**MIS 405/505 Networking Diagram Project**

**Due April 19, 2021**

Design and describe a network for following scenario. Include in your description justification for your choice of network component(s), topology, medium(s), and pricing structure. Use Cisco Packet Tracer to create a detailed schematic of your solution, including the appropriate labels.

Bama Bank has hired you as a consultant to help design an enterprise network for their new offices in both Tuscaloosa and Northport. Each office location will have approximately 100 employees, and all of the offices at each location will have a blend of desktop and laptop PCs, along with various printers and servers as specified below.

* The Tuscaloosa site employees need access to email and HR web portal services. 2 servers one for email one for web portal
* The Northport site employees will access these same services via the public Internet, but need to access them securely.
* Wi-Fi security is also a big concern for this firm. You’ll need to investigate and implement a secure connection option for the wireless workforce within their respective buildings. WPA2 Enterprise security is recommended. The WRT300N wireless router is also recommended.

TCP/IP Networking

* The Tuscaloosa site has been allocated the subnet 10.128.2.0/24
* The Northport site has been allocated the subnet 10.128.4.0/24
* Both sites need 3 subnets with as many hosts as possible
  + label the subnets as AML, HR, and ITS
  + indicate how many hosts are possible for each subnet at each site on the diagram
  + indicate the host IP ranges of the subnets at each site on the diagram
* Both sites need DHCP and DNS services at their respective sites
* The ISP network connecting the two sites is 10.10.10.0/30
  + Tuscaloosa’s boarder router should connect at 10.10.10.1
  + Northport’s boarder router should connect at 10.10.10.2

Deliverables

* Cisco Packet Tracer schematic (.pkt file) of your solution with appropriate labels. I must be able to load your .pkt file and run successful simulations on your network.
* Documentation to support your subnetting work.

Assessment

* Assessment will be conducted based on the following criteria:
  + completeness: the extent to which the diagram and associated documentation meet the requirements of the project
  + justification: the extent to which the logic behind the design justifications is sound and well thought out
  + functionality: the extent to which the diagramed network functions in Cisco Packet Tracer and theoretically
  + presentation: the extent to which the diagram and associated documentation are easy to read, comprehend, and are reflective of one another