management system, must be considered as an intergral system. The network manager must be able to diagnose problems, measure performance and reconfigure various parameters on network equipment, preferably from his office in Ottawa.

The final network management system will depend on the type of network installed, but could cost $50,000 to $100,000.

B.3 Printing technologies

A number of different types of printers are available for printing black and white and colour images. Because of the different technologies used, it is necessary to consider certain disadvantages or concerns related to each type and certain advantages of some types.

■   The ease with which the printed image can be removed when using inks that are deposited on the surface of the paper (as opposed to those that are absorbed into the paper). This can be countered with security laminates to protect the image as is currently done with the Canadian passport and with pre-printed patterns on the label, sensitive to removal.

■   The difficulty of providing security in reading the machine-readable portion of the page when using standard inks which are infra-red absorbing (rather than infra red reflecting as required by the ICAO standard). This can be countered with special inks in most types of printers, but may require a second pass through a black and white printer.

■   The quality of the image will vary directly with the density of the printed dots. The standard low-cost printers typically output at 300 dots per inch (dpi), higher cost printers can be purchased for 400, 600 or even 1200 dpi. While perfectly adequate for typed output and line drawings, 300 dpi is probably not acceptable for good quality image printing with most of the techniques under discussion (except for die sublimation printers).