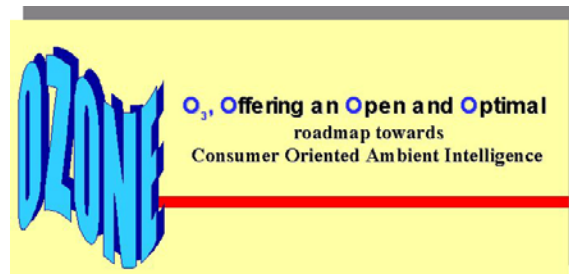




# IST-2000-30026 OZONE PROJECT



D16: Report on the Dissemination Activities

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## Abstract

This document reports on the dissemination activities of the OZONE project.

Next to producing an impressive number of publications in conferences, workshops and journals, the main achievement of the OZONE project has been the organization of a special day on Ambient Intelligence at the DATE 2003 conference. This event has contributed to bridge the gap between the Ambient Intelligence vision and the electronic system design community.

Two “spin-off” results of DATE 2003 are the publication of an Ambient Intelligence book and the decision by the DATE Executive Committee has to make Ambient Intelligence a regular recurring topic.

This document is complementary to D17 “Report on the Standardisation Activities” which includes the description of OZONE dissemination activities through standardisation bodies.

## Keyword list

Dissemination, conferences, workshops, academic publications

Consortium Confidential  
Project Internal Information

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## **1. Introduction**

To achieve a high visibility of the project, the OZONE consortium has aimed to make its results known to the wider relevant research and industrial communities. This deliverable deals specifically with how this has been achieved through participation to conferences, workshops, conventions and exhibitions and through publication of OZONE results in academic journals.

This document first discusses the participation to conferences, events and workshops. Subsequently, publications in academic journals are being presented. Then, special attention is being paid to the special Ambient Intelligence day organized by OZONE at DATE 2003.

In conclusion, an outlook is given of envisaged post-project dissemination activities.

## 2. Participation to conferences, events and workshops

This section lists the OZONE contributions that have been accepted or published in conferences and workshops.

A total of 38 papers have been published and different initiatives have been undertaken to reach a broad, non-specialist, and audience.

### 2.1 Seminars, conferences and workshops

1. V. Issarny. OZONE: New Technologies and Services for Nomadic Societies. Seminar Aristote-College de Polytechnique on La nouvelle interaction homme-environnement. Palaiseau, 6 June 2002.
2. V. Issarny. Middleware Infrastructure for Ad Hoc Distributed Systems. Rencontre INRIA-Iliatech on Architectures de systemes distribues pour l'intelligence ambiante. Roquencourt, 25 June 2002.
3. V. Issarny. Mobile System & Middleware for Consumer-oriented Ambient Intelligence. ERCIM/NSF Strategic Workshop on Middleware for Mobile Systems. Vienna, 1-2 July 2002.
4. V. Marangozova and D. Hagimont. Non-functional Replication Management in the Corba Component Model. Proceedings of the 8th International IFIP/ACM Conference on Object-Oriented Information Systems. Montpellier (France). September 2002.
5. INRIA has been involved in the joint French conference TALN (Automatic Processing of Natural Languages) + JEP (Spoken Language Communication), held in Nancy at the end of June 2002. 280 scientists attended these conferences dedicated to the processing of written and spoken languages. INRIA teams involved in multimodality aspects of the OZONE project organized these two conferences.
6. INRIA has been involved in the conference TKE (Terminology and Knowledge Engineering) was held in Nancy from 28<sup>th</sup> to 30<sup>th</sup> August (100 participants) and addressed the issue of computational terminology.
7. Christian Hentschel, has given an invited presentation at the Regional FKTG (Fernseh- und Kinotechnische Gesellschaft) event in Hamburg, November 12, 2002.
8. Dynamic Control of Scalable Media Processing Applications” by Clemens C. Wüst, Wim F.J. Verhaegh, Proceedings of the 1st Philips Symposium on Intelligent Algorithms (SOIA02), December 2002, pp. 119-131.
9. M.C.W. Geilen and T. Basten. Requirements on the Execution of Kahn Process Networks. In P. Degano, Programming Languages and Systems, 12th European Symposium on Programming, ESOP 2003, Proceedings, pages 319-334. Warsaw, Poland, 7-11 April 2003. Lecture Notes in Computer Science 2618. Springer, Berlin, Germany, 2003.
10. Q. Zhao, B. Mesman, H. Corporaal, “Limited-address range architecture for reducing code size in embedded processors”. In SCOPES 2003, 7th International Workshop on Software and Compilers for Embedded Systems. Vienna, Austria, 24-26 September 2003. Springer, Berlin, Germany, 2003.
11. P. Poplavko, T. Basten, M. Bekooij, J. van Meerbergen, and B. Mesman, “Task-level Timing Models for Guaranteed Performance in Multiprocessor Networks-on-Chip.” In Compilers, Architecture, and Synthesis for Embedded Systems, International Conference, CASES 2003, Proceedings, pages 63-72. San Jose, CA, USA, 30 October - 1 November 2003. ACM Press, New York, NY, USA, 2003.
12. Q. Zhao, B. Mesman, and T. Basten. Static Resource Models for Code-Size Efficient Embedded Processors. EUT Report 02-E-312, Eindhoven University of Technology, Department of Electrical Engineering, Eindhoven, The Netherlands, 2002. To appear in ACM Transactions on Embedded Computing Systems.

