuration and Implementation:** Within **4 weeks** for DC and DR, within **6 Weeks** for HO, HO Annex. and 21 Circle offices from the date of Delivery as per clause 1.2.1. Branch office locations duration will be as mentioned below as per the phase.

Phase	Approx. No of Locations	Tentative Month of PO Release	Hardware Delivery Duration	Implementation Duration in Weeks
1st	390	June 2019	as per clause 1.2.1	8
2nd	1140	August 2019	8 Weeks from the date of Acceptance of 2nd Phase PO	10
3rd	1260	2 nd Week of October 2019	8 Weeks from the date of Acceptance of 3rd Phase PO	12

j. **Amended Penalties/Liquidated Damage (Clause No. 3.2.1, 3.2.2 and 3.2.3 of Section C on Page no. 14 & 15 of the RFP)**

3.2 **Penalties/Liquidated damages for not maintaining uptime:**

- 3.2.1 DC and DR Concentrator / Head End Devices will be in HA (High Availability) mode and Penalties will be calculated as mentioned below:

Level of Site availability calculated on monthly basis for DC and DR Concentrator / Head End Devices	Penalty
99.95% to 100%	No penalty
Up to 98.95% and less than 99.95%	0.05% (plus GST) on total order value of ordered Phases for all the locations (i.e. Total cost of the project)
Up to 97.95% and less than 98.95%	0.10% (plus GST) on total order value of ordered Phases for all the locations (i.e. Total cost of the project)
Up to 96.95% and less than 97.95%	0.15% (plus GST) on total order value of ordered Phases for all the locations (i.e. Total cost of the project)
Up to 95.95% and less than 96.95%	0.30% (plus GST) on total order value of ordered Phases for all the locations (i.e. Total cost of the project)
Less than 95.95%	0.5% (plus GST) on total order value of ordered Phases for all the locations (i.e. Total cost of the project)



- 3.2.2 Since the AMC amount shall be released quarterly in arrears, the total penalty per quarter deductible under above clause (3.2.1) shall be restricted to 50% (plus GST) of the claimed quarterly AMC value for all the locations under ordered Phases. Also the total penalty deductible under this clause towards the downtime during warranty period shall be restricted to 5% (plus GST) of the total order value (exclusive of taxes) for all the locations under Phases.
- 3.2.3 DC & DR Edge Devices and Management Console/Controller, HO and HO annex will be in HA (High Availability) mode and Penalties will be calculated as mentioned below

Level of Site availability calculated on monthly basis for DC & DR Edge Devices and Management Console/Controller, HO and HO annex	Penalty
99.95% to 100%	No penalty
Up to 98.95% and less than 99.95%	0.30% (plus GST) of invoice value of that location/ <u>Cluster</u> .
Up to 97.95% and less than 98.95%	0.40% (plus GST) of invoice value of that location/ <u>Cluster</u> .
Up to 96.95% and less than 97.95%	0.50% (plus GST) of invoice value of that location/ <u>Cluster</u> .
Up to 95.95% and less than 96.95%	0.60% (plus GST) of invoice value of that location/ <u>Cluster</u> .
Less than 95.95%	1% (plus GST) of invoice value of that location/ <u>Cluster</u> .

k. Support Requirement Details (Clause No. 5.7 of Section C on Page no. 18 of the RFP):

5.7 Response Time and Meantime to Restore [MTTR]

5.7.1 Response Time and Meantime to Restore[MTTR] shall be as mentioned below:

Locations	Response Time	MTTR
DC and DR	<u>5Mins</u>	<u>20Mins</u>
HO and HO Annex.	<u>5Mins</u>	<u>20Mins</u>
21 Circle Offices	<u>1Hr</u>	<u>5Hrs</u>
Branch Offices	<u>1Hr</u>	<u>5Hrs for State Capitals/UTs and 7Hrs for other Locations</u>

5.7.2 Response time mentioned in 5.7.1 will be from lodging of complaint.

5.7.3 The bidder call will be logged in during 8AM to 6PM on all days of the year for Branches. For a call logged in at/after 6PM, the response time and MTTR time would start from 8AM next day.

