

Brendan Jennings



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Born: February 25, 1972
Nationality: Irish

RESEARCH INTERESTS

Autonomic Network Management · Application of Semantic Technologies to Network Management · Management of Composed Services · Authoring and Analysis of Management Policies · Network Measurements · Load Balancing and Overload Control.

APPOINTMENTS HELD

- 2003- Research Fellow, promoted (2007) to Senior Research Fellow.
Appointed (2011) as TSSG's Head of Postgraduate Studies.
Telecommunications Software & Systems Group, Waterford Institute of Technology.
As one of the first 2 post-doctoral researchers in the TSSG I helped build a academic research focussed team that currently comprises 10 post-doctoral fellows and 20 PhD students. During this time I have played a leading role in developing funding proposals that have won €10m+ in research grants for the team. I have co-supervised 3 PhD students to completion, with 5 more in progress, published 60+ peer-reviewed journal articles and conference papers, and established myself as an internationally recognised researcher in network and service management.
- 2001-2003 Software Design Engineer / Senior Software Engineer, *Openet Telecom Ltd.*
As a member of the core engineering team I designed and implemented key components of the FusionWorks and ActiveCharge products. An example is a component that collected, decoded and collated Call Data Records (CDRs) transferred using the GTP' protocol from a Cisco Content Services Gateway; this is still deployed in the networks of a number of Tier 1 operators.
- 1994-2001 PhD Candidate / Research Assistant, *Dublin City University*
My PhD dissertation presents a flexible and efficient new solution for load control in SS.7/IN networks, based on co-ordinated, profit-optimal allocation of critical network resources. This solution served as the basis of a load control solution for one of Ericsson's server cluster product suites.
As a research assistant I participated in a number of European FP5 projects and performed consultancy projects for companies including Lake Communications and Ericsson.
- 1997-2000 Project Manager, *ACTS-MARINER (AC333), Dublin City University*
As the initiator and project coordinator for this EU-funded collaborative research project I

had overall responsibility for the organisation, planning and control of the project, which involved 30 researchers from 8 partners. The project addressed the development of a FIPA-compliant, real-time multi-agent system for Intelligent Network load control.

- 1996-1997 Part-time Lecturer, *Dublin City University*
Prepared and delivered lecture notes, designed and organised laboratory sessions and set assignments/examinations for the Year 2 Data Communications and Computer Networks module for the newly initiated Telecommunications Engineering degree programme.
- 1993-1994 Internship, *Aldiscon Information Ltd.*
Implemented a module for pre-processing CDR files for input to a network planning toolset.
- 1992 Internship, *Microsoft Inc.*
Performed Quality Assurance for localised versions of Microsoft's LANManager product.

EDUCATION

- 2001 PhD in Telecommunications Engineering, *Dublin City University*.
Dissertation: "Network-oriented Load Control for SS.7/IN."
Supervisor: Prof. Thomas Curran, *Dublin City University*.
Examiner: Prof. Laurie Cuthbert, *Queen Mary, University of London*.
- 1993 BEng in Electronic Engineering, *Dublin City University*. (1st class honours)
- 1989 Leaving Certificate, *Coláiste Seosaimh, Glenamaddy, Co. Galway*.

HONOURS & AWARDS

- 2009 *Best Paper Award, e-Challenges 2009 Conference*
The paper, *Semantic Mediation to Enable Network and Service Management Interoperability in Future Internet Networks*, co-authored with John Strassner, Sven van der Meer and Miguel Ponce de Leon, was selected as the best paper of the 260 presented at the conference.
- 2009 *Best Paper Award, MEDES 2009 Conference*
The paper, *Distributed Support for Public and Private Accountability in Digital Ecosystems*, co-authored with Paul Malone, was selected as the best paper of the 70 presented at the conference.
- 1993 *IEE "Institution Prize" for distinction shown at Dublin City University*
Award to the undergraduate in the Faculty of Engineering with the best overall final year results.
- 1992 *Membership of Siemens International Student Circle*
One of six Engineering students selected from all Irish universities for membership.

