Committee on Network Operations and Management – IEEE CNOM meeting

IEEE GLOBECOM, December 2013

Atlanta, USA

CNOM officers

- Chair: *Lisandro Zambenedetti Granville* – Federal University of Rio Grande do Sul (UFRGS), Brazil

- Vice-chair: *Deep Medhi* – University of Missouri-Kansas City (UMKC), USA

- TPC chair: *Filip De Turck* – Ghent University, Belgium

- Secretary: *Shingo Ata* – Osaka City University, Japan

- Representative: *Michele Nogueira* – Federal University of Paraná (UFPR), Brazil

Outline

- CNOM recertification report

- Revisiting the network and services management taxonomy

- IEEE fellows from CNOM

- Journals

- Conferences

CNOM recertification report

- Website
    - http://cnom.tssg.org/ (current address)
    - Being updated and moved to a ComSoc domain
- Mailing list
    - cnom@inf.ufsc.br (current address) with 1322 subscribers
    - Also being move to a ComSoc domain
- We were suggested to consider collaborations with the TCs on Communications Quality and Reliability, Communications Software, and Internet
- We were suggested to nominate several CNOM members as Distinguished Lecturers

Network and Services Management Taxonomy

- Purpose:
  - For authors: fixed keywords to chose from
  - For reviewers: fixed keywords to indicate area of expertise / interest. No need to continuously enter expertise again
  - For organizers: match papers and reviewers
  - Improve Quality of Reviews

- Has been implemented within the JEMS system and used for MANWEEK 09, NOMS 2010, CNSM 2011, NOMS 2012, CNSM 2012, IM 2013, NOMS 2014

- A new, updated version of the taxonomy has been defined and needs the community support

Network and Services Management Taxonomy

1. Network Management
2. Service Management
3. Business Management
4. Functional Areas
5. Management Approaches
6. Technologies
7. Methods

Network and Services Management Taxonomy

1. Network Management
   - Ad hoc networks
   - Wireless & mobile networks
   - IP networks
   - LANs
   - Optical Networks
   - Sensor Networks
   - Overlay Networks
   - *Virtual Networks*
   - *Software Defined and Programmable Networks*
   - *Data Center Networks*
   - *Smart Grids*

Network and Services Management Taxonomy

2. Service Management

   – Multimedia service management (e.g., voice, video)

   – Data service management (e.g., email, web)

   – Hosting (virtual machines)

   – Grids

   – *Cloud services*

   – *Resource provisioning and management*

   – *QoE-centric management*

   – *Service discovery, migration and orchestration*

Network and Services Management Taxonomy

3. Business Management
   – Legal & ethical issues
   – Process management

Network and Services Management Taxonomy

4. Functional Areas

    – Fault management

    – Configuration management

    – Accounting management

    – Performance management

    – Security management

    – SLA management

    – Event management

Network and Services Management Taxonomy

5. Management Approaches

   – Centralized management

   – Distributed management

   – Autonomic and self management

   – Policy-based management

   – *Federated network management*

   – *Pro-active management*

   – *Energy-aware network management*

Network and Services Management Taxonomy

6. Technologies
   – Protocols
   – Middleware
   – Mobile agents
   – P2P
   – Grid
   – Data, information, and semantic modeling
   – *Cloud computing*
   – *Internet of Things*
   – *Human Machine interaction*
   – *Operations and Business Support Systems (OSS/BSS)*

Network and Services Management Taxonomy

7. Methods
   - Control theories
   - Optimization theories
   - Economic theories
   - Machine learning and genetic algorithms
   - Logics
   - Probabilistic, stochastic processes, queuing theory
   - Simulation
   - Experimental approach
   - Design
   - *Monitoring & Measurements*
   - *Data mining and (big) data analytics*

IEEE fellows from CNOM

- We wanted to map who are the IEEE fellows coming from the network and services management community

- Methodology

  1. List all TPC members from NOMS and IM from 2004 to 2014 → Our definition of "community" for this purpose

  2. For each member, check on IEEE database whether he/ she is a fellow

  3. Keep track of fellows along the years

IEEE fellows from CNOM

- Out of 314 TPC members (no duplicates), 10 were found in the IEEE database → 3% only!
  - 1993: Aurel Lazar
  - 1994: Manu Malek
  - 1995: Shri Goyal
  - 1996: Doug Zuckerman
  - 2006: Henning Schulzrinne, Lixia Zhang, Randy Katz
  - 2010: Joseph Hellerstein
  - 2011: Morris Sloman
  - 2012: Raouf Boutaba
- How could we support CNOM members and increase the number of applications?

Journals

- IEEE Transactions on Network and Service Management (TNSM)

- IEEE Communication Magazine Series on Network and Service Management

- Journal of Network and Systems Management (JNSM)

- International Journal of Network Management (IJNM)

IEEE Transactions on Network and Service Management (TNSM)

- Editor-in-Chief:
  - Morris Sloman from Jan 2011
  - Rolf Stadler will take over in 2014
- Within our community, highest reputation
- TNSM is indexed by Scopus and many others

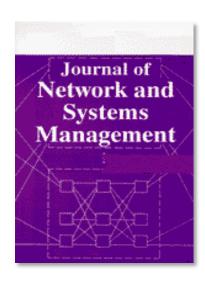# ComMag Network and Service Management Series

- Feature Editors
  - George Pavlou, UCL, UK, g.pavlou@ee.ucl.ac.uk
  - Aiko Pras, U. of Twente, a.pras@utwente.nl

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%
16	July 2013	21	4	19%
17	December 2013	22	5	23%

Journal of Network and Systems Management

- EiC: Deep Medhi
- Published by Springer / 4 x year
- ISI Impact factor:
  - 0.685 (2008)
  - 1.356 (2009)
  - 0.45 (2010)
  - 0.452 (2011)
  - 0.432 (2012)

International Journal of Network Management

- EiC: James Hong (starting 1/1/2012)
- Ass. Ed: Aiko Pras
- Published by Wiley / 6 x year
- Since 2011: online only
- Indexed by ISI since 2008
- Also indexed by Scopus, Inspec, etc.
  - http://onlinelibrary.wiley.com/journal/10.1002(ISSN)1099-1190

Conferences

	Submitted	Accepted	A.R.	Attendees	Proceedings
CNSM 2013	116	21	18%	179	Xplore
AIMS 2013	32	11	34%	44	LNCS
IM 2013	196	53	27%	367	Xplore
CNSM 2012	97	15	15%	107	Xplore
NOMS 2012	210	55	26%	260	Xplore
AIMS 2012	23	10	43%	45	LNCS
CNSM 2011	164	24	14%	216	Xplore
AIMS 2011	37	12	36%	55	LNCS
IM 2011	160	47	29%	310	Xplore

Conferences

- Future conferences
  - NOMS 2014 (IEEE/IFIP)
    - May 5-9 2014, Krakow, Poland
    - http://noms2014.ieee-noms.org/call-for-submissions
    - http://noms2014.ieee-noms.org/patrons
  - CNSM 2014 (IEEE/IFIP/ACM SIGCOMM)
    - Nov. 17-21 2014, Rio de Janeiro, Brazil
  - IM 2015 (IFIP/IEEE)
    - May 11-15 2015, Ottawa, Canada