



Republic of the Philippines
CEBU TECHNOLOGICAL UNIVERSITY

M. J. Cuenco Avenue Cor. R. Palma Street, Cebu City, Philippines
Website: <http://www.ctu.edu.ph>



FINAL PROJECT

IN

PC 315/PC 315L NETWORKING II



CHAPTER 10: DEVICE DISCOVERY, MANAGEMENT AND MAINTENANCE

Submitted By:

Joshua Gocotano

Kenneth Redoble

Angelie Gecole

Ricky Malinao



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Requirements:

- Create a physical topology of the CTU Main Campus only.
- Apply all that you have learned in the networking subject.
- The physical topology must consist of seven buildings (signifying the seven departments in CTU-MAIN).
- It must have at least one data center with three servers.
- Data transfer is restricted between different departments, and within the same department, data can only be exchanged internally.

Devices used in the networks:

Devices	Quantity
Routers (1841)	7
Switch (2960)	7
Servers	3
PC	14

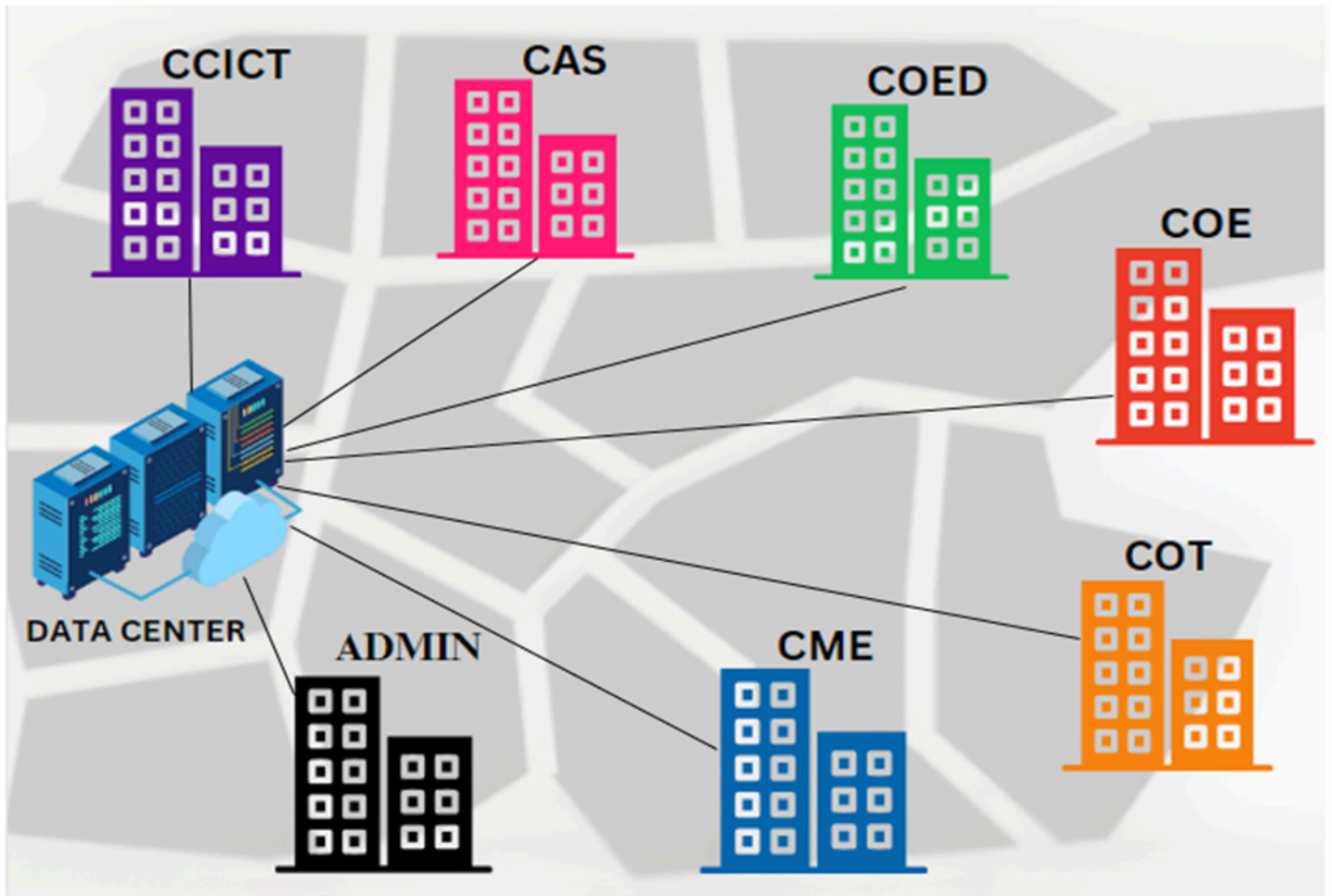


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Physical Topology



7 Departments in Cebu Technological University - Main Campus

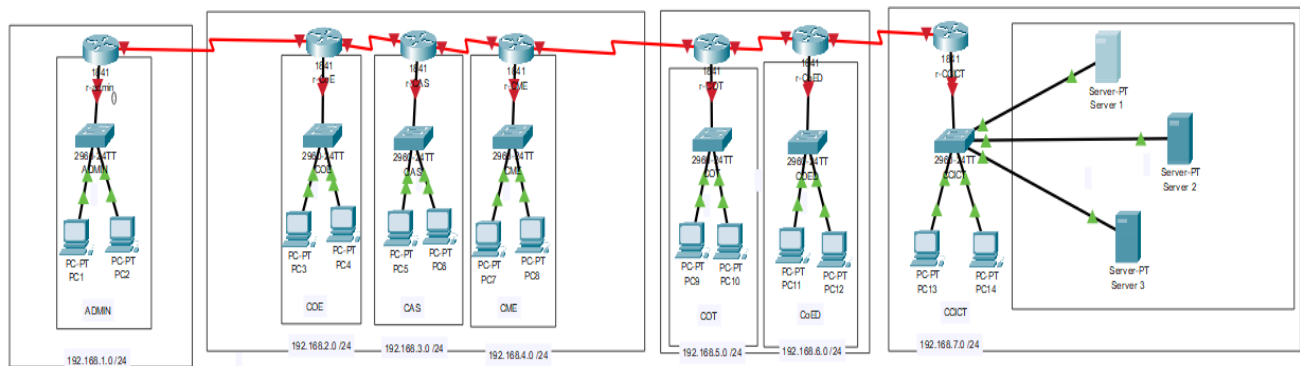


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Logical Topology





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- **COED DEPARTMENT**

```
Processor board ID FTX0947218E
M860 processor: part number 0, mask 49
2 FastEthernet/IEEE 802.3 interface(s)
4 Low-speed serial(sync/async) network interface(s)
191K bytes of NVRAM.
63488K bytes of ATA CompactFlash (Read/Write)
Cisco IOS Software, 1841 Software (C1841-ADVIPSERVICESK9-M), Version 12.4(15)T1, RELEASE
SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2007 by Cisco Systems, Inc.
Compiled Wed 18-Jul-07 04:52 by pt_team

Press RETURN to get started!

Router>enable
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#int fa0/0
Router(config-if)#ip add 192.168.6.1 255.255.255.0
Router(config-if)#
Router(config-if)#int se0/0/0
Router(config-if)#ip add 192.168.12.2 255.255.255.0
Router(config-if)#
Router(config-if)#int se0/0/1
Router(config-if)#ip add 192.168.13.1 255.255.255.0
Router(config-if)#
Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial0/0/1, changed state to down
Router(config-if)#do wr
Building configuration...
[OK]
Router(config-if)#exit
Router(config)#
```

Copy Paste



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```
Router>enable
```

```
Router#config t
```

Enter configuration commands, one per line. End with CNTL/Z.

