



# ServersCheck

## BTS Monitoring Appliance – Quick Overview

This document is intended to make you familiar with the ServersCheck BTS Monitoring Appliance

**Although it is possible, we highly recommend not to install other software on the device as it might interfere with the Monitoring Software the device was designed for. Installing other software will void the warranty and support for the device.**

### 1. About the BTS Monitoring Appliance

The ServersCheck Monitoring Software requires a Windows based system to run on. With the appliance customers get a custom built similar to a PC. Everything is preinstalled so that customers don't have to worry about drivers to download, installs or even compatibility issues.

#### 1.1 XPEEmbedded

The device runs on XPEEmbedded. XPEEmbedded (XPe) is a special version of the traditional XP Professional Operating System that most people are familiar with. XPe is tuned to match requirements of the system it is designed for so that the ServersCheck software & hardware can run on this device in the best possible conditions.

XPe has also a much smaller footprint compared to traditional XP versions making it suitable to run on smaller devices such as the ServersCheck Monitoring Appliance.

By default the appliance is set to following administrator username and password:

- Username: **Administrator**
- Password: **serverscheck**

#### 1.2 Monitoring Software

The version of the ServersCheck Monitoring Software loaded onto the device is the Business 100 Edition. Not only the Operating System but also the monitoring software has been optimized for the appliance.

License files required for the software to run are preinstalled. A license file is linked to the version it was issued for. If you want to upgrade the appliance to a higher version, then you need to obtain a new license file. You can request this from following url:

<http://www.serverscheck.com/helpdesk>

If you do not yet have a helpdesk account, then following the link to request one. One will be issued by the next business day or even sooner.

This guide covers the basic installation and features of the appliance. Fine tuning settings, adding monitors, alerting capabilities, environmental monitoring and other information is available from our online user manual (wiki) at:

<http://wiki.serverscheck.com>

The Monitoring Software runs as a service on the appliance. This means that a user does not have to be logged on to the system to use it and that it is automatically started whenever the appliance is (re)booted.

### 1.3 Other preinstalled software

Next to the Monitoring Software, the following software is installed on the device:

- Firefox 3 as web browser (no Internet Explorer on board)
- Drivers for Huawei E1552, E169 & E180 modems
- Drivers for USB ServersCheck environmental sensors
- Drivers for ServersCheck Signal Tower
- Drivers for LCD Display (Crystalfontz 634 USB)
- .NET 1.1 Framework for ServersCheck's environmental sensors & security appliance

By having all drivers preinstalled, the user of the appliance does normally not have to look for compatible drivers for the hardware purchased from ServersCheck (hardware available at the time of purchase). Hardware released by ServersCheck after the purchase of the appliance may require additional drivers which are then made available to the user of the appliance through a special url linked from in the online wiki at <http://wiki.serverscheck.com>

**By default the Windows Firewall is enabled and blocks all inbound connections including those on port 1272. You need to disable the Windows Firewall or allow incoming connections on port 1272 (see further in this document)**

### 1.4 BTS check types

In this document we will not focus on the different BTS check types supported by the appliance. Instructions on configuring can be obtained from the main documentation website: <http://wiki.serverscheck.com> (under the section of Monitoring Software)

## Visual Product Tour



The front part of the appliance consists of following (from left to right):

- Blue led display indicating if appliance is running or not
- Yellow led display for disk I/O activity – SSD enabled appliances have no led shown
- Gray power button – when running and pressed, it will initiate a shut down cycle. Press for 4 seconds and power will be interrupted (which may cause hard disk damage)
- USB port to connect modem for end-user simulation



The rear consists of following (from left to right):

- Plug for power adapter and main power switch under it (under DC-IN 5V label)
- PS2 port for Keyboard
- PS2 port for mouse
- USB Port for second modem with SIM of competitor's network – this is the alerting modem
- RJ45 port for Ethernet cable (10/100)
- VGA cable to connect screen
- Sensor 1 RS232 for connecting first sensor (temperature & humidity or flooding)
- Sensor 2 RS232 for connecting second sensor, security bus or fuel level sensor

When starting up the device, you first need to power through the back button (the dot side of the button pushed in) and then click on the power button on the front.

## 2. Getting Started

### 2.1. Connecting to the appliance

By default the appliance gets its IP address from the DHCP server in your network. Check on your DHCP server which IP address was attributed to the appliance. The appliance's name broadcasted to the DHCP server is: **SERVERSCHECK-AP**

If you don't have a DHCP server or if you want to set the IP address manually then you need to do exactly the same as for setting an IP address on a normal XP machine. See section 4 on how to connect to the appliance.

