

IFIP WG 6.6 & IEEE CNOM Joint Meeting @ IM 2017

Lisbon, Portugal

May 10, 2017



Meeting Overview

- CNOM & IFIP overview
- Journals + special issues
- Conferences + workshops
- Community wide activities
 - A tool to follow the history of network management conferences
 - An evolutionary taxonomy of the discipline
- CNOM elections

CNOM

- IEEE is composed of Societies
 - IEEE Communication Society is composed of technical committees
 - CNOM (Committee on Network Operations and Management) is the technical Committee that deals and network management and operations, and ultimately represents this community in IEEE's structure



CNOM

- CNOM officers (2015 ~ 2017)
 - Chair: *Lisandro Zambenedetti Granville* – Federal University of Rio Grande do Sul (UFRGS), Brazil
 - Vice-chair: *Filip De Turck* – Ghent University - imec, Belgium
 - TPC chair: *Deep Medhi* – University of Missouri-Kansas City, USA
 - Secretary: *Shingo Ata* – Osaka City University, Japan
- Terms are of two years
- Officers are elected in every IM → Next election at the end of this meeting!

CNOM

- How to participate?
 - Subscribing to the CNOM mailing list
 - <http://cnom.committees.comsoc.org> go to "Members"
 - Becoming an *Active Member* by satisfying at least one of these conditions in the last two years:
 - Attended (physically or remotely) at least one CNOM meeting
 - Served as TPC or OC member of NOMS/IM, APNOMS, LANOMS
 - Served as an editorial board member or editorial advisory board member of JNSM, TNSM, or IJNM
 - Representing CNOM on ICC and GlobeCom Symposia
 - ICC 2018 – Alberto Egon Schaeffer Filho
 - GlobeCom 2018 – Carol Fung
 - ICC 2019 is already requesting representatives, please volunteer



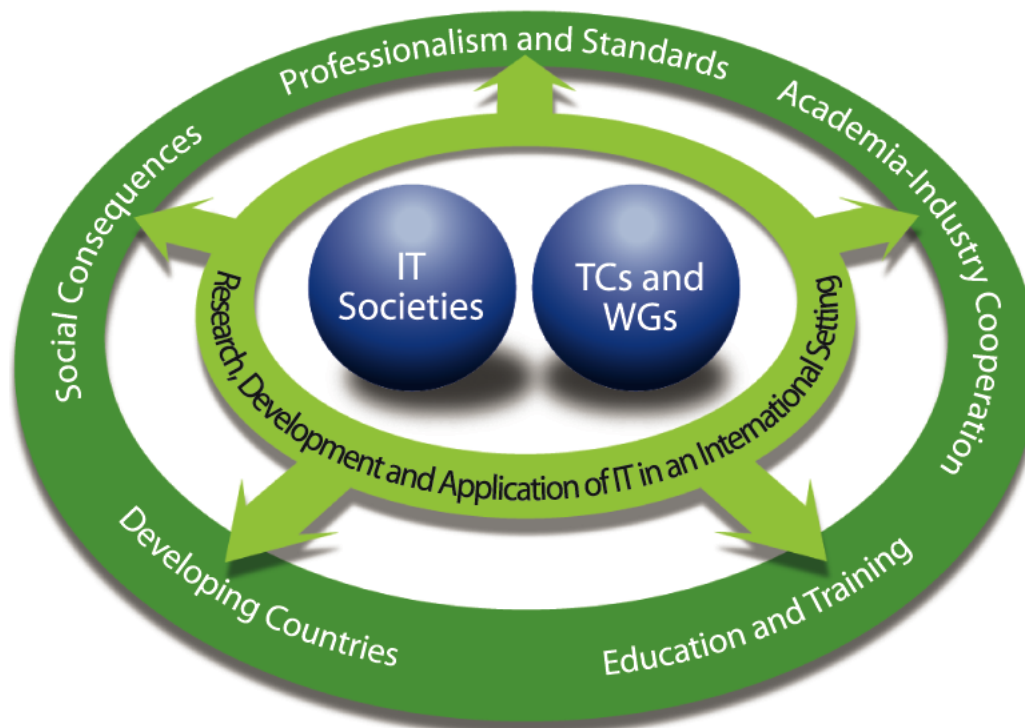
ifip
the leading edge of
information technology

