

AOS-CX 10.09 OSPFv2 Enhancements

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Agenda

1 Configurable default-metric for OSPFv2 default-information originate

1 of 2

2 OSPFv2 Administrative Distance -AD

2 of 2

**Configurable default-metric for
OSPFv2 default-information
originate**

Overview - default-metric for OSPF 'default-information originate'

The default-information originate command configures ospf to advertise the default route (0.0.0.0/0) to its neighbors. There are two configurable options:-

default-information originate

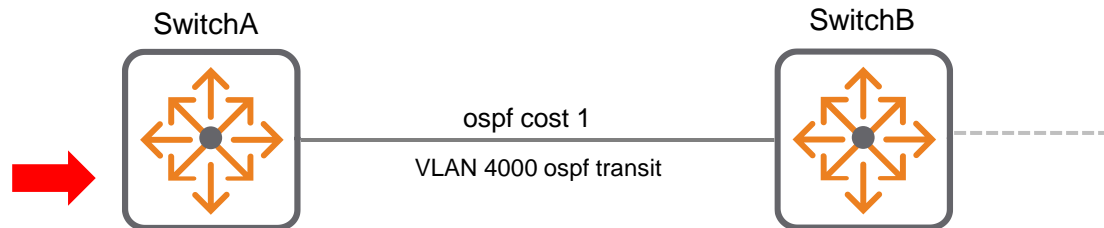
This option will advertise the default route (0.0.0.0/0) if present in the routing table via static route

```
SwitchA# conf t
SwitchA(config)# router ospf 1
SwitchA(config-ospf-1)# default-information originate
```

default-information originate always

This option will advertise the default route (0.0.0.0) regardless if the route is present in the routing table

```
SwitchB# conf t
SwitchB(config)# router ospf 1
SwitchB(config-ospf-1)# default-information originate
always
```



Route
0.0.0.0/0 (E2)
via 192.168.1.13 interface vlan4000, **cost 1** distance 110

```
SwitchB
router ospf 1
router-id 192.168.1.9
default-information originate always
area 0.0.0.0
```

10.09 default-metric for OSPF 'default-information originate'

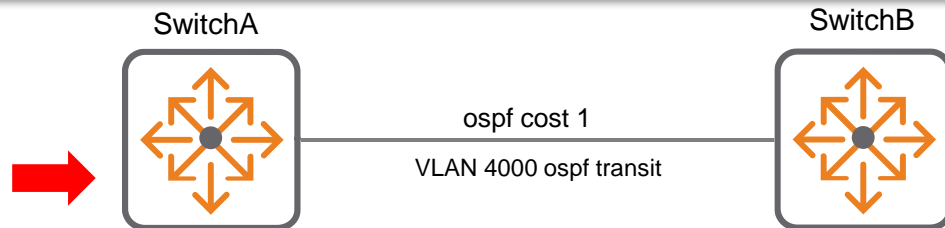
Metric can be applied when using the 'default-information originate' ospf command

```
SwitchB(config)# router ospf 1
SwitchB(config-ospf-1)# default-information originate
    always  Always advertises the default route
    metric  Configure metric of default route
```

```
SwitchB(config)# router ospf 1
SwitchB(config-ospf-1)# default-information originate always
    metric  Configure metric of default route
```

Example: 'default-information-originate always'

```
SwitchB(config)# router ospf 1
SwitchB(config-ospf-1)# default-information originate always metric
    <1-1677214> Set metric for default route. (Default: 1)
```

