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Addendum 1:
RFP: WIRELESS ACCESS POINTS, 28-2007

1. Q: How was the AP count decided?

A: The AP count was determined by a number of factors including an RF survey, classroom:AP ratio, an estimated square foot to AP ratio. A RF survey was done for all campuses. A ratio of the number of classrooms per facility to the number of APs identified in the RF survey was calculated. The results for all campuses were less than 3 classrooms per AP (ranging from 2.0:1 to 2.8:1). Finally, an estimated coverage area was calculated per AP based on the campus AP ratio times the estimated square footage of a classroom at 900 sq. ft. The results estimated that all AP coverage requirements would be less than 2,500 sq. feet.

2. Q: Was there a RF survey and design done?

A: Yes.

3. Q: The new 1250 AP (802.11n) can use POE power with one radio. Higher data rates will need inline injectors. What data rate is the RFP proposing?

A: It is the intent of the district to provide the maximum amount of bandwidth and coverage from each AP purchased within the district. In doing so, there is no planned intent to support 802.11b or 802.11a but to allocate bandwidth and resources to 802.11g and 802.11n using both the 2.4-GHz and the 5-GHz radio band.

4. Q: Is there 6500 slots available for WISM controller blades?

A: YES. The district is also planning a network upgrade that provide secondary paths and alternative location for mission critical Network Service; therefore, it is required that all High Schools provide controller services be able to support a minimum of 100 APs as a secondary.

5. Q: Page 4. Start up capacity - does this refer to simultaneous connections per school?

A: The quantity listed in the capacity table as start up is the total number of wireless devices within the campus. Yes, all devices can and will be simultaneously connected to the wireless network.

6. Q: Page 4. Does Lamar recommend a minimum bandwidth standard per school type?

A: The WAN link is currently 1 Gigabit with the strategy to upgrade to 10 Gigabit as needed. The WLAN should be able to provide all projected devices at least 20 Mb access; therefore, the following minimum bandwidths would be required in conjunction with the WAN upgrade.

CAMPUS TYPE	Start Up Capacity	Three year Growth Capacity	Minimum Bandwidth
Elementary/Middle Campus	150	250	5 Gigabit on WLAN
Junior High Campus	200	300	6 Gigabit on WLAN
High School	250	400	8 Gigabit on WLAN

7. Q: Page 4. Should this proposal include identified schools to open in 2008-2009?

A: The final contract may include McNeill Elementary and Wertheimer Middle School once the plans have been finalized. Both campuses open Aug 2008.

8. Q: Page 24. To support these applications we need to know more information regarding each. From a high level do they support TCP/IP? Does each need to be supported via the wireless LAN or will these be wired only?

A: All applications listed are IP based services currently delivered via the wired network. The wireless network must support all of the listed application. Currently, no application required more than 2 Mbps per access device.

9. Q: Page 29. LWAPP - reference to an old technology?

A: LWAPP references the districts intent to implement a system with an architecture based on centralized intelligence and control. A WLAN controller system will be used to create and enforce policies, enable zero touch deployment, improve security, management, mobility, quality of service (QoS), and other functions essential to WLAN operations. LWAPP, Lightweight Access Point Protocol, is a protocol used for the Lightweight Access Points to communicate to the WLAN controller. The proposed system should use LWAPP (OR EQUIVALENT) to implement a controller based, centralized, lightweight WLAN for the district.

10. Q: Page 33. Section 6.3.1 Does the buy back pertain to wireless LAN active components?

- Vendor/Manufacturer will provide LCISD with an upgrade program from the existing equipment that provides credits on equipment that will not be used. (Buy back program)

A: It is the intent of the district to leverage existing WLAB equipment within the new system; therefore, the proposer should provide a strategy for upgrade, replacement, integration or trade-in. There are 43 existing Cisco 1120 or 1200 Access Points within the district.

11. Q: Page 33. Section 6.2.4 Can we get a diagram that depicts the WAN/LAN architecture

A: The LCISD WAN/LAN architecture is a single mode fiber WAN with Gigabit Ethernet to all facilities. Two (2) Cisco 6500 switch/routers provide WAN connections to all campuses. An Enhanced image Cisco 3750 switch provides Layer 3 LAN service at each campus. Each campus has a gigabit Ethernet backbone using Cisco 3750 switches. All services are provided from the district Network Operating Center.

12. Q: Page 33. Same section. Is the infrastructure distributed or centralized?

A: Centralized

13. Q: Page 33. Same section. What are the traffic patterns of the clients? Is DHCP used today and if so are the servers local or centralized? What about other network services?

A: All services are provided from the district Network Operating Center including DHCP, Directory authentication, Internet and video streaming.

14. Q: Page 33. Section 6.2.4 Can we assume the reference to documentation pertains to after installation of active components?

A: Yes

15. Q: Page 29. Section 4.3.3 Is the wireless LAN security separate from the wired LAN or is the intent to integrate the wireless into the wired LAN?

A: The intent is to integrate the wireless into the wired LAN with 802.1x authentication. The proposer should provide strategy into single, seamless integration.

16. Q: Page 35 Section 4.2 Does a cellular infrastructure exist today on campus?

A: Cellular overlay systems exist at Lamar High, Lamar Junior and the NOC. Systems will be installed at Foster and Briscoe campuses this spring.

17. Q: Page 30 Does this define what exists today, 81 outdoor and 596 indoor access points?

A: No, the 81 outdoor and 596 indoor define the estimated needs of the district and the requested number of APs.

18. Q: How many AP's do you have in the current system?

A: The district currently has 43 Cisco Access Points installed throughout the district.

19. Q: What type? Are they WLAN capable?

A: The existing Wireless Access Points within LCISD are Cisco 1120s and 1200s installed as autonomous APs.

20. Q: Regarding the WLAN controller architecture, would you prefer standalone controllers or do you have capacity in your core 6500's for a blade based controller?

A: There is capacity in the 6500s. A current configuration of the 6500 will be provided upon request. The district provides all services from the Network Operating Center of the district. All campuses are connected over single mode fiber optic links at gigabit Ethernet. A future project will provide secondary connections for all campuses to an associated high school (4 total). An additional option to provide secondary controllers at the high schools for increased redundancy and resiliency in the network will be considered. The secondary controllers would have to support 150 APs per High School.

21. Q: Do you have any distance specification for the outside AP's requested? What function will they serve?

A: Less than 2500 sq. ft. The outside APs are being installed to support an external Incident Command Center for crisis management at the campus. Example: Extending network to temp classrooms or a mesh environment so students and teachers can work outside on campus. The intent of the external APs is not instructionally focused.

22. Q: How many internet exist points do you have for guest use?

A: None

NOTE:

Please acknowledge receipt of this addendum by signing and dating this page and include a copy with your proposals.

Signature _____ Date: _____