

How to configure MB5000 Serial Port Bridge mode

MB5000 has a configurable serial port. With this serial port, MB5000 can be used as DCE device to be connected with Cisco router's console port so that MB5000 can work as a backup WAN link. Here we also illustrate a sample using Cisco 831 router in this document.

Configurations on MB5000

There are only two steps configure MB5000 to work in serial port bridging mode.

1. Set the baud rate for the serial port on the MB5000:

Go to the webGUI->"System"->"Administration" page, in the "General" section, select the proper baud rate to match that of your router (or other dialing devices). The default baud rate setting on MB5000 is 115200bps.

System: Administration

General	
Hostname	<input type="text" value="MA16SG110851"/> <small>Name of the gateway, without domain part</small>
Serial Speed	<input type="text" value="115200bps"/>
ALG plugin	<input type="checkbox"/> SIP <input type="checkbox"/> H.323

Figure 1. Configure the baud rate for serial port.

Click "Submit" button to save the changed settings.

2. Set the Bridge Mode on MB5000:

Go to MB5000 webGUI->"Interfaces"->"Internet access"->"Networking"->"Connection mode":

Connect mode	<input type="text" value="Bridged with Serial"/>
	<ul style="list-style-type: none"> • Auto: Automatically dial up when power up. • Dial on-demand: Dial up when LAN data request to access Internet. • Manual: Manually dial up by client software or from web page.(see the Status:Interface page)
	Disconnect if no data packets sent or received for <input type="text" value="120"/> seconds

Figure 2. Configure Bridge-Mode

Select "**Bidged with Serial**" in the "Connection mode" drop-down menu. You can also specify a number in second to the box below, the PPP connection will terminate automatically if there is no

data traffic on this link. Click the “Submit” button to save the changed settings and then reboot the MB5000 unit following the instructions on the webGUI.

After getting this done, you can attach a DTE device such as Cisco router or PC with a serial cable, and then the PPP dialing can be initiated to dial up to the Internet.

MB5000 will dial up the 3G modem automatically when received a PPP connection request from a DTE device and disconnect it when received a PPP termination, it looks like a transparent modem. You will need to configure the username and the password to your router for the PPP dialing; you can obtain this information from your ISP.

Case Study

Here we will show a sample to illustrate the whole configuration in detail using a Cisco 831 router. The Cisco 831 router has an Ethernet WAN port for use with an external DSL or cable modem to connect to the Internet. For reliable access, the console port on Cisco 831 router can be used for dial backup with an external modem when the primary WAN connection fails.

