Configuring IPSEC VPN Using New CLI

HOW TO GUIDE

Configuring IPSEC VPN using new CLI
WiNG 5.3 onwards

Global configuration parameters

```
crypto ikev1 dpd-keepalive <seconds> # seconds between keepalives, in absence of traffic
crypto ikev1 nat-keepalive <seconds> # seconds between NAT keepalives
crypto ikev2 dpd-keepalive <seconds> # seconds between keepalives, in absence of traffic
crypto ikev2 nat-keepalive <seconds> # seconds between NAT keepalives
crypto ikev2 cookie-challenge <limit>  #start cookie-challenge on half-open SA ‘limit’
crypto ikev2 max-in-negotation-sa <value>   # max half-open IKE SAs allowed
crypto ipsec security-association <lifetime seconds|kilobytes <value>
```

IKEv1 Site-2-site

1) Configure IKEv1 Policy

```
 crypto ikev1 policy <name>
    dpd-keepalive <seconds>       # seconds between keepalives, in absence of traffic
    lifetime <seconds>            # IKE lifetime in seconds
    mode (main|aggressive)        # IKEv1 mode of operation
    proposal encr <des|3des|aes|aes-192|aes-256> group <1|2|5> hash <md5|sha>
```

2) Configure IKEv1 Peer

```
  Crypto ikev1 peer <name>
    authentication { psk <pre-shared-key> | rsa }  # common for local and remote
    ip (address <A.B.C.D>| fqdn host.domain.com) # remote peer IP/FQDN
    remote-identity {address <ip>| fqdn <value>| email <value>| string <value> |dn <val>}
    local-identity  {address <ip>| fqdn <value>| email <value>| string <value> |dn <val>}
    use ikev1-policy <Policy Name>
```

3) Configure Transform set
4) Configure ACL, rules
5) Configure Crypto Map

```
  crypto map <name> <seq> ipsec-isakmp
    peer (1|2|3)(ikev1|ikev2) <name>  # peer priority is the key
    pfs <1|2|5>
    security-association <lifetime seconds|kilobytes <value>/level perhost>
    transform-set <name>
    use ip-access-list <name>
```

6) Attach crypto map to interface

IKEv1 Remote VPN

1) Configure IKEv1 Policy

```
  crypto ikev1-policy <name>
    dpd-keepalive <seconds>       # seconds between keepalives, in absence of traffic
    lifetime <seconds>
    mode (main|aggressive)         # IKEv1 mode of operation
    proposal encr <des|3des|aes|aes-192|aes-256> group <1|2|5> hash <md5|sha>
```

2) Configure IKEv1 Peer

```
  crypto peer-ikev1 <name>
    authentication { psk <pre-shared-key> | rsa }  # common for local and remote
    ip address 0.0.0.0                           # remote peer (any)
    remote-identity {address <ip>| fqdn <value>| email <value>| string <value> |dn <val>}
    local-identity  {address <ip>| fqdn <value>| email <value>| string <value> |dn <val>}
    use ikev1-policy <Policy Name>
```

3) Configure Transform set

4) Configure ACL, rules

5) Configure Crypto Map

```
   crypto map <name> <seq> ipsec-isakmp dynamic
    peer (1|2|3)(ikev1|ikev2) <name>  # peer priority is the key
    pfs <1|2|5>
    remote-type xauth|ipsec-l2tp|none    # default is xauth
    security-association <lifetime seconds|kilobytes <value>/level perhost>
    transform-set <name>
    use ip-access-list <name>
```

6) Configure IKEv1 remote-vpn parameters

```
  crypto ikev1 remote-vpn
    authentication-method (local | radius )
    ip-local-pool <A.B.C.D/M>            # static pool of virtual IPs
    local user <username> password <pwd> # mandatory for xauth local
    nameserver (primary | secondary) <A.B.C.D>
    use aaa-policy <name>                # to configure radius server Ips
    wins (primary | secondary) <A.B.C.D>
```

7) Attach crypto map to interface

IKEv2 Site-2-site

1) Configure IKEv2 Policy

```
    dpd-keepalive <seconds>    # interval between keepalives, in absence of traffic
    lifetime <seconds>
    sa-per-acl                 # setup single SA for all rules in the access list
    proposal encr <des|3des|aes|aes-192|aes-256> group <1|2|5> hash <md5|sha>
```

2) Configure IKEv2 Peer

```
  crypto peer-ikev2 <name>
    authentication { (psk <pre-shared-key> | rsa) (local|remote|)}
    ip (address <A.B.C.D> | fqdn <host.domain.com>   # remote peer IP /FQDN
    remote-identity {address <ip>| fqdn <value>| email <value>| string <value> |dn <val>}
    local-identity  {address <ip>| fqdn <value>| email <value>| string <value> |dn <val>}
    use ikev2-policy <Policy Name>
```

3) Configure Transform set

```
  crypto ipsec transform-set <name> <encryption-method> <authentication-method>
    mode <tunnel/transport>
```

4) Configure ACL, rules

5) Configure Crypto Map

```
  crypto map <name> <seq> ipsec-isakmp
    peer (1|2|3)(ikev1|ikev2) <name>  # peer priority is the key
    pfs <1|2|5>
    security-association <lifetime seconds|kilobytes <value>/level perhost>
    transform-set <name>
    use ip-access-list <name>
```

