

OSPF router

To start OSPF process you have to specify the OSPF router. As of this writing, ospfd does not support multiple OSPF processes.

router ospf

Command

Enable or disable the OSPF process. ospfd does not yet support multiple OSPF processes. So you can not specify an OSPF process number.

ospf router-id a.b.c.d

OSPF Command

ospf abr-type type

OSPF Command

type can be cisco|ibm|shortcut|standard More information regarding the behaviour controlled by this command can be found in draft-ietf-ospf-abr-alt-05.txt. Quote: "Though the definition of the Area Border Router (ABR) in the OSPF specification does not require a router with multiple attached areas to have a backbone connection, it is actually necessary to provide successful routing to the inter-area and external destinations. If this requirement is not met, all traffic destined for the areas not connected to such an ABR or out of the OSPF domain, is dropped. This document describes alternative ABR behaviors implemented in Cisco and IBM routers."

ospf rfc1583compatibility

OSPF Command

This rfc2328, the successor to rfc1583, suggests according to section G.2 (changes) in section 16.4 a change to the path preference algorithm that prevents possible routing loops that were possible in the old version of OSPFv2. More specifically it demands that inter-area paths and intra-area path are now of equal preference but still both preferred to external paths.

passive interface interface

OSPF Command

timers spf <0-4294967295> <0-4294967295>

OSPF Command

refresh group-limit <0-10000>

OSPF Command

refresh per-slice <0-10000>

OSPF Command

refresh age-diff <0-10000>

OSPF Command

auto-cost reference-bandwidth <1-4294967>

OSPF Command

network a.b.c.d/m area a.b.c.d

OSPF Command

network a.b.c.d/m area <0-4294967295>

OSPF Command

This command specifies the OSPF enabled interface. If the interface has an address of 10.0.0.1/8 then the command below provides network information to the ospf routers

```
router ospf  
network 10.0.0.0/8 area 0
```

the network command's mask length should be the same as the interface address's mask.

OSPF area

area a.b.c.d range a.b.c.d/m

OSPF Command

area <0-4294967295> range a.b.c.d/m

OSPF Command

area a.b.c.d range IPV4_PREFIX suppress

OSPF Command

area a.b.c.d range IPV4_PREFIX substitute IPV4_PREFIX

OSPF Command

area a.b.c.d virtual-link a.b.c.d

OSPF Command

area <0-4294967295> virtual-link a.b.c.d

OSPF Command

area a.b.c.d shortcut

OSPF Command

area <0-4294967295> shortcut

OSPF Command

area a.b.c.d stub

OSPF Command

area <0-4294967295> stub	OSPF Command
area a.b.c.d stub no-summary	OSPF Command
area <0-4294967295> stub no-summary	OSPF Command
area a.b.c.d default-cost <0-16777215>	OSPF Command
area a.b.c.d export-list NAME	OSPF Command
area <0-4294967295> export-list NAME	OSPF Command
area a.b.c.d import-list NAME	OSPF Command
area <0-4294967295> import-list NAME	OSPF Command
area a.b.c.d authentication	OSPF Command
area <0-4294967295> authentication	OSPF Command
area a.b.c.d authentication message-digest	OSPF Command
area <0-4294967295> authentication message-digest	OSPF Command

OSPF interface

ip ospf authentication-key AUTH_KEY	Interface Command
Set OSPF authentication key to a simple password. After setting AUTH_KEY, all OSPF packets are authenticated. AUTH_KEY has length up to 8 chars.	
ip ospf message-digest-key KEYID md5 KEY	Interface Command
Set OSPF authentication key to a cryptographic password. The cryptographic algorithm is MD5. KEYID identifies secret key used to create the message digest. KEY is the actual message digest key up to 16 chars.	
ip ospf cost <1-65535>	Interface Command
Set link cost for the specified interface. The cost value is set to router-LSA's metric field and used for SPF calculation.	
ip ospf dead-interval <1-65535>	Interface Command
Set number of seconds for RouterDeadInterval timer value used for Wait Timer and Inactivity Timer. This value must be the same for all routers attached to a common network. The default value is 40 seconds.	
ip ospf hello-interval <1-65535>	Interface Command
Set number of seconds for HelloInterval timer value. Setting this value, Hello packet will be sent every timer value seconds on the specified interface. This value must be the same for all routers attached to a common network. The default value is 10 seconds.	
ip ospf network (broadcast non-broadcast point-to-multipoint point-to-point)	Interface Command
Set explicitly network type for specified interface.	
ip ospf priority <0-255>	Interface Command
Set RouterPriority integer value. Setting higher value, router will be more eligible to become Designated Router. Setting the value to 0, router is no longer eligible to Designated Router. The default value is 1.	
ip ospf retransmit-interval <1-65535>	Interface Command

