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August 20, 2020

**ADDENDUM #1** to the University of Florida ITN21NH-106 Wireless Enhancement scheduled to be opened on **September 1, 2020 3:00 PM** at the University of Florida, Elmore Hall Conference Room, Radio Road, Gainesville, Florida.

This addendum shall be considered part of the Contract Documents for the above mentioned **ITN21NH-106** as though it had been issued at the same time and incorporated integrally therewith. Where provisions of the following supplementary data differ from those of the original document, this addendum shall govern and take precedence. All other terms, conditions, and regulations will apply.

**This addendum consists of:**

- 1. Responses to technical questions and inquires submitted prior to 5pm, August 11, 2020.**

Sincerely,

*Nicola Heredia*

Nicola Heredia, Director  
Procurement Services

**Please acknowledge receipt of Addendum #1 by signing below, and returning this addendum with your proposal. Failure to include addendum with your proposal may result in rejection.**

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Email Address

\_\_\_\_\_  
Company Address

\_\_\_\_\_  
City/State/Zip

**Q1. Can a walkthrough of campus be scheduled for interested vendors?**

A1. Yes. A walk through can be arranged for a single time where all interested vendor can participate.

**Q2. As per 4.1 Proposal Format Organization Tab 4 -Thorough explanation of solution to each required feature listed in section 1.2.1 Technical Specifications (Attachment A).**

A2. Tab 4 requests the following: Contact name(s), number(s) and title(s), and a brief bio including relevant experience of executive and professional personnel, project manager, team members, etc. who will be assigned to this contract. Indicate the responsibilities each will have in this project and how long each has been with your company. Illustrate where these personnel will be physically located during the time they are engaged in the work. Please include an Organizational chart beginning with your account management team through CEO of your company. Identify any subcontractors you intend to use and the services they will perform.

**Q3. Do all technical responses need to be submitted within the provide (Attachment A) spreadsheet or within another document such as Word be allowed?**

A3. Yes, as long as all the questions are answered under the same format and sequence of items, a Word document would be allowed.

**Q4. To provide accurate reference pricing, how many AP2x2 and AP4x4?**

A4. Rough estimate 70% 4x4 or 3x3, 30% 2x2 or less

**Q5. Are all the existing AP's powered by POE capabilities from the LAN switch? Any by POE power injectors?**

A5. All indoor main campus APs are powered via POE via switch. Outdoor APs will typically use AC/DC or a variation of POE and extender. Many small off campus locations have APs powered from injectors but are being moved to switch POE via attrition or lifecycle.

**Q6. Does the WLAN solution need to be solely supported by on premise WLAN controllers?**

A6. Our preference is on premise, but we are open to other options.

**Q7. Will a full predictive analysis - heat maps be required for any or all location as part of the campus WLAN refresh?**

A7. No.

**Q8. Are all the existing WLC depicted within the diagram Exhibit 1. UF General Wireless Topology located within the same data center location? Are there multiple DC's within campus?**

A8. For main campus, there are 2 primary geo-dispersed datacenters indicated by the DC1, DC2 prefix on topology. There are 2 additional UF divisions that maintain independent controller clusters in separate locations as well. We can provide a higher quality version of the diagram sent.

**Q9. Should AP pricing be based upon internal antennas?**

A9. Yes, though external antenna options should be available.

**Q10. As per the ~14000 APs installed today, how many of them are outdoor Aps?**

A10. About 50 formal outdoor APs utilizing either POE or mesh technology. Emphasis is being made on providing enhanced, dedicated coverage to many outdoor locations around campus so that number will soon see a significant increase.

**Q11. Is the expectation that all controllers and AP's will be ordered at the same time?**

A11. Controllers will be ordered first following batch amounts of APs based on a migration plan and timeline for replacement.

**Q12. What is the expected installation time frame to complete the installations of all new AP's.?**

A12. Two years

**Q13. Will a cloud managed WLAN solution be considered, or is there a preference for on-prem WLAN managed solution?**

A13. Our preference is on-premise, but other options will be considered.

