

# NETWORK TROUBLESHOOTING - INTRODUCTION

If you have a support contract for your *network* or server then for more advanced or mission-critical issues we advise contacting them as soon as possible. Make sure you ask them what the problem was and what they did to fix it, not to mention how to avoid it in future. Get it documented.

For general information on getting a network see Lasa's Computanews Guide to Networks and the Networks section of the knowledgebase.

This network troubleshooting document is divided into 3 parts including this introduction. However, there are many overlapping issues in network troubleshooting so you may also wish to read the remaining sections on Workstations, and Servers.

## **Identifying the problem**

One of the hardest things you'll come up against in troubleshooting network issues is identifying exactly what the problem is. If you are new to IT support or troubleshooting then it is worth having a look at the Knowledgebase article A Guide to Troubleshooting PCs which gives some guidance on general troubleshooting techniques and practice.

A lot of troubleshooting is detective work. A process of elimination will often lead to the source of the trouble. It can also be thoroughly frustrating - but when you finally get to the root of the issue and fix it, it is very rewarding.

One golden rule which is worth repeating here is to never ignore the obvious!

Cables can come loose, switches and hubs can have their power cables pulled out, servers can be down for various reasons, printers run out of paper and so on. Ask yourself some questions before doing anything:

- Is the problem affecting the whole network or just one or two PCs?
- Did something just happen which could have caused it, however illogical that might seem?
- Why is the problem reoccurring at 5 minute intervals?
- Have your users noticed anything unusual happening?

## **Documenting troubleshooting**

It cannot be stressed too highly that you need to document your troubleshooting.

Write down what you do all the way along - it will help you in the future with similar problems, and can also help other people help you. If you subscribe to technical mailing lists or *a discussion board* for example you may be able to save someone hours of work by passing on your experience. On many discussion

boards, no one will help you unless you tell them what you have already done to try and solve the problem.

## **Infrastructure**

### **Cabling**

On a cabled network if a user reports not being able to log in, for example, check the network cable is correctly in place and, if it is, try swapping the cable over for one you know works. If you connect your cables from the PC to a fixed cable network, make sure that the point is working correctly - try plugging the cable into an adjacent computer that is able to connect. Try plugging cables from the machine that isn't connecting to the network into a point that you know works.

### **Network hardware**

Hubs, switches and *patch* panels aren't immune from trouble - *portscan* blow, for example. In such cases just swapping a cable from one port to another can be enough to cure the problem. If the equipment is still under warranty then it is worth getting a replacement from the manufacturer.

Check power supplies and use the coloured light system that most hub and switch manufacturers use to see if there's any traffic flowing through the port - green usually indicates that the port is OK while orange shows that nothing is happening.

If you have a managed hub or switch then check the software - most small organisations don't use managed *hardware* because of the cost.

Routers and firewalls come with *software*. Assuming they are powered up, log into the device to see if any errors are reported. Make sure the latest *firmware* updates have been applied.

On a wireless network, check that the access point or integrated *router* is working OK. If you are using *USB* or *cardbus* network cards, check they are plugged in and seated correctly. If the connection is slow, try moving the USB device in question to a new USB socket. Also try moving a laptop closer to the access point as this may improve reception.

Source: <http://www.ictknowledgebase.org.uk/networktroubleshooting1>