

Hello Computers CCIE Security Lab Solution for Lab4

r1config

-----

r1#

hostname r1

!

service password-encryption

logging buffered 10000 7

logging 150.50.15.101

logging facility local6

no service tcp-small-server

no service udp-small-server

no service finger

service debug timestamp

no ntp enable

no cdp run

ip http server

ip http access-class 10

access-list 10 permit 150.50.0.0 0.0.255.255

snmp-server community hello ro 71

snmp-server community hellorw rw 72

snmp-server contact Hello Computers

snmp-server location Fremont-Santa Clara

access-list 71 permit 150.50.0.0 0.0.255.255

access-list 72 permit 150.50.111.0 0.0.0.255

scheduler interval 1000

no ip domain-lookup

no ip source-route

!

!acl for icmp rate-limiting

access-list 141 permit icmp any any

access-list 141 deny ip any any

!

!deny Trinoo

access-list 171 deny tcp any any eq 27665

access-list 171 deny udp any any eq 31335

access-list 171 deny udp any any eq 26444

!deny Stacheldraht

access-list 171 deny tcp any any eq 16660

access-list 171 deny tcp any any eq 65000

!deny subseven

access-list 171 deny tcp any any eq 6711

access-list 171 deny tcp any any eq 6712

access-list 171 deny tcp any any eq 6669

access-list 171 deny tcp any any eq 2222

access-list 171 deny tcp any any eq 7000

access-list 171 permit ip any any

!

enable secret hello

!

int e0

no ip directed-broadcast

```

no ip proxy-arp
no ip redirects
no ip icmp mask-reply
no ip icmp unreachable
no ip route-cache
rate-limit output access-group 141 1000000 512000 786000 conform-action transmit exceed-action drop
ip access-group 171 out
ip add 150.50.15.1 255.255.255.0
ip ospf priority 1
no shut
ip ospf authentication message-digest
ip ospf message-digest key 1 md5 hello
!
int s0
encapsulation frame
frame-relay lmi-type ansi
ip address 150.50.12.1 255.255.255.0
ip ospf network point-to-point
frame map ip 150.50.12.2 112 broadcast
no frame inverse
no shut
ip ospf authentication message-digest
ip ospf message-digest key 1 md5 hello
crypto map supermap
!
int lo0
ip add 11.11.11.11 255.255.255.0
!
int lo1
ip add 111.111.111.111 255.255.255.0
!
router ospf 100
network 150.50.15.0 0.0.0.255 area 0
network 11.11.11.0 0.0.0.255 area 0
network 150.50.12.0 0.0.0.255 area 1
area 1 virtual 22.22.22.22 authentication message-digest
area 1 virtual 22.22.22.22 message-digest-key 1 md5 hello
area 0 authentication message-digest
area 1 authentication message-digest
!
router bgp 4799
network 111.111.111.0 mask 255.255.255.0
no auto-summary
no sync
neighbor 22.22.22.22 remote-as 4799
neighbor 22.22.22.22 description r2lo0-ibgp
neighbor 22.22.22.22 update-source loopabck 0
neighbor 22.22.22.22 route-reflector-client
neighbor 22.22.22.22 soft-reconfiguration in
neighbor 22.22.22.22 next-hop-self
neighbor 33.33.33.33 remote-as 4799
neighbor 33.33.33.33 description r3lo0-ibgp
neighbor 33.33.33.33 update-source loopabck 0

```

```

neighbor 33.33.33.33 route-reflector-client
neighbor 33.33.33.33 soft-reconfiguration in
neighbor 33.33.33.33 next-hop-self
neighbor 44.44.44.44 remote-as 4799
neighbor 44.44.44.44 description r4lo0-ibgp
neighbor 44.44.44.44 update-source loopabck 0
neighbor 44.44.44.44 route-reflector-client
neighbor 44.44.44.44 soft-reconfiguration in
neighbor 44.44.44.44 next-hop-self
neighbor 55.55.55.55 remote-as 4799
neighbor 55.55.55.55 description r3lo0-ibgp
neighbor 55.55.55.55 update-source loopabck 0
neighbor 55.55.55.55 route-reflector-client
neighbor 55.55.55.55 soft-reconfiguration in
neighbor 55.55.55.55 next-hop-self
neighbor 150.50.15.111 remote-as 111
neighbor 150.50.15.111 description AS111-bb1
neighbor 150.50.15.111 update-source loopabck 0
neighbor 150.50.15.111 soft-reconfiguration in
neighbor 150.50.15.111 ebgp-multihop 10
neighbor 150.50.15.111 route-map setnh in
neighbor 150.50.15.111 filter-list 20 out
!
ip as-path access-list 20 deny _113_
ip as-path access-list 20 permit .*
!
route-map setnh permit 10
  set ip next-hop 150.50.15.111
!
aaa new-model
tacacs-server host 150.50.15.100 key hello
aaa authentication login no_authentication none
aaa authorization exec no_authorization none
aaa authorization commands no_authorization none
aaa authentication login lab4-2-5 group tacacs
aaa authorization exec lab4-2-5 group tacacs
aaa authorization commands lab4-2-5 group tacacs
aaa accounting commands 0 lab4-2-5 start-stop tacacs
ip tacacs source-interface loopback0
!
ip domain-name hellocomputers.com
ip host caserver 150.50.15.100
!
crypto key generate rsa
!
crypto ca identity caserver
  enrollment mode ra
  enrollment url http://caserver/certsrv/mscep/mscep.dll
!
crypto ca authenticate caserver
crypto ca enroll caserver
!
crypto isakmp policy 20

