

# Final Study Guide

Saturday, February 25, 2017 3:59 PM

## v6 Addresses Well-Known IPv6 Multicast Addresses

Address	Function
FF02::1	All-nodes
FF02::2	All-routers
FF02::5, FF02::6	OSPF Routers, OSPF DR Routers
FF02::9	RIP Routers
FF02::A	EIGRP Routers
FF02::1:2	DHCP Relay Agents

Solicited Node	FF02::1:FF00:0/104
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Eui 64

Decimal 0-9 (10 total)	Hexadecimal 0-15 (16 total)	Binary 0-1 (2 total)
0	0	0000
1	1	0001
2	2	0010
3	3	0011
4	4	0100
5	5	0101
6	6	0110
7	7	0111
8	8	1000
9	9	1001
10	A	1010
11	B	1011
12	C	1100
13	D	1101
14	E	1110
15	F	1111

Literal Prefix	Practical Prefix	Name	
FC00::/7	FC..., FD...	Unique Local	
2000::/3	2..., 3...	Global Unicast	- Unicast - Routable
All Others	The Rest	Global Unicast	
FE80::/10	FE80..., FE90..., FEA0..., FEB0...	Link Local	- Unicast - Not Routable
FF02::/16	FF02:...	Local Scope Multicast	- Multicast - Not Routable
::/0	All 0's	Unspecified Address	
::1/127	All 0: w/ 1 at end	Loopback Address	

Ipv4:

10.0.0.0 - class A private

172.16-172.31 - B private

192.168-192.168.255 - C private

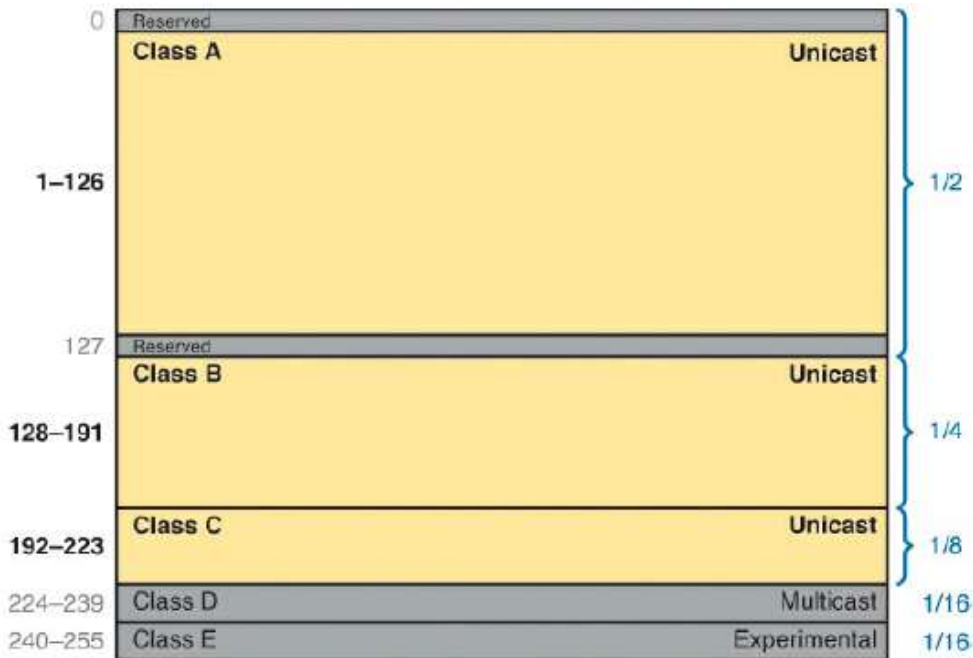
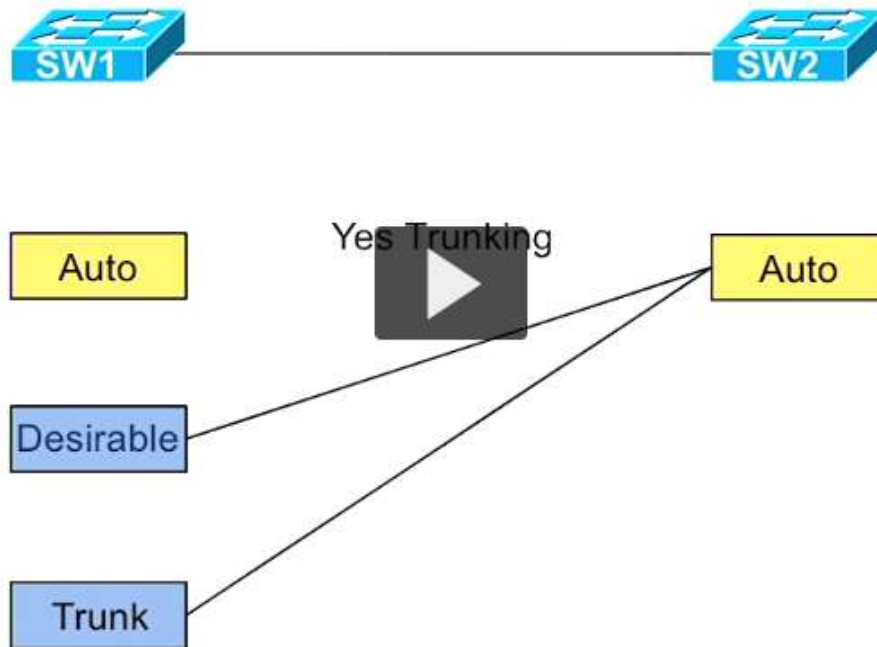


