DATE: February 2, 2016

TO: All Prospective Proposers

FROM: Amy Kisloski
Assistant Director, Technology Procurement
301-985-7707

RE: RFP 91376 – Desktop-as-a-Service Solution
Addendum #2 dated 02/02/2016

The following amends the above-referenced RFP documents. Receipt of this addendum is to be acknowledged by completing the enclosed "Acknowledgement of Receipt of Addenda Form" and including it in the Technical Proposal.

Questions from Potential Proposing Firms:

1. “Is the vendor supposed to provide all of the software in attachment A?”

   **UMUC Response**

   The vendor is not required “to provide all of the software in attachment A” as UMUC owns licenses to many of these packages today. However, UMUC encourages respondents to propose holistic solutions beyond the existing tactical considerations. For instance, UMUC is interested to learn how a potential partner may assume responsibility for existing and new products and license management as UMUC programs and needs evolve.

2. “Is the customer seeking to have this platform in more than one location? Is the primary location at their data center?”

   **UMUC Response**

   UMUC seeks vendor proposals with service effects and SLAs that include availability metrics. How the vendor proposes the solution, (i.e. “in more than one location”) is not a primary selection criteria for UMUC. UMUC does not operate a data center for this capability today, nor will UMUC do so in the future; this is a DaaS solicitation.
3. “Is the customer providing all routers, switches and firewalls for the platform?”

**UMUC Response**

UMUC seeks a holistic vendor solution to support its academic objectives. UMUC provides “all routers, switches and firewalls for “staff, faculty, and students from UMUC premises, however, the majority of staff and students access the existing and future capability over the Internet from their own end points.

4. “Is the vendor supposed to provide help desk support for all of the SW packages?”

**UMUC Response**

No, the vendor is not required to provide help desk support for all of the SW packages. Faculty and teaching assistants (TAs) are responsible for many aspects of traditional corporate support. However, the vendor is expected to ensure the integrity of images, access control, and availability.

5. “This looks like a solution that might be focused on VMware- we would need to know who has been providing this service to them in the past and do they have a leg up on registration?”

**UMUC Response**

As stated in the RFP, the current solution is VMware-based. VMware information was “provided for context purposes only.” However, for this capability, “UMUC is technology agnostic and seeks the most robust overall solution and service affect. UMUC is not biased toward a particular product offering over another.”

6. “What is the peak concurrency of non-persistent desktop users in the current environment?”

**UMUC Response**

This number varies each semester and will expand as the use of the capability expands into additional academic programs. The December 2015 peak concurrent usage was 175 with 10 persistent desktops.
7. “What is the number of persistent desktops?”

**UMUC Response**

Please see the answer to question 6.

8. “Who does application packaging? Is it within the scope?”

**UMUC Response**

UMUC seeks holistic vendor solutions and respondents are encouraged to propose application packaging.

9. “How are profiles managed?”

**UMUC Response**

UMUC seeks holistic vendor solutions and respondents are encouraged to propose profile management best practices. UMUC’s requirements for LTI and SAML integration are key to the integrated learning experience for authentication and authorization to virtual resources.

10. “Is Appsense/profile management in the scope?”

**UMUC Response**

UMUC seeks holistic vendor solutions and respondents are encouraged to propose solutions with components best fit to deliver the capabilities.

11. “Are there any other third party applications or utilities such as single sign-on, Imprivata within the scope?”

**UMUC Response**

UMUC defines single sign-on as the configuration of CAS, Shibboleth, and LDAP. UMUC seeks holistic vendor solutions and respondents are encouraged to propose solutions with components best fit to deliver the capabilities.
12. “What tools are used for OS patch management for Persistent VDI Desktops?”

**UMUC Response**

Existing “OS patch management for Persistent VDI Desktops” is not relevant. UMUC seeks holistic vendor solutions and respondents are encouraged to propose solutions with OS patch management best practices.

13. “What tools are used for persistent desktop A/V protection currently?”

**UMUC Response**

Existing tools for “persistent desktop A/V protection” is not relevant. UMUC seeks holistic vendor solutions and respondents are encouraged to propose solutions with A/V protection best practices.

14. “What is your desire to leverage the current environment with desktops delivered in the Cloud?”

**UMUC Response**

UMUC is not biased for or against leveraging the current environment with desktops delivered in the Cloud. UMUC seeks holistic vendor solutions and respondents are encouraged to propose comprehensive, best in class solutions.

15. “With respect to existing VMWare View Licensing, does UMUC wish to leverage or apply any such current licensing toward the proposed DaaS solution? If so, specifically what would be provided including remaining terms on software assurance programs?”

**UMUC Response**

No, UMUC does not wish to leverage current licensing toward the DaaS solution.

16. “Does UMUC wish to leverage or apply any existing Microsoft Windows 7 or VDA Virtual Desktop VDA licensing toward the proposed DaaS solution? If so, specifically what would be provided and any remaining term of agreements?”

**UMUC Response**

No, UMUC does not wish to leverage existing Microsoft® Windows 7 or VDA Virtual Desktop VDA licensing toward the proposed DaaS solution.
17. “What Linux distributions would need to be supported? Please specify any existing Linux OS licensing that UMUC would like to leverage and specifically what would be provided towards the DaaS solution.”