5.7.4 However, penalty shall be applicable as per uptime clause 3.2.



I. Evaluation of Bid (Clause No. 3.5.4 of Section-E on Page no. 30 & 31 of the RFP):

3.5.4 OEM's & Bidder's Previous Experience evaluation process:

3.5.4.1 The bidder should provide details of previous experience in implementing SD-WAN solution. The bidder's past experience shall be evaluated as given below:

Sl. No.	Criteria	Evaluation Parameters	Max Marks	Documents submitted
1.	No. of implementations (not necessarily by the Bidder) of the Proposed OEM Solution (not necessarily the same model) in Scheduled Commercial Bank/PSU/ Govt. Organization/Govt. Unit/BFSI/Company (Publicly listed) Globally for minimum 100 discrete locations per organization, <u>as on the date of the RFP.</u> Bidder has to submit Certificate of Satisfactory working from the respective organizations clearly specifying the no. of locations deployed and since when. Letter head, seal, contact no., mail	1 mark per Organization i.e. if n no. of deployments, then marks will be $n*1=x$. if $x > 6$, then maximum 6	6	
2.	Maximum no. of locations deployed (not necessarily by the Bidder) for the SD-WAN Solution of proposed OEM (not necessarily the same model) in Scheduled Commercial Bank/PSU/ Govt. Organization/Govt. Unit/BFSI/Company (Publicly listed) Globally in a <u>single purchase order/single solution in an organization, as on the date of the RFP.</u> Bidder has to submit a Certificate of Satisfactory working from the respective organization clearly specifying the no. of locations deployed and since when.	1001 and above locations	8	
		501 to 1000 locations	5	
		From 250 to 500 locations	1	
		<u>Less than 250 locations</u>	<u>0</u>	



3.	<p>No. of implementation (and maintenance as well) by the Bidder of SD-WAN (Software Defined -Wide Area Network) solution in any Scheduled Commercial Bank/PSU/ Govt. Organization/Govt. Unit/BFSI/ Company (Publicly listed) Globally for minimum <u>10 discrete</u> locations per organization as on the date of the RFP.</p> <p>Bidder has to submit Certificate of Satisfactory working from the respective organization clearly specifying the solution and since when.</p> <p>Bidder has to submit Certificate of Satisfactory working from the respective organization clearly specifying the solution and since when.</p>	1 mark per Organization i.e. if n no. of deployments, then marks will be $n*1=x$. if $x > 6$, then maximum 6	6	
Total Marks (Maximum)			20	

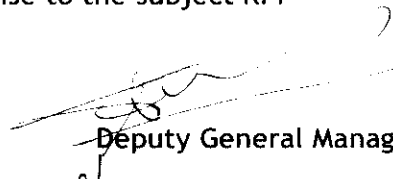
Note:

- a. Banks mean scheduled commercial banks in India only.
- b. The bidder is required to provide documentary evidence for each of the above criteria and the same would be required on the respective client's letter head in case of credentials.
- c. Bank may at its discretion seek confirmation directly from any one or such client and it shall be the responsibility of the bidder to ensure that such enquiries are replied within the timeframe stipulated.

All the other Instructions and Terms & Conditions of the above RFP remain unchanged.
Please take note of the above Amendments while submitting your response to the subject RFP

Date: 16/03/2019

Place: Bengaluru


Deputy General Manager



Amended Annexure-7
Technical Requirements for Software Defined -Wide Area Network (SD-WAN)
Solution

SUB: RFP for Supply, Installation, Integration and Maintenance of Software Defined -Wide Area Network (SD-WAN) Solution.

Ref: Your RFP 20/2018-19 dated 21/02/2019

Note:

1. The Bidder shall specifically mention the make and model of the items offered for all the requirements in terms of RFP without fail, failing which the Bid is liable for rejection.
2. If the Bidder feels that certain features offered are superior to what has been specified by the Bank, it shall be highlighted separately. Information regarding any modification required in the proposed configuration to meet the intent of the specifications and state-of-the-art technology shall be provided. However, the Bank reserves the right to accept the modifications / superior features suggested/offered.
3. The Bidder shall provide all other required equipment and services, whether or not explicitly mentioned in this RFP, to ensure the intent of specification, completeness, operability, maintainability and upgradability.
4. The selected bidder shall own the responsibility to demonstrate that the products offered are as per the specification/performance stipulated in this RFP and as committed by the bidder either at site or in bidder's work site without any extra cost to the Bank.

