

# *The 8th International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV 98)*

*Kaetsu Lecture Theatre, New Hall, Cambridge, UK*

**8-10 July, 1998**

**Hosted By:**

**The Systems Research Group**  
**Computer Laboratory**  
**University of Cambridge**

**and**

**Microsoft Research Limited**  
**Cambridge**

**in collaboration with IEEE Computer Society**

## *Objectives*

The 8th International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV 98) is the international workshop concerned with state of the art technology in networking and operating system support for multimedia systems. For seven years, NOSSDAV has proven to be an outstanding forum for researchers involved in building innovative multimedia systems, networks and applications in both industry and academia.

A key aspect of the workshop is that it provides extensive discussion periods during which attendees can informally discuss their current work and future research directions. Traditionally, NOSSDAV has emphasized high quality experimental research based on prototype or real systems.

NEWS:

Monday 17th August:

Conference proceedings are available electronically as [individual papers](#). A small number of printed copies are also available, costing £17.50 for shipping to the UK, £20.00 elsewhere. Contact [nossdav98@cl.cam.ac.uk](mailto:nossdav98@cl.cam.ac.uk) for details.

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## Dates

Submission Deadline for Full Papers:	1 March 1998
Acceptance Notification for Full Papers:	30 April 1998
Final Papers Due:	30 May 1998
Short Papers Due:	30 March 1998
Acceptance Notification for Short Papers:	30 April 1998
Workshop:	8-10 July 1998

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## Program Chairs

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## Review Committee

- Simon Crosby, Cambridge University, UK
- Chuck Kalmanek, AT&T Research
- Jim Kurose, University of Massachusetts
- Ian Leslie, Cambridge University, UK
- Tom Little, Boston University
- Derek McAuley, University of Glasgow, UK
- Duane Northcutt, Sun Microsystems
- Guru Parulkar, Washington University St Louis
- Henning Schulzrinne, Columbia University
- Dan Swinehart, Xerox PARC
- Hide Tokuda, Keio University

## Program Committee

Review Committee plus

- Domenico Ferrari, Universita Cattolica, Italy
  - Kevin Jeffay, University of North Carolina
  - Mike Jones, Microsoft
  - Doug Shepherd, Lancaster University, UK
  - Burkhard Stiller, ETH Zurich, Switzerland
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## Technical Programme

Presentations are either long papers (L) or short papers (S). Long papers are given 30 minutes (20 minutes presentation followed by 10 minutes discussion) and short papers 15 minutes (10 minutes presentation followed by 5 minutes discussion). The emphasis is not on didactic presentation, but on discussion and interaction. The aim of the workshop is to stimulate debate and discussion in an informal setting.

### Wednesday 8 July

#### Session AM 1: Network Control

9.00

(L) Programmable Mobile Networks

*Oguz Angin, Andrew T. Campbell, Michael E. Kounavis, and Raymond R.-F. Liao  
COMET Group, Center for Telecommunications Research*

9.30

(L) Efficient Precomputation of Quality-of-Service Routes

*Anees Shaikh, Jennifer Rexford and Kang G. Shin  
University of Michigan/AT&T Labs -- Research*

10.00

(L) A Soft State Protocol for Accessing Multimedia Archives>

*Angela Schuett, Suchitra Raman, Yatin Chawathe, Steven McCanne and Randy Katz University of California at Berkeley*

10.30 - 11.00

Morning coffee

**Session AM 2: IP Telephony**

11.00

(L) Architecture for Signaling, Directory Services and Transport for Packet Telephony

*N. Anerousis, R. Gopalakrishnan, C.R. Kalmanek, A.E. Kaplan, W.T. Marshall, P.P. Mishra, P.Z. Onufryk, K.K. Ramakrishnan, and C.J. Sreenan  
AT&T Labs - Research*

11.30

(L) Routing Traffic with Quality-of-Service Guarantees in Integrated Services Networks

*Qingming Ma and Peter Steenkiste  
Cisco Systems/Computer Science Department, Carnegie Mellon University*

12.00

(L) Design and Evaluation of a Platform for Mobile Packet Telephony

*Sandesh Goel, Partho Mishra, Huzur Saran and Cormac Sreenan  
AT&T Labs - Research*

12.30

(S) A Comparison of SIP and H.323 for Internet Telephony

*Jonathan Rosenberg and Henning Schulzrinne  
Bell Laboratories, Lucent Technologies / Columbia University*

13.00 - 14.00

Lunch

**Session PM 1: Operating Systems**

14.00

(S) A new audio device driver abstraction

*Dickon Reed  
University of Cambridge*

14.15

(S) Adaptive Resource Management in a Multimedia Operating System

*Don Oparah  
Computer Laboratory, University of Cambridge*

14.30  
(S) On Using Intelligent Network Interface Cards to support Multimedia Applications  
*Marc E. Fiuczynski, Richard P. Martin, Tsutomu Owa, Brian N. Bershad  
Univ. of Washington*

14.45  
(S) Supporting Continuous Media in the Piglet OS  
*Steve Muir and Jonathan Smith  
University of Pennsylvania*

15.00  
(S) Multimedia on Multiprocessors: Where's the OS when you really need it?  
*Jason Nieh and Monica S. Lam  
Stanford / Sun Microsystems*

15.15  
(S) Issues in using commodity operating systems for time-dependent tasks: experiences from a study of Windows NT  
*Michael B. Jones  
Microsoft Research*

