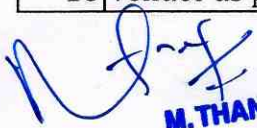


TERMS & CONDITIONS OF THE CONTRACT

The vendor shall comply to all the below terms and conditions.

SNo	Terms & Conditions of the Contract	Yes/No	Remarks
1	As per requirement of BHEL Piping Centre, the vendor shall supply, install and configure two main office appliances in BHEL Piping Centre, Chennai and one branch office appliance in BHEL Trichy. The vendor shall also provide 3 years support for the appliances in both BHEL PC Chennai as well as in BHEL Trichy locations from the date of installation.		
2	The vendor shall provide 24x7 support for three years from the date of installation of the appliances.		
3	The appliance to be supplied by the vendor shall be new . Vendor shall submit the Newness certificate .		
4	Vendor shall submit manufacturer (OEM) authorisation letter.		
5	The vendor shall ensure 8x5 NBD support from OEM for the entire support period of three years.		
6	The quoted price shall include transportation, supply, installation, maintenance, support and subscription of the appliances.		
7	The solution going to be supplied by vendor shall be upgradable and usable for at least 5 years from the date of installation.		
8	The vendor shall have a full - fledged company service facility in Chennai.		
9	Onsite service response time shall be within 4 hours.		
10	Whenever new configuration or policy needs to be incorporated, the vendor or supplier shall accomplish it as per BHEL request.		
11	Support level matrix shall be submitted by the vendor in their techno commercial bid itself.		
12	Monthly preventive maintenance shall be performed by the vendor and performance report for the same shall be submitted at the end of every month.		
13	Any issue shall be attended immediately by the vendor and that at any point of time if the appliance is down and a delay is anticipated for the replacement to arrive, then the vendor shall provide an equivalent appliance for continuity of service.		
14	The schedule for periodical maintenance of equipment shall be furnished by the vendor while getting PO.		
15	The vendor shall provide a direct support and shall not have a third party sub contract for support and service.		
16	In future, any configurations relevant to IPv6 shall be done by the vendor as per BHEL's requirement.		



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17	Shall comply the payment term : 100% payment will be made after successful installation of the appliance.		
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**Link Load Balancer Solution
Technical Compliance Sheet**

Make/ Model		Vendor Reply
Appliance make shall be anyone of the below mentioned (Radware/ F5/ FatPipe/ Riverbed)		
Specify Model	Main Office Appliance	
	Branch office appliance	

Technical Compliance for Main Office Appliance (Annexure - A)

Technical Compliance for Branch Office Appliance (Annexure - B)


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**Technical Compliance for Main Office Appliance
(Annexure - A)**

SNo	1. Hardware Specification	Compliance	Comment
1.1	The solution shall be appliance based		
1.2	Shall have at least 6 x 10/100/1000 WAN ports		
1.3	Shall support at least 2 LAN ports (GbE)		
1.4	Shall support at least 50 mbps WAN throughput		
1.5	Shall have minimum 4GB RAM		
1.6	Shall support at least 1 USB Port		
1.7	Appliance shall be rack mountable		
1.8	Shall provide minimum 1 Gbps throughput		
1.9	The solution shall be capable of balancing 1. Multiple internet leased lines 2. Multiple point to point links 3. Multiple MPLS links 4. Point to point link with MPLS link and vice versa		
1.10	Shall support Dynamic routing protocols		


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SNo	2. Load Balancing Features	Compliance	Comment
2.1	Shall support at least 3 Internet links		
2.2	Shall have the ability to load balance among multiple connections		
2.3	Shall support selection of shortest path to destination based on load/ Hops/ response time		
2.4	Shall provide Load balancing for inbound & outbound traffic		
2.5	Shall support automatic change over (fail over safe) to another available link in case of failure of one link.		
2.6	Shall support the following WAN connection methods: <ul style="list-style-type: none"> • Static IP • DHCP • PPPoE 		
2.7	Shall support for creating policies to handle different types of outbound traffic		
2.8	Shall support the following outbound load balancing algorithms: <ol style="list-style-type: none"> 1) On link latency 2) Link Load 3) Number of router hops 4) Packet loss 		
2.9	Shall support Extended DHCP Options		
2.10	In case of link failure, the device shall detect it in not more than 30 seconds		


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2.11	Shall support to perform many to one, one to one NAT Mappings		
2.12	Shall support IPv6 and shall be fully IPv6 compatible		
2.13	Shall have the ability to define local DNS records to lookup local host names		
2.14	Shall have the ability to act as an authoritative DNS server and support the following records: <ul style="list-style-type: none"> • SOA • NS • MX • CNAME • A • TXT • SRV • PTR 		
2.15	Shall have the ability to redirect the following types of outgoing traffic to a specific server and port number: <ul style="list-style-type: none"> • Email • Web Proxy • DNS lookups 		
2.16	Shall have the ability to reserve bandwidth resources for specific users		

