

The 6th International Workshop on Network and Operating Systems Support for Digital Audio and Video(NOSSDAV 96)

April 23 - 26, 1996

Shonan Village International Conference Center, Zushi, Japan



in cooperation with:

[IEEE Communications Society](#),

[IPA](#),

[ACM SIGMM](#),

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Shonan Village International Conference Center

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nossdav96@sfc.keio.ac.jp

NOSSDAV 96

Schedule

Tuesday, April 23, 1996

16:00-19:00	Conference Registration
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19:00-21:30	Opening Reception
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Wednesday, April 24, 1996

7:30-8:30	Breakfast Buffet
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8:30-8:45	Introduction Workshop Chairs Hide Tokuda
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8:45-10:15	<p>Technical Sessions I "Networking" Session Chair: Hiroshi Yasuda (NTT)</p> <ul style="list-style-type: none"> • <i>Should an Integrated-Services Internetwork be Connectionless or Connection-Oriented?</i> Domenico Ferrari (Universita` Cattolica) • <i>Retransmission-Based Error Control for Continuous Media Applications</i> Christos Papadopoulos and Guru M. Parulkar (Washington University) • <i>Decentralized End-to-End Scheduling for Continuous Multimedia</i> J. Huang, Y. Wang, and D. Kenchamma-Hosekote (Honeywell Technology Center)
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10:15-10:30	Break
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10:30-12:00	<p>Technical Sessions II "OS Support for Network Subsystems" Session Chair: Domenico Ferrari (Universita` Cattolica)</p> <ul style="list-style-type: none"> • <i>Multimedia Network Subsystem Design</i> See-Mong Tan, Willy S. Liao, and Roy H. Campbell (University of Illinois at Urbana-Champaign)
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Server Based Flow Control in A Distributed Continuous Media Server

Gerald Neufeld, Dwight Makaroff, and Norman Hutchinson (University of British Columbia)

- *Native-Mode ATM in FreeBSD: Experiences and Performance*

A. Jain and S. Keshav (Bell Laboratories)

12:00-
13:00

Lunch

13:00-
14:30Technical Sessions III "**ATM**"

Session Chair: Guru Parulkar (Washington University)

- *An Empirical Evaluation of Adaptive QOS Renegotiation in ATM networks*

K. Lakshman and Raj Yavatkar (University of Kentucky)

- *SEAM: Scalable and Efficient ATM Multipoint-to-Multipoint Multicasting*

Matthias Grossglauser (INRIA) and K. K. Ramakrishnan (Bell Laboratories)

- *ATM Virtual Studio Services*

Christian Breiteneder, Simon Gibbs, Wolfgang Heiden, Manfred Kaul, Karl Jonas, and Dirk Steinberg (German National Research Center for Information Technology)

14:30-
15:00

Break

15:00-
16:30Technical Sessions IV "**Congestion Control**"

Session Chair: Norman Hutchinson (University of British Columbia)

- *Support for Compressed Video with Explicit Rate Congestion Control in ATM Networks*

K. K. Ramakrishnan, T. V. Lakshman, Partho Mishra (AT&T Bell Laboratories)

- *A Router-Based Congestion Control Scheme For Real-Time Continuous Media*

Mark Parris, Kevin Jeffay, Teny Talley, and F. Donelson Smith (University of North Carolina)

- *Why WFQ Is Not Good Enough For Integrated Services Networks*

Jon C.R. Bennett (FORE Systems) and Hui Zhang (Carnegie Mellon University)

16:30-
17:00

Break

17:00-
19:00Work in progress Sessions "**Multicasting, ATM, and Quality of Service**"

Session Chair: Daniel Swinehart (Xerox PARC)

- *Multicast Protocol for Continuous media*

Yuko Onoe (NTT Information and Communication Systems Laboratories) and Hideyuki Tokuda (Keio University)

- *Admission Control Algorithms for Multicast Sessions with Multiple Streams*

Nachum Shacham and Hidetoshi Yokota (SRI International)

- *Improved performance for multi-party communication through advance reservations*

Amit Gupta (University of California Berkeley)

