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**"O Ambiente TCP/IP Multiponto e Multimídia - Aplicações e Gerenciamento"**

Continuing improvements in the processing power of workstations has made the use of multimedia applications, well-known to be large consumers of resources, into an ever-increasing feature of daily life. The combination of multimedia technology and the availability of steadily increasing transmission speeds has extended distributed multimedia applications beyond the confines of the local area network.

The introduction of multimedia applications on the TCP/IP- based Internet has made it necessary to adapt the services provided by this communications infrastructure. One such adaptation is support for multicast transmission based on the Internet Protocol (IP).

Thus the setting up of the Mbone (Multicast Backbone) using Internet infrastructure has provided, and continues to provide an excellent laboratory for experimentation with multicast applications. Several such applications have been developed, and continue to be developed, which exploit this virtual network, using it not only as a laboratory, but also as yet one more service.

This thesis describes the relevant characteristics of multicast communication used by multimedia applications in an IP internet. The experience acquired through the use of Mbone applications and management tools is recounted in such a way as to permit other groups to benefit through it. Finally, we present a new multicast traffic monitoring tool called Mtap, which was developed as part of this thesis as a complement to existing tools.