A. Mandatory Technical Requirements

Sl. No.	General Hardware Specification	Bidder's Compliance (Yes/No)
1.	Proposed solution should be in the form of Hardware Appliance and must be Rack Mountable with Dual Power Supply for DC, DR, HO, HO Annex & CO locations . For other locations, Hardware Appliance with 1U/2U form factor with Single/ <u>Dual</u> power supply.	
2.	Proposed solution should have in-premises management console/controller to manage all the edge devices.	
3.	The SD-WAN should be capable of HA deployment i.e Active/Passive, and should be capable of auto failover in case active device fails.	
4.	The SD-WAN should be capable to use all the available links like	
a.	MPLS	
b.	Internet any kind	
5.	The SD-WAN should have the ability to bind multiple MPLS links and/or public internet links.	
6.	The SD-WAN should Support L3 protocol functionality like Static Routes, OSPFv2/OSPFv3, BGP v3 , BGP v4, Policy Based routing , Tunneling and NAT from day of connectivity.	
7.	The SD-WAN should Support IPv4 and IPv6 dual stack from day one.	
8.	Device Operating Conditions:	
a.	SD-WAN should seamlessly operate within Temperature range from 32 to 104°F (0 to 40°C)	
b.	SD-WAN should seamlessly operate within Relative Humidity range from 15 to 85%.	



c.	SD-WAN should seamlessly operate within Altitude range from 0 to 10,000 ft (3,000m).	
9.	The SD-WAN should support QoS features.	
10.	The SD-WAN should support SNMP and NTP for monitoring and report purpose	
11.	The SD-WAN must include the ability to support the network topologies like Hub and spoke, Full mesh, Partial/Regional mesh and Dynamic mesh	
12.	The Proposed hardware should be able to communicate with the existing products of different vendors (eg: - Cisco, HP, Juniper, Checkpoint, Palo-alto, etc.) Routers, Switches and Firewall.	
A.	DC/DR WAN optimization & SD-WAN solution with High Availability specification	
1.	The Solution must be delivered by a physical hardware platform in a DC/DR and should be Rack mountable with Dual Power supply	
2.	The Appliance must have throughput of minimum 4Gbps.	
3.	The Appliance for DC/DR should carry the functionality of WAN Optimization, Hybrid WAN, Performance based routing.	
4.	The Appliance should have minimum 4 x1G RJ45 type, 2 X10G Optical SFP (Multi-Mode LC Type) based WAN ports. The devices should be populated with SFP modules.	
5.	The SD-WAN DC/DR solution should be deployed in HA (1:1) (To accommodate all tunnels from edge devices).	
6.	The devices should be supplied with Console Cable, Power Cable (Indian Standard 3 pin plug) and Rack Mount kit.	
7.	All the WAN ports of should support QoS.	
8.	The device should use both DC-DR replication links effectively and it should continuously use the links even with 20% error in the link.	
9.	The solution should recover from link failure - alternate link convergence time within milliseconds without session disconnect.	
10.	The DC and DR WAN optimization feature should optimize and reduce minimum 50% our existing bandwidth utilization.	
11.	The DC and DR WAN optimization feature should reduce our existing time taken to carry data replication from DC to DR/DR to DC.	
12.	The DC and DR devices should support WAN optimization features	
a.	TCP flow control	
b.	Data compression	
c.	De-duplication	
d.	Protocol optimization	
B.	HO Annex (DIT-Naveen Complex) SD-WAN High Availability Solution Specification	
1.	The SD-WAN must be delivered by a physical hardware platform in DIT and should be Rack mountable with Dual Power supply	
2.	The SD-WAN must handle the throughput of minimum 600Mbps.	
3.	The DC/DR SD-WAN should have minimum 4x1GE based WAN ports.	
4.	The SD-WAN should be supplied with Console Cable, Power Cable (Indian Standard 3 pin plug) and Rack Mount kit	
5.	All the WAN ports of SD-WAN should support QoS.	
6.	The SD-WAN should be deployed in HA(1:1)	
C.	Head Office SD-WAN High Availability Solution Specification	
1.	The SD-WAN must be delivered by a physical hardware platform in HO with 1U/2U	