- *Transmission Characteristics of MPEG2 Encoded Super High Definition Images*

Katsuhiro ISHIMARU, Tetsurou FUJII, Tomoko SAWABE, Junji SUZUKI, and Sadayasu ONO
(NTT Optical Network Systems Laboratories)

- *Design and Implementation of a Versatile Multimedia Network Interface and I/O Chip*

Zubin D. Dittia, Jerome R. Cox, Jr., and Guru M. Parulkar (Washington University in St. Louis)

- *A Practical and Economical Approach for Resource Allocation*

Fukiko Hidano (University of California Berkeley)

- *An Advanced Reservation-based Admission Control Algorithm for Video-On-Demand Server*

Sooncheol Kim and Yookun Cho (Seoul National University)

- *Discrete-Time Interval Based Predictor Algorithms for End-to-End Performance*

Girish Chiruvolu, Ken Christensen, and Ravi Sankar (University of South Florida)

- *Usage Parameter Control Support for Audio and Video Communications*

Guang-Liang LI (Academia Sinica)

- *Agora --- A Personalized Digital Newsfeed*

Eoin Hyden and Cormac J. Sreenan (Bell Laboratories)

19:00-
20:30

Dinner

Thursday, April 25, 1996

7:30-
8:30

Breakfast Buffet

8:30-
10:00

Technical Sessions V "**Video on Demand Servers**"

Session Chair: Duane Northcutt (Sun Microsystems Laboratories)

- *The Tiger Video Fileserver*

William J. Bolosky and Michael B. Jones (Microsoft Research)

- *Video on Demand on the SB-PRAM*

Joerg Friedrich, Thomas Gruen and Joerg Keller (Universitaet des Saarlandes)

- *I/O Channel and Real-Time Disk Scheduling for Video Servers*

Shenze Chen and Manu Thapar (Hewlett-Packard Labs)

10:00-10:30	Break
10:30-12:00	<p>Technical Sessions VI "Storage Architectures" Session Chair: Mike Jones (Microsoft Research)</p> <ul style="list-style-type: none"> • <i>Video Pump Design for Interoperability with Set Top Units: The Case Against Small PDUs.</i> Stephen Jacobs and Alexandros Eleftheriadis (Columbia University) • <i>A Content Based Approach to VBR Video Source Modeling</i> Paul Bocheck and Shih-Fu Chang (Columbia University) • <i>On Evaluating the Cost-Performance Characteristics of Disk Storage Systems Supporting Continuous Media</i> D. Venkatesh and T.D.C. Little (Boston University)
12:00-13:00	Lunch
13:00-17:00	Excursion (To Kamakura)
17:30-18:30	PC Meeting
18:30-20:00	Banquet
20:00-22:00	<p>Work in progress Sessions "Operating Systems Support" Session Chair: Steve Pink (Swedish Institute of Computer Science)</p> <ul style="list-style-type: none"> • <i>Comparative Evaluation of Server-push and Client-pull Architectures</i> Sriram S. Rao, Harrick M. Vin, and Ashis Tarafdar (University of Texas at Austin) • <i>A Network Striped Storage System for Video on Demand</i> Feng Shi (University of Cambridge) • <i>Continuous Media Storage System supporting Constant Frame Rate with Variable Bit Rate Streams</i> Tatsuo Nakajima and Hiroshi Tezuka (Japan Advanced Institute of Science and Technology) • <i>Effective Utilization of Disk Bandwidth for Supporting Video-On-Demand</i> Yen-Jen Oyang, Chih-Yuan Cheng, Meng-Huang Lee, Fu-Ching Wang, and Chun-Hung Wen (National Taiwan University) • <i>State-based Buffer-Cache Design for a Multimedia File System</i> Thirumale N. Niranjan and Gerhard A. Schloss (State University of New York at Stony Brook) • <i>QOS Translation and Session Coordination Technique for Multimedia Systems</i>

Nobuhiko NISHIO and Hideyuki TOKUDA (Keio University)

- *Memory and Disk Bandwidth Management in Video-on-Demand Servers*

Fu-Ching Wang, Chih-Yuan Cheng, Meng-Huang Lee, Chun-Hung Wen, Tzu-How Lin, Szu-Chi Wang, and Yen-Jen Oyang (National Taiwan University)