HISTORY OF GRANT FUNDING

Sole or co- principal investigator for grants with CUMULATIVE FUNDING OF €3.25M

Waterford Institute of Technology

- 2010-2015 PRTL Cycle 5 All-Ireland Graduate School Telecommunications Graduate Initiative, Higher Education Authority
co-Principal investigator (WIT) with Willie Donnelly, stream leader
Budget: €896k
- 2009-2011 Collaborative research project **GenesisX** (CP6-007), Celtic Initiative / Enterprise Ireland
Principal investigator (WIT)
Budget: €344k
- 2008-2013 Strategic research cluster **FAME** (08/SRC/I1403), Science Foundation Ireland
Proposal co-author, funded investigator
Total budget: €5.8m, WIT budget: €2.9m
Partners: Trinity College Dublin, University College Dublin, University College Cork, NUI Maynooth, Alcatel-Lucent, Cisco, Ericsson, HP, IBM, Telefónica I+D
- 2006-2008 Commercialisation proof-of-concept project SIPmeter (PC/2006/305), Enterprise Ireland
Principal investigator
Budget: €109k
- 2006-2008 Technology development project Feedhenry (TD/2006/219), Enterprise Ireland
Principal investigator
Budget: €512k
Feedhenry Ltd., a start-up licensing outputs of this project, spun out from WIT in January 2011 with 1st round funding of approx. €1m
- 2006-2010 FP6 IST Network of Excellence **OPAALS** (IST-034824), European Commission
Co-principal investigator (WIT) with Paul Malone
Budget: €541k
- 2005-2008 Research frontiers project **ADCS** (05/RFP/CMS006), Science Foundation Ireland
Principal Investigator
Budget: €187k
- 2005-2006 Commercialisation proof-of-concept project **Henry**, Enterprise Ireland
Principal investigator
Budget: €115k
- 2004-2006 Innovation partnership **Billing4Rent** (IP/2004/333), Enterprise Ireland
Principal investigator (WIT)
Total budget: €328k, WIT budget: €230k
Partners: Intec Billing, Galway/Mayo Institute of Technology

Dublin City University

- 1998-2001 FP5 ACTS project **MARINER** (AC333), European Commission
Proposal initiator/editor, project coordinator, technical manager
Total budget: €1.3m, DCU budget: €325k

Partners: Ericsson, Imperial College, Lund University, Queen Mary – University of London, University of Karlskrona/Ronneby, IKV++, Telkom South Africa

STUDENT SUPERVISION & EXAMINATION

Supervision, PhD

- 2010- Annie Ibrahim Rana, *co-supervisor*, primary supervisor: [Mícheál Ó Foghlú](#), anticipated graduation: 2013
- 2010- Martin Johnsson, *primary supervisor*, co-supervisor: [Dmitri Botvich](#), anticipated graduation: 2013
- 2009- Bernard Butler, *primary supervisor*, co-supervisor: [Dmitri Botvich](#), anticipated graduation: 2012
- 2008- Brian Meskill, *primary supervisor*, co-supervisor: [Alan Davy](#), anticipated graduation: 2012
- 2008- Jason Barron, *primary supervisor*, co-supervisor: [Steven Davy](#), anticipated graduation: 2012
- 2005- Lei Xu, *primary supervisor*, graduating: 2011
- 2004-2008 [Alan Davy](#), *primary supervisor*, co-supervisor: [Dmitri Botvich](#), graduated: 2008
- 2004-2008 [Steven Davy](#), *primary supervisor*, co-supervisor: [John Strassner](#), graduated: 2008

Supervision, MSc by Research

- 2003-2005 Michael White, *primary supervisor*, graduated: 2005
- 1999-2001 Navinder Singh Wathan, *advisor*, graduated: 2001

Supervision, Taught MSc Dissertation

- 2008-2009 Patrick Hayden, *primary supervisor*, graduated: 2009
- 2007-2008 Chen Chen, *primary supervisor*, graduated: 2008
- 2007-2008 José Sebastian, *primary supervisor*, graduated: 2008

