uBR900 Cable Modem Performance Issues

Document ID: 43062

Questions

Introduction

This document addresses common performance−related questions and issues that new owners of uBR900 series cable modems may encounter. For information about other aspects of configuring and using uBR900 series cable modems, consult the following documents:

- Beginners FAQ for uBR900 Series Cable Modem End Users
- Configuring the uBR900 Series Cable Modem
- Connectivity Problems for uBR900 Cable Modems
- uBR900 Cable Modem Error Messages
- Ugrading Cisco IOS Software on a uBR900 Series Cable Modem
- Miscellaneous Questions About uBR900 Series Cable Modems

Q. How is the maximum download and upload rate set on my uBR900 cable modem?

A. When your uBR900 cable modem connects to your service provider's network, a special set of parameters governing the download and upload speeds is sent to the cable modem.

Q. How can I determine what maximum upload and download rates have been configured for my uBR900 cable modem?

A. Assuming that your cable modem is connected to your service provider's network and is online, you can log into your uBR900 cable modem and issue the following commands to view the maximum upload and download rates.

Note: These commands are case−sensitive.

```
Router# show controller cable−modem 0 Mac state | incl Downstream_Rate
Max Downstream Rate: 2000000
Router# show controller cable−modem 0 Mac state | incl Upstream_Rate
Max Upstream Rate: 512000
Min Upstream Rate: 0
Router#
```

In this case, the uBR900 cable modem has a maximum download rate of 2,000,000 bits per second and a maximum upload rate of 512,000 bits per second.

Q. Are there any configuration commands I can use to increase the maximum upload and download rates on my uBR900 cable modem?

A. There are no configuration commands that can be used to increase the service provider−assigned upload or download rate on a uBR900 cable modem. The Cisco Technical Assistance Center (TAC) and other Cisco personnel do not have the ability to change these parameters either.

Note: Most cable service providers would view an attempt to alter the provisioned upload and download limits on a cable modem as a theft of service. In addition, most major cable service providers have measures in place to instantly detect this sort of activity.

Q. At some times of the day, my cable modem experiences connectivity problems or slows down. Why is that?

A. Bring this issue up with your service provider. There may be a source of cable system noise that is affecting your service, or your local cable segment may be overutilized and it might be time for your cable service provider to add more bandwidth capacity to your area.

Q. I am unable to download from the Internet at the maximum download rate set by my provider. Is this because of the uBR900 cable modem?

A. All models of the uBR900 cable modem are capable of downloading data from the Internet at speeds of over 10 Megabits per second, which is the maximum capacity of the Ethernet port. This means that it is highly unlikely that your download speeds would be affected by a performance bottleneck in the uBR900 cable modem.

If you are experiencing slow download rates the most likely reason is that the particular Internet site you are trying to access is busy, or because the cable service provider's network is experiencing congestion.

Q. Only one of the PCs or a small number of the PCs connected to my uBR900 cable modem can get access to the Internet. Why is that?

A. In addition to limits on your download and upload rate, the service provider can also limit the number of PCs or workstations granted Internet access through your cable modem. In most basic levels of service only one PC is allowed access. Note that this limitation only applies when the uBR900 cable modem is in default bridging mode, not in routing mode.

Assuming that your cable modem is connected to your service provider's network and is online, you can log into your uBR900 cable modem and issue the following commands to view the allowed number of PCs and workstations allowed to be simultaneously connected to your uBR900 cable modem.

Note: These commands are case−sensitive.

```
Router> enable
Router# show controller cable 0 Mac state | incl CPE
  Maximum CPEs:             5
Router#
```

In this case, the uBR900 cable modem is allowed to support up to five connected PCs at once.

Another potential issue is that in versions of Cisco IOS® Software before Release 12.0(5)T, a uBR900 cable modem would only recognize the first three PCs connected to the Ethernet hub port, and would only pass traffic for those three devices. In order to have the uBR900 cable modem pass traffic from more than three PCs or workstations, upgrade the Cisco IOS Software on your uBR900 cable modem to Release 12.0(5)T or later. See How do I upgrade the Cisco IOS Software that is running on my uBR900 cable modem? for details on how to upgrade Cisco IOS Software.

Q. How can I find out how many PCs are allowed to gain Internet access through my uBR900 cable modem?

A. If your uBR900 cable modem is in routing mode, then there is no real limit to the number of workstations that are allowed to access the Internet through the modem.

If your uBR900 cable modem is in default bridging mode, then please see Only one of the PCs or a small number of the PCs connected to my uBR900 cable modem can get access to the Internet. Why is that? for details on how to determine the number of PCs allowed to connect to the Internet through your cable modem.

Q. My service provider is allowing me to connect multiple PCs to my cable modem, but only about three can get through at a time. Why is that?

A. Please see the answer for Only one of the PCs or a small number of the PCs connected to my uBR900 cable modem can get access to the Internet. Why is that?.

Q. Are there any configuration commands I can use to allow more workstations or PCs to connect to my cable modem?

A. If the uBR900 cable modem can be configured for routing mode, then any number of

workstations may connect to the Internet through the cable modem; however, you need to make special arrangement with the service provider or run Network Address Translation (NAT) in order to use routing mode.

If your uBR900 cable modem is in default bridging mode, then there are no configuration commands that can be used to increase the number of PCs or workstations allowed to connect to the service provider's network. The Cisco Technical Assistance Center (TAC) and other Cisco personnel do not have the ability to change these parameters either.

Note: Most cable service providers view an attempt to alter the provisioned maximum allowed number of PCs allowed to connect through a cable modem as theft of service. In addition, most major cable service providers have measures in place to instantly detect this sort of activity.

Q. I was accessing the Internet using one PC, and now I want to use a different PC. This new PC cannot get Internet access. How can I fix it?

A. Try the following procedure:

1. Disconnect the old PC from the uBR900 cable modem.
2. Power cycle your uBR900 cable modem (in other words, remove the power connector for ten seconds and then plug it back in).
3. With the second PC turned off, connect the second PC to the uBR900 cable modem.
4. Turn on the second PC.

The reason that you may have to perform this procedure is that the uBR900 cable modem always remembers the identity of the first PC plugged into it after the modem is powered on. If the cable service provider has provisioned the uBR900 cable modem to only allow one PC access to the Internet, then it only allows this first PC through. The only way to make the uBR900 cable modem forget about the first PC is to power cycle it or to reset it using the **reload** command.

If this procedure does not work and your new PC still cannot get Internet access, then it may be that the cable service provider's equipment has remembered your old PC's identity and only allows the old PC access to the Internet. If this is the case, call your service provider and ask them to clear their equipment's record of your old PC. Alternatively, you can disconnect all PCs from your cable modem and wait about four hours and the service provider's equipment automatically forgets about your old PC. At this stage, connect your new PC to your cable modem and proceed online.

If you plan to regularly swap PCs, then you may need to speak with your service provider about changing the service parameters for your cable modem to allow multiple PCs Internet access.

One other factor to consider when swapping PCs is that some service providers maintain records of the MAC address and name of PCs that you are allowed to connect to your cable modem. If your service provider is in this category, then you may always need to call your cable service provider before being able to swap an old PC for a new one.

Related Information

- Broadband/Cable Solutions
- Cisco uBR900 Series Software Release Notes and Features
- Cable Solutions

- Technical Support − Cisco Systems

Updated: Oct 31, 2008 Document ID: 43062