Figure 4-6. Size of Network and Host Parts of Class A, B, and C Addresses

Port security violation mode - default shutdown

	Protect	Restrict	Shutdown
Discards Frames that Violate Port Security Rules	Yes	Yes	Yes
Sends Log and SNMP Messages	No	Yes	Yes
Error Disables the Port	No	No	Yes



\*BANNER CONFIG

45 to 55 questions, 90 minutes. 1 minute per MC, 7 minute per time burner (simlet or testlet)\

#### EIGRP SUMMARY 5

Route Type	Administrative Distance
Connected	0
Static	1
BGP (external routes)	20
EIGRP (internal routes)	90
IGRP	100
OSPF	110
IS-IS	115
RIP	120
EIGRP (external routes)	170
BGP (internal routes)	200
Unusable	255

DCE supplies clock signal, female. DTE is male

1-15 stratum for NTP

0-7 debug levels, 7 most detailed

DHCP = DISCOVER OFFER REQUEST ACKNOWLEDGE  
 DEFAULT INACTIVITY FOR CONSOLE IS 10 MINS

Hub are level 1, as are NIC

STP State (802.1d)	RSTP State (802.1w)
Blocking	Discarding
Listening	Discarding
Learning	Learning
Forwarding	Forwarding
Disabled	Discarding

Root bridge all ports are designated ports. You need one root port (closed to root router) on each switch. One designated port for each lan segment.

Root bridge has lowest bridge priority, then mac address (bridge id)

“To qualify as a feasible successor, a router must have an AD less than the FD of the current successor route” - EIGRP

Feasible distance = reported distance (second number). FD is total cost.

Designated port:

- \* Lowest path cost to the Root
- \* Lowest Sender Bridge ID (BID)
- \* Lowest Port ID

Ethernet Type	Media	Maximum Segment Length
10BASE-T	TIA CAT3 or better, two pair	100 m (328 feet)
100BASE-T	TIA CAT5 UTP or better, two pair	100 m (328 feet)
1000BASE-T	TIA CAT5e UTP or better, four pair	100 m (328 feet)
1000BASE-SX	Multimode fiber	550 m (1804.5 feet) for 50-micron fiber
1000BASE-LX	Multimode fiber	550 m (1804.5 feet) for 50- and 62.5-micron fiber
1000BASE-LX	9-micron single-mode fiber	5 km (3.1 miles)