**Q14. Is the vendor expected to provide per-device pricing in a catalog format?**

A14. Yes, that would be preferable.

**Q15. Does the incumbent solution provider have contracted IT staff on site today via manage & operate contract?**

A15. All operation efforts will be managed by UFIT staff. Remote technology assistance and support should be available for escalation if needed.

**Q16. Does the University require on-site staff to install, manage, and/or operate the on-going operations of the WLAN?**

A16. No, but for initial turnup, solution design and configuration support is desired. AP installation services should be noted if provided.

**Q17. University of Florida is looking for a pro services pricing & SOW for controller-based installation?**

A17. The vendor should provide an option for both UFIT installation as well as vendor installation. Controller installation will be handled internally by UFIT staff. Solution design and configuration support is desired if offered.

**Q18. University of Florida is looking for a pro services pricing & SOW for AP replacement & hanging of those new APs?**

A18. Yes, if available

**Q19. Will the University of Florida run cabling for new AP locations?**

A19. Yes

**Q20. Can the University of Florida provide some heat maps and/or explanation of AP density in a few key or example buildings?**

A20. We have provided the counts of the AP's based on density. More in-depth density and detailed information can be provided in the second round, as we enter the evaluation stage. Refer to the answer on Q25 and Q68.

**Q21. How many different external antenna options (indoor, outdoor, different degree & sector widths, etc.) would University of Florida consider?**

A21. 4/6dbi omni indoor, 6/8dbi omni outdoor, 30 and 120 degree high-gain directional antennas. External antennas should also include wall, pole, or wire mount bracket options.

**Q22. Is the University of Florida expecting the respondent to visit all sites throughout Florida for design, configuration, and/or deployment?**

A22. No, main campus is focus.

**Q23. What pricing does U of F want to see for the ITN? Pricing on individual components that meet the tech requirements or pricing for the entire solution that includes scaling to the entire environment?**

A23. Pricing on the individual components.

**Q24. What are typical average daily peak concurrent client counts across the entire wireless infrastructure?**

- a. For internal networks
- b. For guest/anchor networks

A24. A) ~84000 peak avg clients B) ~16500 peak avg guests

**Q25. What specific models and quantities of Access Points are in production today?**

A25.

Model	Count	Model	Count
Cisco 702W	140	Cisco 2700I	7
Cisco 1530I	13	Cisco 2800I	193
Cisco 1550	25	Cisco 3500E	5
Cisco 1562I	10	Cisco 3500I	667
Cisco 1570E	7	Cisco 3600E	48

Responses to questions submitted for UF's ITN ITN21NH-106 Wireless Enhancement

Cisco 1602I	1	Cisco 3600I	1550
Cisco 1702I	430	Cisco 3700E	12
Cisco 1810W	2882	Cisco 3700I	1342
Cisco 1815W	19	Cisco 3800E	39
Cisco 1830I	5	Cisco 3800I	1592
Cisco 1850I	182	Cisco 3800P	141
Cisco 2602I	102		
Cisco 2602E	7	Total	

**Q26. Existing WLC Infrastructure Deployment Strategy**

**a. Are WLCs split to allow servicing differentiated use-cases across the U of F environment?**

**i. For example, do some WLCs manage APs for the Primary Campus vs Dorms vs Geographically remote locations?**

**ii. Are the existing 8540 and 5520 WLCs dedicated to specific uses?**

A26.

i. Yes. See table below.

Controller Type	Controller Model	Use-case
Main-campus Academic	8540 (HA)	Academic campus locations
Main-campus Academic	8540 (HA)	Academic campus locations + wan sites
Student Affairs	8540 (HA)	Student dorms and housing facilities
UFHealth Academic	8540 (HA)	Academic health teaching and learning
High Density	5520 (HA)	High density / stadium grade locations
Early Adopter	5520 (HA)	POC early feature adoptions and code testing
Lab	5520	Development

ii. Yes. See table above.