15.30  
(S) An Efficient End-Host Protocol Processing Architecture for Real-Time Audio and Video Traffic  
*Khawar M. Zuberi and Kang G. Shin  
Real-Time Computing Laboratory (RTCL)*

15.45 - 16.15  
Afternoon tea

## **Session PM 2: Panel - Operating Systems**

## **Thursday 9 July**

### **Session AM 3: Network Resource Allocation**

9.00  
(L) LIRA: An approach for service differentiation in the Internet  
*Ion Stoica and Hui Zhang  
Carnegie Mellon University*

9.30  
(L) Processor Scheduling in Routers for RSVP Message-Processing  
*Martin May, T.V. Lakshman and Anwar Elwalid  
Bell Labs*

10.00  
(L) YESSIR: A Simple Reservation Mechanism for the Internet  
*Ping Pan and Henning Schulzrinne  
IBM / Columbia University*

10.30

(S) Resource Reservation Agents in the Internet

*Olov Schelen and Steve Pink*

*Luleå University, Sweden*

10.45

(S) Achieving Quality of Service through Network Performance Management

*S. Keshav and R. Sharma*

*Cornell Network Research Group*

11.00 - 11.30

Morning Coffee

**Session AM 4: Performance Modelling/Optimisation**

11.30

(L) On the Effectiveness of Buffer in Deterministic Services

*Pawan Goyal and Harrick M. Vin*

12.00

(L) Design, Implementation, and End-to-End Evaluation of a Measurement-Based Admission Control Algorithm for Controlled-Load Service

*Cheng Jin and Sugih Jamin*

*University of Michigan, Ann Arbor*

12.30

(S) Charging of Multimedia Flows in an Integrated Services Network

*Burkhard Stiller, George Fankhauser and Bernhard Plattner*

*ETH Zurich*

12.45

(S) A Better-Than-Best-Effort Service For Responsive UDP Flows

*Mark Parris, Jan Borgersen, Kevin Jeffay, F. Donelson Smith*

*University of North Carolina*

13.00

(S) Adapting Fair Queueing to Improve Loss, Delay, and Admission Control Performance

*N.G. Duffield, T.V. Lakshman and D. Stiliadis*

*AT&T Labs-Research / Bell Labs, Lucent Technologies*

13.15 - 14.15

Lunch

**Session PM 3: Application Adaptation**

14.15

(L) An Empirical Study of Client Interactions with a Continuous-Media Courseware Server

*Jitendra Padhye and Jim Kurose*

*University of Massachusetts*

14.45

(L) The Loss-Delay Based Adjustment Algorithm: A TCP-Friendly Adaptation

*Dorgham Sisalem and Henning Schulzrinne*

*GMD-Fokus, Berlin/Columbia University, New York*

15.15

(S) A Toolkit for Building Migratory Continuous Media Applications

*Tatsuo Nakajima and Hiroyuki Aizu*

*Japan Advanced Institute of Science and Technology*

15.30

(S) QoS Assurance vs. Dynamic Adaptability for Applications

*Saleem N. Bhatti and Graham Knight*

*Department of Computer Science, University College London*

15.45

(S) A Perspective on Application/Network Coupling

*Thomas Gross and Peter Steenkiste*

*CMU / ETH Zurich*

16.00 - 16.30

Afternoon tea

**Session PM 4: Ad Hoc Panel (or punt trip)**

**Thursday evening: workshop banquet**

**Friday 10 July**

**Session AM 5: Coding/Transmission**

9.00

(L) Network Adaptive Continuous-Media Applications through Self Organised Transcoding

*Isidor Kouvelas, Vicky Hardman and Jon Crowcroft*

*Department of Computer Science, University College London*

9.30

(L) MPEG-2 Video Services over Packet Networks: Joint Effect of Encoding Rate and Data Loss on User-Oriented QoS

*Olivier Verscheure, Pascal Frossard and Maher Hamdi*

*Institute for computer Communications and Applications, Swiss Federal Institute of Technology*

10.00

(L) Issues of Quality when Smoothing Rate Adaptive Video

*N.G. Duffield, K. K. Ramakrishnan and Amy R. Reibman*

*AT&T Labs-Research*

10.30

(L) Real-Time Reliable Multicast Using Proactive Forward Error Correction

*Dan Rubenstein, Jim Kurose, and Don Towsley*

*University of Massachusetts*

11.00 - 11.30

Morning Coffee

**Session AM 6: Video File Systems**

11.30

(L) Cost-Optimal Data Retrieval for Video Servers with Variable Bit Rate Streams

*Ernst Biersack and Maher Hamdi*

*Institut Eurécom/Institute for Computer Communications and Applications, Swiss Federal Institute of Technology, Lausanne (EPFL), CH-1015*

12.00

(L) Adaptive Quality-of-Service Session Management for Multimedia Servers

*John Reumann and Kang Shin*

*Real-Time Computing Lab @ Univ. Michigan*

12.30

(L) Efficient Schemes for Broadcasting Popular Videos

*Lixin Gao, Jim Kurose and Don Towsley*

*Smith College / Dept. of Computer Science University of Massachusetts*

13.00 - 14.00

Lunch

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To Contact NOSSDAV'98 send us email at [nosssdav98@cl.cam.ac.uk](mailto:nosssdav98@cl.cam.ac.uk)