**UMUC Response**

Currently we are using Kali Linux (Debian-based), Ubuntu, pfSense (FreeBSD-based), CentOS, and other RedHat-based distributions in our curriculum, but other distributions could be used in the future. The solution proposed should be flexible enough to support other Intel-compatible Linux distributions. There is no existing licensing that UMUC would like to leverage.

18. “Does UMUC wish to leverage or apply any existing AntiVirus Licensing toward the proposed DaaS solution? If so, specifically what would be provided and any remaining term of agreements?”

**UMUC Response**

No, there is no existing licensing that UMUC would like to leverage.

19. “Is it correct to assume that all application software licensing to support the environment and as listed in Appendix A will [be] the responsibility and be provided by UMUC? If not, what specific application licensing is being requested?”

**UMUC Response**

Yes, however, UMUC seeks a partner who may provide alternative, more efficacious approaches to software licensing and management immediately or over time.

20. “Is it correct to assume that all application software support listed in Appendix A will be the responsibility of UMUC? If not, what specific application support is being requested and how this would ideally function with your existing helpdesk.?”

**UMUC Response**

Please refer to the responses to questions 31 and 32.
21. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.3.2 at page 8 of the RFP] “lists native SAML-based SSO authentication compatible with UMUC’s CAS and Shibboleth implementations as a requirement. Can you please elaborate with specific details of UMUC’s current implementations and required level of integration?”

**UMUC Response**

SAML is a globally recognized XML security standard for user authentication and authorization.

22. “Will UMUC require back end integration and connectivity to any existing on-prem file storage or enterprise applications? If so, please specify connectivity requirements.”

**UMUC Response**

LTI and SSO integration with CAS & Shibboleth using SAML tokens are required.

23. “Would the University entertain multiple solutions from one vendor?”

**UMUC Response**

Yes, although UMUC expects each vendor to submit their most compelling solution to our defined needs.

24. “What is the driving need for the University to move from the COLO to the cloud?”

**UMUC Response**

UMUC is not defining how solutions are architected. “COLO” does not appear in the UMUC RFP. UMUC’s priorities are service effect, SLAs, and vendor partnership in this critical capability.
25. “What are the 25 countries that students will be accessing the UMUC environment from?”

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<th>UMUC Response</th>
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<tr>
<td>UMUC has physical presence in 25 countries. Those countries can be found at: <a href="http://www.umuc.edu/visitors/locations/index.cfm">http://www.umuc.edu/visitors/locations/index.cfm</a>. UMUC has students in more than those 25 countries. Unless restricted by regulations or law, the system should be accessible globally.</td>
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26. “Would the MySQL database be part of the student’s desktop image or on a centralized MySQL database server?”

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<th>UMUC Response</th>
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<tr>
<td>May be both scenarios depending on curriculum evolution.</td>
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27. “From a current solution perspective, are you saying that you have seventeen (17) host servers, each with...12-core CPUs, 256 GB RAM?”

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<th>UMUC Response</th>
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<tr>
<td>Correct.</td>
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28. “What software are you talking about when you say “Periodic training for instructors and Program Chairs for software version change with published notification one month prior to testing”?”

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<tr>
<td>This requirement refers to any administrative software respondents may propose as part of their solution. It’s not acceptable, for instance, to change a software version days prior to course start without agreed to training and notification.</td>
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</tbody>
</table>
29. “There is talk in the RFP of networks and different hosts. With a typical DaaS offering, the end-user only has access to his/her virtual desktop. Is UMUC looking for a solution that includes a sandbox with virtual desktops, servers, storage and network components that students can interact with?”

**UMUC Response**

Yes. Many of UMUC’s academic technology programs like Cyber require these capabilities.

30. “Who manages the images?”

**UMUC Response**

Respondents are encouraged to submit holistic solutions to UMUC that include image management services and best practices.

31. “Where do users call in for support?”

**UMUC Response**

UMUC users are students, faculty, and academic administration staff. UMUC staffs a global support center. However, incidents and problems associated with this solution will be routed to the selected vendor(s). In classroom support for the use of software is largely provided by faculty and TAs in the context of the curriculum.

32. “Will UMUC staff a desktop team?”

**UMUC Response**

UMUC staffs a global desktop support team today to serve employees. Support for this capability is expected to be proposed and delivered by the selected partner(s).

33. “How will DT be patched & managed?”

**UMUC Response**

Respondents are encouraged to submit holistic solutions to UMUC that include patching and management best practices.
34. “What Cyber security products is the University using today for: The learning materials, objectives, and activities in this program include attack simulation, virus infection, threat detection, and malware remediation. UMUC recognizes these are atypical requirements for DaaS providers therefore, UMUC is allowing interested vendors to propose a solution that includes (a) all scope, or (b) all scope except the Cyber program, or (c) solely the Cyber program.”

UMUC Response

Please refer to Appendix A of the RFP.

35. “Are any of the contract terms negotiable?”

UMUC Response

In accordance with Section I, General Information, Paragraph 6, “By submitting a proposal, an Offereeor shall be deemed to have accepted the terms, conditions, and requirements set forth in this RFP”. UMUC expects the awarded vendor to accept the required terms detailed in Appendix C. Any requests for contract exceptions must be included in the Technical Proposal as an appendix.