- *Soft Real-Time Handling Methods in a Soft Real-Time Framework*

Changpeng Fan (German National Research Center for Information Technology)

- *Load Balancing and VCR Functionalities Support via Subband Coding Techniques*

John C.S. Lui and K.W. Law (The Chinese University of Hong Kong)

- *Guaranteeing the Execution of User-Level Real-Time Threads*

Shuichi Oikawa and Hideyuki Tokuda (Keio University)

- *Performance Evaluation of Extended X-Window System for Video Applications*

Seiji Tada (Hewlett-Packard Japan)

Friday, April 26, 1996

7:30-8:30
Breakfast Buffet

8:30-10:00
Technical Sessions VII "**QOS Control**"
Session Chair: Kevin Jeffay (University of North Carolina at Chapel Hill)

- *Q-Thread: A New Execution Model for Dynamic QOS Control of Continuous-Media Processing*
Kiyokuni KAWACHIYA (IBM Research Tokyo Research Laboratory) and Hideyuki TOKUDA (Keio University)
- *Timing Control of Stream Handlers in a Distributed Multi-Threaded Environment*
Tobias Helbig (University of Stuttgart)
- *Scalable Multimedia-On-Demand via World-Wide-Web (WWW) with QOS Guarantees*
Milind M. Buddhikot, Gurudatta M. Parulkar, and R. Gopal (Washington University)

10:00-10:30
Break

10:30-12:00
Technical Sessions VIII "**Mobile environment and Real-Time Window Systems**"
Session Chair: Hideyuki Tokuda (Keio University)

- *Handling Continuous Media in Mobile Computing Environment*
Akihiro Hokimoto and Tatsuo Nakajima (Japan Advanced Institute of Science and Technology)

- *Soft State Header Compression for Wireless Networks*

Mikael Degermark (Lulea University) and Stephen Pink (Swedish Institute of Computer Science)

- *Quantitative Window System Engineering*

John E. Sasinowski and Jay K. Strosnider (Carnegie Mellon University)

12:00-
13:00

Lunch

13:30

Workshop ends

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NOSSDAV96

Online Registration



REGISTRATION INFORMATION

To maintain atmosphere, the Workshop is limited to 80 participants.

For this reason, the following registration procedure observed will be:

1. All PC members are entitled to attend (register NOW!).
2. Paper authors are entitled to attend (register NOW!).
3. Other participants, FCFS.

Registration Fees:

	Single-bed room	Double Occupancy of a Twin-bed room
IEEE or ACM-Members	68,000 Yen	64,000 Yen
Non-members	70,000 Yen	66,000 Yen

Registration fee includes:

- Attending the Workshop and Excursion
- Receiving conference kit: a program, a copy of the proceedings, and a list of participants
- A room (single or twin) with bath (April 23 - 26 / 3 nights)
- All meals (breakfasts, lunches and dinners)
- Admission to the welcome reception (April 23)
- Admission to the banquet (April 25)
- Coffee and refreshments

Note:

1. There is no discount for the registration fee, even if you do not wish accommodations at Shonan Village International Conference Center.
2. If you wish to share a room with a certain person, please specify the name in the appreciate column of the registration form.

Application and Payment:

Applications for registration should be made by completing and sending the Registration Form to the Registration Office no later than March 20, 1996. After this date, participants from the waiting list will be solicited. All applications should be accompanied by full payment of the registration fee in Japanese YEN.

Confirmation of Registration:

Upon receiving your completed Registration Form and confirming your remittance of the registration fee, the Registration Office will send you a confirmation/receipt. The confirmation must be retained and presented at the Registration Desk to receive a conference materials.

Cancellation and Refund Policy:

Cancellation should be made in writing to the Registration Office. The amount of refund will depend on the date of cancellation as follows: Cancellation received on or before March 20, 1996 amount paid minus bank charge for the refund. Cancellation received from March 21, 1996 to April 1, 1996 amount paid minus 50 % and bank charge for the refund. Cancellation received after April 2, 1996 No refund will be made. All the refund will be made after the Conference.

