

## **Experiment # 10**

# **Design of Core Networks with Internet Connectivity using CISCO ConfigMaker**

### **Objective:**

In this experiment students will learn to design a core network with internet connectivity using CISCO ConfigMaker.


### **Introduction:**




Cisco ConfigMaker is an easy-to-use Windows 98/Me/NT/2000 application that configures Cisco routers, switches, hubs, and other devices. Using a graphical user interface (GUI), you draw your network, and then Cisco ConfigMaker creates the Cisco IOS configuration files for the devices on your network without requiring you to know the Cisco IOS command-line interface (CLI). You can also use Cisco ConfigMaker as an off-line tool. Without having the devices on-hand, you can draw and configure your entire network until you are ready to deliver the configuration to them.


To start Cisco ConfigMaker, select *Start>Programs>Cisco ConfigMaker V2.5.1* from the Windows Start menu.

### **Supported Devices and Modules:**

Cisco ConfigMaker supports the following Cisco devices, network modules, WICs, and VICs:


 Routers	
Cisco 800 series:	801, 802, 803, 804, 805, 811, 813
Cisco 1000 series:	1003, 1004, 1005
Cisco 1600 series:	1601, 1602, 1603, 1604, 1605
Cisco 1700 series:	1710, 1720, 1750, 1751
Cisco 2500 series:	2501, 2503, 2505, 2507, 2509, 2509-RJ, 2511, 2511-RJ, 2514, 2516, 2520, 2522, 2524
Cisco 2600 series:	2610, 2611, 2620, 2621
Cisco 3600 series:	3620, 3640
Cisco 4000 series:	4500, 4500-M, 4700, 4700-M

1600 Network Interface Cards  WICs		
1 serial	1 T1 CSU/DSU	
1 56/64K CSU/DSU		
1 ISDN BRI (U, S/T) {Cisco 1601, 1602, and 1605 only}		
1 ISDN BRI (S/T) LL {Cisco 1603 and 1604 only}		
1700 Network Interface Cards  WICs		
1 serial	1 56/64K CSU/DSU	
2 serial	1 T1 CSU/DSU	
1 ISDN BRI (U, S/T)	2 async/sync	
1 Ethernet	ADSL WIC (hardware detection only)	
 WICs {Cisco 1750 and Cisco 1751 only}		
2 voice FXS	2 voice FXO	2 voice E/M
2 voice BRI-NT/TE	2 voice FXO-M1	2 voice FXO-M2
2 voice FXO-M3	2 voice DID/FXS	


2524 Network Interface Cards  WICs	
5-in-1 serial	1 T1 CSU/DSU
1 ISDN BRI (U, S/T)	2-wire 56/64 Kbps CSU/DSU

	4-wire 56/64 Kbps CSU/DSU
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2600 Network Interface Cards

 Network Modules:

1 Ethernet	2 E1/ISDN PRI
4 Ethernet	4 async/sync
4 ISDN BRI (U, S/T)	8 async/sync
8 ISDN BRI (U, S/T)	16 async
1 T1/ISDN PRI	32 async
2 T1/ISDN PRI	1 slot VIC
1 E1/ISDN PRI	2 slot VIC


 WICs

1 serial	1 56/64K CSU/DSU
2 serial	1 T1 CSU/DSU
1 ISDN BRI (U, S/T)	2 async/sync


 VICs

2 voice FXS	2 voice FXO	2 voice E/M
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3600 Network Interface Cards

 Network Modules:

1 Ethernet	1 10/100 Ethernet, 1 T1/ISDN PRI	4 serial
4 Ethernet	1 10/100 Ethernet, 2 T1/ISDN PRI	4 async/sync
1 Ethernet, 2 WAN Slot	1 10/100 Ethernet, 1 E1/ISDN PRI	8 async/sync
2 Ethernet, 2 WAN Slot	1 10/100 Ethernet, 2 E1/ISDN PRI	16 async
1 Fast Ethernet	1 T1/ISDN PRI	32 async
Compression Module	2 T1/ISDN PRI	1 slot VIC
4 ISDN BRI (U, S/T)	1 E1/ISDN PRI	2 slot VIC
8 ISDN BRI (U, S/T)	2 E1/ISDN PRI	


 WICs

1 serial	1 56/64K CSU/DSU
1 ISDN BRI (U, S/T) {WIC-1B}	1 T1 CSU/DSU
1 ISDN BRI (U, S/T) {WIC36-1B}	



 VICs

2 voice FXS	2 voice FXO	2 voice E/M
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4000 Network Interface Cards

 Network Modules:

2 Ethernet	4 ISDN BRI (U, S/T)	2 serial
6 Ethernet	8 ISDN BRI (U, S/T)	4 serial
1 Fast Ethernet	1 T1/ISDN PRI	2 serial, 16 async/sync
	1 E1/ISDN PRI	

 Hubs 

Cisco 1500 series	Cisco 1538, 1538M Micro Hub 10/100
Cisco Micro Hub Stack	Cisco Micro Hub 10/100 Stack
Cisco FastHub 400 series	Cisco FastHub 412, 412M, 424, 424M

 Switches 

Cisco 1548, 1548M Micro Switch 10/100
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**Practice:**

- Design a primitive network of a university with internet connectivity.

**Note:** Network details including device type and IP address ranges will be specified in the lab by the instructors.