APC APPLICATION NOTE #91

Alternative Network Connectivity Options for APC NetBotz Monitoring Appliances

By Peter Kokolski

Abstract

All APC NetBotz monitoring appliances come standard and ready to connect to a 10/100 Ethernet port. While this is the predominant connection for the vast majority of customers operating in the data center space., for some locations, customers may require a different network connection type. Additionally, in the alternative, the customer may desire a backup communication link in the event the Ethernet connection is lost in a "lights out" scenario.

Introduction

With the introduction of the next generation NetBotz appliances, the availability of out of band management has been improved with an enhanced listing of devices compatible with the NetBotz appliance. The devices with USB ports support a variety of 3rd party devices to achieve this communication. All supported third party network cards can be plugged into these slots for non-Ethernet connections. The NetBotz 550, NetBotz 450, and NetBotz 455 have USB ports and supported external USB connections devices can be connected to these ports. The NetBotz 355 supports the wireless LAN connection only.

Of these alternative network connections, wireless LAN and wide-area wireless are discussed herein.

802.11 b/g Wireless LAN

The original WiFi, 802.11b, supports communications at up to 11Mbits/sec. Most organizations now use 802.11g wireless LANs, which provide bandwidth of up to 108Mbits/sec. 802.11b/g operates in the 2.4-GHz band and allow the distance between the access points and clients to be up to 300 feet.

The NetBotz appliances support wireless LAN connections via the TCP connection on the NetBotz appliance that support the 802.11b/g standards. To help customers protect their investment in client cards no matter which wireless LAN standard is being used, several manufacturers offer multimode cards, for example 802.11a/b/g cards. The NetBotz appliances support the following multi-mode wireless LAN devices:

Wireless Adaptor:

D-Link DWL-G820 Wireless Adaptor: Provides 108 Mbps connectivity in the 2.4GHz bands. Supports up to 152 bit WEP, and WPA-TKIP and WPA-PSK.

GSM/GPRS Wireless Modem

GSM (Global System for Mobile communications) support enables NetBotz 55x and 45x appliances to transmit alerts using SMS (Short Message Service), a popular method of transmitting messages between mobile phones. When a supported GSM/GPRS modem is installed in the NetBotz appliance, an additional alert action becomes available to the user, "Send Wireless SMS Message". This action will use the GSM modem to deliver an SMS message directly over the mobile phone network, with no IP gateway required. Use of a GSM/GPRS modem to send SMS messages requires SMS messaging to be supported by the customer's mobile phone service and account. The GSM card also can send alerts and sensor data to IP destinations (e-mail, SNMP, HTTP post, FTP) via the GPRS data protocol.

The NetBotz 55x and 45x supports the following GSM/GPRS modems via the available USB connector. Both of these devices are Tri-band (EGSM 900, GSM 1800, PCS 1900), enabling support on many GSM networks worldwide.

- Multi-Tech MultiModemGPRS
  - Model: MTCBA –G-U-F2
  - Model: MTCBA –G-U-F4
- Option GlobeSurfer iCON

Analog Modem

Similar to GSM/GPRS Modems, analog modems can be used to transmit data via a phone line. You can enable your APC NetBotz 55x or APC NetBotz 45x appliance to use a standard analog telephone line to transmit alerts and sensor readings from locations that do not have dedicated network connectivity.

The NetBotz 55x and 45x supports the following analog modems via the available USB connector.

- MultiMobile USB
  - Model: MT5634MU
  - Model: MT5634ZBA

About the Author:

Peter Kokolski is the director of engineering for embedded technologies in the data center solutions group at APC by Schneider Electric. Peter is a 17 year veteran of the electronics industry and has worked in commercial, semiconductor, medical and military fields as an engineer and consultant. He received his Bachelor's degree in Electrical Engineering from Northeastern University in 1991, and is completing his JD coursework currently at Concord University School of Law. Peter is a member in good standing of IEEE and ASTQB