RFB 11-12
VOICE OVER IP HARDWARE AND RELATED SERVICES
QUESTIONS AND ANSWERS
As of October 5, 2011

INQUIRIES RECEIVED NLT OCTOBER 4, 2011
RESPONSES TO BE SENT NLT OCTOBER 12, 2011

Q1. Section 1.3 – Can the University furnish information about the existing cluster? For example:

- Appliance Models and Quantities(number of subscribers, TFTP Servers, Media Servers)
- Phone counts and phone types
- Current operating version
- Number of Gateways and gateway models
- Voicemail version, voicemail type

A1. The University is currently running a 3 server cluster. The publisher is running under VMware on a UCS C210. There are two subscribers running on HP DL380 G5s (equivalent to an MCS 7845). The University has plans to add at least one, possibly two, more subscribers over the next several months.

CUCM version is currently at 8.5.1.12900-7, but will be upgrade to 8.6 in the near future.

The University has approximately 600 registered hardware phones and about the same number of analog ports across the UMS network. Phone models are mostly 794X's and 796X's with various other models (694X's, 792X's, 7911's, 894X's) spread out across the network.

The PRI gateway installed in the datacenter at the University of Maine Orono campus is a Cisco 3825. There are 2 PRI ports on a NM-HDV2-2T1/E1 card and 2 PRI ports on a VWIC-2MFT-T1 card. One of the four PRI connects directly to the University's Nortel SL-100 switch. There are currently no free ports.

The University is in the process of a migration of existing customers from a Unity 8.X server to Esnatech's TOLEE 8.X server with Google Apps integration. The integration to CUCM is done through SIP trunks.

Q2. Section 1.3 Background – Can the University provide the number of trunks currently running between the SL-100 and VoIP system?

A2. There is currently one PRI circuit (23B + D) between the SL-100 and the University's existing VoIP system.

Q3. Section 3.2 Schedule Two – Additional Products. Network switches. Can the University provide information on the quantity breakdowns? For example:

Switch Type	Quantity Needed
24 Port 3560X	
48 Port 3560X	
24 Port 3750X	
48 Port 3750X	

A3. The University is seeking general pricing for these products. The types and overall quantity were determined by Cisco Systems. Specific quantities for each type will be determined by the University as the switches are deployed. If quantity determines price, vendors are welcome to provide costs by quantity range pricing for the models that support 10/100/1000 and POE.

Q4. Section 3.2 Schedule Two – Additional Products. Network switches. Can the University provide information on connection to the network backbone for the above mentioned switches? For example will the University supply fiber connections? If so, is the fiber connection single mode or multi-mode? Will the University supply fiber interface cards for these switches or should the Contractor supply in an alternate configuration?

A4. The University backbone is made up of single mode and multi-mode fiber. All buildings are interconnected either by a 1 or 10 Gigabit connection. Switch prices should include IP Base image, C3KX-NM-1G (Four GbE port network module), and one C3KX-PWR-715WAC. Pricing of SFP Transceivers for GLC-LH-SM, GLC-SX-MM, GLC-T, should be included. The University will be responsible for fiber distribution and fiber connections.

Q5. Section 3.2 Schedule Two – Additional Products. Power Protection for network switches. Can the University provide information on the closet configuration? The size and power requirements for each closet could range greatly by closet for instance. We would like to propose the most efficient solution with that information.

A5. The University is seeking general pricing for vendor-recommended products. It is not necessary for vendors to engineer precise solutions for each location. Products will be selected by University personnel to meet the anticipated needs of each closet.

Q6. Section 3.2 Schedule Two – Additional Products. Power Protection for network switches. Can the University provide the required runtime for the phone switches when in power outage mode?

A6. As specified in Section 3.2, "[These products should] be able to support a full complement of telephones for a minimum of thirty minutes".

Q7. Section 3.2 Schedule Two – Additional Products. Power Protection for network switches. Does the University require a rack-mountable solution for the Power Protection units?

A7. The University is seeking general pricing for vendor-recommended products. Products will be selected by University personnel to meet the anticipated needs of each closet. There are too many buildings and too much variety in the existing or available equipment spaces to limit our options to rack-mountable products.