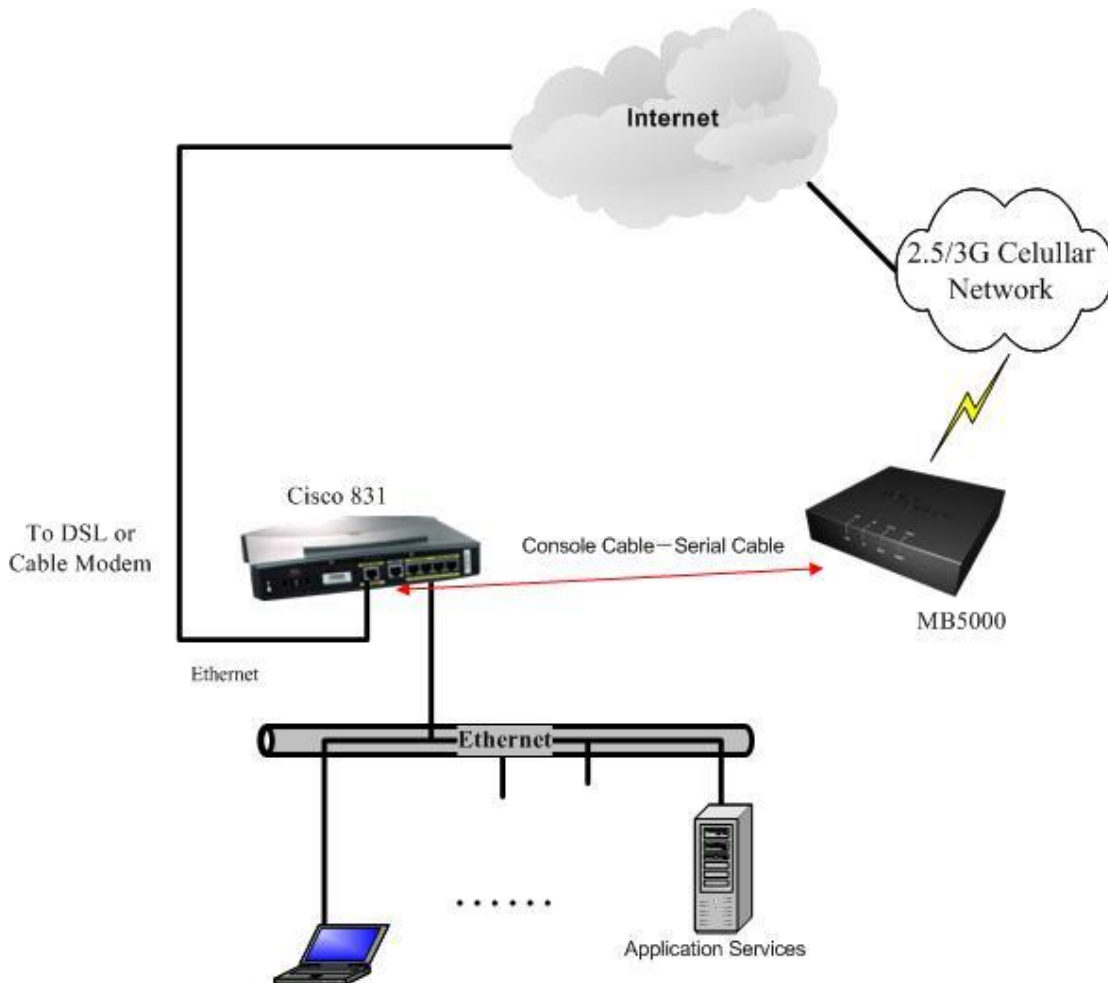


Figure 3. Topologic.

1. Attach a PC or Laptop to the MB5000 and then configure MB5000 to work in serial bridging mode following the instructions in “Configurations on MB5000” section in this document.
2. Connect your PC/Laptop to the Cisco 831 router and configure the router with:

```
!  
version 12.3  
no service pad  
service timestamps debug datetime msec  
service timestamps log datetime msec  
no service password-encryption  
!  
hostname 871-iPass  
!  
boot-start-marker  
boot-end-marker  
!  
memory-size iomem 5  
no logging console  
enable secret 5 $1$/XzI$VY0tY1oNC/sjApP.r3xQE.  
enable password password  
!  
username admin password 0 password  
username card password 0 card  
no aaa new-model  
ip subnet-zero  
!  
!  
ip dhcp excluded-address 192.168.1.1 192.168.1.10  
!  
ip dhcp pool 192.168.1.1/24  
    network 192.168.1.0 255.255.255.0  
    default-router 192.168.1.1  
    domain-name ipass-lab  
    dns-server 4.2.2.2  
!  
!  
ip domain name ipass.com  
ip ips po max-events 100  
no ftp-server write-enable  
!  
!  
interface Ethernet0  
    ip address 10.4.212.1 255.255.255.0  
    ip nat inside
```

```
ip virtual-reassembly
!
interface Ethernet1
  no ip address
  shutdown
  duplex auto
!
interface FastEthernet1
  no ip address
  duplex auto
  speed auto
!
interface FastEthernet2
  no ip address
  shutdown
  duplex auto
  speed auto
!
interface FastEthernet3
  no ip address
  shutdown
  duplex auto
  speed auto
!
interface FastEthernet4
  description Outside Interface
  no ip address
  shutdown
  duplex auto
  speed auto
!
interface Async1
  description Dial backup physical interface
  no ip address
  no ip redirects
  ip local-proxy-arp
  ip nat outside
  encapsulation ppp
  no ip route-cache
  no ip mroute-cache
  dialer in-band
  dialer pool-member 1
  dialer-group 1
  async mode dedicated
```

```
ppp authentication chap callback optional
ppp timeout retry 10
routing dynamic
!
interface Dialer1
description D1: Dial backup to Internet
bandwidth 53
ip address negotiated
ip nat outside
encapsulation ppp
no ip route-cache
no ip mroute-cache
dialer pool 1
dialer-group 1
no cdp enable
ppp authentication chap callback optional
ppp chap hostname card
ppp chap password 0 card
ppp pap sent-username card password 0 card
!
ip classless
ip route 0.0.0.0 0.0.0.0 Dialer1
!
no ip http server
no ip http secure-server
!
ip nat inside source list 1 interface Dialer1 overload
!
access-list 1 permit 10.4.212.0 0.0.0.255
access-list 101 permit ip any any
dialer-list 1 protocol ip list 101
!
!
control-plane
!
!
line con 0
exec-timeout 0 0
logging synchronous
modem enable
transport preferred ssh
transport output all
stopbits 1
speed 115200
```

```
line aux 0
exec-timeout 0 0
modem InOut
no exec
transport preferred all
transport input all
transport output all
stopbits 1
speed 115200
flowcontrol hardware
line vty 0 4
password password
logging synchronous
login
transport preferred ssh
transport input telnet ssh
transport output telnet ssh
!
scheduler max-task-time 5000
end
```

3. Connect the MB5000 unit and the Cisco 831 router with the serial cable. Plug one end of the serial cable (coming with the MB5000 box) to the MB5000's serial port, and the other end connecting with one end of the serial console cable (coming with the Cisco router).

