

Marcos Dias de Assunção

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With over 10 years of experience in research and development in distributed systems and networks, I have published over 40 papers, more than 20 patents (deposited or ongoing), and contributed to the design and development of several software systems. I am also an Australian permanent residency holder.

- EDUCATION**
- Ph.D. in Computer Science and Software Engineering** **2005 – 2009**
Supervisor: Associate Prof. Rajkumar Buyya
Department of Computer Science and Software Engineering
The University of Melbourne, Australia
- M.Sc. in Computer Science** **2002 – 2004**
Supervisor: Prof. Carlos Becker Westphall
Department of Informatics and Statistics
Federal University of Santa Catarina, Florianópolis, Brazil
- B.S. in Computer Science** **1997 – 2001**
University of Western Santa Catarina, Videira, Brazil
- EXPERIENCE**
- Researcher** **Jun. 2014 – present**
**Inria, French Institute for Research in
Computer Science and Automation**
École Normale Supérieure de Lyon
Lyon, France
- Investigating resource elasticity for data stream processing and edge computing; Apache Storm, Edgent.
 - Segment-routing traffic engineering (SPRING) algorithms to reduce the over-provisioning of core networks and minimise energy consumption.
 - System prototyping using FPGAs and Xilinx tools.
 - OpenFlow and Software Defined Network (SDN) solutions.
- Research Scientist** **Jul. 2011 – Mar. 2014**
IBM Research
São Paulo, Brazil
- Research on workload migration and Cloud computing.
 - Scheduling and optimisation of incident management systems.
 - Cloud enabled solutions for data analytics, Hadoop, InfoSphere Streams.
- Postdoctoral Researcher** **Sep. 2009 – Jun. 2011**
**Inria, French Institute for Research in
Computer Science and Automation**
École Normale Supérieure de Lyon
Lyon, France
- Postdoctoral research on energy efficiency of large-scale distributed systems such as Grids and Clouds.
 - Investigated the benefits of using virtual machine technologies to consolidate the workload of multi-layer applications.
 - Analysed logs on energy consumption of Grid sites.

- Investigated metrics for procuring energy efficient storage solutions.

Lecturer **Jan. 2003 – Mar. 2005**

University of Western Santa Catarina

Videira, Brazil

- Taught the following subjects to undergraduate students: computer networks, computer programming using Java, introduction to computer programming, and programming for Web environments.
- Advised three students during their final year projects.

Computer Programmer **May 2000 – Mar. 2002**

Conexão Oeste Ltda (ISP)

Joaçaba, Brazil

- Worked as system administrator of an Internet service provider, managing Web servers, RADIUS, DNS, databases, MTAs and Webmail services.
- Developed Web applications using ASP, PHP, MySQL, SQLServer, and desktop applications in Object Pascal/Delphi.

Computer Programmer **May 1998 – Apr. 2000**

Fischer Fraiburgo Agrícola

Fraiburgo, Brazil

- Carried out hardware and system maintenance.
- Managed Novell file servers, MS Windows NT servers, MS Exchange servers and TCP/IP networks.

Computer Technician **Jun. 1997 – May 1998**

Vipnet Computadores Ltda

Fraiburgo, Brazil

- Assembled personal computers and carried out hardware maintenance.
- Developed desktop applications in Object Pascal/Delphi.

Assistant Electrician **Apr. 1994 – Oct. 1996**

Neon Eletro Comercial Ltda

Fraiburgo, Brazil

- Worked as an assistant electrician performing the wiring of residences and related equipment.
- Carried out the deployment and maintenance of industrial electrical panels.
- Repaired in electrical and electronic devices.

AWARDS

Starting Researcher (SR) grant Inria, 2016–2018. IBM Research Division Award, 2013.

Contributor to a project that won an IBM Outstanding Achievement Award, 2012.

National ICT Australia Studentship (NICTA), Mar. 2005 – Mar. 2009.

Australian Government International Postgraduate Research Scholarship (IPRS), Mar. 2005 – Mar. 2009.

Coordination for Improvement of Graduate People (CAPES) Scholarship, Mar. 2002 – Mar. 2003.

COMPUTER SKILLS

Java, Python, JavaScript, PHP, Perl, LaTeX, SQL, XML, Pascal, C
 CVS, Subversion, Eclipse, Git, Rational Team Concert.
 Hadoop, MapReduce applications, Stream processing frameworks
 Linux, MacOS X, Windows.

