HALMSTAD UNIVERSITY
CNAP HALMSTAD – SWEDEN

CISCO SYSTEMS
NETWORKING ACADEMY

Lab Basic PC/Network Troubleshooting Process

Objective

• **Learn the proper sequence for troubleshooting computer and network problems.**
• **Become familiar with the more common hardware and software problems.**
• **Given a basic problem situation, be able to troubleshoot and resolve the problem.**

Note : In this LAB you will use the router configuration from previous LAB Dynamic routing with RIP

The Eight Basic Steps for PC and Network Troubleshooting Process

Step 1 Define the problem

Describe what is happening or not happening using proper terminology. For example: The PC cannot get to the Internet, or the PC cannot print.

Step 2 Gather the facts

Observe the symptoms and try to characterize or identify the source of the problem:

• Is it hardware related, check for lights and noises. Is it software related, are there errors on screen?
• Does the problem affect this computer or user only, or are others also impacted?
• Does it affect this software only, or more than one application?
• Is this the first time the problem has happened or has it happened before?
• Was anything on the PC changed recently?
• Get the opinions of others who may have more experience.
• Check web sites and troubleshooting knowledge databases.

Step 3 Consider the possibilities

Use the facts gathered. Identify one or more possible causes and potential solutions. Rank solutions in order of the most likely to the least likely cause.

Step 4 Create an action plan

Develop a plan that involves the single most likely solution. The other options can be tried if the original solution fails. Consider the following in the development of a plan:

• Check the simplest possible causes first. Is the power turned on or plugged in?

• Verify hardware first then software.

• If it is a network problem start at Layer 1 of the OSI model and work up the Layers. Studies show the majority of problems occur at Layer 1.

• Can substitution be used to isolate the problem? If the monitor does not work it could be the monitor, video adapter or cables. Try another monitor to see if it corrects the problem.

Step 5 Implement the plan

Make the change(s) from the plan to test the first possible solution.

Step 6 Observe the results

If the problem is solved, go on to document the solution. Double check to make sure everything still works.

If the problem is not resolved restore the changes and return to the plan to try the next solution. If this change is not reversed, it will be unclear whether the problem was a later change or the combination of two changes.

Step 7 Document the results

Always document the results to assist in solving similar problems. Documentation also helps to develop a documentation history for each device. If part of the devices are going to be replaced it might be nice to know if any are frequent sources of trouble or if they have recently been reconditioned.

Step 8 Introduce problems and troubleshoot

Work in teams of two.

Each team member solving the problem should fill in the table based on the symptoms observed, problems identified, and solutions to the problem.

Team member A, or the instructor:

1. Select two problems from a list of common hardware and software related problems.
2. Introduce the problems into the computer.
3. Create the hardware or software related problems with the computer while the other is out of the room.
4. Turn off the computer and monitor.

Team member B:

1. Identify the problems.
2. Correct the problems.
Switch places and go through the steps again.

Team Member A

	Symptom observed	Problem identified	Solution
1st problem			
2nd problem			

Team Member B

	Symptom observed	Problem identified	Solution
1st problem			
2nd problem			