Internal Examiner, PhD

- 2009-2010 Keara Barrett · Gajaruban Kandavanam

Internal Examiner, MSc by Research

- 2004-2005 Andrew Betson · Jonathan Brazil · Darach Cawley · Robert O'Connor

Internal Examiner, Taught MSc dissertation

- 2007-2010 Praveen Kumar · Abishek Thakur · Huan Huan · Stacey Foley · Tony Power

External Examiner, MSc by Research

- 2010 John Paul Devins, *University College Dublin*
- 2006 Aisling O'Driscoll, *Cork Institute of Technology*
- 2006 Austin Kenny, *Trinity College Dublin*

TEACHING

- 2004-2008 Guest lectures on mobile communications and on charging and billing in communications networks as part of the *BSc in Applied Computing* and the *MSc in Computing (Communications Systems)*
Department of Computing, Mathematics and Physics, *Waterford Institute of Technology*
- 1996-1997 Prepared and delivered lecture notes, designed and organised laboratory sessions and set assignments/examinations for the *Year 2 Data Communications and Computer Networks* module for the newly initiated *BSc in Telecommunications Engineering*
School of Electronic Engineering, *Dublin City University*
- 1996-1997 Prepared and supervised laboratory sessions based on application of Telelogic Tau™ SDL software for the *Year 2 Telecommunications Software Systems* module of the *BSc in Telecommunications Engineering*
School of Electronic Engineering, *Dublin City University*

ADMINISTRATION

- 2010- Elected member of *Waterford Institute of Technology's* 6th academic council
- 2007-2010 Elected member of *Waterford Institute of Technology's* 5th academic council
- 2007- Member of the Research & Development sub-committee of academic council
- 2009- Leading a sub-group responsible for a comprehensive update of the *Waterford Institute of Technology Strategy, Regulations and Procedures for Postgraduate Research Degrees*
- 2008 Co-author, with Fiona Dowling, of the *Waterford Insitute of Technology Policy on Authorship and Data Retention*, adopted by academic council, February 2009
- 2010 Member of 2010 Institutional Review Steering Group
Waterford Insitute of Technology
- 2009 Review panel member for the 2009 five yearly "Quality Assurance and Enhancement Review" of the School of Engineering, *Waterford Institute of Technology*
- 2009 New course evaluation panel member for *Doctorate of Business Administration* and *MSc in Business, Innovation, Technology & Entrepreneurship*
Department of Graduate Business, *Waterford Institute of Technology*
- 2004- Programme Board Member, *MSc in Computing (Communications Systems)*
Department of Computing, Mathematics and Physics, *Waterford Institute of Technology*

SCIENTIFIC & PROFESSIONAL ACTIVITIES

Professional Bodies

- 2000- Member, IEEE
- 2009- Secretary, IEEE Comsoc TC on Network Operations and Management (CNOM)
- 2006- Member, ACM

Conference Organisation

- 2006- Steering committee member, IEEE International Workshop on Modelling Autonomic Communications Environments (MACE)
- 2012 Posters co-chair, NOMS 2012
- 2011 Finance co-chair, local arrangements committee member, IM 2011
- 2007 TPC co-chair, MACE 2007
- 2007 Finance co-chair, Manweek 2007
- 2007 Publication chair, MUCS 2007
- 2006 TPC co-chair, MMNS 2006
- 2006 Organisation co-chair, Manweek 2006

