APPENDIX – SUGGESTED ADDRESSING SCHEME

While students are encouraged to generate their own addressing scheme for the workshop network, use the example in Figure 1 below as an aid.

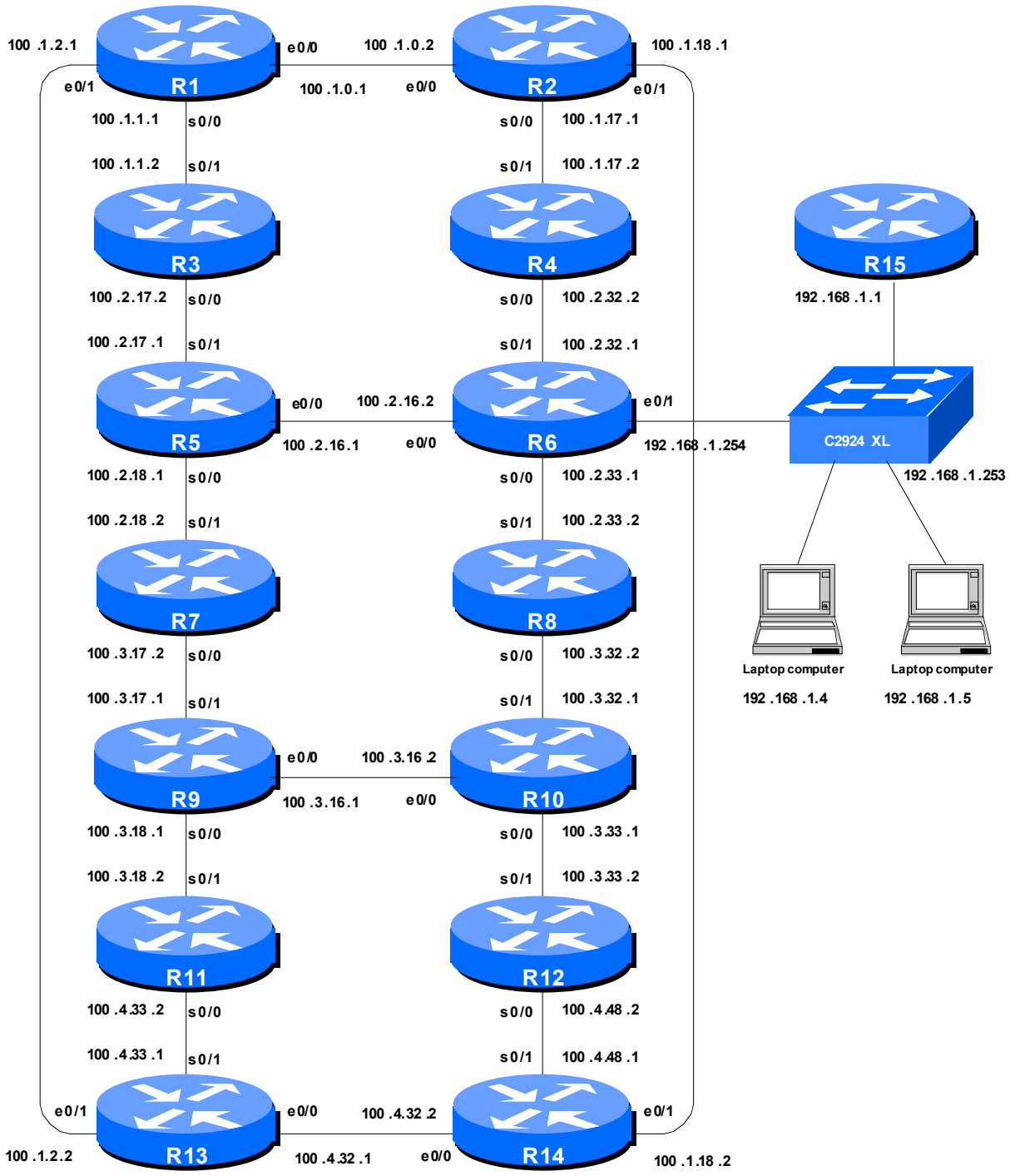

Figure 1 – Suggested addressing scheme

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APPENDIX – Netmask Table

Subnet Mask	Wild-Card Mask	Network Bits	Host Bits	Prefix
0.0.0.0	255.255.255.255	0	32	/0
128.0.0.0	127.255.255.255	1	31	/1
192.0.0.0	63.255.255.255	2	30	/2
224.0.0.0	31.255.255.255	3	29	/3
240.0.0.0	15.255.255.255	4	28	/4
248.0.0.0	7.255.255.255	5	27	/5
252.0.0.0	3.255.255.255	6	26	/6
254.0.0.0	1.255.255.255	7	25	/7
255.0.0.0	0.255.255.255	8	24	/8
255.128.0.0	0.127.255.255	9	23	/9
255.192.0.0	0.63.255.255	10	22	/10
255.224.0.0	0.31.255.255	11	21	/11
255.240.0.0	0.15.255.255	12	20	/12
255.248.0.0	0.7.255.255	13	19	/13
255.252.0.0	0.3.255.255	14	18	/14
255.254.0.0	0.1.255.255	15	17	/15
255.255.0.0	0.0.255.255	16	16	/16
255.255.128.0	0.0.127.255	17	15	/17
255.255.192.0	0.0.63.255	18	14	/18
255.255.224.0	0.0.31.255	19	13	/19
255.255.240.0	0.0.15.255	20	12	/20
255.255.248.0	0.0.7.255	21	11	/21
255.255.252.0	0.0.3.255	22	10	/22
255.255.254.0	0.0.1.255	23	9	/23
255.255.255.0	0.0.0.255	24	8	/24
255.255.255.128	0.0.0.127	25	7	/25
255.255.255.192	0.0.0.63	26	6	/26
255.255.255.224	0.0.0.31	27	5	/27
