

IK2215: Peer-review Report

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1 General Information

1.1 Network Under Review

ASN: 125

NETWORK: 1.125.0.0/20

1.2 General report structure and writing

The Network Design report meets all the requirements in regards to correct file format, total number of pages being under the maximum limit, and following the report template. It also does not miss any part according to the given instructions. Additionally, the report is well written and easy to follow.

2 Network overview

2.1 Network diagram

The proposed network diagram gives a good overall summary of how the network is intended to be implemented. Moreover, the diagram illustrates all the necessary components needed to complete the assignment, that is: allocated IP addresses, client & server network, dummy interfaces, routers, and inter/intra routing protocols. The strength of this layout is that it uses all the given links and interfaces in order to evenly direct traffic around the network. However, one thing to consider is that AS21 would put an enormous amount of load between R1 and R2 in the case that its primary link is broken. That could be an argument to rethink how the primary path is defined between the client network and R2. Other than that I would say that the proposed layout looks reasonable.

2.2 IP address allocation

All the assigned IP addresses are within the given IP address block, no overlapping of subnets can be detected. All point-to-point links are correctly subnetted, and every device has been assigned a domain name. According to the assignment a naming convention was given where all devices have to include the asX prefix. Therefore, according to my interpretation, the domain names would need to be updated according to the naming convention (by prepending as125 to the domain names). Moreover, the dummy interfaces have been given domain names. To my understanding these are only logical interfaces and not devices that are supposed to be reachable using DNS (I could be wrong on this, please check with Voravit).

3 Routing and service implementation

3.1 Routing

3.1.1 Intra-domain routing

The authors have given a clear definition on what internal routing protocol to use (and why), and also defined how this would be achieved. They have decided to use the additional interface in order to create a shorter path between the server network and R1, which of course is a good idea. Additionally, using a OSPF cost of 15 between R4 and R3 would ensure that the client network sends its traffic through its primary path. A minor thing is that the table misses the R3 router in the secondary path between the client and server network.

3.1.2 Inter-domain routing

The authors have correctly identified the devices that will run BGP, as well the primary and back-up links to reach the other ASes in the network. The method used to enforces the route decision policies is to give the border router different local preference values in order to affect the primary outgoing traffic from AS125. The authors have defined that a lower local preference value will be given to R1 and a higher value given to R2 to ensure that the primary path is between R1 and AS1. However, this will make the R2-AS21 link the preferred path since the path with the highest local preference is preferred, not the other way around. This should also be fixed when handling the direct traffic between AS125 and AS21. For the final version of the report the following should be included: explain how the aggregated prefix is advertised to other ASes, and further explain how incoming traffic is handled from other ASes. For inbound routing decisions, look at the AS-Path attribute or the community values we can give AS1 and AS2 as alternatives.

3.2 Internet service

3.2.1 DNS

The authors have correctly identified the device that will run the DNS server. The DNS server has been given a correct domain name and IP address. A clear description is given on how reverse and forward lookup will work for all involved ASes and devices in the network.

I'm curious to know how the performance and availability of the DNS server will be monitored. If that is your intention, please give a short description on the final version of the network report on how this is achieved.

3.2.2 Web

The authors have correctly identified the device that will run the web server. The web server has been given a correct domain name and IP address. No additional comments needed.

3.2.3 DHCP

The authors have correctly identified the device that will run the DHCP server. The DHCP server has been given a correct domain name and IP address. Moreover, the authors also explain how the DHCP relay would be set up. However, a more detailed explanation on configuration (e.g. which interface & IP needed to achieve this) should be included in the final version of the network report.