**Table 17-3. Interior IP Routing Protocols Compared**

Feature	RIP-1	RIP-2	EIGRP	OSPF	IS-IS
Classless/sends mask in updates/ supports VLSM	No	Yes	Yes	Yes	Yes
Algorithm (DV, advanced DV, LS)	DV	DV	advanced DV	LS	LS
Supports manual summarization	No	Yes	Yes	Yes	Yes
Cisco-proprietary	No	No	Yes <sup>1</sup>	No	No
Routing updates are sent to a multicast IP address	No	Yes	Yes	Yes	—

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Convergence	Slow	Slow	Fast	Fast	Fast

Standard Numbered ACLs (1–99)

- Extended Numbered ACLs (100–199)
- Additional ACL Numbers (1300–1999 standard, 2000–2699 extended)

Banner login #, banner #, banner exec # (MOTD IS ALL, login is on login, shows with MOTD, exec is after login). Ends with #.

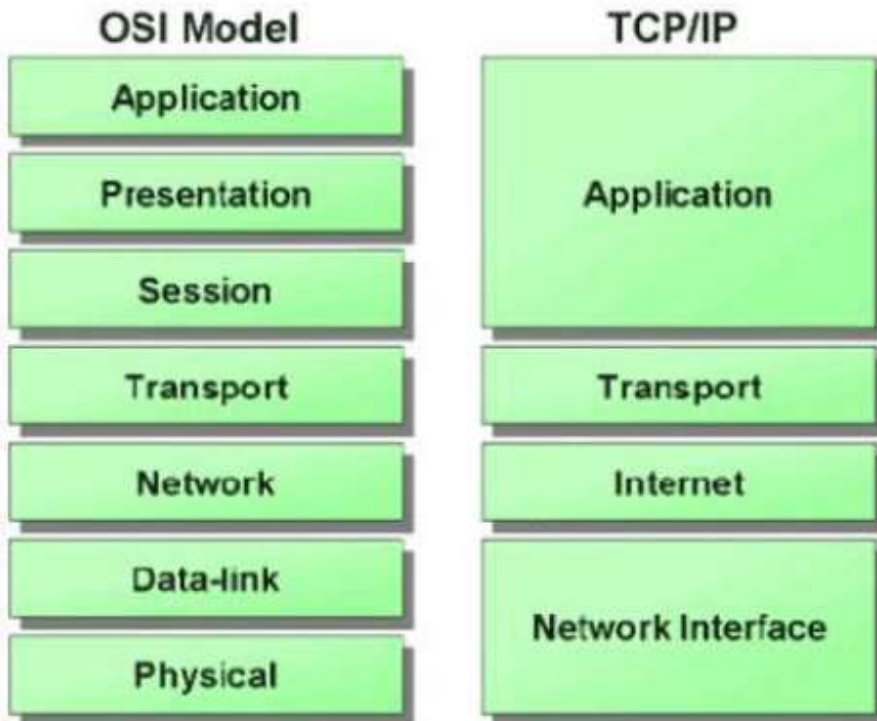
Stateful DHCPv6 does not supply default router information to the client.

SARR instead of DORA, solicit advertise request reply

	RIP	OSPF	EIGRP
Latest version that supports IPv4 routes	RIP version 2 (RIPv2)	OSPF version 2 (OSPFv2)	EIGRP
Version that supports IPv6 routes	RIP Next Generation (RIPng)	OSPF version 3 (OSPFv3)	EIGRP for IPv6 (EIGRPv6)

```
Router#show ip route
Codes: L - local, C - connected, S - static, 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, ia -
IS-IS inter area
      * - candidate default, U - per-user static route, o - ODR
      P - periodic downloaded static route
```

Gateway of last resort is not set



#### EIGRP

Router EIGRP [Autonomous system number must match others]

Network [ip] [wildcard]

No auto-summary

#### OSPF

Router ospf [process id does not have to match others, except on the same router to distinguish between processes]

Network ip [wildcard] area [area]

OR

int f0/0, ip ospf [pid] area [area]

#### RIP

Router rip

Network ip-address

Version 2 if needed