### 2.2. Accessing the ServersCheck Monitoring Software

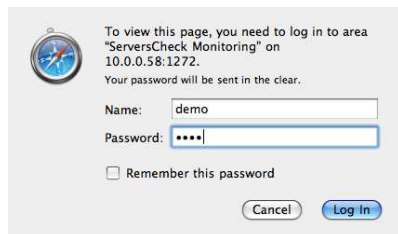
The ServersCheck Monitoring Software is a browser and sms based software. For the SMS feature a GSM modem is required (best connected to the USB port on the back of the appliance). See the Falcom Samba Quick Install Guide on [wiki.serverscheck.com](http://wiki.serverscheck.com) for configuring the GSM modem.

To connect to the appliance, open a browser on your pc and point it to the IP address of the appliance followed by **:1272** as the software runs on port 1272. **By default the Windows Firewall is enabled and blocks all inbound connections including those on port 1272. You need to disable the Windows Firewall or allow incoming connections on port 1272 (see further in this document)**

In the example below the IP address of the appliance is 10.0.0.58



You will be prompted for a username and password once a connection is made to the ServersCheck web server.



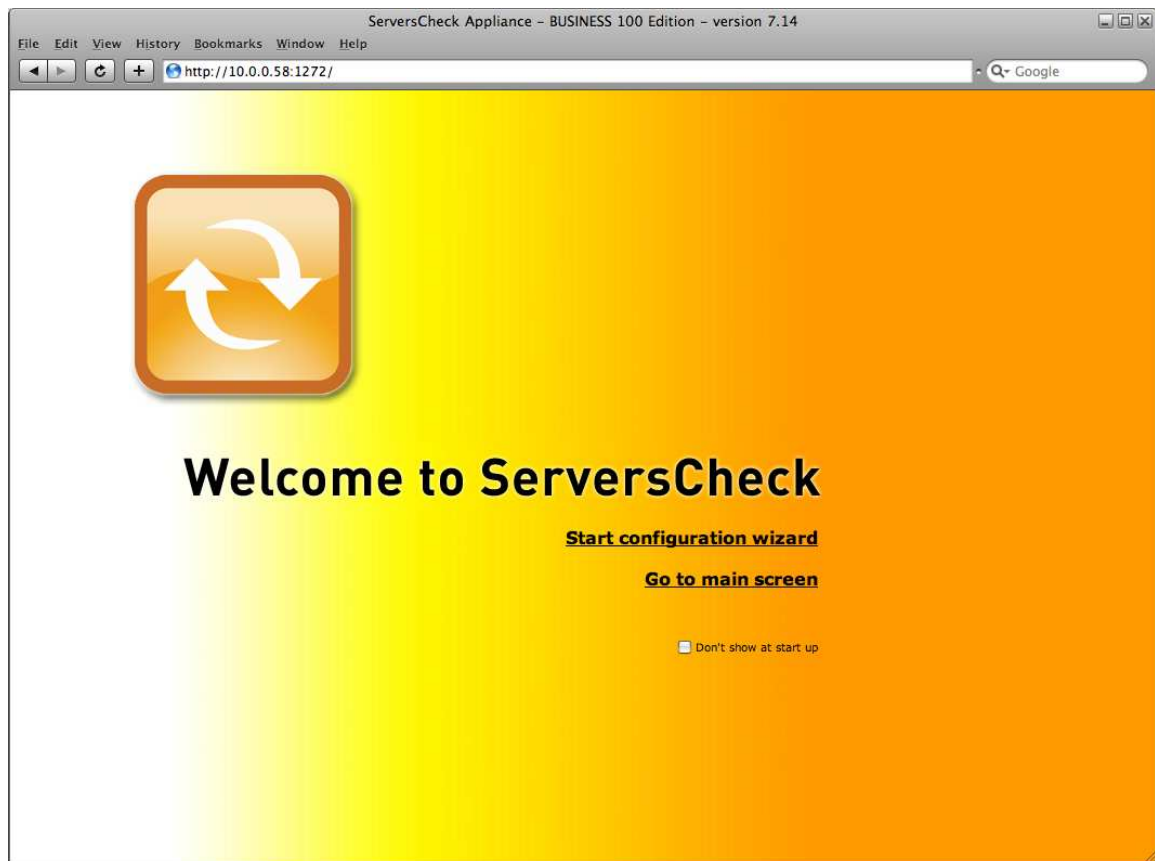
Default settings for the Monitoring Software are:

- Username: **demo**
- Password: **demo**

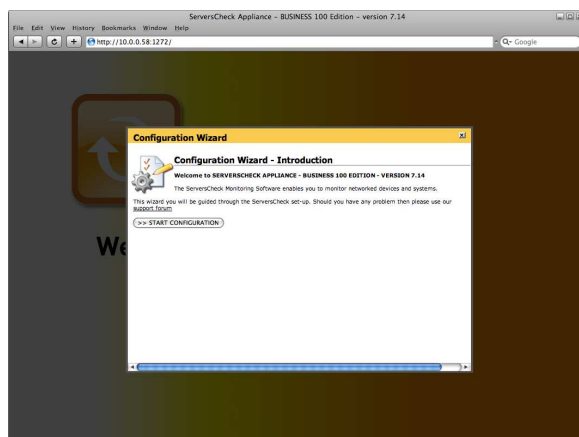
**TIP:** username and password are case sensitive. If the web server still does not authenticate then logon locally to the server using the preinstalled Firefox browser. By default it will open the url <http://localhost:1272>. When the webserver is accessed locally, then no credentials are required.

The explanation of the configuration as outlined next is done assuming that your ServersCheck installation is in English.

Let's start by performing a first time configuration of the software to set the alerting options.



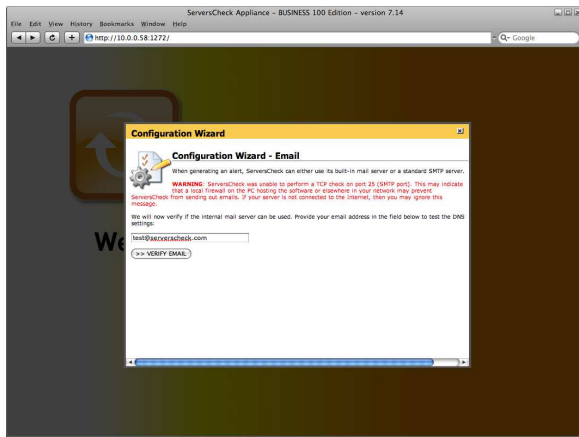
Click on **Start configuration wizard**



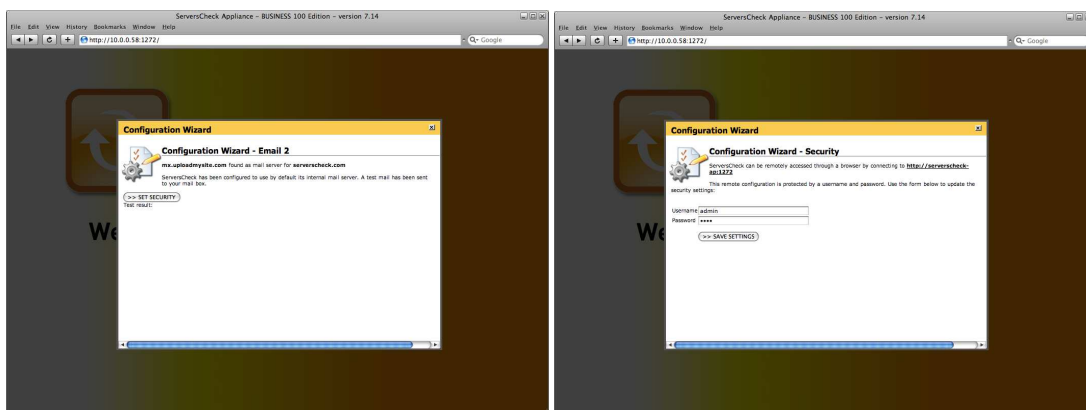
Click on the **Start Configuration** button

After clicking that button it might take a few moments as ServersCheck will try to verify if it can send out emails on port 25. Many ISP's block port 25 to outside mail servers and only allow them to use their own SMTP server (typically in the format of **relay.isp.com**).

We are now going to submit our email address so that the software can verify if it can use its built-in mail server.



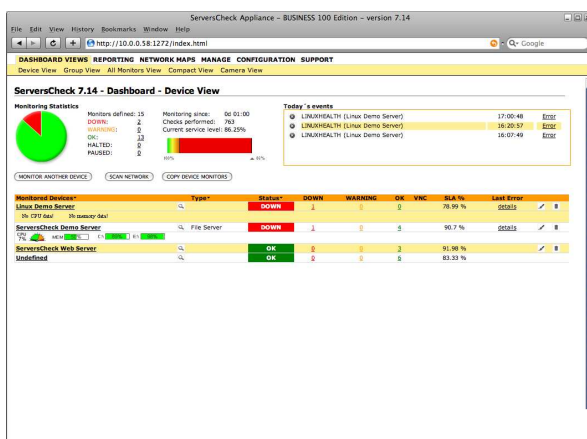
If the test fails or if you do not receive the test email then you need to manually configure to the outgoing mail server. See later in this document on how to set this.