Virtual machine technologies, Internet services.
Knowledge on Internet protocols.

PUBLICATIONS **Journal Articles**

M. Assunção, A. Veith, R. Buyya, [Distributed Data Stream Processing and Edge Computing: A Survey on Resource Elasticity and Future Directions](#), *Journal of Network and Computer Applications*, Volume 103, pp. 1-17, February 2018.

F. Almeida, M. Assunção, J. Barbosa, V. Blanco, I. Brandic, G. Da Costa, M. F. Dolz, A. C. Elster, M. Jarus, H. D. Karatza, L. Lefèvre, I. Mavridis, A. Oleksiak, AC. Orgerie, JM. Pierson, [Energy Monitoring as an Essential Building Block Towards Sustainable Ultrascale Systems](#), *Sustainable Computing Journal*, Vol. 17, pp. 27–42, 2018.

M. Assunção, L. Lefèvre, [Bare-Metal Reservation for Cloud: an Analysis of the Trade Off between Reactivity and Energy Efficiency](#), *Cluster Computing Journal*, 2017 (in press).

M. Assunção, Radu Carpa, Lefèvre, Olivier Gluck, Piotr Borylo, Artur Lason, Andrzej Szymanski, Michal Rzepka, [Designing and Building SDN Testbeds for Energy-Aware Traffic Engineering Services](#), *Photonic Network Communications (PNET)*, Vol. 34, Issue 3, pp. 396-410, 2017.

A. Toosi, C. Qu, M. Assunção, R. Buyya, [Renewable-aware Geographical Load Balancing of Web Applications for Sustainable Data Centers](#), *Journal of Network and Computer Applications (JNCA)*, Vol. 83, pp 155-168, April 2017.

M. Assunção, Carlos Cardonha, Marco A. S. Netto, Renato L. F. Cunha, [Impact of User Patience on Auto-Scaling Resource Capacity for Cloud Services](#), *Future Generation Computer Systems (FGCS)*, Vol. 55, pp. 41–50, 2016.

Fernando Koch, M. Assunção, Carlos Cardonha, Marco A. S. Netto, Tiago Primo, [An Architecture and Algorithm for Context-Aware Resource Allocation for Digital Teaching Platforms](#), *IBM Journal of Research and Development*, Vol. 59, Issue 6, December 2015.

Fernando Koch, M. Assunção, Carlos Cardonha, Marco A. S. Netto, [Optimising Resource Costs of Cloud Computing for Education](#), *Future Generation Computer Systems (FGCS)*, Vol. 55, pp 473-479, 2016.

M. Assunção, R. N. Calheiros, S. Bianchi, M. Netto, R. Buyya, [Big Data Computing and Clouds: Trends and Future Directions](#), *Journal of Parallel and Distributed Computing*, Vol. 79-80, pp. 3-15, 2015.

AC. Orgerie, M. Assunção, L. Lefèvre, [A Survey on Techniques for Improving the Energy Efficiency of Large Scale Distributed Systems](#), *ACM Computing Surveys*, Volume 46, Issue 4, Dec. 2014.

M. Assunção, A. Costanzo, R. Buyya, [A Cost-Benefit Analysis of Using Cloud Computing to Extend the Capacity of Clusters](#), *Cluster Computing Journal*, 13(3), pp. 335–347, Springer Netherlands, Sep. 2010.

A. Costanzo, M. Assunção, R. Buyya, [Harnessing Cloud Technologies for a Virtualized Distributed Computing Infrastructure](#), *IEEE Internet Computing*, 13(5), pp. 24–33, Sep. 2009.

M. Assunção, R. Buyya, [Performance Analysis of Allocation Policies for InterGrid Resource Provisioning](#), *Information and Software Technology*, Elsevier, 51(1), pp. 42–55, Jan. 2009.

M. Assunção, R. Buyya, S. Venugopal, [InterGrid: A case for internetworking islands of Grids](#), *Concurrency and Computation: Practice and Experience (CPE)*, 20(8), pp. 997–1024, Jun. 2008.

M. Assunção, F. Koch, C.B. Westphall, [Grids of Agents for Computer and Telecomm. Network Management](#), *Concurrency and Computation: Practice and Experience (CPE)*, 16(5), pp. 413–424, 2004.