TC 6
WG 6.6
**Network &
Service
Management**



ifip

- Non-governmental, not-for-profit umbrella organization of national learned societies working in the field of Information Technology (IT)
- Established in 1960 under the auspices of UNESCO as a result of the first World Computer Congress held in Paris in 1959





ifip

Technical Committees

- TC1 Foundations of Computer Science
- TC2 Software: Theory and Practice
- TC3 Education
- TC5 Information Technology Applications

TC6 Communication Systems

- TC7 System Modeling and Optimization
- TC8 Information Systems
- TC9 ICT and Society
- TC10 Computer Systems Technology
- TC11 Security and Privacy Protection in Information Processing Systems
- TC12 Artificial Intelligence
- TC13 Human-Computer Interaction
- TC14 Entertainment Computing



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TC6

WG 6.1: Architectures and Protocols for Distributed Systems

WG 6.2: Network and Internetwork Architectures

WG 6.6: Management of Networks and Distributed Systems

WG 6.7: Smart Networks

WG 6.8: Mobile and Wireless Communications

WG 6.9: Communications Systems for Developing Countries

WG 6.10: Photonic Networking

WG 6.11: Communication Aspects of the E-World

WG 6.12: Services-Oriented Systems



WG6.6

- Joint work with IEEE CNOM
- Open platform for community building, animation, promotion and structure setting
- Co-organize conferences
- Promote journals
- Sponsor excellence
 - Best paper awards (3-4 per year)
 - Student travel grants (+/- 10 per year)
- All IFIP Fees paid by the Supported Workshops and Conferences are « re-invested » in our conferences for our community
- All the WG6.6 and CNOM involvement is volunteered
- On the IFIP WG6.6 side: encourage the alignment of the WG6.6 supported conferences to the TC6 strategy on the Open Digital Library



What does « WG6.6 Member » mean ?

- *Officers* IFIP WG 6.6
 - Chair: *Olivier Festor* – TELECOM Nancy, France
 - Vice-chair: *Burkhard Stiller* – University of Zürich, Switzerland
- *Actively volunteer to*
 - Contribute to reviews of the community conferences/journals
 - Encourage and do submissions to the community events/journals
 - Join TPCs, OCs, ...
 - Be active in the mailing-lists
 - Participate to our conferences and meetings



How to get involved?

- *Participate to the WG6.6 Meetings in our conferences*
 - AIMS
 - TMA
 - IM/NOMS
 - CNSM
- *React and talk on the mailing list (222 participants)*
ifip_nm@lists.utwente.nl
- *Visit the web site*
- *Follow us on twitter @ifipwg66*

wg66.ifip.org

IFIP WG6.6 and CNOM Report on

- Journals + special issues
- Conferences + workshops

IEEE Transactions on Network and Service Management (TNSM)

- EiC: Prof. Rolf Stadler
- Associate EiC: Prof. Filip De Turck
- <http://www.comsoc.org/tnsm/>
- Within our community, highest reputation
- TNSM is indexed by Scopus and many others



	2009	2010	2011	2012	2013	2014	2015
SJR	0.265	0.415	0.423	0.86	0.542	0.971	1.021
SNIP	0.977	1.159	1.302	2.598	1.647	2.025	2.527
Citations	32	75	113	146	174	276	385

IEEE Transactions on Network and Service Management (TNSM)

- 14 pages
- Regular calls + Special Issues + Best papers selected from IM, NOMS, and CNSM
- 2016:
 - 300 submissions
 - 70 published
- Thomson Reuters Impact factor (2015): **1.284**
- H-index : 19

IEEE ComMag Network and Service Management Series

- Feature Editors
 - Prof. George Pavlou
g.pavlou@ee.ucl.ac.uk
University College London
 - Prof. Jürgen Schönwälder
j.schoenwaelder@jacobs-university.de
Jacobs University Bremen

IEEE ComMag Network and Service Management Series

Issue	Published	Submitted	Accepted	Acc. ratio
1	October 2005	21	4	19%
2	March 2006	23	5	22%
3	October 2006	17	4	24%
4	April 2007	23	4	17%
5	October 2007	14	4	29%
6	April 2008	32	5	16%
7	October 2008	23	4	17%
8	July 2009	29	4	14%
9	November 2009*	21	1	5%
10	July 2010	21	3	14%
11	December 2010	22	3	14%
12	July 2011	22	4	18%
13	December 2011	35	4	11%
14	July 2012	20	5	25%
15	December 2012	13	3	23%

