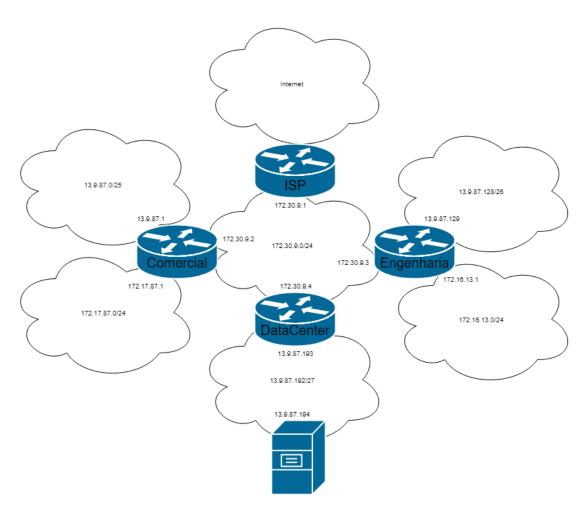
Relatório do Mini-Projeto de Redes

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Diagrama Lógico da Rede:



Subdivisão da Rede:

Subnet Name	Needed Size	Allocated Size	Address	Mask	Dec Mask	Assignable Range	Broadcast
Comercial	100	126	13.9.87.0	/25	255.255.255.128	13.9.87.1 - 13.9.87.126	13.9.87.127
Engenharia	52	62	13.9.87.128	/26	255.255.255.192	13.9.87.129 - 13.9.87.190	13.9.87.191
DataCenter	25	30	13.9.87.192	/27	255.255.255.224	13.9.87.193 - 13.9.87.222	13.9.87.223

Configuração dos Routers:

```
:
version 12.4
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
                                                                                                                                                                                            ip address 172.30.9.1 255.255.255.0 ip nat inside ip virtual-reassembly
  ooot-start-marker
                                                                                                                                                                                             speed auto
  memory-size iomem 5
no ip icmp rate-limit unreachable
ip cef
                                                                                                                                                                                            ip address dhcp ip nat outside
                                                                                                                                                                                            speed auto
 :
no ip dhop use vrf connected
ip dhop excluded-address 13.9.87.1
ip dhop excluded-address 172.17.87.1
ip dhop excluded-address 13.9.87.129
ip dhop excluded-address 13.9.87.193
ip dhop excluded-address 172.16.13.1
                                                                                                                                                                                            log-adjacency-changes
network 172.30.9.0 0.0.0.255 area 0
default-information originate
                                                                                                                                                                                          ip forward-protocol nd
ip dhop pool cStaff
  network 13.9.87.0 255.255.255.128
  default-router 13.9.87.1
  dns-server 172.30.9.1
                                                                                                                                                                                          ip dns server
                                                                                                                                                                                          no ip http server
no ip http secure-server
ip nat inside source list 9 interface FastEthernet0/1 overload
ip nat inside source list 13 interface FastEthernet0/1 overload
ip nat inside source list 87 interface FastEthernet0/1 overload
  ip dhop pool cGuest
network 172.17.87.0 255.255.255.0
default-router 172.17.87.1
dns-server 172.30.9.1
                                                                                                                                                                                          access-list 9 permit 172.30.9.0 0.0.0.255
access-list 13 permit 172.16.13.0 0.0.0.255
access-list 87 permit 172.17.87.0 0.0.0.255
no cdp log mismatch duplex
in dhop pool eStaff
  network 13.9.87.128 255.255.255.192
  default-router 13.9.87.129
  dns-server 172.30.9.1
 ip dhop pool eGuest
  network 172.16.13.0 255.255.255.0
  default-router 172.16.13.1
  dns-server 172.30.9.1
                                                                                                                                                                                           control-plane
:
ip dhop pool Servers
network 13.9.87.192 255.255.255.224
default-router 13.9.87.193
dns-server 172.30.9.1
! ip host http 13.9.87.194 ip host dc 13.9.87.193 ip host cStaff 13.9.87.1 ip host cGuest 172.17.87.1 ip host eGuest 172.16.13.1 ip host eStaff 13.9.87.129 ip host isn 172.30.6 ii
                                                                                                                                                                                          exec-timeout 0 0
privilege level 15
logging synchronous
line aux 0
                                                                                                                                                                                            exec-timeout 0 0 privilege level 15
  ip host isp 172.30.9.1
ip name-server 192.168.229.254
ip name-server 193.136.172.20
                                                                                                                                                                                          logging synchronous
line vty 0 4
login
       auth-proxy max-nodata-conns admission max-nodata-conns 3
```

