Minutes

January 08, 2014

PRE-BID MEETING FOR NETWORK UPGRADATION AT IUCAA

The Pre-bid meeting for Network upgradation work was held on January 08, 2014 at 1500 hrs in the Bhaskara – I Hall. The following members were present:

1. Mr. V. Venkatasubramani
2. Ms. Sarah Ponrathnam
3. Mr. B. V.Sawant

There were 8 representatives of various parties who attended the meeting, the list of which is enclosed as Annexure – 2. The questions raised by the vendors and reply given from IUCAA is enclosed as Annexure -1. All the vendors are content with the replies received from IUCAA and have confirmed that the scope of work requirement at IUCAA is clear to them along with the tender conditions mentioned therein. The representatives suggested to arrange site visit where proposed updradation of networking is expected. The meeting concluded at 1600 hrs with vote of thanks

B.V.Sawant   Sarah Ponrathnam   V. Venkatasubramani

Annexure – 1

Clarifications regarding points discussed in Pre-Bid Meeting on 08.01.14 at 1500 hrs

In today's mobile world, the number of connected devices, grows dynamically. IUCAA caters to visitors and conducts many international conferences. At times, the number of users grow dynamically four folds. Currently, the average number of mobile devices used by a user is ~2. This trend would grow rapidly in future.

Limitations of L2 Switch:

- No L3 Dynamic IP routing capabilities, supports Static only **(Less Scalability)**

- No MACSec support **(for Security)**

- No EEE – Energy Efficient Ethernet **(Less Efficient)**

- No Out-Of-Band Management port **(Very important in an Enterprise Class Network)**

- No Horizontal Stacking capabilities **(Less Flexibility & Scalability)**

- Stacking is restricted to ONE stack port – 12G FDX, Blocks one link in the stack ring to avoid loops. Creates congestion internally in the transit switches of the stack **(Lower Performance)**

Benefits of implementing Layer 3 capable switches at the edge of the LAN are as follows:

1. Greater network security via access control lists, Layer 3 protocol filtering and IP Subnetting.

2. With lowering price points and off the shelf support for Layer 3 routing in today's ASICs it is a must to factor in Layer 3 support through the entire LAN ,edge to core, for future investment protection. By supporting Layer 3 functionality in today's network edge devices, future expandability, functionality and efficiencies are guaranteed. As more applications and resources depend on Layer 3 support, installation of Layer 3 switch switches today guarantees investment protection for tomorrow.

3. Moreover, by implementing Layer 3 at the edge, the overall Service Enabled Edge is enhanced. By adding Layer 3 protocol filters, Access Control Lists and IP Subnetting, more granular user requirements and levels of access are addressed.

4. In the traditional Layer 2 environment, individual user requirements, access and control are limited.

In view of the above, the Layer 3 capable switches at the edge/ access to be quoted to have greater security, availability and network utilization.

Responses   raised by vendor 1:

	Specifications for the Dual Layer 3 Core Switches		
Sl. No.	**Specification Required**	**Queries**	**Responces**
2.7	Each Core Switch should be able to support a total of 48 1G/10G SFP/SFP+ slots and 6 Nos. of 40GbE QSFP slots without any change in hardware (including the slots mentioned in clause 2.4).	we do not have 48 port 10G switch with 6 40G QSFP+ ports. Kindly reduce the no. of 40G ports to total 4.	**Will change.** Minimum 40G ports can be 4 but if the switch provides more the 10G or 40G scability, the better.
2.8	The Core Switches should support Virtual Port Channel (vPC) or Multi-Chassis Link Aggregation (MLAG/MC-LAG) or Multi-Chassis Trunks (MCT) or equivalent for Inter-Switch Link Aggregation providing Active-Active Dual Core Switch Node level functionality.	vPC is not a switch aggregation technology it is a link aggregation technology. Kindly remove it.	**No change.** This feature is a must for providing Active-Active Dual Core Switch Node level functionality. Please provide equivalent technology.
3.1	Each Core Switch should provide Non-Blocking Switching Capacity of minimum 1.28 Tbps or more per switch.	For switch with 48 nos. 10G ports + 6 nos. of 40G ports, 1.44 Tbps should be non blocking performance. Kindly reduce the no. of 40G to 4 to reflect 1.28 Tbps.	**Will change.** Minimum 40G ports can be 4 but if the switch provides more the 10G or 40G scability, the better.
3.2	Each Core Switch should provide Wire-Speed Packet Forwarding Performance of 960 Mpps or more.	For switch with 48 nos. 10G ports + 6 nos. of 40G ports, 1072 Mpps should be wire speed performance. Kindly reduce the no. of 40G to 4. Also for 1.28 Tbps backplane wirespeed performance is not 960 Mpps, but it is 952 Mpps. Please reduce it to 952 Mpps.	**Will change.** Minimum 952 Mpps

