

Final Program



25-27, October 2004



United Nations Educational,
Scientific and Cultural Organization

Organized by



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L-UNIVERSITÀ TA' MALTA



UNIVERSITY OF MALTA

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General Information

1. Conference Location

The ESMc conference is held at the main building of UNESCO at 7, place de Fontenoy, 75352 Paris 07 SP France. **General phone number: +33 (0)1 45 68 10 00, Fax number: +33 (0)1 45 67 16 90** The registration desk will be placed near the main entrance on Monday morning onwards, where registration will start from 8.30 till 9.15. After 9.15 a.m.. the desk will be moved to the hallway leading up to the meeting rooms. On Monday and Tuesday registration will be from 8.30 a.m. - 5.00 p.m. with Wednesday registration only from 8.30 a.m.- 08.45. a.m.

ALL MAPS ARE AT THE BACK OF THIS PROGRAMME

2. Badges

Each registrant will receive a name badge upon registration. The badge must be worn,, in order to be admitted to the technical sessions, lunches and social event.

3. Tickets

Extra tickets for the social event and lunches are available from the registration desk. Price: (or equivalent in another currency) for extra tickets

lunch	€ 40
conference dinner:	€ 50

4.Registration

The ESM'2004 Registration Desk will be open for information and registration:

Monday, October 25..... 8.15 a.m. to 5.00 p. m. at the entrance and in the hallway.

Tuesday, October 26..... 8.15 a.m. to 5.00 p. m. in the hallway

Wednesday, October 27 8.30 a.m.

5. Conference Proceedings

Each fully paid registrant will be provided with a copy of the Conference Proceedings (printed format) **This is NOT applicable to students who are not authors.** (Extra copies, are available on a cash and carry basis at special rates during ESM'2004)

Price:(or equivalent in another currency) for an extra copy

ESM'2004 Proceedings	50 EURO
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General Information

6. Meeting Rooms

The four meeting rooms will be indicated by EUROSIS signs at the event. The rooms used for the meeting are Rooms VI (A) and VII (B). Hereafter designated in the final programme as ROOM A and B.

7. Need Help?

Please see the conference desk for your questions

8. Social Events and Lunches

All registrants are invited to

All **buffet lunches** are served at UNESCO

The **Get-Together Party** will be held on Monday evening at UNESCO

The Conference Dinner

All participants are invited to the conference dinner on Tuesday the 26th of October. The conference dinner will be held at la Coupole, 102, bd du Montparnasse, F-75014 Paris. Métro : Vavin. Tel: 33 (0)1 43 20 14 20, Fax: 33 (0)1 43 35 46 14.

As we need to give an exact number of participants for this event, we would appreciate **your confirmation at the desk before Monday evening.**

General Information

10. Other

Best Paper Award

During the conference the papers, which were accepted as extended papers will be judged by the committee in order to choose the best paper of the ESM'2004 conference.

ALL SESSION CHAIRPERSONS IN THIS PROGRAM ARE PROVISIONAL

THE NUMBERS NEXT TO THE PRESENTATIONS DENOTE THE PAGE-NUMBERS IN THE PROCEEDINGS. IF NO NUMBERS ARE MENTIONED THEN THIS PAPER IS NOT PUBLISHED IN THE PROCEEDINGS

THE AUTHORS WHO ARE UNDERLINED ARE NORMALLY THE PRESENTERS

PAPERS IN GREY BOXES ARE THE EXTENDED PAPERS ELIGIBLE FOR THE BEST PAPER AWARD

CHECK OUT THE OTHER EUROSIS EVENTS ON OUR WEBSITE:

