IFIP WG 6.6 & IEEE CNOM joint meeting

NOMS 2014, 6 May 2014

Krakow, Poland

IFIP/CNOM officers

- IFIP WG 6.6
  - Chair: *Olivier Festor* – INRIA, France
  - Vice-chair: *Burkhard Stiller* – University of Zürich, Switzerland
- IEEE CNOM (elections every two years)
  - 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

What are we doing?

- Organize the Network and Service management community
- Close collaboration between IEEE CNOM & IFIP WG6.6
  - Promote our area
  - Promote publications in journals
  - Update statistics for our conferences
  - Sponsor conferences
  - IEEE fellows and test of time award
  - Structure our research area (taxonomy)

Promotion of the N&S management area

- Websites:
  - http://www.simpleweb.org/ifip/
  - http://cnom.tssg.org/
- Mailing lists:
  - ifip_nm@lists.utwente.nl
  - cnom@comsoc.org
- RSS feeds:
  - http://www.simpleweb.org/cfp.rss
  - http://www.simpleweb.org/conferences.rss
  - http://www.simpleweb.org/podcasts/simpleweb.rss

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)

- New Editor-in-Chief since Jan 2014

  Rolf Stadler (stadler@kth.se)
  KTH Royal Institute of Technology

- http://www.comsoc.org/tnsm/
- Within our community, highest reputation
- TNSM is indexed by Scopus and many others

	2009	2010	2011	2012
SJR	0.295	0.670	0.628	1.01
SNIP	1.039	1.180	1.294	2.274
Citations	32	78	151	214

Commag Network and Service Management Series

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

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 (DMedhi@umkc.edu)
- Published by Springer / 4 x year
- ISI Impact factor:
  - 0.685 (2008)
  - 1.356 (2009)
  - 0.45 (2010)
  - 0.452 (2011)
  - 0.432 (2012)
  - To be available in June (2013)

International Journal of Network Management

- EiC: James Hong (started in Jan. 2012)
- http://onlinelibrary.wiley.com/journal/10.1002(ISSN)1099-1190
- 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.
- Impact factor: 0,51 (2012)

Conferences

	Submitted	Accepted	A.R.	Attendees	Proceedings
AIMS 2014	29 (+27 PhDWS)	9 (+13 PhDWS)	31%		LNCS
NOMS 2014	152	44	29%	305	Xplore
TMA 2014	30	11	36%	26	Xplore
CNSM 2013	116	21	18%	179	Xplore
AIMS 2013	32 (+14 PhDWS)	11 (+7 PhDWS)	34%	44	LNCS
IM 2013	196	53	27%	367	Xplore
CNSM 2012	97	15	15%	107	Xplore
AIMS 2012	23	10	43%	45	LNCS
NOMS 2012	210	55	26%	260	Xplore
CNSM 2011	164	24	14%	216	Xplore
AIMS 2011	37	12	36%	55	LNCS
IM 2011	160	47	29%	310	Xplore

Conferences

- Future conferences
  - AIMS 2014 (IFIP)
    - June 30-July 03, 2014, Brno, Czech Republic
  - EUNICE 2014 (IFIP WG 6.2 & 6.6)
    - September 1-3, 2014, Bretagne, France
  - CNSM 2014 (IEEE/IFIP/ACM SIGCOMM)
    - November 17-21, 2014, Rio de Janeiro, Brazil
    - Deadline: May 18, 2014
  - CNSM 2014 workshops
    - SVM (Systems and Virtualization Management): deadline June 27, 2014
    - ManSDN/NFV: deadline July 20, 2014
  - APNOMS 2014
    - September 17-19 2014, Taiwan
    - Deadline: May 20, 2014
  - IM 2015 (IFIP/IEEE)
    - May 11-15 2015, Ottawa, Canada
    - Deadline: September 15, 2014

NOMS 2014

- 5-9 May, 2013
- Krakow, Poland
- General Chairs:
  - Doug Zuckerman
  - Andrzej Pach
- TPC Chairs:
  - Hanan Lutfiyya
  - Piotr Cholda
- 152 full papers submitted
- 44 main conference full papers accepted
- 23 mini-conference papers accepted

AIMS 2014

Registration open – early bird fees until Mai 16, 2014: http://www.aims-conference.org/2014/registration.html

- General Chair
  - Pavel Čeleda, Masaryk University, Czech Republic
- TPC Co-Chairs
  - Anna Sperotto, University of Twente, The Netherlands
  - Guillaume Doyen, Troyes University of Technology, France
- Ph.D. Workshop Chairs
  - Steven Latré, Universiteit Antwerp, iMinds, Belgium
  - Marinos Charalambides, University College London, United Kingdom

- 29 papers submitted
  - 9 papers accepted
- 27 Ph.D. workshop papers submitted
  - 13 papers accepted

CNSM 2014

- November 17-21, Rio de Janeiro
- General Chairs
  - Lisandro Zambenedetti Granville, Federal University of Rio Grande do Sul (UFRGS), Brazil
  - Luciano Paschoal Gaspary, Federal University of Rio Grande do Sul (UFRGS), Brazil
- TPC Co-Chairs
  - Danny Raz, Technion, Israel
  - Michele Nogueira, Federal University of Paraná (UFPR), Brazil

10th

anniversary!

