Modifications in SRS

Changes in Section G3 :

Page No. of SRS, G3	Heading	Existing clause	Proposed clause	Remarks
		Deletion in Red colour	**Addition in Blue colour**	
Page-6	3.1 (i) VPN/MPLS Wide area Network (General Guidelines)	The WAN should be capable to provision IP multicast based services. The same would require the capability of running industry standard IP multicast protocols like Protocol Independent Multicast (PIM) Sparse Mode and Dense Mode, Multicast OSPF (MOSPF), multicast BGP (MBGP) and DVMRP.	The WAN should be capable to provision IP multicast based services. The same would require the capability of running industry standard IP multicast protocols like Protocol Independent Multicast (PIM) Sparse Mode and Dense Mode, Multicast OSPF (MOSPF), multicast BGP (MBGP) and DVMRP **or equivalent.**	
Page-19 and Amendment dated 8th July 2009	6.1)Common to Core switch, Access Switch and Distribution switch	**Layer III Switching for IP :** The switch should be a multi-protocol switch with support for IP, IPX, IP – Multicast routing, For IP Routing the switch should have support for Static, RIP v1, RIP v2, OSPF, BGP4 routing, Provide Equal Cost Multipath routing for load sharing across multiple links, provide IP Multicast routing protocols desired - DVMRP, PIM, PGM, IGMP, Multihoming etc. Support for IPV6 Classless Interdomain routing protocol DHCP Server and Relay Agent. For high availability, the switch should support the standards based RFC 2338 Virtual Router redundancy Protocol (VRRP) / Hot standby routing protocol. Network Address Translation &	**Layer III Switching for IP :** The switch should be a multi-protocol switch with support for IP, IPX, IP – Multicast routing, For IP Routing the switch should have support for Static, RIP v1, RIP v2, OSPF, BGP4 routing, Provide Equal Cost Multipath routing for load sharing across multiple links, provide IP Multicast routing protocols desired – DVMRP **or equivalent,** PIM, PGM, IGMP, Multihoming etc. Support for IPV6 Classless Interdomain routing protocol DHCP Server and Relay Agent. For high availability, the switch should support the standards based RFC 2338 Virtual Router redundancy Protocol (VRRP) / Hot standby routing protocol. Network Address Translation &	

		Network Time Protocol should be supported. Each line or I/O module should support both Layer 2 and Layer 3 forwarding.	Network Time Protocol should be supported. Each line or I/O module should support both Layer 2 and Layer 3 forwarding.	
Page-20 and Amendment dated 8th July 2009	6.1 (common to core switch, Access switch and distribution switch)	**Policy Based Quality of Services :** Switch should support traffic classification based on Layer2, Layer 3 and Layer 4 parameters like ingress port, Ether Type (IP/IPX), VLAN ID, IP (RFC 2474 and RFC 2475)protocol type, Source IP addresses, Destination IP addresses, Source TCP/UDP ports, Destination TCP/UDP ports. QoS based on classification, marking, prioritization and scheduling. Bandwidth Engineering & Management – Per Port Minimum, Black-hole (Blocking), excess bursting, shaping Support for L3/L4 filtering capabilities for inter VLAN traffic, VTP or equivalent for VLAN management, Private & Dynamic VLAN support, High Priority Transmit Queuing, Support for multiple WRED drop thresholds per queue. QoS-based forwarding based on IP precedence QoS implementation should support all 64 DiffServ Code Points (DSCP) and all 4 DiffServ Classes. QOS support for 4 hardware queues per port or more. Strict priority and Weighted priority mechanisms for queuing and scheduling. IEEE 802.1p User Priority should be	**Policy Based Quality of Services :** Switch should support traffic classification based on Layer2, Layer 3 and Layer 4 parameters like ingress port, Ether Type (IP/IPX), VLAN ID, IP (RFC 2474 and RFC 2475)protocol type, Source IP addresses, Destination IP addresses, Source TCP/UDP ports, Destination TCP/UDP ports. QoS based on classification, marking, prioritization and scheduling. Bandwidth Engineering & Management – Per Port Minimum, Black-hole (Blocking), excess bursting, shaping Support for L3/L4 filtering capabilities for inter VLAN traffic, VTP or equivalent for VLAN management, Private **or equivalent** & Dynamic VLAN support, High Priority Transmit Queuing, Support for multiple WRED drop thresholds per queue. QoS-based forwarding based on IP precedence QoS implementation should support all 64 DiffServ Code Points (DSCP) and all 4 DiffServ Classes. QOS support for 4 hardware queues per port or more. Strict priority and Weighted priority mechanisms for queuing and scheduling. IEEE 802.1p User Priority should be	

