

ABSTRACT

Recently, Internet has come into widespread use for computer communications. Some Internet enabled applications have been widely implemented in Electronic Commerce, for example, electronic mail, world wide web, Electronic Data Interchange (EDI), Internet Facsimile, Video-Conferencing etc. Among them, Internet Facsimile is the one heavily relies on the value and demanding business, and still under development and discussion. The discussion includes the standards of message, gateway design, network performance and so forth.

In this paper, a strategy is proposed to optimize transmission time when data is transferred over the Internet for the multimedia applications, e.g. voice-mail, graphical information exchange and facsimile, etc. It is hard to examine all such applications. Due to the development status of the facsimile application, it was picked up as the core of my research work.

In this research work, the focal point is the application of compression on the multimedia information transport over the Internet. Compression is a technique to improve efficiency of an Internet facsimile system. In order to show how compression approach works and affects the efficiency, concepts and algorithms are introduced; and also three popular compression packages (i.e. PKPAK, LHA and PKZIP) are evaluated. Also, compression packages are evaluating specifically on the TIFF format files for facsimile message. PKZIP obtains the best result for the TIFF format files among these three compression packages.

After the compression approach was defined, the evaluation to different compression approach can also be performed to verify the application of this strategy on the facsimile application. From the experimental results, we can conclude that the compression can improve the efficiency of the facsimile system which transfer facsimile over the Internet; and the compression ratio is an important factor to the improvement of the efficiency. By using the best compression package PKZIP, an improvement of 35% can be reached.