Please address registration forms or inquiries to the Registration Office of NOSSDAV96.

Registration Office of NOSSDAV96

c/o International Communications Specialists, Inc.

2F, Kasho Bldg., 2-14-9 Nihombashi, Chuo-ku, Tokyo, 103, Japan

Phone: +81-3-3272-7981 Fax: +81-3-3273-2445

E-mail: nossdav96@ics-inc.co.jp

NOSSDAV96

Online Registration Form

Title Prof. Dr. Mr. Ms.
Family Name
Given Name
Affiliation
Office Home
Mailing Address
City/State **Zip Code**
Country
Phone **Fax**
e-mail
Membership IEEE ACM **Membership #**
Status PC Member Author Other
Special needs

Accommodation

Room type Single Twin

Check-in April

Check-out April

Number of Room(s)

Vegetarian meals Yes No

Sharing room with (name)

Payment

Payment Method Bank Check Bank Transfer Card Cash

Card Name Visa Master Diners Amex

Card Number

Expiration Date

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E-mail: nossdav96@ics-inc.co.jp

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Network and Operating Systems Support for Digital Audio and Video
NOSSDAV 96

April 23 - 26, 1996, Zushi, Japan

REGISTRATION FORM

Please type or print in block letters and send / Fax / E-Mail this form to:

Registration Office of NOSSDAV 96
c/o International Communications Specialists, Inc.
2F, Kasho Bldg., 2-14-9, Nihombashi, Chuo-ku, Tokyo 103, Japan

Participant Name

(Check one)

Prof. Dr. Mr. Ms.

(Last/Family Name) (Fast/Given Name)

Affiliation (University, Company, etc.)

Department

Mailing Address (Check) Office Home

Address: _____

City/State: _____ Country: _____

Zip Code: _____

Daytime Phone: _____

FAX: _____

E-mail: _____

IEEE or ACM Membership No: _____

Status: PC member Author Other

FEES: check the appropriate selection

Registration, all meals, lodging:

IEEE or ACM Member: 68,000 Yen
 Non Member: 70,000 Yen
 Subtract 4,000Yen for double occupancy -4,000 Yen

Total Amount: _____ Yen

Hotel Accommodation:

Single Room Type
 Twin Room Type

Sharing a room with (name): _____

Hotel Check in: Apr. ____

Hotel Check out: Apr. ____

Special dietary requirements:

I will require Vegetarian meals

Other Special Needs: _____

METHODS OF PAYMENT:

Here with enclosing a bank draft payable to NOSSDAV 96

I have remitted the above sum of _____ Yen
by bank transfer through my bank _____
(name of your bank)

to : A/C Name: NOSSDAV 96

A/C No.: 1260189

The Bank of Tokyo, Marunouchi Branch

*Please send / Fax a copy of your bank's receipt with this form to avoid possible confusion.

Credit card: Visa Master Card AMEX Diners Club

Card number: _____

Expiration date: _____

(Month) (Year)

Name of the card holder: _____

Signature: _____

Date: _____

Please mail the completed registration form with payment to:

NOSSDAV96 Registration Desk,
2F, Kasho-building, 2-14-9, Nihonbashi, Chuo-ku, Tokyo, 103 Japan

or FAX to +81-3-3273-2445 and include credit card information

or E-mail to nossdav96@ics-inc.co.jp

GENERAL INFORMATION

Transportation

The Shonan Village International Conference Center is located at the center of Miura Peninsula, some 144 kilometers from the New Tokyo International Airport Narita. The most convenient and economical access to the Center by Narita Airport Japan Railways(JR) Yokosuka Line train. The station is located directly beneath the airport terminal building. This train requires no extra charge. Some Narita Airport trains go directly to the JR Zushi station, but others do not. So be sure you board the right one.

Buses for Shonan Village leave the JR Zushi station. Proceed from the East Exit of the station to the No. 1 bus stop, which is to the left. Not all buses using No. 1 go to the campus, however. So be sure to board only Bus No. 16. Bus fare is 330 yen, payable when getting off. The stop where you get off is just in front of the Shonan Village Center Hotel. In case you miss a bus, you may take a taxi. Tell the driver "Shonan Village Center" - they all know the place. Fare is about 2,300 yen.