<http://biomath.rug.ac.be/~eurosis> and <http://www.eurosis.org>

MONDAY, 25th OCTOBER 2004					
08.30-17.00	REGISTRATION				
09.15-10.15	OPENING SESSION AND INVITED SPEECH BY TUDOR NICULIU				
10.15-10.30	COFFEE BREAK				
10.30-12.30	PARALLEL SESSIONS				
	<table border="1"> <tr> <td>ROOM A</td> <td>ROOM B</td> </tr> <tr> <td>SIMULATION METHODOLOGY I</td> <td>MARINE ENVIRONMENT SIMULATION</td> </tr> </table>	ROOM A	ROOM B	SIMULATION METHODOLOGY I	MARINE ENVIRONMENT SIMULATION
ROOM A	ROOM B				
SIMULATION METHODOLOGY I	MARINE ENVIRONMENT SIMULATION				
12.30-13.30	LUNCH BREAK				
13.30-15.00	PARALLEL SESSIONS				
	<table border="1"> <tr> <td>ROOM A</td> <td>ROOM B</td> </tr> <tr> <td>SIMULATION METHODOLOGY II</td> <td>BACK-UP SESSION</td> </tr> </table>	ROOM A	ROOM B	SIMULATION METHODOLOGY II	BACK-UP SESSION
ROOM A	ROOM B				
SIMULATION METHODOLOGY II	BACK-UP SESSION				
15.00-15.30	COFFEE BREAK				
15.30-18.00	PARALLEL SESSIONS				
	<table border="1"> <tr> <td>ROOM A</td> <td>ROOM B</td> </tr> <tr> <td>SIMULATION METHODOLOGY III</td> <td>SIMULATION IN BIOLOGY</td> </tr> </table>	ROOM A	ROOM B	SIMULATION METHODOLOGY III	SIMULATION IN BIOLOGY
ROOM A	ROOM B				
SIMULATION METHODOLOGY III	SIMULATION IN BIOLOGY				
18.00 – 19.00 GET-TOGETHER-PARTY at UNESCO					

TUESDAY, 26th OCTOBER 2004

08.30-17.00	REGISTRATION	
09.00-10.00	PARALLEL SESSIONS	
	ROOM A	ROOM B
	QUEUEING SYSTEMS SIMULATION I	FLUID FLOW SIMULATION
10.00-10.30	COFFEE BREAK	
10.30-12.30	PARALLEL SESSIONS	
	ROOM A	ROOM B
	QUEUEING SYSTEMS SIMULATION II	AGENT BASED AND NEURAL NET SIMULATION
12.30-13.30	LUNCH BREAK	
13.30-15.00	PARALLEL SESSIONS	
	ROOM A	ROOM B
	ANALYTICAL AND NUMERICAL MODELLING TECHNIQUES I	TUTORIAL DAVID HILL
15.00-15.30	COFFEE BREAK	
15.30-17.30	PARALLEL SESSIONS	
	ROOM A	ROOM B
	ANALYTICAL AND NUMERICAL MODELLING TECHNIQUES II	HIGH PERFORMANCE COMPUTING SIMULATION
20.00	CONFERENCE DINNER AT LA COUPOLE	

WEDNESDAY 27th OCTOBER 2004		
08.30-08.45	REGISTRATION ROOM A	
09.00 10.00	PARALLEL SESSIONS	
	ROOM A	ROOM B
	SIMULATION TOOLS I	PETRI NETS I
10.00-10.30	COFFEE BREAK	
10.30 12.00	PARALLEL SESSIONS	
	ROOM A	ROOM B
	SIMULATION TOOLS II	PETRI NETS II
12.00-12.15	CLOSING SESSION AND BEST PAPER AWARD ROOM A	

NOTES

Monday, 25th October 2004

HALLWAY

Registration

08.30 - 17.00

MAIN HALL

09.15 - 09.30

Opening ESM[®]2004 and Welcome

Welcome Address

**Dr. Carmen Veronica Bobeanu
Ghent University
ESM'2004, General Conference Chair
Welcome by
Philippe Geril
EUROSIS, Ghent University
EUROSIS Coordinator**

