SANCHEZ Pablo

Networks and Protocols Project: ABC Distributions

Stage 1: implementation of the network topology

We need to implement a new branch abroad for ABC Distributions. The given network topology is made of one router that must link the new branch to the rest of the company, and that runs the local network. Hence it must provide both a WAN and a LAN. The router is connected to two switches. The first one is plugged to the manager’s PC. The second one is connected to two other switches. Each switch is dedicated to a department. Both switches must be able to receive new PCs, as the aim is to expand the departments. For now, Sales department has 11 users, and Finance department has 5 users.

All the equipment I chose come from “LDLC.pro” website, a French online shop specialized in high-tech.

I found the following components:

* ROUTER: CISCO RV340
* SWITCH FOR MANAGEMENT: CISCO SG110D-05
* SWITCH TO LINK BOTH DEPARTMENTS: CISCO SG110D-05
* SWITCH FOR SALES: TP-Link Jetstream T2600G-52TS
* SWITCH FOR FINANCE: TP-Link Jetstream T2600G-52TS

The router allows to connect to both a WAN (2 connections) and a LAN (4 connections), it has Gigabit Ethernet connections, and plugs to connect to other devices with RJ45 cables. It has 4 ports that respect the 10/100/1000 Mbps network norms. It allows a company to connect to Internet, and it protects the users from unwanted contents and malwares. Opinions given by previous users say it is easy to use and well working. Cisco’s RV340 is available for 219,24 pounds.

For both departments, we’ll take the same switch twice since we don’t know how many users we want to add. To find a switch with a maximum number of ports, we filter our research asking for switches with 52 ports (the maximum available on LDLC.pro). For 364,13 pounds, we can get the Jetstream T2600G-52TS (or TL-SG3452) by TP-Link, with the same network norms as our router (10/100/1000 Mbps) and 48 RJ45 ports, which is the maximum. The four others are SFP ports. Therefore, we can buy two of these for Sales and Finance department.

The last items we need are the switches to link our two department switches and for management. This switch model doesn’t need many ports as it is connected to two switches via Ethernet connection (or directly to a PC), and to a router via a Gigabit Ethernet connection. So, we can buy twice the SG110D-05 by Cisco, which is suitable for small companies (therefore branches), and that has five ports, with 10/100/1000 Mbps network norms. It is available for 42,29 pounds.

Without the RJ45 cables, we can have all the equipment listed for 1032,08 pounds.