36. “Are there any client server apps? If yes, where will the apps be hosted?”

UMUC Response

Please refer to Appendix A of the RFP.

37. “I did want to confirm the support model: the way I understand it, we would not be responsible for the first call from end users but we would act as a point of escalation if level 1 support (Internal to UMUC) could not completely resolve the issue. Is that the case?”

UMUC Response

Please refer to the responses to questions 31 and 32.
38. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.1.1 at page 8 of the RFP] “What is a student’s “portfolio of work?” Is it a set of files, a desktop windows profile with all students, or something else?”

**UMUC Response**

A set of files and a set of VMs used by individual students during their coursework.

39. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.1.2 at page 8 of the RFP] “What does assignment submission entails? Is it a form submission, a document upload, or something more?”

**UMUC Response**

Could be form submission, a file submission, or a snapshot of a system configuration.

40. “What is the UMUC system of record? Is it a new system has to be developed or a current system in use?”

**UMUC Response**

For academic activity purposes, UMUC’s system of record is the LMS (Learning Management System) which provides the virtual classroom from which DaaS capabilities are accessed via LTI links.

41. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.2.1 at page 8 of the RFP] “Will the data for the dashboard be available from some other systems with which the requested solution should integrate?”

**UMUC Response**

Respondents are encouraged to submit holistic solutions to UMUC that include monitoring and management best practices for this capability. Integration with existing UMUC monitoring and management solution like Zenoss and Splunk are interesting, but not a primary consideration of this RFP.

42. “Are "defined metrics" pre-defined or ad-hoc?”

**UMUC Response**

UMUC expects to define and negotiate SLAs and metrics with the selected partner(s).
43. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.2.3 at page 8 of the RFP] “This sounds like a function of a learning management system rather than a VDI solution, even a VDI tightly integrated with an LMS. Can more details/some examples be provided on what kind of analytics may be expected from the solution?”

**UMUC Response**

UMUC expects to harvest data like student access and usage information to include in its overall learner analytics practice.

44. “Can the “rich data analytics to evaluate the effectiveness of the learning resources” be achieved as pre-defined reports?”

**UMUC Response**

Please refer to question #42.

45. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.2.5 at page 8 of the RFP] “Should the solution include capabilities for course developers to design their own images?”

**UMUC Response**

Yes.

46. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.5.1 at page 9 of the RFP] “Do UDP multicast scenarios need to be supported in the experiments?”

**UMUC Response**

Yes. There are some experiments where this capability will be needed.
47. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.5.3 at page 9 of the RFP] “Is complete machine state recording required, or screencast only?”

**UMUC Response**

The screencast is needed for the production environment. The machine state recording is needed for the sandbox/development environment.

48. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.5.4 at page 9 of the RFP] “What does “porting mobile applications” encompass? Can you provide an example of what this requirement means in the learning process?”

**UMUC Response**

Respondents will need to show the ability to create a collection of pre-configured VMs that integrates mobile applications, with mobile operating systems, within the development environment. UMUC requires the ability to move (port) these VMs across different platforms or environments. This includes the ability to support emulators for mobile operating systems (e.g. Android). Basically, UMUC needs the same capability for mobile as for non-mobile devices (e.g., Unix/Linux OS).

49. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.5.7 at page 9 of the RFP] “Is full running VM state snapshots are required, or disk state snapshots only?”

**UMUC Response**

Both would be needed.

50. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.5.8 at page 9 of the RFP] “Can you share some examples for required boot parameters and patterns modification?”

**UMUC Response**

Changing RunLevel in Linux or changing the boot sector/boot drive of a virtual machine.
51. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.6.1 at page 9 of the RFP] “What OS should be supported by the solution other than Windows and Linux?”

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<tr>
<td>Cisco virtual switches and routers (for example Cisco Nexus 1000v), Mobile platform (for example Android).</td>
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52. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.6.5 at page 9 of the RFP] “Can you provide examples of experiments that may require WiFi and Cellular access? Should experiment WiFi and Cellular networks be modeled or real for the experiments scenarios purposes?”

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<tr>
<td>Wireless password cracking or network sniffing are examples of experiments. For the graduate school cyber program, this capability should be modeled. There are currently no physical labs.</td>
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53. [Section II. Scope of Work, Paragraph 1. Objective., at page 7 of the RFP] states “As a result, UMUC requires elastic solutions capable of scaling on demand, in an economically viable manner that provides global redundancy and consistent performance in a variety of conditions.’ Please define global redundancy as it relates to the following elements below:

   Does this requirement include Disaster Recovery? If so please define your desired Recovery point, and required Recovery time to full operation. Does this requirement include Active/Active infrastructure than can failover immediately (or to your defined timeline)? Does this requirement include global infrastructure where your applications/desktops/vm’s/courses can be deployed in case the primary site is not available?”

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<th>UMUC Response</th>
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<tr>
<td>Please refer to question 93. UMUC seeks holistic vendor solutions and respondents are encouraged to propose comprehensive, best in class solutions that account for our global student needs.</td>
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</table>
54. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.2.1 at page 8 of the RFP] “Submit assignments from within the environment to the UMUC system of record.’ Can UMUC please describe the UMUC system of record and any requirements for having our systems connect to your system of record?”

**UMUC Response**

Please refer to question 40.

55. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.2.2 at page 8 of the RFP] “The ability to measure each student’s activity individually through detailed logging (e.g. login date/time, experiment instance creation, virtual machines…).’ Please further define requirements for logging - how long should we retain your log’s and do you require digitally signed court admissible long term log/event storage?”

**UMUC Response**

Digitally signed court admissible long term log/event storage is not a UMUC requirement for this capability. Generally, storage and retention for 3-6 months is sufficient given data harvesting by UMUC analytics and the nature of the academic semester model.

56. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.2.3 at page 8 of the RFP] “Rich data analytics to evaluate the effectiveness of the learning resources.’ Could UMUC please clarify what is meant by ”Rich data analytics” so we can better understand exactly which metrics and analysis you would like for the solution to provide automatically.”

**UMUC Response**

Please refer to question 43.
57. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.3.2 at page 8 of the RFP] “Native SAML-based SSO authentication compatible with UMUC's CAS and Shibboleth implementations’

SAML is a protocol used for web based applications. How does UMUC envision SAML working with desktops which are web accessible but not web based applications? Is the SAML requirement for portal login only or did you want to include SSO to the desktop VM's and lab VM environment?”

**UMUC Response**

UMUC students expect to enter credentials one time during their learning sessions. Once authenticated by UMUC they do not expect to re-enter or enter additional credentials for access to components in the DaaS environment.

58. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.4.4 at page 9 of the RFP] “Support for all stakeholders including escalation points for the UMUC global service center. For example, seamless transition between UMUC and vendor to resolve issues with 24x7 support to resolve connectivity, platform, and application issues and 2-4 hour resolution of course-related issues.’

Could UMUC please give some examples of what is meant by ‘course-related issues’?”

**UMUC Response**

Course-related issues may include but are not limited to inaccurate images, incomplete images, access issues, or roles and permission issues. Course-related issues are not intended to cover curriculum-related topics like how to use software in the environment which is the responsibility of faculty and TAs to teach.

59. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.5.3 at page 9 of the RFP] “Record activities for future playback.’

Please provide examples of what you want to record and how you would like to see them recorded by the student.”

**UMUC Response**

A few programs, especially in the area of digital forensics, require long running and often unattended coursework. If a virtual machine instance needs to be swapped, the state and experimental data should be saved so as to restart the experiment where it was left off. In addition, a student may want to record keystroke and screen images to include as a demonstration of results to a professor since the interaction is asynchronous.
60. [Section II. Scope of Work, Paragraph 2. Requirements, subparagraph 2.5.4 at page 9 of the RFP] “Ability to port mobile applications' Could UMUC please clarify what is meant by “port mobile applications”?

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<td>Please refer to question 48.</td>
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61. [Section II. Scope of Work, Paragraph 2. Requirements, subparagraph 2.5.6 at page 9 of the RFP] “Support CISCO switches and routers’ Does this requirement require the successful bidder to provide the ability for students to work in labs that have virtual cisco switches and routers?”

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<td>Yes.</td>
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62. [Section II. Scope of Work, Paragraph 2. Requirements, subparagraph 2.5.7 at page 9 of the RFP] “Allow students to take multiple snapshots of their VMs and revert to those snapshots' Please define policy guidance around this feature around the number of student snapshots and how long they should be kept?”

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<td>Please refer to question 49.</td>
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63. [Section II. Scope of Work, Paragraph 2. Requirements, subparagraph 2.6.5 at page 9 of the RFP] “Support for WiFi and cellular access.’ For wifi and cellular access- is UMUC looking to emulate cellular devices or do they want student cellular devices to have the ability to access the cyber labs?”

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<td>Please refer to question 49.</td>
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64. [Section III. Procurement Phases and Evaluation Process, Article 1. Technical Proposal Requirements, Paragraph 2. Initial Technical Criteria., at page 12 of the RFP] In reference to subparagraph 2.3, “Is this section missing because of omission or due to a numbering error? If the section is missing, would UMUC please provide it? If it is a numbering error, we will accommodate it in our compliance matrix.”

**UMUC Response**

It is a numbering error. There is no subparagraph 2.3 in this Section.

65. [Appendix C, Contract, Paragraph 7. Confidential Information, subparagraph 7.7] states, “'Therefore, any failure to comply with the requirements of this Article 6I shall be a material breach of this Contract.' What is the "Article 6I" being referenced in this section?”

**UMUC Response**

Reference to “Article 6I” is a mistake. The sentence is replaced with the following: “Therefore, any failure to comply with the requirements of this Section shall be a material breach of this Contract.”

66. “Support for UNIX / Linux virtualized environment: is this truly mandatory or would UMUC allow this segment to be treated separately? Or may a system other than Linux be used?”

**UMUC Response**

Please refer to question 17.

67. “Does UMUC’s existing authentication and access control infrastructure (CAS and Shibboleth) currently have any SAML-based SSO authentication capabilities? Are the SAML SSO logins a requirement for the VDI management portal or for the VDIS? Would UMUC consider proposals that offer alternatives to or complementary with the SAML SSO logins?”