```

```
authentication rsa-sig
hash sha
!
crypto ipsec transform-set tsetr2 esp-des esp-md5-hmac
mode transport
!
crypto map supermap 20 ipsec-isakmp
set peer 150.50.12.2
set transform-set tsetr2
match address 112
!
access-list 112 permit ip 111.111.111.0 0.0.0.255 122.122.122.0 0.0.0.255
!
line con 0
login authentication no_authentication
authorization exec no_authorization
authorization commands no_authorization
line vty 0 4
login authentication lab4-2-5
authorization exec lab4-2-5
authorization commands lab4-2-5
accounting commands 0 lab4-2-5
!
```

#### r2config

```
-----
r2#
hostname r2
!
service password-encryption
logging buffered 10000 7
logging 150.50.15.101
logging facility local6
no service tcp-small-server
no service udp-small-server
no service finger
service debug timestamp
no ntp enable
no cdp run
ip http server
ip http access-class 10
access-list 10 permit 150.50.0.0 0.0.255.255
snmp-server community hello ro 71
snmp-server community hellorw rw 72
snmp-server contact Hello Computers
snmp-server location Fremont-Santa Clara
access-list 71 permit 150.50.0.0 0.0.255.255
access-list 72 permit 150.50.111.0 0.0.0.255
scheduler interval 1000
no ip domain-lookup
no ip source-route
!
!acl for icmp rate-limiting
```

```

access-list 141 permit icmp any any
access-list 141 deny ip any any
!
!deny Trinoo
access-list 171 deny tcp any any eq 27665
access-list 171 deny udp any any eq 31335
access-list 171 deny udp any any eq 26444
!deny Stacheldraht
access-list 171 deny tcp any any eq 16660
access-list 171 deny tcp any any eq 65000
!deny subseven
access-list 171 deny tcp any any eq 6711
access-list 171 deny tcp any any eq 6712
access-list 171 deny tcp any any eq 6669
access-list 171 deny tcp any any eq 2222
access-list 171 deny tcp any any eq 7000
access-list 171 permit ip any any
!
enable secret hello
!
int e0
no ip directed-broadcast
no ip proxy-arp
no ip redirects
no ip icmp mask-reply
no ip icmp unreachable
no ip route-cache
rate-limit output access-group 141 1000000 512000 786000 conform-action transmit exceed-action drop
ip access-group 171 out
ip add 150.50.22.2 255.255.255.0
no shut
!
int s0
encapsulation frame
frame-relay lmi-type ansi
no shut
!
int s0.21 point-to-point
ip add 150.50.12.2 255.255.255.0
frame interface-dlci 121
ip ospf network point-to-point
ip ospf authentication message-digest
ip ospf message-digest key 1 md5 hello
crypto map supermap
!
int s0.23 point-to-point
ip add 150.50.23.2 255.255.255.0
frame interface-dlci 123
ip ospf network point-to-point
ip ospf authentication message-digest
ip ospf message-digest key 1 md5 hello
crypto map supermap
!

```

```

int s0.24 point-to-point
ip add 150.50.24.2 255.255.255.0
frame interface-dlci 124
ip ospf network point-to-point
ip ospf authentication message-digest
ip ospf message-digest key 1 md5 hello
crypto map supermap
!
int tunnel 2
ip address 172.16.22.2 255.255.255.0
tunnel source 150.50.22.2
tunnel destination 150.50.22.112
!
int lo0
ip add 22.22.22.22 255.255.255.0
!
int lo1
ip add 122.122.122.122 255.255.255.0
!
router ospf 100
network 150.50.12.0 0.0.0.255 area 1
network 150.50.24.0 0.0.0.255 area 1
network 22.22.22.0 0.0.0.255 area 1
network 150.50.23.0 0.0.0.255 area 2
area 1 virtual 11.11.11.11 authentication message-digest
area 1 virtual 11.11.11.11 message-digest-key 1 md5 hello
redistribute eigrp 112 subnets
area 1 authentication message-digest
area 2 authentication message-digest
!
router eigrp 112
no auto-summary
network 172.16.22.0 0.0.0.255
network 150.50.22.0 0.0.0.255
redistribute ospf 100 metric 10000 100 255 1 1500
!
router bgp 4799
network 122.122.122.0 mask 255.255.255.0
no auto-summary
no sync
neighbor 11.11.11.11 remote-as 4799
neighbor 11.11.11.11 description r1lo0-ibgp
neighbor 11.11.11.11 soft-reconfiguration in
neighbor 11.11.11.11 update-source loopback 0
!
ip tcp intercept list 141
ip tcp intercept mode intercept
ip tcp intercept drop-mode random
!
access-list 141 permit tcp any host 150.50.22.150
!
aaa new-model
aaa authentication login no_authentication none