IM 2015

- May 11 - May 15, 2015
- Ottawa Convention Centre, Ottawa, Ontario, Canada
- General Co-chairs
  - Raouf Boutaba
  - Wahab Almutahadi
- TPC Co-chairs
  - Shingo Ata
  - Rémi Badonnel
  - Jin Xiao
- Deadline: Sept. 15

CNOM recertification report

- 2 meetings per year (NOMS/IM and GLOBECOM)
- Website
  - http://cnom.tssg.org/ (current address)
  - Being updated and moved to a ComSoc domain
- Mailing list
  - cnom@comsoc.org with 1299 subscribers
  - Completed to 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

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
  - 2003: Prosper Chemouil
  - 2006: Henning Schulzrinne, Lixia Zhang, Randy Katz
  - 2010: Joseph Hellerstein
  - 2011: Morris Sloman
  - 2012: Raouf Boutaba
  - 2014: Puneet Sharma
- How could we support CNOM members and increase the number of applications?

Test of time award

- Observe the past (10 ~ 15 years) and recognize papers that remained relevant

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 2009, NOMS 2010, CNSM 2011, NOMS 2012, CNSM 2012, IM 2013, NOMS 2014
- http://www.simpleweb.org/ifip/taxonomy.html
- New version!
  - Work done by the Flamingo NoE (in 2013)
  - Large interview campaign with industry and academia
  - Review of ALL recent published papers in the community

Questionnaire Organization

Please provide 10 unsolved challenges/problems that need to be addressed by network management systems, including the target network/service. (max 500 characters description per challenge/problem)

24 experienced and respected participants = 11 academia + 13 industry

Continent	Percentage
Europe	64%
Middle East	9%
South America	9%
North America	9%
Asia	9%

83 challenges

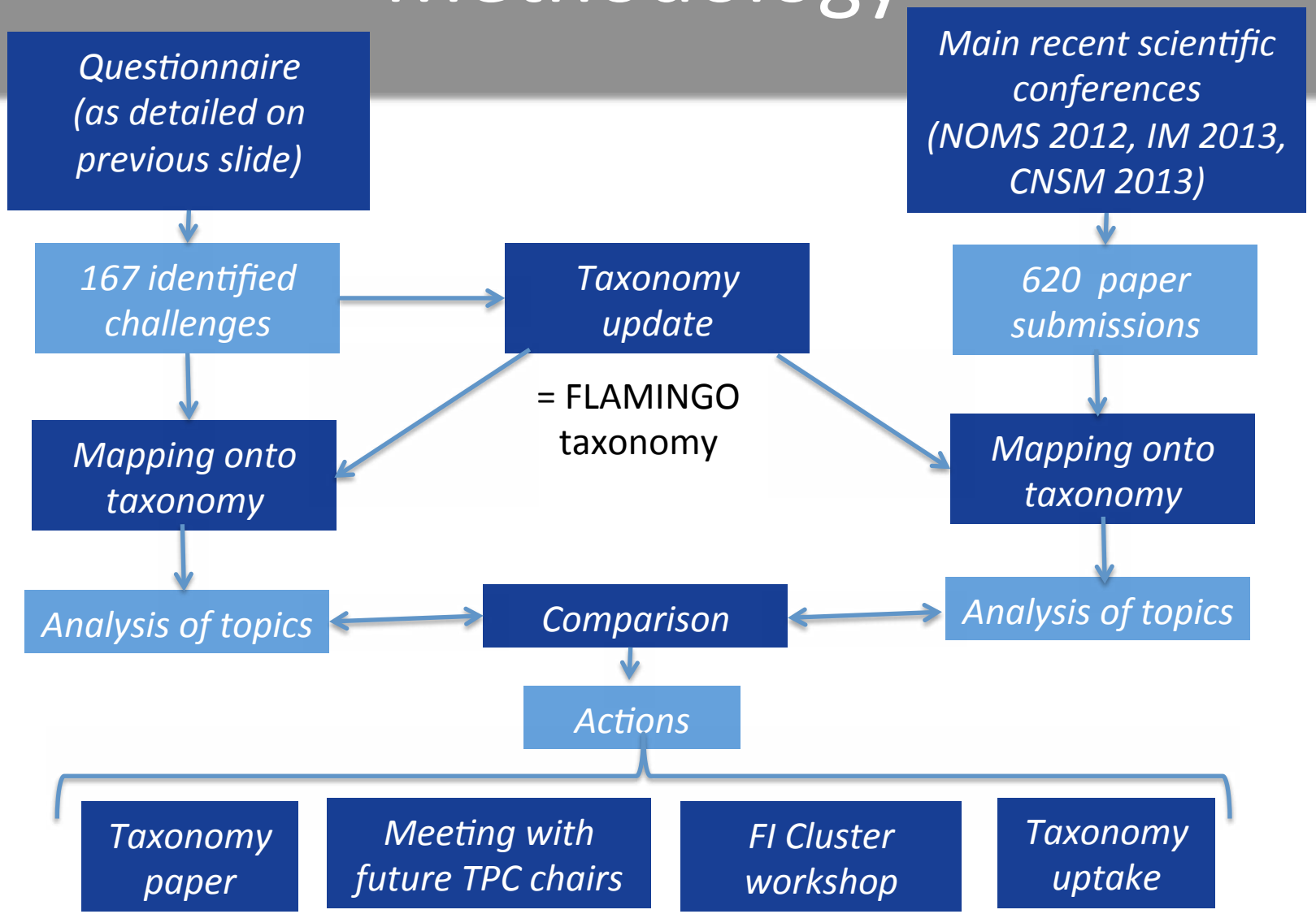
total = 167 challenges

Continent	Percentage
Europe	54%
North America	23%
Asia	23%

84 challenges

Industry Group	Number of Participants	Number of Challenges
Network operators	3	19
Device manufacturers - wired equipment	3	14
Device manufacturers - wireless equipment	4	34
Cloud infrastructure and service providers	2	15
Monitoring SME	1	2
Total	*13*	*84*

Methodology



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*

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Thanks for your attendance!