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# NMRG Status Report '2006

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# NMRG Origins

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- First unofficial meeting in Lausanne, November 1998



- Idea: create a forum for in-depth technical discussions
- NMRG formally approved by the IAB in March 1999

# NMRG Business Model

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- Collaboration and discussion forum
- Bridging gaps between academia, industries, operators, standards developing organizations (SDOs), ...
  - Improve mutual understanding
  - Participation of people from different SDOs to exchange viewpoints (ITU, CIM, W3C, IETF)
- Interactive workshops (1-2 days) [W]
  - usually co-located with other events
  - hosted by a supporting institution (low cost)
  - originally intensive discussions of a given subject
  - now presentations followed by detailed discussions
- Few short meetings (1-2 hours) [M]

# NMRG Workshops and Meetings

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No.	Location	Date	Type	Topic(s)
1	Lausanne, Switzerland	Nov 1998	W	SNMP evolution
2	Boston, USA	May 1999	M	SNMP over TCP
3	Oslo, Norway	Jul 1999	W	SNMP compression
4	Zurich, Switzerland	Oct 1999	W	SNMP operations (e.g., get-subtree)
5	Washington DC, USA	Nov 1999	M	64bit types, SNMP / COPS / policy
6	Twente, Netherlands	Mar 2000	W	SMIIng and operations / methods
7	Kleinheubach, Germany	Sep 2000	W	SMIIng
8	Austin, USA	Dec 2000	W	Information models
9	Seattle, USA	May 2001	W	SNMP enhancements
10	Pisa, Italy	Apr 2002	W	Alarm models
11	Osnabrück, Germany	Sep 2002	W	Web Services for management
12	Colorado Springs, USA	Mar 2003	W	SMI conversion to XSD
13	Vienna, Austria	Jul 2003	W	MIB module metrics
14	Heidelberg, Germany	Oct 2003	W	SyncML, WS vs. SNMP
15	Bremen, Germany	Jan 2004	W	Middleboxes, signaling, packet capture

# NMRG Workshops and Meetings

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No.	Location	Date	Type	Topic(s)
16	Seoul, Korea	Apr 2004	W	XML-based management
17	Davis, USA	Nov 2004	W	WS performance, MIB metrics
18	Nancy, France	Jul 2005	W	VoIP management
19	Stockholm, Sweden	Jan 2006	W	Promise theory / dist. monitoring
20	Montreal, Canada	Jul 2006	M	SNMP traffic measurements

# NMRG Achievements

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- Organized 16 NMRG workshops and 4 NMRG meetings
- Produced 4 NMRG RFCs (3430, 3444, 3780, 3781)
- Involved in 16 other publications by NMRG members
- Spring-off activities:
  - Editorial activities (IEEE ComMag feature topic)
  - Research events (IEEE VoIP Security Workshop)
  - Research projects (EMANICS, ...)
- Influenced IETF work  
(most notably the failure of SMIng in the IETF)
- Currently  $\approx$  140 subscriptions on the mailing list

# NMRG Experiences

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- Bridging cultural differences between operations, engineering and research is a non-trivial undertaking
- Interaction with people from other backgrounds takes time and patience but is worthwhile
- IRTF research groups are really volunteer driven
- Driving projects to completion is sometimes difficult
- Creation of a network of people who know each other well enough to communicate efficiently is probably the main contribution of the NMRG