		supported IEEE802.1p to DiffServ mapping also needs to be supported. Diffserv,IGMP	supported IEEE802.1p to DiffServ mapping also needs to be supported. Diffserv,IGMP	
Page-36	9.7 (RAS features of Servers)	Provision for Secure Cryptographic acceleration at Hardware level supporting standard ciphers	**deleted**	
Page-41	9.11 (Misc server), sub clause 5	Processor: **Xeon Quad Core 2.66GHz With simultaneous Multi-threading or equivalent processor of other make**.	Processor: **RISC/Itanium/X-86 based processor With simultaneous Multi-threading.** However, additional QR may be included that server OEMs must be a member of Transaction Processing Council (TPC) or Standard Performance Evaluation Corporation (SPEC). Moreover, choice of selection of server hardware is left to utility and SI has to ensure that the performance should not be downgraded with maximum no. of specified concurrent users across the utility area. The utility before floating the RFP shall define minimum Benchmark parameters for each server.	
Page-51	10(10) Storage and Back up Sub System : Tape Library	The tape library offered shall be robotic controlled to identify media, load tape media into drives and put them back into corresponding shelves automatically and should be configured in a “No Single Point of Failure” configuration like all other SAN infrastructure components.	The tape library offered shall be robotic controlled to identify media, load tape media into drives and put them back into corresponding shelves automatically and should be configured in a “No Single Point of Failure” configuration like all other SAN infrastructure components. No single Point of Failure can exclude	

			the robotic arm, provided the vendor stocks a spare robotic arm at site.	
Do	Do	Bidder shall supply sufficient no blank new tape media. The library shall be configured with minimum 6 x LTO Gen4 drives and shall be scalable to 12 LTO Gen4 drives in the same frame without stacking. The tape library shall support at least **100** drives and **5000** slots.	Bidder shall supply sufficient no blank new tape media. The library shall be configured with minimum 6 x LTO Gen4 drives and shall be scalable to 12 LTO Gen4 drives in the same frame without stacking. The tape library shall support at least **44** drives and **1000** slots.	
Do	Do	The media shall have a minimum uncompressed capacity of **400** GB and **800 GB** compressed.	The media shall have a minimum uncompressed capacity of **800 GB** and **1.60 TB** compressed.	
Page-68 and Amendment dated 8th July 2009	**12.1)CENTRAL ROUTER FOR MPLS/ VPN Network (Qty=2 No.)**	WAN Ports : 32 Serial ports with synchronous speed up to 2Mbps and with interface support for V.35, V.24 Ports (to be interfaced to leased circuits or SCPC / MCPC available on Multiplexer). 2x 4nos. of G.703 Ports 75 Ohm. 2x 4port ISDN PRI E1/channelised E1 interfaces for 120 Ohm G.703 I/f Shall also support variety of interfaces like STM-1, STM-4, channelised STM-1 and Gigabit WAN ports Additional Module/Modules for 8 Port of various interface types (to be customized by Utility/IT consultant) as Spare.	WAN Ports : 32 Serial ports with synchronous speed up to 2Mbps and with interface support for V.35, V.24 Ports (to be interfaced to leased circuits or SCPC / MCPC available on Multiplexer). 2x 4nos. of G.703 Ports 75 Ohm. 2x 4port ISDN PRI E1/channelised E1 interfaces for 120 Ohm G.703 I/f **(ISDN PRI can be given internal or external to core router)** Shall also support variety of interfaces like STM-1, STM-4, channelised STM-1 and Gigabit WAN ports Additional Module/Modules for 8 Port of various interface types (to be customized by Utility/IT consultant) as Spare.	
Page-69	12.1 (Central Router for MPLS/VPN) :	RSVP (Resource Reservation Protocol as per RFC 2205), IGMP (Inter Group Management Protocol	RSVP (Resource Reservation Protocol as per RFC 2205), IGMP (Inter Group Management Protocol	