**Q27. Does U of F intend to provide WiFi connectivity to fans in their athletic complexes such as Arenas or Stadiums? If so what are the maximum seating sizes of these facilities?**

A27. UFIT currently provides wireless services to the UF basketball arena (capacity 10133) which currently consists of 200+ stadium grade APs and antennas. The football stadium facilities are outside the scope of this ITN.

**Q28. Does U of F utilize guest anchor WLCs to tunnel traffic to DMZ situated controllers for isolated guest/Internet-only traffic?**

A28. UFIT primarily uses network segmentation to isolate guest traffic, however, anchors are used for providing certain SSIDs across divisional controller boundaries and is a vendor supported requirement.

**Q29. Is use of the term "fabric" shown in the ITN appendix diagram indicative of an existing fabric overlay (ACI or other) or just an interconnected/highly-available Wireless distribution block utilizing traditional underlay network standards?**

A29. No, not related to a data-center fabric overlays like vxlan or other. It's used more in context closer to indicating layer3 separation or availability zones.

**Q30. Does the U of F intend on utilizing a Software Defined Access network architecture to provide a fabric overlay for their Infrastructure, Access Points, or Wireless Clients?**

A30. No

**Q31. Will U of F be performing a formal RF WiFi design to validate expected coverage and client experience as part of the wireless refresh? Will this be done predictively or via active AP on a Stick survey methods?**

A31. Yes, active surveys will be completed post-refresh to identify coverage holes and target areas for remediation.

**Q32. Please quantify the "scale" you anticipate for the consumer "home" experience?**

A32. 1000 clients per controller, and with centralized policy enforcement to prevent discovery coherence. Mainly for dorms and student housing.

**Q33. Does "Point-in-Time configuration snapshot/rollback" refer to virtualization features such as VMWare "Snapshots" or capturing logical configuration archives to be available for reverting?**

A33. Capturing logical, revertible configurations for archive. Ideally, capable of archiving via a defined schedule.

**Q34. Does the U of F intend to integrate with existing RADIUS solutions to provide AAA or NAC (posture, remediation, supplicant provisioning) services? Is a AAA/NAC solution required as part of the ITN?**

A34. UF will be using existing infrastructure to provide those services.

**Q35. How is the existing RADIUS solution distributed for high availability or geographic redundancy?**

A35. They are physically spread between several geographic locations and data centers. It would be ideal if the wireless controller could load-balance client authentications between multiple radius servers.

**Q36. Are all edge switches where Access Points may attach POE+ compliant or are POE-only (max 15.4W) switches still in use?**

A36. Refer to Q5.

**Q37. What is the estimated budget?**

A37. The budget has not yet been set.

**Q40. Section 4.2.7 states "Vendors shall indicate pricing and/or revenue offers in the appropriate spaces and/or areas provided in this ITN." Will a pricing section/form be provided, or can you further clarify the specific pricing requirements?**

Responses to questions submitted for UF's ITN ITN21NH-106 Wireless Enhancement

A40. Please provide this information as per Tab 11.

**Q41. Please clarify the contract length. Section 1.3 states "two (2) years, from the date of award, with an option to renew based on satisfactory performance and the written approval of both parties for up to one (1) additional one (1) year period." Tab 9 requests Pricing should be valid for an "initial two (2) year period and three (3) additional one (1) renewal years. Hourly rates for ongoing Professional Services for post-implementation for the full five-year period."**

A41. Two year contract with an option to renew for another year.

**Q42. What is the implementation timeframe for all Controllers and APs?**

A42. Two years

**Q43. Are we designing for one-to-one AP replacement only?**

A43. Yes, for proposal purposes, plan for one-to-one replacement.