```

```
aaa authorization exec no_authorization none
aaa authorization commands no_authorization none
aaa authentication login lab4-2-6 local
aaa authorization exec lab4-2-6 local
aaa authorization commands lab4-2-6 local
!
username hello password hello
username helloadmin priviledge 15 password helloadmin
!
ip domain-name hellocomputers.com
ip host caserver 150.50.15.100
!
crypto key generate rsa
!
crypto ca identity caserver
enrollment mode ra
enrollment url http://caserver/certsrv/mscep/mscep.dll
!
crypto ca authenticate caserver
crypto ca enroll caserver
!
crypto isakmp policy 10
authentication pre-shared
hash md5
encryption des
group 2
crypto isakmp policy 20
authentication rsa-sig
hash sha
!
crypto isakmp key r2r4key address 44.44.44.44
!
crypto ipsec transform-set tsetr4 esp-des esp-md5-hmac
crypto ipsec transform-set tsetr1 esp-des esp-md5-hmac
mode transport
crypto ipsec transform-set tsetr3 esp-des esp-md5-hmac
!
crypto map supermap 10 ipsec-isakmp
set peer 44.44.44.44
set transform-set tsetr4
match address 124
crypto map supermap 20 ipsec-isakmp
set peer 150.50.12.1
set transform-set tsetr1
match address 121
crypto map supermap 30 ipsec-manual
set peer 150.50.23.3
set transform-set tsetr3
match address 123
set session-key inbound esp 3333 cipher hello authenticator 01
set session-key outbound esp 2222 cipher hello authenticator 01
set session-key inbound ah 3333 hello
set session-key outbound ah 2222 hello
```

```
!  
access-list 121 permit ip 122.122.122.0 0.0.0.255 111.111.111.0 0.0.0.255  
access-list 123 permit ip 122.122.122.0 0.0.0.255 133.133.133.0 0.0.0.255  
access-list 124 permit ip 122.122.122.0 0.0.0.255 144.144.144.0 0.0.0.255  
!  
line con 0  
login authentication no_authentication  
authorization exec no_authorization  
authorization commands 15 no_authorization  
line vty 0 4  
login authentication lab4-2-6  
authorization exec lab4-2-6  
authorization commands 15 lab4-2-6  
accounting commands 0 lab4-2-6  
!
```

r3config

```
-----  
r3#  
hostname r3  
!  
service password-encryption  
logging buffered 10000 7  
logging 150.50.15.101  
logging facility local6  
no service tcp-small-server  
no service udp-small-server  
no service finger  
service debug timestamp  
no ntp enable  
no cdp run  
ip http server  
ip http access-class 10  
access-list 10 permit 150.50.0.0 0.0.255.255  
snmp-server community hello ro 71  
snmp-server community hellorw rw 72  
snmp-server contact Hello Computers  
snmp-server location Fremont-Santa Clara  
access-list 71 permit 150.50.0.0 0.0.255.255  
access-list 72 permit 150.50.111.0 0.0.0.255  
scheduler interval 1000  
no ip domain-lookup  
no ip source-route  
!  
!acl for icmp rate-limiting  
access-list 141 permit icmp any any  
access-list 141 deny ip any any  
!  
!deny Trinoo  
access-list 171 deny tcp any any eq 27665  
access-list 171 deny udp any any eq 31335  
access-list 171 deny udp any any eq 26444  
!deny Stacheldraht
```



```

access-list 171 deny tcp any any eq 16660
access-list 171 deny tcp any any eq 65000
!deny subseven
access-list 171 deny tcp any any eq 6711
access-list 171 deny tcp any any eq 6712
access-list 171 deny tcp any any eq 6669
access-list 171 deny tcp any any eq 2222
access-list 171 deny tcp any any eq 7000
access-list 171 permit ip any any
!
enable secret hello
!
int e0
no ip directed-broadcast
no ip proxy-arp
no ip redirects
no ip icmp mask-reply
no ip icmp unreachable
no ip route-cache
rate-limit output access-group 141 1000000 512000 786000 conform-action transmit exceed-action drop
ip access-group 171 out
ip add 150.50.33.3 255.255.255.0
no shut
ip access-group 161 out
!
int s0
encapsulation frame
frame-relay lmi-type ansi
ip address 150.50.23.3 255.255.255.0
ip ospf network point-to-point
frame map ip 150.50.23.2 132 broadcast
no shut
ip ospf authentication message-digest
ip ospf message-digest key 1 md5 hello
crypto map supermap
!
int atm0
ip address 150.50.113.3
atm pvc 1 0 5 qsaal
atm pvc 2 0 16 ilmi
atm pvc 3 4 40 aal5snap
map-group map1
no shut
!
int lo0
ip add 33.33.33.33 255.255.255.0
!
int lo1
ip add 133.133.133.133 255.255.255.0
!
router ospf 100
network 150.50.23.0 0.0.0.255 area 2
network 33.33.33.0 0.0.0.255 area 2