	Specifications for Base Layer3 24 10/100/1000 RJ-45 Port Access Switch		
2.3	Virtual Chassis architecture should scale to support up to 8 switches in a Stack. Stacking cables should be included.	For Access we do nto support 8 switches in stack. Please reduce this to stack upto 4. If not, please specify the technical need for stcaking 8 switches because mostly in LAN, not more than 4 switches are placed in single closet.	**No Change.** Stack scalability is a must. Consider 100% port/switch scalability for future.
5.9	Switch should support minimum 7000 IGMP Multicast groups and 3000 IGMP clients.	For Layer 2 switch, 1000 Multicast groups is more than sufficient. Please specify the need for IUCAA to have 7000 Multicast groups. Typically the no. of Multicast groups in LAN is equal or less than the no. of Multicast sources.	**Will Change.** Provided the proposed switch is of L3 and it adheres to all the other specifications
6.2	Switch should be capable of supporting Dynamic IPv4 Routing Protocols, like RIP, OSPFv2 and VRRP with an optional licenses upgrade.	Please speicfy the need for Layer 3 switch on access of LAN. As per best practices design of LAN, Layer 2 switch is sufficient. Request to remove this clause.	**No Change.** Future OSPF support is a must for building a dynamic routed campus backbone between the buildings, providing scalability for future.
6.3	Switch should support minimum 12K Unicast Routes in Hardware from Day One.	Since typical LAN deplyment is for Layer 2 switches which does not support such large routing table. Request to remove this clause.	**No Change.** Route scalability is a must for future Routed Campus Backbone.
8.3	Switch should support industry standard security features with minimum 3000 ACL's / ACE's per switch	We do not support 3000 ACLs on Layer 2 switch. Please specify need for This large no. on access as typically ACLs need to be configured on firewall or at the most the core switch. Please reduce this to 1000.	**No Change.** Please propose a Layer 3 switch with minimum 3000 ACL scalability.
10.2	Switch should support IPv6 RADIUS, SCP, SSH, SNMP, SNTP, TACACS, Telnet & TFTP	Please remove TFTP, SCP and SNTP as it is not supported. We can do same function using RADIUS, CLI, Telnet, FTP, SSH, SNMP, TACACS+ and NTP.	**Will change.** You can provide equivalent feature/functionality

Specifications for Base Layer3 48 10/100/1000 RJ-45 Port Access Switch

2.3	Virtual Chassis architecture should scale to support up to 8 switches in a Stack. Stacking cables should be included.	For Access we do nto support 8 switches in stack. Please reduce this to stack upto 4. If not, please specify the technical need for stcaking 8 switches because mostly in LAN, not more than 4 switches are placed in single closet.	**No Change.** Stack scalability is a must. Consider 100% port/switch scalability for future.
5.9	Switch should support minimum 7000 IGMP Multicast groups and 3000 IGMP clients.	For Layer 2 switch, 1000 Multicast groups is more than sufficient. Please specify the need for IUCAA to have 7000 Multicast groups. Typically the no. of Multicast groups in LAN is equal or less than the no. of Multicast sources.	**Will Change.** Provided the proposed switch is of L3 and it adheres to all the other specifications.
6.2	Switch should be capable of supporting Dynamic IPv4 Routing Protocols, like RIP, OSPFv2 and VRRP with an optional additional licenses upgrade.	Please speicfy the need for Layer 3 switch on access of LAN. As per best practices design of LAN, Layer 2 switch is sufficient. Request to remove this clause. If these features are required, please ask for them from day one, whether vendors give thme with or without license.	**No Change.** Future OSPF support is a must for bulding a dynamic routed campus backbone between the buildings, providing scalability for future.
6.3	Switch should support minimum 12000 Unicast Routes in Hardware from Day One.	Since typical LAN deplyment is for Layer 2 switches which does not support such large routing table. Request to remove this clause.	**No Change.** Route scalability is a must for future Routed Campus Backbone.
8.3	Switch should support industry standard security features with minimum 3000 ACL's / ACE's per switch	We do not support 3000 ACLs on Layer 2 switch. Please specify need for This large no. on access as typically ACLs need to be configured on firewall or at the most the core switch. Please reduce this to 2000.	**No Change.** Please propose a Layer 3 switch with minimum 3000 ACL scalability.
10.2	Switch should support IPv6 RADIUS, SCP, SSH, SNMP, SNTP, TACACS, Telnet & TFTP	Please remove TFTP, SCP and SNTP as it is not supported. We can do same function using RADIUS, CLI, Telnet, FTP, SSH, SNMP, TACACS+ and NTP.	**Will change.** You can provide equivalent feature/functionality