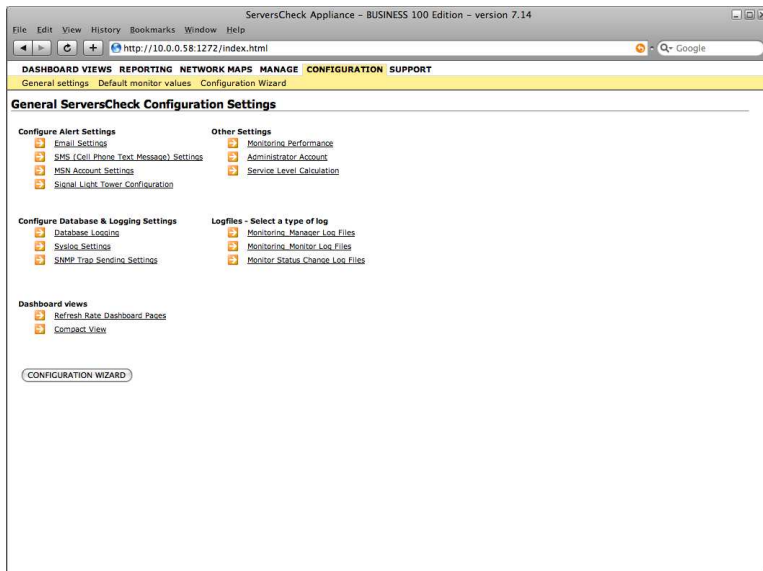
Click on **Set Security**. This brings us to the page where we can change the default username and password to access the software. Set it to match your preference.

The configuration wizard is now complete. Click on the **Go to main screen** hyperlink

You will now be shown the Device View which is the default screen of the appliance. If you just use the appliance for environmental monitoring, then click on **All Monitors View**

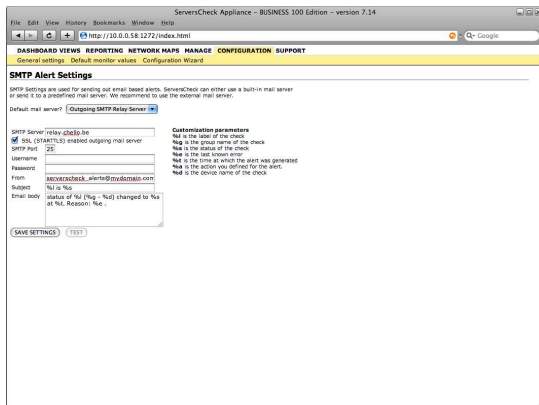


To modify some of the general settings you made earlier, simply click on **Configuration** and then on **General Settings**. In the General settings you can also customize the layout of alerts to match your requirements.



### 3.3. Email Alert Settings

Click on **Email Settings** to modify the email alerts. Best is to set the software use the same outgoing mail server as you use for your mail client. In smaller organizations this is typically something like **relay.mysp.com**

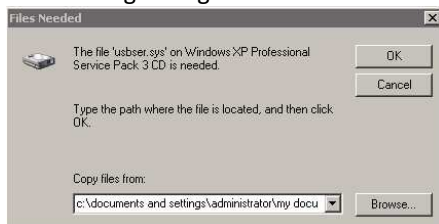


The body of the email alerts can be customized so that you can add custom text into it, modify the subject or whom it is sent from. If your outgoing mail server requires authentication, then make sure to set it as well.

Alternatively the system can also use its built-in mail server to send email alerts. Make sure to test it so that are sure that your network and ISP allow software to send email messages directly out to target mail servers. ISP's tend to block this to avoid that bots or similar can send out spam through their network.

### 2.4. SMS Alert Settings

See the Falcom SAMBA Quick Install Guide on <http://wiki.serverscheck.com> for configuring the SMS alert settings using the Falcom SAMBA GSM Modem.





When connecting the GSM modem for the first time, you might get an error message stating that the usbser.sys can't be found. Click on the **Browse** button and point to the `c:\Windows\System32\drivers` directory

### 3. Administrating the appliance

As mentioned previously in this guide, the appliance runs on Windows XP Embedded, part of the XP product family. XPe is a special version of XP that is supported by Microsoft for special appliances like the one you have.

