## Modifications in SRS

### Changes in Section G3:

<table>
<thead>
<tr>
<th>Page No. of SRS, G3</th>
<th>Heading</th>
<th>Existing clause</th>
<th>Proposed clause</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Page-6</td>
<td>3.1 (i) VPN/MPLS Wide area Network (General Guidelines)</td>
<td>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.</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>Page-19 and Amendment dated 8th July 2009</td>
<td>6.1) Common to Core switch, Access Switch and Distribution switch</td>
<td>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 &amp;</td>
<td>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 &amp;</td>
<td></td>
</tr>
<tr>
<td>Page-20 and Amendment dated 8th July 2009</td>
<td><strong>Policy Based Quality of Services:</strong> Switch should support traffic classification based on Layer 2, 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 &amp; 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 &amp; 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</td>
<td><strong>Policy Based Quality of Services:</strong> Switch should support traffic classification based on Layer 2, 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 &amp; 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 &amp; 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</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Page</td>
<td>Section</td>
<td>Description</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
<td>-------------</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 36   | 9.7     | Provision for Secure Cryptographic acceleration at Hardware level supporting standard ciphers. **Provision for Secure Cryptographic acceleration at Hardware level supporting standard ciphers.**
| 41   | 9.11 (Misc server), sub clause 5 | Processor: **Xeon Quad Core 2.66GHz With simultaneous Multi-threading or equivalent processor of other make.** Additionally, the server 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. |
| 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**
<table>
<thead>
<tr>
<th>Do</th>
<th>Do</th>
<th>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.</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do</td>
<td>Do</td>
<td>The media shall have a minimum uncompressed capacity of 400 GB and 800 GB compressed.</td>
<td>The media shall have a minimum uncompressed capacity of 800 GB and 1.60 TB compressed.</td>
</tr>
</tbody>
</table>

**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 | 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 |
| 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 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 |
<p>| Page-71 and Amendment dated 8th July 2009 | Do | Backplane: <strong>200</strong> Mbps or more full duplex | Backplane: <strong>100</strong> Mbps or more full duplex |
| Page-71 and Amendment | Do | Switching Performance <strong>400</strong> Kpps | Switching Performance <strong>200</strong> Kpps |</p>
<table>
<thead>
<tr>
<th>Page</th>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
</table>
| 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. |
| 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). |
| 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.