Q8. Section 3.2 Schedule Two – Additional Products. Power Protection for network switches. Is the University's network switching architecture based upon Cisco Routing and Switching products?

A8. Yes.

Q9. Schedule 3.3 – Additional Services. Installation. Should bidders include installation services pricing installation of the fifty (50) network switches?

A9. No.

Q10. Schedule 3.3 – Additional Services. Installation. Should bidders include installation services pricing installation of Quality of Service in Edge, Distribution, and Core network devices?

A10. No. Per Section 3.3 vendors should provide pricing for "all activities associated with the physical installation of the server hardware and related peripherals, including power protection, as well as installation of software on installed devices …" Vendors should expect to install the proposed central hardware (servers etc.) and software as well as integrate this hardware and software with the existing VoIP system. No 'field work' outside of the central location(s) is required. No LAN activities other than integration of the central hardware and software are required.

Q11. Schedule 3.3 – Additional Services. Voice Mail Integration. Will the University also require an integration to the existing Unity system maintained on the existing Cisco cluster?

A11. No.

Q12. Schedule 3.3 – Additional Services. LDAP Integration. Cisco Unified Communications Manager has requirements for OpenLDAP Integration to be successful. What version of OpenLDAP is the University running?

A12. OpenLDAP 2.3.43 with an ongoing transition to OpenLDAP 2.4.23

Q13. Section 1.3 - Need clarification on these two statements:
Cisco Systems has prepared a recommended design for the University to provide it with a fully functional stand-alone VoIP system that will become a part of an existing Cisco cluster maintained by the University.
The University is seeking the products and services necessary to integrate a new CUCM (Subscriber) into the existing UMS managed Cisco Communications Manager Cluster located on the Orono campus. The UMS Cisco system is operated by the Information Technology Services (ITS) group and is already integrated with the SL-100 via ISDN-PRI.

A) Based on the proposed bill of materials, there is sufficient hardware to support a fully-functional stand-alone cluster. If the system is programmed as stand-alone, and then needs to "become part of the existing Cisco cluster", how is that going to be handled? To combine clusters into a single cluster, that will require a complete rebuild of the solution. Are you considering the Cisco UC Session Manager Edition (SME/SAF) to combine the two clusters into a single system (centralized dial-plan, resources, etc.) but still keep the actual clusters separate or is this new implementation going to be built into the existing UMS Cisco UC solution as subscribers from the beginning?

A13. A) The new implementation will be incorporated into the existing University-owned Cisco cluster as a Subscriber. In the event that communication with the existing Publisher in the University cluster is lost, the new implementation will have the capability to operate as a fully functional stand-alone system.

Does the SL-100 support Q.SIG? Are the existing PRIs connected to the UMS Cisco system configured as Q.SIG or just standard tie-lines? How many available ports exist on the SL-100 for additional tie-lines to the proposed system?

A13. A) The SL-100 does not support Q.SIG. The PRI between systems is configured as National ISDN- 2 in a Network/User configuration. There are more than twenty available T1/PRI ports on the trunk side of the SL-100. The SL-100 is also capable of supporting line side T1 (not PRI) with additional hardware, if required.

B) Will the University provide the necessary Nortel technical expertise for any SL-100 and/or CallPilot requirements?

A13. B) The University has a support contract with a Nortel distributor and a full-time switch engineer on site. The necessary Nortel technical expertise will be provided.

C) For the additional sixteen buildings on campus that require wiring closet and/or distribution infrastructure to support Cisco Unified Communications, is the University looking for hardware and/or professional services quotes to perform the infrastructure upgrade in these buildings, or will that be done by the University prior to the start of this project?

A13. C) No. All field work required for the project described in this RFB– infrastructure upgrades, switch installations, telephone placement, etc. – will be performed by University personnel. Since this is a phased implementation this work will be performed as needed.

Q14. Section 3, Schedule One/BOM Two 3925E gateways

A) Why are we using the PoE power supply?

A14. A) The materials list was provided by Cisco Systems and is Cisco Systems' recommended configuration. Recommendations for alternative configurations are encouraged. Per page 11: "Vendors wishing to recommend alternatives to the Cisco Systems bill of materials should provide an explanation of recommended changes and a complete bill of materials for the alternative configuration."

