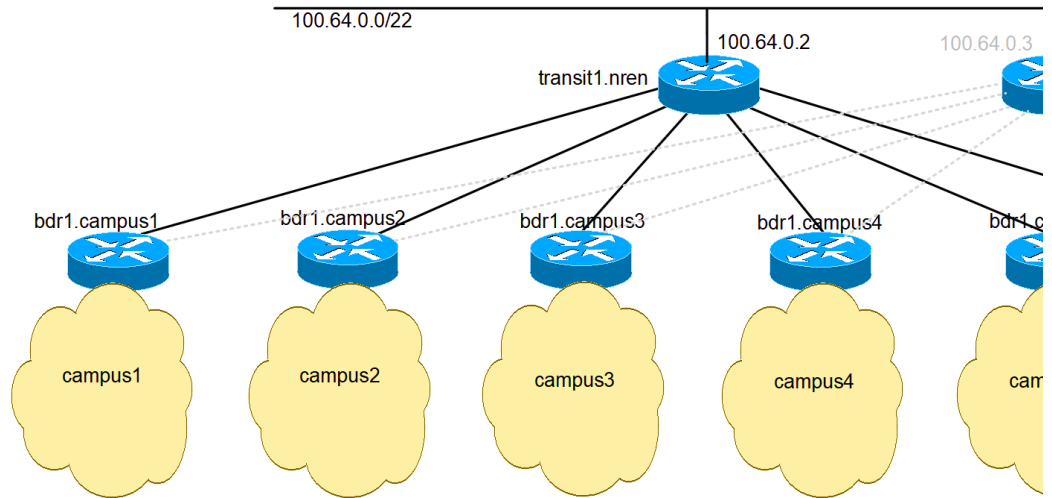


Lab IP Address Plan

Campus Network Design & Operations Workshop

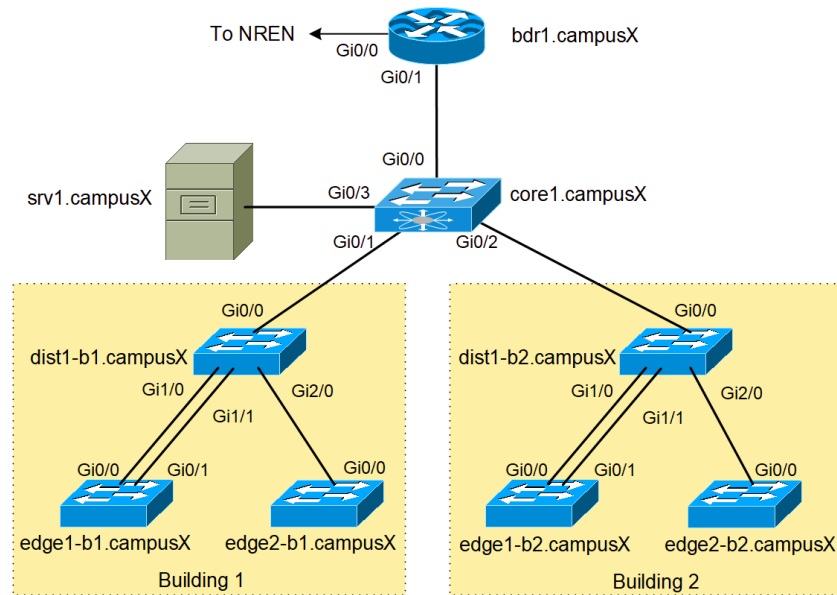
The following diagram shows the layout of our network for the workshop. The two routers at the top are the NREN and these are connected to the workshop subnet.



For the lab exercises, each group has been allocated the following address space for their campus:

Campus	Public IPv4	Private IPv4	IPv6	Campus	AS Number
1	100.68.1.0/24	172.21.0.0/16	2001:DB8:1::/48	10	
2	100.68.2.0/24	172.22.0.0/16	2001:DB8:2::/48	20	
3	100.68.3.0/24	172.23.0.0/16	2001:DB8:3::/48	30	
4	100.68.4.0/24	172.24.0.0/16	2001:DB8:4::/48	40	
5	100.68.5.0/24	172.25.0.0/16	2001:DB8:5::/48	50	
6	100.68.6.0/24	172.26.0.0/16	2001:DB8:6::/48	60	

The following diagram shows the structure within each campus. Each campus is designed the same way, with a border and core router, and six switches shared over two buildings.



You will be given details the addresses to use for the routers and switches as we work through the exercises but they will be allocated from these blocks:

Network	IPv4	IPv6
Router core	100.68.X.0/28	2001:DB8:X:0::/64
NAT Pool	100.68.X.32/28	N/A
Servers	100.68.X.128/28	2001:DB8:X:1::/64
Loopbacks	100.68.X.240/28	2001:DB8:X:2::/64
Building 1 Management	172.2X.10.0/24	2001:DB8:X:10::/64
Building 1 Staff	172.2X.11.0/24	2001:DB8:X:11::/64
Building 1 Student	172.2X.12.0/24	2001:DB8:X:12::/64
Building 2 Management	172.2X.20.0/24	2001:DB8:X:20::/64
Building 2 Staff	172.2X.21.0/24	2001:DB8:X:21::/64
Building 2 Student	172.2X.22.0/24	2001:DB8:X:22::/64

You will need to replace 'X' with the number of your campus group!

The following IPv4 address ranges have been assigned by the NREN for the links to the Border routers:

Campus	NREN Link Subnet	NREN Router Address	Campus Border Router Address
1	100.68.0.0/30	100.68.0.1	100.68.0.2
2	100.68.0.4/30	100.68.0.5	100.68.0.6
3	100.68.0.8/30	100.68.0.9	100.68.0.10
4	100.68.0.12/30	100.68.0.13	100.68.0.14
5	100.68.0.16/30	100.68.0.17	100.68.0.18

Campus	NREN Link Subnet	NREN Router Address	Campus Border Router Address
6	100.68.0.20/30	100.68.0.21	100.68.0.22

The following IPv6 address ranges have been assigned by the NREN for the links to the Border routers:

Campus	NREN Link Subnet	NREN Router Address	Campus Border Router Address
1	2001:DB8:100:1::/127	2001:DB8:100:1::0	2001:DB8:100:1::1
2	2001:DB8:100:2::/127	2001:DB8:100:2::0	2001:DB8:100:2::1
3	2001:DB8:100:3::/127	2001:DB8:100:3::0	2001:DB8:100:3::1
4	2001:DB8:100:4::/127	2001:DB8:100:4::0	2001:DB8:100:4::1
5	2001:DB8:100:5::/127	2001:DB8:100:5::0	2001:DB8:100:5::1
6	2001:DB8:100:6::/127	2001:DB8:100:6::0	2001:DB8:100:6::1

For completeness, the following addresses are used within the NREN itself. Note that the NREN's IPv4 backbone addressing is shared with the classroom backbone.

	IPv4	IPv6
TR1 Loopback	100.68.0.251	2001:DB8:100:FF::251
TR2 Loopback	100.68.0.252	2001:DB8:100:FF::252
TR1 Ethernet Backbone	100.64.0.2/22	2001:DB8::2/64
TR2 Ethernet Backbone	100.64.0.3/22	2001:DB8::3/64

The NREN is running inside AS 65534.