**Q44. In addition to AP refresh, will the vendor be performing any AP layout redesigns utilizing either predictive or onsite surveys? If so, please include information on the number of locations, facility size, and type of deployment desired (high density, outdoor, etc.).**

A44. No. Any redesigns or surveys will be handled by UFIT staff.

**Q45. Are patient care facilities (UF Health hospitals, clinics) in scope for this ITN?**

A45. UF Health facilities wireless is out of scope.

**Q46. Is there Layer 2 connectivity between all Data Centers that will host wireless controllers.**

A46. Yes.

**Q47. Should access layer switching for AP uplinks, or any core infrastructure design and/or implementation be provided by the vendor for this solution?**

A47. No, however, core configuration recommendations can be included if they enhance a specific wireless solution or failover scenario.

**Q48. What are the current POE budgets for existing switches?**

A48. Few locations max at 15.4W (POE), most provide 30W (POE+), new site refreshes are now supporting 60W (UPOE).

**Q49. Are there any VOIP requirements for the wireless system?**

A49. Mainly just the ability to prioritize VOIP traffic using QOS or other means. Wireless VOIP phones are currently associated to a dedicated SSID.

**Q50. Does UF have an internal cabling team or preferred vendor, or will cabling be provided by the awarded vendor?**

A50. UF handles cabling internally and will contract out larger jobs to a contracted vendor.

**Q51. Is there a current mesh setup? If so, can a layer 2/3 topology be provided?**

A51. Mesh APs are deployed at various locations around the state where cabling is not possible or feasible. These APs are homed to existing controllers and often exist of one, potentially, two root APs and mesh APs that usually don't extend more than one hop away.

**Q52. Does UF currently have an existing Network Access Control system (Cisco ISE, Aruba ClearPass, etc.)? If yes, will the awarded vendor be required to integrate with the existing system? If yes, can you provide any pertinent information regarding the licensing/versions of the existing system?**

A52. UF currently uses an in-house radius based (FreeRadius) NAC system. The vendor should be able to grant or deny access to the wireless network based on mac-address of the client. Must also be capable of forwarding this mac to an external radius instance for authentication.

**Q53. What is the current guest network topology?**

A53. The guest network is virtually isolated from campus but shares the same underlying physical infrastructure as the corporate network. Guests are placed in a separate MPLS L3VPN that sits behind a captive portal, firewall, and uses a dedicated internet connection. More detailed topology graphs can be provided as the ITN process continues.

**Q54. What process do guest devices perform to get access to the network?**

A54. See below. All controls are managed and maintained via dedicated routers and servers independent of the wireless network.

Step 1: Select dedicated guest SSID

Step 2: Click-through AUP via captive portal

Step 3: Online

**Q55. Are UF based wireless devices provided a certificate for authentication purposes?**

A55. Yes. UF uses SecureW2 as an onboarding vendor which pushes the necessary server certs needed to authenticate to the network. Client certificates are currently not used for devices.

**Q56. How are IOT devices being authenticated on the network?**

A56. A dedicated SSID and shared PSK is used for devices that do not support dot1x. These devices are registered by mac-address which is authenticated during association. It is desired the vendor be able to support private PSKs on a WPA2 network.

**Q57. How are BYOD devices authenticated/registered to the network?**



Responses to questions submitted for UF's ITN ITN21NH-106 Wireless Enhancement

A57. UF is a part of the eduroam consortium and uses SecureW2 to onboard BYOD devices via the user's campus identity and credentials. Soon access to the network will replace credentials for a unique device key with formal registration via an in-house system.

**Q58. How many SSID's are in production and which security standards are they using?**

A58. There are 4 primary SSIDs advertised globally. 20 total which are deployed depending on use-case or location. All are either Open, WPA2/PSK, WPA2/PSK mac filtered, or 802.1X.

**Q59. Has an RF channel plan been completed?**

A59. Yes.

**Q60. Do the current controllers utilize any routing protocols?**

A60. No. Layer2 only.

