

Mini-project of Fundamentos de Redes

Network IP Addressing

DETI - UA

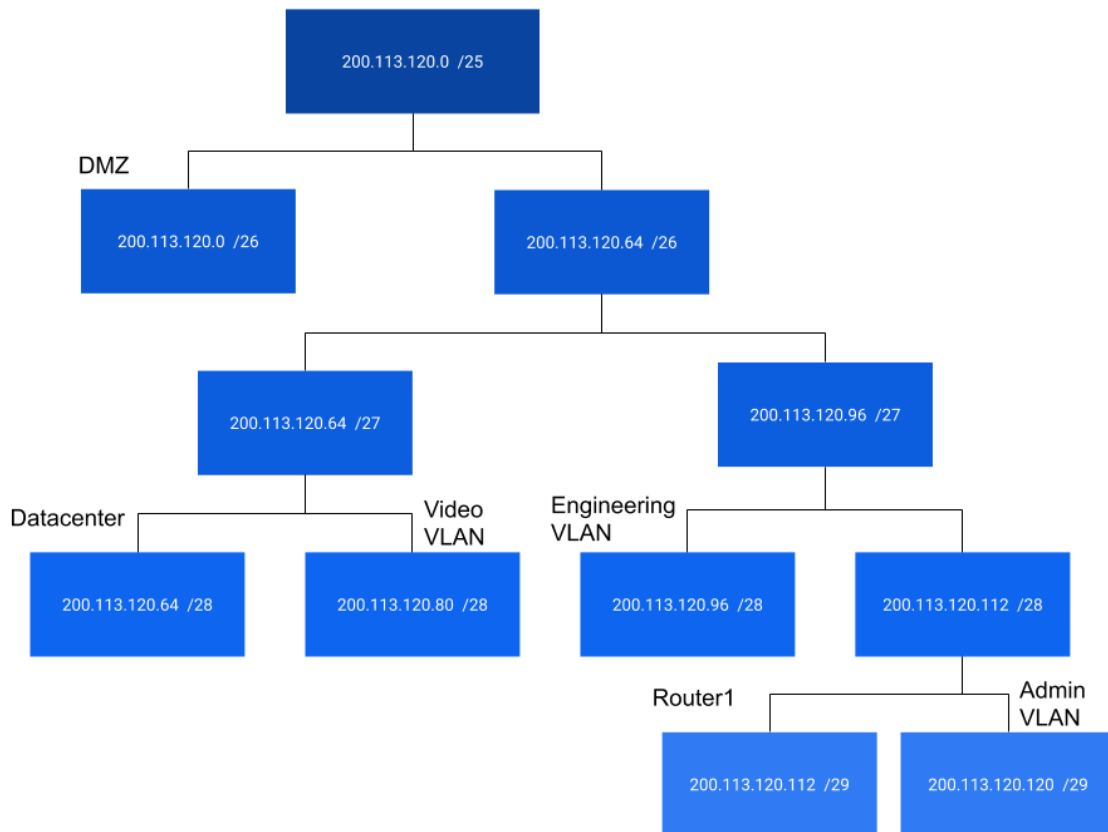
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Available addresses:

Type	Address
public IPv4	200.113.120.0/25
private IPv4	10.130.0.0/24
global IPv6	2100:0:0:3000::/60

Local Network	Servers/ Devices/ IPv4 addresses	Number of gateways	Prefix	Broadcast	Number of used IPv4 addresses	Nearest power of 2 (2 ⁿ)	Subnet mask number of bits (32 - n)
DMZ	32	1	1	1	35	64	26
Datacenter	10	1	1	1	13	16	28
Video Conference VLAN	7	2	1	1	11	16	28
Admin VLAN	2	2	1	1	6	8	29
Engineering	5	2	1	1	9	16	28
Router1	5	1	1	1	8	8	29



LAN addresses:

→ Public IPv4

Local Network	Public IPv4	Start	End
DMZ	200.113.120.0 /26	200.113.120.1 /26	200.113.120.62 /26
Datacenter	200.113.120.64 /28	200.113.120.65 /28	200.113.120.78 /28
Video Conference VLAN	200.113.120.80 /28	200.113.120.81 /28	200.113.120.94 /28
Engineering VLAN	200.113.120.96 /28	200.113.120.97 /28	200.113.120.110 /28
Admin VLAN	200.113.120.120 /29	200.113.120.121 /29	200.113.120.126 /29
Router1	200.113.120.112 /29	200.113.120.113 /29	200.113.120.118 /29