```
Router(config)#
```

```
Router(config)#int fa0/0
```

```
Router(config-if)#ip add 192.168.6.1 255.255.255.0
```

```
Router(config-if)#
```

```
Router(config-if)#int se0/0/0
```

```
Router(config-if)#ip add 192.168.12.2 255.255.255.0
```

```
Router(config-if)#
```

```
Router(config-if)#int se0/0/1
```

```
Router(config-if)#ip add 192.168.13.1 255.255.255.0
```

```
Router(config-if)#
```

```
Router(config-if)#no shutdown
```

%LINK-5-CHANGED: Interface Serial0/0/1, changed state to down

```
Router(config-if)#do wr
```

Building configuration...

[OK]

```
Router(config-if)#exit
```

```
Router(config)#
```



● ROUTER RIP

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/1, changed state to up
%LINK-3-UPDOWN: Interface Serial0/0/1, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/1, changed state to down
%LINK-5-CHANGED: Interface Serial0/0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/1, changed state to up

Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router rip
Router(config-router)#network 192.168.6.0
Router(config-router)#network 192.168.12.0
Router(config-router)#network 192.168.13.0
Router(config-router)#do wr
Building configuration...
[OK]
Router(config-router)#exit
Router(config)#
```

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#router rip

Router(config-router)#network [192.168.6.0](#)

Router(config-router)#network [192.168.12.0](#)

Router(config-router)#network [192.168.13.0](#)

Router(config-router)#do wr

Building configuration...

[OK]

Router(config-router)#exit

Router(config)#

Enter Write to NETWORKING



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- **ACCESS CONTROL LIST**

```
Router>
Router>
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname COED
COED(config)#no access-list 1
COED(config)#access-list 1 deny 192.1.0 0.0.0.255
      ^
% Invalid input detected at '^' marker.

COED(config)#access-list 1 deny 192.168.1.0 0.0.0.255
COED(config)#access-list 1 deny 192.168.2.0 0.0.0.255
COED(config)#access-list 1 deny 192.168.3.0 0.0.0.255
COED(config)#access-list 1 deny 192.168.4.0 0.0.0.255
COED(config)#access-list 1 deny 192.168.5.0 0.0.0.255
COED(config)#access-list 1 deny 192.168.7.0 0.0.0.255
COED(config)#access-list 1 permit 192.168.6.2
COED(config)#access-list 1 permit 192.168.6.3
COED(config)#int se0/0
%Invalid interface type and number
COED(config)#int se0/0/1
COED(config-if)#exit
COED(config)#int fa0/0
COED(config-if)#ip access-group 1 in
COED(config-if)#int fa0/1
COED(config-if)#ip access-group 1 out
COED(config-if)#do wr
Building configuration...
[OK]
COED(config-if)#
```

Router>

Router>

Router>en

Router#conf t

Enter configuration commands, one per line. End with CNTL/Z.



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```
Router(config)#hostname COED
COED(config)#no access-list 1
COED(config)#access-list 1 deny 192.168.1.0 0.0.0.255
COED(config)#access-list 1 deny 192.168.2.0 0.0.0.255
COED(config)#access-list 1 deny 192.168.3.0 0.0.0.255
COED(config)#access-list 1 deny 192.168.4.0 0.0.0.255
COED(config)#access-list 1 deny 192.168.5.0 0.0.0.255
COED(config)#access-list 1 deny 192.168.7.0 0.0.0.255
COED(config)#access-list 1 permit 192.168.6.2
COED(config)#access-list 1 permit 192.168.6.3
COED(config)#access-list 1 permit 192.168.7.4
COED(config)#access-list 1 permit 192.168.7.5
COED(config)#access-list 1 permit 192.168.7.6
COED(config)#int fa0/0
COED(config-if)#ip access-group 1 in
COED(config-if)#int fa0/1
COED(config-if)#ip access-group 1 out
COED(config-if)#do wr
Building configuration...
[OK]
COED(config-if)#
```