**Network Diagram**

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**Subnet Allocation**

**Location: London (LD)**

 Number of IP Required: 495

 Number of IP Allocated: 510

 Network Address: 10.0.0.0

 Subnet Mask: 255.255.254.0

 IP Range: 10.0.0.1 to 10.0.1.254

 Broadcast Address: 10.0.1.255

**Location: Sydney (SY)**

 Number of IP Required: 450

 Number of IP Allocated: 510

 Network Address: 10.0.2.0

 Subnet Mask: 255.255.254.0

 IP Range: 10.0.2.1 to 10.0.3.254

 Broadcast Address: 10.0.3.255

**Location: Singapore (SG)**

 Number of IP Required: 190

 Number of IP Allocated: 254

 Network Address: 10.0.4.0

 Subnet Mask: 255.255.255.0

 IP Range: 10.0.4.1 to 10.0.4.254

 Broadcast Address: 10.0.4.255

**Location: Tokyo (TK)**

 Number of IP Required: 95

 Number of IP Allocated: 126

 Network Address: 10.0.5.0

 Subnet Mask: 255.255.255.128

 IP Range: 10.0.5.1 to 10.0.5.126

 Broadcast Address: 10.0.5.127

**Location: Sacramento (SC)**

 Number of IP Required: 77

 Number of IP Allocated: 126

 Network Address: 10.0.5.128

 Subnet Mask: 255.255.255.128

 IP Range: 10.0.5.129 to 10.0.5.254

 Broadcast Address: 10.0.5.255

**Location: Berlin (BR)**

 Number of IP Required: 55

 Number of IP Allocated: 62

 Network Address: 10.0.6.0

 Subnet Mask: 255.255.255.192

 IP Range: 10.0.6.1 to 10.0.6.62

 Broadcast Address: 10.0.6.63

**Location: Bombay (BB)**

 Number of IP Required: 27

 Number of IP Allocated: 30

 Network Address: 10.0.6.64

 Subnet Mask: 255.255.255.224

 IP Range: 10.0.6.65 to 10.0.6.94

 Broadcast Address: 10.0.6.95

**Interface Address Allocation**

**Device Name: LondonRouter**

Interface Name: Fast Ethernet 0/0

IP Address: 10.0.0.1

Subnet Mask: 255.255.254.0

Interface Name: Serial 0/0/0

IP Address: 192.168.10.1

Subnet Mask: 255.255.255.252

Interface Name: Serial 0/0/1

IP Address: 192.168.10.5

Subnet Mask: 255.255.255.252



**Device Name: BerlinRouter**

Interface Name: Fast Ethernet 0/0

IP Address: 10.0.6.1

Subnet Mask: 255.255.255.192

Interface Name: Serial 0/0/0

IP Address: 192.168.10.9

Subnet Mask: 255.255.255.252

Interface Name: Serial 0/0/1

IP Address: 192.168.10.6

Subnet Mask: 255.255.255.252



**Device Name: SingaporeRouter**

Interface Name: Fast Ethernet 0/0

IP Address: 10.0.4.1

Subnet Mask: 255.255.255.0

Interface Name: Serial 0/0/0

IP Address: 192.168.10.10

Subnet Mask: 255.255.255.252

Interface Name: Serial 0/0/1

IP Address: 192.168.10.13

Subnet Mask: 255.255.255.252



**Device Name: SydneyRouter**

Interface Name: Fast Ethernet 0/0

IP Address: 10.0.2.1

Subnet Mask: 255.255.254.0

Interface Name: Serial 0/0/0

IP Address: 192.168.10.17

Subnet Mask: 255.255.255.252

Interface Name: Serial 0/0/1

IP Address: 192.168.10.14

Subnet Mask: 255.255.255.252



**Device Name: BombayRouter**

Interface Name: Fast Ethernet 0/0

IP Address: 10.0.6.65

Subnet Mask: 255.255.255.224

Interface Name: Serial 0/0/0

IP Address: 192.168.10.18

Subnet Mask: 255.255.255.252

Interface Name: Serial 0/0/1

IP Address: 192.168.10.21

Subnet Mask: 255.255.255.252



**Device Name: TokyoRouter**

Interface Name: Fast Ethernet 0/0

IP Address: 10.0.5.0

Subnet Mask: 255.255.255.128

Interface Name: Serial 0/0/0

IP Address: 192.168.10.25

Subnet Mask: 255.255.255.252

Interface Name: Serial 0/0/1

IP Address: 192.168.10.22

Subnet Mask: 255.255.255.252



**Device Name: SacramentoRouter**

Interface Name: Fast Ethernet 0/0

IP Address: 10.0.5.129

Subnet Mask: 255.255.255.128

Interface Name: Serial 0/0/0

IP Address: 192.168.10.2

Subnet Mask: 255.255.255.252

Interface Name: Serial 0/0/1

IP Address: 192.168.10.26

Subnet Mask: 255.255.255.252



**Basic Configuration**

**Setting Console Password**

LondonRouter#conf t

LondonRouter(config)#line console 0

LondonRouter(config-line)#password cisco

LondonRouter(config-line)#login

LondonRouter(config-line)#exit



**Setting Telnet Password**

LondonRouter#conf t

LondonRouter(config)#line vty 0 4

LondonRouter(config-line)#password cisco

LondonRouter(config-line)#login

LondonRouter(config-line)#exit



**Setting Secret Password**

LondonRouter(config)#enable secret class



**DHCP Configuration**

LondonRouter#conf t

LondonRouter(config)#ip dhcp pool DHCPLondon

LondonRouter(dhcp-config)#network 10.0.0.0 255.255.254.0

LondonRouter(dhcp-config)#default-router 10.0.0.1

LondonRouter(dhcp-config)#exit

LondonRouter(config)#ip dhcp excluded-address 10.0.0.1

LondonRouter(config)#

****

**RIP Configuration**

LondonRouter#conf t

LondonRouter(config)#router rip

LondonRouter(config-router)#version 2

LondonRouter(config-router)#network 10.0.0.0

LondonRouter(config-router)#network 192.168.10.0

LondonRouter(config-router)#network 192.168.10.4

LondonRouter(config-router)#no auto-summary

LondonRouter(config-router)#exit

LondonRouter(config)#



**Show Routing Table**



**Show DHCP Configuration**

From Sacramento,



**Testing**

Ping from London PC to Tokyo PC



Ping from Sydney PC to Berlin PC