**Q61. Will UF require Managed Services support of the implemented solution?**

A61. No. However, technical assistance should be provided as an escalation if needed; ie. hardware failure or bug.

**Q62. Section 1.2 references a vendor provided "testing facility." Can you further describe this requirement? Will the vendor be required to set up an offsite testing facility or will UF consider testing vendor provided/configured equipment on campus?**

A62. This just means for the vendor to "facilitate" a way that allows for UFIT to test the equipment prior to procurement of the final product in a controlled manner, and what that would look like, whether local or remote.

Ideally the vendor would provide a loan of multiple on-site controllers with various APs so feature validation and performance tests can be thoroughly conducted using real-world scenarios.

**Q63. Does University of Florida have a Procurement Portal to which we can contribute our response in place of a hard-copy paper submission?**

A63. No, the University requires hard copy submission as specified in the document.

**Q64. Please specify the outdoor ap minimum requirements for being environmentally hardened?**

A64. 120-degree operating temperature protection. Resistant against high humidity (90%) and sustained winds (100mph). Seam resistant to rainwater. NEMA rated.

**Q65. Can alternatives be provided for SFP+ interface options for long distance fiber connections?**

A65. Yes. Provided the solution can maintain 1G port speeds beyond a distance of 100M.

**Q66. Can alternatives be provided for the DC power supply requirement for the outdoor AP?**

Responses to questions submitted for UF's ITN ITN21NH-106 Wireless Enhancement

A66. Yes.

**Q67. Is this ITN to refresh wi-fi (all existing AP's)?**

A67. Yes. The scope is for all equipment related to access points and wireless lan controllers to be replaced as well as becoming vendor of choice for ongoing operation and expansion.

**Q68. Can you provide us with a complete breakdown of the type of wireless ap's and quantities that will need to be quoted (high density / low density / outdoor ap's)?**

A68. See Q25 for current AP breakdown. For general quote quantities, see below.

High density: 9000

Low density: 6000

Outdoor: 100

Quantity 1 pricing (hardware + licensing + support) is also desired for the various models.

**Q69. Can you provide a guestimate or exact number of the complete # of AP's to be quoted?**

A69. ~15000

**Q70. Do you have a timeline for the project after the PoC in September?**

A70. Two years

**Q71. Can UF designate or provide a campus building, hallway or general area as a testing facility for the proof of concept phase?**

A71. Yes. During evaluation, test gear would be racked in a lab environment and APs deployed throughout a building floor. Test gear would need to be provided by the vendor to best mimic the final solution.

**Q72. Can a floorplan be provided for this designated testing facility as well?**

A72. Yes.

**Q73. Can you provide a more detailed diagram or alternative to Exhibit 1 which lists controller layout design?**

A73. Yes.

**Q74. Can existing wireless heatmaps be provided for the entire campus if possible?**

A74. Yes, for a majority of the main-campus buildings. Not all.

**Q75. Are physical installation and AP replacement services expected in Gainesville geography only?**

Responses to questions submitted for UF's ITN ITN21NH-106 Wireless Enhancement

A75. Yes

**Q76. Can you provide list of other cities besides Gainesville in which physical installation/AP replacement services are expected, and number of AP's in each?**

A76. Installation in other cities is not anticipated at this time.

**Q77. Can floorplans be provided of each building/outdoor area containing wi-fi AP's?**

A77. Yes. As requested, during the ITN process.

**Q78. Is the University of Florida (UF) willing to accept responses via email due to the current pandemic?**

A78. No, UF is currently open and requires the hardcopy submission as detailed in the ITN documentation.

**Q79. UF states that "the original response must contain the original manual signature of the authorized person signing the proposal" on page 13 of the ITN. Is UF willing to accept electronic signatures?**

A79. Yes

**Q80. Is it permissible to have an element of the solution located outside the U.S.?**

A80. No

**Q81. What is the start date for the Wireless Enhancement project?**

There is no start date defined as yet.