IEEE ComMag Network and Service Management Series

Issue	Published	Submitted	Accepted	Acc. ratio
16	July 2013	21	4	19%
17	December 2013	22	5	23%
18	July 2014	22	4	18%
19	January 2015	18	3	17%
20	July 2015	16	4	25%
21	January 2016	28	4	14,3%
22	July 2016	16	3	18,8%
23	January 2017	18	2	11,1%

Journal of Network and Systems Management (JNSM)

- EiC: Prof. Deep Medhi
- Associate Managing Editor: Prof. Luciano Gasparry, UFRGS, Brazil
- Published by Springer / 4 x year
- Current issue: Volume 24, Issue 95
- ISI impact factor:
 - 0.685 (2008)
 - 1.356 (2009)
 - 0.450 (2010)
 - 0.452 (2011)
 - 0.432 (2012)
 - 0.438 (2013)
 - 0.796 (2014)
 - 1.078 (2015)
 - *<available June 2017> (2016)*



International Journal of Network Management (IJNM)

- EiC: Prof. James Hong
- Associate Editors: Prof. Aiko Pras, Prof. Filip de Turck
- Published by Wiley / 6 x year (since 2011, online only)
- Current issue: Volume 26, Issue 5
 - Software-defined operations
- Virtual issues published every year
 - Open Access
 - For the most cited papers
- ISI impact factor:
 - 0.323 (2010)
 - 0.222 (2011)
 - 0.510 (2012)
 - 0.517 (2013)
 - 0.283 (2014)
 - 0,681 (2015)
 - *<available June 2017> (2016)*



Special Issues

- TNSM:
 - Big Data Analytics for Management (due: May 15)
 - Guest editors: Giuliano Casale , Yixin Diao, Marco Mellia, Rajiv Ranjan, Nur Zincir-Heywood, Albert Zomaya
- IJNM:
 - Management and orchestration of 5G Networks: from Theory to Testbeds (due: September 1st 2017)
 - Guest editors: Roberto Riggio, Imen Grida Ben Yahia
 - Upcoming special issues on Security, IoT Management, Autonomic Management, QoE-centric management

Conferences

	Submitted	Accepted	A.R.	Attendees	Proceedings
CNSM 2016	116	17	14,7%	130	Online, Xplore
AIMS 2016	22	7	31,8%	45	LNCS
NOMS 2016	213	54	25,4%	240+	Xplore
DRCN 2016	57	20	35,1%	84	Xplore
TMA 2016	47	16	34%	60	IFIP DL
APNOMS 2016	98	36	36,7%		Xplore

IFIP/IEEE IM 2017

May 8-12, 2017, Lisbon, Portugal



IFIP/IEEE IM 2017

- 154 submissions to main technical track
- 668 reviews
- 44 accepted long papers

Future Conferences

- TMA 2017
 - June 21-23, Dublin, Ireland
- AIMS 2017
 - July 10-13, Zurich, Switzerland
- LANOMS 2017
 - September 4-5, Córdoba, Argentina
- CNSM 2017
 - November 26-30, Tokyo, Japan
- NOMS 2018
 - April 23-27 2018, Taipei, Taiwan
- CNSM 2018
 - November, Rome, Italy

TMA 2017

- June 21-23, 2017, Dublin, Ireland
- TPC Co-Chairs
 - Marco Mellia, Politecnico di Torino, IT
 - Emir Halepovic, AT&T Labs, US
 - David Malone, Hamilton Institute, IE

<http://tma.ifip.org>



AIMS 2017



- July 10-13, 2017, University of Zürich, Switzerland
- General Chair
 - Burkhard Stiller, University of Zürich, Switzerland
- TPC Co-Chairs
 - Daphne Tuncer, UCL, U.K.
 - Robert Koch, UniBwM, Germany
- Lab Co-chairs
 - Martin Drasar, Masaryk University, Czech Republic
 - Thomas Bocek, University of Zürich, Switzerland
- 3 labs: Security Games, Smart Contracts, P4
- 2 key notes: Insecurity, IoT Security Business Perspective

<http://www.aims-conference.org/2017/program.html>

LANOMS 2017

- September 2017, Córdoba, Argentina
 - Co-located with CLEI 2017
- General Co-Chairs:
 - Javier Baliosian, University of the Republic, Montevideo, Uruguay
 - Roberto Muñoz, National Technology University, Argentina
- Paper submission deadline:
 - May 30, 2017