Set number of seconds for RxmtInterval timer value. This value is used when retransmitting Database Description and Link State Request packets. The default value is 5 seconds.

ip ospf transmit-delay

Interface Command

Set number of seconds for InfTransDelay value. LSAs' age should be incremented by this value when transmitting. The default value is 1 seconds.

Redistribute routes to OSPF

redistribute (kernel|connected|static|rip|bgp) OSPF Command
redistribute (kernel|connected|static|rip|bgp) route-map OSPF Command
redistribute (kernel|connected|static|rip|bgp) metric-type (1|2) OSPF Command
redistribute (kernel|connected|static|rip|bgp) metric-type (1|2) route-map word OSPF Command
redistribute (kernel|connected|static|rip|bgp) metric <0-16777214> OSPF Command
redistribute (kernel|connected|static|rip|bgp) metric <0-16777214> route-map word OSPF Command
redistribute (kernel|connected|static|rip|bgp) metric-type (1|2) metric <0-16777214> OSPF Command
redistribute (kernel|connected|static|rip|bgp) metric-type (1|2) metric <0-16777214> route-map word OSPF Command
no redistribute (kernel|connected|static|rip|bgp) OSPF Command

default-information originate OSPF Command
default-information originate metric <0-16777214> OSPF Command
default-information originate metric <0-16777214> metric-type (1|2) OSPF Command
default-information originate metric <0-16777214> metric-type (1|2) route-map word OSPF Command
default-information originate always OSPF Command
default-information originate always metric <0-16777214> OSPF Command
default-information originate always metric <0-16777214> metric-type (1|2) OSPF Command
default-information originate always metric <0-16777214> metric-type (1|2) route-map word OSPF Command
no default-information originate OSPF Command
distribute-list NAME out (kernel|connected|static|rip|ospf) OSPF Command
default-metric <0-16777214> OSPF Command
distance <1-255> OSPF Command
distance ospf (intra-area|inter-area|external) <1-255> OSPF Command
router zebra Command

Showing OSPF information

show ip ospf Command
show ip ospf interface [INTERFACE] Command
show ip ospf neighbor Command
show ip ospf neighbor INTERFACE Command
show ip ospf neighbor detail Command
show ip ospf neighbor INTERFACE detail Command
show ip ospf database Command
show ip ospf database (asbr-summary|external|network|router|summary) Command
show ip ospf database (asbr-summary|external|network|router|summary) link-state-id Command
show ip ospf database (asbr-summary|external|network|router|summary) link-state-id adv-router Command
adv-router Command
show ip ospf database (asbr-summary|external|network|router|summary) adv-router adv-router Command

show ip ospf database (asbr-summary external network router summary) link-state-id self-originate	Command
show ip ospf database (asbr-summary external network router summary) self-originate	Command
show ip ospf database max-age	Command
show ip ospf database self-originate	Command
show ip ospf refresher	Command
show ip ospf route	Command

Debugging OSPF

debug ospf packet (hello dd ls-request ls-update ls-ack all) (send rcv) [detail]	Command
debug ospf ism	Command
debug ospf ism (status events timers)	Command
debug ospf nsm	Command
debug ospf nsm (status events timers)	Command
debug ospf lsa	Command
debug ospf lsa (generate flooding refresh)	Command
debug ospf zebra	Command
debug ospf zebra (interface redistribute)	Command
show debugging ospf	Command