```

```

network 150.50.33.0 0.0.0.255 area 2
network 150.50.3.0 0.0.0.255 area 2
area 2 authentication message-digest
!
router bgp 4799
network 133.133.133.0 mask 255.255.255.0
no auto-summary
no sync
neighbor 11.11.11.11 remote-as 4799
neighbor 11.11.11.11 description r1lo0-ibgp
neighbor 11.11.11.11 soft-reconfiguration in
neighbor 11.11.11.11 update-source loopback 0
neighbor 150.50.3.113 remote-as 113
neighbor 150.50.3.113 description bb3atm0-AS113
neighbor 150.50.3.113 soft-reconfiguration in
neighbor 150.50.3.113 filter-list 20 out
!
ip as-path access-list 20 deny _111_
ip as-path access-list 20 permit .*
!
map-list map1
ip 150.50.3.113 atm-vc 3 broadcast
!
access-list 161 permit tcp host 150.50.15.150 host 150.50.33.150 eq telnet established
!
crypto ipsec transform-set tsetr2 esp-des esp-md5-hmac
!
crypto map supermap 30 ipsec-manual
set peer 150.50.23.2
set transform-set tsetr2
match address 132
set session-key inbound esp 2222 cipher hello authenticator 01
set session-key outbound esp 3333 cipher hello authenticator 01
set session-key inbound ah 2222 hello
set session-key outbound ah 3333 hello
!
access-list 132 permit ip 133.133.133.0 0.0.0.255 122.122.122.0 0.0.0.255
!
line con 0
no login
line vty 0 4
login
password hello

r4config
-----
r4#
hostname r4
!
service password-encryption
logging buffered 10000 7
logging 150.50.15.101
logging facility local6

```

```
no service tcp-small-server
no service udp-small-server
no service finger
service debug timestamp
no ntp enable
no cdp run
ip http server
ip http access-class 10
access-list 10 permit 150.50.0.0 0.0.255.255
snmp-server community hello ro 71
snmp-server community hellorw rw 72
snmp-server contact Hello Computers
snmp-server location Fremont-Santa Clara
access-list 71 permit 150.50.0.0 0.0.255.255
access-list 72 permit 150.50.111.0 0.0.0.255
scheduler interval 1000
no ip domain-lookup
no ip source-route
!
!acl for icmp rate-limiting
access-list 141 permit icmp any any
access-list 141 deny ip any any
!
!deny Trinoo
access-list 171 deny tcp any any eq 27665
access-list 171 deny udp any any eq 31335
access-list 171 deny udp any any eq 26444
!deny Stacheldraht
access-list 171 deny tcp any any eq 16660
access-list 171 deny tcp any any eq 65000
!deny subseven
access-list 171 deny tcp any any eq 6711
access-list 171 deny tcp any any eq 6712
access-list 171 deny tcp any any eq 6669
access-list 171 deny tcp any any eq 2222
access-list 171 deny tcp any any eq 7000
access-list 171 permit ip any any
!
enable secret hello
isdn switch-type basic-ni
username r5 password hello
!
int e0
no ip directed-broadcast
no ip proxy-arp
no ip redirects
no ip icmp mask-reply
no ip icmp unreachable
no ip route-cache
rate-limit output access-group 141 1000000 512000 786000 conform-action transmit exceed-action drop
ip access-group 171 out
ip add 172.16.44.4 255.255.255.0
no shut
```

```

ip access-group 161 in
ip nat inside
!
int s0
encapsulation frame
frame-relay lmi-type ansi
ip address 150.50.24.4 255.255.255.0
ip ospf network point-to-point
frame map ip 150.50.24.2 142 broadcast
no shut
ip ospf authentication message-digest
ip ospf message-digest key 1 md5 hello
ip inspect rule1 out
ip nat outside
crypto map supermap
!
int s1
encapsulation frame
frame-relay lmi-type ansi
ip address 150.50.46.4 255.255.255.0
frame route ip 150.50.46.6 146 broadcast
no shut
ip authentication eigrp 46 md5
ip authentication key-chain eigrp 46 keyr4
ip inspect rule1 out
ip nat outside
!
int bri0
ip add 145.45.45.4 255.255.255.240
isdn switch-type basic-ni
dialer-group 1
encapsulation ppp
ppp authentication chap
dialer idle-timeout 60
dialer load-threshold 128 either
ppp multilink
ppp callback accept
dialer callback-secure
dialer map ip 145.45.45.5 class callbackclass name r5 broadcast 8358662
dialer map ip 145.45.45.5 class callbackclass name r5 broadcast 8358664
ip ospf demand-circuit
ip ospf network point-to-point
no shut
ip ospf authentication message-digest
ip ospf message-digest key 1 md5 hello
ip nat outside
crypto map supermap
!
int lo0
ip add 44.44.44.44 255.255.255.0
!
int lo1
ip add 144.144.144.144 255.255.255.0