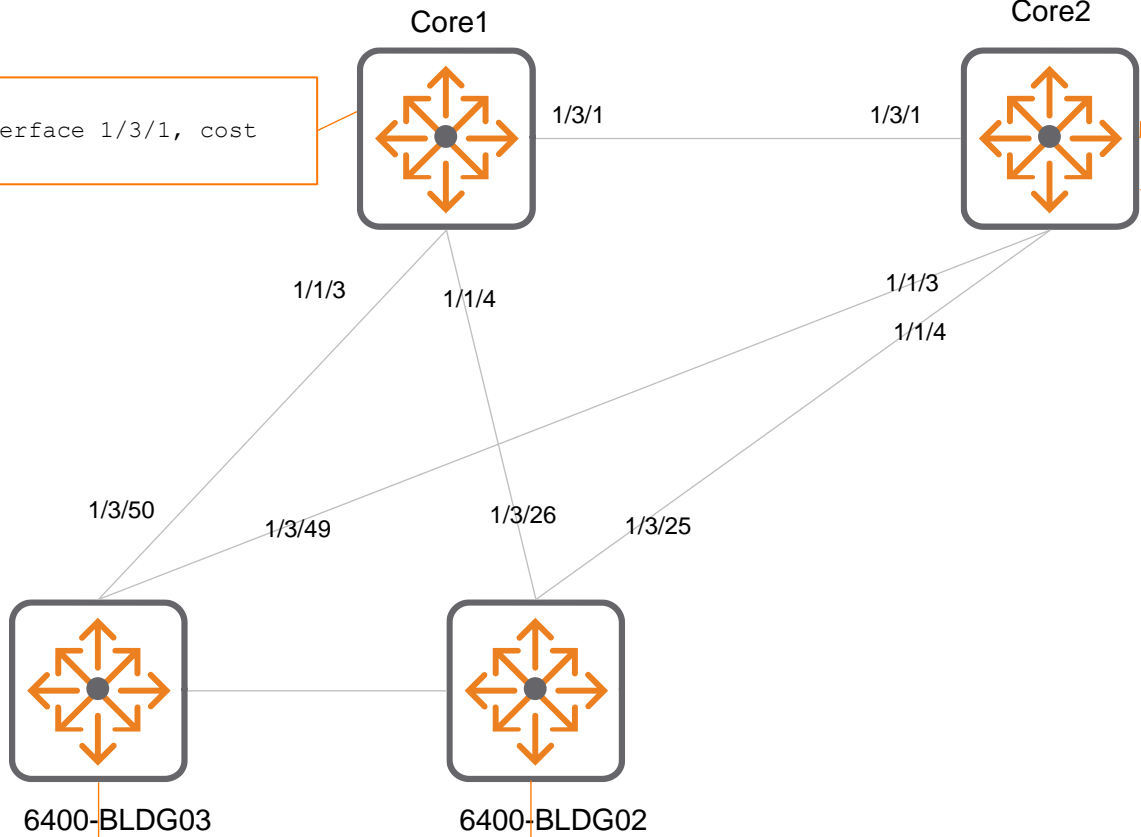


```
SwitchB
router ospf 1
    router-id 192.168.1.9
default-information originate always metric 500
    area 0.0.0.0
```

```
Route
0.0.0.0/0          (E2)
    via 192.168.1.13 interface vlan4000, cost 500 distance 110
```

Example -1

```
0.0.0.0/0 (E2)
  via 10.69.0.101 interface 1/3/1, cost
500 distance 110
```



```
ip route 0.0.0.0/0 10.69.0.100
```

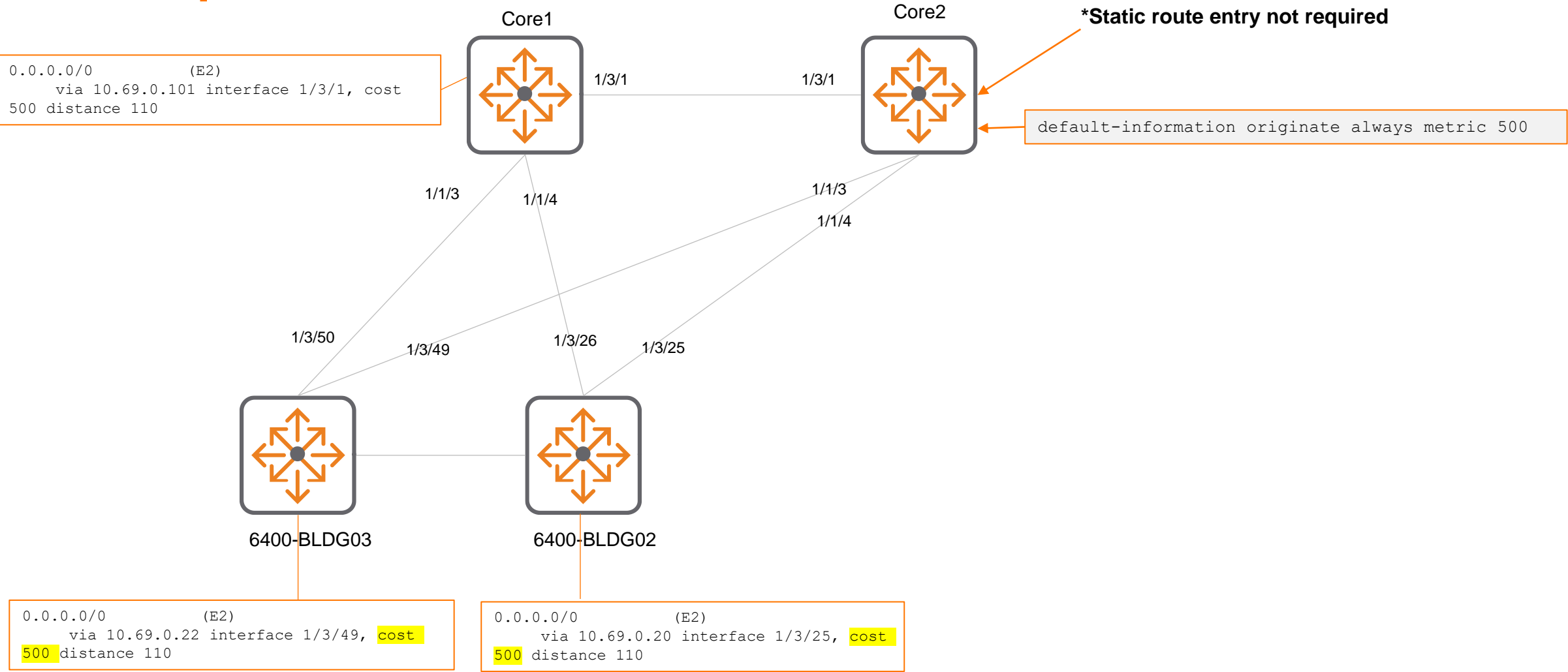
Static route entry required

```
default-information originate metric 500
```