13. Myriam Amielh, Sylvain Devillers, Bitstream Syntax Description Language: Application of XML-Schema to Multimedia Content, 11th International World Wide Web Conference, Honolulu, USA, May 6-11, 2002.
14. Eric Delfosse, Gauthier Lafruit, Jan Bormans, Streaming MPEG-4 textures: a 3D view-dependent approach, International conference on Acoustics, Speech and Signal Processing, Orlando, USA, May 13-17, 2002.
15. R. Osorio, S. Devillers, E. Delfosse, M. Amielh, G. Lafruit, Bitstream Syntax Description Language for 3D MPEG-4 view-dependent texture streaming, International conference on Image Processing, Rochester, USA, September 22-25, 2002.
16. Nicolaas Tack, Gauthier Lafruit, Rudy Lauwereins, Visual and complexity analysis of the extended loop subdivision scheme, Proceedings of the International Conference on Geometric Modeling and Graphics, pp 168-173, London, UK, July 16-18, 2003.
17. V. Issarny, D. Sacchetti, F. Sailhan, F. Tartanoglu. Enabling Ambient Intelligence via the Web. Congrès DNAC- Nouvelles Architectures pour les Communications-La génération Wi-Fi et l'Internet ambient. December 2002, Paris, France.
18. F. Sailhan and V. Issarny. Cooperative Caching in Ad Hoc Networks. Proceeding of the 4th International Conference on Mobile Data Management (MDM). January 2003, Melbourne, Australia.
19. T. Basten, L. Benini, A. Chandrakasan, M. Lindwer, J. Liu, R. Min, and F. Zhao. Scaling into Ambient Intelligence. In N. Wehn and D. Verkest, eds, Design, Automation and Test in Europe, DATE 03, Proceedings, pp. 76-81. München, Germany, 3-7 March 2003. IEEE Computer Society Press, Los Alamitos, CA, USA, 2003.
20. M. Lindwer, D. Marculescu, T. Basten, R. Zimmermann, R. Marculescu, S. Jung, and E. Cantatore. Ambient Intelligence Visions and Achievements; Linking abstract ideas to real-world concepts. In N. Wehn and D. Verkest, eds, Design, Automation and Test in Europe, DATE 03, Proceedings, pp. 10-15. München, Germany, 3-7 March 2003. IEEE Computer Society Press, Los Alamitos, CA, USA, 2003.
21. Michael van Hartskamp en Peter van der Stok, "Robust real-time IP-based multimedia communication" presented to RTLIA'03 workshop in Porto, July 1, 2003.
22. Sylvain Devillers, "An Extension of BSDL for Multimedia Bitstream Syntax Description", presented at Euro-Par 2003 International Conference on Parallel and Distributed Computing, 26th - 29th August 2003 in Klagenfurt, Austria.
23. G. Boisson, E François, D Thoreau, C Guillemot, "Motion-compensated spatio-temporal context-based arithmetic coding for full scalable video compression", PCS'03, St Malo, France, April 03.
24. Papalau, L.M.; Otero Perez, C.M.; Steffens, E.F.M., "Improving flexibility and robustness in consumer terminals: QoS control framework", IEEE Multimedia Workshop; December 18 2003, Eindhoven, The Netherlands.
25. Stok, P.D.V. van der (ed.);Hartskamp, M.A. van : "Robust real-time IP-based multimedia communication"; Euromicro 2nd Int. Workshop on Real-Time LANs in the Internet Age.
26. "QoS-aware Service Location in Mobile Ad Hoc Networks", at the 5th IEEE International Conference on Mobile Data Management (MDM'2004), Berkeley, CA, USA, January 2004.
27. Bernhard Feiten of T-Systems on "Controlling the quality of audio services in the Internet" at the 116<sup>th</sup> Convention of the Audio Engineering Society, 2004 May 8–11 Berlin, Germany.
28. M.C.W. Geilen, T. Basten. Reactive Process Networks. EMSOFT 2004, Fourth ACM International Conference on Embedded Software.
29. "Enhanced Reputation Mechanism for Mobile Ad Hoc Networks" by J. Liu and V. Issarny. Published in Proceedings of the Second International Conference on Trust Management (iTrust'2004), Oxford, UK. March 2004.
30. J. Liu and V. Issarny, "On Service Allocation in Selfish Mobile Ad Hoc Networks", Published in Proceedings of the EDBT International Workshop on Pervasive Information Management (PIM'2004). March 2004.