Technical Programme Committees

- 2011 IFIP/IEEE International Symposium on Integrated Network Management (IM): 2011
- 2011 IEEE International Conference on Advanced Information and Networking (AINA): 2011
- 2011 International Workshop on Semantics to Enable Convergence for Consumer Communications and Applications (SECCCA): 2011
- 2009-2010 IEEE Global Communications Conference (Globecom), Communications Software and Services Symposium: 2009, Communications Software, Services and Multimedia Applications Symposium: 2010
- 2008-2012 IEEE International Conference on Communications (ICC), Communications Software and Services Symposium: 2008, 2010, 2012
- 2010-2011 IEEE Conference on Local Computer Networks (LCN): 2010, 2011
- 2010 6th International Conference on Network and Service Management (CNSM) [formally Manweek]: 2010
- 2010-2011 IEEE Conference on Service-oriented Computing and Applications (SOCA): 2010, 2011
- 2010 IEEE/IFIP International Workshop on Knowledge Management for Future Services and Networks (KMFSAN): 2010
- 2010 IFIP/IEEE International Workshop on Management of the Future Internet (ManFI): 2010
- 2009 IEEE International Conference on Autonomic Computing (ICAC): 2009
- 2006-2007 IEEE Consumer Communications and Networking Conference (CCNC): 2006, 2007
- 2006-2010 IEEE Workshop on Modelling Autonomic Communications Environments (MACE): 2006, 2007, 2008, 2009, 2010
- 2006-2009 IFIP/IEEE International Workshop on Distributed Systems: Operations and Management (DSOM): 2006, 2007, 2008, 2009
- 2006-2009 IFIP/IEEE International Conference on Management of Multimedia and Mobile Networks and Services (MMNS): 2006, 2007, 2008, 2009
- 2003-2009 International Workshop on Management of Ubiquitous Computing and Services (MUCS): 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010
- 2008-2009 IEEE International Workshop on Autonomic Communications and Network Management

(ACNM): 2008, 2009

- 2006-2008 IET International Conference on Intelligent Environments (IE): 2006, 2007, 2008
- 2007-2010 China-Ireland International Conference on Information and Communications Technologies (CIICT): 2007, 2008, 2009, 2010
- 2000- Other: MDDAS 2008, OPAALS 2008, NGNM 2008, PDCAT 2008, EVGM 2007, CODS 2007, SSMO 2007, UIC 2007, ATC 2007, UIC 2006, IS&N 2000, IN 2000

Peer Reviewing

- 2000-2010 IEEE Communications Magazine · Computer Networks · ACM Transactions on Autonomous and Adaptive Systems · IEEE Transactions on Broadcasting · Journal of Network and Systems Management · International Journal of Network Management · *numerous international and national conferences.*

Funding Proposal Evaluation

- 2010 Expert Evaluator for the EU FP7 Future and Emerging Technologies Open Scheme (FETopen)

Invited Talks

- 2011 Future Internet Assembly Special Session on Linked Data in the Future Internet, Budapest, Hungary
- 2011 SFI Ireland/India Research Seminar on Information Security, Bangalore, India
- 2011 SFI Workshop on Future Internet, Dublin, Ireland
- 2010 2nd IEEE/IFIP International Workshop on Management of the Future Internet (ManFI 2010), Osaka, Japan
- 2010 Pohang University of Science and Technology (POSTECH), Pohang, Korea
- 2010 Waterford Institute of Technology Research Day 2010, Waterford, Ireland
- 2009 Indian Institute of Technology, Madras, Chennai, India
- 2008 Keynote, 2nd IEEE International Workshop on Autonomic Communications and Network Management (ACNM 2008), Salvador da Bahia, Brazil
- 1999 CLIMATE Industrial Agent Workshop, Barcelona, Spain
- 1999 ACTS Load Control Workshop, Ronneby, Sweden
- 1998 Object Management Group (OMG) Workshop on Corba-based Intelligent Networks, Manchester, United Kingdom