<http://www.lanoms.org/2017/>

CNSM 2017

- November 26-30, 2017, Tokyo, Japan
- General Chairs
 - Yoshiaki Tanaka, Waseda Univ., Japan
 - Yoshiaki Kiriha, The Univ. of Tokyo, Japan
- Vice Chair
 - Shingo Ata, Osaka City Univ., Japan
- TPC Co-Chairs
 - Carol Fung, Virginia Commonwealth Univ., USA
 - Kazuhiko Kinoshita, Tokushima Univ., Japan
 - Steven Latré, Univ. of Antwerp - imec, Belgium
- Paper submission deadline: June 12th, 2017



<http://www.cnsm-conf.org/2017>

CNSM 2017 Workshops

- **9th International Workshop on Internet Charging and QoS Technologies (ICQT 2017)**
 - Submission Deadline : August 4th, 2017
- **4th International Workshop on Management of SDN and NFV Systems (SDN-NFV 2017)**
 - Submission Deadline: August 4th, 2017

IEEE/IFIP NOMS 2018

Cognitive Management in a CyberWorld

- Taipei, Taiwan, April 20-23, 2018
- CFP distributed @IM
- Chairs
 - General Chairs
 - James Won-Ki Hong
 - Yu-Chee Tseng
 - TPC Chairs
 - Chih-Wei Yi (Natl. Chiao Tung Univ., Taiwan)
 - Young-Tak Kim (Yeungnam Univ., Korea)
 - Clarissa Marquezan (Huawei, Germany)



<http://noms2018.ieee-noms.org>

Paper Submission: Sep. 5, 2017
Notification of Acceptance: Dec. 4, 2017
Camera Ready: Jan. 12, 2018

CNSM 2018

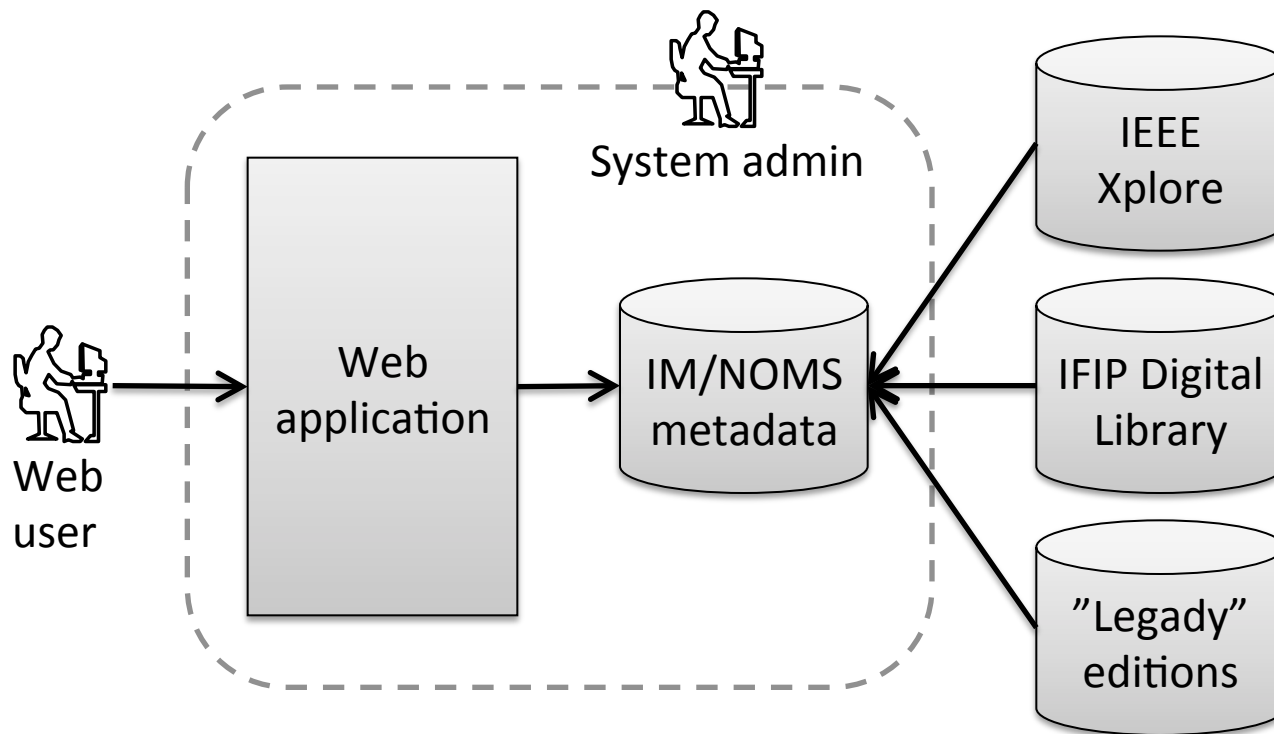
- Rome, Italy, 5-9 or 12-16 November 2018
- Chairs
 - General Chair
 - Stefano Salsano, University of Rome Tor Vergata
 - TPC Chairs
 - Roberto Riggio, CREATE-NET, Italy
 - Toufik Ahmed, University of Bordeaux, France
 - Taghrid Samak, Google, USA



