

**Report on attendance of Australia
Telecommunication Networks and
Applications Conference (ATNAC'2003)**

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Introduction

The Australian Telecommunication Networks and Applications Conference (ATNAC) is an annual conference established by the Australian Telecommunications Cooperative Research Centre (ATCRC), CUBIN at the University of Melbourne and the Telstra Research Laboratories, to bring together academic and industrial personnel who participate in the research and development of telecommunication networks and applications. This is to provide an opportunity for them to communicate and exchange ideas. This conference was held in Melbourne, Australia, from the 8th of December to the 10th of December, 2003.

Aim of Attendance

My aim for attending this conference was to present research results obtained during my Masters study on an empirical study of intelligibility of computerized Chinese speech. A paper titled "Evaluation of the ITU-T G.728 as a Voice over IP codec for Chinese speech" was accepted for a poster presentation in the ATNAC'2003. It is hoped that new ideas can be realised from the comments and questions given during the presentation. Another aim for attending this conference was to have a view on the current advances in telecommunications technology, especially around the Australasia region, through listening to presentations and communicating with people in their respective areas of research.

Conference Topics

A wide range of topics on telecommunications covered in the conference included Mobile and Wireless Networks, Internet Traffic Management, Traffic Modelling and Network Planning, Space Time Coding, Content Distribution, Routing and Mobile IP, MAC and TCP, Quality of Service and Differentiated Service Networks, Traffic and Resource Management, Channel Modelling and Equalisation, Wireless Communications, Ad Hoc Networks, Network Performance and Design, MIMO Systems, Internet Research, Trials and Experimental Research, Optical Networks, etc..

Lessons Learned

From comments and questions posed during my presentation, I have learnt that speech intelligibility and quality are not only affected by compression and companding in speech coding. Networks issues like packet loss and networks stability also plays a major part in affecting these attributes. Besides this, I also learnt that the choice of codec is very much network dependent as attributes like transmission bandwidth and error rate differ. From the Internet Management session, I realised that Fuzzy Logic can be used to improve the adaptability of Active Queue Management (AQM) to traffic loads. I also realised that in real, continuous time communications (e.g. telephony, video conferencing), it is necessary that all packets of a particular stream traverse a fixed sequence of routers and that each router have sufficient reserve capacity to assure timely delivery. From the Routing and Mobile IP session, I learnt that a capsule-based mobile IP protocol can be used to improve efficiency by reducing handoff latency. Also, a Session Initial Protocol (SIP) Message Overflow Routing Scheme (SMORS) can be used for efficient message routing and user assignment. During the Internet Research session, an interesting topic regarding lawful interception of IP traffic was discussed. Papers presented covered such issues as how

Internet interception differs from access network interception, how Internet interception might compromise security, privacy and network reliability.

Besides technical sessions, there were also cultural and social meetings enabling interactions between participants from different parts of the world.

Conclusion

I have gained a valuable experience from the attendance of this conference. This allows me to realise the state-of-art of current research conducted by experts in Australasia region. I have also acquired technical knowledge. All of these have increased my zeal in research and development, as well as led me to new research ideas. I certainly hope to attend more such conferences in future after this initial experience. I am grateful the Department of Computer Science and Software Engineering for making my participation in this conference possible