**UMUC Response**

Please refer to both the Shibboleth and the Jasig(CAS) wikis to understand how UMUC uses these components with an LDAP data store to enable SAML-based SSO.
68. "What directory service(s) is being used by customers of the DAAS solution (Active Directory, Open LDAP, etc.)? Is UMUC open to migrating Directory Services as a part of this DAAS implementation?"

**UMUC Response**

UMUC does not intend to migrate Directory Services as part of this effort, however, UMUC seeks holistic vendor solutions and respondents are encouraged to propose comprehensive, best in class solutions that account for our global student needs.

69. "Will the existing private cloud continue to be integrated long-term to the new solution?"

**UMUC Response**

The existing capabilities are not relevant to this procurement and are provided for informational purposes only.

70. "What applications stacks are you expecting to provide the different desktop environments?
   
a. Windows?

   **UMUC Response**

   Yes.

   
b. Linux?"

   **UMUC Response**

   Yes.

71. "What are the typical requirements for a student desktop (available RAM, disk space, processor speed, etc.)?"

   **UMUC Response**

   Some courses (e.g. those in digital forensics) have significantly higher requirements for the VMs than courses in other disciplines.
72. “Does UMUC require a solution that works on devices like iPads, Android tablets, smartphones, and other bring your own devices?”

**UMUC Response**

Yes, we would like the solution to be available on tablet and mobile devices.

73. “How many DaaS platforms does UMUC anticipate at rollout? How many does UMUC anticipate if it is extended to alumni and staff?”

**UMUC Response**

UMUC would prefer to have a single global partner provide a comprehensive solution, however, UMUC recognizes that some unique academic requirements may make this objective unrealistic and therefore does not seek to exclude interested parties from responding to this RFP.

74. “Can you please describe the audience for this solution? Is this solution for all faculty, staff, and students; just for faculty and students; or portions of each?”

**UMUC Response**

Certain portions of the solution will be as a sand-box for faculty only, for testing purposes. Certain other portions are for classroom use, by faculty, students and teaching assistants.

75. “What are the characteristics of the application stack that will be installed on the desktops?”

**UMUC Response**

Please refer to Section II and Appendix A of the RFP documents for ‘characteristics of the application stack’.

76. “Is there a specific management package or method UMUC intends on using, e.g. SCCM, AWS Package manager, etc.?”

**UMUC Response**

UMUC prefers that vendor proposed solutions are holistic and include packaging.
77. “There is a reference to Licensing for many VMWare and many Microsoft products in the current environment. Will UMUC be providing the licensing in the new environment as well? Carry over of licensing or will new licensing be required?”

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<th>UMUC Response</th>
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<tr>
<td>UMUC is not assigning, nor transferring, VMWare or MSFT OS licenses. UMUC seeks holistic vendor solutions and encourages the inclusion of license management and optimization services.</td>
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78. “Are there any existing benchmarks in the existing Linux/Windows environments that would indicate the AWS Workspace is a viable candidate going in?”

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<tr>
<td>UMUC is technology agnostic re: this RFP. Vendors are encouraged to provide the most viable solutions based on their expertise and UMUC’s requirements.</td>
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79. “Is the AWS Workspace product the only AWS product being considered?”

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<td>UMUC is technology agnostic re: this RFP. Vendors are encouraged to provide the most viable solutions based on their expertise and UMUC’s requirements.</td>
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80. a. “In the RFP there is mention of “learning materials, objectives, and activities in this program including attack simulation, virus infection, threat detection, and malware remediation.” Are these provided by UMUC?”

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<tr>
<td>Yes.</td>
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b. “Are stakeholders aware that penetration and port scanning are not permitted without prior permission in AWS?”

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<tr>
<td>UMUC is technology agnostic re: this RFP and there is no mention of AWS whatsoever.</td>
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</table>
81. “Are there any specific Information Security/Compliance Requirements?”

**UMUC Response**

In accordance with Section III., Article 2. Technical Evaluation Process, Paragraph 4. UMUC Third Party Security Questionnaire, “All firms that remain shortlisted following the Oral Presentations/Discussion Sessions will be required to complete UMUC’s Third Party Security Questionnaire.” The executable Microsoft® Excel file included with the RFP documents (located at [www.umuc.edu/procurement](http://www.umuc.edu/procurement)) details specific security and compliance requirements.

82. “What is currently used for hosting the Cyber Security program? If so, are the resources involved in this portion a part of this project?”

**UMUC Response**

The reference specifications provided in the RFP include those for Cyber.

83. “Are the baseline SLA’s mentioned in the RFP available?”

**UMUC Response**

UMUC expects respondents to provide their SLAs and negotiate as needed.

84. “With which application(s) does UMUC’s service center run that would be expected to be integrated?”

**UMUC Response**

Integration with service center applications is not required. The UMUC service center INC tickets and cases are managed in service-now.com and salesforce.com respectively. Updates to tickets related to this capability are expected in those systems which are externally accessible.

85. “Is there additional information on the training, video production and version change review UMUC is looking for in the “Training and associated resources” section (2.4.5)?”

**UMUC Response**

UMUC is seeking vendor proposals, recommendations, and best practices which have proven successful with other customers.
86. “How many desktops does the UMUC system service now?”

<table>
<thead>
<tr>
<th>UMUC Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please refer to question 6.</td>
</tr>
</tbody>
</table>

87. “What are the future capacity needs in 2016 and 3 years in terms of number of desktops?”

