



IEEE CNOM/IFIP WG6.6 Meeting

GLOBECOM 2015
San Diego, California, U.S.A.
IEEE CNOM/IFIP WG6.6 Meeting
December 9, 2015 – 9.00-10.00



CNOM / IFIP WG 6.6 officers

- IEEE CNOM
 - Chair: *Lisandro Zambenedetti Granville* – Federal University of Rio Grande do Sul (UFRGS), Brazil
 - Vice-chair: *Filip De Turck* – Ghent University - iMinds, Belgium
 - TPC chair: *Deep Medhi* – University of Missouri-Kansas City, USA
 - Secretary: *Shingo Ata* – Osaka City University, Japan
- IFIP WG 6.6
 - Chair: *Olivier Festor* – INRIA, France
 - Vice-chair: *Burkhard Stiller* – University of Zürich, Switzerland

Meeting Overview

1. Overview of journals +special issues +
conferences + workshops
2. Questionnaire results + taxonomy update
3. IFIP Open Digital Library



Overview of Journals, Special Issues, Conferences, Workshops

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	2013	2014	2015
SJR	0.261	0.49	0.426	0.858	0.502	1,51	
SNIP	0.977	1.159	1.302	2.598	1.489		
Citations	33	79	159	223	279	1015	

IEEE Transactions on Network and Service Management (TNSM)

Recognition Achievement

Beginning with V. 10 (1) 2013, TNSM papers will be indexed and abstracted in the Thomson Reuter - Science Citation Index.



Commag Network and Service Management Series

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

ComMag Network and Service Management Series (cont.)

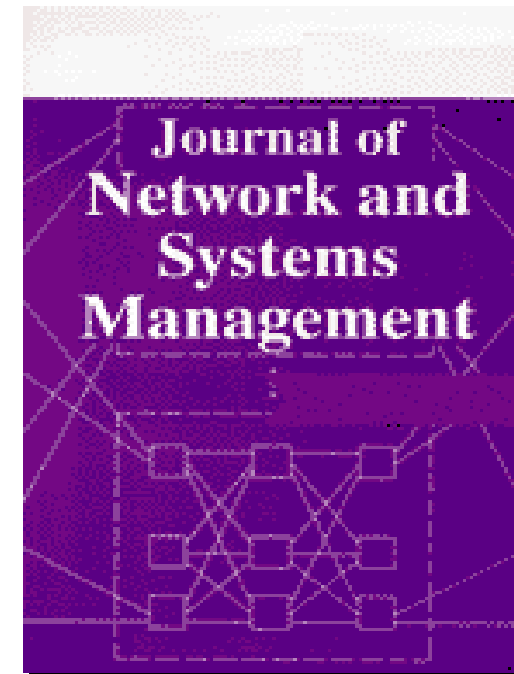
Issue	Published	Submitted	Accepted	Acc. ratio
1	October 2005	21	4	19%
2	March 2006	23	5	22%
3	October 2006	17	4	24%
4	April 2007	23	4	17%
5	October 2007	14	4	29%
6	April 2008	32	5	16%
7	October 2008	23	4	17%
8	July 2009	29	4	14%
9	November 2009*	21	1	5%

ComMag Network and Service Management Series (cont.)

Issue	Published	Submitted	Accepted	Acc. ratio
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%
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%

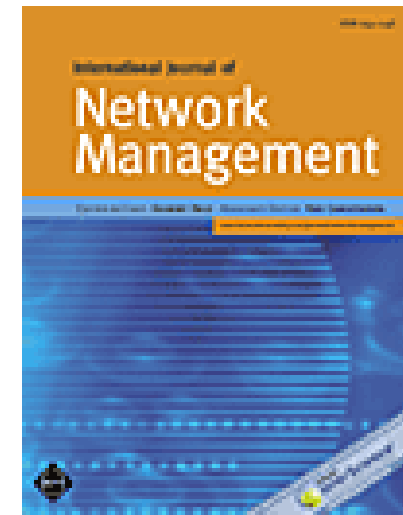
Journal of Network and Systems Management