B) Do you want redundant power supplies in the gateway? The BOM does not have redundant power for the voice gateways.

A14. B) Yes. Recommendations for alternative configurations are encouraged. Per page 11: "Vendors wishing to recommend alternatives to the Cisco Systems bill of materials should provide an explanation of recommended changes and a complete bill of materials for the alternative configuration."

C) The quote listed a 2-port VWIC2-2MFT-T1/E1 and 4-port VWIC3-4MFT-T1/E1. We would recommend sticking with the VWIC3 cards for both. In fact, I would recommend two 4-port cards to allow for the most efficient use of the HWIC slots in the 3925E router as the system grows beyond the initial 1000 phones.

A14. C) Recommendations for alternative configurations are encouraged. Per page 11: "Vendors wishing to recommend alternatives to the Cisco Systems bill of materials should provide an explanation of recommended changes and a complete bill of materials for the alternative configuration."

D) There are 2 NM-HD-2V modules and 3 VIC2-4FXO. What are these lines for? Is it safe to assume that we are not moving PSTN connections directly to the Cisco UC side during Phase 1 of this migration? Typically, all external call routing in an initial phase of a migration would leverage the SL-100 and the PRI tie-lines.

A14. D) The materials list was provided by Cisco Systems and is Cisco Systems' recommended configuration. The SL-100 will provide all PSTN access via PRI tie-lines during the initial phases of the migration.

Q15. CUWL Licensing - Is there a plan to deploy Cisco Unified Presence as part of this deployment – CUPS/CUPC?

A15. There are no current plans to deploy Cisco Unified Presence.

Q16. MeetingPlace 8.x – what are the design requirements with MeetingPlace conferencing? Is it specifically for the managed audio conferences requirement in the "Required Capabilities" section?

A16. The managed audio conference requirement is intended as a replacement for existing Meet-Me Conference capabilities. The University will accept MeetingPlace, other managed audio conference capabilities , or a combination of Meetingplace and other managed audio conference capabilities as meeting this requirement. The proposed solution must accommodate 60 concurrent users and at least 30 users per conference or be expandable to meet this minimum desired capability.

Q17. What is the total PSTN connectivity on the SL-100 today? How many total T1s/PRIs? As we review the BOM, we want to ensure that the hardware/gateways/DSPs/etc. will handle the long-term goals.

A17. There are currently a total of twelve PRI circuits connecting the SL-100 to the PSTN. There is also a single PRI circuit serving the existing VoIP system. The SL-100 is currently equipped to support a maximum of forty (40) trunk-side PRI/T1 circuits.

Required Capabilities

Q18. ACD: There are eight groups and 42 agents currently in use. Do you have ACD call flows or additional information describing each ACD queue?

A18. Yes. The ACD configurations exist in the SL-100 and as call flow and other documentation. Vendors will not be expected to engineer or configure ACD queues. The proposed solution must be capable of supporting the number of queues and agents indicated, at a minimum.

Q19. Attendant Consoles: There are four currently in use. We will need to quote additional software for this functionality. This was not included in the proposed bill of materials.

A19. The University is currently employing a simple ACD queue using standard (SL-100) digital telephones to serve as attendant consoles. However, the University is interested in employing a more capable solution that provides better integration of the operators, instruments, and directory information. Recommendations for alternative configurations to the Cisco-provided materials list are encouraged. Per page 11: "Vendors wishing to recommend alternatives to the Cisco Systems bill of materials should provide an explanation of recommended changes and a complete bill of materials for the alternate configuration."

Q20. Call Center/Contact Center: New capability desired for some current ACD groups. Can you describe the "new capability" that you are looking for with the current ACD groups?

A20. The University is currently using a basic ACD package and is interested in more advanced capabilities. These may include computer-telephony integration, queue activity reporting, multi-channel capabilities, tools for queue supervisors, and/or other available enhancements to basic ACD. Vendors will not be expected to engineer or configure ACD queues.

Q21. Meet-me or managed audio conferences: At least 60 concurrent users, at least 30 per conference.