<table>
<thead>
<tr>
<th>UMUC Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>UMUC does not expect material expansion of usage in 2016, however, in partnership with the selected providers, intends to leverage best in class capacity management to enable this capability to additional academic programs and audiences in the next three (3) years.</td>
</tr>
</tbody>
</table>

88. “Do desktops need to be persistent, dynamic or both? What is the steady-state usage of desktops?”

<table>
<thead>
<tr>
<th>UMUC Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certain programs do need persistent desktops, others do not.</td>
</tr>
</tbody>
</table>

89. “Is UMUC planning an initial implementation with a phased in approach?”

<table>
<thead>
<tr>
<th>UMUC Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, UMUC intends to implement the solution in a phased approach initially and then expand over time to additional programs and audiences.</td>
</tr>
</tbody>
</table>

90. “Are there any needs for high end graphics desktops with advanced graphics capabilities?”

<table>
<thead>
<tr>
<th>UMUC Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perhaps during future expansion of usage. For instance, UMUC offers an academic program in Digital Media and Graphics.</td>
</tr>
</tbody>
</table>
91. **“What performance features does the current system lack?”**

<table>
<thead>
<tr>
<th><strong>UMUC Response</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>UMUC seeks greater quality, reliability, resiliency, and more robust services like, but not limited to, license optimization, capacity management, image design, and automated provisioning offerings in a new solution(s).</td>
</tr>
</tbody>
</table>

92. **“Does the response warrant a DR strategy as well?”**

<table>
<thead>
<tr>
<th><strong>UMUC Response</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>UMUC’s students learn 24x7x365 around the world. Proposed solutions must account for UMUC’s business model and provide redundant, fault tolerant capabilities supported by contractual SLAs.</td>
</tr>
</tbody>
</table>

93. **“Will UMUC please describe the current infrastructure and basic operation of the cyber program as it is designed today?”**

<table>
<thead>
<tr>
<th><strong>UMUC Response</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>The current environment, for information purposes only, is described in Section II of the RFP.</td>
</tr>
</tbody>
</table>

94. **“How is vCloud Director being used in the current environment?”**

<table>
<thead>
<tr>
<th><strong>UMUC Response</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>The current environment is not relevant to proposed solutions.</td>
</tr>
</tbody>
</table>

95. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.1.3 at page 8 of the RFP] **“Please elaborate on this requirement. Does UMUC need root/administrator privileges for individual application installation or for support purposes?”**

<table>
<thead>
<tr>
<th><strong>UMUC Response</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>UMUC requires root/administrator privileges for students in specific coursework as part of the curriculum.</td>
</tr>
</tbody>
</table>
96. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.5.4 at page 9 of the RFP] “Will UMUC confirm that this requirement can also be rephrased to "port enterprise application to mobile devices also described as application refactoring"?”

**UMUC Response**

Please refer to question 48.

97. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.5.2 at page 9 of the RFP] “The ability to transfer data from a virtual machine directly to a local machine by cut and paste or saving data is typically a function disabled for security precautions to reduce the risk of introducing malware, spyware or viruses from the local machine in to the virtual environment. Is the requirement to remove this security precaution?”

**UMUC Response**

The functionality required is accurate as written in the RFP.

98. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.5.3 at page 9 of the RFP] “Is the session recording functionality intended for creating training media, reviewing student performance, security/forensics, or other?”

**UMUC Response**

UMUC’s requirement for session recording supports the University’s academic mission.

99. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.5.10 at page 9 of the RFP] “Is this referring to a "White Cell" in a Red Team/Blue Team engagement?”

**UMUC Response**

Yes.
100. “Appendix A, UMUC Software Inventory - will UMUC segment the software inventory for Cybersecurity or other academic DaaS usage?”

**UMUC Response**

The majority of the software listed in Appendix A – “UMUC Software Inventory” is used in UMUC’s Cyber program. The only software that is used for other programs include ArcGIS and Oracle products.

101. [Appendix C, Contract, Paragraph 10. General Terms and Conditions, subparagraph 10.23.1 Insurance] “Will UMUC accept a professional liability policy with a limit of $2,000,000 per claim? Such a policy is acceptable to the State of Maryland contracts issued under the CATS+ contract vehicle.”

**UMUC Response**

Yes.

102. “What directory service(s) is being used by customers of the DAAS solution (Active Directory, Open LDAP, etc.)?”

**UMUC Response**

Please refer to questions 21, 57 and 67.

103. “Is UMUC open to migrating Directory Services as a part of this DAAS implementation?”

**UMUC Response**

Please refer to question 68.

104. “Are the SAML SSO logins a requirement for the VDI management portal or for the VDIS?”

**UMUC Response**

Please refer to question 57.
105. “Would UMUC consider proposals that offered alternatives to or complementary with the SAML SSO logins?”

**UMUC Response**

Yes.

106. “Does UMUC require a solution that works on devices like iPads, Android tablets, smartphones, and other bring your own devices?”

**UMUC Response**

Yes.

107. “What are the typical requirements for a student desktop (available RAM, disk space, processor speed, etc.)?”

**UMUC Response**

‘Typical requirements for a student desktop (available RAM, disk space, processor speed, etc.)’ do not exist because like in corporate scenarios they vary widely based on usage. For example Cyber, Big Data, and Comp. Sci. program needs are vastly greater than in the MBA program. UMUC seeks a partner with vast experience optimizing solutions for such circumstances.