Welcome

Monday, 25th October 2004

ROOM A

09.30 - 10.15

INVITED SPEECH

Chair: Carmen Bobeanu, Ghent University, Ghent, Belgium

Looking for Intelligent Reconfigurable Simulation

Tudor Niculiu, Anton Manolescu and Sorin Cotofana **5**

10.15 - 10.30

COFFEE BREAK

Monday, 25th October 2004

10.30 – 12.30

ROOM A- 10.30-12.30

METH

METHODOLOGY I

Chair: Alain Tanguy, Universite Blaise Pascal, Aubiere, France

METH-1

Knowledge integrating in Situative modeling System for nature Technical Complexes

Alexander Fridman, Andrey Oleynik and Olga Fridman.....25

METH-7-AGENT

Flexible Hierarchical Architecture of Simulation Models

Norbert Adamko, Valent Klima, Michal Lekýr and Antonin Kavička 30

METH-11

An Open Source Object-Oriented Architecture for discrete event simulation

L. Castelluzzo, A. Grieco, F. Nucci, S. Zacchino and A. Anglani 35

METH-8-GRAPH

A Heuristic Volume Selection in Dimensional Bounding as an Accelerating Technique in a Ray Tracing

D. Benyamina and N.Hallam..... 43

ROOM B- 10.30-12.30

ENV

MARINE ENVIRONMENT SIMULATION

Chair: Cyrille Bertelle, LIH, Le Havre, France

METH-4

Modelling of Solute Dispersion in Estuaries – mathematical Techniques and Computer Implementation

Naghmeh Keshavarzi-Rooniz, Rahim Ghorashi and Vahid Nassehi 159

LO-2

Methodology for Holarchic Ecosystem Model based on Ontological tool

Guillaume Prevost, Pierrick Tranouez, Sylvain Lerebourg, Cyrille Bertelle and Damien Olivier..... 164

BIO-3-ENV

Model of the nitrogen fixation process in Marine Cyanobacteria

Sophie Rabouille, Karline Soetaert and Marc Staal 172

Monday, 25th October 2004

BIO-6-STUDENT

Towards a Framework for Multi-scale Models of Freshwater Fishes

Nicolas Dumoulin 175

12.30 - 13.30

LUNCH BREAK

13.30 – 15.00

ROOM A- 13.30-15.00

METH

METHODOLOGY II

Chair: Giorgio Romanin-Jacur, University of Padova, Italy

METH-14

Static and Dynamic Equal opportunity Evaluation

Ignacio J. Benítez, José L. Díez, Juan A. Lacort and Pedro Albertos..... 48

METH-23

Discovery of New Global Minima for Lennard – Jones Atomic Clusters Using TRUST Simulations

Jacob Barhen, Vladimir Protopopescu, Gabriel Amselem, Julien Dahan

Christopher Randall and Zachary Vane..... 53

METH-17

A simulation Based Value Stream Mapping Formal Method for Lean Implementation: Atoms, Database and Model generator

Yang-Hua Lian and Hendrik Van Landeghem..... 58

ROOM B- 13.30-15.00

BACK-UP

BACK-UP SESSION

Chair: to be announced later

This session is set up for those authors who could not present their papers in the allocated time-slots.

15.00 - 15.30

COFFEE BREAK

Monday, 25th October 2004

15.30 – 18.00

ROOM A- 15.30-17.00

METH

METHODOLOGY III

Chair: Renate Sitte, Griffith University, Gold Coast, Australia

METH-13

Partitioning and Modular Code Synthesis for Reconfigurable mechatronic Software Components

Sven Burmester, Holger Giese, Alfonso Gambuzza and Oliver Oberschelp 66

METH-18

A Dynamic Type Changes Model for Adaptive Simulation Environments based on Virtual Machine Meta Model

Cristina Mîndrută 74

METH-5

A methodology to reduce the design lifecycle of real-time embedded control systems

Remy Kocik and Yves Sorel 79

ROOM B- 15.30-18.00

BIO

SIMULATION IN BIOLOGY

Chair: Jens Kohlmeyer, University of Ulm, Ulm, Germany

BIO-2

Motor Output Variability in a Joint Control Systems – A Simulation Study

Oliver Straub, Wolfgang Mader, Jessica Ausborn and Wolfgang Stein..... 135

BIO-4

Combining Simulated Biological Components to achieve a Powerful Simulation Environment