	form factor and should be Rack Mountable with Dual Power supply.	
2.	The SD-WAN must handle the throughput of minimum 400Mbps.	
3.	The DC/DR SD-WAN should have minimum 4x1GE based WAN ports.	
4.	The SD-WAN should be supplied with Console Cable, Power Cable (Indian Standard 3 pin plug) and Rack Mount kit	
5.	All the WAN ports of SD-WAN should support QoS.	
6.	The SD-WAN should be deployed in HA(1:1)	
D.	21 Circle Office SD-WAN Specification	
1.	The SD-WAN must be delivered by a physical hardware platform in CO with 1U/2U form factor with Dual Power supply.	
2.	The CO SD-WAN should be supplied with Console Cable, Power Cable (Indian Standard 3 pin plug) and Rack Mount kit.	
3.	The SD-WAN must handle the throughput of minimum 200Mbps.	
4.	The CO SD-WAN should have minimum 6x1 GE based WAN ports.	
5.	The CO SD-WAN should support 802.1Q	
6.	All the WAN ports of SD-WAN should support QoS.	
E.	Branch Office SD-WAN Specification	
1.	The SD-WAN must be delivered by a physical hardware platform in Branches with 1U/2U form factor with Single/Dual Power supply.	
2.	The Branch SD-WAN should be supplied with Smart Serial Cable, Console Cable, Power Cable (Indian Standard 3 pin plug) and Rack Mount kit.	
3.	The SD-WAN must handle the throughput of minimum 100Mbps.	
4.	The SD-WAN should have a) Minimum 4x1 GE based WAN ports (one serial to gig convertor with 2Mbps BW support for each branch office location) or b) Minimum 3x1 GE based WAN ports with one inbuilt smart serial interface supporting 2Mbps BW.	
5.	The Branch SD-WAN should support 802.1Q	
6.	All the WAN ports of SD-WAN should support QoS.	
F.	General Functionality Requirement and Specification	
1.	Based on N/W analysis of the current setup the solution must select best path based on link Quality, Policy & link Capacity.	
2.	The SD-WAN should be able to load balance across links simultaneously, or leverage the secondary link for spill-over if the bandwidth required for one session exceeds the available bandwidth on the best link. This lets high bandwidth applications have as much bandwidth as they need to perform optimally.	
3.	The SD-WAN should support if the bandwidth of a single session exceeds the availability on any link , the session must be able to use multiple links simultaneously.	
4.	The SD-WAN should have the ability to bind multiple MPLS links and an MPLS link with public internet link.	
5.	The SD-WAN should be able to build connections dynamically between two SD-WAN devices, leveraging multiple links and apply logic for best path selection, traffic switching ,Qos and dynamic link bonding.	
6.	The SD-WAN should support Link failover due to packet loss, Latency, Jitter, link flap & Etc. - without TCP and UDP session failover	