```

```

!
key chain keyr4
key 1
  key-string hello
!
router ospf 100
network 150.50.24.0 0.0.0.255 area 1
network 150.50.44.0 0.0.0.255 area 1
network 44.44.44.0 0.0.0.255 area 1
network 145.45.45.0 0.0.0.15 area 1
redistribute eigrp 46 subnets
area 1 authentication message-digest
!
router eigrp 46
no auto-summary
network 150.50.46.0 0.0.0.255
redistribute ospf 100 metric 10000 100 255 1 1500
passive bri0
!
router bgp 4799
network 144.144.144.0 mask 255.255.255.0
no auto-summary
no sync
neighbor 11.11.11.11 remote-as 4799
neighbor 11.11.11.11 description r1lo0-ibgp
neighbor 11.11.11.11 soft-reconfiguration in
neighbor 11.11.11.11 update-source loopback 0
neighbor 150.50.46.6 remote-as 6767
neighbor 150.50.46.6 description r6s0-AS6767
neighbor 150.50.46.6 soft-reconfiguration in
!
dialer-list 1 protocol ip permit
!
map-class dialer callbackclass
dialer callback-server username
!
ip inspect name rule1 tcp
ip inspect name rule1 ftp
ip inspect name rule1 http java-list 61
ip inspect name rule1 tftp
ip inspect name rule1 smtp
ip inspect audit-trail
ip inspect max-incomplete high 1000 low 800
ip inspect tcp max-incomplete host 75 block-time 120
!
access-list 61 permit 150.50.0.0 0.0.255.255
!
access-list 151 permit ip any any
!
ip nat pool pool1 150.50.24.91 150.50.24.99 netmask 255.255.255.0
ip nat inside source list 121 pool pool1 overload
access-list 121 permit ip 172.16.44.0 0.0.0.255 any
ip nat inside source static 172.16.44.100 150.50.24.100

```

```

!
crypto isakmp policy 10
  authentication pre-shared
  hash md5
  encryption des
  group 2
!
crypto isakmp key r2r4key address 150.50.23.2
!
crypto ipsec transform-set tsetr2 esp-des esp-md5-hmac
!
crypto map supermap 10 ipsec-isakmp
  set peer 150.50.23.2
  set transform-set tsetr2
  match address 142
!
crypto map supermap local-address loopback 0
!
access-list 142 permit ip 144.144.144.0 0.0.0.255 122.122.122.0 0.0.0.255
!
line con 0
  no login
line vty 0 4
  login
  password hello
!
!
r5config
-----
r5#
hostname r5
!
service password-encryption
logging buffered 10000 7
logging 150.50.15.101
logging facility local6
no service tcp-small-server
no service udp-small-server
no service finger
service debug timestamp
no ntp enable
no cdp run
ip http server
ip http access-class 10
access-list 10 permit 150.50.0.0 0.0.255.255
snmp-server community hello ro 71
snmp-server community hellorw rw 72
snmp-server contact Hello Computers
snmp-server location Fremont-Santa Clara
access-list 71 permit 150.50.0.0 0.0.255.255
access-list 72 permit 150.50.111.0 0.0.0.255
scheduler interval 1000
no ip domain-lookup

```

```

no ip source-route
!
!acl for icmp rate-limiting
access-list 141 permit icmp any any
access-list 141 deny ip any any
!
!deny Trinoo
access-list 171 deny tcp any any eq 27665
access-list 171 deny udp any any eq 31335
access-list 171 deny udp any any eq 26444
!deny Stacheldraht
access-list 171 deny tcp any any eq 16660
access-list 171 deny tcp any any eq 65000
!deny subseven
access-list 171 deny tcp any any eq 6711
access-list 171 deny tcp any any eq 6712
access-list 171 deny tcp any any eq 6669
access-list 171 deny tcp any any eq 2222
access-list 171 deny tcp any any eq 7000
access-list 171 permit ip any any
!
enable secret hello
isdn switch-type basic-ni
username r4 password hello
!
int e0
no ip directed-broadcast
no ip proxy-arp
no ip redirects
no ip icmp mask-reply
no ip icmp unreachable
no ip route-cache
rate-limit output access-group 141 1000000 512000 786000 conform-action transmit exceed-action drop
ip access-group 171 out
ip add 150.50.15.5 255.255.255.0
ip ospf priority 1
no shut
ip ospf authentication message-digest
ip ospf message-digest key 1 md5 hello
!
int s0
encapsulation hdlc
ip address 150.50.57.5 255.255.255.0
no shut
ip rip authentication mode md5
ip rip authentication key-chain keyr5
!
int bri0
ip add 145.45.45.5 255.255.255.240
isdn switch-type basic-ni
dialer-group 1
encapsulation ppp
ppp authentication chap