108. “What is currently used for hosting the Cyber Security program?”

**UMUC Response**

Please refer to question 94.

109. [RFP Section III, Paragraph 2., Initial Technical Criteria], “As this is an electronic submittal (PDF), will UMUC remove request to provide tabs to separate responses to each of the technical criteria? Will a page break for each section (1 – 10) suffice?”

**UMUC Response**

Yes.
110. “Can you describe the intended audience for this solution? For example, is this solution for all faculty, staff, and students; just for faculty and students; or portions of each?”

**UMUC Response**

Please refer to question 74.

111. “Can you define the different user types and their specific needs? Example:
- Knowledge user --> engineers, graphic designers, programmers, graphic intensive work.
- Task Based User --> limited set of tasks, data entry, word processing.
- Other??”

**UMUC Response**

Students in UMUC’s academic programs completing assignments and projects are the primary users.

112. “What equipment and technologies are currently used for hosting the Cyber Security program?”

**UMUC Response**

Please refer to question 94.

113. “Are there any requirements for network isolation (isolation lab) for the cyber security program? If so, please detail the requirements.”

**UMUC Response**

Yes. Some systems would need to be fully isolated from the rest of the network due to the nature of the assignment. For example, students may be installing a DHCP server or be analyzing a malware.

114. “May a system other than Linux be used?”

**UMUC Response**

Yes, however, the solution must provide Linux capabilities to support the academic curriculum.
115. “Will UMUC be leveraging existing MS licenses?”

<table>
<thead>
<tr>
<th>UMUC Response</th>
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<tbody>
<tr>
<td>No, not at the OS level.</td>
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</table>

116. “If the Offeror is working with a significant delivery partner, is it appropriate to include the delivery partner’s information in section III - 2.1-2.6?”

<table>
<thead>
<tr>
<th>UMUC Response</th>
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<tbody>
<tr>
<td>Yes.</td>
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</table>

117. “Is it acceptable to include recommendations from previous academic-based DaaS deployments in section 2.5 and 2.6 of the proposal?”

<table>
<thead>
<tr>
<th>UMUC Response</th>
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</thead>
<tbody>
<tr>
<td>Yes, recommendations from previous academic-based DaaS deployments are encouraged.</td>
</tr>
</tbody>
</table>

118. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.2.1 at page 8 of the RFP] “Real time dashboard and reporting capabilities including UMUC defined metrics for solution performance, usage patterns, license consumption and evolving KPI’s.’ Can you provide details on the UMUC defined metrics?”

<table>
<thead>
<tr>
<th>UMUC Response</th>
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</thead>
<tbody>
<tr>
<td>Generally, UMUC seeks two classes of data: operational and academic. Operational data and associated metrics are commensurate with any corporate or government DaaS deployment and include subjects like availability, performance, capacity, and usage. Academic data and associated metrics may include frequency in which capabilities are accessed, channel used, duration of usage, and referrer. In both cases UMUC expects to collaboratively define and iterate metrics with the selected partner as needs evolve.</td>
</tr>
</tbody>
</table>
119. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.1.2 at page 8 of the RFP] “Submit assignments from within the environments to the UMUC system of record.’ What is the UMUC system of record?”

**UMUC Response**

Please refer to question 40.

120. [Section II. Scope of Work, Paragraph 2. Requirements., subparagraph 2.2.6 at page 8 of the RFP] “The ability to migrate assets and configuration between multiple environments.’ Could this include migration to an environment provided by another IT provider?”

**UMUC Response**

Potentially, but this is not the intent. Multiple environments in this context means between an experimental/development environment and a production environment for student usage, for example.

121. “We understand that UMUC students can be anywhere in the world. However, understanding their “home” or “normal” location can greatly increase user experience. Can UMUC provide a geographical profile of where users are located?”

**UMUC Response**

Please refer to question 25.

122. “Can UMUC provide a schedule for the beginning and end of each semester or course session? Is this available on an online site that we can access? In addition, are self-paced courses available at any time to the user population for learning consumption?”

**UMUC Response**

See: [http://www.umuc.edu/students/calendar/](http://www.umuc.edu/students/calendar/)
123. “Request for information to help us understand the geographic or logical placement of other student facing services UMUC utilizes, like Blackboard, etc. The proximity of virtual desktops to these systems can impact user experience.”

**UMUC Response**

The location of other student facing capabilities is not relevant to this RFP if the RFP requirements are fulfilled.

124. a. “Performance and customer satisfaction for a VDI environment is highly dependent on the distance between the user and the back end VDI environment. Generally if latency between the users and the VDI environment is less than 80 milliseconds (1500-3000 miles), performance is of the same quality as a local computing resource, between 80 and 150 milliseconds (up to 6000 miles) performance is degraded but acceptable, over 150 milliseconds performance is poor for the end user. Can UMUC provide a characterization of their user population with user density by region information?”

**UMUC Response**

Please refer to question 25.

b. “Will UMUC provide acceptable locations where the VDI environments can be hosted?”

**UMUC Response**

UMUC has no preference where the solution is hosted. UMUC’s focus is on service affect and SLAs.