- EiC: Deep Medhi (DMedhi@umkc.edu)
- Published by Springer / 4 x year
- Acceptance rate of 15% (2013~2014): ~33 paper/year
- Average time of review: 70 days
- Average time of accepted papers (multiple review cycles): 109 days
- ISI impact factor:
 - 0.685 (2008)
 - 1.356 (2009)
 - 0.450 (2010)
 - 0.452 (2011)
 - 0.432 (2012)
 - 0.438 (2013)
 - 0.796 (2014)



International Journal of Network Management

- EiC: James Hong (started in Jan. 2012)
- Ass. Ed: Aiko Pras
- Published by Wiley / 6 x year
- Since 2011: online only
- ISI impact factor:
 - 0.323 (2010)
 - 0.222 (2011)
 - 0.510 (2012)
 - 0.517 (2013)
 - 0.283 (2014)



Journal Special Issues

- TNSM:
 - Big Data Analytics for Management (11/2015 for submission)
 - Management of Softwarized Networks (02/15/2016 submission deadline)
- IJNM:
 - Software-Defined Networking and Network Function Virtualization for Flexible Network Management (closed 07/2015)
 - Software-Defined Operations (closed 08/2015)
 - Management of the Internet of Things and Big Data (November 30, 2015 submission deadline)

Past 2015 Conferences (Overview)

- DRCN 2015 (IEEE/IFIP)
 - March 25-27, 2015, Kansas City, Missouri, U.S.A.
- TMA 2015 (IFIP)
 - April 23-24, 2015, Barcelona, Spain
- IM 2015 (IFIP/IEEE)
 - May 11-15, 2015, Ottawa, Canada
- AIMS 2015 (IFIP)
 - June 22-26, 2015, Ghent, Belgium
- APNOMS (IEEE)
 - August 19-21, 2015, Busan, Korea
- LANOMS (IEEE)
 - October 1-2, 2015, Paraíba, Brazil
- CNSM 2015 (IFIP/IEEE)
 - November 9-13, 2015, Barcelona, Spain

Past 2015 Conferences' Details

	Submitted	Accepted	A.R.	Attendees	Proceedings
CNSM 2015	102 (87 Full, 15 short)	18 full, 14 miniconf, 16 posters	20,6%	120	IFIP DL
LANOMS 2015	33	12 Long / 7 Short	36%	58	XPlore
AIMS 2015	22 (+24 PhD WS)	7 (+9 PhDWS)	31%	52	LNCS
IM 2015	206	56	27%	350	Xplore
DRCN 2015	44 (full) + 16 (short)	21 (+19 short)	41%	91	Xplore
TMA 2015	54	16	29%	80	LNCS
APNOMS 2015	129	38	29%	182	Xplore

TMA 2015

- April 23 - 24, 2015
- Barcelona, Spain
- TPC Co-chairs
 - M. Steiner, Akamai,
 - P. Barlet-Ros, UPC
 - O. Bonaventure, UCLouvain
- 54 submitted, 16 published
- 3 colocated-workshops
 - SMART, mPlane,
PhD Shool on Traffic Monitoring and Analysis



IM 2015

- May 11 - 15, 2015
- Ottawa Convention Centre, Ottawa, Ontario, Canada
- General Co-chairs
 - Raouf Boutaba
 - Wahab Almutahadi
- TPC Co-chairs
 - Shingo Ata
 - Rémi Badonnel
 - Jin Xiao
- 206 full papers submitted
- 56 main conference full papers accepted
- 36 mini-conference papers accepted
- For the first time in history of IM, proceedings were available online before the conference: <http://dl.ifip.org/db/conf/im/index.html>



AIMS 2015

- June 22-26, 2015, Ghent, Belgium
- General Co-Chair
 - Filip De Turck, Ghent University
 - Piet Demeester, Ghent University
- TPC Co-Chairs
 - Steven Latré, University of Antwerp - iMinds, Belgium
 - Marinos Charalambides, University College London, United Kingdom
- Ph.D. Workshop Chairs
 - Jérôme François, INRIA, France
 - Corinna Schmitt, University of Zurich, Switzerland
- 22 papers submitted
 - 7 papers accepted
- 24 Ph.D. workshop papers submitted
 - 9 papers accepted



