**Networking 1B - US Project Rubric**

**Section 1 – Florida Cluster – 35 Points**

|  |  |  |  |
| --- | --- | --- | --- |
| **Objective** | **Possible** | **Problem (if deduction)** | **Earned** |
| Is the Miami-LAN PC assigned 190.X.149.254? | **2** |  |  |
| Are there 23 routing table entries on the Daytona Beach router? (3-Connected , 20-RIP Routes) ( ½ point each) | **11.5** |  |  |
| Does the Naples router have a default route (0.0.0.0) that was learned from RIP? (R\* 0.0.0.0 ) | **2** |  |  |
| Are there 9 instances of load balancing displayed in the Orlando routing table? ( ½ Point each)  | **4.5** |  |  |
| Was the hostname added on the Jacksonville router? | **1** |  |  |
| Is the host on the St. Petersburg LAN assigned a subnet mask of 255.255.255.192? ( /26 ) | **3** |  |  |
| Was F0/0 on Gainesville assigned 190.X.152.33 ? | **3** |  |  |
| Is 190.X.152.33 the default gateway for Gainesville PC? | **2** |  |  |
| Is the Pensicola PC assigned 190.X.152.54? | **2** |  |  |
| Does the default route (0.0.0.0) on St. Petersburg show a metric of [120/2]? | **2** |  |  |
| Does Miami show the exit interface S0/0/1 for the route to the 190.X.151.128 /26 network? | **2** |  |  |
| **Total Possible** | **35** | **Total Earned** |  |

**Section 2 – California Cluster – 22 Points**

|  |  |  |  |
| --- | --- | --- | --- |
| **Objective** | **Possible** | **Problem (if deduction)** | **Earned** |
| Is LA2-Printer assigned an IP address of X.210.255.253? | **3** |  |  |
| Are there 13 routing table entries (for unique networks) on the San Francisco router? (4-Connected , 1-Default route (static), 8 EIGRP Routes) ( ½ point each) | **6.5** |  |  |
| Was a default route statically assigned on Sacramento, using an exit interface of S0/0/1? (2 for route/1 for int) | **3** |  |  |
| Was the hostname added on the San Diego router? | **1**  |  |  |
| Was the LA3-Laptop assigned a subnet mask of 255.255.192.0? | **2** |  |  |
| Was F1/0 on the LA router assigned X.210.0.1? | **2** |  |  |
| Do Show Runs on all routers in California. Did all five use an the same AS number with EIGRP? ½ each | **2.5** |  |  |
| Does the LA3 server have an IP of X.212.63.254? | **2** |  |  |
| **Total Possible** | **22** | **Total Earned** |  |

**Section 3 - Michigan Cluster – 46 Points**

|  |  |  |  |
| --- | --- | --- | --- |
| **Objective** | **Possible** | **Problem (if deduction)** | **Earned** |
| Look at Ludington's routing table. Does the cost to Detroit LAN # 2 (134.X.80.0 /21) show as [110/**627**]?  | **5** |  |  |
| Look at Gaylord’s routing table. Does the cost to Kalamazoo LAN (134.X.99.0 /25) show as [110/**252**]?  | **5** |  |  |
| Are there 26 routing table entries (for unique networks) on the Lansing router? (4-Connected 21, 21-OSPF Routes, 1 Static) ( ½ point each) | **13** |  |  |
| Does Mackinac have a default in its routing table that was learned via OSPF? (O\*E2 0.0.0.0 ) | **2** |  |  |
| Does Holland's routing table have only 3 routes (default route + 2 directly connected) | **9**  |  |  |
| Is the subnet mask of GR LAN#2 set to 255.255.252.0? | **2** |  |  |
| Was F1/0 on the Detroit router assigned 134.X.32.1? | **2** |  |  |
| Do **SHOW RUN** on the Lansing router. Verify the bandwidth statements on these interfaces: S0/0/0 – 250, S0/0/1 – 500, S0/1/0 – 1000 ( 1 point each) | **3** |  |  |
| Does Battle Creek have a default route statically assigned pointing toward Chicago? (S0/0/1) | **2** |  |  |
| Does the Saginaw PC have an IP of 134.X.98.2? | **2** |  |  |
| Does Ludington S0/0/1 have **BANDWIDTH 1300** entered? | **1** |  |  |
| **Total Possible** | **46** | **Total Earned** |  |

