

LAN-Designer Demonstration

Nurul I Sarkar
School of Information Technology
Faculty of Business
Auckland University of Technology
Auckland, NZ
Nurul.Sarkar@aut.ac.nz
Jason H Lian

1. INTRODUCTION

In a separate contributed paper, Sarkar and Lian (2003) have described the process of developing a software tool (named LAN-Designer) for teaching and learning local area networks (LANs) design. This presentation outlines how the software can be used either in the classroom or at home as a tool for teaching and learning a server-based LAN design.

2. SOFTWARE DEMONSTRATION

At the conference the research team will demonstrate the use of the LAN-Designer to design a server-based LAN involving components of up to 8 (including a server). The package can be run from any PC operating under MS Windows. To run the package, the user can either double click on "LAN_v15.exe" icon from desktop or can be selected it from the start menu. The main steps of using this package (from Windows) are summarised below:

Run the package: Double click on the "LAN_v15.exe" icon from the desk top.

Access protocol: Two options such as Ethernet CSMA/CD (carrier-sense multiple access with collision detection) and token passing protocol are available to choose from. For example, select CSMA/CD for Ethernet LAN design.

Physical topology: This represents the physical layout of the network. In case of CSMA/CD protocol, either bus or star physical topology can be chosen whereas token passing access protocol can support either physical ring or bus topology.

Device/component selection: Under this option, the LAN components such as the number of workstations and/or the number of printers can be entered for the proposed network design. One server will be selected by default.

Confirmation: This option allows users to check LAN components being selected before proceed to the LAN-map to display LAN diagram.

LAN-map: Based on the user selection of access protocol, physical topology and LAN components, LAN-map option displays the proposed LAN diagram showing the physical connectivity and layout of the network.

Exit from the program: This option allows users to exit from the LAN-Designer at any time.

3. CONCLUDING REMARKS

In this poster presentation we have outlined the procedure of using the LAN-Designer for illustrating the basic concepts of a server-based LAN design. The software is easy to use and a user friendly, and can be run from any machine operating under MS Windows. It was also tested on various PCs around computer laboratories and classrooms and found to be robust.

Student responses to this software were mostly favourable and positive. They indicated that the software was very easy to use and assisted them to understand the basic concepts of a server-based LAN design.

The user options such as 'protocol', 'topology', 'device/component selection', 'confirmation', 'LAN-map' and 'Exit' have been implemented. More options, eg. 'Load', 'Save', and 'Print' are still under development. The LAN-Designer can be used (free of cost) for educational purposes and is available for download from our home page (Lian, 2003).

REFERENCES

- Sarkar, N.I., Lian, J.H. (2003) "LAN-Designer: A software tool for teaching and learning LAN design". To appear in proceedings of the 3rd IEEE International Conference on Advance Learning Technology (ICALT), July 9-11, Athens, Greece.
- Lian, J.H. (accessed May 1, 2003) "LAN-Designer software for download" <<http://homepages.ihug.co.nz/~jasonhl/>>