University of Karlskrona/Ronneby,
Karlskrona, Sweden

PUBLICATIONS

Bibliometrics (via Google Scholar): 250+ citations, h-index: 8, g-index: 14

Journal Articles

- Balasubramaniam, S., Mineraud, J., Perry, P., Jennings, B., Murphy, L., Donnelly, W. and Botvich, D. 2011, Coordinating Allocation of Resources for Multiple Virtual IPTV Providers to Maximise Revenue, *IEEE Transactions on Broadcasting*, to appear.
- Brennan, R., Lewis, D., Keeney, J., Etzioni, Z., Feeney, K., O’Sullivan, D., Lozano, J. A. & Jennings, B. 2009, Policy-based Integration of Multi-Provider Digital Home Services, *IEEE Network*, vol. 23, no. 6, pp. 50-56. [DOI] [PDF]
- Balasubramaniam, S., Botvich, D., Jennings, B., Davy, S., Donnelly, W. & Strassner, J. 2009, Policy-constrained Bio-inspired Processes for Autonomic Route Management, *Computer Networks*, vol. 53, pp. 1666-1682. [DOI] [PDF]
- Davy, A., Botvich, D. & Jennings, B. 2008, Revenue Optimized IPTV Admission Control using Empirical Effective Bandwidth Estimation, *IEEE Transactions on Broadcasting*, vol. 54, no. 3, pp. 599-611. [DOI] [PDF]
- Davy, S., Jennings, B. & Strassner, J. 2008, The Policy Continuum - Policy Authoring and Conflict Analysis, *Computer Communications*, vol. 31, no. 13, pp. 2981-2995. [DOI] [PDF]
- Jennings, B., van der Meer, S., Balasubramaniam, S., Botvich, D., Ó Foghlú, M., Donnelly, W. & Strassner, J. 2007, Towards Autonomic Management of Communications Networks, *IEEE Communications Magazine*, vol. 45, no. 10, pp. 112-121. [DOI] [PDF]
- Karlich, S., Zahariadis, T., Zervos, N., Nikolaou, N., Jennings, B., Kollias, V. & Magedanz, T. 2004, A Self-Adaptive Service Provisioning Framework for 3G+/4G Mobile Applications, *IEEE Wireless Communications*, vol. 11, no. 5, pp. 48-56. [DOI] [PDF]
- Brennan, R., Jennings, B., McArdle, C. & Curran, T. 2000, Evolutionary Trends in Intelligent Networks, *IEEE Communications Magazine*, vol. 38, no. 6, pp. 86-93. [DOI] [PDF]
- Jennings, B., Brennan, R., Gustavsson, R., Feldt, R., Pitt, J. V., Prouskas, K. & Quantz, J. 1999, FIPA-compliant agents for real-time control of Intelligent Network Traffic, *Computer Networks*, vol. 31, no. 19, pp. 2017-2036. [DOI] [PDF]

Editorships

- Jennings, B., Serrat, J. & Strassner, J. (eds) 2007, *Modelling Autonomic Communications Environments (Proceedings of the 2nd IEEE International Workshop, MACE 2007)*, Multicon Lecture Notes – No. 6, Multicon, Berlin.
- Helmy, A., Jennings, B., Murphy, L. & Pfeifer, T. (eds) 2006, *Autonomic Management of Mobile Multimedia Services (Proceedings of the 9th IFIP/IEEE International Conference on Management of Multimedia and Mobile Networks and Services – MMNS 2006)*, LNCS 4267, Springer, Heidelberg. [DOI]

Donnelly, W., Popescu-Zeletin, R., Strassner, J., Jennings, B. & van der Meer, S. (eds) 2006, *Modelling Autonomic Communications Environments (Proceedings of the 1st IEEE International Workshop, MACE 2006)*, Multicon Lecture Notes – No. 2, Multicon, Berlin.

Book Chapters

Jennings, B., Feeney, K. C., Brennan, R., Balasubramaniam, S., Botvich, D. & van der Meer, S. 2011, Federating Autonomic Network Management Systems for Flexible Control of End-to-end Communications Services, in *Autonomic Network Management Principles*, ed. N. Agoulmine, Academic Press, p101-118, 2010.

Brennan, R., Jennings, B., McArdle, C. & Curran, T. 2001, Intelligent Networks: A Discussion of Current Developments, in *Managing Telecommunications and Networking Technologies in the 21st Century: Issues and Trends*, ed. G. Grant, Idea Group Publishing, New York, pp. 1-20.

Jennings, B. 1999, Agent Technology for Load Control in Intelligent Networks, in *Agents Technology in Europe: ACTS Activities*, European Commission, Berlin, pp. 65-74.

Conference and Workshop Papers

2011

Davy, S., Serrat, J., Astorgas, A., Jennings, B. & Rubio-Loyola, J. Policy-Assisted Planning and Deployment of Virtual Networks, in *Proc. 7th International Conference on Network and Service Management (CNSM 2011)*, IEEE, 2011, *to appear*.