LANOMS 2015



- October 1-3, 2015, João Pessoa, Brazil
- General Chair
 - Fernando Menezes Matos, UFPB, Brazil
 - Augusto Venâncio Neto, UFRB, Brazil
- TPC Co-Chairs
 - José Neuman de Souza, UFC, Brazil
 - Aldri Santos, UFPR, Brazil

CNSM 2015



- November 9-13, 2015, Barcelona, Spain
- General Chair
 - Joan Serrat, Universitat Politècnica de Catalunya, Spain
- TPC Co-Chairs
 - Mauro Tortonesi, University of Ferrara, Italy
 - Jürgen Schönwälder, Jacobs University Bremen, Germany
- 102 full submissions, 18 full papers accepted

Future 2016/17 Conferences

- TMA 2016 (IFIP)
 - April 7-8, 2016, Louvain La Neuve, Belgium
- NOMS 2016 (IEEE/IFIP)
 - April 25-29, 2016, Istanbul, Turkey
- AIMS 2016 (IFIP)
 - June 20-24, 2016, Munich, Germany
 - Deadline: January 8, 2016
- CNSM 2016 (IFIP/IEEE) + In cooperation with ACM SIGCOMM
 - Dates and location: Not yet known
 - Deadline: Not yet known
- IM 2017 (IFIP/IEEE):
 - Dates : Not yet known, Lisbon, Portugal
 - Deadline: Not yet known

TMA 2016



- April 7-8, 2016, Louvain La Neuve, Belgium
 - Ramin Sadre, Université catholique de Louvain, Belgium
 - Fabiàn Bustamante, Northwestern University, IL , U.S.A.
 - Alessio Botta, University of Napoli Federico II, Italy
- TMA will use the IFIP Digital Library
- Submission deadline: December 22, 2015
- Notification: February 1, 2016
- Camera Ready, February 15, 2016

NOMS 2016 (1)



- April 25-29, 2016, Istanbul, Turkey
- General Chair
 - Sema Oktug, Istanbul Technical University, Turkey
 - Mehmet Ulema, Manhattan College, USA
- TPC Co-Chairs
 - Brendan Jennings, Waterford Institute of Technology, Ireland
 - Melike Erol-Kantarci, Clarkson University, USA
 - Helmut Reiser, Ludwig-Maximilians University, Germany
- Call for Demos still open

NOMS 2016 (2)

- 213 papers submitted (general track)
- Papers selected and notifications sent
- 7 Workshops
 - 5GMan 2016
 - AnNet 2016
 - DISSECT 2016
 - ManFI 2016
 - ManFloT 2016
 - PASC 2016
 - UMITs 2016



AIMS 2016 (10th Anniversary)

- June 20-24, 2016, München, Germany
- General Chair
 - Gabi Dreo Rodosek, UniBWM
- TPC Co-Chairs
 - Rémi Badonnel, Inria, France
 - Robert, Koch UniBWM
- Ph.D. Workshop Chairs
 - Martin Drasar, Masaryk University, Czech Republic
 - Aiko Pras, University of Twente, Netherlands
- Paper submission deadline: January 8, 2016 (Registration),
January 15, 2016 (Uploading)
- Notification: March 1, 2016
- Camera Ready: March 14, 2016



Questionnaire and Taxonomy Update

Why a taxonomy?

1. Select appropriate topics at submission time
2. Attract papers on key management areas
3. Match with reviewers' expertise and interest
4. Analysis of topics of submitted papers to conferences and journals





Questionnaire: setup and participants



Taxonomy questionnaire

The results of this questionnaire will be used to update the taxonomy of the network and service management research community. This taxonomy is used when you submit a paper and indicate the topics of interest of your paper, which are then matched with the topics of interest of the reviewers. The results will also be used to identify the key research topics to be addressed during the next years.

The taxonomy consists of 7 categories. The first 3 categories deal with the question 'What is being managed?', more in particular:

1. 'What kind of network is being managed?'
2. 'What kind of service is being managed?'
3. 'How does management relate to business aspects?'