```

```

dialer idle-timeout 60
dialer load-threshold 128 either
ppp multilink
ppp callback request
dialer map ip 145.45.45.4 name r4 broadcast 8358661
dialer map ip 145.45.45.4 name r4 broadcast 8358663
ip ospf demand-circuit
ip ospf network point-to-point
no shut
ip ospf authentication message-digest
ip ospf message-digest key 1 md5 hello
!
int lo0
ip add 55.55.55.55 255.255.255.0
!
int lo1
ip add 155.155.155.155 255.255.255.0
!
key chain keyr5
key 1
  key-string hello
!
router ospf 100
network 150.50.15.0 0.0.0.255 area 0
network 55.55.55.0 0.0.0.255 area 0
network 145.45.45.0 0.0.0.15 area 1
redistribute rip subnets
area 0 authentication message-digest
area 1 authentication message-digest
!
router rip
version 2
no auto-summary
network 150.50.57.0
passive bri0
redistribute ospf 100
default-metric 2
!
router bgp 4799
network 155.155.155.0 mask 255.255.255.0
no auto-summary
no sync
neighbor 11.11.11.11 remote-as 4799
neighbor 11.11.11.11 description r1lo0-ibgp
neighbor 11.11.11.11 soft-reconfiguration in
neighbor 11.11.11.11 update-source loopback 0
neighbor 150.50.57.7 remote-as 6767
neighbor 150.50.57.7 description r7s0-AS6767
neighbor 150.50.57.7 soft-reconfiguration in
neighbor 150.50.57.7 route-map setas in
!
route-map setas permit 10
match address 20

```



```

set as-path prepend 4799 4799 4799
!
access-list 20 permit 167.167.167.0 0.0.0.255
!
dialer-list 1 protocol ip permit
!
ip audit po local 55 orgid 4799
ip audit po remote hostid 101 orgid 4799
ip audit notify log
ip audit notify nr-director
ip audit name audit1 info action alarm
ip audit name audit1 attack action drop
ip audit signature 3101 disable
!
line con 0
  no login
line vty 0 4
  login
  password hello
!
!
r6config
-----
r6#
hostname r6
!
service password-encryption
logging buffered 10000 7
logging 150.50.15.101
logging facility local6
no service tcp-small-server
no service udp-small-server
no service finger
service debug timestamp
no ntp enable
no cdp run
ip http server
ip http access-class 10
access-list 10 permit 150.50.0.0 0.0.255.255
snmp-server community hello ro 71
snmp-server community hellorw rw 72
snmp-server contact Hello Computers
snmp-server location Fremont-Santa Clara
access-list 71 permit 150.50.0.0 0.0.255.255
access-list 72 permit 150.50.111.0 0.0.0.255
scheduler interval 1000
no ip domain-lookup
no ip source-route
!
!acl for icmp rate-limiting
access-list 141 permit icmp any any
access-list 141 deny ip any any
!

```

```

!deny Trinoo
access-list 171 deny tcp any any eq 27665
access-list 171 deny udp any any eq 31335
access-list 171 deny udp any any eq 26444
!deny Stacheldraht
access-list 171 deny tcp any any eq 16660
access-list 171 deny tcp any any eq 65000
!deny subseven
access-list 171 deny tcp any any eq 6711
access-list 171 deny tcp any any eq 6712
access-list 171 deny tcp any any eq 6669
access-list 171 deny tcp any any eq 2222
access-list 171 deny tcp any any eq 7000
access-list 171 permit ip any any
!
enable secret hello
!
int e0
no ip directed-broadcast
no ip proxy-arp
no ip redirects
no ip icmp mask-reply
no ip icmp unreachable
no ip route-cache
rate-limit output access-group 141 1000000 512000 786000 conform-action transmit exceed-action drop
ip access-group 171 out
ip add 192.168.66.6 255.255.255.0
no shut
ip nat inside
!
int s0
encapsulation frame
frame-relay lmi-type ansi
ip address 150.50.46.6 255.255.255.0
no shut
ip authentication mode eigrp 46 md5
ip authentication key-chain keyr6
ip nat outside
!
int lo0
ip add 66.66.66.66 255.255.255.0
!
int lo1
ip add 167.167.167.166 255.255.255.0
!
key chain keyr6
key 1
key-string hello
!
router eigrp 46
no auto-summary
network 150.50.46.0 0.0.0.255
network 66.66.66.0 0.0.0.255

```

```
network 192.168.66.0 0.0.0.255
!  
router bgp 6767  
network 167.167.167.0 mask 255.255.255.0  
no auto-summary  
neighbor 150.50.46.4 remote-as 4799  
neighbor 150.50.46.4 description r4s1-AS4799  
neighbor 150.50.46.4 soft-reconfiguration in  
!  
ip nat inside source list 121 interface s0 overload  
access-list 121 permit ip 192.168.66.0 0.0.0.255 any  
ip nat inside source static 192.168.66.100 150.50.46.100  
!  
line con 0  
no login  
line vty 0 4  
login  
password hello
```