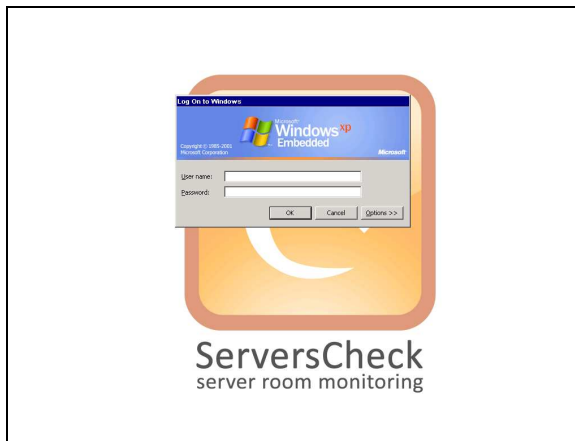
It is administrated in the same way as any other XP based PC. You can connect to the appliance in 2 ways:

- 1/ connecting a monitor, keyboard and mouse to the appliance and use it like a normal PC
- 2/ creating a remote desktop connection to the appliance

#### 3.1. Connecting to the appliance as a normal server



On the back of the appliance you can connect a monitor using a standard VGA cable, a PS2 keyboard and a mouse. If you don't have a PS2 keyboard then you can also use an USB keyboard using the USB port on the front. When connected you will be prompted with a standard windows login screen as shown below.



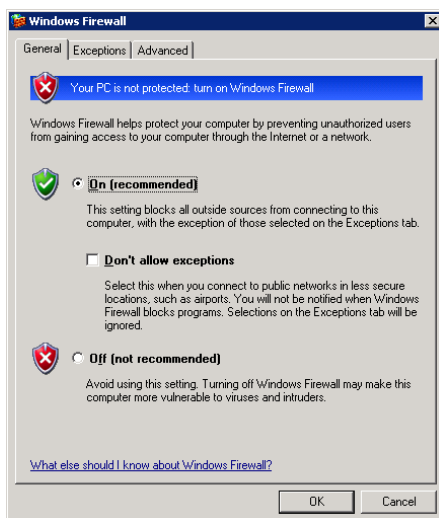
By default the administrator username & password are:

- Username: **Administrator**
- Password: **serverscheck**

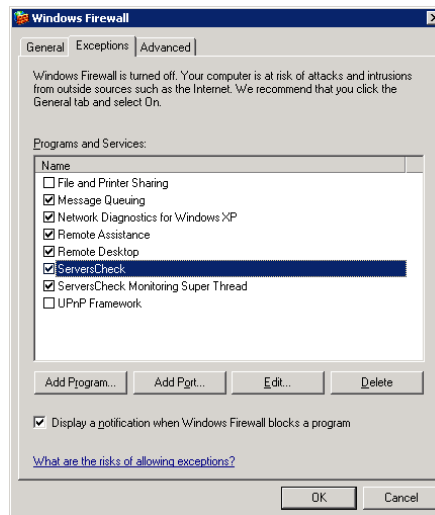
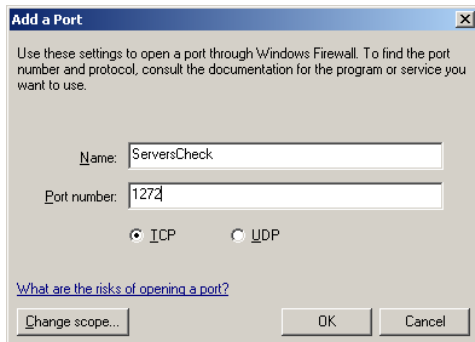
Click on **OK** to log in

### 3.2. Enabling Windows Firewall to allow inbound connections on port 1272

Go to your control panel and open up the Windows Firewall tool by double clicking on the icon.



Click on the **Exceptions** tab and then on the **Add Port** button



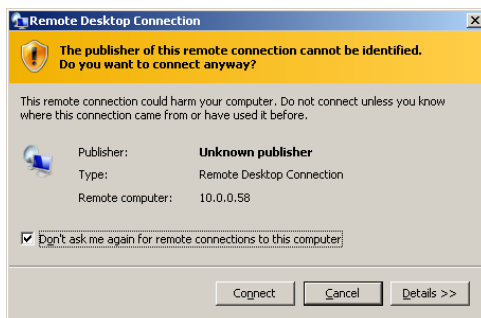
### 3.3. Creating a RDP (Remote Desktop) Connection to the Appliance

To start RDP on a Windows XP based system go to **Start > All Programs > Accessories > Communications > Remote Desktop Connection**

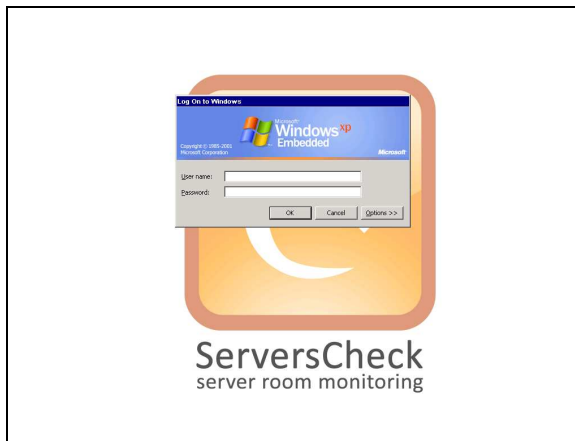
A window similar to the following will open. Type the IP address of the appliance and click on **Connect**