Meskill, B., Davy, A. & Jennings, B. Server Selection and Admission Control for IP-based Video on Demand Using Available Bandwidth Estimation, in *Proc. 36th Annual IEEE Conference on Local Computer Networks (LCN 2011)*, short paper, *to appear*, IEEE, 2011.

Butler, B., Jennings, B. & Botvich, D., An experimental testbed to predict the performance of XACML Policy Decision Points, in *Proc. 12th IFIP/IEEE International Conference on Integrated Network Management (IM 2011)*. IEEE, 2011, *to appear*.

Xu, L., Shi, L., Wang, R. & Jennings, B., A Multiple Criteria Service Composition Selection Algorithm Supporting Time-sensitive rules, in *Proc. 12th IFIP/IEEE International Symposium on Integrated Network Management (IM 2011)*, IEEE, 2011, *to appear*.

Barron, J., Davy, S. & Jennings, B., Conflict Analysis During Authoring of Management Policies for Federations, in *Proc. 1st IFIP/IEEE International Workshop on Managing Federations and Cooperative Management (ManFed.CoM 2011)*, IEEE, 2011, *to appear*.

Johnsson, M., Jennings, B. & Botvich, D., Inherently Self-Managed Networks: Requirements, Properties and an Initial Model, in *Proc. 3rd IFIP/IEEE International Workshop on Management of the Future Internet (ManFI 2011)*, IEEE, 2011, *to appear*.

Dempsey, S., Jennings, B., Brazil, J. & Madigan, J., Using Ambient Intelligence to Infer Availability and Meta-status in a Picocell Environment, in *Proc. 7th International Conference on Intelligent Environments (IE 2011)*, IET, *to appear*, 2011.

Ibrahim Rana, A., Jennings, B., Ó Foghlú, M. & van der Meer, S. Autonomic Policy-based HAN Traffic Classification using Augmented Meta Model for Policy Translation, in *Proc. 8th International Conference on Wireless and Optical Communications Networks (WOCN 2011)*, pp. 1-8, IEEE, 2011. [DOI]

2010

- Hauswirth, M., Friel, O., Griffin, K., Hession, P., Jennings, B., Groza, T., Handschuh, S., Podnar Zarko, I., Polleres, A. & Zimmermann, A. 2010, Towards Consolidated Presence, invited paper, in *Proc. 6th Int'l Conf. on Collaborative Computing: Networking, Applications and Worksharing (CollaborateCom 2010)*, Chicago, USA, October 2010.
- Butler, B., Jennings, B. & Botvich, D. 2010, XACML Policy Performance Evaluation Using a Flexible Load Testing Framework, poster paper, in *Proc. 17th ACM Conf. on Computer and Communications Security (CCS 2010)*, ACM, pp. 648-650, 2010, *short paper*.
- Xu, L. & Jennings, B. 2010, A Cost-minimizing Service Composition Selection Algorithm Supporting Time-sensitive Discounts, in *Proc. 7th IEEE Int'l Conf. on Services Computing (SCC 2010)*, IEEE, pp. 402-408. [DOI] [PDF]
- van der Meer, S., Jennings, B. and Strassner, J. 2010, Managing Ubiquitous Networks – How do they do it?, in *Proc. 2nd Int'l Conf. on Ubiquitous and Future Networks (ICUFN 2010)*, IEEE, pp. 49-54.