Book Chapters

M. Assunção, L. Lefèvre, [State of the Art on Technology and Practices for Improving the Energy Efficiency of Data Storage](#), *Advances in Computers*, Vol. 87, ISSN 0065-2458, Elsevier Inc., pp. 89–124, Nov. 2012.

A.C. Orgerie, M. Assunção, , L. Lefèvre, [Energy Aware Clouds](#). *Grids, Clouds and Virtualization*, M. Cafaro, G. Aloisio (ed.), Springer London Ltd., pp. 143–166, ISBN: 978-0-857-29048-9, 2011.

M. Assunção, R. Buyya, [Architectural Elements of Resource Sharing Networks](#), *The Handbook of Research on Scalable Computing Technologies*, K. C. Li, C. H. Hsu, L.T. Yang, J. Dongarra, and H. Zima (ed.), ISBN: 978-1-60566-661-7, IGI Global, Hershey, PA, USA, 2010.

C.S. Yeo, M. Assunção, Jia Yu, Anthony Sulistio, S. Venugopal, M. Placek, R. Buyya, [Utility Computing on Global Grids](#), Hossein Bidgoli (ed.), *The Handbook of Computer Networks*, ISBN: 978-0-471-78461-6, John Wiley & Sons, pp. 110–130, New York, USA, 2007.

Conference Papers

R. Carpa, M.D. Assunção, O. Gluck, L. Lefèvre, J.C. Mignot, Evaluating the Impact of SDN-Induced Frequent Route Changes on TCP Flows, 13th International Conference on Network and Service Management (CNSM), Tokyo, Japan, 2017.

M.D. Assunção, L. Lefèvre, F. Rossignaux, [On the Impact of Advance Reservations for Energy-Aware Provisioning of Bare-Metal Cloud Resources](#), 12th Int. Conference on Network and Service Management (CNSM 2016), October-November 2016, Montreal, Canada.

M.D. Assunção, R. Carpa, L. Lefèvre, O. Gluck, On Designing SDN Services for Energy-Aware Traffic Engineering, 11th EAI International Conference on Testbeds and Research Infrastructures for the Development of Networks & Communities (TridentCom'16), June 2016, Hangzhou, China.

- E. Caron, M.D. Assunção, [Multi-Criteria Malleable Task Management for Hybrid-Cloud Platforms](#), 2nd International Conference on Cloud Computing Technologies and Applications (CloudTech'16), May 2016, Marrakesh, Morocco.
- R. Carpa, M.D. Assunção, O. Glück, L. Lefevre, J.C. Mignot, [Responsive Algorithms for Handling Load Surges and Switching Links On in Green Networks](#), IEEE International Conference on Communications (IEEE ICC'16), May 2016, Kuala Lumpur, Malaysia.
- J. C.S. dos Anjos *et al.*, [SMART: An Application Framework for Real Time Big Data Analysis on Heterogeneous Cloud Environments](#), 15th IEEE International Conference on Computer and Information Technology (CIT), pp. 199–206, Liverpool, UK, Oct. 2015.
- F. Rossigneux, J.P. Gelas, L. Lefevre, M. D. Assunção, [A Generic and Extensible Framework for Monitoring Energy Consumption of OpenStack Clouds](#), *4th IEEE Int. Conf. on Sustainable Computing and Communications (SustainCom 2014)*, pp. 696–702, Sydney, Dec. 2014.
- M. Netto, C. Cardonha, R. Cunha, M. Assunção, [Evaluating Auto-scaling Strategies for Cloud Computing Environments](#), *22nd IEEE International Symposium Modeling, Analysis and Simulation of Computer and Telecommunication Systems (MASCOTS 2014)*, pp. 187–196, Paris, Sep. 2014.
- R. Cunha, M. Assunção, C. Cardonha, M. Netto, [Exploiting User Patience for Scaling Resource Capacity in Cloud Services](#), *7th IEEE International Conference on Cloud Computing (IEEE Cloud 2014)*, Applications & Industry Track, pp. 448–455, Alaska, USA, Jun. 2014.
- C. Cardonha, M. Assunção, M. Netto, R. Cunha, C. Queiroz, [Patience-aware Scheduling for Cloud Services: Freeing Users from the Chains of Boredom](#), *11th International Conference on Service Oriented Computing (ICSOC 2013)*, LNCS 8274, pp. 550–557, Berlin, Germany, Dec. 2013.
- M. Netto, M. Assunção, S. Bianchi, [Leveraging Attention Scarcity to Improve the Overall User Experience of Cloud Services](#), *9th International Conference on Network and Service Management (CNSM 2013)*, pp. 84–91, Zurich, Switzerland, Oct. 2013.
- M. Netto, M. Assunção, L. Renganarayana, C. Young, [Software Bundling Selection for Cloud Virtual Machine Images](#), *IFIP/IEEE Int. Symposium on Integrated Network Management*, pp. 575–581, Ghent, Belgium, May 2013.
- M. Netto, M. Assunção, L. Renganarayana, C. Young, [When Cloud Virtual Machine Images Need to Be Updated](#), *IFIP/IEEE Int. Symposium on Integrated Network Management*, pp. 884–887, Ghent, Belgium, May 2013.
- F. Koch, M. Assunção, M. Netto, [A Cost Analysis of Cloud Computing for Education](#), *9th Int. Conference on Economics of Grids, Clouds, Systems, and Services (GECON 2012)*, LNCS 7714, pp. 182–196, Berlin, Germany, Nov. 2012.
- M. Assunção, V. Cavalcante, M. Gatti, M. Netto, C. Pinhanez, C. Souza, [Scheduling with Preemption for Incident Management: When Interrupting Tasks is not Such a Bad Idea](#), *Winter Simulation Conference (WSC'12)*, pp. 1–12, Berlin, Germany, Dec. 2012.

