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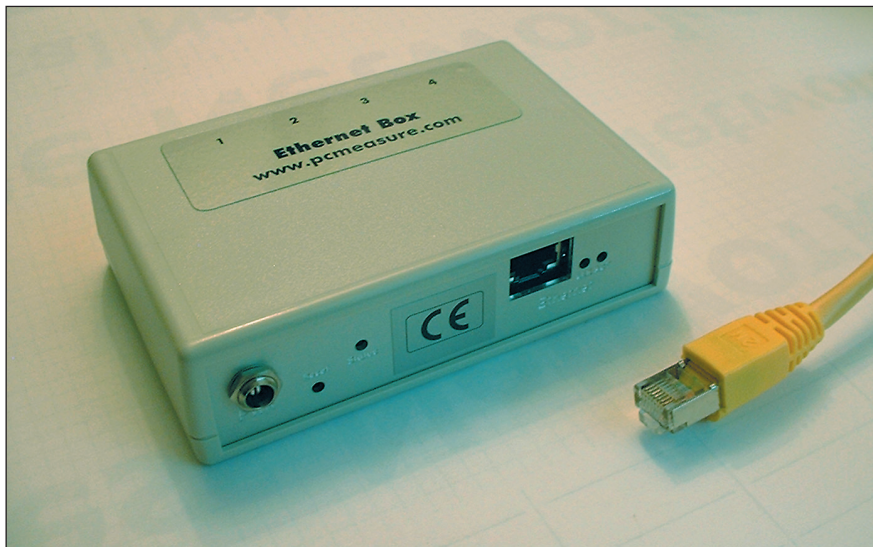
**Review:
PCMeasure
from Better Networks
Modular Monitoring System**

**Reprint for
Better Networks**

Review: PCMeasure from Better Networks

Modular Monitoring System

In some computer environments it is practical to monitor parameters such as temperature and humidity, or even movements of staff in specific areas. There are many different solutions for this, above all from computer centre equipment vendors. However, most of these products are relatively expensive and are often restricted to a single track. This is where PCMeasure from Better Networks comes in as a software-based modular and low-cost monitoring system for computers and their environments with a large number of sensors.



The Ethernet box of the PCMeasure System

A PCMeasure system consists of a large number of sensors and other monitoring components for different tasks. In contrast to other monitoring products, the system works with standard PCs and does not require an appliance that manages the sensor centrally. This means that users who need only a single sensor simply have to buy this one sensor and the PCMeasure software and can then use the product in combination with any computer in the network. The

sensors are connected to the serial or parallel ports of a PC, the control software works under Linux and Windows. The scalability upwards is practically unlimited. Because the software makes the measured values from the sensors available in the local network, parameters that are measured at different locations can be monitored at a central workstation. If the PC interfaces are required for other applications, the administrator can also acquire a so-called Ethernet box, to which

the sensors can be connected directly and that also makes the measuring results available in the network.

Test

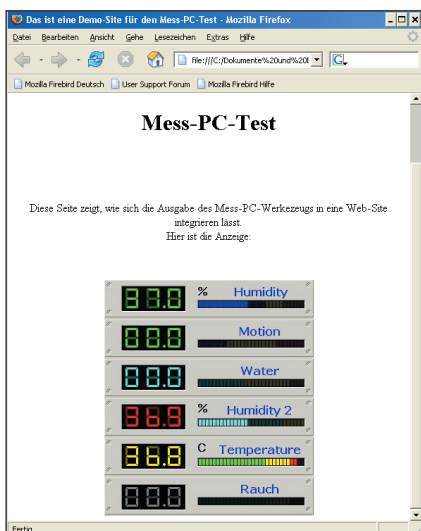
For the review, Better Networks, the manufacturer, provided us not only with the software for Linux and Windows but also with an Ethernet box with the following components: sensors for measuring temperature and humidity, voltage detector, contact sensor for connecting a switch, smoke alarm, water detector, movement sensor, switching module and an optical signal. In addition, there was a temperature sensor for installation in a PC that can measure the computer's internal temperature.

All the sensors can be connected to either PCs or the Ethernet box. There is no need to buy special components for different situations or applications. In the test, we first started the Ethernet box, which has a total of four connectors, and then connected the remaining sensors to different computers in the network. According to the manufacturer, the distance between the Ethernet box and the sensors can be up to 100 meters for measuring the temperature; distances of up to 300 meters are possible with other components. Because the sensors work with RJ-45 plugs, the connections can be made through existing Ethernet cables. There is therefore no need to run your own cables. The connection to the computer's serial and parallel ports then runs over an adaptor.

The manufacturer has preconfigured standard environment sensors on the Ethernet box that can measure both the temperature and the humidity. Because these multifunctional sensors supply several measured values, the box supports a total of eight input/output signals. This figure can be increased to twelve with an extension panel. If sensors other than the preconfigured environment sensors are to be used, the administrator has to indicate what they are manually through the box's

web-based configuration tool. The system does not detect the sensors automatically. For the test, along with the environment sensors referred to, we connected a water detector, a movement sensor and a pure humidity sensor to the Ethernet box, then connected the product to the test-LAN and accessed the box through the default IP address 192.168.1.199.