A21. The managed audio conference requirement is intended as a replacement for existing Meet-Me Conference capabilities. The proposed solution must accommodate 60 concurrent users and at least 30 users per conference or be expandable to meet this minimum desired capability.

3.2 SCHEDULE TWO – ADDITIONAL PRODUCTS

Network switches: Provide pricing for fifty (50) Cisco Catalyst 3560X and 3750X 10/100/1000 Ethernet switches with PoE (24 port and 48 port models).

Q22. What feature set is required on these switches – LAN BASE, IP BASE, or IP SERVICES?

A22. IP BASE

Q23. Which power option is required for the 48-port PoE switches – standard PoE with 715W power supplies or full-Poe with 1150W power supplies?

A23. 715W is sufficient.

Power Protection for network switches: Provide pricing for suitable AC powered battery backup products to support PoE network switches during power outages. These products should have a central management capability and be able to support a full complement of telephones for a minimum of thirty minutes.

Q24. In order to properly quote the battery backup/UPS, we will need to know the number of switches, model of switches, and expected PoE requirements (quantity and wattage) per switch/stack. Also, is it safe to assume that the University can provide whatever power is necessary in the network switch closets to support the UPS? Many UPSs require 30A 110V power or possibly 220V power, depending on the closet requirements/total load.

A24. It is not necessary for vendors to engineer precise solutions for each location. The University is seeking product recommendations and pricing. Products will be selected by University personnel to meet the anticipated needs of each closet. For informational purposes, the switches in use range from the WS-C3560-24PS-S and WS-C3750-24PS-S up to the WS-C3560X-48P-S and WS-C3750X-48P-S. The WS-C3560X-48P-S and WS-C3750X-48P-S can be used as a guideline as that is the next generation of switches in the upgrade path. Most closets have anywhere between 1 and 4 switches. Most closets will have 2 WS-C3560X-48P-S or WS-C3750X-48P-S that will need to be backed up with UPS's In some buildings the closets will have one of following switches: WS-C3560X-24P-S, WS-C3560X-48P-S, or WS-C3750X-48P-S that will need UPS capabilities. All C3KX (WS-C3560X-48P-S, WS-C3560X-24P-S, WS-C3750X-48P-S, etc.) switches support a 715W power supply. All non-PoE switches will not be on UPS.

The University will be responsible for meeting the AC power requirements in all locations.

Switchroom Power Protection: Hardware (server and peripherals) installed in the Neville Hall Switchroom will be power protected via the existing -48vDC power plant and will use multiple (A and B) power feeds. Provide pricing for appropriate DC power supplies or DC to AC inverters.

Q25. What hardware on the attached BOM is expected/required to be installed in the Switchroom as opposed to the campus data center? Is it safe to assume that just the voice gateways that need to be interfaced directly to the SL-100 will be in the switchroom and everything else will be located in the University data center with AC power?

A25. All centrally-located equipment proposed in response to this RFB will be installed in the telecommunications switchroom located in 152 Neville Hall. All centrally-located hardware (server and peripherals) proposed in response to this RFB will be protected by the existing -48vDC power plant and will use multiple DC power feeds.

3.3 SCHEDULE THREE – ADDITIONAL SERVICES
Installation – all activities associated with the physical installation of the server hardware and related peripherals, including power protection, as well as installation of software on installed devices.

Q26. Will the University be responsible for all facilities readiness – power, rack space, cabling, etc?

A26. Refer to A25. The University will provide rack space, DC power feeds, DC power cabling, ground cabling, and appropriate network interfaces. Vendors will install all centrally-located equipment, appropriate power supplies and/or rack mounted inverters, power cords, and patch cables. Vendor installation activities will take place in – and be limited to - Neville Hall.

Configuration and Testing – initial programming of installed system to a configuration determined by the Contractor, representatives of the University and representatives of UMS. The dial plan, calling

privileges, feature set, numbering plan, and device configuration will emulate those in use on the SL-100. Testing will verify configuration and operation of the system.

Q27. Will the University and/or representatives of UMS provide the information required to properly program the Cisco solution, or would the University prefer a full end-station audit as part of this proposal?

A27. Vendors will perform the initial programming (except user telephones) necessary to make the system functional according to a configuration determined by representatives of the vendor and University. This configuration will emulate the dial plan, classes of service, numbering plan, etc. currently in use.