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3. Link Management Feature		
SNo	Compliance	Comment
3.1	Shall be able to redirect traffic based on Source/Destination IP & port	
3.2	Shall have an option to define inbound/outbound kbps limit of throughput of any given link	

4.Redundancy		
SNo	Compliance	Comment
4.1	Shall Support VRRP	
4.2	Shall support Active/ Standby deployment	
4.3	Shall support seamless failover between units in a pair.	
4.4	Shall support state full replication of all sessions between units in a pair	
4.5	Shall support the ability to go Active upon loss of communication with the peer unit within a maximum interval of 5s.	

5.VPN Specification		
SNo	Compliance	Comment
5.1	Shall have the ability to connect to multiple VPN sites	
5.2	Shall support establishing site-to-site VPN and terminating the site-to-site VPN traffic	


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5.3	Shall support VPN load balancing among multiple Internet connections for traffic between VPN sites		
5.4	Shall support automatic site-to-site VPN traffic failover to another connection when a link fails for maintaining continuous connection between VPN sites		
5.5	Site-to-site VPN traffic shall support 256-bit AES encryption		
5.6	Shall support routing Internet traffic to another VPN site		
5.7	Shall support VPN failover based on Latency, Packet loss, etc		
5.8	Shall support site-to-site VPN traversing through NAT'd WAN connection		
5.9	Shall support IPsec VPN for Site-to-Site VPN		

SNo	6.QoS Specification	Compliance	Comment
6.1	Shall have the ability to prioritize SIP traffic		
6.2	Shall have the ability to prioritize traffic for any application by specifying its protocol and port		
6.3	Shall have the ability to define service levels for different users		
6.4	Shall have the ability to classify users into different groups		


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6.5	Shall have the ability to guarantee minimum bandwidth for different user groups		
6.6	Shall support enforcing a bandwidth limit on individual users		

SNo	7.Health Monitoring Specification	Compliance	Comment
7.1	Shall support monitoring the health for each WAN connection against an Internet host		
7.2	Shall support at least one of the below mechanisms for health monitoring <ul style="list-style-type: none"> • Ping • DNS lookup • HTTP 		
7.3	Shall have the ability to adjust health check interval and frequency		
7.4	Shall have the ability to adjust the number of consecutive unsuccessful/successful checks to determine the connection as link down/up		
7.5	Shall support monitoring health of both load balanced and remote (not load balanced) nodes.		



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SNo	8.Security Specification	Compliance	Comment
8.1	Shall have the ability to detect and prevent the following types of attack from the Internet: <ul style="list-style-type: none"> • Port Scans - NMAP FIN/URG/PSH, Xmas Tree, Another Xmas Tree, Null Scan, SYN/RST, SYN/FIN • SYN Flood • Ping Flood Attack 		
8.2	DoS prevention module must provide real time DoS protection		
8.3	Shall have the ability to classify traffic in order to allow or deny packets according to pre-defined rules <ul style="list-style-type: none"> • IP, Protocol, and Port filtering 		

SNo	9.Device Management & Reporting Specification	Compliance	Comment
9.1	Shall support HTTP/HTTPS web based GUI interface management		
9.2	Shall support different user levels for web based management access		
9.3	Shall support access to device status with Command Line Interface		
9.4	Shall have the ability to send out warning and error messages by email		

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9.5	Shall have the ability to save device configuration settings on a file and to use the file again for reloading of backed up settings		
9.6	Shall have the ability to configure remote SYSLOG server to log events of the device		
9.7	Shall have the ability to configure a port for replying to ICMP Ping requests		
9.8	Shall support automatic device date and time synchronization through remote NTP server		
9.9	Shall support HTTP for operating Appliance upgrades and remote configuration.		
9.10	Shall have the ability to post traffic data and other information to a reporting server to generate detailed usage reports of the device		
9.11	Shall have the ability to use SNMP protocol and MIB for device monitoring		
9.12	Show real-time data of transferring upload/download throughputs		



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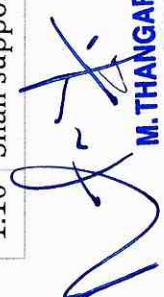
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Technical Compliance for Branch Office Appliance

(Annexure - B)

SNo	1. Hardware Specification	Compliance	Comment
1.1	The solution shall be appliance based		
1.2	Shall have at least 2 x 10/100/1000 WAN ports		
1.3	Shall support at least 1 LAN port (GbE)		
1.4	Shall support at least 15 mbps WAN throughput		
1.5	Shall have minimum 2 GB RAM		
1.6	Shall support at least 1 USB Port		
1.7	Appliance shall be rack mountable		
1.8	Shall provide minimum 200 Mbps throughput		
1.9	The solution shall be capable of balancing <ol style="list-style-type: none"> 1. Multiple internet leased lines 2. Multiple point to point links 3. Multiple MPLS links 4. Point to point link with MPLS link and vice versa 		
1.10	Shall support Dynamic routing protocols		