Michael Schmid and Jens Kohlmeyer 140

BIO-8

Neural Network Based Model to Flow Cytometric Data Interpretation

G.C. Pereira, A. Bonomo and N.F.F.Ebecken 143

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Analog Modulation of Digital Computation in Nerve Cells Simulating the Stomatogastric Nervous System of the Crab

Wolfgang Stein and Jessica Ausborn 148

Monday, 25th October 2004

BIO-11

Cardiac Resynchronization Therapy by Biventricular Stimulation: Analysis and Models of Patient Management

Sara Bertolino, Stefano Pasinato and Giorgio Romanin-Jacur..... 153

18.00 – 19.00

RESTAURANT- 18.00-19.00
GET-TOGETHER-PARTY AT UNESCO

SOCIAL

Tuesday, 26th October 2004

HALLWAY

Registration

08.30 - 17.00

09.00 – 10.00

ROOM A- 09.00-10.00

METH

QUEUEING SYSTEMS SIMULATION I

Chair: J. Manuel Feliz Teixeira, University of Porto, Portugal

METH-10

**Combination and Interworking of Traffic Flow Analysis and Event Driven
Discrete Event Simulation**

Gábor Lencse..... 89

METH-15-TOOLS

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Eugene Kindler, Ivan Křivý, Philippe Lacomme and Alain Tanguy 94

ROOM B- 09.00-10.00

FLUID

FLUID FLOW SIMULATION

Chair: to be announced later

FLUID-1

CANDU Steam Generators Modeling Using CompGen for MMS Package

Ilie Prisecaru, Daniel Dupleac and Adrian Constantinescu 301

METH-21-FLUID

Modelling of Layered Microfluid Flow in Conical Nozzle and Diffuser

Manisah Aumeerally and Renate Sitte..... 306

10.00 - 10.30

COFFEE BREAK

Parallel Sessions - Tuesday

Tuesday, 26th October 2004

10.30 - 12.30

ROOM A- 10.30-12.00 **METH**
QUEUEING SYSTEMS SIMULATION II
Chair: J. Manuel Feliz Teixeira, University of Porto, Portugal

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Anatoly Levchenkov and Andrew Mor-Yaroslavtsev..... 99

METH-20
On Measuring the Supply Chain Flexibility
J. Manuel Feliz Teixeira and António E. S. Carvalho Brito 103

METH-3
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Erland Hejn Nielsen 313

ROOM B- 10.30-12.30 **AGENT**
AGENT BASED AND NEURAL NET SIMULATION
Chair: Alexandre Nketsa, University of Toulouse, France

AGENT-4-STUDENT
A tool for supporting the Development of Correct Mobile Applications based on Higher Order π -Calculus
Andreea Barbu 247

AI-2
Simulation of Business Process Improvement by a Customized Genetic Algorithm
Cornelia-Richter von Hagen, Dietmar Ratz and Wolffried Stocky..... 252

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Eugeniusz M. Sroczan and Andrzej Urbaniak..... 257

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Multilayer Agent-Based Model for Decision Support System Using Psychological Structure and Emotional states
Joël Colloc and Cyrille Bertelle..... 325

Tuesday, 26th October 2004

12.30 - 13.30
LUNCH BREAK

13.30 - 15.00

ROOM A- 13.30-15.00 ANMT
ANALYTICAL AND NUMERICAL MODELLING TECHNIQUES I
Chair: Carmen Bobeanu, Ghent University, Ghent, Belgium

ANMT-1
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and Genetic Algorithms
N. Nariman-zadeh, J. Marzbanrad and A. Jamali..... 181

ANMT-4
Person Centered Simulation of Product Development using Timed Stochastic Coloured
Petri Nets
Torsten Licht, Lothar Dohmen , Peter Schmitz, Ludger Schmidt
and Holger Luczak..... 188