	QOS Support	Version 2 as per RFC 2236, Multicast Routing support DVMRP, MOSPF, MBGP, etc. Policy routing (It shall be possible to affect the normal routing process for specific mission critical traffic through specified alternate routes in the network. A class based scheduling, Priority Queuing mechanism that shall provide configurable minimum Bandwidth allocation to each class and IP Precedence. Congestion Avoidance – Random Early Detection (RED). Support for Differentiated Services as per RFCs 2474, 2475, 2598 & 2597.	Version 2 as per RFC 2236, Multicast Routing support DVMRP **or equivalent**, MOSPF, MBGP, etc. Policy routing (It shall be possible to affect the normal routing process for specific mission critical traffic through specified alternate routes in the network. A class based scheduling, Priority Queuing mechanism that shall provide configurable minimum Bandwidth allocation to each class and IP Precedence. Congestion Avoidance – Random Early Detection (RED). Support for Differentiated Services as per RFCs 2474, 2475, 2598 & 2597.	
Page-70 and Amendment dated 8th July 2009	12.2)Utility Office Router	**LAN Port:** ▪ Two fixed 10/100M high speed Ethernet ports ▪ Two fixed high-speed synchronous ports ▪ Two fixed low-speed asynchronous ports ▪ One Port ISDN BRI-S/T interface **and should support ISDN PRI** ▪ One AUX Scalability: Should **have 4 free slots and support 16** sync/Async ports or more for future scalability	**LAN Port:** ▪ Two fixed 10/100M high speed Ethernet ports ▪ Two fixed high-speed synchronous ports ▪ Two fixed low-speed **synchronous or** asynchronous ports ▪ One Port ISDN BRI-S/T interface ▪ One AUX Scalability: Should **additionally support 6 sync or async ports** or more for future scalability	
Page-71 and Amendment dated 8th July 2009	Do	Backplane: **200** Mbps or more full duplex	Backplane: **100** Mbps or more full duplex	
Page-71 and Amendment	Do	Switching Performance **400** Kpps	Switching Performance **200** Kpps	