7.	The SD-WAN device should have capability to forward traffic via specific WAN paths depending on predefined application policies and performance needs.	
8.	The appliance should use both the links effectively.	
9.	The SD-WAN solution should not add any latency for the current traffic path	
10.	The SD-WAN should continuously check the link flaps and link quality parameters and traverse the traffic accordingly i.e. if the link is not stable then put the link in monitor state, once the link is stable for particular time then start sending traffic on that link. Link flaps or link up/down must not affect the traffic as long as other link is available.	
11.	The SD-WAN should support one way Latency and Traffic loss monitoring (Eg: DC to DR & Site DR to DC)	
12.	The SD-WAN should continuously assess performance of critical voice, video, or data applications at any given time with the ability	
13.	The SD-WAN must integrate transparently into the existing routing infrastructure. The solution must be completely transparent to existing routing protocols (e.g., OSPF, BGP (iBGP and eBGP), IPSEC etc.). All routing functions, including “dynamic path selection” or any other network routing decisions.	
14.	The SD-WAN must be able to perform priority queuing in order to prioritize packet flows for each traffic class.	
15.	The SD-WAN Should support hybrid secured connectivity across the WAN i.e Data flowing between DC to DR devices, from DC/DR to HO/CO/Branch devices and within the branch to branch communication should be encrypted by using industry standard protocol.	
16.	The SD-WAN solution should support encryptions for end-to-end communication. The solution should use standard encryption technology, such as AES256/above to provide secure connectivity over any type of WAN link. Rekeying functionality should be available in the solution for encryptions.	
17.	The SD-WAN solution must be able to apply Qos policies to all the traffic seen in network, including both optimized and non-optimized traffic flows, including TCP,UDP and other non-TCP traffic types.	
18.	The SD-WAN solution should include a Qos mechanism that is able to protect delay sensitive flows like Voice, Video, and VDI.	
19.	If a failure of one or more network links occur and there isn't enough remaining bandwidth to service all current sessions, current sessions should be adjusted to conform with the QoS policies.	
G.	The SD-WAN should have following Firewall features	
1.	Statefull Firewall Services with Access Lists and/or Time based Access lists to provide supervision and control.	
2.	The SD-WAN should support DDoS mitigation functionality and protect DDOS attack like UDP Flood, Ping of Death etc.	
3.	SD-WAN should comply with PCI DSS 3.2	
H.	Hardware/Device Security	
1.	SD-WAN devices should have authentication and authorization only with the preconfigured Controller/Management server/Management Console which is placed in DC/DR.	
2.	SD-WAN Devices should not communicate with cloud controller which is placed by the OEM in cloud. All the updates and operations should be carried from DC/DR Controller/Management server/Management Console.	

3.	Device should not connect to central controller without manual intervention, for authentication, if link /Power failure happens for the specified time period.	
4.	From the central controller we must be able to fix the location of the device geographically based on the Latitude and Longitude position using GPS. If Latitude and Longitude changes (precision 10m) at controller, then device should be disabled automatically from the central controller. Precision can be set device/location wise, should not be only global parameter. OR SD-WAN devices should have capability to bond with any static hardware (Like switch, ATM.) MAC IDs in respective location and device should be automatically disabled if bonded MAC IDs is Unrecognized / Unreachable by the SD-WAN device.	
5.	SD-WAN devices should be able to access only through web based from the Bank network for configuring and controlling. SSH, USB port and telnet should be disabled by default and console should be password protected.	
I.	SD-WAN Management	
1.	Appliance Should be able to integrate with central authentication solutions such as	
a.	Active Directory/TACACS	
b.	Solution should have privilege level of users like L1, L2 and L3 to control and to manage deployed SD-WAN devices.	
c.	SIEM Solution	
2.	The Solution should have simplified orchestration which should be placed in DC and DRC for provisioning, automation to control and to push configuration for all the devices.	
3.	The solution should come with a web based administration interface (GUI) (Mandatory) and CLI (Desirable).	
4.	Central Management Console to be provided in DC & DR. Both DC and DR SD-WAN controllers should be in active-standby mode.	
5.	The DC and DR management console should have the capacity and Scalability to manage all edge devices.	
6.	The solution should be able to perform time synchronization with NTP server	
7.	The appliance should support SNMP (V1, V2 and V3)	
J.	SD-WAN Reporting	
1.	The SD-WAN should support granular Real-Time Monitoring and Historical Reporting like	
a.	Statistic bandwidth usage of available links	
b.	Network statistics, including continuous performance monitoring of loss, latency, and packet ordering for all network paths and link utilization.	
2.	The SD-WAN should be able to generate report for	
a.	Traffic statistics of all the included path	
b.	Specific application utilization	
c.	Path performance	
3.	The SD-WAN should be able to generate system events/logs for events that have taken place in the system such as a login, changes to configuration and system related errors or warnings.	



