
Abstract

Design Of A VoIP Network For A Tertiary Level Institution

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Voice communication via packet data networks such as IP, ATM and Frame Relay has become a preferred strategy for both corporate and public network planners. One of the advantages of a voice over IP (VoIP) system is the elimination of toll bypass. This work details the design and economic feasibility of such a system, for a tertiary level institution. The steps taken were (a) setting the design objectives, (b) understanding the issues and enabling technologies, (c) doing a traffic analysis, (d) creating a list of network requirements, (e) creating a list of network capabilities, (f) defining a set of recommendations and (g) doing an economic analysis.

All steps were completed successfully. The economic analysis yielded a return on investment (ROI) period of 7.26 years. While the ROI is small, it is useful to realise that this is the first step in creating an IP telephony network and other benefits may be derived in the future with the addition of integrated voice and data terminals.

Keywords: VoIP, design, ROI, economic feasibility, toll bypass