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SNo	2.Load Balancing Specification	Compliance	Comment
2.1	Shall support at least 2 Internet links		
2.2	Shall have the ability to load balance among multiple connections		
2.3	Shall support selection of shortest path to destination based on load/ Hops/ response time		
2.4	Shall provide Load balancing for inbound & outbound traffic		
2.5	Shall support automatic change over (fail over safe) to another available link in case of failure of one link.		
2.6	Shall support the following WAN connection methods: <ul style="list-style-type: none"> • Static IP • DHCP • PPPoE 		
2.7	Shall support for creating policies to handle different types of outbound traffic		
2.8	Shall support the following outbound load balancing algorithms: <ol style="list-style-type: none"> 1) On link latency 2) Link Load 3) Number of router hops 4) Packet loss 		
2.9	Shall support Extended DHCP Options		

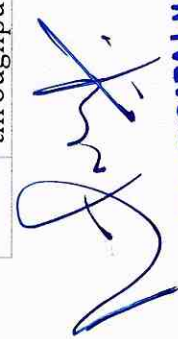

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2.10	In case of link failure, the device shall detect it in not more than 30 seconds		
2.11	Shall support to perform many to one, one to one NAT Mappings		
2.12	Shall support IPv6 and shall be fully IPv6 compatible		
2.13	Shall have the ability to define local DNS records to lookup local host names		
2.14	Shall have the ability to redirect the following types of outgoing traffic to a specific server and port number: <ul style="list-style-type: none"> • Email • Web Proxy • DNS lookups 		
2.15	Shall have the ability to reserve bandwidth resources for specific users		

SNO	3. Link Management Specification	Compliance	Comment
3.1	Shall be able to redirect traffic based on Source/Destination IP & port		
3.2	Shall have an option to define inbound/outbound kbps limit of throughput of any given link		



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SNo	4. VPN Specification	Compliance	Comment
4.1	Shall have the ability to connect to multiple VPN sites		
4.2	Shall support establishing site-to-site VPN and terminating the site-to-site VPN traffic		
4.3	Shall support VPN load balancing among multiple Internet connections for traffic between VPN sites		
4.4	Shall support automatic site-to-site VPN traffic failover to another connection when a link fails for maintaining continuous connection between VPN sites		
4.5	Site-to-site VPN traffic shall support 256-bit AES encryption		
4.6	Shall support routing Internet traffic to another VPN site		
4.7	Shall support VPN failover based on Latency, Packet loss, etc		
4.8	Shall support site-to-site VPN traversing through NAT'd WAN connection		
4.9	Shall support IPsec VPN for Site-to-Site VPN		



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SNo	5.QoS Specification	Compliance	Comment
5.1	Shall have the ability to prioritize SIP traffic		
5.2	Shall have the ability to prioritize traffic for any application by specifying its protocol and port		

SNo	6.Health Monitoring Specification	Compliance	Comment
6.1	Shall support monitoring the health for each WAN connection against an Internet host		
6.2	Shall support at least one of the below mechanisms for health monitoring <ul style="list-style-type: none"> • Ping • DNS lookup • HTTP 		
6.3	Shall have the ability to adjust health check interval and frequency		
6.4	Shall have the ability to adjust the number of consecutive unsuccessful/successful checks to determine the connection as link down/up		


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7.Security Specification		Compliance	Comment
7.1	DoS prevention module must provide real time DoS protection		
7.2	Shall have the ability to classify traffic in order to allow or deny packets according to pre-defined rules <ul style="list-style-type: none"> IP, Protocol, and Port filtering 		

9.Device Management & Reporting Specification		Compliance	Comment
9.1	Shall support HTTP/HTTPS web based GUI interface management		
9.2	Shall support different user levels for web based management access		
9.3	Shall support access to device status with Command Line Interface		
9.4	Shall have the ability to send out warning and error messages by email		
9.5	Shall have the ability to save device configuration settings on a file and to use the file again for reloading of backed up settings		
9.6	Shall have the ability to configure remote SYSLOG server to log events of the device		
9.7	Shall have the ability to configure a port for replying to ICMP Ping requests		
9.8	Shall support automatic device date and time synchronization through remote NTP server		


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9.9	Shall support HTTP for operating Appliance upgrades and remote configuration.		
9.10	Shall have the ability to post traffic data and other information to a reporting server to generate detailed usage reports of the device		
9.11	Shall have the ability to use SNMP protocol and MIB for device monitoring		
9.12	Show real-time data of transferring upload/download throughputs		


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