r7config

-----

```
r7#  
hostname r7  
!  
service password-encryption  
logging buffered 10000 7  
logging 150.50.15.101  
logging facility local6  
no service tcp-small-server  
no service udp-small-server  
no service finger  
service debug timestamp  
no ntp enable  
no cdp run  
ip http server  
ip http access-class 10  
access-list 10 permit 150.50.0.0 0.0.255.255  
snmp-server community hello ro 71  
snmp-server community hellorw rw 72  
snmp-server contact Hello Computers  
snmp-server location Fremont-Santa Clara  
access-list 71 permit 150.50.0.0 0.0.255.255  
access-list 72 permit 150.50.111.0 0.0.0.255  
scheduler interval 1000  
no ip domain-lookup  
no ip source-route  
!  
!acl for icmp rate-limiting  
access-list 141 permit icmp any any  
access-list 141 deny ip any any  
!  
!deny Trinoo  
access-list 171 deny tcp any any eq 27665
```

```

access-list 171 deny udp any any eq 31335
access-list 171 deny udp any any eq 26444
!deny Stacheldraht
access-list 171 deny tcp any any eq 16660
access-list 171 deny tcp any any eq 65000
!deny subseven
access-list 171 deny tcp any any eq 6711
access-list 171 deny tcp any any eq 6712
access-list 171 deny tcp any any eq 6669
access-list 171 deny tcp any any eq 2222
access-list 171 deny tcp any any eq 7000
access-list 171 permit ip any any
!
enable secret hello
!
int e0
no ip directed-broadcast
no ip proxy-arp
no ip redirects
no ip icmp mask-reply
no ip icmp unreachable
no ip route-cache
rate-limit output access-group 141 1000000 512000 786000 conform-action transmit exceed-action drop
ip access-group 171 out
ip add 10.10.77.7 255.255.255.0
no shut
ip access-group 181 in
ip nat inside
!
int s0
encapsulation hdlc
clock rate 64000
ip address 150.50.57.7 255.255.255.0
no shut
ip rip authentication mode md5
ip rip authentication key-chain keyr7
ip nat outside
!
int lo0
ip add 77.77.77.77 255.255.255.0
!
int lo1
ip add 167.167.167.167 255.255.255.0
!
key chain keyr7
key 1
key-string hello
!
router rip
version 2
network 150.50.57.0
network 77.77.77.0
network 10.10.77.0

```

```

no auto-summary
!
router bgp 6767
network 167.167.167.0 mask 255.255.255.0
no auto-summary
neighbor 150.50.57.5 remote-as 4799
neighbor 150.50.57.5 description r5s0-AS4799
neighbor 150.50.57.5 soft-reconfiguration in
!
access-list 181 permit ip 77.77.77.0 0.0.0.255 any
access-list 181 permit ip 10.10.77.0 0.0.0.255 any
access-list 181 permit ip 150.50.57.0 0.0.0.255 any
access-list 181 deny ip any any
!
ip nat inside source list 121 interface s0 overload
access-list 121 permit ip 10.10.77.0 0.0.0.255 any
ip nat inside source static 10.10.77.100 150.50.57.100
!
line con 0
no login
!
line vty 0 4
login
password hello
!
!
catconfig
-----
cat(enable)

set vtp domain hello
set vtp mode transparent
!
set port name 3/1 r1e0
set port name 3/2 r2e0
set port name 3/3 r3e0
set port name 3/4 r4e0
set port name 3/5 r5e0
set port name 3/6 r6e0
set port name 3/7 r7e0
set port name 3/8 bb1e0
set port name 3/9 bb2e0
set port name 3/10 bb3e0
set port name 3/11 pix1e0
set port name 3/12 pix1e1
set port name 3/13 pix1e2
set port name 3/14 pix2e0
set port name 3/15 pix2e1
set port name 3/16 solaris1
set port name 3/17 solaris2
set port name 3/18 tacacs-ca
set port name 3/19 tftp
!

```

```
set vlan 2 3/2,3/14,3/17
set vlan 3 3/3
set vlan 4 3/4
set vlan 6 3/6
set vlan 7 3/7
set vlan 11 3/13
set vlan 15 3/1,3/5,3/11,3/16
set vlan 111 3/8,3/12,3/18-19
set vlan 112 3/9,3/15
set vlan 113 3/10
!
set port speed 3/1 auto
set port duplex 3/1 auto
set port speed 3/2 auto
set port duplex 3/2 auto
set port speed 3/3 auto
set port duplex 3/4 auto
set port speed 3/5 auto
set port duplex 3/6 auto
set port speed 3/7 auto
set port duplex 3/7 auto
set port speed 3/8 auto
set port duplex 3/8 auto
set port speed 3/9 auto
set port duplex 3/9 auto
set port speed 3/10 auto
set port duplex 3/10 auto
set port speed 3/11 auto
set port duplex 3/11 auto
set port speed 3/12 auto
set port duplex 3/12 auto
set port speed 3/13 auto
set port duplex 3/13 auto
set port speed 3/14 auto
set port duplex 3/14 auto
set port speed 3/15 auto
set port duplex 3/15 auto
set port speed 3/16 auto
set port duplex 3/16 auto
set port speed 3/17 auto
set port duplex 3/17 auto
set port speed 3/18 auto
set port duplex 3/18 auto
!
set vlan 111 name backbone1
set vlan 112 name backbone2
set vlan 113 name backbone3
set vlan 15 name pix1outsidevlan
set vlan 7 name r7e0vlan
set vlan 6 name r6e0vlan
set vlan 4 name r4e0vlan
set vlan 22 name pix2outsidevlan
set vlan 11 name pix1dmzvlan
```

```

!
set interface sc0 150.50.111.90 255.255.255.0
set interface sc0 111
set ip route default 150.50.111.11 primary
!
set ip permit enable
set ip permit 150.50.0.0 255.255.0.0
!

pix1config
-----
pix1(config)#
!
hostname pix1
interface e0 auto
interface e1 auto
interface e2 auto
!
nameif e0 outside sec0
nameif e1 inside sec100
nameif e2 dmz sec50
!
ip address outside 150.50.15.11 255.255.255.0
ip address inside 150.50.111.11 255.255.255.0
ip address dmz 10.10.11.11 255.255.255.0
!
nat (inside) 0 access-list nonat
access-list nonat permit ip 150.50.111.0 255.255.255.0 10.10.11.0 255.255.255.0
!
nat (inside) 1 0 0
global (outside) 1 150.50.15.150-150.50.15.160 255.255.255.0
global (outside) 1 150.50.111.50
!
rip outside passive version 2
rip outside default version 2
!
route outside 0 0 150.50.15.1
!
!static and conduit for router bb1 to allow BGP connection from r1
static (inside,outside) 150.50.15.111 150.50.111.111
conduit permit tcp host 150.50.15.111 gt 11000 host 150.50.15.1
!
!static and conduit for aaa/ca server
static (inside,outside) 150.50.15.100 150.50.111.100
conduit permit ip host 150.50.15.100 0 0
!
!static and conduit for tftp server
static (inside,outside) 150.50.15.101 150.50.111.101
conduit permit tcp host 150.50.15.101 eq tftp 0 0
!
access-list nonat permit host 150.50.111.99 any
!
fixup protocol smtp 25