When using SP3 of XP then you might get following screen. Simply check the box as shown and click on **Connect**



The desktop of the appliance will be loaded and you will be prompted for a username and password



By default the administrator username & password are:

- Username: **Administrator**
- Password: **serverscheck**

Click on **OK** to log in

**TIP:** No English keyboard users should be aware that the appliance is set to accept QWERTY keyboard. If you use a different layout (ie AZERTY, QWERTZ or other), then you need to type as if it is QWERTY. For example for an AZERTY user you need to press Q for letter A. See QWERTY layout below:



When logged in, you will then be shown with a standard XP desktop where you have full administrator rights to. You can make it join your company's network, modify the IP or tune some settings as per your corporate policy.

When you log in you may experience an **HDeck.exe** error. This is normal and is due to the fact that the HDeck software is not designed for running in RDP mode. You may safely ignore this message.

## 4. Connecting Peripheral Hardware

ServersCheck's BTS Monitoring solution has the Monitoring Appliance as central unit. Around this unit, peripheral hardware can be attached. That hardware can be network based whereby the appliance communicates over TCP/IP with the peripheral hardware or it can be serial based; in that event the appliance communicates via serial com with the device that is directly connected to the appliance.

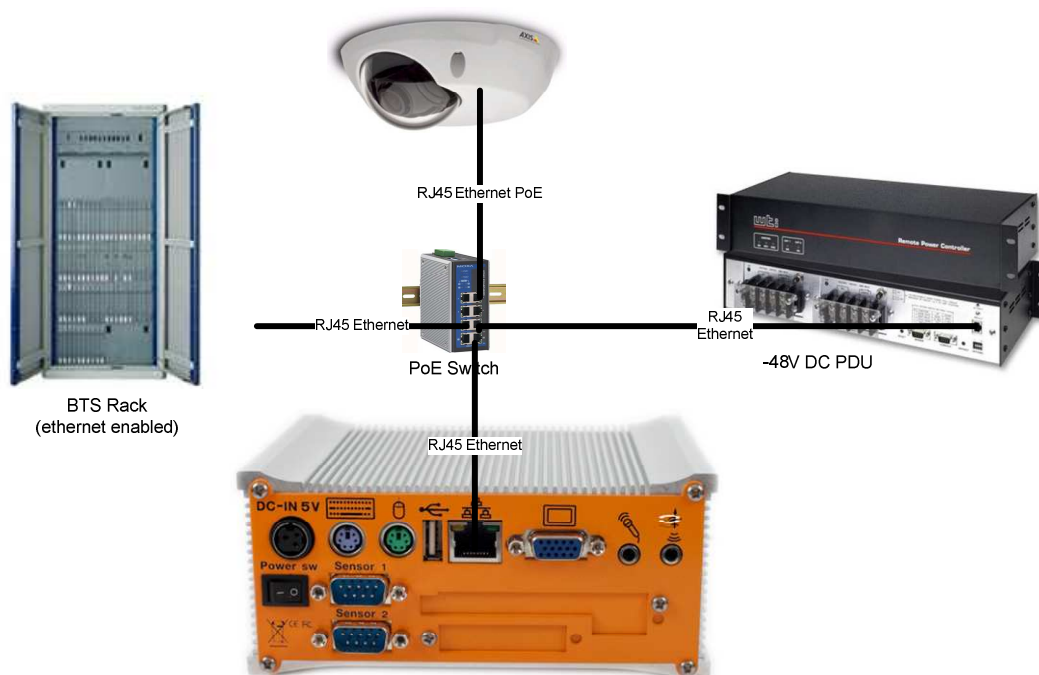
### 4.1. Network Enabled Hardware

ServersCheck currently supports 2 different types of network based hardware:

- PDU's for performing power shutdowns of devices (put after the rectifier)
- Cameras for monitoring physical security and O&M activities – ServersCheck supports Axis network camera's 209FD or higher

In order to enable the BTS Monitoring Appliance to communicate with the peripheral hardware, a local network is required. The communication is over TCP/IP.

If a BTS or communication room doesn't have a network, then ServersCheck recommends the Moxa EDS-P308 ( <http://www.moxa.com/Product/EDS-P308.htm> ). Those switches are DIN rail mountable and offer PoE (required for the Axis network camera's).