Router ISP

```
interface FastEthernet0/0
Current configuration : 1209 bytes
                                                duplex auto
version 12.4
                                                speed auto
service timestamps debug datetime msec
service timestamps log datetime msec
                                               interface FastEthernet0/1
no service password-encryption
                                               ip address 13.9.87.1 255.255.255.128
hostname Com
                                               duplex auto
                                                speed auto
boot-start-marker
boot-end-marker
                                               ip address 172.17.87.1 255.255.255.0
                                                ip helper-address 172.30.9.1
                                               duplex auto
memory-size iomem 5
no ip icmp rate-limit unreachable
                                               speed auto
                                               router ospf 1
no ip domain lookup
ip auth-proxy max-nodata-conns 3 ip admission max-nodata-conns 3
                                               ip forward-protocol nd
                                               no cdp log mismatch duplex
                                               control-plane
                                                logging synchronous
                                               privilege level 15
                                                logging synchronous
                                               Com#
```

Router Comercial

```
interface FastEthernet0/0
ip address 172.30.9.3 255.255.255.0
duplex auto
speed auto
   Current configuration : 1212 bytes
!
version 12.4
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
                                                                                                                                                                                                                        !
interface FastEthernet0/1
ip address 13.9.87.129 255.255.255.192
ip helper-address 172.30.9.1
duplex auto
speed auto
  nostname Eng
 .
boot-start-marker
boot-end-marker
                                                                                                                                                                                                                       !
interface FastEthernet1/0
ip address 172.16.13.1 255.255.255.0
ip helper-address 172.30.9.1
duplex auto
speed auto
 .
no aaa new-model
memory-size iomem 5
no ip icmp rate-limit unreachable
ip cef
                                                                                                                                                                                                                       !
router ospf 1
log-adjacency-changes
network 13.9.87.128 0.0.0.63 area 0
network 172.16.13.0 0.0.0.255 area 0
network 172.30.9.0 0.0.0.255 area 0
 .
no ip domain lookup
ip auth-proxy max-nodata-conns 3
ip admission max-nodata-conns 3
                                                                                                                                                                                                                      no ip http server
no ip http secure-server
                                                                                                                                                                                                                     !
line con 0
exec-timeout 0 0
privilege level 15
logging synchronous
line aux 0
exec-timeout 0 0
privilege level 15
logging synchronous
line vty 0 4
login
!
                                                                                                                                                                                                                        Eng#
```

Router Engenharia

```
Current configuration : 1088 bytes
service timestamps debug datetime msec
service timestamps log datetime msec no service password-encryption
hostname DataC
                                                      ip address 172.30.9.4 255.255.255.0
duplex auto
                                                      speed auto
boot-end-marker
                                                      ip address 13.9.87.193 255.255.255.224 ip helper-address 172.30.9.1 duplex auto
no aaa new-model
memory-size iomem 5
no ip icmp rate-limit unreachable
                                                      speed auto
ip cef
                                                     router ospf 1
ip dhcp relay information option
                                                     network 13.9.87.192 0.0.0.31 area 0 network 172.30.9.0 0.0.0.255 area 0
                                                     ip forward-protocol nd
ip auth-proxy max-nodata-conns 3
ip admission max-nodata-conns 3
                                                     no ip http server no ip http secure-server
                                                     no cdp log mismatch duplex
                                                     control-plane
                                                      exec-timeout 0 0
                                                      privilege level 15
                                                      logging synchronous
                                                     logging synchronous line vty 0 4
                                                     DataC#
```

Router DataCenter

Escolhas:

<u>Subdivisão da Rede</u> => Feita de maneira a preencher o número de máquinas pedidas e tentando com que a diferença entre o número de máquina atribuídas e o número de máquinas pedidas fosse o menor possível de maneira a se for necessária uma expansão na rede (ex: novo departamento) esta seja possível.

<u>OSPF</u> => Melhor, mais rápido, mais fácil e menos provável de haver erros de configuração que as outras alternativas estudadas (Encaminhamento estático e RIP).

<u>DHCP</u> => Atribuição feita pelo router ISP e os restantes routers apenas a realizarem DHCP *relay*. Vantagens no contexto de vida real pois está tudo centralizado e o administrador não necessita de andar de edifício em edifício para gerir a rede, ou seja, a rede fica mais fácil de gerir com DHCP centralizado.