

| MARKS: 20% |
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| TOPOLOGY |
| <ul style="list-style-type: none"> 5 routers 5 switches P2P Architecture Mercenary (LAN) has a Web Server Lobby (LAN) has a Printer Undertaking (LAN) has a Web Server Intelligence (LAN) has an Email Server Headquarters (LAN) has one Email, one DNS and one DHCP Servers Headquarters (LAN) has a Leader's Computer Leader's Computer is connected to the Headquarters Router using a Console wire Every LAN has 3 additional end devices (PCs) Topology has proper labels and annotations |
| NETWORKS [VLSM Table] |
| <ul style="list-style-type: none"> Maximum Network: 255.255.224(11100000).0/19 Lobby LAN [3200 + 1 + 2]: <network>/20 - 255.255.240.0 Headquarters LAN [1432 + 1 + 2]: <network>/21 - 255.255.240.0 Intelligence LAN [520 + 1 + 2]: <network>/22 - 255.255.252.0 Mercenary LAN [20 + 1 + 2]: <network>/27 - 255.255.255.224 Undertaking LAN [20 + 1 + 2]: <network>/27 - 255.255.255.224 WAN [2 + 2]: <network>/30 - 255.255.255.252 VLSM Table: Network Name, Host IP, Required IP, Allocated IP, Network Address, Subnet Mask, Usable Host IPs, Broadcast Address |

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| SERVERS |
| <ul style="list-style-type: none"> Access a URL from any PC Web Browser: Should show a message accordingly <ul style="list-style-type: none"> 'assignments.undertaking.org' -> 'You are now viewing Confidential Information regarding all the Assignments Undertaken by the Organization!' 'mercenary.information.org' -> 'You are now viewing Confidential Information regarding all the Mercenaries Enrolled within the Organization!' Send an email from Headquarters to Intelligence or vice versa <ul style="list-style-type: none"> Email can be both sent and received User PC email configuration has different domains for incoming and outgoing Emails should send DNS query to DNS server to get email server IP (simulate) Email domains and IPs: 'mail.intelligence.org' with '<user>@intelligence.org' and 'mail.headquarters.org' with '<user>@headquarters.org' |
| ROUTING |
| <ul style="list-style-type: none"> Headquarters routing is all static (AD = 1) (not included in Dijkstra) Using Dijkstra is not necessary, shortest distance is the same Every other router has a static route through the Headquarters (AD = 1) Every other router has RIP configured: <ul style="list-style-type: none"> Do not broadcast the WAN with the Headquarters Do not broadcast through the WAN with the Headquarters (passive-interface) Dynamic routing between Lobby, Intelligence, Mercenary and Undertaking only (Default AD = 120) Simulate to see ping go through Headquarters, and then directly when Headquarters is inactive No default routes |
| LOGICAL ADDRESS [Address Table] |
| <ul style="list-style-type: none"> All servers have static IP Leader PC has static IP Headquarters has a DHCP Server (only 1 DHCP Server in the entire topology) <ul style="list-style-type: none"> Create separate pools for each LAN Exclude at least 10 IP addresses from each LAN Default Gateway of each LAN has DHCP Server as helper-address Add a new end device and check for dynamic IP assigning All IP within specified networks Address Table has every device in the topology: IP Address, Subnet Mask, Default Gateway |