M. Assunção, M. Netto, B. Peterson, L. Renganarayana, J. Rofrano, C. Ward, C. Young, [CloudAffinity: A Framework For Matching Servers to Cloudmates](#), *IEEE/IFIP Network Operations and Management Symposium (NOMS 2012)*, pp. 213–220 Maui, USA, Apr. 2012.

M. Assunção, A.C. Orgerie, L. Lefèvre, [An Analysis of Power Consumption Logs from a Monitored Grid Site](#), *IEEE/ACM Int. Conference on Green Computing and Communications (GreenCom 2010)*, pp. 61–68, Hangzhou, China, Dec. 2010.

G. da Costa, M. Assunção, J.P. Gelas, Y. Georgiou, L. Lefèvre, A.C. Orgerie, J.M. Pierson, O. Richard, A. Sayah, [Multi-Facet Approach to Reduce Energy Consumption in Clouds and Grids: The GREEN-NET Framework](#), *1st Int. Conference on Energy Efficient Computing and Networking*, pp. 95–104, Passau, Germany, Apr. 2010.

M. Assunção, A. Costanzo, R. Buyya, [Evaluating the Cost-Benefit of Using Cloud Computing to Extend the Capacity of Clusters](#), *Int. Symposium on High Performance Distributed Computing (HPDC 2009)*, pp. 141–150, Munich, Germany, Jun. 2009.

M. Assunção, R. Buyya, [Performance Analysis of Multiple Site Resource Provisioning: Effects of the Precision of Availability Information](#), *15th Int. Conference on High Performance Computing (HiPC 2008)*, pp. 157–168, Bangalore, India, Dec. 2008.

M. Assunção, R. Buyya, [A Cost-Aware Resource Exchange Mechanism for Load Management across Grids](#), *14th Int. Conference on Parallel and Distributed Systems (ICPADS 2008)*, pp. 213–220, Melbourne, Dec. 2008.

P. Silva, C. Westphall, C.M. Westphall, M. Assunção, [Design and Evaluation of a Grid Computing Based Architecture for Integrating Heterogeneous IDSs](#), *IEEE Global Telecommunications Conference (GLOBECOM 2007)*, pp. 338–342, Nov. 2007.

C. Rolim, C. Westphall, F. Koch, M. Assunção, [Towards a Grid of Sensors for Telemedicine](#), *19th IEEE Int. Symposium on Computer-Based Medical Systems (CBMS 2006)*, pp. 485–490, Salt Lake City, USA, Jun. 2006.

M. Assunção, K. Nadiminti, S. Venugopal, T. Ma, R. Buyya, [An Integration of Global and Enterprise Grid Computing: Gridbus Broker and Xgrid Perspective](#), *4th Int. Conference on Grid and Cooperative Computing (GCC)*, LNCS, Vol. 3795, pp. 406–417, Beijing, China. Dec. 2005.