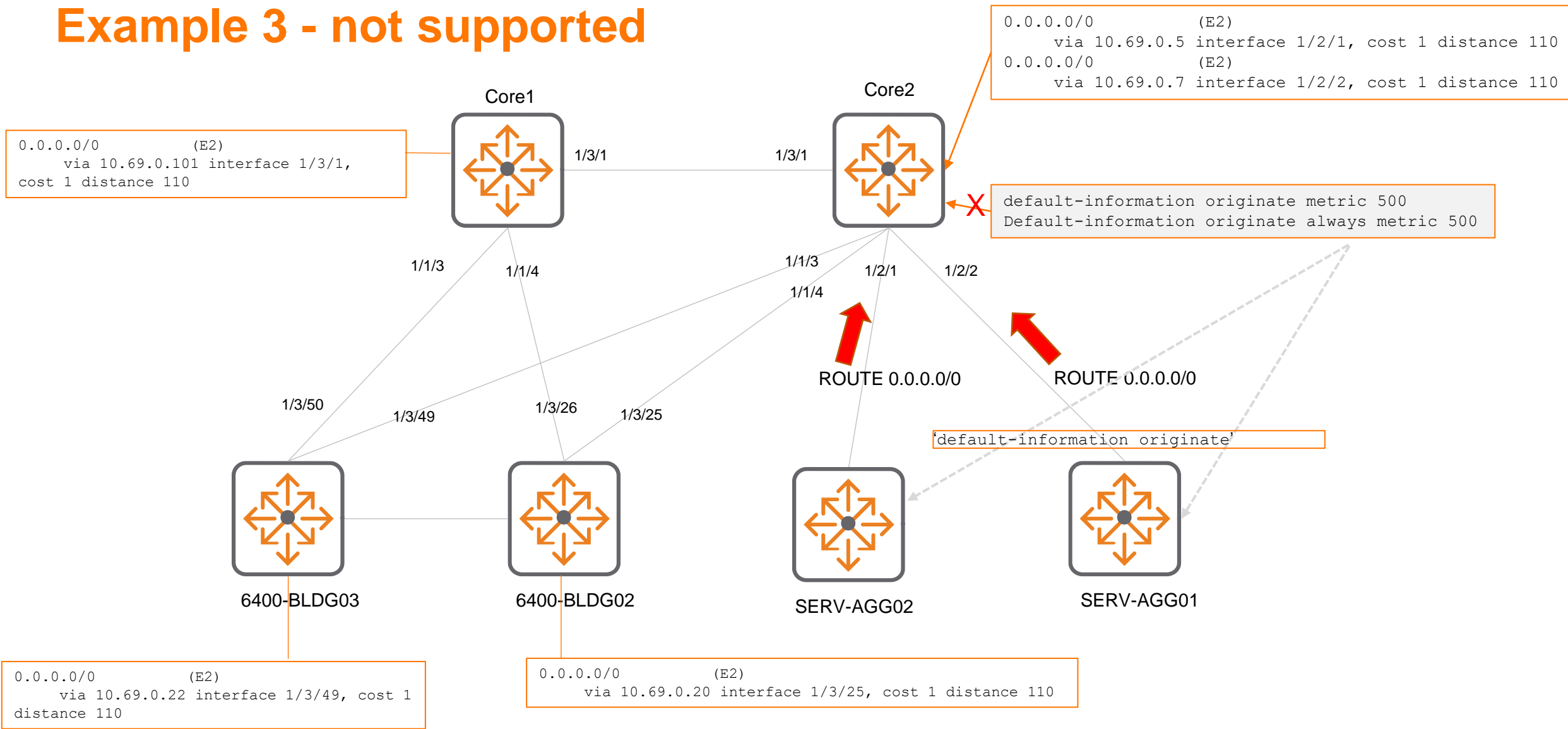
```
0.0.0.0/0 (E2)
  via 10.69.0.22 interface 1/3/49, cost
500 distance 110
```

```
0.0.0.0/0 (E2)
  via 10.69.0.20 interface 1/3/25, cost
500 distance 110
```