2009

- Xu, L. & Jennings, B. 2009, A Framework for Automated Creation and Deployment of Consolidated Charging Schemes for Service Compositions, in *Proc. 7th IEEE European Conf. on Web Services (ECOWS 2009)*, IEEE, pp. 49-57. [DOI] [PDF]
- Malone, P. & Jennings, B. 2009, Distributed Support for Public and Private Accountability in Digital Ecosystems, in *Proc. Int'l ACM Conf. on Management of Emergent Digital Digital EcoSystems (MEDES 2009)*, ACM, pp. 391-398 . [DOI] [PDF] (winner, best paper)
- Kandavanam, G., Botvich, D., Balasubramaniam, S. & Jennings, B., 2009, A Hybrid Genetic Algorithm / Variable Neighborhood Search Approach to Maximizing Residual Bandwidth of Links for Route Planning, in *Proc. 9th Int'l Conf. on Artificial Evolution (EA 2009)*, Strasbourg, France, October 2009. [PDF]
- Strassner, J., van der Meer, S., Jennings, B. & Ponce de Leon, M. 2009, Semantic Mediation to Enable Network and Service Management Interoperability in Future Internet Networks, in *Proc. e-Challenges 2009 (e-2009)*, IOS Press. [PDF] (winner, best paper)
- McLaughlin, M., Malone, P. & Jennings, B., 2009, A Model for Identity in Digital Ecosystems, in *Proc. 3rd IEEE Int'l Conf. on Digital Ecosystems and Technologies (DEST 2009)*, IEEE, pp. 295-300. [DOI] [PDF]
- Jennings, B., Brennan, R., Donnelly, W., Foley, S. N., Lewis, D., O'Sullivan, D., Strassner, J. & van der Meer, S. 2009, Challenges for Federated, Autonomic Network Management in the Future Internet, in *Proc. 2009 IFIP/IEEE Int'l Symp. on Integrated Network Management (IM'2009) Workshops [1st IFIP Int'l Workshop on Management of the Future Internet (ManFI 2009)]*, IEEE, pp. 87-92. [DOI] [PDF]
- Strassner, J., van der Meer, S., Jennings, B. & Ponce de Leon, M. 2009, An Autonomic Architecture to Manage Ubiquitous Computing Networks and Applications, in *Proc. 1st Int'l Conf. on Ubiquitous and Future Networks (ICUFN 2009)*, IEEE, pp. 116-121. [DOI] [PDF]
- Davy, A., Botvich, D. & Jennings, B. 2009, An Approach to Measurement based Quality of Service Control for Communications Networks, in *Proc. 2009 IFIP/IEEE Int'l Symp. on Integrated Network Management (IM 2009) [Dissertation Digests]*, IEEE, pp. 827-832. [DOI] [PDF]

Davy, S., Jennings, B. & Strassner, J. 2009, On Harnessing Information Models and Ontologies for Policy Conflict Analysis, in *Proc. 2009 IFIP/IEEE Int'l Symp. on Integrated Network Management (IM 2009) [Dissertation Digests]*, IEEE, pp. 821-826. [DOI] [PDF]

2008

Jennings, B., Xu, L. & de Leastar, E. 2008, Specifying Flexible Charging Rules for Composable Services, in *Proc. 2008 IEEE Congress on Services - Part 1 (Services 2008)*, IEEE, pp. 376-383. [DOI] [PDF]

Davy, S., Jennings, B. & Strassner, J. 2008, Using an Information Model and Associated Ontology for Selection of Policies for Conflict Analysis, in *Proc. 2008 IEEE Workshop on Policies for Distributed Systems and Networks (Policy 2008)*, IEEE, pp. 82-85. [DOI] [PDF]

Davy, S., Jennings, B. & Strassner, J. 2008, Application Domain Independent Policy Conflict Analysis Using Information Models, in *Proc. 2008 IEEE/IFIP Network Operations and Management Symp. (NOMS 2008)*, IEEE, pp. 17-24. [DOI] [PDF]

Davy, S., Jennings, B. & Strassner, J. 2008, Efficient Policy Conflict Analysis for Autonomic Network Management, in *Proc. 5th IEEE Workshop on Engineering of Autonomic and Autonomous Systems (EASe 2008)*, IEEE, pp. 16-24. [DOI] [PDF]

Cox, G., Serrat, J., Strassner, J., Neuman de Souza, J., Raymer, D., Samudrala, S., Jennings, B. & Barrett, K. 2008, An Enhanced Policy Model to Enable Autonomic Communications, in *Proc. 5th IEEE Workshop on Engineering of Autonomic and Autonomous Systems (EASe 2008)*, IEEE, pp. 184-196. [DOI]

Malone, P. & Jennings, B. 2008, A Distributed Accountability Model for Digital Ecosystems, in *Proc. 2nd IEEE Int'l Conf. on Digital Ecosystems and Technologies (DEST 2008)*, IEEE, pp. 452-460. [DOI]