M. Assunção, C. Westphall, F. Koch, [Grid of Agent Architecture Applied to Computer and Telecommunications Network Management](#), *21st Brazilian Symposium On Computer Networks*, vol. II, pp. 789–804, Natal, Brazil, 2003 (In Portuguese).

M. Assunção, C. Westphall, J. Sobral, [Mobile Agents for Network Management](#), *1st Int. Information Technology Symposium (I2TS 2002)*, Florianópolis, Brazil, 2002 (In Portuguese).

Workshop Papers

M. Assunção, M. Netto, F. Koch, S. Bianchi, [Context-aware Job Scheduling for Cloud Computing Environments](#), *Int. Workshop on Clouds and eScience Applications Management (CloudAM 2012)*, *5th IEEE/ACM Int. Conference on Utility and Cloud Computing (UCC 2012)*, pp. 255–262, Chicago, USA, Nov. 2012.

M. Assunção, J.P. Gelas, L. Lefèvre, A.C. Orgerie, [The Green Grid'5000: Instrumenting and Using a Grid with Energy Sensors](#), *5th Int. Workshop on Distributed Cooperative Laboratories: Instrumenting the Grid (INGRID 2010)*, *Remote Instrumentation for eScience and Related Aspects*, pp. 25–42, Springer New York, 2012.

M. Assunção, W. Streitberger, T. Eymann, R. Buyya, [Enabling the Simulation of Service-Oriented Computing and Provisioning Policies for Autonomic Utility Grids](#), *4th Int. Workshop on Grid Economics and Business Models (GECON 2007)*, LNCS Volume 4685, Springer-Verlag), pp. 136–149, Rennes, France, Aug. 2007.

M. Assunção, R. Buyya, [An Evaluation of Communication Demand of Auction Protocols in Grid Environments](#), *3rd Int. Workshop on Grid Economics and Business (GECON 2006)*, pp. 24–33, Singapore, May 2006.

P. Silva, C.B. Westphall, C. M. Westphall, M. Assunção, [Composition of a DIDS by Integrating Heterogeneous IDSs on Grids](#), *4th Int. Workshop on Middleware for Grid Computing (MGC 2006)*, in conj. with *ACM/IFIP/USENIX 7th Int. Middleware Conference 2006*, ISBN: 1-59593-581-9, pp. 12-, Melbourne, Australia, Nov. 2006.

F. Koch, M. Assunção and C. Westphall, Building Complex Applications Using Grids of Agents, *7th Pacific Rim Int. Workshop on Multi-Agents (PRIMA2004)*, in conj. with *PRICAI-04*, pp. 412-419, New Zealand, Aug. 2004.

F. Koch, C. Westphall, M. Assunção, E. Xavier, Distributed Artificial Intelligence for Network Management Systems - New Approaches. *1st Int. Workshop on Service Assurance with Partial and Intermittent Resources (SAPIR 2004)* held with *ICT2004*, LNCS 3126, pp. 135-145, Fortaleza, Brazil, Aug. 2004.

T. Spindola, C. Westphall, M. Assunção, F. Koch, Load Balancing in Grids of Agents for Computer Network Management, (in Portuguese), *Workshop on Management and Operations of Networks and Services*, in conj. with *22nd Brazilian Symposium of Computer Networks*, Gramado, Brazil, May 2004.

M. Assunção, C. Westphall, F. Koch, Grids of Agents for Computer and Telecommunications Network Management, *1st Workshop on Middleware for Grid Computing, ACM/IFIP International Middleware Conference*, pp. 186-193, Rio de Janeiro, Brazil, 2003.

Patent Applications

C. Cardonha, M. Assunção, R. Cunha, M. Netto, [Auto-scaling Thresholds in Elastic Computing Environments](#), US 20160117180 A1, Pub. date: Apr. 28, 2016.

M. Assunção, M. Netto, L. Renganarayana, C. Young, [System, Method and Program Product for Updating Virtual Machine Images](#), US 20150081910 A1, Pub. date: Mar. 19, 2015.

M. Assunção, S. Bianchi, M. Netto, [Resource Provisioning for Electronic Books](#), US 20140365342 A1, Pub. date: Dec. 11, 2014.

