APPENDIX L

Practice for Chapter 27: Implementing IPv6 Addressing on Routers

This appendix provides practice problems for two types of addresses: unicast addresses formed with the EUI-64 feature and solicited node multicast addresses. With EUI-64, you take the 64-bit (16 hex digit) prefix and a MAC address, manipulate the MAC address into a 64-bit value, and use those 64 bits as the interface ID. Solicited node multicast addresses are formed from a standard 26 hex digit prefix, combined with the same last 6 hex digits as the unicast address.

EUI-64 and Solicited Node Multicast Problems

Table L-1 lists some practice problems. Each problem lists a prefix and a MAC address. Then, in Table L-2, record your answers for the unicast IPv6 address, assuming that EUI-64 rules are used. Also in Table L-2, list the solicited node multicast address associated with your calculated unicast address.

For each answer, use the best abbreviation, instead of a full 32-digit address.

The answers sit at the end of the appendix, in Table L-3.

Table L-1 IPv6 EUI-64 Unicast and Solicited Node Multicast Problems

	Prefix	MAC Address
1	2987:BA11:B011:B00A::/64	0000.1234.5678
2	3100:0000:0000:1010::/64	1234.5678.9ABC
3	FD00:0001:0001:0001::/64	0400.AAAA.0001
4	FDDF:8080:0880:1001::/64	0611.BABA.DADA
5	32CC:0000:0000:000D::/64	0000.0000.0001
6	2100:000E:00E0:0000::/64	0505.0505.0707
7	3A11:CA00:0000:0000::/64	0A0A.B0B0.0C0C
8	3799:9F9F:F000:0000::/64	F00F.0005.0041
9	2A2A:0000:0000:0000::/64	0200.0101.0101
10	3194:0000:0000:0000::/64	0C0C.000C.00CC

Table L-2 Blank Answer Table for Problems in Table L-1

	Unicast Address Using EUI-64	Solicited Node Multicast Address
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Answers to EUI-64 and Solicited Node Multicast Problems

Table L-3 lists the answers to the problems listed earlier in Table L-1.

Table L-3 Answers to Problems in Table L-1

	Unicast Address Using EUI-64	Solicited Node Multicast Address
1	2987:BA11:B011:B00A:200:12FF:FE34:5678	FF02::01:FF34.5678
2	3100::1010:1034:56FF:FE78:9ABC	FF02::01:FF78.9ABC
3	FD00:1:1:1:600:AAFF:FEAA:1	FF02::01:FFAA:1
4	FDDF:8080:880:1001:411:BAFF:FEBA:DADA	FF02::01:FFBA:DADA
5	32CC::D:200:FF:FE00:1	FF02::01:FF00:1
6	2100:E:E0:0:705:5FF:FE05:707	FF02::01:FF05:707
7	3A11:CA00::80A:B0FF:FEB0:C0C	FF02::01:FFB0:C0C
8	3799:9F9F:F000:0:F20F:FF:FE05:41	FF02::01:FF05:41
9	2A2A::1FF:FE01:101	FF02::01:FF01:101
10	3194::E0C:FF:FE0C:CC	FF02::01:FF0C:CC