6) Attach crypto map to interface

IKEv2 remote VPN

1) Configure IKEv2 Policy

```
crypto ikev2-policy <name>
    cookie-challenge <number>  # start cookie challenge at half-open SA crosses <number>
    dpd-keepalive <seconds>    # interval between keepalives, in absence of traffic
    ike-lifetime <seconds>
    max-in-negotation-sa <limit>  # max half-open IKE SAs allowed
    proposal encr <des|3des|aes|aes-192|aes-256> group <1|2|5> hash <md5|sha>
```

2) Configure IKEv2 Peer

```
  Crypto ikev2 peer <name>
    authentication {(psk <pre-shared-key> | rsa) (local|remote|)}
    ip address 0.0.0.0                       # remote peer (any)
    remote-identity {address <ip>| fqdn <value>| email <value>| string <value> |dn <val>}
    local-identity  {address <ip>| fqdn <value>| email <value>| string <value> |dn <val>}
    use ikev2-policy <Policy Name>
```

3) Configure Transform set

```
 crypto ipsec transform-set <name> <encryption-method> <authentication-method>
    mode <tunnel/transport>
```

4) Configure ACL, rules

5) Configure Crypto Map

```
  crypto map <name> <seq> ipsec-isakmp dynamic
    peer (1|2|3) (ikev1|ikev2) <name>  # peer priority is the key
    pfs <1|2|5>
    remote-type (xauth|ipsec-l2tp | none)         # default is xauth
    security-association <lifetime seconds|kilobytes <value>/level perhost>
    transform-set <name>
    use ip-access-list <name>
```

6) Configure IKEv2 remote-vpn parameters

```
  Crypto ikev2 remote-vpn
    authentication-method (local | radius )
    dhcp-server (address|hostname) <val> (giaddr A.B.C.D |)
    ip-local-pool <A.B.C.D/M>             # static pool of virtual IPs
    local user <username> password <pwd>
    nameserver (primary | secondary) <A.B.C.D>
    netmask <A.B.C.D/M>
    use aaa-policy <name>                # to configure radius servers
    wins (primary | secondary) <A.B.C.D>
```

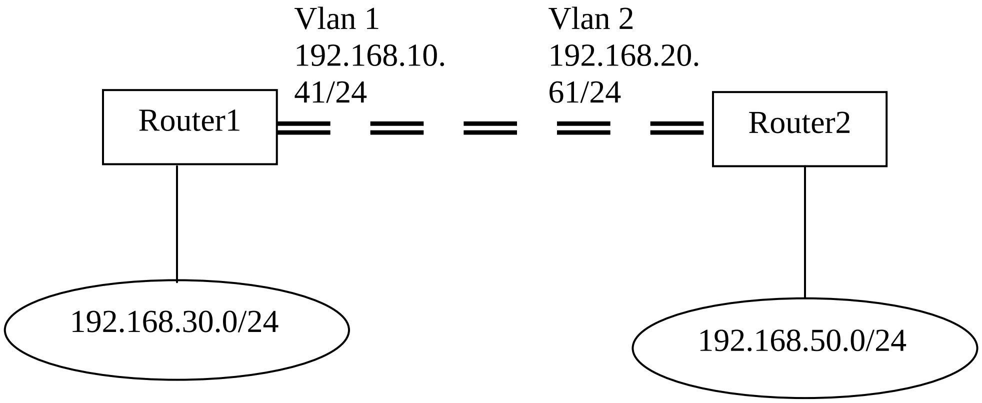
7) Attach crypto map to interface

LEGENDS:

1) Fields in RED are mandatory
2) Fields in **BOLD** are defaults

Example:

Follow the below example configuration for site to site VPN, between RFS4000 and a RFS6000.



Router 1:

```
ip access-list site-site-router1
permit ip 192.168.30.0/24 192.168.50.0/24 rule-precedence 10
!

rfs4000 00-23-68-22-A1-B8
…
crypto ikev1 policy rtr1
  dpd-keepalive 30
  dpd-retries 5
  lifetime 86400
  isakmp-proposal default encryption aes-256 group 2 hash sha
  mode main
crypto ikev1 peer rtr1
  ip address 192.168.20.61
  no remoteid
  no localid
  authentication psk 0 symbol123
  use ikev1-policy rtr1
crypto ipsec transform-set rtr1 esp-null esp-sha-hmac
  mode tunnel
crypto map rtr1 1 ipsec-isakmp
  use ip-access-list site-site-router1
  security-association level perhost
  peer 1 ikev1 rtr1
  no local-endpoint-ip
  no pfs
  no security-association lifetime seconds
  no security-association lifetime kilobytes
  security-association inactivity-timeout 900
  transform-set rtr1
…
interface vlan1
  ip address 192.168.10.41/24
  crypto map rtr1
```

Router 2:

```
ip access-list site-site-router2
permit ip 192.168.50.0/24 192.168.30.0/24 rule-precedence 10
!

rfs6000 00-15-70-81-7B-35
…
crypto ikev1 policy rtr2
  dpd-keepalive 30
  dpd-retries 5
  lifetime 86400
  isakmp-proposal default encryption aes-256 group 2 hash sha
 mode main
crypto ikev1 peer rtr2
  ip address 192.168.10.41
  no remoteid
  no localid
  authentication psk 0 symbol123
  use ikev1-policy rtr2
crypto ipsec transform-set rtr2 esp-null esp-sha-hmac
  mode tunnel
crypto map rtr2 1 ipsec-isakmp
  use ip-access-list site-site-router2
  security-association level perhost
  peer 1 ikev1 rtr2
  no local-endpoint-ip
  no pfs
  no security-association lifetime seconds
  no security-association lifetime kilobytes
  security-association inactivity-timeout 900
  transform-set rtr2
…
interface vlan2
  ip address 192.168.20.61/24
  crypto map rtr2
```