M. Assunção, S. Bianchi, M. Netto, [Method and System for Creating and Refining Rules for Personalized Content Delivery based on Users Physical Activities](#), US 20140357247 A1, Pub. date: Dec. 04, 2014, **Granted: Sep. 27, 2016, Patent Number 9,456,308 B2.**

M. Assunção, S. Bianchi, M. Netto, [Discovering Task Dependencies for Incident Management](#), US 20140358610 A1, Pub. date: Dec. 04, 2014.

M. Assunção, S. Bianchi, M. Netto, [Discovering Task Dependencies for Incident Management](#), US 20140358609 A1, Pub. date: Dec. 04, 2014.

M. Assunção, S. Bianchi, M. Netto, [Managing Support Team Inquiries](#), US 20140337377 A1, Pub. date: Nov. 13, 2014.

M. Assunção, S. Bianchi, M. Netto, [Managing Support Team Inquiries](#), US 20140337076 A1, Pub. date: Nov. 13, 2014.

M. Assunção, F. Koch, M. Netto, [Content Delivery Infrastructure with Non-Intentional Feedback Parameter Provisioning](#), US 20140325068 A1, Pub. date: Oct. 30, 2014.

M. Assunção, C. Cardonha, F. Koch, M. Netto, [Facilitating User Incident Reports](#), US 20140297661 A1, Pub. date: Oct. 2, 2014.

M. Assunção, C. Cardonha, F. Koch, M. Netto, [Facilitating User Incident Reports](#), US 20140297660 A1, Pub. date: Oct. 2, 2014, **Granted: Aug. 16, 2016, Patent Number 9,418,354 B2.**

M. Assunção, S. Bianchi, M. Netto, [Data Distribution System, Method and Program Product](#), US 20140236893 A1, Pub. date: Aug. 21, 2014, **Granted: Jul. 28, 2015, Patent Number 9,092,498 B2.**

M. Assunção, M. Netto, L. Renganarayana, C. Young, [System and Method for Determining When Cloud Virtual Machines Need to be Updated](#), US 20140229939 A1, Pub. date: Aug. 14, 2014, **Granted: Mar. 29, 2016, Patent Number 9,298,443 B2.**

M. Assunção, T. Lynar, M. Netto, K. Steer, C. Vecchiola, [Data Distribution System, Method and Program Product](#), US 20140214583 A1, Pub. date: Jul. 31, 2014.

M. Assunção, M. Netto, [Adjusting Quality of Service in a Cloud Environment Based on Application Usage](#), US 20140122707 A1, Pub. date: May 1, 2014, **Granted: Mar. 22, 2016, Patent Number 9,294,363 B2.**

M. Assunção, M. Netto, [Adjusting Quality of Service in a Cloud Environment Based on Application Usage](#), US 20140115147 A1, Pub. date: Apr. 24, 2014, **Granted: Mar. 22, 2016, Patent Number 9,294,362 B2.**

M. Assunção, M. Netto, L. Renganarayana, C. Young, [System, Method and Program Product for Cost-Aware Selection of Stored Virtual Machine Images for Subsequent Use](#), US 20140075435 A1, Pub. date: Mar. 13, 2014, **Granted: May 19, 2015, Patent Number 9,038,085 B2.**

M. Assunção, M. Netto, L. Renganarayana, C. Young, [System, Method and Program Product for Cost-Aware Selection of Stored Virtual Machine Images for Subsequent Use](#), US 20140075434 A1, Pub. date: Mar. 13, 2014, **Granted: Jan. 6, 2015, Patent Number 8,930,957 B2.**

M. Assunção, S. Bianchi, M. Netto, [Systems, Methods, and Computer Program Products for Prioritizing Information](#), US 20140067487 A1, Pub. date: Mar. 6, 2014.

M. Assunção, S. Bianchi, M. Netto, [Systems, Methods, and Computer Program Products for Prioritizing Information](#), US 20140067486 A1, Pub. date: Mar. 6, 2014.

M. Assunção, S. Bianchi, M. Netto, [System, Method and Program Product for Maintaining Deployed Response Team Members Synchronized](#), US 20140045446 A1, Pub. date: Feb. 13, 2014.

M. Assunção, S. Bianchi, M. Netto, [System, Method and Program Product for Maintaining Deployed Response Team Members Synchronized](#), **Granted: Dec. 9, 2014, Patent Number 8,909,189 B2.**

M. Assunção, J. Kraemer, F. Koch, M. Netto, [System, Method and Program Product for Local Client Device Context-Aware Shared Resource and Service Management](#), US 20140006620 A1, Pub. date: Jan. 2, 2014.

