2o. TRABALHO DE SISTEMAS OPERACIONAIS II

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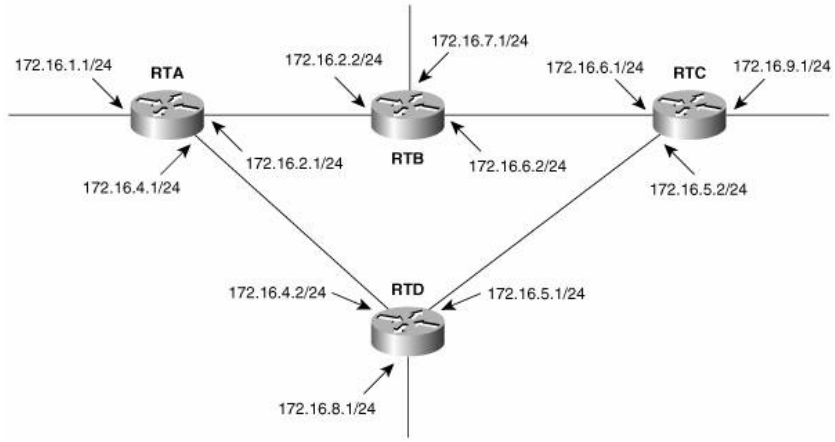
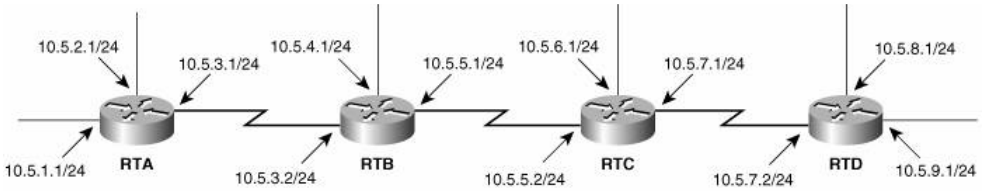
1) Para a inter-rede abaixo, escreva as rotas estáticas de cada roteador. Assuma que todos os enlaces têm mídias idênticas. Use balanceamento de carga (*load balance*) e rotas estáticas flutuantes (*floating static routes*) para máxima eficiência e redundância.



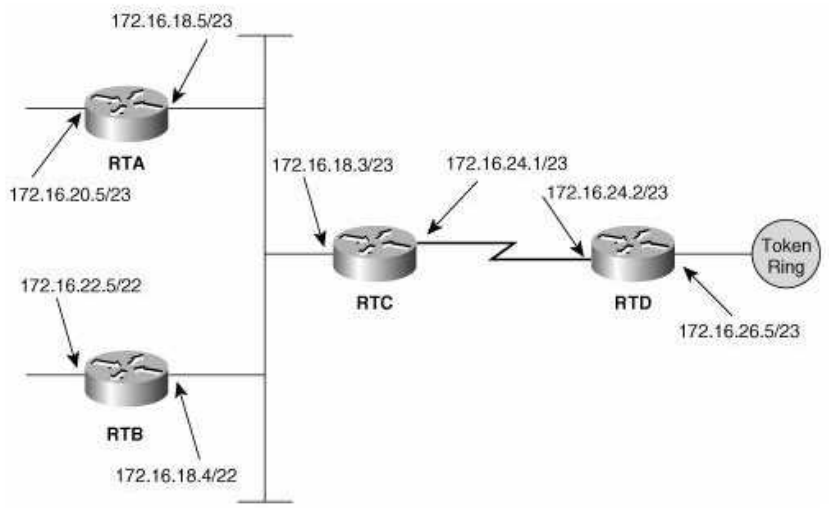
2) Os clientes da rede abaixo estão reclamando de problemas de conectividade. Dadas as configurações estáticas dos roteadores desta rede, descubra quais são estes problemas.




```
RTA#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, * - candidate default,
       U  per-user static route
Gateway of last resort is not set
     10.0.0.0/8 is subnetted, 9 subnets
S      10.5.9.0 [1/0] via 10.5.3.2
S      10.5.8.0 [1/0] via 10.5.3.2
S      10.5.7.0 [1/0] via 10.5.3.2
S      10.5.6.0 [1/0] via 10.5.3.2
S      10.5.5.0 [1/0] via 10.5.3.2
S      10.5.4.0 [1/0] via 10.5.3.2
C      10.5.3.0 is directly connected, Serial0
C      10.5.2.0 is directly connected, TokenRing1
C      10.5.1.0 is directly connected, TokenRing0
RTA#
```

```
RTB#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, * - candidate default,
       U  per-user static route
Gateway of last resort is not set
     10.0.0.0/8 is subnetted, 9 subnets
S      10.5.9.0 [1/0] via 10.5.5.2
S      10.5.8.0 [1/0] via 10.5.5.2
S      10.5.7.0 [1/0] via 10.5.5.2
S      10.5.6.0 [1/0] via 10.5.5.2
C      10.5.5.0 is directly connected, Serial1
C      10.5.4.0 is directly connected, TokenRing0
C      10.5.3.0 is directly connected, Serial0
S      10.5.2.0 [1/0] via 10.5.3.1
S      10.5.1.0 [1/0] via 10.5.3.1
RTB#
```

2) A figura abaixo apresenta uma inter-rede em que os endereços das máscaras de sub-redes de um dos seus roteadores estão mal configurados (incorretos). As tabelas de rotas dos roteadores RTA, RTB e RTC são mostradas. Baseado no que você apreendeu sobre o protocolo de roteamento dinâmico RIPv1 (por exemplo, como ele envia e recebe *updates*), explique cada uma das entradas da tabela de rotas do roteador RTB. Explique porque a entrada para a sub-rede 172.16.26.0 indica uma máscara de 32 bits. Se alguma entrada está faltando ou incorreta em quaisquer das tabelas de roteamento, explique o porquê.




```
RTA#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, * - candidate default,
       U - per-user static route
Gateway of last resort is not set
     172.16.0.0/16 is subnetted, 4 subnets
R       172.16.24.0 [120/1] via 172.16.18.3, 00:00:01, Ethernet0
R       172.16.26.0 [120/2] via 172.16.18.3, 00:00:01, Ethernet0
C       172.16.20.0 is directly connected, Ethernet1
C       172.16.18.0 is directly connected, Ethernet0
RTA#
```

```
RTB#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, * - candidate default,
       U - per-user static route, o - ODR
Gateway of last resort is not set
     172.16.0.0/16 is variably subnetted, 4 subnets, 2 masks
R       172.16.24.0/22 [120/1] via 172.16.18.3, 00:00:20, Ethernet0
R       172.16.26.0/32 [120/2] via 172.16.18.3, 00:00:20, Ethernet0
C       172.16.20.0/22 is directly connected, Ethernet1
C       172.16.16.0/22 is directly connected, Ethernet0
RTB#
```

```
RTC#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, * - candidate default,
       U - per-user static route, o - ODR
Gateway of last resort is not set
     172.16.0.0/23 is subnetted, 4 subnets
C       172.16.24.0 is directly connected, Serial0
R       172.16.26.0 [120/1] via 172.16.24.2, 00:00:09, Serial0
R       172.16.20.0 [120/1] via 172.16.18.5, 00:00:25, Ethernet0
C       172.16.18.0 is directly connected, Ethernet0
RTC#
```