31. Guillaume Boisson, Edouard François and Christine Guillemot, "Efficient Scalable Motion Coding for Wide-Range Scalable Video Compression", The XII European Signal Processing Conference EUSIPCO 2004, Vienna, Austria, 7-10 September 2004.
32. M.C.W. Geilen and T. Basten, "Reactive Process Networks", Embedded Software, Fourth ACM International Conference, EMSOFT 2004, Proceedings. Pisa, Italy, 27-29 September, 2004. ACM Press, New York, NY, USA, 2004.
33. "Software Architecture for Mobile Distributed Computing" by V. Issarny, F. Tartanoglu, J. Liu, and F. Sailhan. Proceedings of the 4th Working IEEE/IFIP Conference on Software Architecture (WICSA'04). 12-15 June 2004. Oslo, Norway.
34. "Group Management for In-home Ad hoc Network" by M. Boulkenafed, V. Issarny and J. Liu. ECRTS International Workshop on Real-Time for Multimedia - Special Focus on Real-time Middleware for Consumer Electronics (RTMM). 29 June 2004. Catania, Italy.
35. "Using Group Management to Tame Mobile Ad hoc Networks" by M. Boulkenafed, D. Sacchetti and V. Issarny. Proceedings of the IFIP TC8 Working Conference on Mobile Information Systems (MOBIS). 15-17 September 2004. Oslo, Norway.
36. "User Activity Synthesis in Ambient Intelligence Environments" by N. Georgantas and V. Issarny. In Adjunct Proceedings of Second European Symposium on Ambient Intelligence (EUSAI 2004). 8-10 November 2004. Eindhoven, The Netherlands.
37. "Architecture Exploration for 3G Telephony Applications Using a Hardware-Software Prototyping Platform". Proceedings of the SAMOS'2004: workshop on Systems, Architectures, Modeling, and Simulation, Samos, Greece, July 2004.
38. "Seamless access to mobile services for the mobile user" by D. Sacchetti, R. Chibout, V. Issarny, C. Cerisara and F. Landragin. Demonstration and poster presented at the IEEE International Conference on Software Engineering (ASE'2004). 20-25 September 2004. Linz, Austria.

## 2.2 Initiatives targeting a broad audience

1. During the French "Fête de la Science" several demonstrations of INRIA solutions to natural language processing and speech analysis and recognition were presented to the public.
2. The shooting of a video of the "Away" demonstrator has been organized by INRIA for demonstration at the final OZONE review but also showing OZONE results towards a large audience. This includes showing the movie at various events such as IST'2004 and distributing the DVD to interested parties. In addition, further edition of the DVD is ongoing for enriching it with detailed technical information about the underlying OZONE technology.
3. The OZONE distributed middleware has been released as open source software under the LGPL license. The software and supporting documentation is available at the following URL: <http://www-rocq.inria.fr/aries/download/ozone/index.html>.