M. Assunção, J. Kraemer, F. Koch, M. Netto, [System, Method and Program Product for Local Client Device Context-Aware Shared Resource and Service Management](#), **Granted: Mar. 18, 2014, Patent Number 8,676,985 B2.**

M. Assunção, T. Lynar, K. Steer, M. Netto, C. Vecchiola, [Risk-based Dynamic Geolocation Based Replication of Services in Cloud Computing](#), US 20130339204 A1, Pub. date: Dec. 19, 2013.

M. Assunção, T. Lynar, K. Steer, M. Netto, C. Vecchiola, [Risk-based Dynamic Geolocation Based Replication of Services in Cloud Computing](#), US 20130339203 A1, Pub. date: Dec. 19, 2013.

M. Assunção, B. Flach, M. Gatti, R. Rudy, T. Imamichi, M. Netto, [Efficient Evaluation of Network Robustness with a Graph](#), **Granted: Mar. 17, 2015, Patent Number 8,983,816 B2.**

M. Assunção, B. Flach, M. Gatti, R. Rudy, T. Imamichi, M. Netto, [Efficient Evaluation of Network Robustness with a Graph](#), **Granted: Apr. 1, 2014, Patent Number 8,688,420 B2.**

M. Assunção, B. Flach, M. Gatti, T. Imamichi, M. Netto, R. Rudy, [System, Method and Program Product for Providing Populace Movement Sensitive Weather Forecasts](#), US 20130285820 A1, Pub. date: Oct. 31, 2013. **Granted: Oct. 7, 2014, Patent Number 8,854,219 B2**

M. Assunção, M. Netto, B. Peterson, L. Renganarayana, J. Rofrano, C. Young, [System, Method and Program Product for Cost-Aware Selection of Templates for Provisioning Shared Resources](#), US 20130138812 A1, WO/2013/078258, Pub. date: May 30, 2013, **Granted: Jan. 6, 2015, Patent Number 8,930,541 B2.**

M. Assunção, U. Junior, A. Kochut, J. Marceno and M. Netto, [System, Method and Program for Streamlined Virtual Machine Desktop Display](#), US 20130132971 A1, Pub. date: May 23, 2013.

M. Assunção and M. Netto, [System, Method and Program Product for Optimizing Virtual Machine Placement and Configuration](#), US 20130080619 A1, Pub. date: Mar 28, 2013. **Granted: Sep. 9, 2014, Patent Number 8,832,239 B2.**

Other Publications

K. Nadiminti, M. Assunção and R. Buyya, [Distributed Systems and Recent Innovations: Challenges and Benefits](#), *InfoNet Magazine*, Volume 16, Issue 3, Victorian Information Technology Teachers Association (VITTA) Inc., Melbourne, Australia, Sept. 2006.

PARTICIP. IN RESEARCH PROJECTS

SR Inria (2016–): Starting Researcher (SR) grant Inria.

STAR (2014–2015): SwiTching And tRansmission; supported by the European Coordinated Research on Long-term Challenges in Information and Communication Sciences & Technologies ERA-Net (CHIST-ERA) initiative, with the goal to investigate and prototype routing mechanisms to improve energy efficiency of core networks.

IBM Research (2011–2014): Participation in internal, IBM funded research projects on workload migration, platforms for analytics as a service, easy deployment of big data applications, and resource auto-scaling for cloud computing.

PrimeEnergyIT (2010–2011): An initiative operated by a consortium of national agencies and research institutions in cooperation with a number of associate partners from industry.

Green-Net Project (2009–2010): Power-aware software frameworks for high performance data transport and computing in large-scale distributed systems; supported by INRIA, France.

InterGrid (2008–2009): Internetworking Grids; funded by the Australian Research Council.

TAGERE (2004–2005): Advanced Topics in Computer and Telecommunication Network Management; funded by the National Council for Scientific and Technological Development (CNPq), Brazil.

HOPE (2002–2003): Hot Topics in Network Management; funded by the CNPq, Brazil.

Student project on pattern recognition (2000): Recognition of numbers in vehicle registration plates using limiarization techniques.

LANGUAGES

Portuguese: fluent.

English: fluent.

French: fluent.