255.255.255.240	0.0.0.15	28	4	/28
255.255.255.248	0.0.0.7	29	3	/29
255.255.255.252	0.0.0.3	30	2	/30
255.255.255.254	0.0.0.1	31	1	/31
255.255.255.255	0.0.0.0	32	0	/32

Chart 1 – IPv4 Subnets

Subnet Mask	The subnet mask of the CIDR block.
Wild-Card Mask	Wild-Card Mask used in OSPF and packet filters
Network Bits	The number of bits in the network part of the mask
Host Bits	The number of bits in the host part of the mask
Prefix	Short hand syntax of the CIDR block.

Cisco Systems Inc
170 West Tasman Drive.
San Jose, CA 95134-1706
Phone: +1 408 526-4000
Fax: +1 408 536-4100

APPENDIX – IP Address Blocks and Loopbacks

Router	Address Block
R1	100.1.0.0/20
R2	100.1.16.0/20
R3	100.1.32.0/19
R4	100.2.0.0/20
R5	100.2.16.0/20
R6	100.2.32.0/20
R7	100.2.48.0/20

Router	Address Block
R8	100.3.0.0/20
R9	100.3.16.0/20
R10	100.3.32.0/19
R11	100.4.0.0/20
R12	100.4.16.0/20
R13	100.4.32.0/20
R14	100.4.48.0/20

Chart 2 – IPv4 Address Blocks assigned to each Router

Router	Loopback Address
R1	100.1.15.224
R2	100.1.31.224
R3	100.1.63.224
R4	100.2.15.224
R5	100.2.31.224
R6	100.2.47.224
R7	100.2.63.224

Router	Loopback Address
R8	100.3.15.224
R9	100.3.31.224
R10	100.3.63.224
R11	100.4.15.224
R12	100.4.31.224
R13	100.4.47.224
R14	100.4.63.224

Chart 3 – IPv4 Loopback Address assigned to each Router

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