# References

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- [1] J. Schönwälter. Simple Network Management Protocol (SNMP) over Transmission Control Protocol (TCP) Transport Mapping. RFC 3430, TU Braunschweig, December 2002.
- [2] A. Pras and J. Schönwälter. On the Difference between Information Models and Data Models. RFC 3444, University of Twente, University of Osnabrueck, January 2003.
- [3] F. Strauß and J. Schönwälter. SMIIng - Next Generation Structure of Management Information. RFC 3780, TU Braunschweig, IU Bremen, May 2004.
- [4] F. Strauß and J. Schönwälter. Structure of Management Information, Next Generation (SMIIng) Mappings to SNMP. RFC 3781, TU Braunschweig, IU Bremen, May 2004.
- [5] J. Schönwälter. Characterization of SNMP MIB Modules. *Proc. 9th IFIP/IEEE International Symposium on Integrated Network Management*, pages 615–628, Nice, May 2005.
- [6] A. Pras, T. Drevers, R. van de Meent, and D. Quartel. Comparing the performance of SNMP and web services based management. *IEEE electronic Transactions on Network and Service Management*, 1(2), 2004.
- [7] T. Klie and F. Strauß. Integrating SNMP Agents with XML-based Management Systems. *IEEE Communications Magazine*, 42(7):76–83, July 2004.

# References (cont.)

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- [8] G. Pavlou, P. Flegkas, S. Gouveris, and A. Liotta. On management technologies and the potential of web services. *IEEE Communications Magazine*, 42(7):58–66, July 2004.
- [9] J. van Sloten, A. Pras, and M. J. van Sinderen. On the Standardisation of Web Service Management Operations. In *Proc. 10th Open European Summer School (EUNICE 2004) and IFIP WG 6.3 Workshop*, pages 143–150, Tampere, June 2004.
- [10] T. Drevers, R. van de Meent, and A. Pras. Prototyping Web Services based Network Monitoring. In *Proc. 10th Open European Summer School (EUNICE 2004) and IFIP WG 6.3 Workshop*, pages 135–142, Tampere, June 2004.
- [11] J.P. Martin-Flatin, D. Srivastava, and A. Westerinen. Iterative multi-tier management information modeling. *IEEE Communications Magazine*, 41(12), December 2003.
- [12] J. Schönwälter, A. Pras, and J. P. Martin-Flatin. On the Future of Internet Management Technologies. *IEEE Communications Magazine*, 41(10):90–97, October 2003.
- [13] R. State, E. Nataf, and O. Festor. A SMI<sup>ng</sup> based Policy Access Control for SNMPv3. In *Proc. 6th IEEE International Conference on High Speed Networks and Multimedia Communications*, Estoril, July 2003.
- [14] E. Nataf, O. Festor, and G. Doyen. An SMI<sup>ng</sup>-Centric Proxy Agent for Integrated Monitoring and Provisioning. In *Proc. 8th IFIP/IEEE International Symposium on Integrated Network Management*, pages 491–503, Colorado Springs, March 2003.

# References (cont.)

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- [15] F. Strauß and T. Klie. Towards XML-oriented Internet Management. In *Proc. 8th IFIP/IEEE International Symposium on Integrated Network Management*, pages 505–518, Colorado Springs, March 2003.
- [16] Aiko Pras, Szabi Boros, and Bert Helthuis. Remote MIB item look-up service. In *Proc. 2000 IEEE/IFIP Network Operations and Management Symposium*, April 2002.
- [17] C. Elliot, D. Harrington, J. Jason, J. Schönwälder, F. Strauß, and W. Weiss. SMI<sup>I</sup>ng Objectives. RFC 3216, Cisco Systems, Enterasys Networks, Intel Corp., TU Braunschweig, Ellacoya, December 2001.
- [18] J. P. Martin-Flatin. Toward universal information models in enterprise management. In *Proc. VLDB 2001 Workshop on Databases in Telecommunications (DBTel 2001)*, volume 2209 of *Lecture Notes in Computer Science*, pages 167–178. Springer-Verlag, September 2001.
- [19] B. Aboba, J. Arkko, and D. Harrington. Introduction to Accounting Management. RFC 2975, Microsoft Corporation, Ericsson, Cabletron Systems Inc., October 2000.
- [20] R. Sprenkels and J. P. Martin-Flatin. Bulk Transfer of MIB Data. *Simple Times*, 7(1), March 1999.