### 3. Publications in academic journals

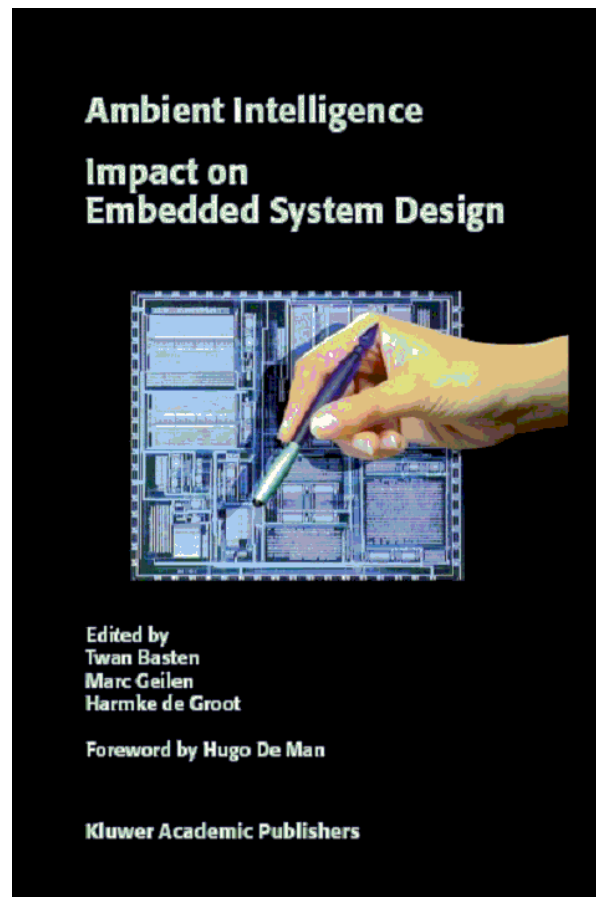
This section lists the 10 OZONE contributions that have been published in academic journals.

1. Q. Zhao, B. Mesman, and T. Basten, "Static Resource Models for Code-Size Efficient Embedded Processors", ACM Transactions on Embedded Computing Systems, 2(2):1-32, May 2003. ACM Press.
2. B. Mesman, Q. Zhao, N. Busa and K. Leijten-Nowak. Reconfigurable Instruction-Set Application-Tuning for DSP. Journal of Circuits, Systems and Computers,12(3):333-351, June 2003. World Scientific
3. Q. Zhao, B. Mesman, and T. Basten, "Static Resource Models for Code-Size Efficient Embedded Processors", EUT Report 02-E-312, Eindhoven University of Technology, Department of Electrical Engineering, Eindhoven, The Netherlands, 2002. To appear in ACM Transactions on Embedded Computing Systems (see also above).
4. J. Bormans, J. Gelissen, Adrew Perkins, "MPEG-21: THE TWENTY-FIRST CENTURY MULTIMEDIA FRAMEWORK" IEEE Signal Processing Magazine, March 2003, Special Issue on Universal Multimedia Access.
5. Gabriel Panis, Andreas Hutter, Jörg Heuer, Hermann Hellwagner, Harald Kosch, Christian Timmerer, Sylvain Devillers, Myriam Amielh, Bitstream syntax description: a tool for multimedia resource adaptation within MPEG-21, Special Issue on Multimedia Adaptation, Eurasip Signal Processing: Image Communication, Fall 2003.
6. Gauthier Lafruit, Eric Delfosse, Roberto Osorio, Wolfgang van Raemdonck, Vissarion Ferentinos, Jan Bormans, View-dependent, scalable Texture Streaming in 3D QoS with MPEG-4 Visual Texture Coding, Accepted for IEEE Tr. Circuits and Systems for Video technology, Special issue on AFX, Planned publication: 2004.
7. C Otero-Perez, L. Steffens, P. van der Stok, R.J. Brill S. van Loo, A. Alonso, J. Ruiz, M. Valls, QoS-based Resource Management for Ambient Intelligence, in Ambient Intelligence: Impact on embedded System Design, Kluwer, pp 159-182, 2003.
8. "Service allocation in selfish mobile ad hoc networks using Vickrey auction" by J. Liu and V. Issarny. To appear in W. Lindner, M. Mesiti, C. Türker, Y. Tzikzikas, A. Vakali (editors): Current Trends in Database Technology - EDBT 2004 Workshops: PhD, DataX, PIM, P2PDB, ClustWeb, Heraklion, Greece, March 14-18, 2004, Revised Papers. Lecture Notes in Computer Science 3268, Springer-Verlag, Berlin, 2004.
9. Bormans, J.; Pham Ngoc, N.; Deconinck, G. and Lafruit, G., "Terminal QoS: advanced resource management for cost-effective multimedia applications," Chapter in: Ambient Intelligence: Impact on Embedded System Design, Kluwer; 2003.
10. Chirila-Rus Adrian, Lafruit Gauthier, Masschelein Bart, "Scalability and error protection. Means for error-resilient, adaptable image transmission in heterogeneous environments", Chapter in: Ambient Intelligence: Impact on Embedded System Design, Kluwer; 2003.