→ Private IPv4

Local Network	Private IPv4
DMZ	10.130.0.0 /24
Datacenter	10.130.1.0 /24
Video Conference VLAN	10.130.2.0 /24
Engineering VLAN	10.130.3.0 /24
Admin VLAN	10.130.4.0 /24
Marketing VLAN	10.130.5.0 /24
Router1 - SWL3 C1	10.130.6.0 /30
Router1 - SWL3 C2	10.130.6.4 /30
RouterA - SWL3 C1	10.130.6.8 /30
RouterA - SWL3 C2	10.130.6.12 /30
SWL3 C1 - SWL3 C2	10.130.6.16 /30

→ Global IPv6

Local Network	Global IPv6
DMZ	2100:0:0:3000:: /64
Datacenter	2100:0:0:3001:: /64
Video Conference VLAN	2100:0:0:3002:: /64
Engineering VLAN	2100:0:0:3003:: /64
Admin VLAN	2100:0:0:3004:: /64
Marketing VLAN	2100:0:0:3005:: /64
Router1 - SWL3 C1	2100:0:0:3006::0 /126
Router1 - SWL3 C2	2100:0:0:3006::4 /126
RouterA - SWL3 C1	2100:0:0:3006::8 /126
RouterA - SWL3 C2	2100:0:0:3006::C /126
SWL3 C1 - SWL3 C2	2100:0:0:3006::10 /126

→ Routers and Switches addressing

Equipment	L3 components	Public IPv4	Private IPv4	Global IPv6
SWL3 C1	DMZ	200.113.120.62 /26	10.130.0.254 /24	2100:0:0:3000::1 /64
	Datacenter	200.113.120.78 /28	10.130.1.254 /24	2100:0:0:3001::1 /64
	Video VLAN	200.113.120.94 /28	10.130.2.254 /24	2100:0:0:3002::1 /64
	Engineering VLAN	200.113.120.110 /28	10.130.3.254 /24	2100:0:0:3003::1 /64
	Admin VLAN	200.113.120.126 /29	10.130.4.254 /24	2100:0:0:3004::1 /64
	Marketing VLAN		10.130.5.254 /24	2100:0:0:3005::1 /64
	SWL3 C2		10.130.6.18 /30	2100:0:0:3006::11 /126
	Router1	200.113.120.118 /29	10.130.6.2 /30	2100:0:0:3006::1 /126
	RouterA		10.130.6.10 /30	2100:0:0:3006::9 /126

SWL3 C2	DMZ	200.113.120.61 /26	10.130.0.253 /24	2100:0:0:3000::2 /64
	Datacenter	200.113.120.77 /28	10.130.1.253 /24	2100:0:0:3001::2 /64
	Video VLAN	200.113.120.93 /28	10.130.2.253 /24	2100:0:0:3002::2 /64
	Engineering VLAN	200.113.120.109 /28	10.130.3.253 /24	2100:0:0:3003::2 /64
	Admin VLAN	200.113.120.125 /29	10.130.4.253 /24	2100:0:0:3004::2 /64
	Marketing VLAN		10.130.5.253 /24	2100:0:0:3005::2 /64
	SWL3 C1		10.130.6.17 /30	2100:0:0:3006::12 /126
	Router1	200.113.120.117 /29	10.130.6.6 /30	2100:0:0:3006::5 /126
	RouterA		10.130.6.14 /30	2100:0:0:3006::D /126

Router1	SWL3 C1		10.130.6.1 /30	2100:0:0:3006::2 /126
	SWL3 C2		10.130.6.5 /30	2100:0:0:3006::6 /126

RouterA	SWL3 C1		10.130.6.9 /30	2100:0:0:3006::A /126
	SWL3 C2		10.130.6.13 /30	2100:0:0:3006::E /126
	Old Building		192.168.3.254	

Note: All connections from/to SWL3 F1 and SWL3 F2 are trunk, so we do not introduce them on the table.