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Queueing networks models of out-patient clinics and hospitals
Bogusław Filipowicz and Joanna Kwiecień 196

ROOM B- 13.30-15.00 TUTORIAL
TUTORIAL
Chair: David Hill, Universite Blaise Pascal, Aubiere Cedex, France

TUT
Grid Computing and Stochastic Distributed Simulation
David R.C.Hill 15

15.00 - 15.30
COFFEE BREAK

Tuesday, 26th October 2004

15.30 - 17.30

ROOM A- 15.30-17.30 **ANMT**
ANALYTICAL AND NUMERICAL MODELLING TECHNIQUES II
Chair: Andrzej Urbaniak, Poznan Univ. of Technology, Poland

ANMT-7
Evaluation of Flows in Communication Networks with different Mechanisms for Support of Quality of Service
Daniela Traczinski, Wolfram Luther, Nicola Ehling and Gerhard Haßlinger 201

ANMT-8
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Simonetta Balsamo Roberto Mamprin and Moreno Marzolla 206

ANMT-10
Performance Evaluation of OADR Mechanism using Non-Markovian SPN
Mohamed Escheikh, Jouda Maatoug and Kamel Barkaoui 214

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Mauro Iacono, Stefano Marrone, Nicola Mazzocca and Francesco Moscato 220

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Chair: David Hill, Universite Blaise Pascal, Aubiere cedex, France

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Adam Kozakiewicz, Andrzej Karbowski and Krzysztof Malinowski 229

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Miguel Mateo Pla, David de Andres, Juan Carlos Baraza, Lenin Lemus and Pedro Gil 239

Tuesday, 26th October 2004

CONFERENCE DINNER at 8.00 p.m.

All participants will meet at a designated point, which will be indicated at the conference desk.

The conference dinner is held at

La Coupole

102, bd du Montparnasse

75014 Paris

Métro : Vavin

TEL: 33 (0)1 43 20 14 20

FAX: 33 (0)1 43 35 46 14

Parallel Sessions - Tuesday

Wednesday, 27th October 2004

ROOM A

Registration

08.30 - 08.45

09.00 – 10.00

ROOM A- 09.00-10.00

TOOLS

SIMULATION TOOLS I

Chair: Eugeniusz Sroczan, Poznan Univ. of Technology, Poland

TOOLS-4

Extending Scicos from system to component level simulation

Masoud Najafi, Azzedine Azil and Ramine Nikoukhah 111

TOOLS-6

An I/O Simulator for Windows Systems

Jalil Boukhobza and Claude Timsit 116

ROOM B- 09.00-10.00

PETRI

PETRI NETS SIMULATION I

Chair: Carmen Bobeanu, Ghent University, Ghent, Belgium

PETRI-1

Tolerance analysis Approach with Interval Constrained Petri Nets

S. Collart Dutilleul, H. Dhouibi and E. Craye 265

PETRI-4

Multilayer decomposition of Stochastic Petri Nets and Algebraic specifications

Nabila Salmi and Malika Ioualalen 272

10.00 - 10.30

COFFEE BREAK

Wednesday, 27th October 2004

10.30 - 12.30

ROOM A- 10.30-12.00

TOOLS

SIMULATION TOOLS II

Chair: Ramine Nikoukhah, INRIA, Le Chesnay Cedex, France

TOOLS-11-EDU

DACSIM: A Data Acquisition Card Simulator

Antonio Martí, Salvador Coll, Marina Alonso and Juan Jose Serrano 122

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JARA 2i – A MODELICA Library for Interactive Simulation of Physical Chemical Processes

Carla Martin, Alfonso Urquia and Sebastian Dormido 128

TOOLS-13

Performance Evaluation in Steel Manufacturing: A Case Study with Simulation

Adil Bellabdaoui 320

ROOM B- 10.30-12.00

PETRI

PETRI NETS SIMULATION II

Chair: Carmen Bobeanu, Ghent University, Ghent, Belgium

PETRI-5

Evaluation of maintenance process of electrical power plants, using Petri Nets

Vrassidas Leopoulos, Charalampos Tsogkas, Evaggelos Champilomati and Konstantinos Kirytopoulos 280