The 4th category deals with the functional areas:

4. 'Which functional areas are covered?'

The second part of the taxonomy, categories 5 to 7, address 'How is something managed?':

5. 'How is network and service management achieved?'
6. 'Which technologies are used in the management process?'
7. 'What are the methods used to address the management problem?'

Many thanks in advance for your cooperation!

*** Required**

Name

(optional)

Research experience *

How many years of experience in research do you have?

NSM experience *

How many years of experience do you have with the management of networks and services?

Background *

In which field are you currently active?

Location *

What is the current location of your primary office?

Continue »



11% completed

Network Management *

"What kind of network is being managed?"

	0	1	2	3	4	5	No opinion
Ad-hoc networks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wireless & mobile networks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
IP networks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LANs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Optical networks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sensor networks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overlay networks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Virtual networks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Software defined and programmable networks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internet of Things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data center networks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Smart energy grids	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Missing topics - Network Management

Which topics are not listed above and should be added in your opinion?

« Back

Continue »



22% completed

Questionnaire participants

- 154 = 49 (industry) + 105 (academia)

Industry Group	Number of Participants
Network provider	12
Network equipment provider	16
Cloud system provider	3
Software application provider	7
Other	11
<i>Total</i>	<i>49</i>

Continent	Percentage
Asia	8.16%
Europe	65.31%
North America	26.53%

Continent	Percentage
Asia	3.81%
Europe	80.00%
North America	8.57%
South America	7.62%

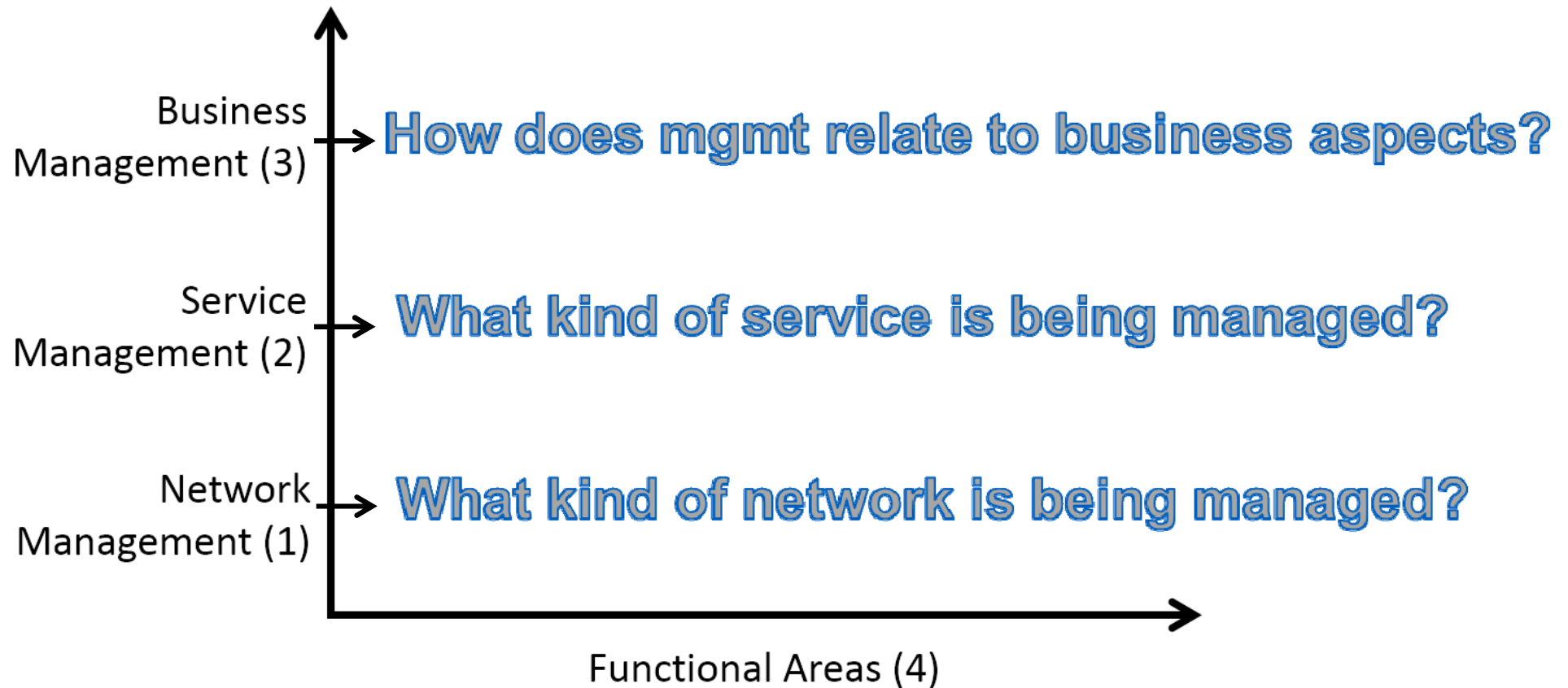
Experience	Research	NSM*
0 - 5 years	8.16%	12.24%
5 - 10 years	20.41%	20.41%
10 - 15 years	20.41%	20.41%
15 - 20 years	20.41%	16.33%
20+ years	30.61%	30.61%