```

```

static (dmz, outside) 150.50.15.25 10.10.11.25
conduit permit tcp host 150.50.15.25 eq 25 any
!
logging on
logging host inside 150.50.111.101
logging trap 7
logging facility 22
logging timestamp
!
telnet 150.50.111.111 255.255.255.255 inside
!
conduit permit icmp any any echo-reply
!
name 150.50.15.100 caserver
domain-name hellocomputers.com
ca generate rsa key 512
ca identity caserver caserver:certsrv/mscep/mscep.dll
ca configure caserver ra 1 20
ca authenticate caserver
ca enroll caserver hello
ca save all
!
isakmp identity hostname
isakmp policy 20 authentication rsa-sig
isakmp policy 20 hash md5
isakmp policy 20 encryption des
isakmp policy 20 group 1
!
crypto map supermap 20 ipsec-isakmp
crypto map supermap 20 set peer 150.50.22.12
crypto map supermap 20 set transform-set tset
crypto map supermap 20 match address bb1tobb2
crypto map supermap 20 set security-association lifetime seconds 5000
crypto map supermap interface outside
!
access-list bb1tobb2 permit ip host 150.50.111.111 host 150.50.22.112

pix2config
-----
pix2(config)#
!
hostname pix2
!
interface e0 auto
interface e1 auto
!
nameif e0 outside sec0
nameif e1 inside sec100
!
ip address outside 150.50.22.12 255.255.255.0
ip address inside 10.10.112.12 255.255.255.0
!
nat (inside) 1 10.10.112.0 255.255.255.0

```



```

global (outside) 1 150.50.22.150-150.50.22.160 255.255.255.0
global (outside) 1 150.50.22.50
!
rip outside passive version 2
rip outside default version 2
!
route outside 0 0 150.50.22.2
route inside 112.112.112.0 255.255.255.0 10.10.112.112
!
!static and conduit to allow ping to bb2 loopback0 from r2
static (inside,outside) 150.50.22.113 112.112.112.112
conduit permit icmp host 150.50.22.113 host 150.50.22.2
!
!static and conduit to allow gre traffic to bb2 from r2
static (inside,outside) 150.50.22.112 10.10.112.112
conduit permit gre host 150.50.22.112 host 150.50.22.2
!
logging on
logging host outside 150.50.15.101
logging trap 7
logging facility 22
logging timestamp
!
static (inside,outside) 150.50.22.100 10.10.112.100
conduit permit tcp host 150.50.22.100 eq 80 any
conduit permit tcp host 150.50.22.100 eq 443 any
!
filter java 80 0 0 0 0
filter activex 80 0 0 0 0
!
access-list icmplist permit icmp any any echo-reply
access-group icmplist in interface outside
!
name 150.50.15.100 caserver
domain-name hellocomputers.com
ca generate rsa key 512
ca identity caserver caserver:certsrv/mscep/mscep.dll
ca configure caserver ra 1 20
ca authenticate caserver
ca enroll caserver hello
ca save all
!
isakmp identity hostname
isakmp policy 20 authentication rsa-sig
isakmp policy 20 hash md5
isakmp policy 20 encryption des
isakmp policy 20 group 1
!
crypto map supermap 20 ipsec-isakmp
crypto map supermap 20 set peer 150.50.15.11
crypto map supermap 20 set transform-set tset
crypto map supermap 20 match address bb2tobb1
crypto map supermap 20 set security-association lifetime seconds 5000

```

```
crypto map supermap interface outside
!  
access-list bb2tobb1 permit ip host 10.10.112.112 host 150.50.15.111
```