Keihin-Kyuko Bus Schedule

JR Zushi Station_ -> Shonan Village_____

Departure 6:55 7:35 8:05 8:18 8:40 9:20 10:40 11:40 12:35

Arrival 7:25 8:05 8:35 8:48 9:10 9:50 11:10 12:10 13:05

Departure 13:15 14:25 15:24 16:02 16:42 17:15 18:05 18:40 19:55

Arrival 13:45 14:55 15:54 16:32 17:12 17:45 18:35 19:10 20:25

Registration Desk

The registration desk will be set up in a corner of the entrance lobby of the Shonan Village Center Hotel. Participants who have pre-registered may receive their Workshop kit at the desk.

Registration Office of NOSSDAV96
c/o International Communications Specialists, Inc.
2F Kashi Bldg., 2-14-9 Nihombashi, Chuo-ku, Tokyo 103, Japan
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Call for Papers



The 6th International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV 96)

April 23 - 26, 1996

Shonan Village International Conference Center, Zushi, Japan

Objectives

The 6th International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV 96) is the international workshop among active researchers and practitioners who are building innovative multimedia systems, networks and applications. While we will focus on the state of the art technology in networking and operating system support for multimedia systems, we will also seek for practitioners' papers from a variety of area, including media toolkit, mobile communications, VR, real-time systems, software agents, digital library, and distributed computing systems. It is also intended to provide extensive discussion periods during the workshop to discuss the important issues which may require future research. Relevant topics for the workshop include:

- High-speed/ATM networks
- Multimedia-oriented desk, local and wide area networks
- Workstation and PDA architectures for multimedia
- Multimedia network interfaces
- Cell-based system architectures
- Mobile systems for multimedia
- Communication protocols for multimedia
- Multicast protocols and media scaling
- Micro-kernel and OS support for real-time communications
- Resource management and reservation in the OS and network
- End-to-end admission control
- Quality of service and synchronization frameworks
- Multimedia storage, server, and I/O architectures
- Distributed multimedia systems
- APIs and CM programming abstractions for multimedia
- TV set-top device communication
- VOD system architecture
- Software agents for multimedia systems
- VR systems

Submissions

Two types of submissions are solicited: position papers and research papers. For the purpose of paper review, position papers are restricted to three single-spaced ASCII pages. Research papers are restricted to an extended abstract no

longer than five formatted postscript pages. Papers should be electronically mailed to **nossdav96@sfc.keio.ac.jp**.

Only if electronic submission is impossible, papers may be sent to the following e-mail address.

Prof. Hideyuki Tokuda
Keio University, 5322 Endoh, Fujisawa, Japan 252
Phone: +81-466-47-5000 (wait for 2 sec. then 3129)
Fax: +81-466-47-0835
E-mail: hxt@sfc.keio.ac.jp

The proceedings of the workshop will be published by Springer-Verlag and the best papers will be forwarded to selected journals for publication.

Important Dates

Submission Deadline 1/5/96
Acceptance Notification 2/12/96
Final Paper Due 3/18/96
Workshop: 4/23/96-4/26/96

Program Chair:

Hideyuki Tokuda, Keio University/Carnegie Mellon University

Program Committee:

Domenico Ferrari, University of California, Berkeley
Simon Gibbs, Univ. of Geneva, Switzerland
Riccardo Gusella, HP Labs
Ralf Herrtwich, IBM Creative Multimedia Studios
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Andy Hopper, Olivetti & University of Cambridge
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Duane Northcutt, Sun Microsystems Laboratories
Guru Parulkar, Washington University
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Ragunathan Rajkumar, Carnegie Mellon University
P. Venkat Rangan, University of California, San Diego
Jon Rosenberg, Bell Communications Research
Doug Shepherd, Lancaster University
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Jean-Bernard Stefani, France Telecom/CNET
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Daniel Swinehart, Xerox PARC
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Tatsuo Nakajima, JAIST, Japan

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Shuich Oikawa, Keio University, Japan

Local Arrangement Chair and Finance Chair

Akira Nambu, NTT, Japan

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