Vendors need only configure telephones for testing and verification of system operation
This project is a phased deployment by building. Configuration of telephones will be performed by University personnel as needed using the University's telemanagement database and existing telephone configurations.

Q28. Can you provide the information from the SL-100 (NCOS information, dial plan, etc.)?

A28. Yes.

Q29. Will all inbound/outbound PSTN traffic traverse the SL-100 as part of phase 1 of this project?

A29. Yes, with the exception of inter-campus traffic between the major locations in the University of Maine System that is currently routed over the University's IP network via the PRI to the existing VoIP system. This routing is already in place.

Q30. Will the University provide the necessary technicians for the Nortel SL-100 and Call Pilot systems?

A30. The University has a support contract with a Nortel distributor and a full-time switch engineer on site. The necessary Nortel technical expertise will be provided.

Voice Mail Integration – integrate the proposed voice mail solution with CallPilot via VPIM or other suitable voice mail networking protocol.

Q31. Is the CallPilot currently licensed for VPIM?

A31. No. The University will obtain the necessary licensing if integration is feasible.

Q32. How many voicemail ports are currently configured on the CallPilot?

A32. 96

Q33. How many voicemail boxes are currently configured on the CallPilot?

A33. 5,028

Q34. Would the University consider replacing the CallPilot system in its entirety as part of Phase 1 of this migration to allow all University users, both Nortel SL-100 and Cisco UC Manager, on the same system running Unity Connection?

A34. Yes. The University is seeking to preserve its investment in CallPilot but recognizes that other solutions may better serve our end users. Please refer to A1.

Q35. What email application is used by the University? Is there any email integration desired with the new voicemail system?

A35. OpenText's FirstClass , Version 10.009 (http://www.firstclass.com/). The University has consistently elected to use FirstClass although many alternatives have been explored, offered, or implemented. Basic email integration is desired within the constraints imposed by the use of FirstClass.

E911 Integration – integration of Cisco's Emergency Responder with Veramark's 911 Call Alerts via ASCII output or email notification.

Q36. Would the PSAP accept a browser alert mechanism for IP phones native to Cisco Emergency Responder? Does the University's Veramark system accept a native integration to Cisco's UC Manager and/or Emergency Responder?

A36. A single browser alert mechanism is the preferred solution.
Veramark's VeraSMART does integrate with Cisco Call Manager:
(http://www.call-accounting-solutions.com/PDF/Cisco-Veramark-Brochure.pdf)
However, the University's Veramark 911 Call Alerts system is a custom application that employs the VeraSMART database but is not part of the VeraSMART product suite.

Training or Learning credits: Provide pricing and information for vendor-provided Cisco-specific formal training and/or Cisco Learning Credits.

Q37. Is the UMS looking for vendors to provide training for the use and functionality of the new IP phones to all end-users, or can we provide Train the Trainer as an option? UMS trainers will then be responsible for training remaining end-users.

A37. End user training is only required for IT staff members. Per page 13: "End user training for IT staff members is … required." The 'Training or Learning credits' section on page 12 is seeking pricing and information for Cisco-specific formal technical training of IT technical personnel and/or Cisco Learning Credits for formal training of IT technical personnel.

The initial phase of the project involves replacing a minimum of 1,000 digital telephones in 35 buildings through 2015.

Q38. Should the installation services be limited to the first 1000 digital phones? Would the University like to see installation numbers with an accelerated deployment? If so, for how many phones?

A38. Installation services proposed should be limited to those specified in Schedule 3. Please refer to A10, A13 D, A24, A25. University personnel will be responsible for telephone programming and telephone installation.

Q39. Will any new IP phones require wall mount kits to be installed in common areas?

A39. Wall mount kits will be ordered as needed.

Q40. Will vendor be responsible for deployment and conversion of any analog phones? If so, how many?

A40. No. Analog services will continue to be provided by the SL-100.

Q41. Has UMS developed a straw man installation/cutover schedule for deployment over the following three years?

A41. Yes. A schedule has been developed that also accounts for VoIP installation opportunities in new construction and buildings to be renovated.