Queries raised by vendor 2:

Sr. No.	Description	Remark.	Response
3.3	Should have a minimum 8MB of Packet Buffer Memory or more.	Every line card store the packet before proceeding which is sufficient for this network design. This is because multicast and routing packets will not take such huge buffer for storing the details. Further since switch packet forwarding rate is very high, we don't need much buffer to store the packet details. Hence minimum buffer should be 6 MB	**No Change.**
3.4	Should support 64,000 MAC addresses or more.	Do we really require 64K MAC address? Its basically needed from ISP segment where many STB or Internet users get connect to downlink internet.	**No Change.**
5.3	Should support minimum 8000 IPv4 Routes and 2000 IPv6 Routes in hardware	Do we really needed 8000 routes in general scenario for simple Tier 3 architecture? Not required…	**No Change.**
7.5	Should support a minimum of 2000 Access Control Lists (ACLs) for filtering transit traffic with support for inbound ACLs and support Outbound ACLs	Do we really required 2000 ACL?	**No Change.**
8.4	Should support Remote monitoring (RMON) and minimum 30000 RMON entries	Do we really need 30K RMON entries ?	**No Change.**

Further in Section IX, clause 4. (Vendor Criteria), please change the word "OEM" with "OEM or its alliance"

RESPONSE:

IUCAA did work with such alliance in the past. The OEM DLINK had an alliance with Foundry and quoted Foundry switch at the core and DLINK switches at the access. When Foundry was taken over by Brocade, the support for Foundry switch was not forthcoming. It took more than a year to get the contact details of Brocade, India. Therefore, alliance is not a preferred option. <u>The core and access switches should be from one OEM.</u> The OEM should have been listed in either April 2013 or September 2013 IDC reports to gauge their worthiness.

Points to be noted

1. The performance parameters mentioned in the technical specification, could be altered to + or - 5%.
2. The BOM clearly states that the ICL bandwidth to be 40 Gbps. It is left to the vendor. However, there has to be four (40 Gbps) QSP ports available apart from ICL for future scalability ie. For connecting server farms thru 10G UTP switch having 40G uplinks to the core switches in future.
3. Since some OEM bundles L3 features i.e IP lite features with their switches and some offer it as an additional license, the cost for the additional license should be quoted as an optional item for 48 ports and 24 ports edge/access switches separately.
4. The L3 features offered in the proposed L3 48 / 24 ports access switches should be explicitly listed.
5. **A site visit has been scheduled for 15th Jan 2014 between 11:00 – 13:00 hours.**

Following general questions asked by various representatives:

Q.1. Whether EMD and tender fees are waived for the firms registered under NSIC?

Answer : As per NSIC rules EMD and tender fees are exempted to the firms who is registered under NSIC. To get these benefit vendors must submit a copy of valid registration.

Q.2. Who will bear the custom duty difference after getting the benefit of exemption?

Answer : IUCAA will provide custom duty exemption certificate and if there is any difference in duty amount the same will be reimbursed to vendor , subject to submission of proof.

Tender for Network Upgradation at IUCAA
Following representatives attended Pre-Bid Meeting on 08.01.2014 at 1500 hrs

Sr. No.	Name of the Agency	Name of Representative	Mobile No.	Sign
1.	Avi Electronics & Networks Pvt. Ltd	Yogesh S	9822329830	
2	Alcatel - Lucent	Nitin / Sujit	9987222592	
3	Micropoint Computers	Sandeep Kondvilkar	9320311010	
4	Ajay Koot — Concept IT		7011085103	
4)	Concept Information	Ajay Koot	9011085109	
5)	Shro systems	Vikas Laldhomoy	9011667595	
	Shro systems	Sangram Bhosale	9011077811	
6)	Niraj Gaikwad			
6)	GMP Technical Solt	Niraj Gaikwad	9167256120	
7)	V-Link	Rishit / Mahammad	7738362453	
8)	D-Link	PRASANNA K	7738362453	
9	HP	AMIT RAINA	9850078120	
		SUDIT	9923286353	
		KEWAL	9823988020	