125. “Does UMUC currently have a license management solution? What solution is in place or how is license management currently performed?”

**UMUC Response**

UMUC seeks a holistic vendor solution inclusive of license management and optimization.
126. “UMUC has expressed a desire to allow faculty to spin up course development environments. Which geographic locations are the faculty located?”

**UMUC Response**

Like students, UMUC faculty are located around the world. Course design and development staff are primarily located on the east coast of the United States, however.

127. a. “UMUC has indicated that the provider needs to interface with the UMUC 24x7 service center. Will this service center serve as the Tier 1 contact with the students?”

**UMUC Response**

Yes.

b. “Does this service center utilize an ITSM solution?”

**UMUC Response**

Yes.

c. “What are the standard escalation processes?”

**UMUC Response**

Escalation procedures are specific to the subject matter.

d. “What services are provided by the service center? Are there standardized escalation processes?”

**UMUC Response**

Yes.
128. “With regards to the software products to be made available to students/staff, is there a standard at UMUC concerning the version and the currency of the versions that need to be made available?”

**UMUC Response**

Academic Program Directors typically define the version and currency of curriculum related software and content.

129. “Is the network provider separate from the DaaS provider? If so, are operating level agreements (OLAs) or KPIs in place and tied to positive user experience?”

**UMUC Response**

UMUC students and staff are globally distributed with many network providers and modalities.

130. “Are there service level agreements (SLAs) or KPIs in place, by geographic region, for the Proposer to consider when developing the DaaS solution?”

**UMUC Response**

No, UMUC aspires to SLAs and KPIs based on multiple facets which may include geography, bandwidth, device, browser, etc. but expects to evolve to this level of maturity with the selected partner.

131. “Does UMUC plan to post all questions (from all interested Proposers) with the answers to the www.umuc.edu/procurement website?”

**UMUC Response**

Yes.

132. “What type of contract does UMUC intend to issue in support of this solicitation (e.g., T&M, FFP, CPAF, etc.)?”

**UMUC Response**

UMUC’s Professional Services contract template is provided in Appendix C, and will be the basis for all resulting contracts from this RFP. Price Proposals are not requested at this time, and will be requested in accordance with Section I, General Information, Paragraph 5.2.
133. “If an Offeror takes exception to any of the terms or conditions in Appendix C - Professional Services Agreement, should these exceptions be included within the Offeror’s Technical Proposal?”

**UMUC Response**

In accordance with Section I, General Information, Paragraph 6, “By submitting a proposal, an Offeror shall be deemed to have accepted the terms, conditions, and requirements set forth in this RFP”. UMUC expects the awarded vendor to accept the required terms detailed in Appendix C. Any requests for contract exceptions must be included in the Technical Proposal as an appendix.

134. “The Professional Services Agreement in Appendix C seems to be more appropriate for a contract providing development work, not O&M. Will any resultant Professional Services Agreement be altered to cover O&M services as well?”

**UMUC Response**

UMUC’s Professional Services contract template is provided in Appendix C, and will be the basis for all resulting contracts from this RFP. Alterations will be considered where appropriate.

135. “Who will determine whether any lost data/records are due to Contractor’s negligence?”

**UMUC Response**

UMUC.

136. “Does UMUC’s requirement to protect certain Confidential Information from disclosure under FERPA require any related certifications and/or present any unique or additional challenges for Offerors/Contractors?”

**UMUC Response**

No, information regarding FERPA can be found at the following website: [http://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html](http://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html).
137. “Can UMUC clarify its policy regarding delays and extensions of time? For example, if the Contractor is provided a time extension for an excusable delay, will the Contractor also be able to make charges/claims for damages to be made whole from the excusable delay?”

<table>
<thead>
<tr>
<th>UMUC Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any charges/claims by either party will be in accordance with the contract resulting from this RFP.</td>
</tr>
</tbody>
</table>

138. “Has UMUC identified any licenses, permits, and governmental approvals that Offerors/Contractors would need to obtain in conjunction with any DaaS Solution?”

<table>
<thead>
<tr>
<th>UMUC Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
</tr>
</tbody>
</table>

139. “Can UMUC clarify the use of Subcontractors in Offerors’ proposals?”

<table>
<thead>
<tr>
<th>UMUC Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>UMUC’s policy regarding the use of subcontractors is explained is Appendix S, Solicitation Terms and Conditions, Paragraph’s 1 and 10.</td>
</tr>
</tbody>
</table>
ACKNOWLEDGEMENT OF RECEIPT OF ADDENDA FORM

Solicitation: UMUC RFP# 91376 – Desktop-as-a-Service Solution

TECHNICAL PROPOSAL DUE DATE: Tuesday, February 9, 2016 at 3:00 PM EST

NAME OF PROPOSER: __________________________________________________________

ACKNOWLEDGEMENT OF RECEIPT OF ADDENDA

The undersigned, hereby acknowledges the receipt of the following addenda:

Addendum No. 1           dated 1/27/2016
Addendum No. 2           dated 2/02/2016
Addendum No. _______       dated _________
Addendum No. _______       dated _________
Addendum No. _______       dated _________

As stated in the solicitation documents, this form is included in our Technical Proposal.

__________________________________________
Signature

__________________________________________
Name Printed

__________________________________________
Title