The manufacturer has kept the web interface to a minimum and it works with three sections. “Show” shows the current sensor values, “Setup” enables the configuration of the box, and “Info” provides details of the firmware version used and a link to the manufacturer. As most users will inspect the sensor values using the more comfortable PCMeasure software, only the setup area is really of any interest. Here the administrators indicate which components were connected to the box and where, configure the network settings and issue the access password. In addition, they can carry out the SNMP configuration and set the temperature unit that is used (Celsius, Fahrenheit or Kelvin). With regard to sensor types, the box supports temperature, brightness, humidity, switch contact (for sensors that supply binary in/out signals only, such as the movement detector and the water or smoke detectors) and power detector.



An example of how the output of the PCMeasure software can be integrated into websites

After the right sensor types were configured the box delivered correct values and this part of the installation was concluded.

Sensors at the PC

Our next step was to distribute the remaining sensors to various test computers. Because the software supports four serial and three parallel interfaces, and up to four sensors can be connected to each interface, a maximum of 28 sensors can be operated by a computer. However, this scenario will tend to be the exception, as the system's strength lies in the administrator being able to distribute their sensors anywhere in the network while still being able to record the sensor data at a central point.

After the physical connection of the sensors to the test computer the next thing was the installation of the software. The Windows version can be used both as a client and as a server. This means that it runs on measuring stations in the background, transmits the sensor data via the network and at the same time compiles the information coming from the network on the central monitoring station and displays it. It is possible to configure threshold values, generate automatic alerts and log the measured values.

Installing the solution is extremely easy: all that has to be done is to unpack the archive downloaded from the manufacturer's website into any folder and then start the program. With the Windows solution we also applied an update, in order to obtain the software version 3.35 that was current at the time of the review. This also is done by unpacking the archive into the program's folder. This step is unnecessary with the Linux version 1.40. On the other hand, this version does not have the full functional scope of the Windows version. It only works as a server that provides the measuring data in the network, and it does not support alerts either. If users want to employ the PCMeasure system in pure Linux

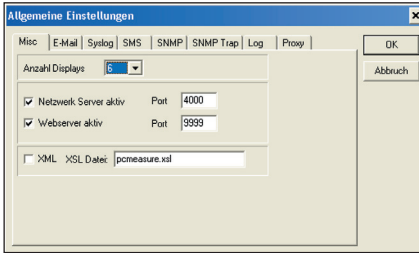
environments, they will have to write scripts that take over the alert functions. In our test scenario, the solution was used under Suse Linux 9.1, Windows Server 2003 and Windows XP Professional SP2. There were no problems. According to the manufacturer, the software also supports the Windows 98, Windows NT and Windows 2000 operating systems.

Configuration

As with the Ethernet box, the administrators also have to indicate with the software product which sensors are connected to which interfaces. Some sensors require the input of a sensor code that is found in the accompanying documentation or under www.messpc.de/sensorcodes.php. After this is done, the software makes the measured values of the sensors indicated available in the network. To reduce the processor load, the manufacturer recommends deactivating the interfaces of the computer that are not used under “Properties”, “Hardware”. If the program is only used as a client, all interfaces should be deactivated, because in this case the data arrives through the network.

In the next step, the administrators define which display is to show which sensor values on the monitor. The program supports twelve displays. If more sensors are working in the network, several instances of the software can be used in parallel. In addition, the colors of the displays can also be adjusted. It is also possible to correct the displayed value by an offset. This makes sense, for example, if an unfavorable sensor positioning has to be compensated. The sensor data that supply the information source for the respective display can, as mentioned above, come from both the local computer and from the network. In the latter case, the administrator also has to enter the IP address of the server in addition to the serial or parallel port that is used.

Access to the software from outside can also be realized through a browser as well. Where required, users can also access



The configuration interface of the PCMeasure software should not present any significant problems to anyone

individual displays, for example, to integrate the output of the sensor values into a website. The free tool SNMP-View (www.snmpview.de) can also log the measuring results. In addition, after each update of the display the system writes the data to an XML file, which can then be processed as required. The MRTG tool (people.ee.ethz.ch/~oetiker/webtools/mrtg/), which is also free, offers the opportunity to request the PCMeasure values and display them in a graph. The information required for working with this solution can be found at www.messpc.de. The rest of the configuration covers setting the threshold values for the sensors, adjusting the display and indicating the parameters for the alerts. PCMeasure sends alerts per e-mail (here the

system also supports SMTP servers with authentication), per SMS through a provider account, per SNMP or to a syslog host in the network. In our test, no problems occurred with any of the alert functions.

Summary

In the test the PCMeasure system proved to be extremely flexible and reliable. The solution's modularity should be particularly stressed, because it allows users to adapt their monitoring environment to their requirements and in this way to save resources, time and money. The software costs EUR 30, sensors are available between EUR 16 for a contact sensor and EUR 111 for a combined environment sensor. This means that this product is probably without competition with regard to the price. The documentation as well leaves hardly anything to be desired. In future it might be worthwhile to extend the system so that it detects automatically which sensor was connected to which port.



Götz Güttich/gh

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Product

Modular monitoring system for computers and data centers

Advantages

- > Modular architecture
- > Low Price
- > Easy to use
- > Extremely flexible

Disadvantages

- > System does not detect the connected sensors automatically

Manufacturer

Better Networks
+49 (0) 35954/53396
www.pcmeasure.com

Price

Software: EUR 30
Sensors: between EUR 16 und EUR 111
Ethernet box: EUR 189

PCMeasure

The magazine IT-Administrator has tested the PCMeasure system and published a multi-page report.