Experience	Research	NSM*
0 - 5 years	15.24%	27.62%
5 - 10 years	23.81%	26.67%
10 - 15 years	20.95%	18.10%
15 - 20 years	17.14%	11.43%
20+ years	22.86%	16.19%

*Network and Service Management

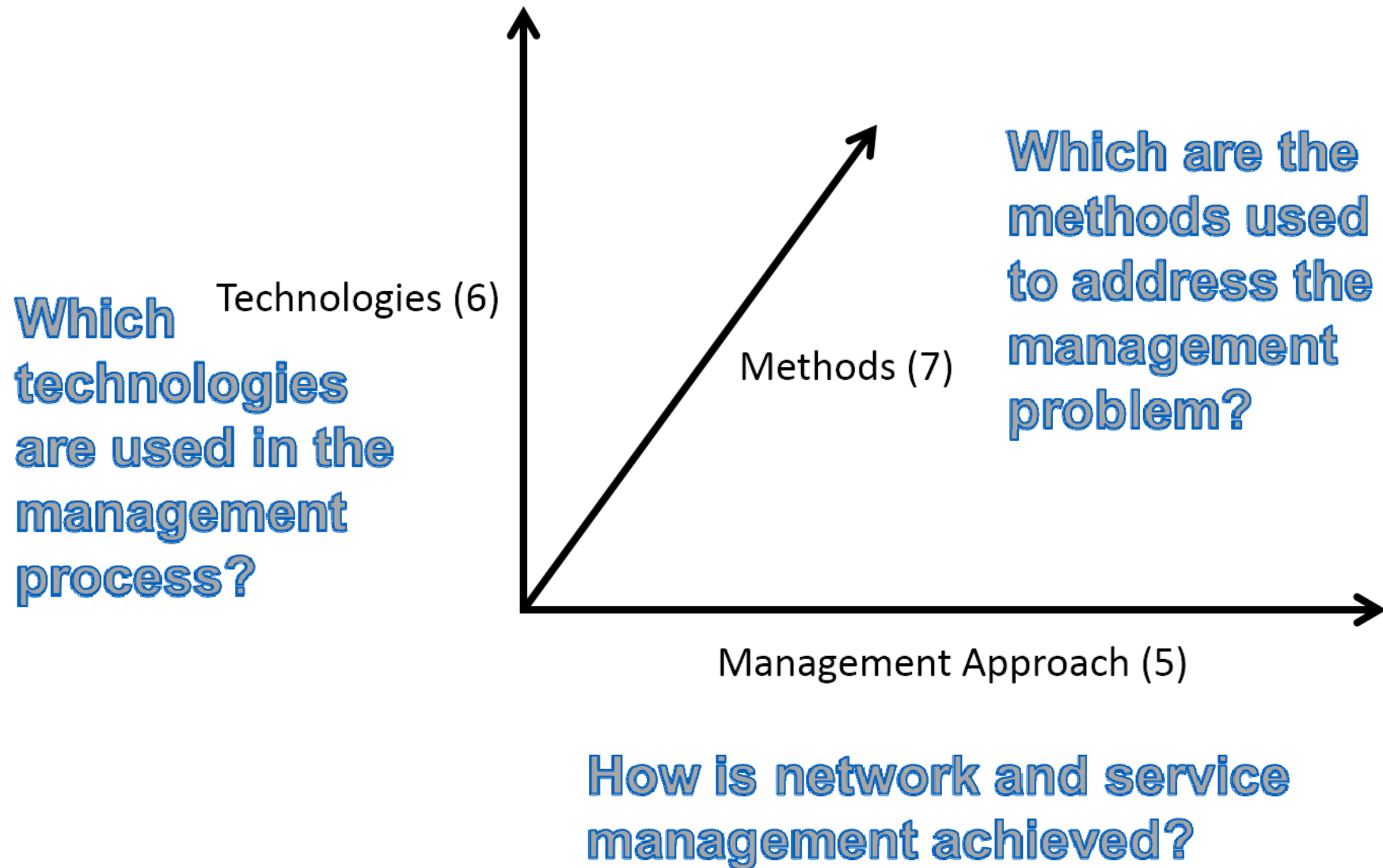


Categories 1-3: What is being managed?



Category 4: Which functional areas are covered?

Categories 5-7: How is something managed?



Taxonomy: category by category



1. Network Management

- Ad-hoc Networks
- Wireless and Cellular Networks (incl. 5G)
- IP Networks
- LANs
- Optical Networks
- Sensor Networks
- Overlay Networks
- Virtual Networks
- Software Defined and Programmable Networks
- *Internet of Things (M)*
- Data Center Networks
- SCADA and Distributed Control Systems
- Information-Centric-Networks
- Network Function Virtualization (R)
- Home Networks



2. Service Management

- Multimedia Services (incl. Voice, Video)
- Content Delivery Services
- Hosting (Virtual Machines) (R)
- Cloud Services (incl. IaaS, PaaS, SaaS)
- *IoT Services (N)*
- ~~*Grid Services (R)*~~
- *Security Services (N)*
- Context-aware Services
- IT Services

3. Business Management

- Legal Perspective
- *Regulatory Perspective (N)*
- Ethical Issues (R)
- *Economic Aspects (N)*
- Process, Workflow and Life-cycle Management
- Privacy Management
- SLA Management (M)



4. Functional Areas

- Fault Management
- Configuration Management (incl. Deployment Management)
- Accounting Management
- Performance Management