**Section 4 - New York Cluster** – **29 Points**

|  |  |  |  |
| --- | --- | --- | --- |
| **Objective** | **Points Possible** | **Problem (if deduction)** | **Points Earned** |
| Does Buffalo have only three routing table entries? | **4** |  |  |
| Does the Rochester router have a default route (0.0.0.0)?  | **2** |  |  |
| Was the hostname added on the Watertown router? | **1** |  |  |
| Is the PC on the Albany LAN assigned an IP address of to 114.X+1.64.2? | **2** |  |  |
| Was F0/0 on Syracuse assigned an IP of to 114.X+1.88.1? | **2** |  |  |
| Does the Syracuse router have 14 entries in its routing table? (4 – Connected, 10 – Static routes) ( ½ each) | **7** |  |  |
| Does the Massena routing table have 3 static routes that use S0/0/1 as an exit interface? (Don’t count connected) | **3** |  |  |
| Does the Watertown routing table have 5 static routes that use S0/0/1 as an exit interface?  | **5** |  |  |
| Does Ithaca have a default route created pointing toward Cleveland? (S0/0/1 exit interface) | **2** |  |  |
| Does the PC on the NY-LAN#1 have a subnet mask of 255.255.128.0? | **1** |  |  |
| **Total Possible** | **29** | **Total Earned** |  |

**Section 5 – Texas Cluster – 32 Points**

|  |  |  |  |
| --- | --- | --- | --- |
| **Objective** | **Possible** | **Problem (if deduction)** | **Earned** |
| Does ElPaso F0/0 have a subnet mask of 255.255.255.248? | **3** |  |  |
| Are there 7 routing table entries on the Lubbock router? (2-Connected , 1-OSPF Routes, 4 Static) ( 1 point each) | **7** |  |  |
| Does Austin have a default route in its routing table that was learned via OSPF? (O\*E2 0.0.0.0 ) | **2** |  |  |
| Does the Dallas router have a static default route (S 0.0.0.0) | **3** |  |  |
| Does the Houston laptop have an IP of 185.X.192.3? | **2** |  |  |
| Does the Dallas printer have an IP of 185.X.191.253 | **3** |  |  |
| Issue the **SHOW IP OSPF INT F0/0** command on El Paso router. Find the IP address of the Designated router in the output. Does this match an IP address that is assigned to Dallas? | **5** |  |  |
| Issue the **SHOW IP OSPF INT F0/0** command on Austin router. Find the IP address of the Backup Designated router in the output. Is it the same as the loopback interface configured on the Austin router? | **5** |  |  |
| Does Dallas F0/1 interface have a subnet mask of 255.255.192.0? | **2** |  |  |
| **Total Earned** | **32** |  |  |

**Section 6 – Alaska Cluster – 37 Points**

|  |  |  |  |
| --- | --- | --- | --- |
| **Objective** | **Possible** | **Problem (if deduction)** | **Earned** |
| Does Barrow PC have an IP address of 172.X.175.254 | **2** |  |  |
| Are there 22 routing table entries on the ColdBay router? (2-Connected , 20-RIP Routes) ( 1/4 point each) | **5.5** |  |  |
| Does DeadHorse have a default route in its routing table that was learned via RIP? (R 0.0.0.0 ) | **3** |  |  |
| Are there 7 instances of load balancing displayed in the Fairbanks routing table? ( ½ Point each) | **3.5** |  |  |
| Go to Pipeline5 PC. Go to the IP Address Configuration page. Click on Static, then back to DHCP. Does the PC automatically receive IP address, subnet mask, default gateway and DNS assignments? (1 pt each) | **4** |  |  |
| Go to Switch3 in Anchorage. Issue the SHOW VLAN command. Does your VLAN data base show VLAN #s 1, 8, 15, 19 and 37? (1 pt each) | **5** |  |  |
| Go the DNS server in the Anchorage LAN. Click on config tab and then DNS. Is there an entry for palin.com? | **4** |  |  |
| Does the Anchorage router have 5 subinterfaces configured, which match the five VLAN in the Anchorage LAN? | **10** |  |  |
| **Total Possible** | **37** | **Total Earned** |  |