4.	The SD-WAN should have GUI (Graphical User Interface) for Report Generation.	
5.	The SD-WAN MUST provide following reports of Individual Link Quality/Virtual Link Quality on daily, weekly, monthly, yearly etc.	
a.	Packet loss in the links	
b.	Jitter on the links	
c.	Latency of Links	
6.	The SD-WAN controller should contain single dashboard which includes all other device status like CPU, Link status, event logs etc.	
7.	The solution should provide option for scheduling reports.	
K.	LICENSE and SLA	
1.	The devices and software should be supported by the OEM on 24X7X365 basis through a global Technical Assistance Center (TAC).	
2.	The TAC support should be provided direct from OEM and not through any intermediate partner.	
3.	All the functionality and feature license should be pre-installed and it should be usable from day one of operation.	
4.	During the tenure, all the software/Patch/OS upgradation should be done by the Bidder/OEM with no Cost to Bank.	
5.	All the license part should be applied to all SD-WAN devices through central controller and not from cloud.	

B. Desirable Technical Requirements

Sl. No.	General Hardware Specification	Maximum Marks	Fully Complied(FC) / Not Complied(NC)	Marks Allotted
1.	High Mean Time Between Failure values should be minimum 07 years to ensure long life of hardware.	2		
A.	DC/DR WAN optimization & SD-WAN solution with High Availability specification		-----	
1.	During hardware failure the solution must fail open with < 1 Sec	1		
2.	The SD-WAN should be capable of sending duplicate data over both links for guaranteed delivery of all applications data and it has to be configurable feature need to be enabled if required.	1		
3.	The SD-WAN device should be able to deploy in "In-line/in-path mode and Off-line/Off-path/Out-of-path mode" in the current Network setup.	2		
B.	The SD-WAN should have following Firewall features		-----	
1.	The SD-WAN must support configuration rollback feature to detect and recover from software and configuration errors by reverting back to previously active software or configuration.	2		
2.	The SD-WAN should have following Next Generation Firewall		-----	



a.	Antivirus/Anti-malware	0.5		
b.	Content Filtering	0.5		
c.	DNS Filtering	0.5		
d.	Inbuilt IPS(Intrusion Prevention System) for Monitoring and Preventing Malicious activities such as security threat policy violation etc.	2		
e.	Web/URL filtering capability to allow or deny access to certain class of web sites according to predefined policies.	2		
C.	SD-WAN Management		-----	
1.	Appliance Should be able to integrate with central authentication solutions such as		-----	
a.	Privileged identity Management(PIM)	2		
2.	The appliance should be capable to send Email alerts and SMS alerts on meeting/exceeding the user defined thresholds.	2		
3.	The solution must support flexible hierarchical group management, including for group-based configuration changes and software updates. Appliances may be grouped according to a hierarchical structure that affords easy management of hundreds of appliances.	2		
4.	SD-WAN edge devices should have the feature of Zero-Touch Provisioning.	2.5		
D.	SD-WAN Reporting		-----	
1.	The SD-WAN should support granular Real-Time Monitoring and Historical Reporting like		-----	
a.	Statistic bandwidth usage of each application and flow of each application.	2		
2.	The SD-WAN should provide automated, real-time event alert mechanism.	2		
3.	The solution must be capable of exporting traffic statistics to AppFlow or Netflow collectors.	2		
4.	All Reports must be exportable in CSV format / PDF format	2		
Total Function & Technical requirement Marks		30		

Notes:

- Bidder should ensure that any non-compliance of Mandatory requirement as per Technical & Functional Specification (Annexure-7) lead to disqualification.
- Any specification declared Compliant, however, it is found non-compliant during POC will lead to disqualification.
- Each Desirable requirement shall be awarded full mark if it is fully complaint(FC) i.e. No customization is required and Zero (0) mark for a line item if it is Non complaint (NC).
- Bidder has to showcase above specifications / features and provide equivalent document



Declaration:

1. We hereby Confirm that we have various certificates/bench mark testing standards for the items quoted to meet the intent of the RFP.
2. We hereby Confirm that we have back to back arrangements with third party hardware software for providing continuous and un-interrupted support to meet SLAs obligations as per RFP Terms.

Date

Signature with seal

Name :

Designation :