dated 8th July 2009		The ultimate requirement and capacity with respect to Backplane speed and Packet forwarding rate is to be finalized by utility to cater to ultimate requirement of state.	The ultimate requirement and capacity with respect to Backplane speed and Packet forwarding rate is to be finalized by utility to cater to ultimate requirement of state.	
Page-71	12.2 (Utility Office Router) : QOS Support	RSVP (Resource Reservation Protocol as per RFC 2205), IGMP (InterGroup Management Protocol Version 2 as per RFC 2236, Multicast Routing support DVMRP, MOSPF, MBGP etc. Policy routing (It shall be possible to affect the normal routing process for specific mission critical traffic through specified alternate routes in the network. A class based scheduling, Priority Queuing mechanism that shall provide configurable minimum Bandwidth allocation to each class and IP Precedence. Congestion Avoidance – Random Early Detection (RED). Support for Differentiated Services as per RFCs 2474, 2475, 2598 & 2597.	RSVP (Resource Reservation Protocol as per RFC 2205), IGMP (InterGroup Management Protocol Version 2 as per RFC 2236, Multicast Routing support DVMRP **or equivalent**, MOSPF, MBGP etc. Policy routing (It shall be possible to affect the normal routing process for specific mission critical traffic through specified alternate routes in the network. A class based scheduling, Priority Queuing mechanism that shall provide configurable minimum Bandwidth allocation to each class and IP Precedence. Congestion Avoidance – Random Early Detection (RED). Support for Differentiated Services as per RFCs 2474, 2475, 2598 & 2597.	
Page-72	13.1.3) General (IP PBX Specifications)	Support for Survival of Telephony services at remote sites by routers (capability to keep Telephony services available even when IP EAPBX is not available due to WAN or any other failure).	Support for Survival of Telephony services at remote sites by router **or through external box** (capability to keep Telephony services available even when IP EAPBX is not available due to WAN or any other failure).	
Amendment dated 08.07.09,	Annexure-I : Specification of L-2 switches (Network management)	**Layer 2** trace route to ease troubleshooting by identifying the physical path that a packet takes from source to destination	Trace route to ease troubleshooting by identifying the physical path that a packet takes from source to destination	

Amendment dated 08.07.09	Annexure-I : Specification of L-2 switches (redundancy features)	Spanning Tree (802.1d) with support for spanning tree per VLAN	Spanning Tree (802.1d) with support for spanning tree per VLAN **or equivalent**	

Disclaimer :

SRS document is generic in nature, vendor neutral and technology independent. Whenever any material or article is specified or described by the name of any particular brand, manufacturer or trade mark, the specific item shall be understood as establishing type, function and quality desired. Products of other manufacturers may also be considered, provided sufficient information is furnished so as to enable the owner to determine that the products are equivalent to those named.

Changes in RFP Document:

1.0) Additional QR for MBC Software solution :

Considering the requests from various Discoms for incorporation of Qualifying Requirement for MBC Software, the following modification may be effected in the customized RFP documents for appointment of ITIA –

Proposed Qualifying Requirement for MBC application

In case SI is not providing MBC application of his own / developed by him, the following QR is applicable for outsourced solution-

1. The MBC application is available as off the shelf product of an OEM and have been implemented and successfully under operation for a period of at least 1 years for at least five lakhs consumers in utility. The solution should be running on a web based centralized WAN environment. The bidder should produce a copy of certificate for successful completion of user acceptance test.

   OR

   In case the offered MBC solution is not from an OEM then the bidders (SI) have an option to supply customized solution implemented in any of the Indian power utilities and it should meet the following condition:

   The application must be under operation for at least 3 years in Indian power utilities for a consumer base of 10 lakhs covering Domestic, Non-domestic and HT consumers and the solution, should be running on a web based centralized WAN environment at least for a period of one year.

2. **The software which work only in decentralized environment (spot billing applications) shall not be considered**

3. **The bidder must provide documentary evidences including screen shots describing functionalities of the proposed solution and certificate from the purchaser / owner regarding successful operation of the implemented application.**

2.0) Quantity Variation clause:

In case Utility desires, the General Conditions Contract (GCC) may be modified in their customized RfP for appointment of ITIA by incorporating following clause against any deviation in Quantity to take care of any expansion or change in scope in the distribution network of the towns during execution. (The utility can incorporate the above clause subject to that the additional cost on account of variation of quantity shall be borne by the utility, in case the same is not approved under R-APDRP).

"The evaluation shall be made on the overall cost of the items and quantities mentioned in the RFP. However, while placing the order, or during the execution, the utility reserves the right to modify the quantities of individual items to the extent of +/- 20% of the mentioned BoQ subject to **within a range of 10% of the value of the overall project cost."**

Note :-

For Utilities/states, who have already issued their RfP for appointment of ITIA under part-A of RAPDRP Projects and the financial bids have not been opened so far, the utility may use its discretion to call revised / fresh financial offer by the bidders, if required.