**Section 7 - Backbone Cluster – 18 Points**

|  |  |  |  |
| --- | --- | --- | --- |
| **Objective** | **Points Possible** | **Problem (if deduction)** | **Points Earned** |
| Do a **SHOW RUN** on Cleveland. Are there five static routes entered? Match the cluster to the exit interface. (1 point each) 114.X.0.0 – S0/1/1, X.208.0.0 - S0/0/1, 134.X.0.0 – S0/0/1, 185.X.128.0 – S0/0/1, 190.X.144.0 – S0/1/0 | **5** |  |  |
| Do a **SHOW RUN** on Denver. Are there five static routes entered? Match the cluster to the exit interface. (1 point each) 114.X.0.0 – S0/1/1, X.208.0.0 - S0/0/0, 134.X.0.0 – S0/1/1, 185.X.128.0 – S0/2/0, 190.X.144.0 – S0/1/0 | **5** |  |  |
| Test each of the router to router connections. This will only work for adjacent routers. You will test 16 WAN Links. (1/2 pt each) | **8** |  |  |
| **Total Possible** | **18** | **Total Earned** |  |

**Section 8 – Connectivity Tests –**

Save each set of connectivity tests under a different scenario and rename to match those shown below:

 **Florida New York**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Destination** | **Successful?** |  | **Source**  | **Destination** | **Successful?** |
| Pensicola-LAN | Tal-LAN |  |  | Syracuse-LAN | Buffalo-LAN |  |
| Pensicola-LAN | Gain-LAN |  |  | Syracuse-LAN | Rochester-LAN |  |
| Pensicola-LAN | DB-LAN |  |  | Syracuse-LAN | Watertown-LAN |  |
| Pensicola-LAN | JAX-LAN |  |  | Syracuse-LAN | Massena-LAN |  |
| Pensicola-LAN | Orlando-LAN |  |  | Syracuse-LAN | Albany-LAN |  |
| Pensicola-LAN | SP-LAN |  |  | Syracuse-LAN | Ithaca-LAN |  |
| Pensicola-LAN | Naples-LAN |  |  | Syracuse-LAN | NYC-LAN#1 |  |
| Pensicola-LAN | Miami-LAN |  |  | Syracuse-LAN | NYC-LAN#2 |  |
|  |  |  |  | Syracuse-LAN | NYC-LAN#3 |  |
| Total | 16 Possible (2 ea) |  |  | Total | 18 Possible (2 ea) |  |

 **California Michigan**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Destination** | **Successful?** |  | **Source**  | **Destination** | **Successful?** |
| Sac-PC | LA1-Printer |  |  | Sag-LAN | Holland-LAN |  |
| Sac-Server | LA2-Printer |  |  | Sag-LAN | GR-LAN#1 |  |
| Sac-Laptop | LA3-Printer |  |  | Sag-LAN | GR-LAN#2 |  |
| Sac-Printer | SF-Printer |  |  | Sag-LAN | Lansing-LAN |  |
| SD-PC | LA1-Server |  |  | Sag-LAN | Lud-LAN |  |
| SD-Server | LA2-Server |  |  | Sag-LAN | Mack-LAN |  |
| SD-Printer | LA3-Server |  |  | Sag-LAN | Gaylord-LAN |  |
| SD-Laptop | SF-Server |  |  | Sag-LAN | Kzoo-LAN |  |
| LA1-PC | SF-Laptop |  |  | Sag-LAN | BC-LAN |  |
| LA1-Laptop | LA2-PC |  |  | Sag-LAN | DET-LAN#1 |  |
| LA2-PC | SF-PC |  |  | Sag-LAN | DET-LAN#2 |  |
| LA3-PC | LA2-Laptop |  |  | Sag-LAN | DET-LAN#3 |  |
|  |  |  |  | Sag-LAN | DET-LAN#4 |  |
| Total | 24 Possible (2 ea) |  |  | Total | 26 Possible (2 ea) |  |