Example - 2



Example 3 - not supported



Useful commands - 1

```
CORE1# sh ip route
```

Show all routes in the routing table

```
Displaying ipv4 routes selected for forwarding
```

```
Origin Codes: C - connected, S - static, L - local
```

```
R - RIP, B - BGP, O - OSPF
```

```
Type Codes: E - External BGP, I - Internal BGP, V - VPN, EV - EVPN
```

```
IA - OSPF internal area, E1 - OSPF external type 1
```

```
E2 - OSPF external type 2
```

```
VRF: default
```

Prefix	Nexthop	Interface	VRF(egress)	Origin/ Type	Distance/ Metric	Age
0.0.0.0/0	10.69.0.101	1/3/1	-	O/E2	[110/1]	00m:02w:04d
1.1.1.0/30	10.69.0.15	1/1/3	-	O/E2	[110/25]	00m:03w:01d
1.1.1.1/32	10.69.0.101	1/3/1	-	O	[110/113]	00m:02w:05d
1.2.3.4/32	10.69.0.9	1/1/1	-	S	[1/0]	02m:01w:04d

```
CORE1# sh ip ospf route
```

Show all routes in the ospf route table for ospfv2

```
Codes: i - Intra-area route, I - Inter-area route
```

```
E1 - External type-1, E2 - External type-2
```

```
OSPF Process ID 1 VRF default, Routing Table
```

```
-----  
Total Number of Routes : 80
```

```
0.0.0.0/0 (E2)  
via 10.69.0.101 interface 1/3/1, cost 1 distance 110  
1.1.1.0/30 (E2)  
via 10.69.0.15 interface 1/1/3, cost 25 distance 110  
1.1.1.1/32 (i) area: 0.0.0.0  
via 10.69.0.101 interface 1/3/1, cost 113 distance 110  
5.8.1.1/32 (i) area: 0.0.0.0  
via 10.69.0.101 interface 1/3/1, cost 116 distance 110
```

Useful commands - 2

CORE1# **sh ip rib**

A.B.C.D Display longest prefix match
A.B.C.D/M Display exact route match
all-vrfs Show routes for all VRFs
bgp Show bgp routes only
connected Show connected routes only
local Show local routes only
non-selected Show non-selected routes
ospf Show ospf routes only
rip Show rip routes only
selected Show selected routes
static Show static routes only
summary Display the aggregate count
of routes per routing protocol
vrf Specify the VRF name
vsx-peer Displays VSX peer switch
information
<cr>

show ip rib options

The RIB is a database where routes are stored by a routing protocol – allowing the routing protocol to select a ‘best’ path to a given destination.

CORE1# **sh bgp ipv4 unicast**

Status codes: s suppressed, d damped, h history, *
valid, > best, = multipath,
 i internal, e external S Stale, R Removed,
a additional-paths
Origin codes: i - IGP, e - EGP, ? - incomplete

VRF : default

Local Router-ID 10.69.253.3

Network	Nexthop	Metric	LocPrf
Weight Path			
*> 192.168.100.2/32	0.0.0.0	0	100
0 i			
Total number of entries 1			

Display BGP learned routes (all)

or

sh bgp ipv4 unicast A.B.C.D/M



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Thank you

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