<http://www.cnsm-conf.org/2018>

Observing the History of IM/NOMS

- A system being develop to observe the evolution of IM/NOMS given the published papers



☐ Show Editions ☒ Show Papers ☐ Show Authors

International Symposium on Integrated Network Management - IM

Paper Title	Conference Edition	Keywords
Live datastore transformation for optimizing big data applications in cloud environments	IM 2015	Computer Architecture Cloud Computing Companies Data Models Transforms Big Data Storms
DNA: An SDN framework for distributed network analytics	IM 2015	IP Networks Performance Evaluation Monitoring Big Data DNA Telemetry Market Research
DREAMS: Dynamic resource allocation for MapReduce with data skew	IM 2015	Monitoring Resource Management Predictive Models Containers Mathematical Model Biomedical Monitoring Yarn Cities and Towns
A data annotation architecture for semantic applications in virtualized wireless sensor networks	IM 2015	Virtualization Monitoring Semantics Ontologies Wireless Sensor Networks Temperature Sensors Cities and Towns
A batch approach for a survivable virtual network embedding based on Monte-Carlo Tree	IM 2015	Games Substrates Complexity Theory Proposals Reliability Tin Decision Trees








Observing the History of IM/NOMS

- The system will allow finding out, e.g.,
 - What are the most popular topics along the years?
 - Which are the research networks formed by IM/NOMS authors?
 - Which groups contributed more?
- Papers from NOMS 2004 and on already in the system
- To be open to the general public soon
 - <http://conf-history.inf.ufrgs.br>

CNOM/IFIP6.6 Taxonomy

[https://en.wikipedia.org/wiki/
Network_and_service_management_taxonomy](https://en.wikipedia.org/wiki/Network_and_service_management_taxonomy)

CNOM/IFIP6.6 Taxonomy

https://en.wikipedia.org/wiki/Network_and_service_management_taxonomy#Category_231:_Network        

Category #4: Functional Areas [\[edit \]](#)

The fourth category "Functional Areas" addresses the following question: Which functional areas are covered? The functional areas originated from the ISO Telecommunications Management Network model and framework for network management.

- [Fault management](#)
- [Configuration management](#)
- [Accounting management](#)
- [Performance management](#)
- [Security management](#)

Category #5: Management Paradigms [\[edit \]](#)

The fifth category "Management Paradigms" addresses the following question: Which paradigm is used to achieve network and service management?

- [Centralized management](#)
- [Hierarchical management](#)
- [Distributed management](#)
- [Federated management](#)
- [Autonomic and cognitive management](#)
- [Policy-based management](#)

CNOM Elections

- Only *Active Members* can vote
- Active Members are those that satisfy at least one of these conditions in the last two years:
 - Attended (physically or remotely) at least one CNOM meeting
 - Served as TPC or OC member of NOMS/IM, APNOMS, LANOMS
 - Served as an editorial board member or editorial advisory board member of JNSM, TNSM, or IJNM

CNOM Elections

- Candidates (2017 – 2018 term):
 - Chair: Filipe De Turck, Ghent University, Belgium
 - Vice-chair: Laurent Ciavaglia, Nokia Bell Labs, France
 - TPC chair: Carol Fung, Virginia Commonwealth Univ., USA
 - Secretary: Carlos Raniery, UFSM, Brazil

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THANK YOU!

