



IEEE LEOS and IEAust ITEE College Lecture

Title : A Green Internet

Presenter: Professor Rod Tucker
ARC Special research Centre for Ultra-Broadband
Information Networks
Department of Electrical and Electronics Engineering,
The University of Melbourne.



Time : 6:00pm refreshments for 6:30pm lecture
Wednesday, 9th May 2007

Location : Auditorium, Engineers Australia Building, 21 Bedford St, North Melbourne
There is no admittance fee for this talk and all are welcome.

Contact Information: For further information contact Dr Malin Premaratne
email: malin@ieee.org, Tel: 03 9905 5382, - IEEE/IEAust Victoria Australia.

Abstract :

Continued expansion of the Internet-based communications services has now become an integral contributor to sustained growth of the world economy. In addition to the expected bandwidth demand arising from deeper penetration of broadband access networks, continued growth is also driven by new services such as video sharing and IPTV. Current trends indicate the average annual global IP traffic growth rate is around 50%. As IP traffic increases, the power consumption of equipment required to route this traffic must grow at a corresponding rate. This raises the issue of whether the Internet may ultimately be constrained not by the capacity of optical fiber transmission systems and the speed of routers and affiliated electronics, but rather by their power consumption.

In this talk, I will describe new models of energy consumption in the Internet and show how network-based models of the power consumption in the Internet can be used to assist in network planning. The Internet in Australia currently uses approximately 1% of the nation's electricity supply. This energy might not seem large, but a significant proportion of it is consumed in a few key bottlenecks. I will identify some of these energy bottlenecks in the network and will propose some directions for future work aimed at delivering a green Internet.

Speaker:

Rod Tucker is a Federation Fellow and a Laureate Professor at the University of Melbourne. He is Research Director of the Australian Research Council Special Research Centre for Ultra-Broadband Information Networks, in the University of Melbourne's Department of Electrical and Electronic Engineering. Professor Tucker has held positions at the University of Queensland, the University of California, Berkeley, Cornell University, Plessey Research, AT&T Bell Laboratories, Hewlett Packard Laboratories and Agilent Technologies. He is a Fellow of the Australian Academy of Science, a Fellow of the Australian Academy of Technological Sciences and Engineering, a Fellow of the Optical Society of America and a Fellow of the IEEE. He received the BE and PhD degrees from the University of Melbourne, in 1969 and 1975, respectively. In 1997 he was awarded the Australia Prize for his contributions to telecommunications.