- Security Management (incl. IDS, DDoS detection and Mitigation)
- Event Management (R)



5. Management Paradigms

- Centralized Management
- Hierarchical Management
- Distributed Management
- Autonomic and Cognitive Management
- Policy-Based Management
- Federated Network Management
- Pro-Active Management
- Energy-Aware Network Management
- *QoE-Centric Management (M)*



6. Technologies

- Protocols
- Middleware
- Overlays (incl. P2P)
- Data, Information, and Semantic Modeling
- *Mobile Agents (R)*
- *Grids (R)*
- Service Discovery, Migration and Orchestration
- *Resource Provisioning (R)*
- *Software Defined Networking (N)*
- *Network Function Virtualization (N)*
- Cloud Computing and Storage
- Human-Machine Interaction (R)
- Information Visualization
- Operations and Business Support Systems (OSS/BSS)



7. Methods

- Control Theory
- Mathematical Optimization
- Economic Theories (incl. Game Theory)
- Machine Learning and Evolutionary Algorithms
- Monitoring and Measurements
- Data Mining and (Big) Data Analytics
- Logic and Reasoning
- Probability Theory, Stochastic Processes, Queuing Theory
- Simulators and Simulation Experiments
- Prototypes and Testbed Experimentation
- Field Trials



IFIP Open Digital Library

IFIP Open Digital Library



- Available at the URL (Open Access)
- <http://dl.ifip.org/>



IEEE CNOM/IFIP WG6.6 Meeting

Thank You!!!

GLOBECOM 2015
San Diego, California, U.S.A.
IEEE CNOM/IFIP WG6.6 Meeting
December 9, 2015 – 9.00-10.00