As shown in the above picture, a RJ45 cable is connected from the appliance to the switch. Same goes for the PDU and camera. For the camera make sure to plug it into of the switch's PoE ports.

If there is an existing network available in the shelter then the PoE switch would be replaced with the switch or router currently available. In the event that not enough ports are available, then additional ports can be created by adding the above PoE switch.

Some shelters have installed equipment that is network enabled. By hooking that equipment to the same network the BTS Monitoring Appliance is connected to, ServersCheck can monitor those devices. This would require the monitored devices to support any of the check types available in the monitoring software on the BTS Monitoring Appliance.

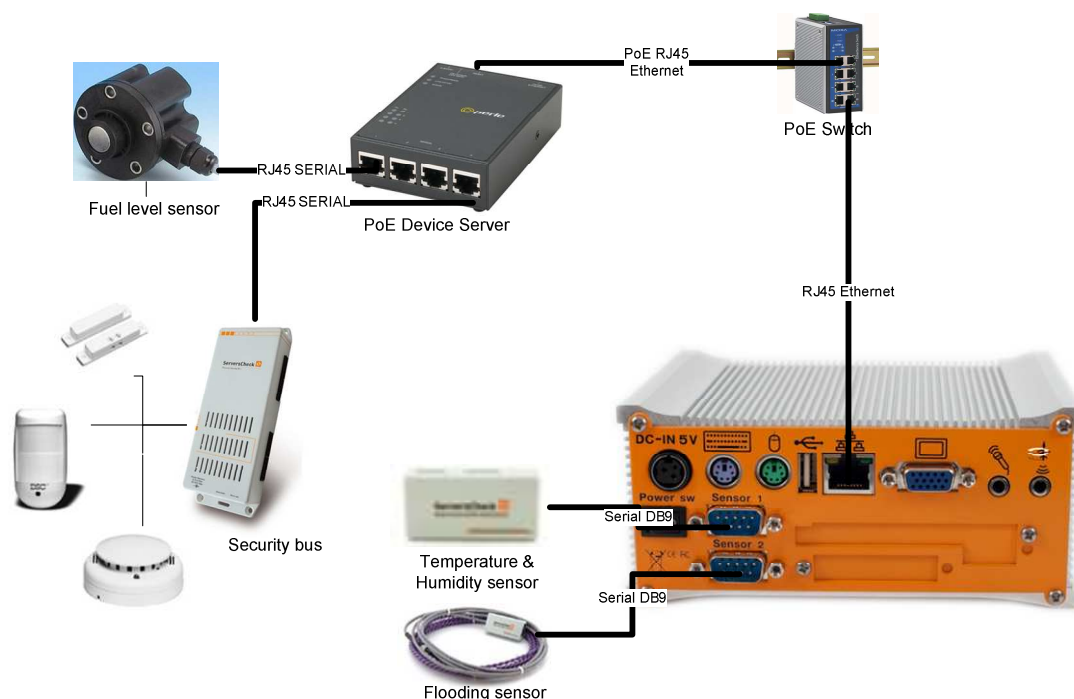
## 4.2. Serial Enabled Hardware

ServersCheck supports following serial based hardware:

- Temperature & humidity sensor
- Security bus for connecting dry contact sensors (smoke, door, glass break, airflow)
- Flooding sensor
- Fuel level sensor

The BTS Monitoring Appliance has 2 RS232 ports on its back for connecting sensors to it. This means that out of the box, ServersCheck can support a maximum of 2 sensors connected to it.

In the event that more sensors are required, then we recommend using PoE enabled device servers such as the IOLAN STS4 D Terminal Server from Perle (<http://www.perle.com/products/4-port-Terminal-Server.shtml>). The PoE enabled version of this device server allows for adding up to 4 additional serial based sensors to the BTS Monitoring Appliance. The device server is IP based which means that the BTS Monitoring Appliance will communicate over TCP/IP with the device server through an available switch. Such a device will create so called virtual COM ports on the appliances that are COM ports but where communication is automatically redirected over TCP/IP.

