APC APPLICATION NOTE #105

Monitoring Third-Party Devices with APC NetBotz® Appliances and InfraStruXure® Central

By Peter Kokolski

Abstract

This Application Note details the third-party devices that can be monitored with APC NetBotz environmental monitoring appliances and InfraStruXure Central. This list is not intended to be exhaustive, but rather an introduction to the spectrum of 3rd party devices than can be monitored by the NetBotz appliances either as a stand alone appliance, or as part of a larger Network Management System including InfraStruXure Central.

Introduction

All APC NetBotz appliances support expandability through physically connected external sensors and devices. In addition to their built-in universal sensor ports, the APC NetBotz 45x and the APC NetBotz 55x appliances also feature USB ports which can be used to connect a wide variety of NetBotz-branded and supported third-party options and to enhance the functionality of your NetBotz appliances.

Further, NetBotz appliances and InfraStruXure Central include the ability to monitor supported, network-attached third-party devices using Simple Network Manage Protocol (SNMP) and Intelligent Platform Management Interface (IPMI).

Supported Third-Party Options

Network interfaces – WiFi (802.11 b/g)

You can add a wireless network interface to your APC NetBotz appliance using the following wireless adaptor:

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.

©2007 American Power Conversion. All rights reserved. No part of this publication may be used, reproduced, photocopied, transmitted, or stored in any retrieval system of any nature, without the written permission of the copyright owner. *www.apc.com* Rev 2007-0

Legendary Reliability®

Network interfaces – GSM/GPRS modems

You can enable your APC NetBotz 45x or APC NetBotz 55x appliance to send alerts via SMS, alerts and sensor data via GPRS, and communicate out-of-band during network outages using their integrated USB port, and one of the following supported adapters:

USB (for use with the NetBotz 45x or 55x):

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

Network interfaces – dial-up

You can enable your APC NetBotz 45x or APC NetBotz 55x appliance to use a standard analog telephone line to transmit alerts and sensor readings from locations that do not have dedicated network connectivity connecting, via the integrated USB port, one of these supported analog modems:

- MultiMobile USB
  - o Model: MT5634MU
  - o Model: MT5634ZBA

Serial-based digital I/O devices

These devices enable you to expand the number of dry contact sensors you can connect to your APC NetBotz appliance, or add multiple relay outputs that can be controlled using your APC NetBotz appliance. See AN-134 for specific details.

- SeaLevel Systems: Sealevel SeaI/O 462U (adds 96 digital I/O connections): Greatly increase the number of dry contact sensors that can be connected to your APC NetBotz appliance by connecting the Sealevel SeaI/O 462U to an integrated USB port.
- SeaLevel Systems: SeaLINK Sea I/O-450U Relay Adapter (adds 6 digital I/O connections): Send relay signals to external devices using the SeaLINK Sea I/O-450U Relay Adapter.

Assorted deployment devices

All NetBotz appliances support a variety of other options that can greatly enhance your ability to deploy these devices in your environment. Supported deployment options include:

- APC Power Over Ethernet (PoE) Injector, NBAC0303: Allows a PoE enabled NetBotz appliance to be used with a non-PoE Ethernet switch.
- APC Temperature, humidity, vibration, particle, leak, and dry contact sensors.

©2007 American Power Conversion. All rights reserved. No part of this publication may be used, reproduced, photocopied, transmitted, or stored in any retrieval system of any nature, without the written permission of the copyright owner. *www.apc.com* Rev 2007-0

Legendary Reliability®

- Third party products that support the industry standard 0-5V and 4020mA analog standards.

Intelligent Power Management Interface devices

APC NetBotz appliances feature the IPMI Devices task, which enables you to monitor the internal conditions of network-attached Intelligent Platform Management Interface-enabled devices. IPMI is a standard specification for servers, supported by over 150 server manufacturers, that enables you to monitor internal server hardware conditions (such as processor temperatures, fan speeds, and power supply voltages) and allows you to perform system management tasks such as turning servers on/off, power cycle, soft shut down, or CPU reset. Once the IPMI-enabled devices are added to the APC NetBotz or, they will appear in the Navigation pane of both the Basic and the Advanced View. In addition you will have the ability to set thresholds, monitor alerts, and graph data reported by the IPMI interface (such as system temperatures, voltages, fans, power supplies, bus errors, system physical security, and so forth), just as with pods and other sensors. By default, each APC NetBotz appliance is licensed to monitor a single IPMI-enabled device. Device Monitoring (Five Nodes) Pack enables you to monitor up to 5 SNMP/IPMI devices from a single NetBotz appliance. By default, the InfraStruXure Central server is licensed to monitor up to 25 network-attached devices. Additional Device Pack license key upgrade are available that enable you monitor up to 4025 unique devices.

SNMP devices

APC NetBotz appliances feature the Device Scanners. Similar to the Device Crawlers available in the older generation NetBotz appliances, Device Scanner enables you to configure your devices to monitor the general status information of SNMP targets. By default, each APC NetBotz appliance is licensed to scan advanced Device Definition Files (DDF) on a single SNMP target. Device Monitoring (Five Nodes) Pack enables you to monitor up to 5 SNMP/IPMI devices from a single NetBotz appliance. By default, the InfraStruXure Central server is licensed to monitor up to 25 network-attached devices. Additional Device Pack license key upgrade are available that enable you monitor up to 4025 unique devices.
At present, DDFs for 3rd party equipment from a wide spectrum of data center and network closet vendors and organizations are available.

©2007 American Power Conversion. All rights reserved. No part of this publication may be used, reproduced, photocopied, transmitted, or stored in any retrieval system of any nature, without the written permission of the copyright owner. *www.apc.com* Rev 2007-0

APC® Legendary Reliability®

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

©2007 American Power Conversion. All rights reserved. No part of this publication may be used, reproduced, photocopied, transmitted, or stored in any retrieval system of any nature, without the written permission of the copyright owner. *www.apc.com* Rev 2007-0