#### 4. Design Automation & Testing Europe 2003

From April 2002, OZONE staff has been involved in the organization of a special day on Ambient Intelligence at the DATE 2003 conference (Design, Automation, and Test, <http://www.date-conference.com>). The aim of the DATE Executive Committee and the OZONE consortium was to explore the impact of the Ambient Intelligence vision on electronic system design. The conference and the special day took place in Munich in March 2003.

- From the beginning of the Ambient Intelligence initiative, the impact of the Ambient Intelligence vision on the services and middleware system layers has been much clearer than the impact on the lower levels of abstraction related to hardware and electronics design. This was the reason for the DATE Executive Committee to invite the OZONE consortium to organize this special day, and for the OZONE consortium to accept this invitation.
- The organization was taken up by Menno Lindwer (PRE) and Twan Basten (TU/e). Their task was to organize or invite a number of special sessions on the Aml topic, and to publicize the event. After an exploration of potential topics and speakers, three topics were chosen: Visions & Achievements, Scalability, and Security. The three resulting special sessions were complemented with an invited lecture of Emile Aarts, Vice President Philips Research.
- The Visions & Achievements session explored visions and concrete achievements on Aml related topics in electronics design (EC Vision, wearable electronics, organic electronics, mobility management), and was organized by Menno Lindwer. The Scalability session focused on scalable compute platforms, energy-quality scalable communication, and scalable software, and was organized by Twan Basten. The Security session focused on security for handheld devices, and was invited.
- The special day was well received. The invited lecture was attended by approximately 200 people, whereas the special sessions attracted 70-75 people. Only the special sessions on reconfigurability, another special day at DATE 2003, attracted a larger audience than the Aml special sessions.
- An other important result of the OZONE DATE activity is that Kluwer invited us to edit a special volume on this special day. We accepted this invitation and Twan Basten, Marc Geilen (both TU/e) and Harmke de Groot (PRE) functioned as editors. The book was officially presented at the European Symposium on Ambient Intelligence (EUSAI 2003) in Veldhoven on November 4: T. Basten, M.C.W. Geilen, H.W.H. de Groot, editors. "Ambient Intelligence: Impact on Embedded System Design". Kluwer Academic Publishers, November 2003. ISBN 1-4020-7668-1. The book contains contributions from the DATE special day participants, the OZONE consortium, and solicited and invited contributions (see cover picture below).



- Furthermore, the DATE Executive Committee has decided to make Aml a regular topic in the main conference. Twan Basten has accepted the invitation to become topic chair for this topic and Menno Lindwer has accepted a position in the Program Committee.
- The main conclusion is that the joint OZONE and DATE 2003 Aml initiative has been a major step in bridging the gap between the Aml vision and the electronic system design community. The electronic design community is now aware of the vision, and interest and initiatives related to Aml are increasing. In this respect, Europe is catching up with the US, where active work on pervasive and ubiquitous computing, for example, is already in a much more advanced state than in Europe.
- The initiative has also had impact on the OZONE work. OZONE was (one of) the first initiative(s) attempting to translate the consequences of the Aml vision to electronics system and platform design. The active cooperation of OZONE staff with experts worldwide has led to a further fine-tuning of our views on these consequences. As an example, the crucial importance of the fact that platforms, computational models, and development tools must be able to cope with a very large degree of heterogeneity and dynamism has been confirmed, and this input is of course taken into account in our research and development activities.

**5. Outlook of envisaged post-project dissemination activities**

Work performed in OZONE will be disseminated by publications also after the formal end of the project. These publications fall into three categories:

1. OZONE papers that have been accepted but not yet published.  
E.g., Guillaume Boisson, Edouard François and Christine Guillemot - ACCURACY-SCALABLE MOTION CODING FOR EFFICIENT SCALABLE VIDEO COMPRESSION, ICIP'04, Singapore, October 2004.
2. OZONE papers that have been submitted from which the acceptance is yet unknown.  
E.g., IEEE TMM (Transactions on MM) in a special issue on MPEG-21 by Bernhard Feiten of T-Systems on "Audio Usage Environment and Adaptation of Perceived Quality of Service".
3. Papers about OZONE results that have not yet been written.  
E.g., it is expected that, with additional research effort, some results on both the multiprocessor-programming environment and on the constraint-based backend compiler environment developed within OZONE will become suitable for journal publication.

It is expected that some 5 to 10 additional papers will be published as a result of the above approach.