PETRI-7

Towards the automated Construction of Multi-Component Petri Nets Models of Supply Chains

Carmen Veronica Bobeanu and Hendrik Van Landeghem 284

PETRI-8-STUDENT

Generating Coloured Petri Nets of Concurrent Object-oriented Programs

Cecile Bui Thanh 289

Parallel Sessions - Wednesday

Wednesday, 27th October 2004

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A. Nketsa, J.C. Pascal, D. Andreu and P. Esteban..... 294

ROOM A 12.30 - 12.45

BEST PAPER

CLOSING SESSION AND ESM'2004 BEST PAPER AWARD

Chair: Philippe Geril, Ghent University, Ghent, Belgium

**SEE YOU ALL
NEXT OCTOBER AT ESM[®]'2005
AT THE UNIVERSITY OF PORTO, IN PORTO,
PORTUGAL**

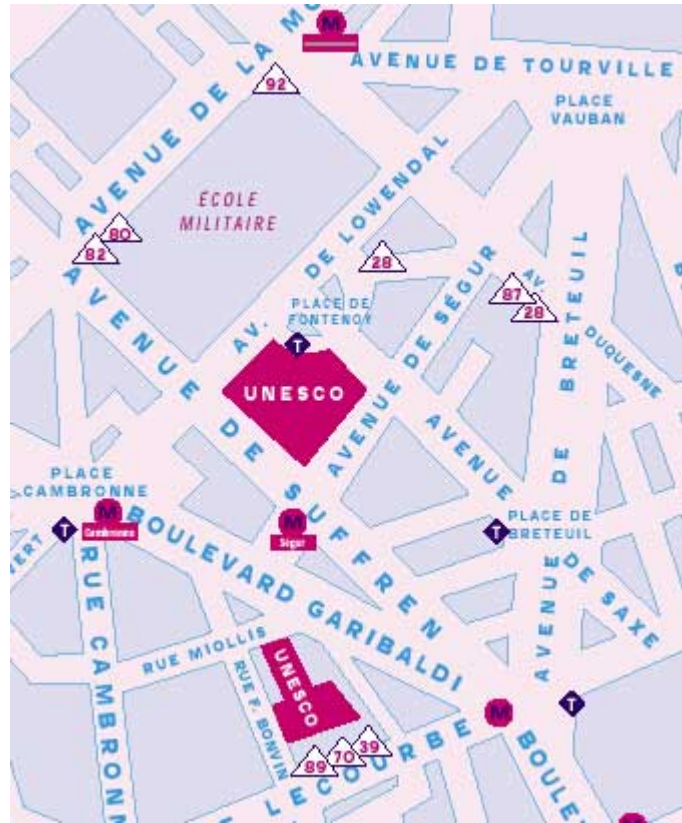
OR AT THE OTHER EUROSIS EVENTS FOR 2005

**FUBUTEC AT INSEAD IN FONTAINEBLEAU,
FRANCE (MARCH 11-12)**

**EUROMEDIA-ECEC-2005 AT THE UNIVERSITY PAUL
SABATIER IN TOULOUSE, FRANCE (APRIL 11-13)**

**ISC'2005 AT THE FRAUNHOFER INSTITUTE, IN
BERLIN, GERMANY (JUNE 9-11)**

Conference Site Maps



Plan of the Conference Area
The ESM2004 Entrance will be at the UNESCO
entrance at Place De Fontenoy

Conference Site Maps

Conference Site Maps





EUROSIS was borne out of discussions with the European Community to set up a new kind of Society, which would be project driven instead of driven by pure membership and conferences.

The aim of the new Society will be to set up topic related Technical Committees which will link directly to European Projects in the field of computer simulation and related areas and to act as a knowledge pool for future European Networks of Excellence, like MOSAIC, etc...

If you would like to receive more information about EUROSIS, please contact

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.....

.....

Telephone

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