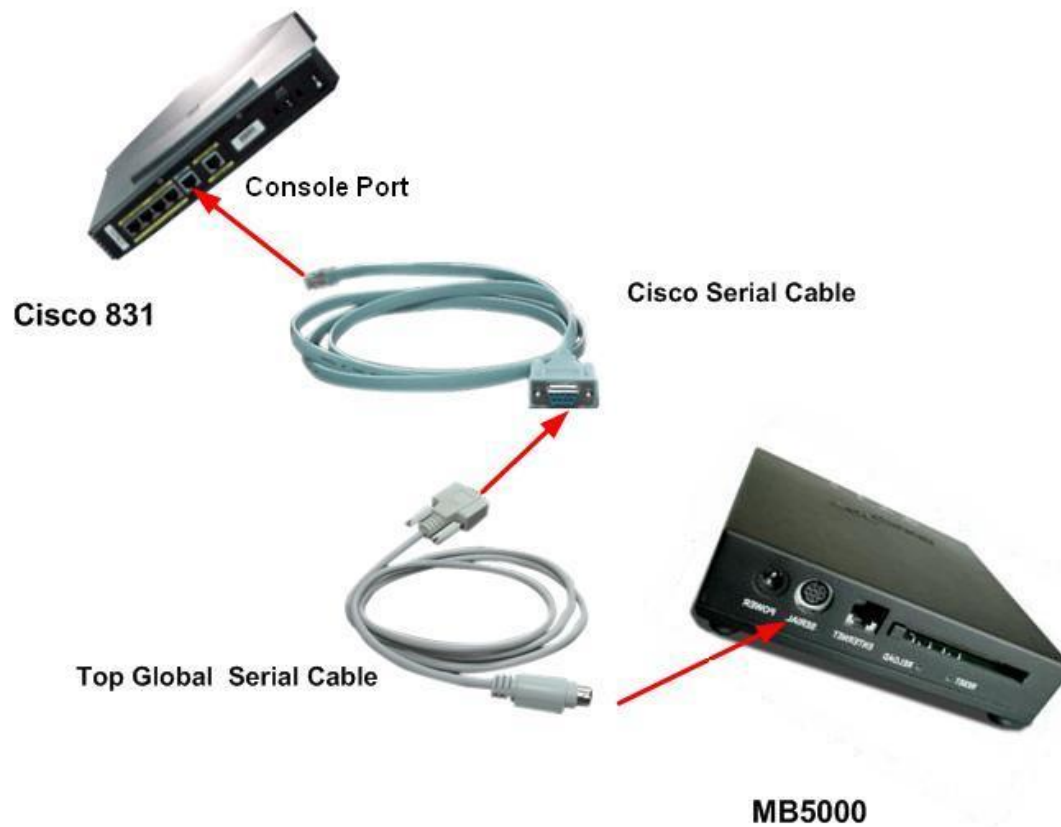
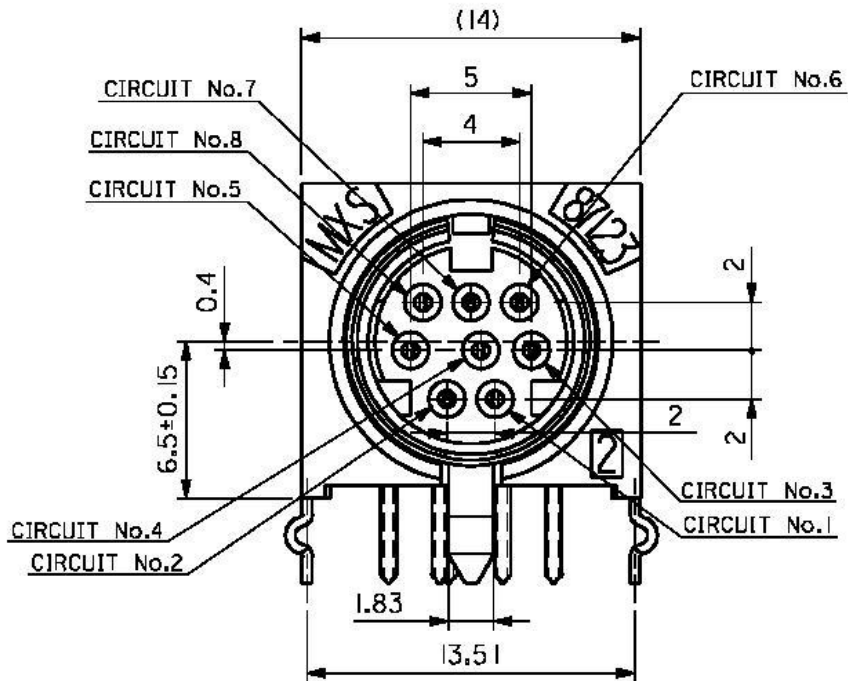


Figure 4. Device connection.

4. Power up the MB5000 and the Cisco router, the Cisco router will dial up via its console port to the Internet when the primary connection fails, and the MB5000 will act as a transparent modem.

MB5000 Serial Connector

MB5000 Serial port connector is MiniDIN 8 pin female socket. Its shape is in following figure.



Pin	Name	Description (From GPS)	Description (From MB5000)
1	DTR	NC	NC
2	CTS	GPS_CTS	MB_RTS
3	TXD	GPS_TXD	MB_RXD
4	GND	GND	GND
5	RXD	GPS_RXD	MB_TXD
6	RTS	GPS_RTS	MB_CTS
7	NC	NC	NC
8	GND	GND	GND