2007

Davy, A., Botvich, D. & Jennings, B. 2007, QoSPlan: A Process for QoS-Aware IP Network Planning using Accounting Data and Effective Bandwidth Estimation, in *Proc. 50th Global Communications Conf. (Globecom 2007)*, IEEE, pp. 2690-2695. [DOI] [PDF]

Malone, P. & Jennings, B. 2007, Enabling Trust with a Distributed Accountability Model for Digital Ecosystems, in *Proc. 1st Int'l Workshop on Open Philosophies for Associative Autopoietic Digital Ecosystems (OPAALS 2007)*, Rome, Italy.

Davy, A., Botvich, D. & Jennings, B. 2007, Empirical Effective Bandwidth Estimation for IPTV Admission Control, in *Proc. 10th Int'l Conf. on Management of Multimedia and Mobile Networks and Services (MMNS 2007)*, LNCS 4787, Springer, Heidelberg, pp. 125-137. [DOI] [PDF]

Davy, S., Jennings, B. & Strassner, J. 2007, The Policy Continuum – A Formal Model, in *Proc. 2nd IEEE Int'l Workshop on Modelling Autonomic Communications Environments (MACE 2007)*, Multicon Lecture Notes – No. 6, Multicon, pp. 65-78. [PDF]

Davy, S., Barrett K., Serrano, M., Strassner, J., Jennings, B. & van der Meer, S. 2007, Policy Interactions and Management of Traffic Engineering Services Based on Ontologies, in *Proc. 5th Latin American Network Operations and Management Symp. (LANOMS 2007)*, IEEE, pp. 95-105.

- Barrett, K., Davy, S., Strassner, J., Jennings, B., van der Meer, S. & Donnelly, W. 2007, A Model Based Approach for Policy Tool Generation and Policy Analysis, in *Proc. 1st IEEE Global Information Infrastructure Symp. (GIIS 2007)*, IEEE, pp. 99-105. [PDF]
- Morris, T., van der Meer, S. & Jennings, B. 2007, A Discussion on Policy-based Management using Context Mobility in Ad-Hoc Networking, in *Proc. 1st Seamless Service Mobility (SSMO) Workshop*, IEEE.
- Davy, S. & Jennings, B. 2007, Harnessing Models for Policy Conflict Analysis, in *Proc. 1st Int'l Conf. on Autonomous Infrastructure, Management and Security (AIMS 2007)*, LNCS 4543, Springer, pp. 176-179. [DOI] [PDF]
- Davy, A., Botvich, D. & Jennings, B. 2007, On the use of Accounting Data for QoS-aware IP Network Planning, in *Proc. 20th Int'l Teletraffic Congress (ITC-20)*, LNCS 4516, Springer, pp. 348-260. [DOI] [PDF]
- Xu, L. & Jennings, B. 2007, Automating the Generation, Deployment and Application of Charging Schemes for Composed IMS Services, in *Proc. 10th IFIP/IEEE Int'l Symp. on Integrated Network Management (IM 2007)*, IEEE, pp. 856-859. [DOI] [PDF]
- Razavi, A. R., Malone, P., Moschoyiannis, S., Jennings, B. & Krause, P. J. 2007, A Distributed Transaction and Accounting Model for Digital Ecosystem Composed Systems, in *Proc. Inaugural IEEE/IES Conf. on Digital EcoSystems and Technologies (DEST 2007)*, IEEE, pp. 63-66. [DOI] [PDF]
- Fu, H., Jennings, B. & Malone, P. 2007, Analysis and Representation of Biomedical Data with Concept Lattice, in *Proc. Inaugural IEEE/IES Conf. on Digital EcoSystems and Technologies (DEST 2007)*, IEEE, pp. 577-580. [DOI]

2006

- Davy, S., Jennings, B. & Strassner, J. 2006, Conflict Prevention via Model-driven Policy Refinement, in *Proc. 17th IFIP/IEEE Workshop on Distributed Systems: Operations & Management (DSOM 2006)*, LNCS 4269, Springer, pp. 209-220. [DOI] [PDF]
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