Q42. Can you please provide University of Maine Information Technologies Telecommunications Services Roadmap 2010 – 2015?

A42. University personnel will be responsible for telephone programming and telephone installation per the *Roadmap*. This is a planned phased deployment of telephones in VoIP-ready buildings and almost VoIP-ready buildings that allows for anticipated VoIP installation opportunities in new construction and buildings to be renovated. The *Roadmap* simply identifies the order and general timeframe in which University personnel will transition these buildings to VoIP services.

Q43. Required Capabilities: ACD Solution: Requirements for the ACD-Call Center/Contact Center solution list "New capability desired for some current ACD groups". Please define the new capabilities desired.

A43. The University is currently using a basic ACD package and is interested in more advanced capabilities. These may include computer-telephony integration, queue activity reporting, multi-channel capabilities, tools for queue supervisors, and/or other available enhancements to basic ACD. Vendors will not be expected to engineer or configure ACD queues.

Q44. Please identify ACD features or call routing requirements for the existing 8 ACD groups.

A44. Vendors will not be expected to engineer or configure ACD groups.

A) Are there custom pre-recorded messages, greetings or other audio files that are played to the caller while in queue?

A44 A) Yes

B) Are there any custom or canned report requirements for the ACD groups?

A44 B) Standard ACD reporting is in use. The University would welcome an improvement in ACD reporting capabilities.

C) Are there any recording or supervisory monitoring requirements for the ACD groups?

A44 C) There are no recording requirements. Basic supervisory agent monitoring or training capabilities are desired, but not required.

Q45. Power Protection for network switches:

A) Is this requirement for all existing and newly proposed PoE network switches? If so, please identify count, model number of current PoE switches with emphasis on port density per closet or switch.

B) Also please identify locations where stackable switches are located and consolidated.

D) If this requirement is only for the newly proposed fifty (50) PoE switches, please identify if any will be co-located in closets or the intended count of switches per IT closet.

A45. Refer to A24. The University is seeking general pricing for vendor-recommended products. It is not necessary for vendors to engineer precise solutions for each location. Products will be selected by University personnel to meet the anticipated needs of each closet.

Q46. Switchroom Power Protection: Please identify if it is the intention to locate all new IP Telephony hardware from this proposal effort into the Neville Hall switchroom or if there is an alternate site where redundancy equipment will be installed.

A46. Refer to A25. All centrally-located equipment proposed in response to this RFB will be installed in the telecommunications switchroom located in 152 Neville Hall. All centrally-located hardware (server and peripherals) proposed in response to this RFB will be protected by the existing -48vDC power plant and will use multiple power feeds.

Q47. RFB states that the requirement is for this equipment to be added as a subscriber into the existing CUCM cluster. Please identify which components and counts are currently in existence?

A) Please define the existing CUCM version of software

B) Please define the existing CUCM number of active/redundant subscriber pairs

D) The new hardware is using the UCS-C2100M2 server platform. What server platform is the current publisher/subscriber servers installed on?

A47. Refer to A1

Q48. The Bill of Materials (BOM) provided in the RFB specifies particular phone sets. Will the University please provide a detailed list of feature sets (separating required features from preferred/secondary features)?

A48. The University is seeking vendor pricing for the specified telephone sets. Vendors may propose alternatives, if desired. Recommendations for alternative configurations are encouraged. Per page 11: "Vendors wishing to recommend alternatives to the Cisco Systems bill of materials should provide an explanation of recommended changes and a complete bill of materials for the alternative configuration." University personnel will determine the suitability of particular telephone sets and will be responsible for set programming and set deployment.

Q49. Section 1.3 references the *University of Maine Information Technologies Telecommunications Services Roadmap 2010-2015.*

A) Can the University please provide this document?

A49 A) University personnel will be responsible for telephone programming and telephone installation per the *Roadmap*. This is a planned phased deployment of telephones in VoIP-ready buildings and almost VoIP-ready buildings that allows for anticipated VoIP installation opportunities in new construction and buildings to be renovated. The *Roadmap* simply identifies the order and general timeframe in which University personnel will transition these buildings to VoIP services.