 **Texas Alaska**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Destination** | **Successful?** |  | **Source**  | **Destination** | **Success?** |
| Lubbock-Server | Dallas-Laptop |  |  | A-Switch1 | Barrow LAN |  |
| Lubbock-Server | Houston-Laptop |  |  | A-Switch2 | Bethel LAN |  |
| Lubbock-Server | Austin-Laptop |  |  | A-Switch3 | Cold Bay LAN |  |
| Lubbock-Server | EP-Laptop |  |  | A-Switch4 | Pipeline2 |  |
| EP-PC | Lubbock-Printer |  |  | DNS Server | Fairbanks LAN |  |
| EP-PC | Dallas-Printer |  |  | Iditarod1 | Fort Yukon LAN |  |
| EP-PC | Houston-Printer |  |  | Iditarod2 | Palin3 |  |
| EP-PC | Lubbock-Printer |  |  | Iditarod3 | Pipeline3 |  |
| Houston-Printer | Lubbock-Server |  |  | Inuit1 | Bethel LAN |  |
| Houston-Printer | Austin-Server |  |  | Inuit2 | Pipeline4 |  |
| Houston-Printer | Dallas-Server |  |  | Oil DHCP | Deadhorse LAN |  |
| Houston-Printer | EP-Server |  |  | Palin1 | Fairbanks LAN |  |
| Austin-Laptop | Dallas-PC |  |  | Pipeline1 | Valdez LAN |  |
| Austin-Laptop | EP-PC |  |  | Palin.com web server | Pipeline5 |  |
| Austin-Laptop | Lubbock-PC |  |  |  |  |  |
| Total | 30 Possible (2 ea) |  |  | Total | 45 Possible (3 ea.) |  |

**Cluster to Cluster Connectivity Tests**

 **Cluster1 Cluster2**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Destination** | **Successful?** |  | **Source** | **Destination** | **Successful?** |
| Deadhorse LAN | Gain-LAN |  |  | Houston-PC | LA3-Printer |  |
| Albany LAN | Holland-LAN |  |  | Dallas-Server | NYC-LAN#1 |  |
| Austin-Laptop | Palin2 |  |  | Naples-LAN | SF-PC |  |
| SF-Server | Ludington-LAN |  |  | Lansing-LAN | Lubbock-Laptop |  |
| DET-LAN#1 | LA3-Printer |  |  | Pipeline4 | EP-Printer |  |
| GR-LAN#2 | Inuit2 |  |  | LA2-Laptop | Syracuse LAN |  |
| Lubbock-PC | Miami-LAN |  |  | Palin web server | Orlando LAN |  |
| Sac-Server | Fairbanks-LAN |  |  | Rochester LAN | JAX-LAN |  |
| NYC-LAN#2 | Iditarod3 |  |  | Pensicola-LAN | Kzoo-LAN |  |
| A-Switch#2 | SD-PC |  |  | Fort Yukon LAN | Buffalo LAN |  |
| **Total** | **50 Possible (5 ea)** |  |  | **Total** | **50 Possible (5 ea)** |  |

**Section 9 – Connectivity Tests – palin.com Website Verification**

Using the Browser tool, visit palin.com from the below devices.

|  |  |  |  |
| --- | --- | --- | --- |
| **Source** | **palin.com** | **Destination** | **palin.com** |
| Saginaw PC |  | LA-LAN#2 Laptop |  |
| Albany PC |  | Fort Yukon LAN |  |
| Lubbock Server |  | Holland PC |  |
| Naples PC |  | Iditarod2 |  |
| El Paso Server |  | GR-LAN#1 PC |  |
| **TOTAL** | **40 Points Possible (4 ea)** |  |  |

**Section 10 – Final Score**

|  |  |  |
| --- | --- | --- |
| **Section** | **Points Possible** | **Points Earned** |
| Florida Cluster | **35** |  |
| California Cluster | **22** |  |
| Michigan Cluster | **46** |  |
| New York Cluster | **29** |  |
| Texas Cluster | **32** |  |
| Alaska Cluster | **37** |  |
| Backbone Cluster | **18** |  |
| Florida Connectivity Tests | **16** |  |
| New York Connectivity Tests | **18** |  |
| California Connectivity Tests | **24** |  |
| Michigan Connectivity Tests | **26** |  |
| Texas Connectivity Tests | **30** |  |
| Alaska Connectivity Tests | **45** |  |
| Cluster1 Connectivity Tests | **50** |  |
| Cluster2 Connectivity Tests | **50** |  |
| palin.com Connectivity Tests | **40** |  |
| **Totals** | **518** |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Points Earned** | **Grade** |  | **Points Earned** | **Grade** |  | **Points Earned** | **Grade** |
| 479-518 | A | 412-427.5 | B- |  | 344.5-360 | D+ |
| 563.5-479 | A- | 396-412 | C+ |  | 323-344.5 | D |
| 448-479 | B+ | 375.5-396 | C |  | 308-323 | D- |
| 427.5-448 | B | 360-375.5 | C- |  | <308 | F |