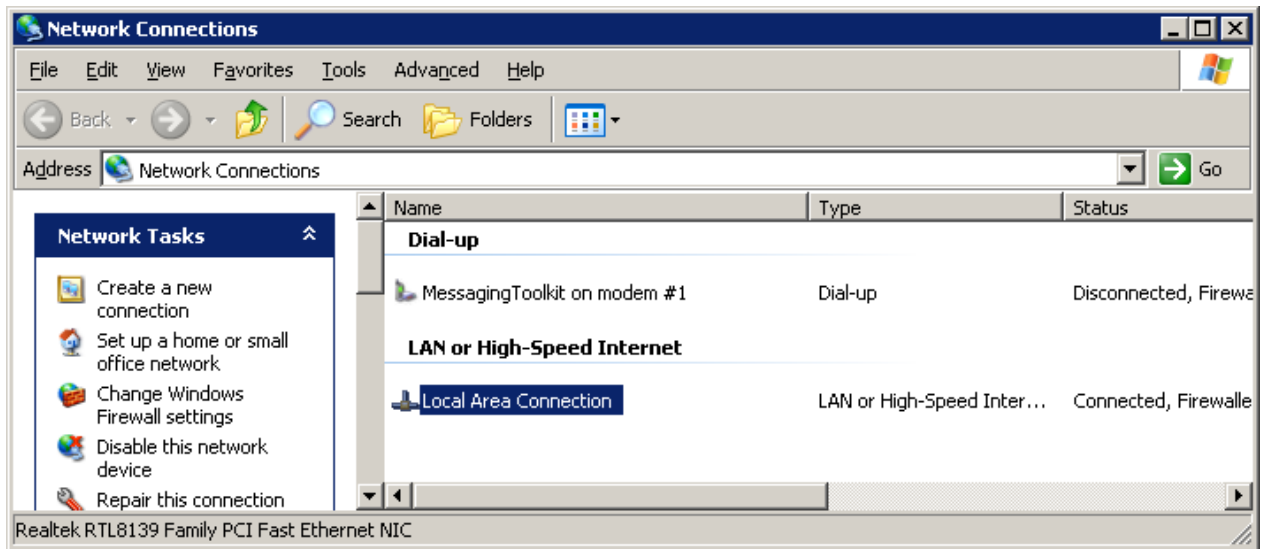


## 4.3. Crossover cable trick

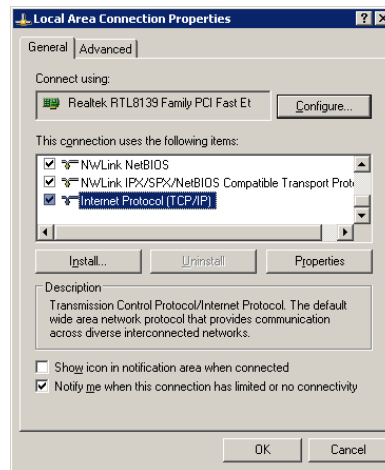
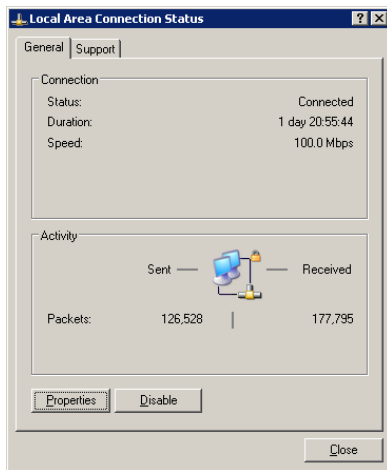
If only one networked peripheral has to be connected to the BTS Monitoring Appliance, then the “crossover cable” trick can be used. This avoids needing to have a switch.

An Ethernet crossover cable is a type of Ethernet cable used to connect computing devices together directly where they would normally be connected via a network switch, hub or router, such as directly connecting two personal computers via their network adapters. More info on crossover cables can be found here: [http://en.wikipedia.org/wiki/Ethernet\\_crossover\\_cable](http://en.wikipedia.org/wiki/Ethernet_crossover_cable)

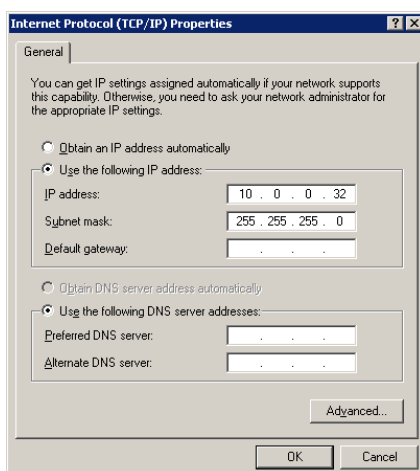
To setup a crossover network proceed as follows on the appliance first. Start on the appliance by launching the Network properties. For that go to **Start>Settings>Network Connections**



Double click on the **Local Area Connection** and then click on **Properties**



In the next window set an IP address for the appliance. Make sure to leave Gateway and DNS empty as this is a machine to machine connection over a crossed RJ45 network cable



Now make sure to add the peripheral hardware device in the same network segment. For example you could give it 10.0.0.31 as an IP address where 10.0.0.32 is the IP address of the appliance.

You have now created a small network between 2 devices without having a switch in the middle.