B) Will the University confirm that "Phase One" or the "Initial Phase" as is referenced in this RFB refers to the full VoIP rollout through 2015, to include the 1,000 phones proposed in this project?

A49 B) Yes. Per Section 1.3 "The initial phase of this project involves replacing a minimum of 1,000 digital telephones in 35 buildings through 2015. This Request for Bids covers this initial phase."

Q50. The RFB makes mention in sections 1.4 and 2.4 of price protection as a proposal component and evaluation factor. Understanding that some information/answers may come from the roadmap referenced in #7 (as requested), can the University describe the price guarantees it is hoping to see?

A50. The University has expressed its interest in receiving price guarantees for the term of this contract (roll-out). Bidder's are advised to consider this in their response. The University is looking for and hopes to get the best possible price guarantee. Price guarantees can take many forms. One example is firm pricing for a period of time with future increase not to exceed, on a percentage basis, those passed on to all other customers. Future increases could be annual on the anniversary date of the contract. Please do not assume that the example given is anything more than that, an example.

Q51. The period of five years represents a concern with regard to the life-cycle of certain equipment that may be proposed.

A) Does the University acknowledge that certain equipment (such as phone sets) may reach end of life during this rollout and therefore require substitution?

A51 A) The University will not commit to any pre-conditions. It is up to the bidder to describe the

life-cycle of equipment offered and the consequences. We can state that should required equipment become obsolete during the contract (roll-out) then it would be reasonable for the contractor to offer a like substitute, subject to the approval of the University.

B) How does this affect price protection?

A51 B) The University remains interested in price protection. It is the bidder's responsibility to suggest options.

Q52. Would the University consider the purchase of equipment/material in advance of all anticipated but subsequently scheduled rollouts if such a purchase delivered an overall cost savings?

A52 Bidders may suggest a pre-purchase model. The University will consider it in its evaluation of the bidder's offer.

Q53. Please describe the current network infrastructure in regards to the VoIP distribution data network.

A53. The University employs diverse Cisco products of all ages. There is currently no significant VoIP distribution taking place. Switches to support VoIP distribution will be purchased and deployed by the University as part of the VoIP project outlined in this RFB.

Q54. Are QoS practices with policies currently in place and operational in the network?

A54. Yes. QoS is in place and will be modified as needed by University personnel to accommodate the VoIP project outlined in this RFB.

Q55. What is the core backbone bandwidth between switches?

A55. The core backbone is a 10 Gigabit ring around campus with each building having either a one or ten Gigabit connection.

Q56. Are there any WAN links to remote buildings, or is the entire campus LAN connected?

A56. The University's buildings involved in the VoIP project outlined in this RFB are LAN connected.

Q57. As the services of the MSL-100 are reduced and the services on the Call Manager are increased, the MSL-100 power requirements may be reduced. The switch room will have more space available for other equipment that will need power. With this in mind, what would the expected UPS AC load grow to, beyond the power for the call manager?

A57. The Switchroom has a -48vDC power plant consisting of an Emerson NetSure 701 Power System, twelve 3200W -48vDC Netsure rectifiers, and two GNB battery strings. No modification to the existing -48vDC plant is being considered.

Q58. Would the University prefer a UPS system that is expandable to cover future loads?

A58. Question 58 is ambiguous as to which UPS system(s)is (are) being referenced.

The University's switchroom power plant is adequate for the University's needs. No modification to the existing -48vDC plant is being considered. As part of Schedule Two of this RFB the University is seeking pricing for "appropriate DC power supplies or DC to AC inverters" to power the server(s) and related hardware proposed in response to this RFB from the existing -48vDC power plant.

The University is also seeking pricing for UPS products to support PoE network switches as described in Schedule Two.

Q59. Should bidders include in their solutions pricing for an electrician, or will the University be providing a facilities electrician to install two new circuits from the inverter breaker panel to the call manager rack?

A59. The University will perform all required on-site AC work. Should an inverter be required, an inverter solution that rack mounts adjacent to the server would be preferred. The University has no plans to utilize the (Northern Telecom) inverters currently in place.

Q60. How many hours of battery backup are required for full load at the host now, and additionally after the MSL-100 is out of service?

A60. Question 60 is not relevant to this RFB.